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KANSAS CITY, MISSOURI 64111 PHONE (816) 531-5614
arrard AUTOMATIC TURNTABLES


Garrard
SYNCHRO-LAB MOTOR Runs at perfect constant speed
regardless of variations in voitregardless of variations in voit-
age, clrcult toad, temperature stylus pressure, level of record modulation or turntable toad.


JUST A PENNY MORE BUYS ONE OF THESE FAMOUS CARTRIDGES WITH PURCHASE OF TURNTABLE
arrard

MODEL ZERO 100 AUTOMATIC TRANSCRIPTION TURNTABLE

front to rear $14 / h^{\circ}$; above motor board $4 \%{ }^{2}$; below motor board $2 \%$. "Uses base B2 or WE2 and dust cover D2- see accessories page 3). Shpg. wt 15 lbs.
No. 33As. Model Zero 100 Turntable with Shure Mg3E Cartidge. Each No. 33A10. Model Zero 100 Turntable with Pickering V1SATE Cartridge. No. 33A709. Model Zero 100 Turniable with Shure M91ED Cartridge. Ea. No. 33A700. Modet Zero 100 Turntable with Shure V-15 Cartridge. Each ........ $\$ 224.95$



Garrand MODEL SL72B
3 SPEED AUTOMATIC TURNTABLE
For the person who wants the finest quality at a moderate pricet hs new tone-arm is low mass. hexagon shaped of sparkling aluminum that floats within a cast gimballed mounting. Uses the same sllde-in cartridge clip as used on
the SL95B. The counterweıght is isolated from the arm and is futly adjustable by rotating it on its lead screw. The stylus pressure is adjustable by a knob on the rear of the arm with the setting Indicated on a scale on the side of the arm. The turntable is machined aluminum and its welght is precisely matched to tis Synchro-Labmoror. 3 speeds, $33 \%$. 45, and 78 rpm. Shpg. wt. 13 lbs .
No. 33A634. Model SL72B. Less Cartridge and Base. Each.

No. 33A639. Model SL72B with Shure M93E
s109.95
......... $\$ 109.96$ No. 33A640. Model SL72B with Pickering V15/ATE-3 Cartridge. Each ..................
........... $\$ 109.96$

Garrard MODEL SL95B AUTOMATIC TRANSCRIPTION TURNTABLE
Features Synchro-Lab motor, $12^{*}$ aluminum turntable Advanced ulira-tow mass tone arm with Aformosia wood damping. Gyroscopic gimbalted pivots Adjustable counter-
weight. Stylus force in $1 / 2$ gram increments, from 0 to 5 grams. Interchangeable cartridge clip. Adjustabie antiskating control. simple patented lever type. calibrated in Vrams and infinitely variable. Single play spindle rotates with record. Automatic spindle utillzes positive safety plat-
form. 3 speeds, $33^{1 / h} .45$ and 78 rpm. Size: left to right $1513 / 1 s^{2}$ :
 board $3^{\prime \prime}$. Shpg. wi. 13 lbs
No. 33A539. Model SL958 Lees Cartridpe and Base. Net Each
No. 33A595. Model SL958 Turntable with
Shure Ellipticat M93E Cartridge. Each.
No. 33A564. Madel SL958 Turnlabie with
$\qquad$ 49.95 Pickering V15ATE Cariridge. Each........
No. $33 A 7 \% 0$. Model SL958 Turntable with No. 33A7Y0. Model SL958
Shure MStE Cartridge. Each Na. 33A554. Model SL95B Turntable with Plckering XV15/AME Cartridge. Each Plickerjing XV15/AME Cartridge. Each.

Garrand MODEL SL55B
AUTOMATIC TURNTABLE
Features synchronous speed and viscous damped cueing ...priced within reach of budget conscious music lovers Rigid. lightweight aluminum tonearm with slide-in cartridge
holder. Fully adjustable anti-skate control and stylus force adjusiment allow more positive and accurate settings. 3 speeds. $33 \frac{1}{2}$. 45 . and 78 rpm . Supplied with 2 spindles, one for single play, the other for automatic intermix. Size: left
 below motor board $2 \mathrm{~h}^{\prime \prime}$. Shpg. wt 19 Ibs . No. 33A542. Model SL55B Lese Carifidge and base. Net Each No. 33A712. Model SL55B Turntable with Shure M44E Cartridge. Net Each . . . . . . . . . . . . . . . . . $\$ 54.96$ No. 33A552. Modiol SL55B Turntable with Pickering V15/ACE-3 Cartridge. Net Each . . . . . . . . . . \$64.96 No. 33A588. Model SL55B Turntable with Shure M93E Cartridge. Net Each ..................... . . $\$ 69.95$ No. 33A589. Model SL55B Turntable with No. 33A711. Model SL72日 with Shure M91ED No. Eiliplical Cartridge. Each . . . . . . . . . . . . . . . . . . . . . . . . 5114.95 Pickering Maris 2 ENTIRE CONTENTS COPYRIGHTED 1972 BY BURSTEIN-APPLEBEE CO.

# AUTOMATIC TURNTABLES AND ACCESSORIES 

## MODEL 40B AUTOMATIC TURNTABLE

Designed for outstanding performance and versotility in systems where space must be considered. Features lightweight, tubular oluminum fonearm with isolated counterweight, and viscous damped single-lever cueing/pause control which prevents record waor and stylus domage, adjustable pressure control with visible scale and slide-in cartridge holder. Has two spindles, short for manual, long for automatic. Automatic intermix operation. 3 speeds: $33 \%, 45$ and 78 rpm . 4-pole shaded "induction surge" motor. Size: $14.7 / 8^{\prime \prime}$ left to right, $12 \cdot 1 / 2^{\prime \prime}$ front to reor; $4-5 / 8^{\prime \prime}$ above and 2-7/8' below motor boord. Shpg. wt. 9 lbs.
No. 33A530. Model 40B Less Cartridge and Base.
Net Each
49.95 No, 33A603. Model 40B Turntable with Pickering V15/AC-3 Cartridge Net Each
$\$ 49.96$
$\$ 49.96$
No. 33 A638. Model $40 \dot{B}$ Turntable with Shure MS 5 E Cartridge. Net Each $\$ 54.95$ No. 33A606. Model 40B Turntable with Pickering V15/ACE-3 Cartridge. Net Each
$\$ 54.95$

## MODEL 30 4-SPEED AUTOMATIC TURNTABLE

Naw, Garrard quality and features selling for the price of lower quality record changers. Features new oversized weighted turntable, one-piece cast aluminum tone orm, simple, accessible stylus pressure adjustment, super sensitive trip mechonism with Dupont Delrin, 4 -pole shaded "induction surge" motor, intermix operation. Two spindles, short for manual; center drop for oufomatic play 4 speeds: $163 / 3,331 / 3,45$ and 78 rpm. Ultra compact size: left to right 14-1/16"; front to rear 12-3/4"; above motor board 4.3/4"; below motor board 2.1/4". Shpg. wf. 12 lbs. No. 33A500. Less Base.
Model 30 Complete with Ceramic Diamond Stylus Cartridge. Each
$\$ 44.95$

## MODEL SP-20B 4-SPEED MANUAL RECORD PLAYER

Ideal for manual playing records through high fidelity systems. Compact and efficient, recommended for quality audio-visual applications. High demand for o unit of this quality and low price has brough this unit into being. This player should not be compared with other low price, single play turntables as durability and ruggedness have been fully engineered into it, to provide years of trouble.free servica. features cartridge clip for any cartridge, mognetic or ceromic. Full size weighted turntable. Automatic return of arm to rest and shut-off after ploy. Arm is semi-counterbalonced with adjustable stylus pressure. Compact size only 14.3/8" left to right, 12.1/2" front to reor, $3-1 / 2^{\prime \prime}$ above and $2.1 / 8^{\prime \prime}$ below motor board. 4 speeds; $163 / 331 / 3,45$ and to reor, $3-1 / 2$ above and
78 rpm . Shog. wt. 10 lbs.
No. 33 A531. Model SP. 20 B Less Cartridge and Base.
Net Each
$\$ 42.95$
No. 33A591. Model SP-20B Record Ployer with Shure M75-6S Cartridge.
Net Each
$\$ 42.96$
No. 33A592. Model SP-20B Record Player with Pickering V15/AC-3 Cartridge.
Net Each . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 42.96$

(1) COORDINATED BASES. With covered compartments for storage of tull complement of spindles. Mode of simulated ebony and wolnut with silver trim. An attroctive companion accessory which enhances the appearance of each Gorrard model. Can be used on top of furniture or housed in cabinetry. Provisions for easy mounting of drawer slides have been buit imto the underside of the base. Wt. 3 lbs.
No. 33A579. Model 81. For 20, 30, 40, 50, 55, 60 Series, SP20B, 40B, SL65B, and SL55B turntables. Each
$\$ 5.95$
 Model B1P and B2P are identical to bases above but autamatically furns off amplifier when last record has played. Front mounted switch permits use of omplifier without changer.
No. 33 A581. Model Bip. For 20, 30, 40, 50, 55, 60 Series, SP208, 408, SL65B and SL55B. Net Each ............................................. 45 No. 33A582. Model B2P. For Zero 100 , Si95, Si75, Si728. Each .. $\$ 15.95$
(2) DELUXE WOOD BASE. Hand rubbed solid walnut covered storage comportment. ( O 2 dust cover fits both models) Wt. 4 lbs. No. 33A646. Model WB1 for $20,30,40,55,60,65$ Series, SP208, $40 B$,


(3) MOUNTING BOARDS. Smooth sanded unfinished wood mounting boards. Overall size $16 \times 18^{\prime \prime}$. For use in cobinet mounting. Can be trimmed to size.
No. 33A5 33. MB10. For 20, 30, 40, 55, 60,65 Series SL65B, SL55B. Ea. $\$ 2.25$ No. 33A567. MB11. For Zero 100, SL95B, SL75B, and SL72B. Each .. $\$ 2.25$ (4) COORDINATED DUST COVERS. Stides on bases even when verticol spoce is limited by bookshelf, etc. Can be in place while stock of records are playing. Fits only coordinated boses listed of left . Wt. 2 libs.
No. 33A584. Model D2. For Zero 100, SL95B, SL75B, SLİ2B, also WBI and WB2 bases. Each
No. 33A583. Model Di. For SL65B, SL55B, $42 \mathrm{M} / \mathrm{s}, 408,30, \mathrm{SP2OB}$, or any
B1 or B1P base. Each
(5) 45 RPM AUTOMATIC SPINOLEES

No. 33A689. LRS100. For Zero 100. Each
No. 33A643. FLRS35. For SL658, SL55B, 408, 30 Six2, X10. Each .... \$2.25
No. 33A547, LRS25. For SL958, SL75B, SL72B, SLX3. Eoch . . . . . . . . . $\$ 3.80$
No. 33A644. F40. For X11. Each $\$ 2.25$

## EXTRA CARTRIDGE CLIPS

No. 33A543. Ci. For SL75, SL75B. Each
No. 33A544. C2. For SL95, SL95B, SL72B, SL65B, SL55B, 40 B, SP20B, \$2.25 No. 33A690. C3. For Zero 100. Each $\$ 2.00$
$\$ 3.00$

## Garrard AUTOMATIC TURNTABLES

EVERYTHING YOU NEED . . COMPLETELY SET-UP AND READY TO PLAYI

## NEW

arrard MODEL 42 M/S

## 3-SPEED TURNTABLE

Incorporates the latest features! Cartridge heod, tone arm and recard mat are styied simitar to the Zero-100. Lightweight aluminum tone arm and precision adjustable anti-skate control permit excellent trocking of law stylus farces. Ex-tro-large furntable supports entire surface of dise while damping speed variafions to a minimum. Now type damped cueing and pause cantrol separates needle from groove and brings them back tagether gently ... to protect your fine recordings. Feotures automatic play of single record, High-quality SHURE M75ECS elliptical magnetlic cartridge comes completely pre-set and balanced for lightweight tracking. Complete with BI base and Shure cortridge. Shpg. wt. 15 lbs.
No. 33A713. Model 42M/S. Each.
No. 33A714.F45.45 RPM AUTOMATIC SPINDLE for above. Each .. $\$ 2.25$


NEW MODEL SLX-2 FAMOUS SYNCHRO-LAB. TURNTABLE
Garrard 3 -speed synchronous autamatic turnable complete with fine quality high compliance magnetic cortridge pre-mounted on coardinated base, ready to plug into camponents and play. Pracking force has been pre set (a stylus, pressure gauge is built into tonearm). Has cueing and pause control pressure gauge is bulit conta tonearm). Has cueing and pause control manually; long center drap spindie for automatic play. Adaptor supplied for single ploy of 45 RPM records. Spindle removes for safety. Combined speed and size selector far 33,45 and 78 RPM, $12^{\prime \prime}$. $10^{\prime \prime}$ and $7^{\prime \prime}$ records. Size: left to right $15^{\prime \prime \prime}$; front to rear $13 \mathrm{k}^{\prime \prime}$ ", $7 \mathrm{H}_{4}$ " high. Wit. 14 lbs.
No. 33A585. SLX-2 Changer complete with Cartridge.
Mounted on Base, with Dust Cover. Net Each
$\$ 79.50$
Garnard

# NEW Dual PROFESSIONAL AUTOMATIC TURNTABLES 



## NEW Dual <br> 1229

- $15^{\circ}$ TRACKING. - true gimbal suspension.
- "PITCH" CONTROL.
- FEATHER TOUCH CUEING
- SEPARATE CONICAL AND ELLIPTICAL ANTI-SKATE.
- TRACKING PRESSURE nOW CAlibrated to 0.1 GRAM

The only automatic turntable with perfect $15^{\circ}$ stylus tracking. true fourpoint gyroscopic gimbal, $83 / 4$ " tonearm and separate anti-skating controf for both conical and eelliptical styli. Professional synchronous/continuous pole motor drives full $12^{\prime \prime}$ diameter 7 ib . tumiable with absolute accuracy regardless of line voltage. Other dual precision features include rotating single play
spindle, pitch control for "tuning iecords over a $6 \%$ range (demitone) for special, purposes such as permitting synchronization with tape recorders, musical instruments, etc. Cue confrol system is silicone-damped for easy handling of records. Counter balance is elastically damped, has 01 gram click stops for precision balancing. Stylus overhang is fully adjustable for


SUSMMASLIO

ADJUSTAALE AMGLE
$\$ 199^{50}$
LESS CARTRIDCE
AND BASE
optimum posttioning. Plays all $331 / 3,45$, and 78 RPM records manually or automatically. Multiple play spindle holds up to 6 records. size: $101 / 2^{\prime \prime} \times 123 / 4^{\prime \prime}$; $6^{\prime \prime}$ above mounting board; $3^{\prime \prime}$ below mounting board Shpg. wt. 30 lbs
No.33A715. Dual 1229. Less Cartridge and Base
$\$ 199.50$
No. 33A721. 1229 with Shure M93E Elliptical Cartidge. Each
$\$ 199.5$
No. 33 A722.1229 with Pickering V15/ATE Cartridge. Each.......... \$199.5
No. $33 A 724.1229$ with Sickering V15/AME Cartridge. Each ........... $\$ 204.50$

## Greatest Value auto/professional Turntable

## the famous Dual 1218

- TWIN RING GIMBAL SUSPENSION.
- DAMPED CUE CONTROL.
- ONE-PIECE 4 LB. PLATTER.
- MODE SELECTOR FOR $15^{\circ}$ TRACKING.
- SYNCHRONOUS MOTOR.
- ClICK-STOP COUNTERBALANCE.


## $\$ 155^{00}$

The Dual 1218 offers a wide range of design and operating features. Twin ring gimbal suspension with tonearm centered within axis at each ring. pivots vertically from inner ring, horizontally from outer ring. High staring dynamically balanced 4 lb . platter. Unique mode selector on cartridge housing provides perfect $15^{\circ}$ tracking angle. Anti-skate is calibrated for elliptical and conical styli. Rotating single play spindle. Damped cue control and

damped check-stop counter balance, Jamproof toncarm. 3 speeds: $331 / 3,45$ and 78 RPM. Size: $13^{\prime \prime} \times 103 / 4 \times 6^{\prime \prime}$ above mounting board, $3^{\prime \prime}$ below mounting board. Wt. 30 lbs . No. 33A691. Dual 1218. Less Cartridge and Base. Each $\$ 155.00$

No. 33A692. Dual 1218 with Pickering Vi5/ATE Cartridge.ano..... \$155.01 No. 33A693. Dual 1218 with Shure M93E Cartridge_n..................... $\$ 155.01$

## THE NEW Dual 1215-S

- NEW LOW MASS TUBULAR TONEARM - SYNCHRONIZED TRACKING.
- HIGH TORQUE MOTOR. - PITCH CONTROL.
- SAME ANTI-SKATE CONTROL AS 1218 AND 1229
- separate conical and elliptical CALIBRATIONS.


Dual precision features and quality now available in the medium price range. The Dual 1215 .S shares many of the precision features of the more costly Dual Models. Features low-mass counterbolanced tubular tonearm which tracks flawlessly as low as 1 gram. Direct-dial tracking force and synchronized anti-skating. Pitch control for all 3 speeds. Silicone-damped cue-control. Feather touch slide switch for automatic stort ond stop functions. Multiple play spindle holds up to six records. Handles $331 / 3,45$ and 78 RPM records manually or automaticolly. Hi -torque mo-
tor holds speed constant within $0.1 \%$ even when voltage varies $\pm 10 \%$. Adjustable stylus overhang. Size: $101 / 2^{\prime \prime} \times 12^{3 / 3} "^{\prime \prime} ; 6^{\prime \prime}$ above mounting board; $3^{\prime \prime}$ below mounting board. Wi. 30 lbs .
No. 33A716. Dual 1215-5. Less Base and Carridgg.

## Eoch

No. 33A725. 1215-5 with Shure M93E Cortridge. Each
$\$ 109.50$
No. 33A726. $1215-5$ with Pickering V15 ATE Cartridge. Each

## GENUINE DUZI ACCESSORIES



This deluxe Dual base, WB19X. styled in Wainut provides a fitted accessory panel by flipping open the front. It has apecial place to secure every. spindle made for your Dual 1219 including the automatic spindle for large hole 45 RPM matic spincle for large hole it atso holds and protects two mounted cartridges. supplied less two mounted cartridges. Supplied less accessories. Size $141 / 4 \times$ Co $\times$ M $1 / 8$ The matching Deluxe Dust Cover, Model hinged front section whieh conveniently hinged front section which conveniently viding instant access to all operating controls.
No. 33A694. WB19X Deluxe Wainut base for Dual 1229. Each......... $\$ 29.95$
No. 33 A695. DC9X Deluxe Dust Cover for Dual 229.95
No. 33 A662. DC-9 Stundard Dust Cover for Dual 1229. Each............. $\$ 14.95$


Custom-crafted walnut base is fully en closed and mitered on all edges. $1 / 8$ thick, smoke tinted matching plexi-glass or removing. Base size: $141 / 2 \times 16 \% \times 4^{\prime \prime}$ total helght: base and caver $73 / 4^{\prime \prime}$ No. 33 A696. DCB-6. Deluxe Combination Base and Dust Cover for 1229... $\$ 39.95$

[^0]
# FINEST STEREO HIGH FIDELITY CARTRIDGES <br>  

## MOST POPULAR SHURE STEREO CARTRIDGES

## (1) SHURE V. 15 TYPE II IMPROVED DYNETLC WITH ELLIPTICAL STYLUS

 A vastly superior cartridge designed for the most criticol oudiophile. Monufoctured under newly developed, inprecedented controls, inspections and techniques to provide "pertectionist" reproduction quality. Elliptical stylus trocks at $15^{\circ}$, retrocts into cartridge when occidentally dropped or bounced. Built-in stylusguard. Response $20-25,000 \mathrm{~Hz}$. outaut 35 MV . seporation 25 do; diomond quard. Response $20-25,000 \mathrm{~Hz}$; output 3.5 MV ; seporation 25 db ; diomond stylus dimensions $.0007^{\prime \prime} \times .0002^{\prime \prime}$. Trocking force $3 / 4$ 1o $11 / 2 \mathrm{grams}$. No. 33 A5002. Each
. $\$ 67.50$

## NEW SHURE DELUXE HI-TRACKABILITY CARTRIDGES

Optimized design parameters in the stylus assembly give these new cartridges superb high frequency trackability, and overall performance second only to the incamparable $\mathrm{V} \cdot 15$ Type 11 (improved). The excellent performance choracteris. tics of these cartridges moke them suitable choices for use in four channet uncoded (matrix) playback systems. Tracking force: t/4 to $1 / 2$ grams. Frequency response: 20 to $20,000 \mathrm{~Hz}$. Seporation: 25 db
(7) No. 33 AS080. M91ED. Biradial .0002" X X .0007". Each ......... $\$ 54.95$ (8) No. 33A5081. M91GD. Spherical .0006". Each .................... \$44.95 (1) No, 33A5082. M7SED Type 2. Similar to M91ED but offers o built-in snap-down stylus guard: Eoch

## (1) SHURE M9IE HI-TRACK ELLIPTICAL CARTRIDGE

Excellent trackability in the $1 / 4$ to $11 / 2$ grams range. Designed for use in high quality manual and outomatic turntables. Biradial $.0002^{\prime \prime} \times .0007^{\prime \prime}$. Tracking force: $3 / 4$ to $1 / / 2$ groms. Frequency response: $20-20,000 \mathrm{~Hz}$. Separation: 25 db. Shpg. wt. 6 oz .
No. 33A5063. M91E. Each
$\$ 49.95$

## (1) SHURE M75G TYPE 2

Hos the some specifications as the M91E but features a . 0006 spherical stylus, with a bult-in snap-down stylus guard. No. 33AS083, M75G Type 2 Each
$\$ 38.45$

## (1) SHURE M75 Type 2

Series of cortridges deliver excellent trackobility at moderate tracking farces befween $1 / 2$ and 3 grams, making them ideal choices for moderately priced systems and for upgrading older systems. Choice of birodial or spherical styli. Both cartridges feoture a built-in, snap-down stylus guard. Tracking force: $11 / 2$ to 3 grams. Frequency response: 20 to $20,000 \mathrm{~Hz}$. Separation: 25 db . No. 33 A5085. M75EJ, Biradial, $0007^{\prime \prime \prime} \times .0004^{\prime \prime}$. Eoch
$\$ 44.95$ No. 33A5084. M75B. Spherical, .0006". Each .

## (3) SHURE M93E HI-TRACK ELLIPTICAL CARTRIDCE

Easy-mount design like M91E above. MH-Track elliptical in the $11 / 2$ to 3 gram tracking force range an outstanding performer in automatic or manual turntables. Eli-radial 0004" $\mathrm{x} .0007^{\prime \prime}$ diamond stylus. 20.20.000 Hz separation 25 db © 1 KMz . Tracking force range $11 / 2$ to 3 grams.
No. $33 A 5062$ Wt. 6 oz.Each.

## (8) SHURE M75-6S CARTRIDGE

Same as M93E cortridge listed above but with a .0006" spherical stylus. Shpg. wt. 6 oz . No. 33 A 5061 . Each
$\$ 27.50$
(3) SHURE M55E DYNETIC WITH ELLIPTICAL STYLUS

Developed for use in fine quallty high fidelity systems with tone arms de signed to track of $3 / /$ to 2 grams. Produces ostonishing distortion free sound. Diomand elliptical stylus retrocts into cartridge when excessive force is opplied. Tracking ongle $15^{\circ}$, response $20-20,000 \mathrm{~Hz} ; 6 \mathrm{MV}$ output at 1.000 cps ; separation over 25 db; stylus dimensions . 0009 ' frontal rodius, $0002^{\prime \prime}$ side contact radti.
No. 33 A5004, Each
$\$ 29.95$
(1) 5HURE M44E DYNETIC WITH ELLIPTICAL 5TYLUS

Designed for use in automotic turntables requiring a cortridge that will track in the $13 / 4$ to 4 grams range. Diamond stylus tracks of $15^{\circ}$, retrocts inta cartridge the $13 / 4$ to 4 grams ronge. Dicmond stylus tracks of $15^{\circ}$, retracts inta cartridge
when excessive force is supplied. Response $20-20,000 \mathrm{~Hz}$.; seporation $25 \mathrm{db} ; 9.3$
 Mo. 33A5005. Each
$\$ 24.95$

## (3) SHURE M44.7 DYNETIC

Freq. resp: $20-20,000 \mathrm{HZ}$. Output voltage: 1000 HZ at $5 \mathrm{CM} / \mathrm{sec}$. 11 militivolts per channel. Channel separation: more than 25 db at 1000 HZ . Recommended load impedance: 47.000 ahms per channel. Inductance: 720 millihenries. DC resistance: 630 ohms. Terminals: 4 (with loop pin for 3 terminal connections). Weight. 7 grams. Mounting stendard $1 / 2^{\prime \prime}$. Tracking weight i $1 / 2$ to 3 grams. With .0007 inch radius diamond stylus.
No. 33 A5000. Each
$\$ 19.95$

## MODEL SFG-2 STYLUS <br> FORCE GAUGE



The Ideal way to have your tone arm set to exactly the correct tracking force. Detects both excessive or insufficient tracking forces. Accuracy to within $1 / 10 \mathrm{gram}$ in the $1 / 2$ to $11 / 2 \mathrm{gram}$ primary operating range; axtended range to $\mathbf{3}$ grams
No. 33 A6669. Model SFC. 2. Each

## PICKERING STEREO CARTRIDGES

XV-15 SERIES. "Top of the line" magnetic cartridges designed for superb performance. Extremely linear frequency response curve with low fip mass. Both have Dustamatic brush hinged directly to stylus assembly which never interferes with tracking force and $V$-guard replaceable stylus assembly, $\begin{array}{ll}\text { O } \\ \text { force. } & 0002^{\prime \prime} \times \\ x\end{array} .0009^{\prime \prime}$ elliptical diamond stylus. Response $10.25,000$ force Separation 35 db .
No. 33A5078. Shpg. wt. 3 oz. Exch onac............................................. $\$ 65,00$ O XV-15/400E. For light tracking automatic and manual turntables. $3 / 4$ to $11 / 2$ grams tracking force. $.0003^{\prime \prime} \times .0009^{\prime \prime}$ elliptical diamond stylus. Response $10-25,000 \mathrm{~Hz}$. Separation $35^{x} \mathrm{db}$.
No. 33 ASOOB. Shpg. wt. 3 oz. Each.......................................... $\$ 54.95$ V-is PHASE IV SERIES. Micro-magnetic cartridges with V-Cuard floating stylus and Dustamatic cleaning brush. Extremely flat frequency response. low mass stylus for increased needle and record fife.
V-15/AME PHASEIV. Has $.0003^{\prime \prime} \times .0009^{\prime \prime}$ elliptical diamond stylus. Response $10-25,000 \mathrm{~Hz}$. Separation 32 db . Tracking force $3 / 4$ to $13 / 4 \mathrm{grams}$. (3) $15 / A M$ PHASEIV, Has $.0007^{\circ}$ conical diamond stylus. Response 10 $23,000 \mathrm{~Hz}$. Separation 32db, Tracking force 1 to 3 grams.
No. 33 A5010. Shpg. WT. 3 oz . Each.. (7) $V=15 /$ ATE PHASE IV. Hás $0004^{" 4} \times .0009^{\mu "}$ elliptical diamond st sponse $10-23,000 \mathrm{~Hz}$. Separation 32 db . Tracking force $2-5 \mathrm{grams}$. No. 33 A $5011 . S h p g . ~ w t . ~ 3 ~ o z . ~ E a c h . . . ~$ $\qquad$ 13. Re-VI5/AT PHASEIV, Has . O007 conteal diamond sty


## REPLACEMENT DIAMOND NEEDLES FOR POPULAR MAGNETIC CARTRIDGES

| Stk. No. | Type | Make | For Cart. No. | Tip | Net Ea. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 33 A5025 | D3807AT | Plekering | $g$ U38A | 7 Mil | 5 |
| 3345026 | D1507AM-3 | Pickering | $g$ VIS/AM-3 | 7 MII | 15.75 |
| 3345027 | D1507AT-3 | Pickering | g VIS/AT-3 | 7 Mil | 14.50 |
| 33A5028 | DISOOAME-2 | Pickering | $g$ VIS/AME- | $9 \mathrm{P}, 2 \mathrm{E}$ El | 20.95 |
| 3345029 | DIS07AT. 2 | Pickering | g VIS/AT-2 | 7 Mil | 11.50 |
| $33 A 5030$ | DIS00ATE-2 | Pickering | $g$ VIS/ATE-2 | 9x.4 Ell | 18.95 |
| 3345015 | N30 | Shure | M70-M3D | 7 Mil | \$7.95 |
| 33 A5016 | - N210 | Shure | M30 | . 7 MII. | 11.00 |
| 33 A5017 | N55E | Shure | M55E | .9x2 Elf. | 14.95 |
| 3345018 | N44E | Shure | M44E | 7x.4 ElI. | 12.50 |
| 33A5001 | N44-7 | Shure | M44-7 | 7 Mil | 9.75 |
| 3345021 | N3IE | Shure | M3IE | $7 \times .2 \mathrm{EIT}$. | 14.95 |
| 33 A5022 | N32E | Shure | M32E | $7 \times .4$ EH. | 14.50 |
| 33 A5065 | N91E | Shure | M91E | 7x. 2 Mil | 24.50 |
| 3345066 | N93E | Shure | M93E | 4 x .7 Mt | 19.50 |
| 33 A5068 | N75-6 | Shure | M75 | . 6 Mil | 11.35 |
| 33 A5086 | - N91ED | Shure M | M91E, -ED, M92E | . $7 \times .2 \mathrm{EII}$. | \$26.00 |
| 33 A5087 | N91GD | Shure M | M91GD | 6 Mil | 21.50 |
| 33 A5088 | - N75ED Type 2 | Shure M | M75E, -ED, Tp. 2 | . $7 \times .2$ E11. | 26.00 |
| 33 A5092 | N91G | Shure M | M91,92,93 Series | . 6 MI | 14.50 |
| 33 A5089 | - N75G Type 2 | Shure M | M75G Tp. 2 | . 6 Mil | 19.25 |
| 33 A5090 | N75E) Type 2 | Shure M | M75EJ Tp. 2 | 7x.4 Ell. | 22.50 |
| 33 A5091 | - N75B Type 2 | Shure | M75B Type 2 | 10 Mil . | 16.75 |
| 33 A5 020 | - VNISE <br> (improved) | Shure | V-15 Type II | x. 2 El | 27.00 |
|  |  |  |  | your old sty |  |
| higher quality stylus assembly. Get better overall frequency response and high trackability resulting in less distortion and truer reproduction. |  |  |  |  |  |
|  |  |  |  |  |  |
| Cartridge is | Is and You Ins |  | Yoy'll Have | racking Force(grams) |  |
| v.15II | VN15E (improved) |  | VISII (improve |  | (grams) |
| M91E | N91ED |  | M91ED |  | 1/4-11/2 |
| M92E | N91E or N91ED |  | M9IE or M91E |  | t/6-1/2 |
| M75E | N75ED Type 2N75G Type 2 |  | M75ED Type 2 |  | 3/4.11/2 |
| M75G |  |  | M75G Type 2 |  | 3/4-1/2 |
| M75-6 | N758 Type 2 |  | M758 Type 2 |  | $1 / 2 / 3$ |

## B-A SPECIAL VALUE!

## FAMOUS SHURE M3D

 STEREO MAGNETIC CARTRIDGE* 

SAVE $\mathbf{8 7 . 8 0}$ $\$ 795$
Perfect replacement for the popular Shure M70. Pickering U38AT. Empire 880, or any other equivalent high fidelity stereo magnetic type cartridge. There is absoluicly no compromise in quality or performance at B-A's specia low, low price. Frequency response 20 to 20.000 Hz . $3-5 \mathrm{grams}$ tracking low, low price. Frequency response 20 to $20,000 \mathrm{~Hz}$. $3-5$ grams tracking
More than 20 db separation at 1000 Hz . Output voltage 5 mw mer channel More than 20 db separation at 1000 Hz . Output voltage 5 myy per channe
at 1000 Hz . Recommended load impedance: 47.000 ohms. Terminals: at 1000 Hz . Recommended load impedance: 47.000 ohms. Terminals: replacement diamond needles.
\$7.95

## the sound approach to quality $\bigcirc$ RENWNDDD

## NEW GENWOOD

## - KR-2200 16-WATT (RMS) AM/FM STEREO

 RECEIVER

# GRAINED CABINET 

- Frequency Response $25-35,000 \mathrm{~Hz} \pm 2 \mathrm{db}$

Well worth its low, low price, the 2200 yields outstanding performance. The noise-free Field Effect Transistor and 3 -gong variable tuning eapacitor are put to use in FM frontend circuitry, resulting in exceptional gain and selectivity. Tuning is even eosier with illuminated signal strength tuning meter. FM AUTO function selects only stereo broadcasts as you fune, lighting stereo indicator. Hetty power output amplifier provides plenty of big. full range sound to drive 2 sets of stereo speaker systems well above listening level. Speoker switch selects $A, B, A+B$ or phones plus power on/aff. Loudness switch provides law and hi frequency boost to keep response flat at low listening levels. Front pan-

- Mike/line mixing with front panel jack and level control el microphone jack permits mixing with other input sources. Voriable mike lovel increases flexibility in mike/line mixing. Striking new appearance includes luminous dial with ifluminated pointer and simulated walnut finish. Continuous Power Output 8 watts (rms) per channel at 8 ohms, $50-20.000 \mathrm{~Hz}$, (Both Channels Driven). Total Harmanic Distortion and Intermodulation Distortion $0.8 \%$ (at roted output). Freq. Resp. $25 \cdot 35,000 \mathrm{~Hz} \pm 2 \mathrm{db}$. FM Sensitivity (IMF) 2.5 uV , Signal/ Noise $=60 \mathrm{db}$. AM sensitivity (IMF) 25 uV. $110-120 \mathrm{VAC} 50,60 \mathrm{~Hz}$. Size: $47^{\prime} h^{\prime}$ H. $\times 17-5 / 8^{\prime \prime}$ W. $\times 15 \% " \mathrm{D}$. Shpg. wf. 16 ibs. No. 33 A730. Model KR-2200. Eoch
$\$ 159.95$


## MATCHING KENWOOD AMPLIFIER AND AM/FM STEREO TUNER

© KENWOOO ${ }^{\circ}$ KA-2002 34 WATT (RMS) SOLID STATE STEREO AMPLIFIER


- Frequency response: 20 to $30,000 \mathrm{~Hz} \# \mathbf{2 d b}$
- Power 17 watte perchannel RMS continuoun at 8 ohma.
- Separate baes, treble and volume controla.

Miniature madule and companion to the KT2001, this mighty mite offers an excellent low budget opportunity to enjoy the immeasurable improvement achleved with separate components.
specifications: H.D. less than $.8 \%$ at rated output. IM distortion less than $.8 \%$ at rated output. Inputs: Phono $(2 \mathrm{mV})$. Aux. tuner 1150 mV$)$. Tape play $(150 \mathrm{mV})$. Hum and Noise: phono 60 db . 5 tep type tone controls. Oufputs: speaker 4, 8 ohms, tape rec., phono jack, AC outlet. Switch: input selector loudness control, mode, tape monitor power. Power consumption $110 \cdot 120 \mathrm{~V} .50 / 60 \mathrm{~Hz}$.
Size: $13^{\prime \prime}$ W. $\times 5^{\prime \prime}$ H. $\times 91 / 2^{\prime \prime}$ D. Wt. 12 lbs.
No. 33A471. Net Each
$\$ 119.95$
No. 33A468. Matehing Walnut Enclosure
.$\$ 15.00$
6) KENWOOD ${ }^{\circ} \mathrm{KT}-2001$ AM/FM

SOLID STATE STEREO TUNER


## FULL 2 YEAR WARRANTY ON PARTS \& LABOR

$\$ 119^{95}$

- Large Tuning Meter, Stereo Indicator Light.
- Frequency Reaponsé FM 20 Hz to $15,000 \mathrm{~Hz}$.

Diminutive darling of the Kenwood line :...size not withstanding, KT2001 detivers excellent stereo reception and offers all the dellghts of separate components. Ideal for use with KA-2002 ampliffer or for any existing stereo system.
Specificaftions: Useable sensitivity 2 mV . Freq. resp. $20-15.000 \mathrm{~Hz}+0$ -2 db . H.D. less than $7 \%$. $5 / \mathrm{N}$ ratlo better than 60 db at $100 \%$ modulation. Stereo separation better than 30 ob at $1,000 \mathrm{~Hz}$. Output voltage 1 V . Output impedance 300 and 75 ohms. Features stereo noise filter, FM stereo/mono auto switching. AM section: sensitivity (IMF) 25 mV . selectivity (IHF) better, than 25 db . Power consumption $110-120 \mathrm{~V} .50 / 60 \mathrm{~Hz}$. Dimensions: $13^{\prime \prime}$ W. $\times 5^{\prime \prime}$ H. $\times 91 / 2^{\prime \prime}$ D. Wt. $91 / 2$ lbs.
No. 33A470. Net Each
$\$ 119.95$
No. 33A468. Matching Walnut Enclosure.


## NEW © KENWORD ${ }^{\circ} \mathrm{KSQ}-400$

4 CHANNEL ADAPTER 24 W ATT REAR AMPLIFIER

- FULL 2 YEAR WARRANTY ON PARTS \& LABOR


## $\$ 15995$ WITH <br> CABINET

- Complete Decoder with QUADRIX and SQ Systems
- Converts any stereo system to 4 channel

Your present stereo system is reborn with the oddition of the KSQ. 400 and two speakers. Provides all of the reallsm of the concert holl by recovering hidden sounds inherent in all music. Has two-chonnel amp and preamp that provide big power to match the best stereo receivers for all-around balanced sound. 4 . CH. AUX Mode permits connection of discrete 4 channel tape sources. Unique SQ Mode delivers 4 channel sound from encoded "SQ Matrix" phonagraph records. QUADRIX Mode employs the dematrixing technique to bring fuli Con-cert-hall presence from conventional 2 channel stereo record, tope and broad
cast signals. 2 CH mode delivers unaltered 2 channel sound to the rear speak. ers. Hos balance controls for right to left and front to rear plus bass and treble for reor channels. Also has four mode indicators, tape monitor switch and master volume control. Continuous Pawer Output 12 wotts (rms) per channel with both channels diven af 8 ohms. 110 VAC 60 Hz . Size: $4^{\prime \prime} \mathrm{H} . x \mid 3^{\prime \prime} \mathrm{W} . x$ $10^{\prime \prime} \mathrm{D}$. Shpg. wf. 14 lbs

No. 33A737. Model KSQ-400. Each
$\$ 159.95$

# NEW <br> KENWOOD KR-3200 <br> 27 WATT (RMS) AM/FM STEREO RECEIVER 



- direct coupled output with overload protection.
- large illuminated signal STRENGTH TUNING METER

Excellent candidate for the heart of your fine stereo component system. Full complement of functions provides greater versatility. Latest design FM section utilizes Double-Switching Demodulotor circuitry in the multiplex stage, with special block fitter, 10 minimize carrier leak and improve stereo separotion. Linearfrequency type variable condenser resulis in equally graduated FM dial scole for easy, accurate tuning. Giont illuminated tuning meter permits pinpointing of station by signal strength. Direct coupling in the power amplifier stage gives superior response linearity and minimal distortion. High reliability protection circuit prevents damage to output transistors from power overload. Output stages supply $13 / 2$ watts (rms) per chonnet at any frequency from 50 to $20,000 \mathrm{~Hz}$ to drive two pairs of large speaker systems well obove normal listening level. Speoker switch hos $A$. B, $A+B$ and spkr. off positions, Stereophone jack provided. Mono Stereo mode, tope mon,, loudness, nolse filter and power on off switches provided as well as volume, bass, treble, bolonce controls, speaker and function selectors. Continuous Power Outpul $13 \frac{1}{2}$ walts (rms) per channel of 8 ohms, $50-20,000 \mathrm{~Hz}$, Both Channels Driven. Total Harm. Dist. and Intermod. Dist. $0.8 \%$ (at rated output). Freq. Resp. $25 \cdot 35,000 \mathrm{~Hz} \neq$ 2 db . FM sensitivity (IHF) 2.3 uV , Signal/Noise $=83 \mathrm{db}$. AM sensitivity (IHF) $25 \mathrm{uV} .110-120 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$. Size: $5 \% /{ }^{\prime \prime} \mathrm{H} . \times 17^{\prime \prime} \mathrm{m}^{\prime \prime} \times 13-5 / 8^{\prime \prime} \mathrm{D}$. No. 33 A731. Shpg. wt. 20 lbs.
$\$ 229.95$

## NEW 8 KENWWDDD KR-5200 60 WATT (RMS) AM/FM STEREO RECEIVER



- wide dial linear scale.
- dual gated fet front end AND 4 GANG TUNING.
- 3-SYSTEM SPEAKER SWITCHING.

The super-power KR-5200 offers extra special features for quality and convenience. Direct-coupled power amplifier stage is free from distortion generated by output aransformers. Power transistor overload is prevented by highly reliable protection circuitry. With both channels driving 8 ohm loads, the KR- 5200 develops 30 watts per channel (rms) at any frequency from 20 to 20.000 Hz for more thon adequate power to drive 3 pairs of speakers. Speaker switch selects $A, B, C, A \rightarrow B . A+C$, or spkr. off. Has 2 -system tape copobility with Rec. \& Play jacks instolled on front panel for convenience. Flowless FM performance with double switching demodulator and special block filter for minimum carrier leak and impraved stereo separation. Dual gatetype FET frant end and 4 gang frequency-linear funing copacitor give low-noise high sensitivity tuning ability. Integrated circuitry and 3 element mechonical If. filter provide improved selectivity and copture ratio. FM muting and large illuminoted tuning meter permit quiet diolling and pinpoint tuning of stations. Controls and switches include: power on/off, speaker selector, bass, treble mode fright, left, stereo, rev., mix). tape mon A\&B, muting, lo filter, hi filter, function selector. $\mathrm{vol} / \mathrm{bal}$. C.P.E. $30+30$ watts (rms). B.C.D. (a 8 ohms. THD and IMD $0.5 \%$ (at roted output) Freq. resp. $20-40.000 \mathrm{~Hz} \pm 2 \mathrm{db}$. FM sensitivity (IHF) 1.8 uV , $\mathrm{S} / \mathrm{N}=65 \mathrm{~dB}$. AM sensitivity (IHF) 15 uV . $110.120 \mathrm{VAC} 50 / 60 \mathrm{~Hz}$. Size: $5^{\prime \prime} \mathrm{H}$ $\times 17^{\prime \prime}$ W. $\times 14^{\prime \prime} \mathrm{D}$.
No. 33A733. Model KR-S200. Shpg. wt. 30 lbs. Eoch
$\$ 349.95$ RECEIVER


FM MUTING TO SILENCE INTER-STATION NOISE.

- HAS COMPLETE CIRCUITRY AND SWITCHING FOR 2
s279"5


## TAPE DECKS

Kenwood quality, tested and proven; is an integral part of the KR-4200 receiver with direct coupled power omplifiers, double switching demodulator circuitry in MPX stage, frequency-linear funing condenser and fail-safe output transistor protection. Provides terrific power to drive even two pairs of large complex multi-speoker systems with full range sound. Output circuits develop 19 watts (rms) per channel with both channels driven at any frequency befween 50 and $20,000 \mathrm{~Hz}$ into 8 ohm loads. FM section boasts 2.0 microvalts sensitivity to get those distant or low-power stations clearly. Large illuminated tuning meter and linear FM dial permit quick and easy funing with greatest occuracy. When not funing extremely weak stations, the FM muting feature eliminates noise between stations. "TAPE A" has both phono and DIN jacks, "TAPE B" has phono jocks only. Tape monitor switches for each are mounted on front panel. Also two sets of AUX inputs are provided. Loudness control compensates for low and high frequency losses of low tistening levels. Also hos noise fitter, speaker selector ( $A, 8, A+B$, and spkr. off), balance, volume, bass and treble controls and stereo/mono mode, C.P.O. $19+19$ watts ( rms ) B.C.D. at 8 ohms. THD and IMD $0.7 \%$ (ot roted outpuf). Freq. Resp. $20-35,000 \mathrm{~Hz} \pm 2 \mathrm{db}$. FM sensitivity (IHF) $2.0 \mathrm{uV}, \mathrm{S} / \mathrm{N}=63 \mathrm{db}$. AM sensitivity (IHF) $15 \mathrm{uV} .110 .120 \mathrm{VAC} 50 / 60 \mathrm{~Hz}$. Size: $5^{3 / 44^{\prime \prime}} \mathrm{H}_{\text {. }} \times 17 \mathrm{H}^{\prime \prime} \mathrm{W}^{\prime} \times 13-5 / 8^{\prime \prime} \mathrm{D}$
No. 33A732. Model KR-4200. Shpg. wt. 23 lbs . Each
\$279.95

## NEW KENWOOD KR-6200* 90 WATT (RMS) AM/FM STEREO RECEIVER



DUAL GATED FET'S FOR STATION \$
GRABEING I.7 UV SENSITIVITY. MID-RANGE TONE CONTROL.

- tWO LaRGE ILLUMINATED TUNING METERS,

A receiver of regal distinction, the choice of discriminating audiophiles. FM section is truly a precision tuning instrument with unique double switching system in MPX and block filter to minimize corrier leak. Frequency-lineor 4 -gang tuning capocitor not only gives unbeatable selectivity but reduces "bunching" of stations on the dial. Low noise and high sensitivity ore provided by use of FET's in front end circuits. 3-element mechonical filter in IF stoge improves capture ratio. Pinpoint tuning is easy with two large illuminated funing meters. Direct coupling gives excellent full range response with netigible distartion. Continuous power output is a grand 45 watts per channel, af all frequencies from 29 20.000 Hz with 8 ohm loads and BOTH channels driven. Contour sound to fit your personal toste with 3 tone controls including midrange. Has circuits and tape monitor switching for two decks, one of which plugs into front panel. Also has tront mic. jack far 50k ohm (hi imp.) mic. Switch and control complement includes power on/off, tape mon A\&B, FM muting, loudness, low and high filters, bass, mid, treble, mode (left, right, stereo, reverse, mono), function selector (with oux 1, aux 2, and mic), volume/balance and tuning. C.P.O. $45 * 45$ watts (rms) B.C.D. of 8 ohms. THD and IMD $0.5 \%$ (ot rated output). Frequency Response $20.40,000 \mathrm{~Hz} \pm 2 \mathrm{~dB}$. FM sensitivity (IHF) $1.7 \mathrm{uV}, \mathrm{S} / \mathrm{N}=60 \mathrm{~dB}$. AM sensitivity (IHF) 15 uV . 110.120 VAC $50 / 60 \mathrm{~Hz}$. Size: $53 / 4 \mathrm{H}$. $\times 17 \mathrm{h"W}$. $x$ 14" D.
No. 33A734. Model KR-6200.|Shpg. wt. 32 lbs. Each
\$399.95

## Sansui the world's finest receivers

FROM THE WORLD'S FOREMOST AUDIO-ONLY SPECIALIST B-A'S LOWEST PRICED, HIGH-QUALITY STEREO RECEIVER

## Sauncui 210 AM/FM/FM STEREO RECEIVER WITH 20 WATTS CONTINUOUS!

## ONLY

- Stylish Walnut wood cabinet included.
- Frequency response 25 to $30,000 \mathrm{~Hz}$ ( $\pm 2 \mathrm{db}$.)
- Fuse protection for power tranaistors.
- Silver gold aluminum extrusion panel with blackout dial.

A truly high quality receiver .. low in price but with many costly extras! Such as FEf front ond for flowless FM reception ond selectivity with high signal-tonoise ratio and interference suppression. Silicon transistors throughout give noise-frea performance. FM multiplex circuit offers channel separation above 30 db . (ब) $1,000 \mathrm{~Hz}$ ) with below $1 \%$ distortion. Large tuning meter gives instant reading of signal strength. Wide-dial linear FM scale spreads stations apart providing better spacing between stations, FM Auto function enables the 210 to switch from mono to stereo automaticolly when stereo station is tuned. Highly sensitive ferrite bar antenna pulls in AM stations with exceptional clarity. Output circuits are protected from burnout by quick-acting fuses.

Specifications: 10 watts (rms) per channel © 8 ohms; total hormonic distortion less than $1 \%$ at rated output; amplifier frequency response $25-30,000 \mathrm{~Hz} \pm 2$ db ; hum and noise - phono 65 db , oux. 70 db ; load impedance $4-16 \mathrm{ohms}$; FM sensitivity (IHF) 5.5 uV . Controls: power switch, bass, treble, volume, tope monitor, loudness ond function switches. Connectors: antenna AM and FM, phono input, aux. input, tape mon, input, record output, speaker outputs, switched and unswitched convenience outlets. $110 / 117 / 220 / 240$ VAC $50 / 60 \mathrm{~Hz}$. Cam-
 16 lbs.
No. 33A36. Model 210. Each
$\$ 139.95$

## Sanntie tu-555

AM/FM/MPX STEREO TUNER

## ${ }^{5} 129^{95}$

- Precision Engineered for Professional Performance.
- Advanced FET Circuitry.

Designed with precision engineering for professional performance incorporating every advancement made in audio engineering, the IU- 555 offers features that larger, more expensive tuners often lack. Combines the latest FET circuitry with 3 -gang tuning copacitor for new stondards in FM sensitivity and selectivity. Completely automatic stereo switching and indication with high channel seporation ( 35 db ). Unique round tuning dial facilitates more aceurate pinpointing of stations. Improved type noise canceler, unlike the conventional noise fitter, eliminates noise without weakening high frequencies. All silicon 4 IF stages and


1

## 50 WATT (RMS) <br> SOLID STATE INTEGRATED AMPLIFIER

## $\$ 15995$

- Offers Luxurious Performance af Modest Cost.

3 limiters prevent crass modulation and spurious image interference; muting stops noise for quieter stotion selection while funing meter helps in optimum tuning. Alsa has local/distant antenno switch and built-in ferrite AM antenno. 2-position output level adjuster permits use of any control amplifier with optimum operating conditions. Sensitivitys 2.5 JV ( HF ), 2.0 uV ( 20 db quieting). Impedance 10 K ohms. Uses $117,220,-240 \mathrm{VAC} 50 / 60 \mathrm{~Hz}$. Size $4-3 / \mathrm{BH} \times$ $11.7 / 16 \mathrm{~W} \times 10-5 / 8^{\prime \prime} \mathrm{O}$. Shpg. wt. 12 bbs. No. 33A718. Model TU-555. Each
$\$ 129.95$

## A leader in its class, the AU505 integrated amplifier offers luxurious perfarm-

 ance at modest cost; unmatched for tonal quality, yersatility, ease of operation and economy. Superb tanal quality, low distartion and wide frequency response result from the exclusive use of low-noise sificon transistors. Truer reproduction is obtained by use of the all solid state semi-somplementory Darlington OTL/ITL circuif. Big capacity choice output transistors are resistant to over-current, voltage and high temperature and protected by quick-octing fuses. Has terminals for two sets of speokers which can be played together or separately or furned off for headphone listening. Microphone jack provided for ( 50 K ohm) microphone use (monaural). Front panel OIN socket tacilitates tapédeck connection. Tuner selector for instont switching to radio fram other funcfions. Other contrals inciude bass, treble, balance, volume, hi and to filters, loudness, stereo/mana mode and tape manitor. Matal cabinel enhonced by walnut finished wood sides. CPO (rms) 25 watts per channel. THO less than $0.5 \%$ of rated output. IMO ( $60 \mathrm{~Hz} ; 7,000 \mathrm{~Hz}=4: 1$ SMPTE method) less than $0.5 \%$ at rated output. Frequency response $20 \cdot 60,000 \mathrm{~Hz} \pm 2 \mathrm{~dB}$. Impedance $4-16$ ohms. Input sensitivity and impedance (@ $1,000 \mathrm{~Hz}$ ): PHONO $3 \mathrm{mV}(50 \mathrm{~K}$ ohms); MIC $4 \mathrm{mV}(50 \mathrm{~K})$; TUNER, AJX \& TAPE MON. $200 \mathrm{mV}(50 \mathrm{~K})$. Power Supply $100,117,220.240 \mathrm{VAC} .50 / 60 \mathrm{~Hz}$. Size $4.5 / 8 \mathrm{H} \times 6 \mathrm{~W} \times 11^{\prime \prime} \mathrm{D}$. No. 33A719. Model AU-505. Shpg. wt. 20 lbs. Each

Sanswi 350A
40 WATT (RMS) AM/FM STEREO RECEIVER

## $\$ 214^{95}$

## - a c (3) 302906

## - High Quality - low noise stlicon tronsistors,

## - Beautiful croffed Walnut wood cabinet.

This is a quality recelver with virtually every refinement to be found in higher priced units and has all the power most music lovers will ever need. Plus outstanding FM reception with 4 -stage IF ampliffer and 3 -stage limiter circult, unique new noise canceler circuit, advanced FM multiplex circuit, automatic gain control, silicon devices and limear FM scale. These features combine to produce the utmost in quiet operation, interference rejection. stability and separation plus high selectivity with low distortion.
The power amplifier section of the 350A adapts a semi-complementary Darlington circuit system for high power output with distortion at a low $1 \%$ or less. both over a bandwidth of $30-30,000 \mathrm{~Hz}$. Output terminals are absolutely shortproof and require one touch only to secure each wire snugiy, 2 sets of speakers can be connected, switchable from front. An

- 4-stage FM IF section.
panel and "smoked black acryl" dial panel for a very sophisticated appearance. Specifications: 20 watts per channei continuous power output (rms) with 8 oht load; harmonic distortion less than $1 \%$ at rated outout, intermodula-
tion distortion $(60 \mathrm{Hz:} 7.000 \mathrm{~Hz}=4: 1 \% \mathrm{MPTE}$ method); amplifier frequency response (at normal listening levei) $30-30,000 \mathrm{~Hz} \pm$; 1 ampifier re noise (IHF) phono 65 db , aux. 70 db ; load impedance $4-16$ ohms; damping noise (thr phono 65 db . aux 70 db; load impedance $4-16$ ohms; damping factor 45 is ohms); FM sensitivity (1HF) 3 uV; FM capture ratio 3 do: aux., tape inputs, tape monitor outputs, AM and FM external antennas, aux, tape inputs, tape monitor outputs, AM and FM external antennas, nut wood enclosure. Dimensions: $53 / 4^{m} \mathrm{H} \times 163 / 8^{\prime \prime} \mathrm{W} . \times 121 / 8^{\circ \mathrm{D}} \mathrm{D}$. Shpg. wt. 26 lbs.
No. 33A5. Model 350A. Each.


## Sansti 1000x

56 WATT (RMS) AM/FM STEREO RECEIVER

## $\$ 289^{95}$

## - 5-stage FM IF Amplifier

- 28 Watts per channel - continuous.

The Sansui 1000 X , encased in an olegant Walnut wood cabinet, is a complete, odvanced stereo receiver. The FM tuner is capoble of 2.0 uV sensitivity through use of the Field Effect Transistor, in the front end, with a 4.9 ang variable capacitor. Just what you would expect in a more expensive unit.
The Ilnear FM dial means easier selection trom among adjacent stations. When in FM stereo position, the 1000 X will automatically switch to stereo mode when stereo broadcasts are tuned, lighting the stereo indicator light. With 5 If amplifiers and a 4 -stage limiter circuit the 1000 X aftains maximum effectiveness in rejecting adjacent channel signals and noise resulting in optimum selectivity. FM muting switch maintains silence between stations while large funlng meter alds in precise tuning. Two tape monitor circuits offer greater versatility for copying, dubbing- or source recording. Pre-amp and main are independent so you can operate with the pre-amp and external power amp or use the power output with an external

## - Attractive Wainut wood cabines.

- Automatic Stereo/Mono switching.
preamplified source. Drlve 2 pairs of speakers with front-switched A E B speaker outputs. FM antenna may be 75 ohm or 300 ohm. Specifications: 28 watts per channel continuous power output (@8 ohms) ; total harmonic distortion less than $0.8 \%$, intermodulation distortion $160 \mathrm{~Hz} ; 7.000 \mathrm{~Hz}=$ $4: 1$ SMPTE) less than $0.8 \% \rightarrow$ both at rated output ; Amplifter frequency response $15-40.000 \mathrm{~Hz} \pm 1 \mathrm{db}$ : hum and noise phono 70 db aux. 75 db ; load impedance $4-160 \mathrm{hms}$; FM sensitivity 2 UV (1HF). Controis: Power switch, speaker switch, bass, treble, volume, balance; lever switches for hi filter, loudness, stereo/mono mode, tape monitor $1 / \mathcal{L}$ and $F M$ muting, rotary function selector. Connectors: tape rec (1 G 2) and mon (1 G 2); DIN tape mon and rec (1), phono $G$ aux. inputs, speaker outputs (A G B), AM G FM antenna, switched convenience outlet. 117 V AC (and 7 others) $50 / 60 \mathrm{~Hz}$. Dimensions: $53 / 4^{\prime \prime} \mathrm{H} . \times 161 / 2^{\prime \prime} \mathrm{W} . \times 121 / \mathrm{s}^{\prime \prime} \mathrm{D}$. Na. 33 A489. Shpg. wt. 28 lbs. $\qquad$ ${ }^{5} 289.95$


## Sansui seven

## 80 WATT (RMS) AM FM STEREO RECEIVER <br> ${ }^{5} 4599^{95}$

## - Ultra high quality Tuner/Amplifier.

- Amazingly low distortion figures.

The Sansui SEVEN with protessional look and superior quality possesses all the features of any fine receiver and more. For example midrange tone control in addition to boss and treble controls (all calibrated from 15 dB to +15 dB ) give you the opportunity to cantour sounds with never-before exactness. Dual funing meters for high-precision tuning of stotions by signal strength and discriminator center. The SEVEN stands ready for instant conversion to 4 -channel ond noise reduction systems with front pariel switching provided including 2 tope monitor circuits. All direct-coupled amplifier stoges and preamp with pure complementory output cirevit meons no transformers to generote distortion or olter input signols. Automatic self-restoring multiple-oction circuitry prevents damage to power output transistors. MOS FET frontend, four-gang tuning and


## - Outstanding 1.8 microvolt sensitivity.

- 4-channel and Dalby adaptable.
two RF stages give the SEVEN its 1.8 uV sensitivity. Easy to tune with wide dial linear FM scole and adjustable muting feoture. 3 sets of speakers may be connected. Speoker switch selects A, B, C, A\&B, A\&C, and off. Controls include: Volume, bass, treble, midrange, balonce, speakers, loudness, low and high fitters, mono/stereo mode, N.R. odaptor, tope mon-1 \& 2, 4 ch , adaptor, FM muting, muting adjust. Confinuous power output 40 watts per chonnel (rms) at $1,000 \mathrm{~Hz}$ bath channels driven. T.H.D. $0.3 \%$ of roted output I.M.D. $0.3 \%$ at rated output. Frequency response $15-40,000 \mathrm{~Hz},+1 \mathrm{~dB},-1.5 \mathrm{~dB}$. FM sensitivity $1.8 \mathrm{uV}, \mathrm{S} / \mathrm{N}=63 \mathrm{~dB}$. Power supply $110,117,220$, and other voltages, $50 / 60 \mathrm{~Hz}$. Size (opprox.) $6^{\prime \prime} \mathrm{H} \times 18^{\prime \prime} \mathrm{W} \times 13^{\prime \prime} \mathrm{D}$. Shpg. wt. 40 lbs . No. 33 A 720 . Model Seven. Each
s459.95

QR-1500<br>60 WATT (RMS) AM/FM 4-CHANNEL RECEIVER $\$ 299^{95}$

- A Big value of this low, low price!
- Dual-Gate MO5 FET Frontend for high sensitivity and goin.

Get in on the ground floor with o Sansui 4 -channel receiver. Combines the very latest of innovations never before available in a single package. The new revolution...4.channel sound... is spreoding like wildfire. The QR-1500 is a complete system requiring only four speakers and any mono, stereo or 4 -channel program source. Priced within reach of todays' dollar-conscious music buffs. Has full-power audia output through four separate 15 watt (rms) amplifiers with less than $0.8 \%$ hormonic distortion (at roted output). You also get Sansui's exclusive 4 -channel Synthesizer Decoder section complete with a 4 channel synthesizing decoding motrix and phase shifter circuits that convert today's 2 -chonnel tapes, discs and stereo broadcasts into lively 4 -chonnel format and revert encoded material to its' original 4 -channel form. Prerecorded discrete 4 -ch. tapes, ete. can be reproduced using 4 ch . input terminals. Uses

## 8, <br> Sansui

QR-4500
108 WATT (RMS) AM/FM
4-CHANNEL RECEIVER $\$ 599^{95}$

- Migh Qualisy Juner/Amplifier
- Performes oll 5ynthesizing Decoding Functions
- Big Power, Professional Styling

The QR-4500 starts with a high-perfarmance control amplifier and a supersensitive stereo funer but adds the capobility to convert 2 -channel stereo programs into the enrapturing new 4 -channel format, decode matrixed quad sources and reproduce 4 -channel discrete material. Unique phase shifter circuitry gives $\$ 90$ degrees phose change to left rear and .90 degree to right rear for proper phase relationship among all four channels creating distinct sound images of original saund sources. Exclusive phase modulation gives phenomenal effect of reflected sound. Synthesizer Decoder selector permits simple-switching of: CONCERT HALL 1 for orchestral or symphonic programs; CONCERT HALL 2 for synthesizing concert hall effect with smali ensembles; SURROUND/DECODER puts you in the midst of the performers for popular and easy-listening music; 2. Ch. far regular 2 -chonnel stereo sound from front speakers. Dual-gated MOS FETS and super precision 4 -gang variable capacitar in the front end make the OR-4500 a receiver of superb quality with low distortion even under excessive input, greatly improved image ratio and above all, an exceptianal 2.0 UV(IHF) sensitivity for better fringe area reception. Linear FM scale reduces crowding of

no mechonical devices for synthesis
all electronic. Independent slidé cana trals for front and rear volume. Also bass, treble, loudness, tape monitor controls and function selector. 2.CM/A-Ch. mode selector ratates output locotion. Synthesizer decoder switch and 4-Ch. indicator. Comes with handsome black/chrome panel encased in walnut wood cabinet. Specifications: Amplifier section 15 watts continuous per channel (all four channels). $0.8 \%$ Harm. dist. IMD ( $60 \mathrm{~Hz}: 7,000 \mathrm{~Hz}$. $=4: 1$ SMPTE method) $0.8 \%$. Freq. response $30-30,000$ $\mathrm{Hz} \pm 2 \mathrm{~dB}$. Separation 50 dB at $1,000 \mathrm{~Hz}$, load impedance $4-16$ ohms. FM : Sensitivity ( 20 dB quieting) 2.3 uV . $\mathrm{S} / \mathrm{N} 55 \mathrm{~dB}$. AM: Sensitivity 200 uV at 1,000 $\mathrm{KMz}, \mathrm{MOS}$ FET front end, signal strength meter, 4 element ceramic FM-IF filters. $100,117,220,240 \vee 50 / 60 \mathrm{~Hz}$. Size: $54^{\prime \prime \prime} \mathrm{H} \times 19^{\prime} \mathrm{W} \times 12 \mathrm{k} \mathrm{K}^{\prime \prime} \mathrm{D}$. No. 33A57. QR-1500. Shpg. wt. 22 lbs. Eoch
$\$ 299.95$

stations on the dial. Terminals pravided for twa sats of four speaker systems. 3 way power transistor pratection. 2 and 4 chonnel tape monitoring. Separate headphone jacks for front and rear. Controls: front and rear speaker selectors; front and reor bass and treble controls, three sliding balance controls for front, rear and front-to-rear; volume; $2 / 4 \mathrm{ch}$. mode; function selector; synthesizer/decoder selectar; loudness; FM muting and $2 / 4 \mathrm{ch}$. tope mon. switches. Tuning meter and indicators for AM/FM and $2 / 4$ channel operation. DIN and phono plug far tape rec/play. Continuous (rms) power output 27 watts per channel (all 4 ch's.); total harm. dist. $0.5 \%$ Freg. response $20-30,000 \mathrm{Mz} \pm 1$ dB. IMD $0.5 \%\left(60 \mathrm{~Hz}_{;} 7,000 \mathrm{~Hz}=4: 1 \mathrm{SMPTE}\right.$ method), separation 50 dB . Impedance $4-16$ ohms. FM sensitivity 2.0 uV (IMF). $\mathrm{S} / \mathrm{N} 65 \mathrm{~dB}$. Selectivity 70 dB. $100,110,117 \quad 127,220,230,240,250, V A C, 50 / 60 \mathrm{~Hz}$. Size: $6 \frac{3 / 4}{\prime} \mathrm{H} x$ $20-7 / 8^{\prime \prime} \mathrm{W} \times 12-58^{\prime \prime} \mathrm{D}$. Complete with walnut finished wood cabinet and AM bar antenna. Shpg. wf. 44 lbs .
No. 33A56. QR-4500. Each
$\$ 599.95$
(8) Sarzui

QS-500
66 WATT (RMS) 4-CHANNEL CONVERTER/REAR AMPLIFIER

## $\$ 28995$


$2 \mathrm{y} \boldsymbol{2} \mathrm{y}-\mathrm{y}$

- Coniverts any stereo system (equipped with tope monitor) to 4-Channel.

Best bet for 2-Channel stereo owners with 4-channel ambitions. A featurepacked power amplifier 4-channol Synthesizer Decoder combination designed to let you parlay your present 2 -channel system into a throughbred 4 -channel system "overnight". With the QS-500 you can naw convert your present 2 system overnight. With the tapes, discs, and stereo broadcasts into richer 4 -channel format. The result is a close approximation of vibrant sound fietds as they are experienced at live performances. You only add a second set of speaker systems to your present sefup. Also allows playing of 4 -channel (discrete) tapes. Output stage is direct coupled . . . no output transformers to generate distortion. Performs most functions of QR-4500 above, has phase modulation and shift, ali electronic circuitry and synthesizer decoder functians. Giant Vu meters permit easy level set-
ting af all 4 channels and input protectian from high level sources. Also has volume control (master, rear) rear speaker selector, level set, frant, rear-, and main (front-to-rear) balance. Tape mon 2/4 Ch. switch. Synthesizer decoder positions: Concert Hall 1 and 2; surround-Normol, -quarter turn, - half turn; Decoder and 2 channel. Continuous Power output 33 watts per cahnnel (rms). T.H.D. $0.5 \%$ at roted ouput I.M.D. $0.5 \%,\left\{60 \mathrm{~Hz}_{2} 7,000 \mathrm{~Hz}=4: 1\right.$ SMPTE method Freq Resp $20-50,000 \mathrm{~Hz} \pm$ IdB. Imped. $4-16$ Ohms. 100, 110,117 , 127, 220, 230, 240, 250, VAC 5060 Mz . Size: $6-3 / 8^{\prime \prime} \mathrm{H} \times 15 \%{ }^{\prime \prime} \mathrm{W} \times$ $1^{13-3} 8^{\prime \prime} \mathrm{D}$. Shpg. wt. 25 lbs . Complete with walnut finish cabinet.

No. 33A59. Q5.500. Each
\$289.95 the world's finest in stereo



SAVE $\$ 42.00$

## $\$ 329^{00}$

*SAMSUI 4 CHANNEL CONVERTER ANO 2 Channel rear amplifier

CONVERT ANY EXISTING STEREO SYSTEM WITH TAPE MONITOR PROVISIONS TO 4 CHANNEL
SYSTEM INCLUDES:
1.Sansui QS. 500
(33A59 on Page 11). Regular . . S289.95
2-B-A 200 Speaker Systems
(33A2168 on Page 16)
Regular 2 For
S80.95
50 Ft . of Speaker Wire (2C33) Reg. So .94 IF PURCHASED SEPARATELY \$371.84 B-A SPECIAL SYSTEM PRICE
No. 33 A743.
COMPLETE
$\$ 32900$

Sarsuio

\$627.54 SA VE \$100.00


8
SANSUI 60 WATT (RMS) AM/FM 4 CHANHEL
COMPOHEMT STEREO SYSTEM SYSTEM INCLUDES.
1.Sansui QR. 1500 Receiver
(33A57 on Page 11) Regular.. \$299.95
4-B-A 200 Speaker Systems

- (33A2 168 on Page 16)

Regular 2 pair for
$\$ 161.90$
100 Ft . Speaker Wire (2C33)
1-Garrard SL.728 Turntable 133A634 on Page 2). Regular . . \$109.95
1.Garrard 82 Base
(33A580 on Page 3). Regular .... S6.95
1.Garrard D2 Dust Cover
(33A584 on Page 3) Regular .... S6.95

1. Shure M93E Elliptical Cartridge (33A5062 on Page 6). Regular. . \$39.95 IF PURCHASED SEPARATELY S627.54 B-A SPECIAL SYSTEM PRICE. No. 33 A747.
COMPLETE

## Sansuio



REG. $\$ 1170.54$

SAVE $\$ 220.00$


## s950



SANSUI OELUXE AM/EM 108 WATT (RMS) 4 CHANNEL STEREO COMPONENT SYSTEM
SYSTEM INCLUDES:
1-Sansui QR-4500 Receiver (33A56 on Page 11). Regular . . S599.95
1-Garrard Zero-100 Turntable (33A686 on Page 2). Regular . . S199.95
1-Garrard 82 Base (33A580 on Page 3). Regular .... $\$ 6.95$
1 Garrard D2 Dust Cover \{33A584 ori Page 3) Regular .... S6.95

1. Shure M91ED Elliptica! Cartridge (33A5080 on Page 6) Regular.. \$54.95
4.8.A 1001 Speaker Systems (33A2172 on Page 15)
Regular 2 pair for
\$299.90
100 Ft . Speaker Wire (2C33) ..... S1.89 IF PURCHASED SEPARATELYS 1170.54 B-A SPECIAL SYSTEM PRICE No. 33 A742.
COMPLETE

## B-A Wants ${ }^{\text {You To Hear GREAT } \mathcal{O}}$ GuSic...



## B-A's UNBEATABLE SPEAKER SYSTEM VALUES! <br> ALL SYSTEMS BELOW ARE IDEAL FOR USE WITH SOLID STATE AS WELL AS TUBE AMPLIFIERS



## HANDSOME COMPACT REMOTE SPEAKER ENSEMBLE

## $\$ 14.95$ PAR

- Stereo speakars.
- Bright matal trim.
- Lightwelght, portable.
- Table, wall or bookshelf applications.

The perfect pair of speakers for bookshelf, wall or table-top use in kitchen, den, bedroom anywherel Will enhance any decor with their clean conservative lines. Compact, lightweight and portable they can easily be carried from room to room

Cabinets are wood with walnut finish, rich looking cloth grilles and bright metal trim for that expensive look. Outstanding pertormance is heavy duty oval PM loudspeakers for full-range fidelity. 8 ohms,
Frequency response $70-12,000 \mathrm{~Hz}$. Dimensioms $91 / 2^{\prime \prime} H_{0} \times 730^{\prime \prime} W, \times 41 /{ }^{\prime \prime} \mathrm{D}$. (each). Shps. wt 10 lbs. (pair). Finest quality import. \$14.95
No. 332128 . Pair.....


## COMPACT 2-WAY SPEAKER SYSTEM

## $\$ 19.95 \mathrm{ckch}$

- Use horizonfally or verfically on floor, b-sokcase or table.
- Cenuine hardwood cabinets in oiled walnut finish. - Frequency response $50 \cdot 15,000 \mathrm{~Hz}$.

Concert hall "Big Sound" from a igenuine two-way speaker system in a compact enclosure. all at B-A's spectal budget price. Selected by our own audio speclatists for its smooth pleasing $50-15,000$ Hz , high-fidellty range. Cives realistic high-efficiency performance even with low power sound sources.
Use horizontally or vertically on floor, bookcase, of table. Easlly carried from room to room, or outdoors. Consists of powerful $8^{m}$ bass reproducer and $31 / 2^{n}$ tweeter in a scientlfically enginepred enclosure. Decorous slim line styling. Cabinet is solidly constructed with $1 / 2^{\prime \prime}$ hardwood and glued joints, Beautiful grilfe cloth complements oil walnut veneer. Size $177 / 8 \times 10 \times 51 / 7^{\prime \prime}$. 8 ohms.
Hienest quadity Imoont, Shpg. wt. 9 libs. $\$ 19.95$ No. 23A2001. B-A Special. Net Each


## DELUXE 2-WAY

 SPEAKER SYSTEM
## $\$ 24.95 \mathrm{sch}$

- 8 Inch High Compliance Free Edge Woofer
- 2 Inch Iweeter
- Fibergloss Lined

Easily outperforms other speaker systems costing twice the price. High compliance $8^{\prime \prime}$ boss speaker has cloth edge suspension for greater cone travel. Housed in bass reflex chamber with acoustical fiberglass lining it delivers full, rich boss. Whizzer cone provides crystol-clear midrange sounds. 2 -inch tweeter gives brilliant, natural highs while moided part permits wide-angle dispersion of high frequencies. Vinyl ctad wood enclosure looks just like real oiled walnut but resists stains and marring. Includes 72 -inch speoker coble with RCA phono plug. Hondles 30 watts peak music power. Frequency response $50-15,000 \mathrm{~Hz}$. Dimensions: $18^{\prime \prime} \mathrm{H} . \times 12^{\prime \prime} \mathrm{W}$. $\times 6$ " D. Shpg. wt. 13 lbs.
No. 33A2IS1. Eoch
\$24.95


## BA-3001 3-WAY 4 ELEMENT 15 INCH FLOOR MODEL SPEAKER SYSTEM

- Two horn-looded dome iweeters.
- Super-deluxe foam grille.
- Giant $15^{\prime \prime}$ Woofer with $6^{1 / 2} \mathrm{lb}$. magnet.

Now you can bring into your home a magnificent floor model speaker system thot combines the ultt. mate in sound reproduction and creative styling. Has a $15^{\prime \prime}$ high compliance woofer with a $2^{\prime \prime}$ voice coil for lows that are solid and free fram distortion. $5^{\prime \prime}$ driver reproduces' mid-frequencies smoothly. Two horn-loaded tweeters for high efficiency ond wideangle dispersion.
Specifications: Crossover at 2500 and 7000 Hz tweeter and midrange controls, freq, resp. 20 $20,000 \mathrm{~Hz}$., power 50 watts 1100 watts peokl. impedance 8 ahms. With riser base. Size (less base): $27^{\prime \prime} \times 201 /{ }^{\prime \prime} \times 14^{\prime \prime} \mathrm{D}$. Shpg. wf 70 lbs . No. 33A2171. BA.3001 Each
'199.95

## B-A ANNOUNCES SPECTACULAR SAVINGS ON OUR ALL NEW - ALL SENSATIONAL AIR SUSPENSION HI-FI SPEAKER SYSTEMS

BUY 1 SPEAKER AT REGULAR PRICE, GET 2nd SPEAKER FOR ONLY \$1.00 MORE - ALL FINISHED in fine hand-rubBed oiled walnut veneer.

- finest internal components and advanced acoustical design result in full natural sound.
- HIGH PERFORMANCE SPEAKERS DESIGNED TO PRODUCE A UNIQUE LEVEL OF MUSICAL ENJOYMENT.

${ }^{5} 60_{\text {palk }}^{95}$
NEW BA- 100 TWO-WAY HIGH-COMPLIANCE
6 INCH SPEAKER SYSTEM Beautifully crafted enclosure
small in size but big in sound. Uses a $6^{\prime \prime}$ woofer with cloth cone edges for high compliance and greatest cone trav. el. 3/" 'weeter has sealed back to prevent intermodulation with the woofer. High efficiency system delivers excellent volume level with most any amplifier or receiver. Handles up to 20 wotts peok pow. er. Hand rubbed oiled walnut veneer with fine sculptured solid walnut tront frame. Frequency Re-


Shpg. wi. 13 lbs . No. 33 A2167
No. 33 A 2167
BA-100. Each $\$ 59.95$
${ }_{\text {Per }}^{\text {Peir }} \$ 60.95$


## NEW BA-200 TWO-WAY

 ACOUSTIC SUSPENSION 8 INCH SPEAKER SYSTEMFeatures a horn-ioaded mylar dome high frequency radiator with wide-angle dispersion. 8 -inch high. compliance woofer with cloth roll and heavy mag. net hondles big power. Sealed enclosure for true acoustic suspension. Large enough to boost efficiency of low frequencies yet smoll enough for book. shelf use. Tweeter level control: Walnut veneer with solid wainut molded front frome, all with rich oil finish. Frequency response $50 \cdot 20,000 \mathrm{~Hz}$. 30 wotts peak power. 8 ohms. Size: $11^{\prime \prime} \times 18^{\prime \prime} \times 9^{\prime \prime}$.

Shpg. wt. 21 lbs .
No. 33A2168
BA-200. Each \$79.95

Per $\$ 80.95 \stackrel{2}{28 \mathrm{lbs}} \begin{gathered}\text { No. } 33 \mathrm{~A} 2169\end{gathered}$
Pair $\$ 80.95$


NEW BA-300 THREE-WAY ACOUSTIC SUSPENSION 10 INCH SPEAKER SYSTEM An exciting new listening experience combined with decoder styling plus features found in more expensive speakers con now be yours. Deluxe system utilizes a high compliance 10 inch cloth edge bass speaker with 2 lb . ceramic magnet. Sealed enclo. sure and long cone excursion result in low woofer resonance for penetrating bass response. 6 inch mid-range speaker and 3 3/2 inch twester yield a flatter response curve resulting in clear, brilliant sound. Solidly constructed of $3 / 4$ " walnut veneer with hand-rubbed wolnut finish. Handles 25 watts, with hand-rubbed wolnut tinish. Handles 25 watts,
50 watts peak. Freq. resp. $38-18,000 \mathrm{~Hz}$. Imped. ance 8 ohms. Size: $1_{2} \%{ }^{2} \times 22 \times 9^{\prime \prime} \mathrm{D}$. Shpg. $w$.
$\begin{array}{ll}\text { No. } 33 A 2169 \\ B A-300 \text { Each } \$ 99.95 & \text { Per } \\ \text { Pair }\end{array} \$ 100.95$

## ${ }^{67}$ THE FINEST OUALITY SPEAKERS AVATLABLE

JBL. transducers are carefully engineered instruments, painstakingly crafted and assembled to watchmakers' standards. JBL. acoustical enclosures express the exeitement of creative design, are elegant, solid and flawlessly finished. JBL. electronic components are outstanding examples of advanced research, delivering the full promise of solid state circuiry. Collectively they offer incomparable "JBL SOUND."


LANCER 88 "PLUS" BOOKSHELF SPEAKER SYSTEM

## $\$ 21300$

A new "step-up" system from JBL. Unilizes the same $12^{\prime \prime}$ low frequency transducer and high frequency radiator as JBL L-TOO. Low frequency reproduction is clear, solid, and well defined. High frequency transient respanse is exceptionally accurate. Hand rubbed oiled walnut veneer finish, sculptured foom grille. 35 watts (continuous), imp. 8 ohms, crossover at $2000 \mathrm{~Hz} .144^{\prime \prime} \times 231 /{ }^{\prime \prime} \times 121 / 2^{\prime \prime} \mathrm{D}$.
No. 33A2175. Shpg, wt. 50 lbs .
L-88 Plus. Each
\$213.00
M12 Expander kit. 5 -inch midrange transducer and dividing network. installation in the L88 results essentially in the equivalent of the 1.100. Spacs. of 188 plus M12: 50 watts con. tinuous, crossover of 2500 and 7000 Hz . Shpg. wt. (M12 only 6 lbs.
No. 33A2176. M12 Kit Each
$\$ 69.00$


# HBL 

## CENTURY L-100

 UPERSHELF$\$ 273^{00}$
Now . . . benieath its handsome walnut finish the JBL 100 is the twin of the professional studio monitor. Incorporates a powerful 12" woofer, a heavy $4^{\prime \prime}$ midrange speaker and a direct radiator for high frequencies
Speaker frames are massive aluminum costings . . . not stamped steel; voice coils are made of wire drown to flot ribbon then wound on the ribbons odge by hand. The enclosure is of heavy stock and the new sculp: tured gritle is more acousticolly "transparent" than cloth. Specifications: 50 watts continuous, crassover at 2500 and 7000 Hz .s impedance 8 ohms; dispersion $90^{\circ}$ horiz. and vert.; frequency response $40-15 \mathrm{~K} \mathrm{~Hz} \pm 3 \mathrm{db}$. Oiled walnut with russet brown Quadrex 2 grille. 24 $\times 14 \times 13^{\prime \prime} \mathrm{D}$. Shpg. wt. 54 lbs .
$\$ 273.00$

HBL
LANCER 55
FLOOR SPEAKER
${ }^{\text {s }} 276^{\circ \circ \mathrm{acch}}$ SYSTEM
JBL's most economical floor system scaled for today's smaller living spaces. Useful as an end table, the $\mathbf{L 5 5}$ offers a smoked glass top and a three-dimensianal gritle ovailable in 3 decorator colors.
The 14" bass loudspeaker develops redoubtable low-frequency power yet retains uncanny harmonic agility. 2"4 high-frequency direct radiator for glistening highs
finished in hand-rubbed ailed wolnut veneer. Dividing network is electronically matched to high frequency radiotor. Dimensions $25^{\prime \prime} \mathrm{X}$ $18^{\prime \prime} \times 13^{\prime \prime}$ deep. Shpg. wt. 25 lbs.
No. 33A2173-Coffee L55 Choice Each
No. 33A2152-Mandarin L55
No. 33A2174-Indigo L55

## B-A's NEW CO-AXIAL DIE-CAST SPEAKERS

## LOWEST PRICE EVER!

## BUY ONE AT REGULAR PRICE..GET SECOND FOR ONLY \$1.00 MORE!

## - UNIQUE AND VERSATILE 8 OHM SPEAKERS

- CAN BE MOUNTED TO FRONT OR REAR OF BAFFLE BOARD.
- ALL SPEAKERS HAVE CLOTH ROLLS TO ENHANCE BASS PERFORMANCE.
- $8^{\prime \prime}$ 3-WAY CO-AXIAL FEATURES $31 / 2^{\prime \prime}$ CONE TYPE TWEETER.
- 12" 3-WAY FEATURES A CO-AXIALLY MOUNTED COMPRESSION TWEETER.
- RIGID, DIE-CAST FRAME IS SHAPED FOR MAXIMUM STRUCTURAL STRENGTH.
- SPRING LOADED, FINGER-TIP TERMINALS ARE COLOR CODED FOR EASY PHASING IN STEREO SYSTEMS.
- "OPEN" FRAME DESIGN PERMITS MAXIMUM FREEDOM OF CONE TRAVEL.

| Steck No. | Size and Description | Matnet <br> Wt. Ozs | $\begin{aligned} & \text { v.c. } \\ & \text { ois. } \end{aligned}$ | Peak Audio | Freq. Resp. Hz. | Resonant Freq. Hz | $\begin{aligned} & 0.0 . \\ & \ln . \end{aligned}$ | Depth tnches | $\begin{aligned} & \text { Mits. } \\ & \text { Dia. } \end{aligned}$ | Shpg. Wt. Lis. | Each | Two |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 348462 | 8' ${ }^{\prime \prime}$ 2.Way Coax | 12 | 1 1' | 30 Watts | 32-19,000 | 55 | $81 / 4$ | 35\% | $7{ }^{\prime \prime}$ | 43/4 | \$10.95 | \$19.05 |
| 344463 | $8^{\prime \prime \prime}$ - W-Way Coax | 12 | 1"' | 30 Watts | 32.20,000 | 55 | $81 / 4$ | 35\% | $71^{\prime \prime}$ | 5 | 27.85 | 28.15 |
| 348464 | 12", 3 -Way Coax | 20 | $12 / 2^{\prime \prime}$ | 45 Watts | 23-20,000 | 25 | 121/4 | 57/8 | 11*" | 13 | 42.95 | 43.95 |

# BUY ONE FOR ${ }^{\text {s } 895}$ <br> GET SECOND FOR $30^{\circ 0}$ MORE! 

## CREATE THE MOOD

WITH THE BA-400 12-INCH 3-WAY ACOUSTIC SUSPENSION SPEAKER SYSTEM



EACH
$\$ 89^{95}$

PER PAIR
${ }^{s} 119^{95}$

## ©KOSS STEREDPHONES



So light, so comfortable you may even forget you have it on, yet produces sound matched only by "top of the line" phones. Soft ocoustical foam cushions. Freq. resp. $20-20,000 \mathrm{~Hz}$. Imp. 3.2-600 ohms. With 10 ft . coiled cord. No. 33 A6697
Koss HV-1. Each
39.95


KOSS MODEL KO-727B. New design, fully adjustable. Wide range, highly sensitive reproducers features $31 / 2^{\prime \prime}$ driver. Frequency response $10-18,000 \mathrm{~Hz}$. impedance $4-16$ ohms. Foam filled vinyl ear cushions and comfortable foam headband pad. 10 ft . coiled cord. Shpg. wt. 2 lbs.
\$34.95


KOSS MODEL K-6. Medium price wide range stereo-phones will produce your favorite music. Frequency response $10-16,000 \mathrm{~Hz}$. Impedance $4-16$ ohms. Soft vinyl-covered foam cushions and sponge foam head cushion. Glve comfortable listening. 10 ft . coiled cord with standard jack plug. Shipg. wt. 2 lbs.
\$22.50


KOSS MODEL SP-3XC. Will reproduce any sound the human ear can hear. Frequency response 10-15.000 Hz . Imp. 4-16 ohms. Soft sponge ear and head cushions are comfortable even over extended periods of listening. 10 ft . coiled cord with standard lack plug. Shpg. wt. 2 lbs.
No. 33 A6587. Each
$\$ 15.95$


KOSS MODEL PRO-4AA. Improved professtonal stereo headset, engineered to meet the most rigid requirements. Frequency response $10-20,000 \mathrm{~Hz}$. impedance $4-16$ ohms. Soft fluid-filled ear cushions seal out amblent noise, foam headband pad. 10 ft . coiled cord. Shpg. wt. 2 lbs.
No. 33A6649, Each
.on-s................
$\$ 60.00$


KOSS MODEL K-6LC. Same acoustical design and physical construction as $K-6$ model, but with level controls. Lets you adjust each oar cup at the listening level you enjoy. $31 / 2^{\prime \prime}$ dynamic reproducerswith over 9 square inches of radiating surface. Shpg. wt. 2 lbs No. 33 A6670.
$\$ 29.95$


NEW KOSS MODEL KRD-711 RED DEVIL
The hottest sound around in lightweight stereophones only 12 ounces. Flexible, high strength polypropyiene headband conforms to any head slze with neoprene foam ear cushions. Frequency response $20-20,000 \mathrm{~Hz}$. Imp. $4-16$ ohms. 10 ft . colled cord. Wt. 2 lbs No. 33 A6671.
Each
$\$ 29.95$


KOSS MODEL T-IOA CHAIRSIDE LISTENING STATION
Offering remote control for two sets of stereophones, com bines function with contemporary styling. Featuring seporate volume controls for each stereaphone and a speaker on/off switch. Wires directly to amplifier or receiver. Measures 6 inches in diometer, has o wolnut-like base, combined with black trim and o spun aluminum controf panel with smoked plexiglass cover.
No. 33 A6595 Each .

## ELECTROSTATIC STEREOPHONES

 ELECTROSTATIC STUDIO MONITOR. Offers new dimensions for improved audiometry with selfbias or AC line energizing. Controlled monitoring with 10 octaves $\pm 2 \mathrm{db}$ range exceeding best loud-speaker systems. Frequency response $15 \cdot 15,000 \mathrm{~Hz} \pm 2 \mathrm{db}, 4$ full octaves beyond ordinory headphones. Hormanic distortion less than 1 5 of $1 \%$ at 110 db -SPL. No special amplifiers needed Wolghs only 19 ounces. Connects to low impedance speaker terminals. Includes E.9 energizer, AC line cord, individually run response curve. Shpg. wt. 6 lbs. No. 33 A6648.
Eoch
${ }^{5} 150.00$


KOSS MODEL ESP-6 ELECTROSTATIC STEREOPHONES. Three octaves beyond limits of ordinary coil and cone type drivers. This wide range is attainable only through Electrostatics. No special amplifiers or supplies needed. Virtualty distortion free. Frequency range 30 $89,000 \mathrm{~Hz} \pm 5 \mathrm{db}$. Harmonic distortion less than $1 / 5$ th of $1 \%$ at $110 \mathrm{db}-5 \mathrm{SL}$. Weighs 27 ounces. Impedance $4=16$ ohms. Includes indvidually run response curve, carrying case, Model T-3 speaker/headphones switch. Shpg. wt. 6 lbs.
No. 33A6646. Each
$\$ 95.00$

(1)Koss Model T-4 Connector Box. Accepts up to 5 sets of stereophones. 10' cord with 3-cond. phone plug fits standard headphone jack. Provides stereo listening by up to 5 people at one time.
No. $33 A 6672$. Eoch
$\$ 7.95$
(3)Koss Model T-I Monitoring Adopter. For monitoring high impedance sources...such as tape recorder with preamps only. Contains matching transformer to match 600 to 10,000 ohm outputs down to 4 ahms, 2 output jocks.
No, 33A6673. Eqch
$\$ 7.95$
Koss Model EC-25KK Coiled Extension Cord, 25 long. Use with any stereophanes, fitted with 3 . cond. phone plug one end, jack on other end. No. 33 A666S. (Not shown) Each

## NEW DELUXE PANASONIC STEREO MUSIC SYSTEM

## MODEL SE-2010

## "THE Chesterton"

 AM/FM STEREO RADIO PHONO SYSTEM- ULTRA-SENSITIVE FET TUNER.
- bLACK-OUT ILLUMINATED CIRCULAR TUNING DIAL.
- LaRGE-PLATTER automatic RECORD CHANGER.


# $\$ 139^{95}$ 

Newest concept in home music systems. Provides big sound along with elegant styling. Panasonic high quality 3 -speed furntable comes equipped with an ad. vance engineered ceramic cartridge. The multiple use amplifier features special output jacks and cuxiliary input jacks. Permits use of tape deck as well as aux. speakers. Cylindrical speakers each contain a full-range $6 \%$ " $9 M$ speaker with wide dispersion to provide room-filling sound. Continuous tone cantrol lets you exact a perfect bass-treble balance. Bolance control allows easy adjustment for perfect stereo reproduction from eoch speaker. Built-in FM/AM/FM Stereo Radio is sure to please you. Size center unit $7 \mathrm{~K}^{\prime \prime} \mathrm{H} \times 15 \mathrm{~K}^{\prime \prime} \mathrm{W} \times 12 \mathrm{~K}^{\prime \prime} \mathrm{D}$.; speaker systems $8-5 / 8^{\prime \prime}$ H $\times 10-3 / 8^{\prime \prime}$ Diam. Shpg. wt. 25 lbs.
No. 30AS023. Model SE-2010 System. Each
\$139.95

NEW DESIGN TWIN CYLINDRICAL SPEAKERS

## DECORATOR GRILLE FABRICS BY ACOUSTONE PATTERNS AND COLORS TO MATCH EVERY FURNITURE STYLE AND COLOR



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[12]

(10)

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[16]

(1i)

(1)

[
(1) Natural Linen. Mixture of plastic and linen yarns. Handsome with walnut finished cabinets. Pattern A Nat. Linen \#10.
No. 33A8013. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Ea. $\$ 2.155^{\text {No. } 3348012.36^{\prime \prime} \times 36^{\prime \prime} \text {. Net Ea. } \$ 3.95}$ (2) Dark Linen. Rich dark linen effect with Antique Gold highlights. Pattern A Dark Linen $\# 20$.
No, 33A8015. $18^{\prime \prime} \times 24^{\prime \prime}$. Not Ee. $\$ 2.15$ No. 33 A8014. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 3.95$
(3) Hidden Cold. Beige plastlc vs. White flbre has a hint of gold thread throughout. Pattern C. 868 .
No. 33A8063. $18^{\prime \prime \prime} \times 4^{4 \prime}$. Net Ea. $\$ 2.60$ No. 33A8062. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$
(4) Tahiti Canc. Nafural cane stands out on a dark background. Pattern B-2412.
Na. 33A8019. $18^{\prime \prime} \times 24^{\text {n }}$. Net Ea. $\$ 2.60$ Na. 33A8018. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ (5) Ribbonwood. Combines the look of dark cane with mahogany tones. Pattern C-2528.
Ne. 33 A805i. $18^{\prime \prime} \times 24^{\prime \prime}$. Net E. $\$ 2,60$ No. 3348050 . $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$
(6) Waffle Weave. Beige and Bronze interwoven plastic threads-great for walnut finish. Pattern B-8111.
No. 33A8023. $18^{\prime \prime} \times 24^{\prime \prime}$. Nef Ea. $\$ 2.60$ No. 33A8022. $36^{\prime \prime} \times 36^{\prime \prime}$ Net Ea. $\$ 4.75$ (7) Black Plald. Soft jet-black yarn in gay plaid style. Pattern C-2440. No. 33A8053. $18^{\prime \prime} \times 24^{\prime \prime}$. Not Ee. $\$ 2.60$ No. 3348052 . $36 " \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ (8) Black Mastic. Three dimensional black plastic allover for dramatic contrast, Pattern 8-4542.
No. 33 A8027. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Es. $\$ 2.60$ No. 33A8026. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Es. $\$ 4.75$ (9) Honeycomb. Hex pattern formed by olive reeds and brown ribbon. Black back ground. Pottern B-2580.
No. $3348069.18^{\prime \prime} \times 24^{\prime \prime}$. Ea. $\$ 2.60$ No. $33 A 8068.36^{\prime \prime} \times 36^{\prime \prime}$. Eq. $\$ 4.75$
(10) Chain Mall. Dlagonal blend of black and white with silver or gold. Specify silver or gold. Pattern C-4540/4543.
No. 33 M 8049 . $18^{\prime \prime} \times 24^{\prime \prime}$. Nef Es. $\$ 2.60$ No. 33 M 8048 . $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ No. 33M8049. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Es. $\$ 2.60$ No. 33 M8048. $36^{\prime \prime} \times 36^{\prime \prime}$. Nef Ea. $\$ 4.75$ (ii) Egpshell Waffle. Pale Ivory and White waftle with random gold metai
yarn sprinkles. Pattern C-6423.
 (12) Woven Wood. Rich mixture of walnut tones on a dark background. Pattern D Woven Wood. No. 33A8035. 18" $\times 24^{\prime \prime}$. Net Es. $\$ 2.60$ No. 33A8034. $36^{\prime \prime} \times 36^{\prime \prime}$ - Net Ea. $\$ 4.75$ (13) 3D Modern. Walnut hexagonal with rust centers popping out from a black base. Pattern D-6000.
No. 33 A8037. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Ea. $\$ 2.60$ No. 33A8036. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ (14) Autumn Blue. Hexagonal reddish-brown and amber yarn over blue background. Patierr C-2675.
No. 33 A8057. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Ea. $\$ 2.60$ No. 33A8056. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ (15) Jungle Reed. Dlive cane look vs. brown yarn. Pattern 8-2512.

No. 33 A8055. $18^{\prime \prime} \times 24^{\prime \prime}$. Nef Ea. $\$ 2.60$ No. 33A8054. $36^{\prime \prime} \times 36^{\prime \prime}$. Not Ea. $\$ 4.75$ (16) Malacca. A rich ensemble of brown 8 beige yarns and ribbons. Subtle background of block screen. Pattern D-6050.
No. 33 A 8071 . $18^{\prime \prime} \times 24^{\prime \prime}$. Ea, $\$ 2.60$ No. $3348070.36^{\prime \prime} \times 36^{\prime \prime}$. Ea. $\$ 4.75$ (17) Casino Red. Tightly latticed crimson diamond design for subtle beauty. Pattern D-3001.
No. 33 A8067. $18^{\prime \prime} \times 24^{\prime \prime}$. Net Ea. $\$ 2.60$ No. 33 A8066. $36^{\prime \prime} \times 36^{\prime \prime}$. Net Ea. $\$ 4.75$ (18) Morning Glow. Rows and rows of all gold colored threads in 3 dimensionol wave. Pattern C-1011.
No. 33 A8073. $18^{\prime \prime} \times 24^{\prime \prime}$. Ea. $\$ 2.60$

## Panasonic STEREO MUSIC CENTERS

## "THE GALAXY" COMPACT STEREO MUSIC SYSTEM

## AM-FM MULTIPLEX RADIO. AND PHONOGRAPH



## \$ $199^{95}$

- 20 watts music power.
- All Solid State Design.
- Stiding Controls for Easy Sound Adjustment.
- Solid State Cartridge with Diamond Stvlus.
- Speaker Systems Comtain $61 / 2^{\prime \prime}$ Woofer and $21 / 6^{\prime \prime}$ Tweeter.
- Front Panel Jack for Headphones.

As beautiful to hear as it is to look at! Handsame styling feotures all walnut finished wood cabinet with motching speaker systems. The high quality 4 -speed recard changer has cueing and pouse contral. Specific input and output jacks permit addition af a tape deck, 8 track, reel-to-reel. or cassette recorder. Sliding controls for volume, bass and treble, make precise sound adjustment easy. FM/AM/FM stereo section offers fine output on all bands. Sensitive FM/AM antennas and FET tuner insures fine, clean reception. Blackout, illuminated circulor tuning dials enhance the oppearonce as well as provide for easy tuning. AFC locks-in FM stations for drift-free performance. Stereo eye indicates stereo stations. Detachable hinged plexi-glass cover to keep everything free of dust. Size: center unit, $18 \times 6 \times 16^{\prime \prime}$; speaker systems, $9.1 / 16 \times 13-7 / 8 \times 61 / 2^{\prime \prime}$.
No. 30A5007. Model SE-850A
Shpg. wt. 30 lbs. Each
$\$ 199.95$

DELUXE FINE WALNUT WOOD CABINETS

## Panasonic

"THE DARIEN"

STEREO MUSIC CENTER

## ADAPTABLE TO QUADRAPLEX $\$ 239^{95}$

Panasonic superb compact stereo system-elogantly styled in beautitul wainut wood cabinetry. Optimum sound reproduction and long-lasting reliability are made possibie by Panasonic Solid State engineering and integrated circuitry, Full ranke 2-way acoustic suspension speaker enciosures are each composed of one $61 / 2^{\prime \prime}$ woofer and one $21 / 2^{" ~ m i d ~ a n d ~ h i g h ~ f r e q u e n c y ~ t w e e t e r . ~ O p t i o n a l ~}$ speakers (below) may be used to give quadruplex stereo effect. Prarasional style 4-speed recessed autmatic record contronger has Magnistate carridge wavorite music. Adjustable stylus pressure and anti-skating mechanisms exfavorite music. Adjustable styius pressure and anti-skating mechanisms exend he life of your records and needles. FM srations are locked in by AFM is prevented by the FM muting mode. Handsome dial (with illuminated

pointer) blacks-out when set goes off. Controls: Volume Bass, Treble, Balance. Tape Monitor Switch. Stereo indicator light. Main/Front speaker output lacks, as well as: Aux. input, record output and headphone jacks plus ext. FM antenna terminals. Center unit $83 / 4^{\prime \prime} \mathrm{H}, \times 173 / 4^{\prime \prime} \mathrm{W} . \times 165 / 8^{\prime \prime}$ D.; each speaker $151 / 2^{\prime \prime} \mathrm{H} . \times 103 / 4^{\prime \prime} \mathrm{W} . \times 71 / 4^{\prime \prime}$ D. Shpg. wt. $54 \mathrm{lbs} . \$ 239.95$ No. 30A5014. Model SE-2030. Each. $\qquad$No. 30A5014. Model 5E-2030. Each

## Panasonic COMPACT STEREO SYSTEM

"THE LINDSAY"

## COMPLETE AM/FM 8-TRACK HOME ENTERTAINMENT CENTER

## ${ }^{5} 279{ }^{95}$

A full feature AM/FM stereo radio, 8 track player and automatic record changer all in one compact unit with matching speak. ers. 4 -speed record changer has magnistate cartridge with flipover diamand stylus. Cueing and pause contral permits safe tone arm lift and drop to protect your records. Super-fidelity speaker systems cantain a $61 / 2$ "air-suspension wooter and $21 / 2^{\prime}$ tweeter for wide range sound with low distortion. FM frontend has FET's for greatest sensitivity and 4 IF stoges for highest gain in fringe areas. When function selector is set to FM stereo, only stereo stations will be funed; AFC switch lacks-in stations. Built-in 8 -track playback section has auto/manual program selector with repeat switch and lighted program indicator. Direct-coupled amplifier provides big power for low distortion sound. Separate controls for volume, bass, treble, and balance. Jacks provided for spisr out, rec out, aux in and headphones. Also ext FM ant terminals. Freq resp $30 \cdot 12,000 \mathrm{~Hz} .110 \mathrm{VAC} 60 \mathrm{~Hz}$. Size: (center unit) $91 / /^{\prime \prime} H \times 18-7 / 8^{\prime \prime} W \times 17 / s^{\prime \prime} D_{-g}$ (Spkr.) $15 \frac{1 / 4}{}{ }^{\prime \prime} \mathrm{H} \times 10-$ $7 / 8^{\prime \prime} \mathrm{W} \times 61 / /^{\prime \prime} \mathrm{D}$. Complete with detachable hinged plexiglass dustcover and headcleaning bar. Shpg. wt. 44 lbs. No. 30A5015. Model SE-3080.
Each
\$279.95


## Panasonic

"THE HOLBROOK"

COMPLETE 4 CHANNEL STEREO AM/FM/8-TRACK ENTERTAINMENT CENTER


Discaver new worlds with 4 -channel sound. True 4 -channel separation can now be yours with 4 separate amplifier channels. Your stereo (2 ch.) records and tapes will never become obsolete and they'll sound better than ever with Pana. sonic's new Quadruplex eircuitry. Delivers 4 -channel presence from 2 -channol sound sources. Has 4 speaker systems each with $\delta 1 / 2^{\circ}$ air suspension speaker. Fully outomatic 3 -speed record changer has magnistate cartridge with flip-over diamond stylus. Built-in B-trock player plays 4 chonnel (discrete) topes with full seporation on standard stereo cartridges. Has push button program setector, lighted program indicotors and repeat button. Stereo radio features AFC on FM, FET tuner, stereo eye and stereo selector system that permits exclusive funing of stereo station when desited. 4 -IF stages give a big boost to distant sig-
nals. Jacks for spkr out, headphones. 4.ch aux in, rec out, FM ext ant, ond four channel remote balancer (optional). Frequency response $30-12,000 \mathrm{~Hz}$ 110 VAC 60 Hz . Size: (main unit) $8^{\circ} \mathrm{H} \times 19-5 / 8^{\prime} \mathrm{W} \times 12-7 / \mathrm{g}^{\prime \prime} \mathrm{D}$. ; (spkr.) $133^{\prime \prime \prime} \mathrm{H} \times 9-7 / 8^{\prime \prime} \mathrm{W} \times 5 \neq \mathrm{m}^{\prime \prime} \mathrm{D}$. Shpg. wt. 51 lbs . No. 33A67. Model SE-4040.
Each
OUADRASONIC REMOTE BALANCER permits listener to balonce speakers from a central location. Handsome modern styling with "shift-iever" cantrol No. 36 A9015. Model RD-9775.
Each

## Panasonic

"The Glenview"

AM/FM CASSETTE ENTERTAINMENT CENTER

## $\$ 9395$

- Sensifive fET FM Tuner
- Direct-Coupled Oup puts For Low Distortion
- Luxurious Wood Cabinetry

Put o total sound system in your homel Everything you need for a full fidelity stereo system. Features Quadruplex circuitry which gives 4 -chanhel presence from 2 -channel program material. Built-in cassette has simple one-hand push button operation and "outo-stop" which disengages drive mechanism of end of tope. AC bias and erase permit cleor, wide range recordings. Safety-lock record button prevents accidental erasures. Large illuminated $\mathcal{X U}$ meters for both channels. Also features digital tape counter, sound monitor hi/lo switch, AFC.


## Panasonic

## STEREO MUSIC CENTER

"The Prescott"

COMPONENT STYLE AM/FM/PHONO STEREO SYSTEM

# ${ }^{5} 299{ }^{95}$ 

- Cueing and Pause with Anpi-Skaping
- Blackout/llluminaied Dial
- FET Tuner and Tuning Meter

Perfectly motched set of components. Motched electronically os well as physically for flawless performonce in oll functions. Main control center is on AM/FM stereo receiver with FET tuner for noisefree, highly sensitive FM reception. Tuning meter indicates signal strength. AFC locks in stations for drift-free listening. FM muting eliminates interstation noise when funing. Amplifier section hos direct-coupled output stoges designed without output transformers and capacitors that generate distortion. Features separote controls for treble and bass plus tape monitor switch. Fully outomatic 4-speed recard changer feofures lightweight tone orm, large platter, solid state cortidge with diamond stylus, cueing and pouse control and luxurious base with hinged plexiglass dust-cover. Both acoustic suspension speaker systerms employ an $8^{\text {n }}$ high compliance woofer. and $2 / 2 /{ }^{\prime \prime}$ " widerange tweeter. Response is smooth and solid. All walnut-wood cabinetry. Terminals for AM $\&$ FM ext. antennas. AC outlet. Speaker iacks for 2 pairs of systems. $110-120 \mathrm{VAC} 60 \mathrm{~Hz}$. Size: (main unit) $4.15^{16^{\prime}} \mathrm{Hz} 17$. $3_{4}^{\prime \prime} \mathrm{W} \times 16 / \mathrm{h}^{\prime \prime} \mathrm{D}$, (phono) $7-5 / \mathrm{B}^{\prime \prime} \mathrm{H} \times 17 \mathrm{~K}_{4}{ }^{\prime \prime} \mathrm{W} \times 15.3 / \mathrm{B}^{\prime \prime} \mathrm{D}$. (spkr.) $17-3 / \mathrm{B}^{\prime \prime}$ $\mathrm{H} \times 11 \mathrm{k} \mathbf{2}^{\prime \prime} \mathrm{W} \times 7.5 / \mathrm{B}^{\prime \prime} \mathrm{D}$. Shpg. wt. 65 lbs.
No. 30A5018. Model SE-2070. Eoch
$\$ 299.95$
stereo-eye and headphone jack, Sealed air suspension speakers give rich powerful sound. Freq. resp. $50-12,000 \mathrm{~Hz}, 6{ }_{1 / 2}^{70}$ speakers. Microphone input. Size: (center unit) $5 \frac{1 / 2 "}{} \mathrm{H} \times 2033^{\prime \prime} \mathrm{W} \times 12 \mathrm{k}^{\prime \prime} \mathrm{D}$., (speaker) $15-3 / 8^{\prime \prime} \mathrm{H} \times 10-5 / 8^{\prime \prime} \mathrm{W}$ $\times 7 \%$ " D. Shpg. wt. 42 lbs.
Complete with pre-recorded cassette and microphone with stand. 110 VAC 60 Hz .
No. 31 A7572.
Model RS-281S. Eoch
\$239.95


# Panasonic AM/FM 8 TRACK STEREO ENTERTAINMENT CENTER 

## ${ }^{\text {s }} 2399^{95}$



## - FET Tuner for Sensitivity

## - Built-in 8 track recorder with Fast Forward

What better combination for in-hame stereo enjoyment. Now you can start your own 8 track cartridge library. Built in 8 track stereo tape recorder has -slide-in cartridge operation. Pana-ject switch permits continuous ploy of tape or automatic eject atter last program. Also has power eject button for tingertip cortridge removal. Locking fast forward button advances tope to any position

No more woiting. AC bios and erose give best recordings. Has lorge' VU meters, plus 3 -position monitor switch for loud or soft monitoring of recordings. AFC on FM, stereo-eye, separate volume and tone controls for each
channel. Air suspenslon speakers with $6.3 / 8$ inch loudspeakers produce full fich saunds, Distinctive walnut wood cabinetry, Has 2 mic., 2 aux., and 2 phono inputs. Outputs for 2 line, 2 ext. speaker and headphones. Comes complete with head cleaning bar. Freq. resp. $30-12,000 \mathrm{~Hz}$. Size: (center unit) $5.5 / 8^{\prime \prime} \mathrm{H}$ $\times 20-3 / 4^{\prime \prime} \mathrm{W} \times 12.5 / 8^{\prime \prime} \mathrm{D}$., (spkr.) $13.3 / 8^{\prime \prime} \mathrm{H} \times 10.1 / 4^{\prime \prime} \mathrm{W} \times 5.3 / 4^{\prime \prime} \mathrm{D}, 110$ VAC 60 Hz . Shpg. wf. 35 lbs .
No. 31A7573. Model RS-818S. Each ......................... ${ }^{\text {. } 239.95 ~}$

## Panasonic

## "The

 Anandale" 4-CHANNEL HOME ENTERTAINMENT CENTER WITH AM/FM 8 TRACK
## \$399 ${ }^{95}$

- Plays 4 channel and stereo 8 track tapes.
- Separate bass and treble controls.
- FET Tuner \& Direct-Coupled Output Circuitry.
- Automatically selects $4 \mathrm{ch} . / 2 \mathrm{ch}$. cartridge mode.

The excitement of 4 -channel sound can now be yours. Amplifier section has four individual channels for playbock of discrete 4-channel 8-track tapes with full separation. Your present collection of stereo $1 p$ 's and tapes will sound better thon ever. Amozing Quadruplex circuitry delivers 4 -chonnel sound presence from conventional 2 -channel sources. Records 2 -chonnel stereo cartridges. Hos two VU meters, locking fast forward and 3-pasition monitor switch. Wide-range speaker systems produce full rich bass and sparkling highs. Combines $61 / 4^{\prime \prime}$

acoustic suspension woofer and $21 / 2$ " tweeter for even response. Other features Include Pana-ject for automatic eject after lost program or switch to continuous play, speaker separation control, FM/AFC \& stereo eye and 4 separate sliding volume controls. Comes with luxurious wood cabinetry and head cleaning bar. Freq. resp. $30 \cdot 12,000 \mathrm{~Hz}, 110 \mathrm{VAC} 60 \mathrm{~Hz}$. Size: (main unit) $7 \mathrm{~W}^{11} \mathrm{H} \times 201 / 4^{\text {in }}$ $\mathrm{W} \times 15-3 / 8^{\prime \prime} \mathrm{D}$, (spkr.) $20^{3 / 4} \mathrm{H} \times 12^{1 / 4} \mathrm{~W} \times 6^{1 / 4} \mathrm{D}$. Shpg. wf. 70 lbs . No. 31 A7594. Model RS-864S. Each


The Pawell puts you in the center of the exciting new sound in music . . . 4 channel stereo with 4 separote omplifiers to surround you, literally, with unbelievably realistic concert hall sound. Use with a 4 channel receiver or amplitier system. Records your own 8 track cartridges in regulor stereo. Has 2 channet and 4 channel operation indicators. Feotures continuous play position, lacking fast forward, ject button, program selector and direct read out program indi-
cator. Two easy-read VU meters, heodphone monitor. Handsome walnut wood cabinet. Hos input lacks for 2 microphones and 2 auxilitary inputs, with output jacks for 4 lines and stereo headphone. Frequency resp. 50 to $12,000 \mathrm{~Hz}$. For 120 VAC . Size: $171 / 2^{\prime \prime} \times 11 / 2^{\prime \prime} \times 4 \frac{1}{2}$ "
Shpg. wf. 18 lbs.
No. 31 A7583. Model RS-855US. Each
$\$ 169.95$

## - 8 TRSOACK STEREO RECORD/PLAYBACK DECK WITH FAST FORWARD

SAVE! RECORD YOUR OWN 8 TRACK CARTRIDGES FOR LESS

## "The Medford"

- LIGHTED PROGRAM INDICATORS.
- SEPARATE VOLUME CONTROLS.
- AUTOMATIE STOP.
- TWO VU METERS.


Add 8 -track cartridge record and play to your system or console enjoy recording your own catiridges
solid stote engineering. Frequency range $50-12,000 \mathrm{~Hz}$. Stereo headphone jock; stereo MIC, AUX, inputs; 2 line outputs. With 2 connection cords, heod clean-
 No. 31 IA7596. Model RS806US.
Net Each
$\$ 114.95$

## Panasonic

## "The LaGrande"

## AM/FM/PHONO/CASSETTE STEREO ENTERTAINMENT CENTER <br> $$
{ }^{5} 249^{95}
$$

Truly a total concept in home stereo entertainment. Fully automatic 3 -speed record changer has magnistate super-fidelity cortridge with flip-over diamond stylus. Automatically shuts-off after last record. Radio section hos FET FM frantend for strong reception and high sensitivity. 4 IF stages provide extra gain for distant stations. AFC locks in stations. Stereo selector system permits exclusive tuning of stereo stations if desired. Built-in stereo cossetfe recorder hos push-button operation and features auto-stop, level mater and twa microphone jacks. Records directly from stereo radio or phonograph. Ploys all stereo or mono pre-recorded cassettes. Eoch speaker is a $6 / 2^{\prime \prime}$ oir suspension system. Powerful direct-coupled output circuitry and wide-ronge speakers provide full rich sound. Headphone jack. Luxurious walnut wood cobinetry. Complete with a microphone and stond, pre-recorded cossette tape and plexiglass dust cover. Freq. resp. $30-10,000 \mathrm{~Hz}, 110 \mathrm{VAC} 00 \mathrm{~Hz}$. Size (center unit) $71 / 2^{\prime \prime} \mathrm{H} \times 191 / 2^{\prime \prime}$ $\mathrm{W} \times 15^{1 / 2 "} \mathrm{D}_{\text {.; }}$ (spkr.) $133^{\prime \prime} \mathrm{H} \times 9-7 / 8^{\prime \prime} \mathrm{W} \times 5 \%^{\prime \prime} \mathrm{D}$. Shpg. wt. 35 lbs. No. 31A7595. Madel SE-1050
Each
\$249.95



## LOW PRICED HIGH QUALITY CABINETS AND BOOKCASES YOU CAN MIX IN ANY COMBINATION

Here's an exciting new idea in furnishings that has a place in your home or apartment. Use each handsome piece of furniture alone, or stack with other units in endtess combinations. Clean modern lines, and a rich walnut vinyl finish gives you turniture to be proud of at low cost. When you buy Modar in a "knocked-down" kit, all you need is a screwdriver to assemble the pieces. This way not only saves you money, it's fun to do. No drilling, No glueing. Just fit precision-made parts fogether. Sections are color-coded to make it extre easy.
1 Bookease-1 adjusfable shelf. 2 positions offers versatility of compact size plus attractive styling, size: $30^{\prime \prime} \mathrm{H},. 30^{\circ} \mathrm{W} . \times 91 / 2^{\prime \prime} \mathrm{D}$. (Not matlable). No. 33A9s12.
$\$ 19.95$
Model $\mathrm{No}_{4}$ 3030. Wt. 38 lbs. Each
equipment 2 with style, size: $36^{\prime \prime} \mathrm{H}, 30^{\prime \prime} \mathrm{W}, 91 / 2^{\prime \prime} \mathrm{D}$. (Not mailable) No. 33A9513. Model No. 3630 Wt. 41 lbs each
$\$ 23.95$ 1) Cabinet. Sliding slmulated Tambour doors. Ideal for atoring records and 1 tapes from sunilight and dust. Size: $171 / 2^{\prime \prime}$ H. $\times 30^{\prime \prime} \mathrm{W} . \times 153 / 4^{\prime \prime} \mathrm{D}$. Wt. 41 lbs . INot malable). No. 33A9514. Model No. 1630. Each
$\$ 23.95$
4 Desk and Bookcase. A uniquely-styled combination desk and bookcase. Dual use, with space-saving feature, is of particular appeal to apartment dwellers, and for student's rooms. Shelf is adiustable to 2 positions. Beautiful wainuf
vinyl finish; looks like wood, is burn stain, and water-resistant. Desk top vinyl finish; looks like wood, is burn, stain, and water-resisfant. Desk top
can be raised to slide down behind bookese. Size: $30^{\prime \prime} \mathrm{H} . \times 30^{\circ} \mathrm{W} . \times 15^{\prime \prime} \mathrm{D}$. can be raised to slide down behind bookease. Size: $30^{\prime \prime} \mathrm{H}, \times 30^{\prime \prime} \mathrm{W} \times 15^{\prime \prime} \mathrm{D}$.
$\mathrm{W} \uparrow$. 60 lbs. (Not mailable). Wt. 60 lbs. (Not mailable)
$\$ 29.95$
(1) Pier Case Cabinct. High combination of cabinet and shelving, in one handsome unit. Pier case has 2 removable shelves, perfect for hii-fi components. Cabinet base has sliding simulated Tambour doors. Size: $72^{\circ 1} \mathrm{H} . \times 32^{\prime \prime} \mathrm{W} . \times$ $113 / 4^{\prime \prime} \mathrm{D}$. Wr, 103 lbs. (Not mallable).
No. 33A9516. Model No. 1072. Each...
$\$ 49,88$



EACH INCLUDES:<br>- 40 Lessons on 4 Long.Ploying $331 / 3$ RPM Records.<br>- Comprehansive. Conversation Manual.<br>- Common Usage

## CHOICE OF LANGUAGE COURSES

## COMBINATION RECORD CABINET AND TAPE STORAGE DRAWER

 MODAR Pieces.
Special designed! Mosł unique cobinet we've seen. Has same rugged $1 / 4{ }^{\text {d" }}$ canstruction and rich 6 mil vinyl finish that makes MODAR fomous. Also has exclusive patented core-lock hardware for easy and rigid assembly. Unique pullout drower holds 50 cassettes or 8 -track cartridges in special stotted hotders. Lower orea has big capacity for over 150 LP's. Record dividers included. Oufside dimensions $24^{\prime \prime} H \times 30^{\prime \prime} \mathrm{W} \times 15 \not \%^{\prime \prime} \mathrm{D}$. Shpg. wt. 60 lb . Shipped K.D. (See page 25 for other Modar units).
No. 33 A8522. Model 2030. Eoch
$\$ 39.88$

## LUXURY DANISH RECORD CABINET



Rich "Cascade Walnut" furniture to grace any room, yet so sturdy you con sit on it. Built of rough wood frame with printed hardboard surface that won't peel off or come loose at corners. Looks exactly like real walnut veneer. Easily assembled with 10 screws. Has removable record dividers. Big copacity holds up to 150 LP's. Sliding doors. Inside bottom has same finish as outside. Outside dimensions $18 / 4 / 4 \times 23 / 2^{\prime \prime} \mathrm{W} \times 14 / \mathrm{h}^{\prime \prime} \mathrm{D}$. Shog. wt. $12 \mathrm{l} / \mathrm{lbs}$ Shipped K.D
No. 33 A8523. Model 650. Eoch
$\$ 11.88$

# MODERN STYLE ALL-PURPOSE CABINET ${ }^{5} 22^{25}$ 

Perfect for your stereo and hi-fi components... makes an excellent bar. TV stand, room divider or credenza. "Perva-neer-* finish. with 3 sliding doars.
Stores up to 400 records, numerous books and tapes. Shipped knocked down (not mailable). Easy to assemble.

## PHONO AND RECORD CARE ACCESSORIES


(6)

(1) PHONO LEVEL KIT, A level turntabie or record changer is a must for stereo reproduction. Kit includes 4 adjustable rubber feet, circulor 4 -woy spirit level. Wi. 5 oz.
No. $24 A 6000$. Type PK-4. Net Eech.
\$3.49
(1) STYLUS MICROSCOPE. Precision ground lenses for clear mognification of stylus, slot of end of scope for holding stylus steady. Pen type pocket clip. No. 24A6001. Wt. 3 ozs.
\$2.19 Type PM-1. Each
(3) KLEENEEDLE BRUSH. Mounts on side of changer under tone orm so that needle passes through brush on every changer cycle. Blobs of dust are removed outomaticolly after everv record. Wt. 2 ozs

99c

(1) RECDRD BRUSH AND TONE ARM LIFT

A unique combination of a fine record brush that sweeps records clean in front of needle, plus a tone arm lift for casy handing of tone arm. Clips on any arts. Wt. 1 oz .
No. 24a299. Net Each.

99c
(1) ELECTRO-WIPE STATIC ELIMINATOR RECORD CLOTH

Preserve your good records from harmful dirt any grit as well as static charge with one wipel Eliminates record "pop and click" from vinyl attracted charges. Lubricates records for smoother needle operation, eliminates friction and static. Keeps grooves clean for true, clear fidelity, langer record life. Used by many broadcast statlons and recording companies. Wt. 2 ors 79c
No. 24 A 6003 . Ench ...................

> (0) ANTI-STATIC RECORD CLEANER

Spray can. Special rapid cleaning formula. Eliminates static and keeps records clean. Includes cloth.
No. 24A6004. 5 Oz. Can. Esch.
99c

## EFITE <br> CECIL E, WATTS RECORD CARE EQUIPMENT <br> The only positive way to clean,

 maintain and protect records.
(1) PREENER

Most popular Watts cleaning tool. Preener cleans and preserves the grooves of a new record leaving no trace of film or residue to clog the stylus. By depositing the correct amount of humidity on the record surface, it acts as on effective anti-static control. At the same time it gathers stroy dust and dirt. No. 24A6037. Watts No. PR Each
$\$ 4.00$
(2) MANUAL PARASTAT

Will revitalize your old records by lifting out from the grooves the built-up accumulations of dust, dirt and grit. Uniquely designed brush, with nylon bristhes pointed down to $.00025^{\prime \prime}$ provide deep down penetration for tough cleoning jabs. Especially valuable where elliptical styli are used. Complete with new formula anti-static fluid.
No. 24A6031. Watts No. PA-MK-11A. Each
$\$ 15.00$

## (3) NEW FORMULA ANTI-STATIC FLUID

Leaves no sticky residue or surface film when it goes to work reducing the staf ic charge and providing the proper degree of humidity. A few drops is oll that is required to control static charge.
No. 24 A 6032 . Watts No. NIF. Each
$\$ 2.50$

## (1) DUST BUG

Keeps the record cleon as it plays. Completely gentle in oction, the Dust Bug cleans the immediate area of the record o splif second betore the stylus tracks the groove. A suction cup makes it simple and rapid to attach to any transcrip tion turntable or automatic turntable when used in single play.
No. 24A6033. Watts No. TDB.
Each
$\$ 6.50$
Each $\begin{aligned} & 14 A 6034 \text {. Replacement Pad and Bristles. Wotts No. PPB. Eoc }\end{aligned}$ STYIUS CLEANER (not illustrated)
Removes accumulation from stylus, extends the life of all styli.
No. 24A6036. Wotts No. SC. Each

## (6) WATTS RECORD MAINTENANCE KIT

Comes complete with Preener, stylus cleaner, and Dust Bug. Save $\$ 1.80$ as compared to purchasing each Watts record core occessory separately. Shpg. wt. I lb
No. 24A6035. Watts No. RMK Each
$\$ 9.95$

(6)


## (3) PHONO STROBE AND LIGHT KIT. Checks speed of furntable

 $\$ 2.59$ 3) PACKAGE OF 50 SNAP INSERTS FOR 45 RPM RECORDS. Snops in large hole of record for use on standard soindles af changers or ployers.No. 24A6008. Type PRA-50. Wt. 6 oz . Pockoge For..-.

99c
© RECORD SAVERS. Heavy, ciear plastic envelopes to protect records from scrotches, dust, oil and dirt. For $12^{\prime \prime}$ records.
No. 24 A6010. Type PJ-18. Pkg. of 18 For.

99c
(3) PROFESSIONAL RECORD CUEING CONTROL. For manual furntables. Rasses and lowers tonearm without touching it. Forearm floots over desired track of record without fear of scratching records. Self-stick base for easy mounting. Insiructions included.
No. IIASS46. Type PCD.1. Nef Each
$\$ 8.99$
(0) STYIUS PRESSURE GAUGE. Accur otely calibrated to measure stylus pressure from $1 / 2$ to 8 grams. Wi. 4 oz.
\$1.19
(1) RECORD CLEANINC KIT. Actually cleans the grooves as well as the surface. Features a non-gumming, anti-static liquid detergent the plastic squeeze bottle, special fine-grain cleaning puff which goes down into the record grooves to clean out abrasive dust, as well as remove static. Annoying hisses and crackles disappear like magic, music sparkles with new clarity. Adds new life and brilliance.
No. 24A6030. Each.
$\$ 1.50$


## AUDIO <br> INSTALLATION ACCESSORIES

(3) FIEERGLAS ACOUSTIC INSULATION. Spun fiberglas moteriol 1 .. thick eliminotes standing woves and controls reverberation inside speaker boffles. Ideal for ony ocoustic insulation application. $24 \times 60^{\prime \prime}$ size in plastic bog. No. 33A6509. Type 30-356. Each
$\$ 2.25$
8) HEAVY DUTY SLIDE DRAWER HARDWARE. EAsy mounting of radio chassis, record changers recorders, etc, in custom cabinets, record compartments of consoles, efc. Made of 16 gauge steel. Overail length 13 . Travel gth . 9 . Load capacity 50 lbs. Silencer spring eliminates vibration. Shpg. w
No. 33A6511. Per Pair.
\$2.99
SOLID STATE HI/FI STEREO SHUT-OFF


Now one con place a stack of recards on the record changer with no worry obout lurning equipment off Just plug AC cords of record changer and omplifier into "Stop-0-Malic". Special bult-in device auto matically shuts-off omplifier after lost record has ployed. (Note: Changer must have outomatic shutoff feature.) Wt. 1 ib.
For all European and American changers. $\$ 7.99$
No. $33 C 31$. Each........................................ 97.
SHURE M64 STEREO PREAMPLIFIER
For Phonographs, Tape Deeks, Microphones.
 Converts phonos to accept magnetic cart ridges, boosts microphone output, equallzes and amplifies tape decks. Frequency response 20
Hz to 20.000 Hz . $1 \%$ distortion at 1,000
Separation 50 db . Size $55 / \mathrm{a}^{\prime \prime} \times 23 / 8^{\prime \prime} \times$ $41 / 2$ ". Shpg. wt. 2 lbs. 115 VAC No. $33 A 13$. Mode! M64. Each
$\$ 34.00$


## JUST TIP AND FLIPI NEW RECORD-MATIC RECORD ALBUM HOLDER AND AUTOMATIC SELECTOR

## $\$ 695$

Flip first album forward, then all athers will follow, one after another, automatically. When record desired is removed, record-matic will stap automatically. Albums flip by slow or fast, as desired, tlowing full vewing of all albums. When returning record to fle, repeat the process and atbums will stop at the same spot from which the record was removed. Cuts down record handling. protects valuable records. Holds 25 12-inch record albums. Base is injection molded high impact Polystyrene with white plastic record holders. Metal support arms are brass plated. Base size: $14^{\prime \prime} \mathrm{L} . \times 103 / 4^{\prime \prime} \mathrm{W}$. Shpg. wt. $31 / 2$ lbs. Mfg. List $\$ 9.95$.
$\$ 6.95$

# DIAMOND PHONO NEEDLES 

AMERICAN MADE

## DO NOT CONFUSE WITH LOWER QUALITY IMPORTSA YOU WILL FIND NO BETTER QUALITY THAN THESE DIAMOND JEWEL TIPPED, HAND POLISHED NEEDLES.

arECISION DIAMDNO NEEDLES UP TO 5 TIMES LONGER WEAR Your Choice $\$ 949$ (3) (3)
protect your valuable stereo AND L RECORDS WITH A NEW

All are dual needles with diamand tip compatible for both steren and LP records. aliso sapphire tip for 78 RPM records. except where asterisk $\left.\right|^{\circ} \mid$ indicates a single diamand needle for stereo and LP only.


OUR MOST POPULAR GENUINE DIAMOND PHONO NEEDLE exact replacement for many cartridges.

## BY ASTATIC, BSR, RONETTE AND VACO

Used in all the following cartridges.
ASTATIC: $64,118,120,124,310, ~ 312,414,420,422,436,456,570, ~$ Stereo $70,74,76,78,80,86,320,472,474$,
BSR: TC8H, M, S, EV Cart \#i19, 120 , 121
RONETTE: Collaro, Fuji, Futura, P.E. DT-60, RA-284, RA-395, DC-04, TC-200. TO-222, 284, 400.
VARCO: TO-55 Series, TO- $35 \mathrm{X}, 45,5 \mathrm{~S}-45$, SN-55, ST-45, ST-T, 2, 4, 5, No, 24A681. Special Each
$\$ 1.49$

## SET SCREW TYPE ALL GROOVE NEEDLES

$\sigma$
Sapphire tip needle. Truncated for both microgroove and standard records. P
No. 24A624. Each
69c

## ASTATIC PHONO PICKUPS



MODEL LM PICKUP. Popular original equipment pickup with high output turnover cartridge for playing all speeds, 16. $331 / 3,45$ and 78 RPM. Ideal for replacement on portable phonograph.. Supplied hardware and arm rest. 3 voli oulpur, We. 10
No. 24A4002. Modet LM Pickup. Net Each
$\$ 3.95$
MODEL LS PICKUP. Same as above except equipped with high output stereo cartridge. 2 volt output. Wt. 1 lb .
No. 24A4003. Model LS Pickup. Net Each
$\$ 4.95$

## VARCO VACO CARTRIDEES



Used by 52 phonograph manufacturers as original equipment. All have diamond stylus. All cartridges have crystal elements except * which have cera
Fig.
1
1
1
1
1
2
2
3
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10

| Stock No. | Cartridge No. |
| :---: | :---: |
| 24 A 4064 | CN620 |
| 24 A4065 | CN650 |
| 2444066 | CN72D |
| 24 A4067 | CN73D |
| 2444068 | CN750 |
| 2444069 | SS4D |
| 24 A4070 | TO45LD |
| 2444071 | T0550 |
| 2444072 | TO55 ${ }^{\text {D }}$ |
| 2444073 | TOH46D |
| 2444074 | TOH46×D |
| 2444075 | ST2VD |
| 2444076 | ST $2 \times$ D |
| 24 A4077 | ST4D |
| $24 A 4085$ | ST4VD |
| 24 A4078 | ST4XD |
| 24A4079 ${ }^{\text {a }}$ | TNO2D |
| 24A4080* | TNO2HD |
| 24A4081 ${ }^{\text {2 }}$ | TN4AD |
| 24A4082 ${ }^{\text {\% }}$ | TN4BD |
| 24A4083* | TN8TD |
| 24A4084* | TN8UD |



|  | MFg. | Net |
| :---: | ---: | ---: |
| Color | List | Each |
| Black | $\$ 8.50$ | $\$ 4.25$ |
| Black | 8.50 | 4.25 |
| Black | 8.50 | 4.25 |
| Black | 8.50 | 4.25 |
| Black | 8.50 | 4.25 |
| Black | 8.00 | 4.00 |
| Black | 8.00 | 4.00 |
| Black | 8.00 | 4.00 |
| Black | 9.00 | 4.50 |
| Crey/Black | 8.00 | 4.00 |
| Crey/Black | 9.00 | 4.50 |
| Crey/Red | 9.00 | 4.50 |
| Crey/Red | 9.00 | 4.50 |
| Red/Black | 8.75 | 4.38 |
| Red/Black | 9.00 | 4.50 |
| Red/Black | 9.00 | 4.50 |
| Black | 12.00 | 6.00 |
| Black | 12.00 | 6.00 |
| Black | 12.75 | 6.38 |
| Black | 12.75 | 6.38 |
| Black | 12.75 | 6.38 |
| Black | 12.75 | 6.38 |

## ASTATIC PLUG-IN CARTRIDGES



Popular plug-in type cartndges used as original equipment in thousahds of phonagraphs. Highly sensitive ceramic element for clear wide-range response - 13AT is same as 13 T excepl has wider range and higher compliance 93 is raplacement for Electro Voice 56, 105 is replacement for Electso Voice 66 Avg shpg. wt 3 or

|  | Sth. | Astatic |  | Oulput | Needle | Mig - | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fig. | Ne. | No. | Type | Volts | Tip | List | Each |
| 1 | 24 A 4014 | 13 T | Stereo | 0.65 | . $7 \mathrm{~S}-3 \mathrm{~S}$ | \$5.95 | \$3.57 |
| 1 | 2444015 | 131 X | Stereo | 0.65 | 70-35 | 8.95 | 5.37 |
| 1 | 2444016 | - 13 AT | Sterto | 0.35 | .7S-3S | 7.95 | 4.77 |
| 1 | 2444017 | -13ATX | Stera 0 | 0.35 | .70.3S | 10.95 | 6.57 |
| 2 | 24A4018 | 817 | Mono | 1.0 | 1S-3S | 3.95 | 2.37 |
| 2 | 24A4018 | $817 X$ | Mono | 1.0 | 10-3S | 8.95 | 4.17 |
| 2 | 24A4059 | 897 | Mono | 1.3 | 15.3S | 4.95 | 2.97 |
| 2 | 2444060 | 897X | Mono | 1.3 | 10-3S | 7.95 | 4:77 |
| 3 | 24A4004 | 937 | Mono | 1.5 | 1S-3S | 3.95 | 2.37 |
| 3 | 24,44003 | 93TX | Mono | 1.5 | 10-3S | 6.95 | 4.17 |
| 3 | $24 \mathrm{A4} 007$ | 1050 | Sterso | 1.0 | 70-35 | 9.95 | 5.97 |
| 4 | 24A43D6 | MB2 | Mounting | cket for | $13 \mathrm{TX}, 13$ | 3ATX | 8 D |
| 5 | 2444107 | M83 | Founting | cket for | 8iTX, 89 |  | 80 |



(1)




| Fig. | Selk. No. | Astatic No. | Replacement Far |
| :---: | :---: | :---: | :---: |
| 1 | 24 A4026 | 17 | Adm., G E., VM |
| 1 | 2444027 | 170 | Adm., G E., VM, $2 \mathrm{en}$. |
| 2 | 24 A4020 | 70TS | VM |
| 2 | 2444025 | 74TS | Aifl., G.E. |
| 3 | 2444021 | 76 TSB | Airl. Phil. |
| 2 | 2444022 | 80TS | Arv. Phonals. VM |
| 3 | 2444023 | 86TSB | Adm. Magn. |
| 4 | 2444061 | 133 | Adm, Arv., 2en |
| 4 | 24 A4087 | 1330 | Adm... Airl. P Piol. |
| 1 | 24 A4088 | 140 | Adm. 10 Zen. |
| 1 | 24A4024 | 142 | Adm., 10 2en. |
| 5 | 2444092 | 1420 | Adm, to 2en |
| 6 | 24 A4093 | 1650 | Magn. 560355-1 |
| 7 | 24A4094 | 1810 | Sylv. |
| 6 | 2444095 | 1950 | Magn. 560345-1 |
| 6 | 2444091 | 1970 | Magn. 560347-1 |
| 8 | 2444096 | 348 | RCA 115059 |
| 9 | 2444097 | 3510 | G.E. C550 |
| 10 | 2444098 | 353 | RCA 115276 |
| 10 | 24A4099 | 3530 | RCA 115277 |
| 11 | 2444100 | 4610 | Magn 560218-1 |
| 12 | 24A4010 | 475 | RCA 108213 |
| 5 | 24A4101 | 612 | B S.R. SX5H. TC8 |
| 13 | 24A4090 | 6550 | EV5015, Garrard 30 |
| 7 | $24 A 4089$ | 6750 | Garr. X10. EV50800 |
| 14 | 2444102 | 710 | Eup UI. Admı, Moto. |
| 14 | 24 A4303 | 7100 | Eup. U2. AltI, VM |
| 15 | 24A4038 | 754 | Sona, 8TA4-S. Adm. Syl |
| 15 | 2414040 | 7540 | Sone 8TA4-SD, Adm., Westing |
| 16 | 2484042 | 7600 | Sorue 16 TAF.SD, Phis |
| 17 | 24 A 4046 | 763RD | Sono. 21 TR-SD, |


| Needle | Output | Mig. | Ňet |
| :---: | :---: | :---: | :---: |
| Tip | Volits | List | Each |
| .7S-3S | 0.8 | \$11.75 | \$7.05 |
| .70-3S | 0.8 | 15.75 | 9.45 |
| .78.3S | 2.0 | 7.25 | 4.35 |
| .78-35 | 2.0 | 7.25 | 4.35 |
| .7S-3S | 2.0 | 7.95 | 4.71 |
| .75-3S | 0.8 | 7.50 | 4.50 |
| .75-35 | 0.8 | 8.50 | 5.10 |
| .7S-3S | 0.5 | 9.75 | 5.85 |
| .70.35 | 0.5 | 13.75 | 8.25 |
| .75.3S | 1.0 | 7.50 | 4.50 |
| .7S-3S | 2.0 | 7.25 | 4.35 |
| .70-3S | 2.0 | 12.25 | 7.35 |
| .70.35 | 0.25 | 12.50 | 7.50 |
| .70-35 | 0.11 | 14.50 | 8.70 |
| .70-3S | 0.25 | 12.50 | 7.50 |
| 10 | 0.15 | 12.50 | 7.50 |
| .75 | 20 | 7.95 | 4.71 |
| .70.3S | 0.5 | 17.40 | 10.44 |
| .78-35 | 0.175 | 11.95 | 7.17 |
| .70.38 | 0.175 | 14.95 | 8.97 |
| .70-3S | 055 | 14.50 | 8.70 |
| .7S.3S | D. 5 | 10.00 | 6.00 |
| . $7 \mathrm{~S}-3 \mathrm{~S}$ | 20 | 6.95 | 4.17 |
| 70.35 | 0.5 | 13.50 | 6.90 |
| .70.35 | 0.5 | 12.00 | 7.20 |
| .7S-3S | 0.5 | 9.95 | 5.97 |
| . 10.3 S | 0.5 | - 18.50 | 8.90 |
| 7S-3S | D. 3 | 11.00 | 8.60 |
| .70.3S | 0.3 | 14.50 | 8.70 |
| . 70.3 S | 0.65 | 11.65 | 6.99 |
| .70.3S | 0.6 | 12.20 | 7.32 |

## ASTATIC MONAURAL REPLACEMENT CARTRIDGES



# ROBINS TAPE RECORDING ACCESSORIES 

## ROBINS＂STEREO 4＂TAPE SPLICERS

Rapid，accurate splicing of 4 track， 2 track and single track tapes．Makes diogonol cut．＂Gibson Girl＂trim prevents splicing tape odhesive from contocting aritical parts of recarder．Alt units feature blade centering odjustment ond re－ placeoble cutter for lifetime accuracy．

## （1）TS－80 DELUXE＂STEREO＂TAPE SPLICER

＂See thru＂windows indicote＂Cut＂and＂Trim＂positions．Tape guide，and fingers，secure tope．Easy threading，integral tape dispenser with $100^{\prime \prime}$ roll
of $1 / 2$ splicing tope．Made of super－strong Cycoloc．With instructions．Wt 1 lb ．${ }^{2}$ splicing tape．Made of super－strong Cycoloc．With instructions．Wr． No． $11 A 704$ ．Net Eoch
$\$ 10.50$

## （3）NEW TS－7S STANDARO＂STEREO＂SPLICER

Precise cut and＂Gibson Girl＂trim．See－thru windows show＂Cut＂and＂Trim＂ positions，integral dispenser， $3 / 8^{\prime \prime} \times 100^{\prime}$ splicing tape．
\＄7．88

## NEW TS－7］JUNIOR＂STEREO＂SPLICER

Same os TS．7S without tape dispenser and splicing tope．Uses $7 / 8^{\prime \prime}$ splicing tope，Wr． 114407 ．Net Each
\＄6．82
ROBINS MYLAR SPLICINC TAPE．Speclal formula Mylar．Tack3ness，thick－ ness，strength and cold－flow controlled for perfect．permanent splices，Use with＂Stereo 4＂splicers．Avg，wit． 8 ozs．

| Stk．No． | Mfg．No． |
| :--- | :--- |
| 11 A990 | TSTT－235 |
| 11 A991 | TST－376 |
| $11 A 992$ | TST 501 |
| $11 A 993$ | TST－751 |


Leng？h
$300^{\prime \prime}$
$275^{\prime \prime}$
$250^{\prime \prime}$
$150^{\prime \prime}$
Net Each
$\$ 0.94$
.94
.94
.94
1.01

ROBINS MACNETIC BULK TAPE ERASERS．Better erasure without using recorder．
（3）TM－99．Erasure 3 to 6 db below normal erose heod level．Hondies reets up $\begin{array}{ll}\text { to } 101 / 2^{\prime \prime} \\ \text { listed．W．} 81 / 2^{\prime} \times 1 / 2^{\prime \prime} & \text { wide．Size } 33 / 4^{\prime \prime} \times 51 / 4 \times 63 / 4^{\prime \prime}\end{array}$ No．IIB409．Net Eoch
$\$ 41.25$

（1）EMPTY TAPE REELS OF EVERY SIZE．Perfectly molded of clear plostic．
 （1）LOW TORQUE 7＂REEL．Larger hub reduces the effect of variable pull on tope coused by recorder take－up drive．Reduces wow ond flutter，winds rope evenly．Copocity 1600 ft ． $1 / 2 \mathrm{mil}$ tope， $1200 \mathrm{ft} .1 \mathrm{mil}, 800 \mathrm{ft}$ ． $11 / 2 \mathrm{mil}$
No． 114980
Package of 2 For．
$\$ 1.72$
（3）＂QUICK－CLEAN＂FELT PEN．Simple，safe cleaning of recorder heads．AD－ plies fast drying soivent to remove oxide and grime deposits from heads． Pen has convenient pocket cllp．Imported．
$\$ 1.38$
No．llA7609．Each
（9）BLOWER BRUSH．Squeeze blower and soft camel＇s hair brush，removes dust and other particles from delicate heads and guides of recorder．Ideal for dusting phonographs，records，fine optical lenses，etc．
No．IlA7610．Each
$\$ 1.69$
（4）NEW ROBINS TM－2 MACNETIC TAPE EDITINC PENCIL．Removes single sounds，noise，etc．from small areas of recording．Makes fade－in and fade－out easy．
\＄2．08
No．11A7506．Net Each

［1］
（3）ROBINS HEAD DEMACNETIZER．Removes residual magnetism that accumulates in all record heads causing excessive nolse and hiss durling recording and playback．Easy to use．For $110 \mathrm{v} .60 \mathrm{~Hz} . \mathrm{AC}$ ．
TD－ 6 Professional Model．U／L listed． $15 / 8 \times 11 / 2^{\prime \prime}$ dio．
No． 11 A794．Wt． 1 Ib．Net Each
TD－ 3 Economy Model． $31 / 2 \times 11 / 4^{\prime \prime}$ did．
\＄8．56
$\$ 5.49$
© HEAD CLEANING TAPE．Chemically Preated．Just run through recorder to clean recording heads，tope guides．etc．Wt． 6 oz ． No．11841．THC．5． 5 Reel．Ner Eoch
$\$ 2.89$ No． 11 B404．THC－3．3＂Reel．Net Each
．$\$ 1.65$

## （7）ROBINS TAPE ACCESSORY AND＂KARE＂KIT＇S

TK－8DLX DELUXE TAPE ACCESSORY KIT．Contains TS－8D Deluxe Splicer， $1 / 2^{\prime \prime}$ Splicing Tope，Tape Threader，Kead Cleaner，Head and Guide Lubricant，Tope Jockey Cloth，Tope Clips，Title Labels，Reel Rolders and Tope Editing No． 11 Bis3．Net Each．
$\$ 17.25$
TK－6 TAPE HEAD CLEANER AND LUBE KIT， 2 oz ，bottles Head Cleaner and Head ond Guide ubricont．Net Each
No． 11 B154．Wr． 6 oz．
\＄1．79

TK－7 CHEMICAL TAPE KARE KIT． 2 oz bottles Heod Cleoner，Head and Guide Lubricant，Tope and Phono Drive Oil，Non－Slip for Tape and Phono Drives and 50 swobs for Cleaning ond Oiling．Wt． $11 / 2 \mathrm{lbs}$ ．
$\$ 3.44$
（0）Head Cleancr Spray Aerosol formula removes accumulated oxides for im－ proved fidelity．For all types of tape recorders．Complete with extension nozzle．
No．llats22．Model Ths－1．4－ox．Can．Net Each．
$\$ 1.72$

（5）TITLE LABELS．Write or type． $2 \times 1 / 2^{\prime \prime}$ ，self－sticking．Wt． 7 oz ．
$\$ 1.24$
＠TAPE＂JOCKEY CLOTH＂．Clieans ond lubricates topes．Siticone impregnoted
Washoble and reusable．Wi， 3 oz． Washable and reusable．Wi， 3 oz ．
No． 11 A 769 ．Pkg of 3 For
（3）HEAD CLEANER．Removes occumulated oxides from recorder． No． 11 Al68． 2 Oz．Bottle．Wt． 4 oz．Each

94c
（4）TAPE CLLPS．Keeps reels of tope from unwinding．Reusabie． No． 114985 ．Wt． 8 oz．Pkg．of 75 For
$\$ 1.24$
（2）replacement tape recorder pressure pads．pre－cut and U－cut felt pods to fit all recorders
$\$ 1.05$
＠⿴囗十，FAST TAPE THREADER．Storts tode on reel eosily．Wf． 3 oz．$\$ 1.12$
No．11A587．Net Each
（13）REEL HOLDERS，Kolds reel on spindle．Prevents wobble．WI． 3 oz ．
No． 11 A 7505 Per Poir．
69c

## CASSETTE TAPE RECORDING ACCESSORIES



Cassette Tape Mailers．Package of 18 convenient cardboard cassette （1）Cassette Tape Mailers．Unique design protects cassette for safe mailing． No，11A7521．Model TCB－18．Pkg．of 18．Net Each．．．．．．．．．．．．．．．
$\$ 1.24$
（8）TAPE RECOROER MICROPHONE．MOSt popular amni－directional dynamic mike for tape recarders．Universat plugs fit most recorders with remote on－off switch on mike．Use hand held or with its own stand． 200 othm impedance． $8^{\prime}$ cable． $43 y^{\prime \prime}$ L．Black with aluminum satin trim．\＄6．95 No．29A680．Shpy．wt． 5 ozs．Each．
（2）Cassetfe Tape Tension Winders．Inserts in holes of cassette to wind tape in either direction and take up slack．Wind tape for easy editing and repalrs．
No． $11 A 7542$ ．TCW－2．Pair．
\＄1．24

（4）Cassetre Sensing and Cueing Tape．Aluminum foil tape can be cut to any length ond placed on any desired section of Cassefte tapes to cue outo－ motic stop，reverse，and other electronic sensing controls． $140^{\prime \prime} \times 150^{\prime \prime}$ length． No． 11 A7628．$=$ TSP－140．Each
53.10
（5）Cassette Tape Splicer．Especially for editing and repátring． $150^{\prime \prime}$ wide tapes．Cuts tape at $45^{\circ}$ angle．Includes 25 splicing patches．
$\$ 3.75$
No． 1147528 ，Robins TS－115．Net Each
$\$ 1.24$
No．11a7529．Type TT－15．Extra splicing patches．
（B）Cassette Replacement Title Labels．Package，of 20 self－stick die－cut la－ bels．Replace worn labels．Title and identify recordings． No． 11 A 7 G30．Model TCL－20．Each$\$ 1.24$

## B-A's TAPE RECORDER ACCESSORIES

## CASSETTE ERASER

Tokes sound off cassettes equal to new. You'll heor the noise difference between the eraser and recorder erase. The audible difference, .5 db to 20 db , depending on recorder used ond the quality of cassette tape. Operotes on 4 " $A$ A" batteries (not supplies) Shpg. wt. $11 / 2 \mathrm{lbs}$.
No. 11A7629. Mfg. List $\$ 12.50$ Net Eoch
$\$ 9.95$
No. $21 A 3$. $\because A A$ " Balleries. Each


## PLAYER AND RECORDER HEAD DEMAGNETIZERS

## UNIVERSAL TAPE HEAD DEMAGNETIZER

Aid for better tape recording. Quickly rids recorder of one cause of high nise pige accumulation of permanent magnetism in recording, erase No. 111052.
Import Special Import Special

## CARTRIDGE PLAYER/RECORDER HEAD DEMAGNETIZER

Quickly eliminates residual magnetism in record and playback heads, the common cause of high noise level in tape recordings. Long slim 71/2". body permits easy access to deep recessed heads in all recorder-player units. Full instructions for, use by anyone. Wr. I lb. Top quality import For 12 V. DC Transístorized.
No. IIA7503. Special Each.
\$5.98

## SAVE ON THESE TAPE RECORDER AIDS!



## TELEPHONE PICKUP COIL



JIFFY PHONE PICKUP COIL


B-A TAPE
SPLICER RARGAIN

For recording conversa- liffy suction cup attaches Cuts, trims, splices in seetions or making loud to side of telephone or to onds. Makes splices like a speaking telephone when back of handset. Does nol pro...quick, clean, withused with astandard re- Interfere with telephone out lasing a significant corder or mike amplifier. Installs by slipping under phone or laying on ringer

[1] CASSETTE PLAYER/RECORDER HEAD DEMAGNETIZER Deluxe cassette size device simply plugs into machine like a regular cartridge. Removes all tape head magnetic build-up, restoring original fidelity of recorder. For $110 \mathrm{~V}, 60 \mathrm{~Hz}$.
No. lla7532. Net Each
\$7.75
[1] CASSETTE PLAYER/RECORDER TEST STROBE Check your recorder/player for correct speed. Has built-in strobe tape and light. Operation: 110 V .60 Hz . AC.
No. 11 A7543. Each
$\$ 5.12$
[2] DELUXE 4 AND 8 TRACK HEAD DEMAGNETIZER
For auto cartridge players. Operates on 12 V . DC. Plugs Into cigaratte lighter. Recommended by equipment manufacturers for restoring original fidelity of player after every 15-20 hours of ooeration.
\$14.68
2] 8 TRACK CARTRIDGE TEST STROBE
Check your recorder/player for speed accuracy. Has built-in strobe tape and light. Operatlon: 110 V .60 Hz . AC.
No. 11 A7544 Each

## NORTRONICS TAPE HEADS

B-A supplies Nortronic Tape Heads for over 3000 foreign and domestic recorders. Most populor heads are in stock for immediate delivery. Write or call for information and price of head to fit your machine. Specify make, model, head number and track configuration of your recorder.
Nortronics replacemant cuide. Tape head specifications and conversion information
No. 16A1214. Each.
........................................\$3.00


Replecement head for cartridge players. Fits over $90 \%$ of Nuto and home players
No. 11 A7579. Nortronics 5800 . Each $\$ 10.90 \quad 4$ Each $\$ 9.80$


## NORTRONICS

PROFESSIONAL
ALIGNMENT TAPES
OM-401 (AT-100) Alignment Tope for Reel-to-Reel Recorders. 7.5 ips , $1 / \mathrm{s}^{\prime \prime}$ splice-free master with zero reference, aximuth alignment and frequency response tests. Recorded full track lor use on any $1 / 4$ " track format.
No. 11A7626. Net Each
$\$ 9.90$
OM-440 (AT-200) Alignment Tape for Cassette Recorders. Splice-tree, 1 st generation master with zero reference, ozimuth alignment ond frequency response tests to DIN standard. For use with all track configurations No. IlA7627. Net Eoch
$\$ 23.50$



EXTRA SAVINGS ON B-A'\% TAPE ACCESSORY OUTFIT

## SAVE $\$ 3.25$ COMPARED TO SEPARATE PRICES!

Always needed alds for better recordings. Kit contains a fast action tape splicer for professional style editing of tapes, Iemagnetizer to quickly rid the recorder heads of noise producing permanent magnetism, a telephone pickup for phone recording, universal patch cord for attachment to radio or TV and Tape Care lubricant and head cleaning kit. Top quality throughout. Shpg wt. 3 lbs.
No. 11A7539. Complete Kit B-A Special, Only
$\$ 7.95$

## AUTO \& HOME <br> TAPE CARE KIT

A "must" for the cartridge type players. Includes tape lubricant and head cleaning solution with brush. agplicators and cloth.
Ne. IIA7536. Special Each.
\$1.79
PROFESSIONAL QUALITY TEST TAPES
Check tape recorders and players for performance and proper alignment. These precision tapes contain recordings to check or measure frequency response and equalings to check or measure frequency response and equaltion and channel identlfication and tape head alignment. No. 11 A7603. Cossette type. $\$ 4.49$ No. 11A7604. Certridge type (4 of 8 track).
Each 1147605 . Reel-to-Reel typ: 14 track $\$ 6.39$ No. 11 A7605. Reel-to-Reel typs 14 track stereo $71 / 2$ I.P.S. $5^{\prime \prime}$ reel) Each X-87 Torgette Test Cartridge. Tests the take-up torque of cassetfe tope players.
No. 11A7608. Esch.
$\$ 6.25$


# 3M SCOTCH RECORDING TAPE 



## "SCOTCH" BRAND TAPES

Most widely used of all magnetic recording tapes. Smooth and flexible provides flawless sound reproduction at lowest cost. Its flexibility allows perfect head conformity, produces excellent wlde range response.

$$
\text { TYPE } 206 \text { PROFESSIONAL MASTERING TAPE, } 11 / 2 \text { MIL }
$$

Posi-Trak backing is tougher, more scratch resistant. does not attract dust. Popular for professional mastering, you get a full $50 \%$ increase in output over standard low noise tapes.

 Minutes are both directions at $71 / 2$ inches/second.

+ RO-101/2" aluminum reel with $3^{\prime \prime}$ (NAB) center hole


## TYPE 207 PROFESSIONAL MASTERING TAPE

Same as Type 206 above, but 1 mil thick allows $50 \%$ more tape on each reel.
 4 Minutes $101 / 2^{\prime \prime}+3600 \mathrm{ft} .34 \mathrm{oz}$.
*Minutes are both directions af $71 / 2$ inches/second. hole.

+ RO-101/2" Aluminum reel with $3^{\text {(NAB) center }}$ hole.


## TYPE 202 DYNARANCE- $11 / 2$ MIL POLYESTER

Provides brilliant low noise recording at half the normal recording speedstwice the time, yet total fidelity plus economy. The choice of professlonals and advanced non-professionals.
 + RO-10 $1 / 2^{\prime \prime}$ aluminum reel with $3^{\prime \prime}$ (NAB) center hole.

TYPE 203 DYNARANCE- 1 MIL PDLYESTER
Industry Standard Low Noise Tape. Same as Type 202 above but with 1 Mil. bocking. Allows $50 \%$ more tape per reel.

| 118499 | $203-1 / 4-900$ | $5^{\prime \prime}$ | $900^{\circ}$ | 602 | $\$ 3.27$ | $\$ 2.97$ | $\$ 2.68$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 118597 | $203-1 / 4-1800$ | $7^{\prime \prime}$ | 1800 | $120 z$ | 5.56 | 5.05 | 4.54 |
| $11 A 1234$ | $203-1 / 4-3600 R 0$ | $10^{\prime \prime} / 2^{\prime \prime}+3600^{\circ}$ | $340 z$ | 12.95 | 11.77 | 10.60 |  |

+ RO-101/2" Aluminum reel with 3" (NAB) center hole.
TYPE 150 EXTRA PLAY TAPE- 1 MIL MYLAR. Same size reel plays $50 \%$ longer than $11 / 2 \mathrm{mil}$ base tapes.

| $11 A 544$ | $150-1 / 4-900$ | $5^{\prime \prime}$ | $900^{\circ}$ | 602 | $\$ 2.64$ | $\$ 2.40$ | $\$ 2.15$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $11 A 545$ | $150-1 / 4-1800$ | 74 | $1800^{\prime}$ | $120 z$ | 4.52 | 4.11 | 3.70 |

TYPE 200 DOUBLE PLAY- $1 / 2$ MIL TENSILIZED MYLAR. Specially conditloned tough Dupont Mylar extra thin base, allows twice the normal record-ling-playing time compared to $11 / 2$ mil tapes.
limen 1200
 [RPS-101/2" Plastic Reel with Yo" (EIA) center hole.
TYPE 290 TRIPLE PLAY- $1 / 3$ MIL TENSILIZED MYLAR. Extra long play, with ultra-thin backing and coating. Cives up to three hours at $33 / 4 \mathrm{ips}$ speed.

| 118708 | 290-1/4-1800 | 5* | $80{ }^{\circ}$ | 602. | \$5.41 | \$4.92 | \$4.43 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 114887 | 290-1/4-3600 | 7" | $3600^{\prime}$ | 14 oz . | 8.79 | 7.99 | 9 |
| 11.637 | -290-1/4-600LL | $3{ }^{\prime \prime}$ | $60{ }^{\prime}$ | 3 oz . | 2.19 | 1.99 | 1.79 |

11 -637 -290-1/4-600LL

| $600^{\circ}$ | 3 oz. |
| :--- | ---: |

TYPE 111 CENERAL PURPOSE STANDARD TAPE- $11 / 2$ MIL ACETATE. Regarded as the performance standard of the recording industry. Allpurpose, first-choice of most engineers and recording fans for flawless sound reproduction. On easy threading elear plastic reels.

| 11A551 | 111-1/4-150 | $3{ }^{\text {a }}$ | 150 | 2 oz . | \$0.61 | \$0.55 | \$0.49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 114554 | $111-1 / 4-600$ | $5{ }^{\text {²}}$ | $600^{\circ}$ | 6 oz . | 1.95 | 1.77 | 1.60 |
| 114559 | 111-1/4-1200 | $7{ }^{\prime \prime}$ | $120{ }^{\circ}$ | 12 oz . | 2.94 | 2.67 | 2.40 |
| 118623 | *111-1/4-150LL | 3" | $150^{\circ}$ | 3 oz . | , 79 | . 72 | . 66 |

- Living letter tape packed individually in plastic mating box.

TYPE 175 "TENZAR'-STANDARD PLAY- $11 / 2$ MIL EASE
Priced only slightly higher than acetate-backed tapes, yet provides 15 times more wearability. Periect for educational and language-lab use, for allweather use and long time storage. Has new black oxide coating. On clear plastic reels.

| $11 A 755$ | $175-1 / 4-600$ | $5^{\prime \prime}$ | 600 | 602 | $\$ 1.85$ | $\$ 1.68$ | $\$ 1.51$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $11 A 756$ | $175-1 / 4-1200$ | 70 | $1200^{\circ}$ | $120 z$. | 2.84 | 2.58 | 2.32 |
| $1 Y P E$ |  |  |  |  |  |  |  |

TYPE 156 SPECIAL LUBRICATED - 1 MIL POLYESTER. Same Tape used by professionals for 8 track loading. For repeater mechonisms and cartridge tape players. Brown oxide externally lubricated, for continuous loop systems.
11A779. 156-1/4-1800, $7^{\prime \prime}$ Reel. En...... \$4.55 6 Ea...... $\$ 4.14$ 12 Ea...... $\$ 3.76$ EMPTY 3", REELS AND MAILERS
Same as used in "Living Letter"' tape packages listed under types 111 and 290 above. Type 11 address labels are self-adhesive, fit any box.
No. 11A7507. RLL.1/4-3. Reel And Box. Each. 46 c 6 Each. 40 c 12 Each. 36 c Na. 11 A750\%. LL-1/4-3. Box Only, Each. 35 c 6 Each.....30c 12 Each.... 27c
-
LARGE QUANTITY USEAS OF RECORDING TAPE ARE INVITED TO SEND THEIR
REQUESTS FOR QUOTATIONS TO BURSTEIN-APPLEBEE CO. -INDUSTRIAL SALES
DEPT DEFT.

## SCOTCH CASSETTES

## HICM ENEREY CASSETTES

Better winding with posittrak backing than backing previously used. It is conductive so dust is not attracted to the tape, Cobalt Energized Oxide gives 3.5 db increase in signal to noise ratio, and reel-to-reel fidelity is yours to enjoy in these High Energy Cassettes. Does not require Bias Switch for optimum performance. Individually Album packaged. Average weight 2 oz .

|  |  |  |  |  |  |
| :--- | :--- | :--- | ---: | ---: | ---: |
| Sth. No. | Fact. No. | Recordlag Time | Each | 6 Each | 12 Each |
| $11 A 1206$ | SC-30-HE | 30 minutes | $\$ 2.63$ | $\$ 2.39$ | $\$ 2.15$ |
| $111 A 1207$ | SC-60-HE | 60 minutes | 3.07 | 2.79 | 2.51 |
| $11 A 1208$ | SC-90-HE | 90 minutes | 4.39 | 3.99 | 3.59 |

## EXTENDED RANEE CASSETTES

Same Posi-Track backing as the High Energy Cassettes above. Low noise oxide. Individually album packaged, average weight 2 oz .

| Stik. No. | Fact. No. | Recording Tim | Each | 6 Each | 12 Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1141209 | $\mathrm{SC-}^{50}$ | 30 minutes | \$1.86 | \$1.69 | \$1.52 |
| 1141211 | SC-60 | 90 minures | 3.29 | 2.99 | 2.69 |
| 11A1212 | SC-120 | 120 minutes | 4.39 | 3.99 | 3.59 |
| LOW NOISE SCOTCH BLANK 8-TRACK CARTRIDGES 40 AND 80 MINUTES RECORDING TIME |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 40 | UTES | \$ 50 |  |  |  |
| RECOR | TIME |  |  |  |  |

Highly dependable blank 8 -track cartridges. Long play in 40 minutes and 80 minutes recording time. Precision tape inside is the one used by protessionals for critical continuous loop recording. Low noise oxide.

 Capacity roting is for standard $11 / 2$ mil base tape.
Stk. No. Size Capacity Wt.
Net Ea. 6 Ea.

 TRUE-RUNNING' 101/2" REEES WITH BDXES

## Aluminum NAB Type with flanges. Wt. I ib

No. 11A603, Each......... $\$ 5.99$ 6ach............ $\$ 5.42 \quad 12$ Each.............. $\$ 4.88$

EMPTY BOXES FOR 5 ANO 7 INCH RRELS

 SCOTCH NO. 12 ENB-OF-RIEL TAPL CNPS Clips securely to tape. Fits inside reel, won't distort. Wt. 3 oz . No. 11 Al86. Pockage of 10 for . . . . . . . . . . . . . . . . . . . 35 c


## SCOTCH LEADER AND TIMING TAPE AND SPLICING TAPE

Attach to ends of recorded tapes to prevent repeated breakage; or between selections for identification and fiming. White. Write-on type.
No. 11 IAS 78 . Type $241 \mathrm{~W}, 1 /{ }^{\prime \prime} \times 100 \mathrm{Ft}$.

Yellow Type 24-1 Y Write-On Tape. $1 / 4^{\prime \prime} \times 100 \mathrm{Ft}$.
No. 11 A 7510 .
No. 11 A75 10.
Each ...... 69 6 Each .... 60 12 Each .... $54^{\circ}$

## SCOTCH TYPE 621 SPLICING TAPE

1 mil polyester. 621 may be used to splice all recording tapes. Always use 621


S-SK Splicing Kit. Includes a splicing block and 150 inches of 621 splicing tape on a dispenser.
No. 11A7625. Each
Scotch Type 41 Splicing Tope
$\$ 1.59$ E Each .. \$ $\$ 1.39$
No. 11 A576. $1_{2}{ }^{\prime \prime} \times 150^{\prime \prime}$ Each
48. 12 Each ... 43

CONDUCTIVE CUSING AND REVERSING TAPE. Electrically conductive metol foil on tough Mylor base with non-oozing adhesive back. Attoches directly in either side of recordina tope without solicina. Re-usoble.
No. 11 18729. Scotch Type 51-7/325. s? " wide $x 150 \mathrm{in}$. Rali
Not Eoch.


RCA Red Seal Cobalt Energized Cassettes the new generation low noise. high output, and extended frequency range, with supe vior performance over conventional low noise tapes. Improved signal output, especially at higher fre. quencies. gives increased signal-to-naise rotio. Red Seal Cossettes are compatible with existing playbock ond recording equipment. There is improved tope performance, with no need for special bias or equalization circuitry. Colen. dered surface, combined with a lubricated binder. assures quality performance and less head wear. Precision - built with screws - to meet the demanding
needs of taday's discriminating user and the flexibility requirements of the educational market. Red plastic album box with index insert. Made in USA. Shpg. wt 2 oz .

| wt. 202 . <br> Stock <br> No | Size and Descriptian |  | Míg. List | Net Each | $\stackrel{6}{6}_{\text {Each }}$ | $48$ Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 A1230 | C-60 | 60 minutes | \$3.15 | \$2.52 | \$2.10 | \$1.91 |
| 1141231 | C. 90 | 90 minutes | 4.15 | 3.32 | 2.74 | 2.49 |
| 11 A1232 | C. 120 | 2 hours | 4.75 | 3.80 | 3.28 | 2.99 |

## R(P) BLANK 8-TRACK STEREO CARTRIDGES



## RB/ REEL-TO-REEL RECORDING TAPE

## Your Assurance of Quality



Our best selling 8 trock topes. Professional quality tensilized polyester lubricoted tape. Low noise oxide gives top performance with all makes of equipment. Moke your own auta stereo and home entertainment topes at a fraction of the cost. Shpg. wt. Soz.
$\begin{array}{lllc}\text { StockNo. RCANo. Length } & \text { Playing Time } \\ 11 A 1163 & 8 T R 32 & 150 \mathrm{ft} & 32 \mathrm{Min}, \\ 11 A 1164 & 8 T R 64 & 300 \mathrm{ft} & 64 \mathrm{Min}, \\ 11 A 1191 & 8 T R 94 & 440 \mathrm{ft} & 94 \mathrm{Min} . \\ & & & \end{array}$

This superiative tape is the result of today's most advanced techniques. RCA has devetoped a special lubricant...an integral part of the tape coating... which aids in smoother tracking over the guides and magnetic head surfaces, resulting in a minimum of friction and wear. Polyester base is stron


## SAVE! B-A DELUXE RECORDING TAPE

EA

## LOW NOISE CASSETTES

## BA <br> LOW NOISE CASSETTE




Now includes professional calendered low noise tape, screw fogether housing, album storage case and index insert.
Oon't be mislead by the low price! These are first quality Cassette topes priced way down to beat all competition. You can buy and save with complete confidence because B-A buyers have checked the important design, manufacturing and material requirements that assure high fidelify and finest performonce in any make recorder. Note these facts: Beryllium copper constant prossure springs, mu-metol magnetic shielding, one-plece molded tape guide rollers on stainless steel pins, anti-static moisture resistant water shield, precision ossembly techniques and in addition ... top quality lubricated polyester recording tape.
Fully covered by $B-A$ 's liberal warranty: If you're not satisfied return of ance for exchange or your maney back!


No. Minutes per side) Wt. 16 ozs. Each.... $\$ 2.49$
B-A CASSETTE HIEAD CLEANER TAPE
B-A CASSETTE HIEAD CLEANER TAPE
Quickly removes accumulated tape oxide from recorder head restoring original
 No. llA7526. Each

> DELUXE QUALITY POLYESTER RECORDING TAPE
COMPARE
THIS
LOW
PRICE! 39
3600
ONOLYESTERACH
ON REEL

B-A proudly offers this fine recording tape for the critical user who desires the utmost quality recordings and wonts to save money tool Precisely formulated for uniform response, no rub-off, no print through. Bocking is tensilized polyester as indicoted. Unaffected by temperature or humidity and conform to tape heads closely, for best frequency response. Each box has plastic seal. Mode in U.S.A. If you're not satisfied, refurn ot once for exchange or your money back! Available in these popular Reel Lengths

| Stock |  |  |  |  | Net | 5 Lots |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. ${ }^{\text {N }}$ | Reel | Feel | Oescription- | W. | Each | Eoch |
| 1145509 | 7"' | 1800 | 1 Mil Polyester | 12 Oz | \$2.69 | \$2.45 |
| 11A5510 | $7{ }^{7 \prime \prime}$ | 2400 3600 | 1/2 Mil Polyester |  | 4.39 5.99 | 3.99 5.39 |
| 11 A3506 | 74 | 1200 | $1 / 2 \mathrm{Mil}$ Polyester | 12 Oz | 2.29 | 1.99 | CO

BASF. The "ageless" recording tape. Developed in Europe, now acclaimed by the U.S.A. HI-Fidellty recording market because of exceptional performance. Perma-sfore library boxes fit neatly on a shelf. Tip open for easy removal of reel. Luvitherm poly vinyl chloride base is extremely supple, giving highest possible conformation to tape head. Not affected by temperature and humidity variations. Colored leader tape on each end. Automatic stop switch foil. BASF CASSETTES IN PLASTIC SWIVEL BOX
Suliable for mailing. Exira mailing labels.

| Stock Na. | $\begin{aligned} & \text { BASF } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { 1-4 } \\ & \text { Esich } \end{aligned}$ | $\begin{aligned} & 5-10 \\ & \text { Each } \end{aligned}$ | 11 up Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11A1144 | C-30 | 30 Minutes | \$1.99 | \$1.79 | \$1.59 |
| 11A1145 | C-60 | 60 Minutes | 2.29 | 2.09 | 1.89 |
| 11 A1146 | C-90 | 90 Minutes | 3.39 | 3.09 | 2.79 |
| 1141147 | C-120 | 120 Minutes | 4.39 | 3.99 | 3.59 |

BASF CHROMDIOXIO CASSETTES IN PLASTIC SWIVEL BOX
Chromium dioxide is a totally new and quite different coating. Much more duroble, distortion free and capable of higher output. Extended dynamic range of the high end of the audible scule. Best results are achieved on recorders with CrO2 Switch.


## THE <br> HOBBY BOX <br> $\$ 4^{99}$

Contains everything needed for tape editing: precision splicer splicing fape, leader tapes, switching foils, reel labels, tape clips and editing pencil. Shpg. wt. 2 lbs. \$4. 11 A7549. Each
No. 11 .
 8 TRACK BLANK CARTRIDGES!


$$
\begin{aligned}
& \text { MONEY SAVING PRICES ON TOP } \\
& \text { QUALITY TAPESI EVERY ROLL } \\
& \text { GUARANTEED TO SATISFY OR } \\
& \text { YOUR MONEY BACK. MAY BE } \\
& \text { ASSORTED FOR QUANTITY PRICES }
\end{aligned}
$$



## 4 MINUTE 8 TRACK CARTRIDGE

Use for odjusting and checking recorder seftings Avoids long play normally required with standord length cartridges. Wi. 4 oz . No. 11 Al152 Each. $\$ 2.29{ }_{\text {Each }}^{12}$

## 8 TRACK HEAD CLEANER TAPE

Cleans player/recorder heads of accumulated oxides, grime and dust particles for improved sound. Wt. 4 oz
No
No No. 11 AT551. Each
$\$ 2.09$
$\$ 1.99$


MOST POPULAR 3 PACK 1890-7 REF TOP QUALITY 1 MIL POLYESTER

## 3 For ${ }^{5} 4^{29}$

 No. 11 Alliso
## BARGAIN SPECIAL!

## BARGAIN SPECIAL!

No. $1 / 2$ MIL POLYESTER BASE. 600 on $33 / 4{ }^{\prime \prime}$ Reel. $\$ 1.19$
I1/2 M1L ACETATE BASE. $600^{\circ}$ on $5^{\prime \prime}$ Reel. 89c
$1 / 2$ MIL POLYESTER BASE. $1200^{\prime}$ on $5^{\prime \prime}$ Reel. $\$ 1.69$
1 MIL POL YESTER BASE. $1800^{\circ}$ on $7^{\prime \prime}$ Reel. $\$ 1.99$
No. 11 A954. Each...

price evert
PVC RECORDING TAPE 6 PACK $150^{\prime}-3^{\prime \prime}$ REEL
6 FOR $^{\text {s }}{ }^{39}$ No. 11 All49.
3 PACK 150 -3"' REEL
No. 11 AlO53. 3 For....... 88

## BARGAIN SPECIAL!

## BA

gur mentr
AT THIS PRICE!
$1200^{1}-77^{\prime \prime}$ REEL
TOP QUALITY $11 / 2$, MIL POL,YESTER
PER REEL 99 ${ }^{\circ}$
No. ITA955

## ${ }^{5} 2^{99}$

## DOUBLE HEADER 8 TRACK <br> CLEANER TAPE

Special "double-header" Cartridge has Beeper Head Cleaner Tape at one end, and Tape Drive Capstan Cleaner Tape at the other end. Either end of Cartridge fits equipment. Beeper cleaning tape has recorded beep signals to indicate number of times tape passes and contacts head of player-recorder during cleaning opera. tlon.
Ne. 11A7619. Each
\$2.99

CARTRIDGE ANTI-DUST CAPS
Clips over tape end of cartridge protecting opening from dust, grime and accidental damage. You need one for every cartridge in your valuable tape collection.
No. 11 A7534. Robins TJ-12 For Cassettes. $\$ 1.09$ No. 11A7535. Robins Tj-10 For 4-8 Track. $\$ 1.09$ Package of 10 For.

## TAPE STORAGE BOXES



1) Plastic Phillips Album type storage case for 7 " reet tape. No. 11 A7554. Each
No 11A7555. PK… ..... 69c
(3) 6 lifetime hinged soft plastic cassette storage cases ..... 69c

## 8 TRACK CARTRIDGE CARRYING CASE



Protect your tapes from damage or loss with this beautifully styled 8-track carrying case, Vinyl Covered Aluminum Valance in the Tongue-in-Croove Design enhances the beauty and helps prevent water seepage. Titles are easy to read with upright storage. No. 23A203. Black, Each.
$\$ 11.95$
No. 23A204. Olive Creen. Each
.$\$ 11.95$

## DELUXE CARRYING CASES



PERFECT FOR CAR . . . BOAT . . HOME . . PARTIES!
Sturdy wood construction covered Sturdy wood construction covered ir in durable black alligator grained durable black alligator grained vinyl
vinyl with attractive red plush in- with attractive red plush inferior.
terior. For 4 or 8 Track Cartridges. Cassettes stack horizontally.
Holds 24 Cartridges
No. 23A181. Each..
\$9.95
Holds 15 Cartridges
\$7.95 Eassered with lock and key, storage capacity 30 cassettes.
No. 234182.
Holds 30 Cassettes. Each
$\$ 9.95$
TAPE STORAGE ALBUMS FOR
CASSETTES OR 8-TRACK CARTRIDGES


Hoids 12 Cassettes. Beautitut textured vinyl cover. Neat way to store your tape library. Sits on a shelf like a book. Perfect to carry with you. Molded piastic interior holds cassettes firmly. Cassettes push in and liff out easily. Size $101 / 4 \times 91 / 2 \times 1 . \mathbf{F}^{\prime \prime}$. Wt. I lb.
\$2.95
No. 23A183. Special Each
. 2.
 Size: $123 /^{\circ} \times 101 / 2^{\prime \prime} \times 21 / 6^{\prime \prime}$. Wt. 2 lbs


DELUXE TAPE STORAGE CABINETS ${ }^{5} 19{ }^{95}$
Beautifut appearance and construction as found on deluxe component sys. tems. Keeps topes fully accessoble and dust free. Handsome walnut bose. Smoked plostic top is hinged or removeable. Tities are eosily read through the top. Plush blue velvet lining. Shpg. wt. 6 lbs.
No. 23 A243. Holds 248 track tapes. Size: $13^{\prime \prime} \times 9^{\prime \prime} \times 6^{\prime \prime}$.
No. 23A244. Holds 26 cossette tapes. Size: $13^{\prime \prime} \times 9^{\prime \prime} \times 5^{1 / 4 \prime \prime}$.
$\$ 19.95$
NEW HOME STORAGE CABINETS


FOR TAPE CARTRIDGES AND CASSETTES

- Wooden construction whth fine walnut-grain finish.
- Swivel base allowing easy accessibility.
- Store 12 tapes in each of 4 shelves.

FOR 4 G 8 TRACK TAPE CAR.
TRIOCES. Dimensions $91 / 2^{\prime \prime} \times 91 / 2^{\prime \prime}$
TRIOCES. Dimensions $91 / 2^{\prime \prime} \times 91 / 2$
$\times 121 / 2^{\prime \prime}$ high. Capacity: 48 car-
$x$
tridges.
No. 23 A179.
Model 82TC. Euch
$\$ 9.95$
FOR CASSETTES. Dimensions: $8 \times 8$ $\times 10^{\prime \prime}$ high. Capacity 48 cassettes.
No. $23 A 180$.
Model 84 TC . Each
$\$ 9.95$

## DELUXE HOME TAPE STORAGE CABINETS

## KEEP AUTO AND HOME TAPES NEATLY FILED <br> $\$ 15^{95}$

New decarator cabinets will add to any room, the ultimate in tape cartridge and cassette storage. Attractive sliding styrene doors keep tapes in dust-free condition. Sturdy construction in high tempered Regency finished Brazilian grained walnut. Individual shelf for each tape. Use in a bookcase, on a wall. or on top of a desk or stereo cabinet.
Cartridge Cablnet holds 30 tapes. Slze: $24^{\prime \prime} \times 63 / 4^{\prime \prime} \times 71 / 2^{\prime \prime}$.
No. 23A186. Wt. 7 lbs. Each
$\$ 15.95$
Cassette Cabinet holds 36 tapes. Size: $21^{\prime \prime} \times 4^{\prime \prime} \times 71 / 2^{\prime \prime}$. $\$ 15.95$

## No. 23 A187. Wf. $41 / 2$ lbs. Each

## TAPE STORAGE CASES

Beautifully molded cases to hold your cassettes or 8 -track tapes in perfect order. Mold. ed inserts to hold topes upright. Block with white top. Top has vinyl wood groin inserf.

No. 23 A247. Holds 15 cassettes. Size: 3 /h

No. 23 A246. Holds 128 -tracks. Size: $5 \frac{1 / 4}{} \times$ 4\% ${ }^{4} 12 \frac{1}{2}$ " Shpg. wi. $1 / 2 \mathrm{lbs}$.
YOUR CHOICE
EACH
$\$ 1.95$


## 8-TRACK STACK CASE

Each case holds 10 8-track tapes. Each case nests into onother for stacking. Holes in back for hanging on wall. Sianted dividers keep tapes from falling out. Makes titles easy to read. Black color. Size $43 / 2 \times 5-5 / 8 \times 8.5 / 8^{\prime \prime}$. Shpg. wr. $11 / 4 \mathrm{lbs}$.

No. 23A245 4 or
Eoch $\ldots . . \$ 1.95$ More Eoch $\$ 1.69$

## -2, RSOMR MODEL RQ-409S

## "THE HARLAN" <br> COMPACT AC/BATTERY CASSETTE RECORDER

## \$46 ${ }^{95}$

## - Buily-in Condenser Microphone - Integrated Circuitry for Long Life

Goes anywhetel Operates on $A C$ or 4 " C " botteries. Ruggedly designed for long life service with flowless integrated circuitry. Built-in condenser mike eliminates need to hold or tolk directiy into mike. Sound from every part of room is picked up cleorly and precisely. Keyboard control permits one-hond, fingertip operation. Easy-matic sets perfect level control for each recording ... as you record. Autostop protects mechanism and soves wear and tear on batteries. $A C$ bias results in excellent wide range recordings. Other features include cassette pop-up, fast farward, fast rewind, volume control and safery lock record button to prevent accidental erasures. Earphone circuit allows monitoring as you record. Complete with pre-recorded cassette, 4 " $C$ " batteries, AC power cord, earphone and gift box. Sizer $2344^{\prime \prime} \mathrm{H} \times 5$ 友" $\mathrm{W} \times 10^{\prime \prime} \mathrm{O}$. Shpg. wt. 6 lbs .
Panasonic model ro. 4145 'THE кемвall"

## AC/BATTERY

CASSETTERECORDER
$\$ 36.88$

- Cassette Eject for Easy Tape Removal.
- "Sure-Power" Switches to Battery operation If AC power falls.
A great portable recorder for complate cassette enjoyment. Battery or AC operation ...Cor/Boat adaptable for versolility. Hos all pushbutton controls for fingertip operation. EasyMatic sets recording level so you never get distortion from too much volume. Auto stop returns oll controls and mechanism to "stop" position extend. ing battery life and protesting internal
 parts. Sofety-lock record button prevents accidental erasures. Has volume control for playback, fast forword, fost rewind, and AC bios.for best recordings. $31 / 2$ "PM dymamic speaker provides full rich sound. Also has mike and DC power jacks, earphone and ext. speaker jacks. In midnight black contoured cabinet with silver trim. Camplete with remote control dynamic mike, pre-recorded cossette, 6 " " ${ }^{\prime \prime}$ batteries, ACcord, earphone and giff box. Size: $10.3 / 8^{\prime \prime} \mathrm{H} \times 10.3 / 8^{\prime \prime} \mathrm{W} \times 31 / \mathrm{"}^{\prime \prime} \mathrm{O}$.
No. 31A2637. Model RQ.414S. Shpg. wt. 4 lbs . Each
Optional Car/Boot Cord for RQ-4145. Plugs into cigorette lighter No. 31 A2586. Model RP-915. Each
\$36.88
$\$ 16.95$


No. 31A2644. Model RQ-409S. Each

Shoulder Carry Case for RO-409S.
No. 31A2652, Model RP-9409. Eoch
Remote Microphone for RQ-409S.
No. 31A2651. Model RP-8162. Each

## AC/BATTERY STEREO CASSETTE RECORDER $\$ 99.88$

## CAR/BOAT POWER ADAPTABLEI

Now corry a complete stereo tape sys. tem right of your side. Car adaptable for 3 -way operation. Push-button controls permit easy, one-hand operation. Easy-Matic assures perfect recordings by adjusting recording level as you record. VU meter gives input/output level and battery condition. Contour sound to suit your taste with fully continuous tone and volume controls for each channel. Two heavy.duty $5^{\prime \prime} \times 3^{\prime \prime}$ side-firing speakers give full-range sound. Also has stereo heodphone jack for private listening. Solid-state engineering provides rugged durobility. Comes in midnight block with silver trim. Complete with pre-recorded cassette, 6 " $D$ " batteries and remote mike with stand. Size: $10^{\prime \prime} \mathrm{H} \times 12^{3 / 6} 6^{\prime} \mathrm{W} \times 4^{\prime \prime} \mathrm{O}$. Shpg. wt. 12 lbs .
No. 31A2608. Model RS-254S. Each
Optional Car/8001 Cord for RS-254S plugs into cigarette lighter.
$\$ 16.95$ No. 31A2586. Model RP-915. Each oor RS-254S No. 31A2653. Model RP-8098. Poir

## Panasonic <br> MODEL RQ-222AS

## "THE CLIFTON" <br> BATTERY/AC CASSETTE RECORDER

- Built-in condenser microphone.
- 3-digit tape counter.
- Transistor Governor motor.
- Car adaptable.


## $\$ 7995$

Sinall in size, clean in design. Push button operated with continuous tone and volume controls. Built-in condenser microphone eliminates need to hold mike picks up clearly from far away. 3-digit tape counter helps you find just the spot you're looking for. Vu meter doubles as battery tester. Easy-matic prevents overload "bursis" when recording. 3" PM sreaker. Frequency response $70-8500 \mathrm{~Hz}$. Transistor governor motor for constant tape speed. Auto stop disengages drive mechanism at end of tape. Complete with pre-recorded cassette, $4^{\circ} \mathrm{C}^{\prime \prime}$ cells. AC cord, carrying case and earphone In gift box. $51 / \mathrm{s}^{\prime \prime} \mathrm{H} . \times 91 / \mathrm{m}^{\prime \prime} \mathrm{W} . \times 1 \%{ }^{\prime \prime} \mathrm{O}$. Shpg. wt. 4 lbs . $\$ 79.95$ No. 31A2601, Model RQ-222AS. Each.,
No. 31A2586. Car/boat cord, Model RP915. Each
.519 .95

# - Qin? MONHC MODEL RQ-2125 

## POCKET SIZE AC/BATTERY CASSETTE RECORDER

## - Built-In Condenser Mike <br> - Car/Boat or AC Adaptable

Extra-small size ond suoer-tough ruggedness made possible by integrated circuitry. No need to hold or toik directly into a mike, built-in condenser microphone picks up sounds loud and clear even from across the room. Easy to operate with just one hand because controls ore push-button operated. EasyMatic sets the precise recording level far periect recordings. Auto-stop returns all mechanisms to stop position to protect botteries, pinch roller, copston, etc. when tape runs out. Hos VU meter that doubles as a battery checker. Monitor as you record by using earphone. Midnight black and silver. Complete with pre-recorded cassette, 4 size "AA" alkaline botteries, earphone, corrying case, gitt box and $A C$ adapter/recharger. Size: $4^{\prime \prime} H \times 6 / \xi^{\prime \prime} W \times 13 / 40$. Shpg. wt. 5 tbs.

## No. 31A2630. Model RQ-212S. Each

$\$ 69.95$
Optional Car/Boot Cord. Parmits operation from cigarette lighter. No. 3 |A2586. Model RP-915. Shpg. wt. 1 lb. Each
$\$ 16.95$
Remote Microphone for RQ-212S.
No. 31A2651. Model RP-8162. Each
$\$ 4.95$
Rechargeoble Battery Pack for RQ212S.
No. 31 A2631. Model RP.9212. Each
$\$ 15.95$

## QQ <br> <br> "THE DEXTER" <br> <br> "THE DEXTER" <br> <br> AC/BATTERY CASSETTE <br> <br> AC/BATTERY CASSETTE RECORDER WITH BUILT-IN RECORDER WITH BUILT-IN AM/FM RADIO

 AM/FM RADIO}
## - Car Adaptoble for 3-way operation.

- Bulla-In Condenser Microphone.

A complete system of entertainment for you to carry anywhere. Car adaptable for 3-way operation. Built-in condenser microphone picks up sounds with exceptional clarity from across the room. Push-button controls for one-hand operation. Features 3 -position Easy-Matic recording For greatest versatility. Also has outo-stop to protect mechonism and sove batteries when tape runs out. AC bias and erose for highest fidelity recorded sound, slide-lever tone and volume cantrals, fast forward and rewind, safety-lock recard button, easy-load cassefte, battery/VU meter, digital tape counter, speaker/earphone monitaring, stide-rule radio tuning. AFC on FM, outo-sleep switch and built-in antennos. Other features include $4^{\prime \prime}$ PM dynamic speaker, FM MPX output and solid state engineering for durability. In midnight black ond silver. Complete with pre-recorded cassette and $6^{\prime \prime} \mathrm{D}^{\circ}$ batteries. Size: $10^{\prime \prime} \mathrm{H} \times 13-3 / 8^{\circ} \mathrm{W} \times 3 \cdot 3 / 8^{\prime \prime} \mathrm{D}$. Shpg. wt. $61 / / \mathrm{lbs}$.
No. 31 A2645. Model RQ-437S. Each
$\$ 89.95$
Optional Car Boat Cord for RQ-437S. Plugs into cigarette lighter.
$\$ 16.95$
No. 31A2586. Model RP.915. Each
Remote Mike for RQ. 4375.
No. 31A2651. Model RP-8162. Each
$\$ 4.95$


## "THE WALDEN"

## STEREO CASSETTE RECORDER WITH AM/FM/SW STEREO RADIO

- AC or Bottery Powered
- Stereo Cassette Recorder
- Stereo Play from Radio or Cassette
- FM/AM Stereo Rodio
- Shortwave Band


## \$ $149^{95}$

Versatility is the keyword in describing this camplete stereo recorder-rodio. Uses 6 "D" size batteries, included, operates on your AC outlet, or works from your car or boat with optional cord. The two units allow complete separation of the twin $5^{\prime \prime}$ PM speakers for best stereo reproduction. Records from radio or from microphone. 3 band receiver covers regular Broadcast, FM and FM sfereo, and the international Short Wave bands. The radio features integrated circuitry, lighted slide rule dial, fine tuning, continuous tone control. Recorder feotures push button operation, Easy-Matic automatic recording volume level, auto stop of end of cassette, fast forward and rewind and sound monitor system. All solid state, has 2 input jacks for mike, 2 for Aux. Output jock for earphone or external speaker. Meter operates for FM stereo, AM-SW signal strength and recording level indications. Fold together styling ond cassette storage for complete portability. Black with silver trim. Supplied with microphone, personal earphone, cassette and batteries. Size: $8^{\prime \prime} \mathrm{H} \times 12.9 / 16^{\prime \prime} \mathrm{W} \times 6.9 / 16^{\prime \prime} \mathrm{D}$. earphone, cassette
Shpg. $\mathrm{wt}, 13 \mathrm{y}$ ths.


# Uallensak mode 4055 

## AC/DC CASSETTE RECORDER KIT

## COMPLETE KIT

## $\$ 0.95$

Records and plays all monaural cassettes, ploys prerecorded stereo cassettes monaurally. Push-buttons for simple aperation, all solid state circuitry for long lasting relíability. Operates on 11 VVAC or car/boat battery. Built-in AC adopter and battery charger extend battery life. Record level may be controlled manually or automatically by recorder. Mike has remate motor switch. Also eatures tone control, battery condition meter, monitor output, 3-digit index counter with reset button. Reverts to "stop" position at end of tape. Push-button cassette eject. Complete with remote microphone, mike stand and pouch, power cord and earphone. Frequency response $50.10,000 \mathrm{~Hz} .8$ ohm monitor

No. 31 A2646. Model 4055. Each
$\$ 69.95$
No. 21A39. "C" Battery (requires 4) Each Model 4055 K Complete kit. Includes power cord, earphone, mike with stand and pouch, carrying case, DC adopter, Telephone pickup, batterles, oudio cable, "Scotch" High Energy C. 60 cassette. Shpg. wt. 6 lbs.
No. 31 A2648. Model 4055K. Kit Each
$\$ 84.95$

## Uollensak modet 4150 K <br> AC/DC CASSETTE RECORDER KIT

## $\$ 6995$

Extra durable construction and solid state circuitry result in long-tife operation. Op. er ates from $5^{\text {" }} \mathrm{C}^{\prime \prime}$ batteries, car/boat power or 110 VAC. All keyboard controls with push-button cassette eject. Completely shuts off at end of tape. Automatic record level is built-in ...no more guessing. Plays stereo cassettes in mono. Records and ploys mono cassettes. Battery indicator tells when it's time to replace. Frequency response $60-8,000 \mathrm{~Hz} .8$ ohm output. Complete with remote control mike, mike stand and pouch, AC power card, earphone, shoulder strap carrying case, telephone pickup, DC adaptor, "Scatch" high energy C. 60 cassette, batteries and patch card. Recorder size: $10-3 / 8^{\prime \prime} \times 51 / 2^{*} \times 2 \%$ ". Shpg. w.t. 7 lbs.

No. 31 A 2650 . Madel 4150K Kis. Each
$\$ 69.95$


## Ua\|lensak model 4155 K

## AC/DC CASSETTE RECORDER KIT WITH BUILT-IN MIKE

## COMPLETE KIT

## $\$ 74^{95}$

Latest solid state design with super-sensitive condenser microphane. Plays stereo cossettes in mono, plays and records mono cossettes. Keyboard controls for one-hand operation. Autamatic record level circuit eliminates guessing. Other convenience features include pause control, sliding tone and volume controls. cassette eject key, record indicator light and complete auto shut-off at end of tape. Runs on 6 " $C^{\prime \prime}$ batteries, 12 volt car/boat adaptar or 110 VAC 60 Hz . Complete with earphone, mike, mike stand and pouch, telephone pickup, input coble, "Scotch" high energy C- 60 cassette, batteries ond DC odoptor. Size: 10 $5 / 8^{\prime \prime} \times 101 / /^{\prime \prime} \times 2.7 / 8^{\prime \prime}$. Shpg. wt. 8 lbs.
No. 31 A2647. Model 4155 K . Kit Each
\$74.95

## Wallensak moot 401k

## CASSETTE RECORDER KIT WITH BUILT-IN CONDENSER MICROPHONE

COMPLETE KIT

## $\$ 99^{95}$

- Really tiny pocket-Size: $15 / \mathrm{m}^{\prime \prime} \times 65 / 3$ $\times 31 / 4$ ",

Completo Kit-Nothing Extra Needed. Review-back-space control.

The ideal cossette recorder for people on the go at home, office or school. A complete unit with all available accessaries included, truly enabling you to record and play back from practically any source. The unique design allows you to operate from the palm of your hand, anywhere, any place, any time. Feafures automatic level control, illuminated end-of-tape indicator, AC/bottery/car power source, buift-in recharge circuit, battery meter and dust-free cassette compartment. Frequency response $100-8,000 \mathrm{~Hz}$. Complete with carrying case telephone pickup. $A C$ adapter, 12 V . car/boat adapter, earphone, 4 " AA " batteries, remote mike, Scatch C- 60 High Energy Cassette and radia/phono audio connection cable. Sizes ith $\times 6 \% \times 44^{\prime \prime}$. Net wi. recorder only 1.6 lbs. Shpg. wt. 6 lbs.
No. 31A2649. Model 401 K . Each
$\$ 99.95$


# Uollensak 

MODEL 4350
PROFESSIONAL
PORTABLE
CASSETTE
RECORDER

## $\$ 99^{95}$

Specifically designed for desk top use yet portoble enough to take anywhere Great for business or school. Has keyboard controls for one-band operation. Use sensitive builf-in condenser microphone or remote control mic. Get troublet free recordings with auto-record-level or set desired level. Colibrated level meter also gives bottery strength reading. Also features pouse switch and switehable tape monitor function, volume and tone cantrols. 3 -digit tape counter with
reset and convenient cassette eject button. Camplefely returns to stop position of end of tope. Uses four "D" batferies or 110.117 VAC . Freq. response 80 $10,000 \mathrm{~Hz}$. Size: $13^{\prime \prime} \times 8-7 / 8^{\prime \prime} \times 3^{\prime \prime}$. Complete with AC cord, eorphone, remote microphone and mic. stand. Shpg. wt. 9 lbs.
No, 31 A7587.
Model 4350. Eoch

## Belle Howell MODEL 2397 CASSETTE RECORDER WITH AM/FM RADIO \$89 ${ }^{95}$

## Redi-Mic with coiled Cord in <br> - Automatic Record Level. <br> Handy Compartment. <br> - Mandy Carrying Handle.

Now you can enjoy the convenience of cassette music. make your own recordings and Itsten to $A M / F M$ radio. Alf in one completely portable and economical unit. Handy pop-up cassette ioading lets you play or record cassettes instantly. The built-in ready microphone and automatic record level control make it all so conventent. This radio/recorder has separate volume, tone and funing controls with $31 / 2^{\prime \prime}$ dynamic speaker for music the way you like if. Record directly from radio. Works on batteries or AC. Fre. quency response $60-8,000 \mathrm{~Hz}$. Aux in, ext. power and earphone jacks provided. Complete with 4 "D" batterles, C-30 cassette, built-in Redi-Mic microphone, earphone and $A C$ cord. Size: $9^{\prime \prime} \mathrm{H} . \times 12^{\prime \prime} \mathrm{W} \times 31 / 2^{\prime \prime} \mathrm{D}$. Shpg. wh. il lbs.
$\$ 89.95$


## Uallensak 3m



- FAST FORWARD MODE.
- PROFESSIONAL STYLING
- AUTOMATIC RECORD LEVEL FUNCTION.
- AUTO/MANUAL CARTRIDGE EJECT.

The Wollensak 8050A adds eight-track cartidge record and play to your stereo component system or console the ideal way to record your own eight track stereo cortridges with superb fidelity for both car ond home. Professional styling is set off by recessed ponels and ctean lines. Two large backlighted VU meters and slide lever recording level controls enhance the appeorance of this unit as well as its performance. 5 panel tights indicate record mode and progroms $1 \cdot 4$. Also hos pause control tor noiseless cueing; monual program selec-
for; cartridge eject bútion; record lever and switches for power. Automatic record level (ALR). Can be set to play one program or four ond efect automatically. Specifications: frequency response $30-15,000 \mathrm{~Hz} ; \mathrm{S}$ N ratio 52 db , wow and flutter $0.25 \%$; $A C$ bios, $A C$ erase; microphone and phono inputs, line autputs. Complete with four patch cords and one blank Scotch 8-track cartridge. Size: $17-3 / 8^{\prime \prime} \times 5^{\prime \prime} \times 10 \%^{\prime \prime}$. Shpg. wt. 20 lbs.
No. 31A5077. Model 8050A. Each
$\$ 159.95$

## Belle Howell <br> STEREO 8 TRACK PLAYER DECK MODEL $3150 T P D$



## $\$ 4995$

## PLAYS THROUGH STEREO

 RECEIVER OR MUSIC SYSTEMAdd the pleasure and convenience of 8 track stereo play to ony stereo system . .. and at minimum cost. Plugs into amplifier input and plays through your stereo recelver or music system, Lighted channel indicators show the chonnel now playing on the attractive blackout lighted face with bright trim. Specifications: Out put .45 volts RMS, channel separation 40 db , wow/flutter $0.25 \%$, signal to noise 35 db min ., THD $3 \%$ max. for $120 \mathrm{VAC}, 60 \mathrm{~Hz}$. Luxurious all wood cabinet with planked cherry graining and satin chrome front panel. Complete with 3 ft . output cables with RCA plugs. Size: $41 / 4^{\prime \prime} \times 6-7 / 8^{\prime \prime} \times 8-5 / 8^{\prime \prime}$. Shpg. wi. 4
No. 31 A7588. Model 3150 TPD. Eoch . \$49.95

Uollensak 3m
MODEL
$1500 S \$$
KEYBOARD CONTROL TAPE RECORDER
$\$ 194^{95}$

## RECORDS 4 HOURS ON 7 INCH REEL

A marvel of compactness using minioturized components and all-metal airplane constructiont. A superior monoural tape recorder. Provides up to 4 hours recording time on $7^{\prime \prime}$ reel using long play tape. 10 watts push-pull output is four times greater than ordinary recorders. Feafures keyboard control. Duol speed, operates at $33 / 6$ ips and $7 / 2$ ips; level recording meter, precision index counter.
Specificalions: Frequency response: $40.15,000 \mathrm{~Hz} .3 . \mathrm{db}$ \& $71 / 2$ ips; $40-8,000 \mathrm{~Hz} . \pm 3 \mathrm{db}$ $63 \%$ ips. Both speeds, signal to noise ratio 48 db . Wow and flutter less than $.3 \%$. Operates from $110-125 \mathrm{~V}, 60 \mathrm{~Hz}$. AC. Size $6 \% \times 10 \mathrm{k} \times 11 \mathrm{k} \mathrm{k}^{\mathrm{H}}$.
Complete with dynomic microphone, 2 reels (one with tape).
No. 310232 . Shpg. wt. 23 lbs. Net Eoch
$\$ 194.95$
QUANTITY USERS: Schoals, Churches, Institutions...
Write for speciol quote on any Wollensok Recorder in lots of 12 or more.

## MOLLENSAK FINIE ACCESSORIES

No. 31A5018. Tf404 Foot Control. Starts and stops tape with manual operatian. 1500 Se ries, W . 1 lb .
Each
$\$ 17.50$
No. 31A54. A-0458 Eorphone with pin plug, Wt. 8 or. Each $\ldots . . . . . . .$. . $\$ 10.50$
No. 31 A5S. A. 0455 Microphone Extension Cord. 15 ft . Wi. 12 oz.
$\$ 7.50$

No. 31 A5025. TSC405 Corrying Cose for 1500 series. Wi i ib.
$\$ 7.50$

## Fan?

## "THE GLENDALE" <br> COMPACT STEREO CASSETTE DECK

## $\$ 88^{88}$

This stereo cassette deck features push-button function controls, auto-stop safety for both the cassette and recorder deck, super efficient AC bias and erase $\bar{V}$ cuifs. Separate roll-bar volume controls on the two stereo channels with two VU recording level meters. Has cossette pop-up sofety lock record button, fast for word and rewind speeds. Pouse control. All solid state for complete dependa bility. Has jacks for 2 microphones and 2 aux. inputs, 2 line output iacks and one front mounted stereo-phione jock. Frequency response $40.12,000 \mathrm{~Hz}$. Case is midnight black with silver trim ond panel. Complete with 2 connection cords.

No. 31 A7584.
\$88.88

## QROQ MODEL RS-272US

"THE HARTSDALE"

## STEREO CASSETTE DECK WITH AUTOMATIC REVERSE $\$ 5 \square 95$

The Hartsdale combines the convenience of push-button control with all the features of complete 2 track stereo recording plus automatic reverse feature that ploys back both sides of the cassette without the need for manual flip over when side 1 has been played. Recording is conventional one way. Has outostop. AC bias and erose, separate record and playback volume controls, 2 record level meters and digital tape counter for exact cueing. Also has pause control, headphone monitor and noise suppressar switch. Separate forward and reverse playback buttons. Frequency response $30-12,000 \mathrm{~Hz}$. Has 2 mike and 2 aux. input jacks, 2 line and 1 headphone output jacks. Ponel is handsome black and silver, coblnet is wolnut wood. Supplied with 2 connection cords. Size: $4-3 / 8^{\prime \prime} \mathrm{H} \times 16-5 / 8^{\prime \prime} \mathrm{W} \times 10 \mathrm{H}^{\prime \prime} 0$. Shpg. wt. 13 lbs.
No. 31 A7577.
Model R5-272US. Each
$\$ 159.95$


## Uollensak model 4780 high performance stereo CASSETTE DECK WITH

$\square$ DO DOLBY SYSTEM

$$
\$ 25995
$$

The Wollensok 4780 with boid new console styling boosts plenty of advanced features. Oolby system dramatically reduces tape hiss for noisefree racording and reproduction even of the low (1.7/8 ips) fape speed of cassettes. Use stondard cassettes or toke advantage of new chromium oxide tapes with special equalization teature. High torque AC motot gives smoothest tape spoed. Cassette guardian prevents tope jamming if defective cassefte is played. End af tope shut-off puts machine in "stop" position at end of tape, Large, precision VU meters are db colibrated. Output level variable in playback mode. Memary rewind returns tope to preset location. Oust lid keeps dust from cassette compartment. Front jocks for headphones and 2 low impedance microphones. Keyboord opert ation with sliding controls. Complete with walnut bose, 2 pairs of audio cables and operators monual. Freq. resp. $30.14,000 \mathrm{~Hz} \pm 3 \mathrm{db}$ (hi output tape). Bias Frea. 110 KHz . Wow and flutter $0.18 \% 120 \mathrm{VAC} 60 \mathrm{~Hz}$. Sizes $17-3 / 8^{\prime \prime} \times 4-7 / 8^{\prime \prime} \times 101 / 2^{\prime \prime}$. Shpg. wt. 17 lbs . No. 31 A7585. Model 4780. Each.

## LOWEST PRICE EVER ON DOLBY CASSETTE!

# Pantsolic model rs-263us <br> <br> CASSETTE RECORDING DECK <br> <br> CASSETTE RECORDING DECK FEATURING THE DOLBY SYSTEM 

 FEATURING THE DOLBY SYSTEM}

A truly fine high fidelity stereo cossette recorder deck PLUS . . . the Dolby noise reduction system, used in most professional recarding studios to eliminate tope noise in commercial recordings. The Dolby system knocks out the hiss and results in recordings that are stortingly "real" and free of tope noise. The saft treble sounds are boosted before they are recorded, and when played back the boosted frequencies are reduced back to their proper level. The hiss is re duced with the rreble sounds with the result being cassettes that hiss no more. To insure that no distartion will be introduced when conventionally recorded cossettes are played the Dolby switch is furned to "out". Easy operation comes with pushing the cassette into the slat to lood, then simply push the eject button to remove the cassette. The RS-263US tokes full advantage of the newer recording tapes, odjusting bias for optimum level for these improved tapes. Has memory rewind. You press the memory button at the point you want to start playback and continue with the recording, then push the rewind button and the mochine returns the tape to the exoct point where the memory button was pressed. No more searching for the exact point where the recording begins Other feotures ore outomatic stop of the end of the cassette, lockable pouse button, two VU meters, record indicator light and convenient slide volume con trols. Headphone jack is on the front panel. Inputs ore for 2 mikes, 2 oux, with

# $\$ 77995$ 

outputs for 2 lines and headphones. Freq. response is 30 to $14,000 \mathrm{~Hz}$, using chromium dioxide tape, with signal to noise ratio better than 55 db in Dolby operation. For 120VAC, $50 / 60 \mathrm{~Hz}$. Size: $5^{\prime \prime} \mathrm{H} \times 14^{\prime \prime} \cdot \mathrm{W} \times 9-58^{\prime \prime} \mathrm{D}$. Shpg. wf. 12 lbs. Complete with 2 connection cords.
No. 31 A7597. Model RS-263US. Eoch
$\$ 179.95$

## Panasonic's

## "SUPER STRENGTH"

 HOT PRESSED FERRITE HEADS- 15 ips. broadcast standard speed and $71 / 2$. $39 / 4$ jps.
- A-Track Sterea Mono reel-to-reel.
- $25 \%$ broader frequeney range.
- Ten times longer tape head life.


## ${ }^{5} 329^{95}$

Panasonic's creative peopie unveil this superb recorder with honest and genuine pridel Hot pressed ferrite heads are five times harder, last ten times longer, permit wider frequency response, retain performance characteristics longer, and exhibit better recording characteristics than conventlonal permalloy recording heads. With is ips "air-time" speed, attractive walnut case. functional panel studded with professional and convenience features ... the RC-736US is a break-through in recorder engineering.
Count the featurest Pause control, 3 speeds selector switch for normal or "noise-free" tape, ultra-high 200 KHz blas for low noise, separate record and playback ampllfier for true echo, twa large VU meters, three separate mixer controls for voice over and music under effects, cueing control separate monitor each channel, sound-on-sound, sound-with-sound, hysteresis synchronous motor, 140 second fast forward and rewind. Frequency response $20-15,000$
Hz at $33 / 4 \mathrm{los}, 20-32,000 \mathrm{~Hz}$. at is los, signal-to-noise ratio 53 db, distortion less than $1.6 \%$. Hz at $33 / 4 \mathrm{lps}, 20-32,000 \mathrm{~Hz}$. at 15 los, signal-to-noise ratio 53 db . distortion less than $1.6 \%$, 10 inputs, sfereo line, dubbing, and headphone outputs.
120 V . AC, $167 / 8 \times 185 / 8 \times 73 / 4{ }^{\prime \prime}$. With dust cover, accessories, less microphone. Shpg. wt. 40 lbs
\$329.95

PROFESSIONAL TAPE DECK BREAK-THROUGHI


## Panssonic model rs-74ous

## QUADRASONIC STEREO TAPE DECK <br> $\$ 44995$

- 2 Hot Pressed Ferrite Record/Playback Heods
- Third Ferrite Erase Heod
- Recard and play 4 channel or 2 channel Stereo
- 4-Mike inputs for live Quad Recording

Here is the most versotile Quadrasonic deck so for. Records 4 channel tapes from either microphones or auxiliary sources, or plays 4 channel pre-recorded tapes as well as recording and play. ing conventional stereo topes. There are separate record level cantrols for each of the 4 channels, separate ployback controls, separation controls bolance front and rear speakers on each side.
Broader frequency range and 10 times longer head life characterize the MPF record/playback heads. Manitor from the tope or source with the separate heads. Easy tape threading system and automatic shutoff make for easy use, tope selector switch provides the correct bias for either conventianal or premium tapes. Reor panel has 4 line inputs, 4 line outputs and 4 scope outputs. Front panel has 4 mike inputs and separate headphone jacks for front and rear channels.
Has 160 KHz bias for low noise, 4 pale induction center float motor, 4 digit fape counter, auta shutoff, tape pouse, 4 VU meters, rewinds 1200 ft . of tape in 175 seconds. Freq. response $40.15,000$ Hz . at $33 / 4$ and $30-23,000 \mathrm{~Hz}$ af $71 / 2$ ips. Waw and flutter less than $0.10 \%$ WRMS $71 / 2$ ips, S N better than 50 db . 120 VAC 60 Hz . Wolnut wood cabinet is $15^{3 / 4} \mathrm{H} \times 16^{1 / 4} " \mathrm{~W} \times 8-3 / 8^{\prime \prime} \mathrm{D}$. With empty reel, 4 connection cords, 2 reel holders, spliting tape and head cleaning ribbon. Shpg. wt. 3) lbs.

No. 31 A5084. R5-740US. Each
$\$ 449.95$


# FAMOUS OOTEAC TAPE DECKS 

- 3 heads, 3 motors, 4 amplifiers.
- Sound-with-sound, stereo echo, built-in mixer.
- Automatic Stop.
\$32950



## - TEAC

## A-1200U OPEN REEL STEREO TAPE DECK

The TEAC A-1200U combines three quality motors and three precision heads to provide outstanding performance from a professional-quality sound source Its highlighting feature is an all push-button solenoid-operated system requiring only the slightest touch to command any function. 3 -head configura fion permits monitoring the tape itself, not lust the input. 3 motors give smooth and stable performance: I hysteresis sunchronous motor for capstan drive: 2 eddy current outer rotor motors for reel drive. Versatile recorder will provide sound-with-sound and stereo echoerfects. LINE and MIC inputs are indecendent to allow mixing signals from ditferent sources. 4-digit counter and large dual VU meter make operation easy. Walnut finish blends with any decor. Specifications: tape speed $71 / 2$ and $33 / 4$ ips ( $\pm 0.5 \%$ ); frequency response- $71 / 2$ ips, 30 to $20,000 \mathrm{~Hz}( \pm 3 \mathrm{db}, 50 \text { to } 15,000 \mathrm{~Hz})^{\prime}-33 / 4$ ips 30 to $15,000 \mathrm{~Hz}( \pm 3 \mathrm{db}$. 50 to $10,000 \mathrm{~Hz}) ; 5 / \mathrm{N}$ ratio 50 db : wow and flutter- $33 / 4$ ips $0.15 \% / 71 / 2$ ips $0.12 \%$; crosstalk 50 db channel to channel at $1,000 \mathrm{~Hz} / 40 \mathrm{db}$ between adjacent tracks at 100 Hz ; inputs-mic 10 K ohms, 1 mV imin. $/ / l i n e ~ 100 \mathrm{~K}$ ohms, 0.1 V (min.); output-10K chms (min. load imped.). IV. $117 \mathrm{VAC} 50 / 60 \mathrm{~Hz}$. Size: $93 / \mathrm{m"}^{\prime \prime} \times 151 / 2^{\prime \prime} \times 17^{\prime \prime} \mathrm{W}$. Shpg. wt. 50 lbs.
$\$ 329.50$
No. 31 A5058. Nodel A-1200U. Eoch
$\$ 23.00$
No. 31A5076. Dust Cover. Modef TZ-101. Each........
No. $31 A 5075$. Remote Pause Control. RC-101, Each
\$20.00

## 0 TFAC A-1230/A-1250 STEREO DECK

Now take full advantage of new low noise, high-output tape with bias control features which reset recording bias. Built-in MIC-LiNE mixer permits blending of various input sources, increasing the versatility of this machine. Dual capstan drive joins with synchronous capstan motor and separate furntable motors for smoothest tape excursion. Tape reel furntables are easily adjustable to eliminate rubbing of tape due to warped reels. All easily adjustable to eliminate rubbing of tape due to warped reeis. And fingertip-ease operation. Also has 4-digit tape counter; from-the-tape moni-fingertip-ease operafion. Also has 4-digit tape counter; from-the-tape moni-
toring; high frequency bias oscillator and easy-fo-read dual vu meter. toring: high frequency bias, oscillator and easy-to-read dual hu meter.
Specifications: tape speed $71 / 2,33 / 4$ ips: wow and flutter $171 / 2$ fps) $.08 \%$. Specifications: tape speed $71 / 2,33 / 4$ ips: wow and flutter $171 / 2$ ips) $.08 \%$ $133 / 4$ ips). $1 \%$; frequency resconse $-71 / 2$ ips $30-22.000 \mathrm{~Hz}(z 3 \mathrm{db} 40$ to $18,000 \mathrm{~Hz}-33 / 4$ ips $30 \cdot 16,000 \mathrm{~Hz}( \pm 3 \mathrm{db} 40$ to $12,000 \mathrm{~Hz}): \mathrm{S} / \mathrm{N} 55 \mathrm{db}$; Harmonic Distortion $1 \%$ at 1000 Hz (norm. level); crosstalk 60 db ; stereo separation 50 db . Size: $8^{\prime \prime} \times 151 / \mathrm{s}^{\prime \prime} \times 173 \mathrm{k}{ }^{\prime \prime} \mathrm{W}$. Shpg. wt. 45 lbs . No. 31 A5061. Modeł A-1230. Each
\$359.50
TEAC Model A-1250 is Jdentical to A-1230 but with Automatic Reverse feature in playback mode. Reverses by means of sensing foll for one-time or repeated reversing. Utilizing a three-head system with 2 playback heads and a unique new Erase/Record head.
$\$ 459.50$
No. 31A5062. Model A-1250. Each
Heavy "smoked" plexiglass dust cover (fits bothl. Shps. wt. 8 lbs. $\mathbf{\$ 2 . 0 0}$
No. $\mathbf{3 1 A 5 0 7 4}$. Model TZ-250. Each.................................. $\mathbf{2}$

## - P T A A O <br> 3300 NEW SEMI-PRO TAPE DECK

Just what you've been walting forl By using $101 / 2$ inch reels it is possible to record 120 popular songs on a single reel whthout using $1 / 2$ mil tape. Far and away the most impoisant lactor in lonk-orogram recording. Take advantage of high-output tapes too by switching the Bias Level Selector to "High". Then monitor directly from tape because this recorder has separate record and monitor amplifiers as well as the 3 -head system. Functions are ail solenoid operated and push-button controls are symmetrically arranged for one-hand operation. No more fumbling with reels... quick lock devices hold reels firmly with a flick-of-the-finger. Has autornatic shut-oft and 4digit counter. Walnut wood cabinet. Specifications: tape speed $71 / 2$ ips and $33 /$ ips ( $\pm 0.5 \%$ ): Wow and flutter $0.06 \%$ (at $71 / 2$ ips) and $0.09 \%$ (at $33 / 4$ (ps): Frequency Response $25-24,000 \mathrm{~Hz}( \pm 3 / 2 \mathrm{db} 30-20,000 \mathrm{~Hz}$ ) at $71 / 2$ ips, $25-16,000 \mathrm{~Hz}( \pm 3 \mathrm{db} 30-13,000 \mathrm{~Hz})$ at $33 / 4 \mathrm{ips} ; 5 / \mathrm{N} 58 \mathrm{db}$ Harmonic Distortion $1 \%$ at $1,000 \mathrm{~Hz}$ inorm, levell crosstalk 60 db at $1,000 \mathrm{~Hz}_{\text {; }}$ stereo separafion 50 db at 1 KHz . 117 VAC 60 Hz . Complete with empty reel, reel holder, inputyoutput connection cord, fuse. AC cord, rubber feet and instructions: Size; $91 / 4^{\prime \prime} \times 153 / \theta^{\prime \prime} \times 153 / 8^{\prime \prime} \mathrm{W}$. Shpg. wt. 47 lbs. No. 3145073.
$\$ 499.50$
Model $\mathbf{3 3 0 0}$. Each
$\$ 22.00$

## TEAC ${ }^{\text {moget }}$

NEW STEREO
CASSETTE DECK
WITH DOLBY SYSTEM

## ${ }^{2499^{\circ 0}}$

- Built in Dolby Noise Reduction System
- High Density Ferrite Heads - Lifetime guarantee
- Bias Switch - for low noise or chrome oxide tape
- Expanded Scale VU Meters


Open-reel performance is your with amazing ease of operation. Wide frequen. cy response, low distortion and expanded dynamic range combined to produce recordings of breathtaking clairity. Internal circuitry is so stable that colibration is not required. Dolby noise reduction system reduces tape hiss by as much as 10 dB in the higher frequency. Mike and line facilifies for internal mixing. Builtin headphane jack for saurce monitoring during recording. Hysteresis synchronous outer rotor motor for smooth stable tape movement unaffected by tine voltage variations and free of wow and flutter. Strobe taperun indicator lamp continuously indicates tape motion and direction. 3-digit pushbution reset index counter. Frequency resp. $30-13,000,30-16,000$ (chromium dioxide). $5 / \mathrm{N} 58 \mathrm{~dB}$ with Dolby. Wow and flutter $0.13 \%$. 117 VAC 60 Hz . Size $4-3 / 6^{\prime \prime} \mathrm{H}$ x $17^{\prime \prime} \mathrm{W}$ x $9-7 / 8^{\prime \prime} \mathrm{D}$. Shpg. wt. 14 lbs .
No. 31A7591, Model 250. Each

# ON FAMOUS RB/ CAR STEREO CASSETTE PLAYER WITH RECORD FEATURE! 



## REG. $\$ 109.95$ now 5699 ONLY

- AUTOMATIC SHUT-OFF \& EJECT
- HANDSOME CHROME TRIMMED METAL CASE
- RECORDS ON THE GO!

Lawest price ever on RCA cassette car stereo. Pertect for music on the go... In car, boat or travel-home. Plays all stereo cassettes, ejects cassette automatically at and of tape, eliminates wear on drive mechanism. Special safety teature includes an immediate ajoci for any defective cassatte before it can cause any problems to the unft thself.
More than just a playback unit. . .this machine records monaurally, right in the car with its own remote conirol'dynamic mike. Great for the student, businessman or anyone who needs to dictate on the go. Powerful audio output drives any speakers with full range
$(50 \cdot 10,000 \mathrm{~Hz}$ ) sound. Controls include volume. tone and balance with fast forward and rewind and special record interlock button to prevent accldenta! erasures. "Record"
 D. Shpg. wit 9 tos

Comes with microphone, Instructions and spectal theft deferent mounting hardware.
No. 38A2095. Model 129200. Less Speakers Ewch.............................. 59.95


## MODEL AC-5 COMPACT CASSETTE AUTO STEREO PLAYER

$$
\$ 139^{50}
$$

- Precision All-Solenoid Operation
- Automatic or Monual Reverse
- Wide Range Response with 8 watts (rms) Solid Power

Hondsome unit has plenty of features for the serious minded cassette fistener. Foremost ... TEAC quality with advanced lechnology in head and motor design incorporated with the newest techniques in tope handling systems. For example, all solenoid operated functions make lite easier while ossuring precision mavement of internal parts. Continuaus auto reverse permits replay of bath sides of cassette or reverseable at any time monually. Tape travel indica-
tors tell what direction tape is going. Super-power amplifiers make the AC-5 a real performer with 4 watts (rms) per channel, amazing power for a 12 volt system. Alsa features continuous tane control to suit your personal toste. Frequency response $40-10,000 \mathrm{~Hz} .12 \mathrm{VDC}$. Neg. only. Size: 4 y/4" $\mathrm{H} \times 7-3 / 8^{\prime \prime} \mathrm{W}$ $\times 0^{3 / 4}$ D. Shpg. wt. 10 lbs
No. 38A2099. Model AC.5. Less Speakers. Each
$\$ 139.50$

## (cis) <br> MODEL S-705A

## NEW! COMPACT AUTOMATIC 8 TRACK STEREO TAPE PLAYER

## COMPARE AT $\$ 59.95$

- Small Size-Big Power, 5 Wotts (rms) Cantinuous.
- Auto/Manual Pragram Selection.
- Swing-A way Dust Doar.

Fill your car or boat with the salid sounds of top quality 8 -track car stereo. Precision engineered for fost easy installation, features separate valume contrals for left and right channels for easy balancing of speakers. New thumb wheel type knobs for both volume and tone controls. Push button program selector permits manual choice of tracks or switches automatically for continuaus play of entire tope. Power light retls when tope is running. Dust door keeps internal mechanisms clean. Bia oower output is 2.5 watts (rms-not "peok" or "IHF" power). per channel. 12 VDC neg. onlv, 2.2 Amps. (max.) Freq. resp. 70 to $8,000 \mathrm{~Hz}$. Size: $21 / 2^{\prime \prime} \mathrm{H} \times 5 \mathrm{~S}^{\prime \prime} \mathrm{W} \times 7 \mathrm{H}^{\prime \prime} \mathrm{D}$.
No. 38A3001. Model S-70SA (Less speakers) Each
$\$ 39.95$


SOLIO STATE EAM STEREO

## Panasonic

## MODEL CX-325 SUPER COMPACT

## 8 TRACK CAR STEREO

## PANASONIC's MOST POPULAR 8 TRACK PLAYER!

## $\$ 4999$ <br> LESS SPEAKERS

- Lluminated Digital Pragram Indicatar
- Law Distortion Two-Stage Preamplifiers
- Small Size, Small Price, Big Sound

Panasonics CX. 325 compoct cartridge tape player offers economy and superiar quality. Small enough to fit in the glove comportment or hide away under any dashboard yet attractively designed to complement your car interior. Has bigunit features like fwostoge preamps and Ponasonics vertical head-movement system that provides the mechanical and electronic precision necessary for truly hisfidelity stereo performance. Infinitely variable sliding volume and tone con-
trols to suit your taste. Changes tracks autamatically and has push-button switch for manual selection. Illuminated program indicatar. Swing-away dustdoor keeps internal mechanisms cleon. Frequency range $70-10,000 \mathrm{~Hz}$. Impedance $4-8$ ohms, 12 VDC Neg. ground only. Sizet $21^{\prime \prime \prime} H \times 5-3 / 8^{\prime \prime} \mathrm{W} \times 6.3 / 8^{\prime \prime}$ D. Shpg. wt. 7 lbs. No. 38A3000. Model CX-325. (Less speakers) Eoch
$\$ 49.99$

DELUXE 8-TRACK STEREO TAPE PLAYER

- Fast forword \& Repeat Controls
- Anti-Theft Alarm
- Automatic Head Cleaner


MODEL S-1000

Now get full fidelity stereo in a top quality 8 -track tope player. Produces rich concert hall reolism and powerful bass respanse. Exclusive last forward and repeat controls let you hear your favorive selections as often as you like with. out waiting for the entire cartridge to play. Has decorative and functional calor coded channel indicator lights. Crosstalk between tracks can be eliminated with fine tuning lever. Volume, tone, and bolance controls all have new mod-
ern slide diats. Other features include automatic or manual program selection. stip-awoy dust door and onti-theft alarm. Automatic head cleaner removes dirt from heods each time o contridge is inselted. Power output 3.2 watts ( rms ) per channel. Freq. resp. $45 \cdot 10,000 \mathrm{~Hz} .12 \mathrm{VDC}$ neg. anly, (2.) Amps. Max.) Size: $2^{\prime \prime} \mathrm{H} \times 5.7 / 8^{\prime \prime} \mathrm{W} \times 7.3 / 8^{\prime \prime} \mathrm{D}$. Shpg. $\mathrm{w}^{*} .7$ lbs.
No. 38A3002. Model S-1000 (Less Speakers). Each
$\$ 59.95$

# GRETT <br> <br> BUYS ON AUTO STEREO 

 <br> <br> BUYS ON AUTO STEREO} Panasonic

MODEL CX-880 8-TRACK CAR \& HOME STEREO PLAYER

## MODEL CJ-88H LOCK-IN CAR BRACKET

- Scape-Screen Program Indicatar
- Red/Green Speaker Balance Indicatar


## ${ }^{5} 109^{99}$

## - Retractable Carrying Strap

Ponosonic's great new ex-880 is a superbly engineered stereo tope ployer. Special repeat button lets you replay selection you've just heard. Slide controls for valume, tone and balance PLUS a red and green balance indicator that makes exact speaker balance easy. Compact, lightweight, specially designed for portability, the CX-880 is equipped with a carrying strap that rewinds into the chassis when pressure is released. Slides conveniently into mounting bracket (included). Freq. range $70-10,000 \mathrm{~Hz}$. Imped. 4.8 ohms. Size: $3^{\prime \prime} \mathrm{H} . \times 8 \mathrm{k}{ }^{\prime \prime} \mathrm{W}$. $X 71 / 2 " D$. Shpg. wt. 8 lbs.
No. 38A2085. Model ©X-880. (Less speakers). Each . ........ \$109.99 Extra Mounting Bracket for above. Tough metal construction and key operated lock for top security. Enables you to transter player to second car, camper or boat.
No. 38 A3004. Model CJ-88K. Eoch
$\$ 24.99$


- Tatal In-Car Entertainment including AM Radia


## ${ }^{5} 119^{95}$

- Fine Tuning Aligns Heads ta ANY 8-Track Tape
- Sterea FM with AFC

Most complete car stereo unit we've seent Has fully-outomatic 8 -track stereo tope system for uninterrupted listening. Has outomatic or manual selection of program with program indicators. Also feotures antomatic head cleaner and fine funer for head alignment. Just the flick of a switch gives your AM or FM radio. Multiplex FM gives wide-seporation stereo FM while AFC locks-in stations, prevents drift. Illuminated AM/FM dial scale. Thumb-wheel controls for tuning, balance, volume and tine tuner. Seporate L\&R volume controls. iwitches for program select, tope/rodio, low/high tone and program select. Freq. resp. $70 \cdot 10,000 \mathrm{~Hz} .3 .5$ watts (rms) per channel, imped. 4 ohms, 12 VDC neg.


## Panasonic <br> MODEL CQ-880 CAR STEREO TAPE PLAYER WITH FM MULTIPLEX

## $\$ 139^{99}$

Has a host of feafures. Highly sensitive FM multiplex picks up stations with amazing clarity. Hos distont/local switch to help prevent over-driving by highpower stations. Kandy thumb-wheel tuning dial permits pinpoint funing of stations, Stereo light tells when stereo FM signal is broadcast. Has sharp-looking circular FM dial and program indicator light on a unique scopescreen. Slidelever volume, tone ond balance controls. Power eject button, FM tape button. Also features dust door and retractable carry strap. Never any fuss with mounting or wires when used with slide-in lock mount (included). Freq. range: $50.10,000 \mathrm{~Hz}$. Imped. $4-8$ ohms. Size: $3^{\prime \prime} \mathrm{H} . \times 8 \mathrm{k} / \mathrm{WW} . X 7 \mathrm{l/2"D}$. Shpg. wt. 8 lbs. No. 38A2086. Model CQ-880. (Less speakers).

## Each

$\$ 139.99$
No. 38A3004. Model CJ-88H. Extra Mounting 8rackef for above. Tough metal construction and key operated lock for top security. Enables you to transfer player to second car, comper or boat.
Each
$\$ 24.99$


# REI 

NOW! 4-CHANNEL SOUND FOR YOUR CAR!!! 4 CHANNEL 8 TRACK TAPE PLAYER

> COMPLETE WITH MOUNTING BRACKET LOCK AND KEY

$$
{ }^{\$} 11995
$$

Get in-car sound like you've never heard before! ........ 4 separate tracks of sound through four separate speakers to surround you with music that seems to put you right on stage. Get in on the new 4-chonnel scene with the RCA Q-8 car tape player. Plays stereo or 4 -chonnel 8 -track tapes. Choases mode outomatically and lights stereo/quad indicator. Extra features include: quick-release mounting bracket with lock and key. Separate tone and volume controls for front and rear, plus progrom button. Slide lever bolance control and 4 seporate progrom indicotors. Big power output drives any set of ( $3-8 \mathrm{ohm}$ ) car speokers. Frequency range $40 \cdot 10,000 \mathrm{~Hz} \pm 3 \mathrm{db} .12 \mathrm{~V}$. negotive only. Size: 2$5 / 8^{\prime \prime} \mathrm{H} \times 101 / \mathrm{m}^{\prime \prime}$ W. $\times 71 / /^{\prime \prime} \mathrm{D}$. (in bracket). Shpg. wt. 7 lbs. No. 38A2096. Model 12R800. Less Speakers. Each



IN YOUR CARI IN YOUR BOATI IN YOUR TRUCKI

- 7 tuned ciecuits for fine sensitivity
- Automatic volume control
- 2.5 watts audio output - heavy duty $4 \times 6$ " ceramic magnet speaker. Most excitin: miversal auto radio bargain anywhere! Modern all solid-state circuitry makes possible finest AM performance at a fraction of former car radio prices. with no sacrifice in quality. appearance or features that radio prices inge with no sacrifice in quality. appearance or features that make radio istening pleasure, such as effective AVe to prevent fading and trim detaches completely for custom in-dash mount. So smali that it just can't


## OUR BEST AUTO RADIO BUY!

FITS ANY CAR, TRUCK OR BOATI

## 7 TRANSISTOR AM RADIO

## \$ 1095 PRICED WaY below THE MARKET!



Custom Mounts IN Dash. Has removable chrome and black escutcheon, chrome knobs


Compact! Also mounts UNDER Dash. Has bullt-in heavy duty speakes and provision for external speakes.
get in the wav-Only $65 / 8^{\prime \prime} \mathrm{W} . \times 5^{\prime \prime} \mathrm{D} . \times 2^{\prime \prime} \mathrm{H}$. Has fine tone from built-in $4 \times 6^{\prime \prime}$ speaker and provision tor external 8 ohm speaker. Ideal for car, truck and boat installation where a remote speaker is destred. Operates with minimum battery draln from 12 volts negative ground. Shpg. wt. 5 lbs .
No. 38A208. Model X-203. Each

## CONVERTS ANY CAR RADIO TO FM EASILYI

 FM CONVERTER- Plugs right in . . . No specisl wiring.
- Drift-Free Regeption with AFC.
- Use Existing antenna.


The inexpensive and practical way to complete car sound entertainment with the best of both AM $G$ FM. No need to replace present AM radio with an expensive AM/FM model. Requires only power and antenna connections, easy to install. Thumb wheel knobs for on/aff, afc. local/dx and tuning. Black grained leatherette face plate. 12 volt neg. ground.
No. 38A230. Shpg. wt. 6 lbs.
Model FT-60. Esch...
\$29.95

## UNIVERSAL PUSH-BUTTON AM/FM AUTO RADIO

## Mfg. Suggested List \$69.95

- 6 or 12 Volt Negative Ground - Removable Front Plote

- Fits in Dash of all VW's - Push-Button with AFC

Most versatie radio an the markel. Specially designed for 6 or 12 volt operotion. Needs no adoptors. Equipped with two face-plates to fit all Volkswagons through '71. Fits right in doshboard of many Amer. made cars. Also greas os on under-dash radio. All pushbution operation for greatest convenience. Super sensitive AM/FM funers pick-up distant statlons with amazing clarity. Rugged solid state construction for instant-on performance, low-power-drainage and cool operation. Complete with wide-range $5^{\prime \prime}$ speoker and chromel leatherette
mounting plates.
No. $38 A 232$. ModeI WAF-609. Each
$\$ 49.95$


## BEST SELLER UNIVERSAL-MOUNT AM/FM-MPX PUSH-BUTTON CAR RADIO

- Adjustable Control Shofts-Fits Mast Cars
- Integrated Circuitry for Low Noise Reception
- Pushbutton Operation

$$
\$ 99^{95}
$$

- Complete with 2 Heavy Duty $5^{\prime \prime} \times 7^{\prime \prime}$ Speakers
Now is the time to put FM stereo right in your dash. Adjustable control shafts slide in or out to fit pre-stamped dashboard mounts an most cars. Mounting centers ore voriable from $5-5 / 32^{\prime \prime}$ to $6.7 / 8^{\prime \prime}$ between shafts. All solid-stote circuitry and IC's give great sensitivity and low noise performance for strongest reception, even in fringe areas. Has 3 pushbuttons for FM and 2 for AM that you pre-set to desired stations. Also has slide-rule dial manual tuning. Plays AM through one speaker, FM and FM Mpx through both. Stereo indicator light for FM. Complete with heavy-duty $5^{\prime \prime} \times 7^{\prime \prime}$ speakers and wiring. Shpg. wt. 9 lbs.
No. 38A234. Model RX-14 Each
$\$ 99.95$
No. 38A235. Model RX-UK. Under-Dosh Face Plate and mounting Brackef for above unit Each


## AUTOMOTIVE STEREO SPEAKERS



TOP QUALITY STEREO SPEAKER KITS

## FOR AUTO, BOAT, TRAILER OR HOME MUSIC SVSTEMS

## DELUXE 5" FLUSH MOUNT MATCHED SPEAKER KIT

Fine appearance, beautiful tone. Best we've seen for the money! Wide freq. resp. for the finest reproduc俍 4 watts, 8 watts peak, 3 or. ferrite magnet, 8 ohm V.C. Maisture resistant. With 211 -ft. clip on leads. Shpg. wt. 4 lbs.
(1) 34 A 402 . With Deluxe Chrome Sanp-On Grilles. Per Pair
$\$ 9.95$
$\left\{\begin{array}{l}1 \\ 24 \text { A402. With Deluxe Chrome Sanp-On Grilles, Per Pair } \\ 28 \text { A6009. With Deluxe Black Leather Grain Grilles. Pair }\end{array}\right.$
512.95

10 OZ. CLOTH EDGE SUSPENSION $5 \%$ SPEAKERS
Big powerful 10 oz . ceramic magnets. Dynamic power handling capacity of 10 watts eoch. Glant precision $1^{\prime \prime}$ voice coil permits high-volume with low distortion. Whizzer cone issues a full range of high frequency sound. 8 ohms. Shog. wt. 6 lbs.

1) 34 A492. With Deluxe Chrome Snap-on Grille. Poir
$\$ 17.95$
(1) 34A492. With Deluxe Lhrome Snap-on Grille. Poir . Wärile. Pair
 waterproof cloth edge speaker.
No. 34A501. Pair
$\$ 29.95$
(2) 12 Oz . Cloth Edge Suspension - Fully waterproot. Can be fully submerged in water with no dam. age to voice coil ar cone. Delivers full rich, dynamic response. $1^{\prime \prime}$ voice coil. With whizzer cone. 8 ohm. 20 watts. Shpg. wt. 7 lbs .
No. 34A504. Deluxe Black Leather Grain Padded Snap-on Grille. Pair
$\$ 27.95$
(3) WEDGE STYLE MATCHED STEREO SPEAKER Kit

Universal Mount. No holes to cut-mounts on the surface. Fits on rear window shelf, under dash, under front seat or side kick plates. Tough resilient plastic enclasures protect speakers and provide exceptionai boffling for good bass response. With 5 watt 8 ohm speakers. Size: $7 / 3 \times 6-3 / 8^{\prime \prime}$ bose. Max. hgt. 3-5/8". Approx. is f . speaker lead. Wt. 3 lbs.
No. 38A6002. Special Pair for
$\$ 6.95$
(4) SURFACE MOUNT DELUXE 5-INCH SPEAKER

Excelient for cars, station wagons, busses, mobile homes, boots! Mounts on kick ponel, rear deck, walls, ceiling or any other flat surlace. Features extra heavy duty 15 W . RMS $5^{4}$ weotherproof valumetric speaker with 3 oz . ceramic magnet and 8 ahm voice coil. Black rattle-proof housing with bright metal trim. Overall mtg. size $6^{\prime \prime} \times 7 y_{4}^{\prime \prime} \times 3-1 / 8^{\prime \prime}$ max. depth. 12 ft . leads. Wt. 3 lbs.
No. 34A431. Poir.
(5) UNiVÉRSAL SÚRFACE RECESS OR HANG-ON MOUNT

Chasen for performance, these fulf range loudspeakers will complament any auto, boat or camper stereo sound system. Engineeted by RCA to handle 7 watts of audio power. Special cabinet design couples plenty of rich bass with brittiont upper range fidelity for an overall response of $50 \cdot 10,000 \mathrm{~Hz}$. Converts from flush to surface mount by simple removal of mid-housing. Inpedance 3.2 ohms. Cabinet size: $63 / 4 \times$ $61 / 2 \times 41 / 22^{\prime \prime}$. Speaker size $5 \frac{1 / 4}{}$. Shpg. wi. 12 lbs.
No. 38A2097. RCA Model 12 R400. Per Poir
$\$ 13.75$
12 oz. Waterproof Cloth Edge Speaker with universal surface, recess, or hongon mount. $100 \%$ fully waterproof. Can be fully submerged in water with no damage to voice coil or cone. Delivers full, rich dynamic response. 1" vaire coil. cloth edge suspension, with whizzer cone. 8 ohms. 20 watts. No. 34 ASO5. Shpg. wt. 7 lbs. Pair
\$29.95

## (6) 10 OZ. MAGNET SURFACE MOUNT SPEAKERS


(3)
"The acoustically perfect wedge". Sound engineered "funed' enclosures hove precision baffle holes for exciting bass response. 10 oz. magnet and high temperature voice coil odd to overall respanse with power handling capacity of 30 watts. Salid back makes for best enclosure. With wire. 8 ohms. Shpg. wt. 4 lbs.
No. 38A6019. Pair
$\$ 19.95$

## (7) DELUXE $6 \times 9$ INCH 14 OZ. SPEAKER

14 o2. cloth edge air-suspension speaker. Dual cone. Heavy mognet gives the wide response and power handling wonted for today's automotive stereo. $1^{\prime \prime}$ voice coil with metal grille. 8 ohms. Shpg. wt. 2 lbs. No. 34 AA 473.
Each

## 

$\$ 12.95$
Plush padded surface with leather grain vinyl enriches the frequency response. Add elegance to any auto. Shpg. wi. 1 lb .
(8) $51 / 4$ Inch Speaker Grilles

No. 38A6020-Block No. 34A506. White No, 34A507.Wood-Grain
YOUK CHOICE PER PAIR
(9) No. 34A508 $6 \times 9$ Inch Speaker Grille. Each
(10)

(12)

Decorative grilles fit standard $5 \times 7^{\prime \prime \prime}$ and $6 \times 9^{\prime \prime}$ speakers. Shpo wits
No. $38 A 6015.5 \times 7^{\prime \prime}$. Chrome. Each ....... $\$ 1.69$ No. $38 A 6017.6 \times 9^{\prime \prime}$. Chrome. Each ........ $\$ 1.69$ No. 38A6016. $5 \times 7^{\prime \prime}$. Gray. Each .......... \$1.49 No. 38A6018. $6 \times 9^{\prime \prime \prime}$. Gray. Each .......... . $\$ 1.49$ (i I) DELUXE AUTO REAR SEAT SPEAKER KITS
Features new heavy duty $6 \times 9^{\prime \prime}$ speakers that flawlessly reproduce the full tonal range一excellent for Hi-fi FM as well as finest reproduction of AM programs. Designed to mount in shallow space, requires a depth of $23 / 4$ ". Kit includes 1.47 oz. $6 \times 9^{\prime \prime}$ speaker, chrome grille, hardware, vari-control for under dash mounting, wiring and simple instructions. 10/20/40 ohm. Shpg. wt. 4 lbs.
No. 38A6004. Kit with Deluxe $6 \times 9^{\prime \prime} 7$-Watt Speaker. Complete
$\$ 7.95$
Kit with Twin-Cone with 5.5 o2. $6 \times 9^{\prime \prime} 10$-Walt Speaker. Especially wide-range reproduction with still more power to hondle the high peak audio output of modern auto radios. 10/20/40 ohm.
No. 38 A6005. Complete Shpg. wh. a lbs.
(12) SUPER POWERFUL 20 OZ. $6 \times 9 \because$ SPEAKER

Uual cone. Extended frequency response $40-16,000 \mathrm{~Hz}$. 25 watl power rating. Resonance 50 Hz .8 ohm. Weather resistant construction.
No. 34A502. Each
No. 34AS02. Each .a. .......
20 02. $6 \times 9^{\circ 1}$ Rear Deck Speak
$15^{\prime}$ wire, mig. hdwe., instructions.
No. 34 A503. Each

## 4-CHANNEL STEREO ADAPTOR FOR YOUR CAR



- easrto install

PRE-WIRED COMPLETE EASY TO OPERATE

- PRE-WIRED COMPLETE

4-channel car stereo adaptor converts and synthesizes any existing 8-track player, cassette tape piayer or FM multiplex radio. Just add two speakers (see page 49 for extra speakers). No need to modify existing system. Complete with all hardware and instructions. Shpg. wt. 1 lb . Highest quality mport of Japan.
No. 3842094. B-A Special Low Price
$\$ 9.88$


# STEREO UNIT <br> SLIDES IN AND OUT OF LOCK-MOUNT EASILY TO STORE IN TRUNK OR TAKE IN YOUR HOUSE 

## LOCK MOUNT MAKES YOUR AUTO STEREO UNIT THEFT-PROOF!

- Positive or negattve ground 6 or 12 V .
- Prevents the theft of car stereon.
- Makes unit removable with key. No wires.
- Makes any car stereo portable.
- Takes just minutes to install.
- Adjustable and adapts to any car stereo, radio or CB unit.
- Recommended by insurance companies.

Size: $61 / 2^{\prime \prime} \times 71_{0^{\prime \prime}} \times 1^{\prime \prime} \mathrm{H}$.
Wt. 2 lbs.
\$14.95
No. 3842038. Complete Unit
Male Part Only. To mount in another car, camper, boat, etc. so your stereo player can be instantly changed from one to the other. No. 3842039. Each

## UNIVERSAL CAR STEREO

 POWER CONNECTORCan be assembled into 4 or 5 prang configurafions to mate all car stereo receptacles. Includes fuse and holder. Instructions included. Wt. I $1 / 2$ oz.

No. 3848018 . Each
$\$ 3.95$



Engineered and built for lasting top performance. Triple chromeoplated bross tubing. Completely waterproot, rattle proof construction. Shpg. wt. I lb.

| fig. | Stock No. 38448 | Description <br> Ball 23" to $53^{\prime \prime}$ | Mfg. List 34.95 | Net Each $\$ 2.88$ |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 38 A24 | Swivel Spring $23^{\prime \prime}$ to $58^{\prime \prime}$ | 7.95 | 3.95 |
| 3 | 38 A22 | Side Cowl $23^{\prime \prime}$ to 54" | 6.95 | 3.95 |
| 4 | 38 A39 | Volkswagen 33" to 52" | 6.95 | 3.95 |
| 5 | 38 A236 | 65.73 Ford exact replacement $23^{\prime \prime}$ to $53^{\prime \prime}$ | 6.95 | 3.95 |

Far superior to any ordinary ahtenna. Increases range because antenna is electeically lengthened by the built-in coil. Does not detract from fine appearance. With all-angle swivel base and $48^{\circ}$ lead. Shpg. wi. I lb. $\$ 6.95$

## EXTENSION LEADS-FINEST COAX TYPE

[^1]No. 38 A8006. 15 ft . Extension. $W t$. $11 / 2 \mathrm{tb}$. Eoch

# RADIOS TO GO WHERE YOU GO!! 

Panasonic
in EXCITING NEW COLORSI
"TOOT-A-LOOP"
TRANSISTOR AM PORTABLE RADIO

WEAR IT ON YOUR WRISTI

## USE IT

AS A
tABLE
RAOIOI


Panssonic's newest, wildest. craziest AM portable! Wear it on your wrist like a bracelet - or twist it to sit on table top. Comes in choice of 4 vivid colors complete with letters and decals to personallze any way you please. Delivers big, full sound - opened or closed - from full-range dynamlc speaker. Built-in ferrite antenna assures excellent reception. All solid state. Cift boxed with earphone ond battery. wt. I lbs.
No. 36A6530-White. No. 36A6532-Red. Your Choice \$12.88
No. $36 A 6531$-Blue. No. 3646533 —Yellow. Each

## Magnavox

$$
\begin{gathered}
\text { MODEL } \\
\text { IO2O } \\
\text { "SOUND } \\
\text { CAPSULE" } \\
\text { AM } \\
\text { RADIO } \\
\$ 995
\end{gathered}
$$



The shape and sound of tomorrow ... today! Fantastic to see and great to hear, the Sound Copsule takes off where other portobles just begin. Brilliant in sparkling red, white or blue, is anly $41 / 4$ " long and $41 / 4$ " in diameter. Features room filling sound from your favorite AM station, with direct funing dial. Has built in Ferrite Rod antenna and outamatic volume contral, even has a case for its earphone. High impoct plastic case for rugged, take-olong listening. Camplete with earphone and batteries. Shpg. wt. $1 / 2 \mathrm{lb}$.
No. 36A2043. Model 1020. Each

Panasonic
MODEL
R-70
"BOLERO"
AM PORTABLE RADIO

## $\$ 10^{88}$

Fun foving spherical style in choice of 5 vibrant colors. Has unique easy grip controls and handy carrying chain. Battery powered. Goes where you sol Enioy sensitive AM reception of all your favorite statlons, Bults-in forrite core antenna pulls in both local and distant stations. $21 /{ }^{\prime \prime}$ " PM dynamic speaker delivers rich sound in full tonal range. 5olld state ongineered. Com plete with battery and earphone, W . 1 lb .
No. 36A504-Red. $\quad$ No. 36A2015-Yollow.
No. 36A505-Blue. No. 36 A2016 Creen.
No. 36A506-White.
Your Chole Each
$\$ 10.88$


Slip one of these performance packed portables in your pocket or purse and hove the world an a string (Really on a chain)! Styled far the young of heart. this bouncy yo.yo radio steals the scene wherdver you go. Only $4 \frac{1 / 2 "}{}{ }^{\prime \prime}$ in diameter and 1 1/4 h high in its high impact plastic case. Builf in Ferrite Rod ontenno and outomatic volume control assures tap radio reception. Complete with batteries, earphone and carrying chain. Shipping wt. $1 / 2 \mathrm{lb}$.
No. 36A2044. Model 1014R. Red
No. 36A2045. Model 1014Y. Yellow
Your Choice. Each


Pocket-size AM-Portable in 6 crazy colors. Battery operation. Built-in ferrite core antenna, $21 /{ }^{\prime \prime}$ "PM dynamic speaker. Easy-see vernier tuning dial. Earphone/external speaker jack. Complete with 9 volt phone external spacker jack. Complete with 9 vo
No. 36A2049-Black. No. 36A2052-Blue. No. 36A2050-Red. No. 36A2053-Green. No. 36A2051-White. No. 36A2047-Purple.
Your Choice Each
$\$ 10.88$

Panasonic


Modular design, offset by sculptured detochable pedestal base. Perfect for desk, table ... or carry anywhere. Battery operated. Built-In ferrite care antenno. $2 \mathrm{k} / \mathrm{u}^{\prime \prime} \mathrm{PM}$ dynamic speaker. Earphone/external speaker jack. In bright white with jumbo numerals. Solid-state engineered. Completo with Panasonic 9 valt battery, personal earphone. pedestal, and gift box. Shpg. wi. 2 lbs. 14.88 pedestal, and gift box
No. 36 2046. Each


## AC/BATTERY

"ELMHURST* AM PORTABLE RADIO
Handsome AM portable radio with dual face tun. ing dial. Built-in ferrite core antenna. Ulita sensitive reception. $21 / 4$ " PM dynamic speaker. Power on-off indicator. Complete with Panasonic 9 -volt battery, A.C. Power card, handy carrying strap, earphone and gift box, Wt. 2 lbs.
No. 36A2041-Black Your
No. 36A2042-Red Choice
No. 36 A2048-Green Each.
$\$ 16.88$

## Panasonic lightweight portables

## Panasonic

SOLID STATE
MINIATURE FM/AM PORTABLE RADIO This luxury miniature AM/FM radio is tastefully designed in your choice of beautifully accented in sliver. The easy to see vernier tuning dial permits into see vernier tuning dial permits instant AM or FM station selection. FM telescopic whip (which swivels out of way when not in use) and AM ferrite core antennas puil in both local and distant FM and AM stations loud and clear through the heavy duty $21 / 4^{4}$ speaker for rich full bodied sound.
 with personal earphone for private listening, carrying strap and 9 V battery. Shpg. wt. 1 lb .
No. 36A3524. Model RF511-Black.
No. 36A3525, Model RF511. Whit.
Your Choice Each............ $\$ 19.88$


## Panasonic

FM/AM PERSONAL PORTABLE RADIO

- Biftery or AC Operation.
- Rellable Intezrated Circuits.
- AFC for FM stability.
- "2-Year Warranty.
- Choice of Colors.


The perfect gift item and you'll want one too. Comes in pearl white or midnight black, (with sllver trim). Has bullt in FM whip and ferrite core antennas. Tone control for music or voice llstening. Slide rule tuning, band se-
 $6{ }^{\circ}{ }^{\prime \prime} \mathrm{H} . \times 53 / 4^{\prime \prime} \mathrm{W} . \times 21 \%^{" 1} \mathrm{O}$. Earphone and $4{ }^{\text {"A }}$ " ${ }^{\text {" batteries included. }}$ No. 36A3528. Mode RF561. Black with Silver. YOUR CHOICE $\$ 32.95$
No. $36 A 3529$. Model RF561. Pean with Silver, EACH

## Panasonic

AC/BATTERY
PORTABLE AM/FM RADIO

- Padded Latherette Case.
- AC Cord Included.
- Slide Lever Controls.
- Intectafad Circuitry.

$$
542^{288}
$$



Beautiful midnight black leatherette case and swing-down handle make this radio a handsome one. Has sliding tone and volume controls and slide rule tone and volume indicators. AFC locks in FM stations. 500 mW amplifier

 W. $\times 3^{\prime \prime} \mathrm{D}$. Shpg. wt. 5 lbs.

No. 36A3523. Model RF930. Each.
$\$ 42.88$

## PRESET WEATHERBAND is alwars reaor to give instant WEATHER INFORMATION!

## Panasonic

## AC/BATTERY AM/FM/WB PORTABLE RADIO

## "THE STANTON"

FULL 2 YEAR WARRANTY*
INTEGRATED
$\$ 5$


It's no longer necessary to wait for weather broadcasts. Just filp to the preset weather band and get weather information instantly, 24 hours a day. Solid state engineered with integrated circuitry and sturdy construction, this handsome radio carries a two-year warranty*. Other important features include: stide rule tuning, two-way tone control ibass boost plus continuous treble controil, AFC to lock FM stations. lighted diat, drop-down handle, and big 5 -inch PM speaker. Complete with 4 " C " Panasonic Hi-Top batand big 5-inch PM speaker. Complete with ${ }^{\text {teries, } A C \text { cord } G \text { earphone. Shpg. wt. } 7 \mathrm{Ibs} \text {. Size: } 6 \mathrm{H}^{\prime \prime} \mathrm{H} . \times 101 / 4^{\circ} \mathrm{W} . \times 3 \mathrm{H}^{=} \text {O. }}$ No. 36 A5036.
No. 36A5036.
$\$ 59.95$

## Panasonic

SOLID STATE AM/FM HORIZONTAL DESIGN PORTABLE RADIO

## ${ }^{\$} 22^{88}$

Low-profile $A M / F M$ receiver has vertical slide rule dial for simple. precise funing. FM whip and AM ferrite core antennas deliver powerful reception of AM and FM stations. Full range sound projects forward from the $21 / 4$ linch permanent magnet dynamic speaker. Simple, yet elegant horizontal design case comes in black or white with silver trim. Jack is provlded for optional external power supply. Solid state engineered. Complete with 9 -volt battery, earphone and carrying strap in beautiful glft box: $3 y_{0}{ }^{\prime \prime} \mathrm{H}, \times 51 / 2^{\prime \prime} \mathrm{W}$ $\times 13 / 40$. Shps. wt. 2 libs.
No. 36A3526-Black. Model RF541. CHOICE
No. 36 A3527-White. Model RF54i. EACM...
\$22.88

## Panasonic

## 'THE LANGDALE"

 MODEL RF-900 DELUXEAC/BATTERY FM/AM PORTABLE RADIO

* FULL 2 YEAR WARRANTY


Dependable Integrated Circuitry for full 1 watt power output and 4" PM dy namtic speaker ossure finest reproduction with omple volume. Built-in FM whip and AM Ferrite core antennas. Tuning meter, slide rule lighted diol. Has AFC on FM. Continuous treble and 2 step bass controls. Volume, treble and band control indicator windows, slide-down carrying handle. AC/battery selector switch, earphone/external speaker ond MPX jacks. Midnight black with silver trim. Hos 2 year warranty. Complete with 4 Panasonic batteries, earphone, gif! box. Sizes $6.15 / 16^{\prime \prime} \mathrm{H} . \times 9-1 / 16^{\prime \prime} \mathrm{W} . \times 2-7 / 8^{\prime \prime} \mathrm{D}$. Shpg. we. $41 / 2 \mathrm{lbs}$. No. 36A3540. Model RF-900.
Each

## AC/BATTERY MULTI-BAND

 PORTABLE RADIOUNIQUE ROTO DIAL BUILT-IN MULTI-
BAND ANTENNAS

- AM-FM
- SHORTWAVE
- AIR
- VHF
- MB

2 YEAR*
WARRANTY
MODEL RF1600
$\$ 99^{95}$


Listen to the world's broadcasts with Panosonic's Traveller. Six bonds VHF-FM 136.174 MHz , Air-AM 108.136 MHz. FM $87-108 \mathrm{MHz}$, AM $525-1605 \mathrm{KHz}$, MB 1.6-4.5 MHz . SW $9.18 \mathrm{MHz}_{\text {. }}$ Gives a world of istening pleasure on regular house current or batteries. Panasonic slide controls for bass, treble, the most distant stations erystal clear. AFC for drift frec FM performance. Squelch control filters out static interference for superb sound. Heavy duty
5 PM dynamic speaker for unsurpassed reproduction. Lighted dial for precise tuning in the dark. The space-saving roto-dial makes for complete lightweight portabilify. Shock-proof integrated circuits make possible a Two-Year Warranty ${ }^{\text {th }}$ covering ports and labor. This handsomely styled radio comes complete with 4 " "C" batteries, earphone and antenna lead, phono input and earphone jacks provided. Size $81 / 2 \times 111 / 2 \times 33 / 4{ }^{\text {m }}$. Shpg. wt. 8 lbs . No. 36 A5015
$\$ 99.95$
Model RFI600. Each

[^2]
## Panasonic <br> MODEL RF- 1700 <br> "THE WESTOVER"

## AC/BATTERY MULTI-BAND PORTABLE RADIO

## 8 FREQUENCY BANDS:

 2 YEAR WARRANTY'- AM/FM
- AIRCRAFT
- MARINE - 2 SHORTWAVE


## \$1295

- HIGH/LOW PUBLIC SERVICE

Receives weather broadcasts, fire, police as well as other public service communications. Pick up Worldwide broodcasts on short wave band plus finest FM/AM reception at home or "on the $00^{\prime \prime}$. Operates from batteries or 115 VAC . Bands are FM $88-108 \mathrm{MHz}$, Air $108-136 \mathrm{MHz}$, PB High $136.176 \mathrm{MHz}, ~ P B$ Low $30-50 \mathrm{MHz}$, Marine $1.6-4.5 \mathrm{MHz}$. AM $530-1600 \mathrm{KHz}$, Shart Wave $14.5-12 \mathrm{MHz}$, Sw $212-26 \mathrm{MHz}$. Has push button band selector, Integrated circuitry, 1.8 watts power output to a $5^{\prime \prime}$ PM dynamic speaker. Ultra-sensitive buitt in antennas. Lighted dial and band indicators. Has AFC on FM for drift-free reception. Cantinuous treble and 2 step boss control. Fine tuning for easy selection of desired station, squelch contral eliminates noise between stations. Has power on-off, AC/Battery selector switches earphone/external speaker and MPX output jacks. Leods are provided for external antenna connections. Fold down carrying handle. Midnight black with chrome trim. Complete with of Panosonic C batteries, earphone. Size $8-3 / 16^{\circ 1}$ H. $\times 10^{\prime \prime}$ W. $\times 3-13 / 16^{\prime \prime}$ D. Shpg. wt. 8 lbs. No. 36 A3S41. Model RF-1700. Each

- WARRANTY STATED ON PAGE 52.
$\$ 129.95$

[^3]

# Wemone MODEL 1286 <br> THREE BAND PORTABLE RADIO 

- AMBAND
- FMBAND
- PUBLIC SERVICE BAND

Great listening on AM and FM bands and Police, Fire and Mabile Phone communications with instont Weather broadcasts on the PSB band. Rugged portability for emergencies as well as for everyday entertainment, news and information. Operates from AC power or from batteries supplied Has no-drift FM/AFC, slide rule dial with vernier tuning, built-in AM antenno and telescoping FM and PSB antenna, Squelch contral silences the speaker between stations on the PSB band which tunes 148 to 174 MHz .
 in AC line storage. Supplied complete with batteries and private-listening earphone. Shpg. wt. 6 lbs. No. 36A5050. Model 1286.
Eoch
\$39.95


## FM/AM RADIO

This handsome walnut wood table radio has a full range 4" PM speaker with forward projection for room filling sound. AFC on FM for drift-free reception. Continuous tone control, Illuminated slide rule dial blacks out when radio is off. Solid state construction. Black and silver trim. Size: $5^{\prime \prime} \mathrm{H}$. x $145 / \mathrm{m}^{\prime \prime} \mathrm{W} . \times 75 / \mathrm{m}^{\prime \prime} \mathrm{D}$. Shpg. wt. 7 lbs . No, 3646519 , Model RE-7441. Each.
No, 36A6S19, Model RE-7441. Each.an......................................................


## SOLID STATE AM/FM TABLE RADIO

Modern as tomorrow, this beautifully styled compact radio has all the features you might expect in much higher prlced models. Features aufomatic volume contral, easy to read slide rule dial, switchable FM/AFC and an earphone for orivate listening. Lustrous black high impact plastic case measures $10^{\prime \prime} \mathrm{L} \times 4^{\prime \prime}$ D. $\times 4^{\prime \prime} \mathrm{H}$. Shpg. wt. 4 lbs. No. 36A6520. Model 1703. Each
\$22.95


Panasonic combines solid state engineering with exquisite design. Front facing heavy duty 4" PM speaker glves good dispersion. When set is off vertical slide rule dial blacks out giving clean decorator appearance. Woinut wood with black and silver. Has continuous tone control. AFC and externa! FM
 Shpg, wt. 7 lbs.
No. 36A65i8. Model RE-7371. Each ................................. $\$ 44.95$


## SOLID STATE AM CLOCK RADIO

Has all the features you could wish for in a clock rodio, of a most economical price. Large clock is easy to read and allows you to select wake-to-music or wake-to-alarm, combined with Slumber switch so the radio will play for up to 1 hour ofter you retire, then turn itself off, ready to wake you at your selected alarm time. Radio has slide rule dial, automatic volume control and jack far personol earphone. Beige cabinet is $9 \frac{74^{\prime \prime}}{} \mathrm{L} . \times 4^{\prime \prime} \mathrm{D} . \times 4^{\prime \prime} \mathrm{H}$. Shpg. wf. 4 lbs. No. 36A8050. Model 1507.
Each

## Panasonic . . FINEST QUALITY CLOCK RADIOS

## Panasonic fmam digital clock

RADIO WITH 24-HOUR ALARM "THE NEWDAWN"

The "Newdawn" is attractively styled in midnight black with silver trim and handsome wood-grain cabinet. 24 hour full feature digital clock needs to be set only once. timer can be set to lull you to sleep at night with up to 60 minutes of music. Simple press of the nightlight button spotlights face for easy night time viewing, release button and it returns to soft illumination. Also offers Panasonic's "sure-awake" alarm system. Even when earphone or pillow speaker is left plugged in at night, the $31 / 2^{\prime \prime \prime}$ permanent magnet speaker wakes you in the marning. AFC on FM. Engineered with dependable solid state de-
 No. 36 A8029. Model RG-6530. Each................................................. $\$ 59.95$


## Panasonic adVanced design FM/AM DIGITAL CLOCK RADIO "THE CAMERON".

## IN LUXURIOUS WALNUT WOOD CABINET

This exciting digital clock radio is loaded with the most unusual features and sets the pace for years to come. Lulls you to sleep with up to 60 minutes of your favorite music or program and then shuts itself off automarically. in the morning autamatically turns iself on again to wake you wirh eithe music or buzzer alarm. Even the personall earphone is sill plubse in from the night before, the radio will automatically switch to full speake sound to awaken you to brilliant, full bodied music. The separate dials for FM and AM tuning light-up independently to tell you at a glance which band you are recelving. Continuous tone control gives perfect bass/treble balance. AFC on FM locks in signals for crystal-clear drift-free reception. Shpg wt. $61 / 2 \mathrm{lbs}$. Size $12 \mathrm{iY} \times 63 / 8^{\prime \prime} \times 4 \mathrm{H}^{\prime \prime}$. Complete with ear. Shpg
phone.
No, 36 A8016.
Model RC-7469. Each
$\$ 69.95$


Truly unlque clock radio has bird-like chirp alarm or wakes you to your favorite station. Set timer only once it then wakes you daily, without resetting. 60 minute sleep switch lulls you to sleep with up to 1 hour of music. Sure-awake system activates speaker even though earphone is plugged trim. Size: $37 / 8^{*} \mathrm{H} . \times 101 / 2^{m} \mathrm{~W} . \times 6 \frac{1}{9}=\mathrm{D}$. Shpg. wt. 5 lbs . Model RC-7021. No. 36A8045. Antique white. Youp Choice.
${ }^{5} 42^{95}$

## MINIATURE DIGITAL AM-FM CLOCK RADIO

\author{

- FEATURES EARLY "BIRD" ALARM
}

56995

## Panasonic

"THE MAYWOOD"


PANASONIC AM DIGITAL CLOCK RADIO

## "THE <br> ${ }^{5} 32^{88}$

Handsome low profile design. 24 hour full featured clock lulls you to sleep with up to 60 minutes of music. wakes you to music or buzzer. A press of nightlight button spotlights face for easy night time viewing, release button and it returns to soft illumination. Radio is engineered to delfiver strong, pleasing performance through $3^{n}$ permanent magnet dynamic speaker, delivers excellent sound in ful tonal range. size: $121 / 8 \times 41 / 8 \times 51 / 2^{\prime \prime}$. With private earphone. Wt. $41 / 2 \mathrm{lbs}$. No . 36 A8027. Model RC-1280. Each $\$ 32.88$

MODEL 1704

$$
\$ 2995
$$

## Magnavox

## FM/AM CLOCK RADIO

Clean lines and modern design characterize this compoct, full featured clock radio. The clock features wink alorm, a pleasant "chirp" instead of a noisy buzzer, or you may elect to wake to music from the rodio. Slumber switch ollows up to 60 minutes of radio operation after you retire, then shuts the radio off automatically, ready to wake you af the time you have selected. Luminous honds on easy to reod clock face. FM-AM radio hos outomatic volume control, easy to reod slide rule dial and switchoble FM/AFC for no drift FM listening. Hos jack for privacy earphone, which is included. Gleoming block high impoct plastic cabinet is $10^{\prime \prime} \mathrm{L}, \times 4^{\prime \prime} \mathrm{D} . \times 4^{\prime \prime} \mathrm{H}$. Shpg. wt. 4 ibs.
No. 36A8048. Model 1704. Each
\$29.95


## FM/AM DIGITAL CLOCK RADIO $\$ 3 \bigcirc 95$

Contemporary as today exciting as tomorrow dramatically distinctive with sparkling black and white law profile styling. Easy to read illuminated flip dightal clock, offers wake to-music and wake-toalarm cantrais, with slumber switch feature. Has 24 hour AM and PM alarm set to assure your awakening at any selected time. FM/AM radio is all solid state with superior sound repraduction. Features nodrift FM AFC, slide rule dial with $\log$ scale, vernier tuning, built-in ferrite rad AM antenno and line cord FM antenno. Mas stide controls, jack for optional earphone and tone control. The high impact plastic case is $10 \frac{1}{2}$ " $1 . \times 7^{\prime \prime} \mathrm{D} . \times 31 / \mathrm{K}^{\prime \prime} \mathrm{H}$. Shpg. wt. 6 lbs , For 115 V 60 Hz . No. 36A8052. Model 1778.
Each
$\$ 39.95$

## Magnavox modt 1783 <br> FM/AM DIGITAL CLOCK RADIO $\$ 49^{95}$

The canvenience, informotion and sofety provided by Instant Weather broadcasts are yours at the flip of a switch in this handsome, low profile clock radio. Be aware of possible starm warnings on 162.55 MHz at any time ond enjoy the finest FM or AM broodcast recoption foo. The 24 hour alorm set ossures your wake-to-music or wake-toolorm at your selected time. Wink alarm, a pleasant "chirp" instead of a noisy buzzer alarm, and a 3 hour slumber switch ore features of the easy-to-read illuminated flip digital clock. The FM-AM solid state radio has slide rule dial. slide contrals, tone control, drift free FM/AFC and is equipped with earphone tor private listening. Gleaming black sturdy plastic cabinet is $101 / 2^{\prime \prime} \mathrm{L} \times 7^{\prime \prime} \mathrm{D} . \times 3 / 2^{\prime \prime} \mathrm{H}$. Shpg. wt. 6 lbs. For 115 V .60 Hz .
No. 36 A8065, Model 1783. Each
$\$ 49.95$

## Panasonic <br> MODEL RC-6551 ${ }^{5} 644^{\text {sis }}$

Big bright letters and numbers tell you the day of the week, the date and the correct time on this full feature 24 , haur digital clock. Once-only awake sot, for gentle "chirp" olarm or rodio music. 60 minute sleep timer allows you to listen to rodio music and shuts off automatically in 1 hour. "Nap bar". ollows you to shut off alorm in the marning, then sleep ten minutes more before the alarm sounds again, Sure awake sysfem makes sure that alarm music is from the speaker, even if eorphone is still plugged in from the night before. Integrated circuitry, built-in antennas, AFC, illuminoted diats (and clock face), $4^{\prime \prime}$ PM speaker, and earphone jack are radio features. Has FM external antenna terminal. Camplete with earphone. Antique white. Size: $4-13 / 16^{\prime \prime} \mathrm{H}, \times 14-1 / 16^{\prime \prime} \mathrm{W} . \times 7-3 / 16^{\prime \prime} \mathrm{D}$. Shpg. wi. 6 \%/h lbs, For. 115 V 60 Hz .
$\$ 64.95$
'THE DIGI-OATER"
FM/AM DIGITAL CLOCK RADIO

? 2R ? OME MODEL RE-6600

## 'THE DIGICOROER'

COMBINATION DIGITAL CLOCK, AM/FM RADIO AND CASSETTE RECORDER

## - full feature 24 hour dightal clock

- fm/am Radio


## - CaSSETTE TAPE RECORDER

All the deluxe features of the finest 24 hour Digital Clack Radio PLUS a cassefte recorder to record from microphone (furnished) or direct from radio. Lets you wake-up to radio, alarm or cosserte. Push button cossette operation, automatically stops ot end of tape. Easy pop-up cassette loading. Saund monitor system, has input jacks for phono and mike. Digital Clock features once only alarm set, 60 minute sleep timer with outomatic shut-off, sure awake system assures loud speaker operation on alorm setting, easy to see illuminated clock figures. FM/AM radio features black out and illuminated slide rule dial, built-in antennas, AFC on FM, continuous tone control, 4 inch PM speaker, output jacks for MPX and privacy earphane. Black with silver trim. Camplete with microphane and prerecorded cassette. Size: $4 \mathrm{~K}^{\prime \prime} \mathrm{H}, \times 14-7 / 16^{\prime \prime} \mathrm{W} . \times 10^{\prime \prime} \mathrm{D}$. Shpg. wt. 11 lbs . For 115 V 60 Mz .
No. 36AB033. Model RE-6600. Each
$\$ 109.95$

## Panasonic

## The Whitney"

## 4 CHANNEL QUADRASONIC STEREO SYSTEM

# "9007 

LESS 8 TRACK DECK AND 8ALANCER

LESS TURNTABLE

## OPTIONAL 8 TRACK PLAYER DECK

Offers you sounds that only orchestra leaders have known before. Four channels, four speakers-two in front, two behind. Only upon hearing it will you realize the pleasure that 4 -chonnel separation can offer . . . the truest, most realistic music reproduction ever. Even when quadraphonic sound is nat beins braadcast or played, you can still enjoy 4 -channel presence . . 4-speaker sound separation from 2 -channel sound sources.
Camplete AM-FM quadrasonic center unit and all four speakers. Eoch sealed speaker enclosure contains $61 / 2 "$ high compliance acoustic suspension dual-cone speaker. Amplifier provides output power well over that of listening level. Tuner has FET's for selectivity, AFC to lock-in stations and tuned RF stoge for incomparable FM reception. Four volume controls; seporate bass, treble controls; loudness control; Radio/Phono, Rodio/Tape, FM stereo selectors and FM stereo indicator light. Inputs: phono, tape (4-channel). Outputs: headphones, speakers, record. Built-in ontennos and ext. ant. terminal. Walnut wood cabinetry. Center

QUADRASONIC
REMOTE BALANCER


For the RE-7750. Permits listener to balance speakers from a central location. Mandsome madern styling with "shift-lever" control Model RD-9775 36A9015. Each \$19.95

## Panasonic

ADD PHONO OR 8-TRACK
TAPE PLAYER OR BOTH
FOR A COMPLETE SYSTEM

- Sterea phone output jack.
- All solid stafe, I.C. Circultry, FEİ Tuner.
- Walnut Cabinetry.
- 20 Watts Peak Music Power
- 8lack out ittuminated tuning dials.

As beautiful to loak at as it is to listen tol Mandsome, matched wolnut speoker systems fit anywhere . . in bookcose, on toble, or moy be hung on wall.
Permits fullest stereo separation, taking advantage of matched and balanced $61 / 2^{\prime \prime}$ console type oir-suspension speakers. Exclusive stereo eye systom permits pin-point FM stereo tuning. Buift-in FM autamatic frequency contral assures shorp drift-free reception. Has blackout illuminated tuning meter. Features Volume, separate Bass, Treble and Balonce controls to toke fullest odvon. tage of radio performance. Loudness control aliows full bass response even of low volume level. Hos tape and phono inputs ond record outputs.
Buits-in FM antenna and ferrite core AM antenna for super sensitive reception
Dimensions: $16.11 / 16^{\prime \prime} \times 9.7 / 8^{\prime \prime} \times 3-11 / 16^{\prime \prime}$. Speakers $16.9 / 16 \times 9.7 / 16 \times 4.7 / 16^{\prime \prime}$. Operates on 115 V .60 Hz . AC. Shpg. wt. 20 lbs . Import Special.
No. 31A7593. Model RE-7680. Net Each
No. 36A9000. Motching Automatic Tumtable for above. (Insel) Each ..

MODEL RE-7680 "THE SEBRING" FM/AM STEREO RADIO WITH SEPARATE SPEAKER SYSTEMS


## Belle Howell mooct <br> AM/FM/8 TRACK STEREO SYSTEM $\$ 15995$

The latest in advanced styling and performance. Newest tuner design, FET's for low noise and high sensitivity, integrated circuitry for ruggedness and reoliability. Tuned RF stoge gives increosed selectivity. Lighted tuning meter and AFC. 8 track deck features lighted program indicators, pushbutton channel selectort and automatic dust door. Air -suspension speakers produce full rich sound. Loudness control for increased bass af low listening levels. Reor panel jacks include phono/oux, tape in, tape out and speakers. Wood cobinetry finished in dark plank cherry wood grain. Unit
 Shpg. wf. 25 lbs. 120 VAC 60 Hz .
No. 31 A7S89. Model 3350 CST. Each .
$\$ 159.95$ Model 3250 CSF. Identical to above but without 8 track unit. Main unit size: $4 \frac{y}{4 \prime \prime} H \times 15 / /^{\prime \prime} W \times 93 / 4^{\prime \prime} D$. Spkr. Size same. Shpg. wt. 23 lbs. No. 36 A9031. Model 3250 CSF.
Each

## Q2RBOMC ...... JUST SLIGHTLY AHEAD OF OUR TIME

B-A proudly presents the unusual . . . the exotic products developed by modern technology through spoce-age research in electronics. We hape the products on this page will appeal to you in your search for something just a bit different from the usual . . . from B-A.

## Panasonic

## MODEL CT-551

PORTABLE COLOR TV

WORLO'S FIRST
COLOR TV
WITH BUILT-IN
BATTERYI

## $\$ 449^{95}$



Introducing the worids' most completely portable calor TV, featuring rechargeoble batteries thot fit inside the set, just as in your portable radio. Operates an batteries or regular AC, or from your car or boat 12 vott battery with aptional card listed belaw. Botteries deliver about 2 haurs viewing on a single charge, with o battery life of about 200 hours. Tatal weight, with batteries, is anly 18.5 Ibs, and the 4.5 inch diogonal picture gives a viewing area of 10 square inches. All solid state chassis with $11_{4}$ solid state devices including integrated circuitry. Speed-o.Vision gives instant-on picture, Panalock for automatic fine funing, set and forget when changing channels. Circuit includes keyed AGC for rock-solid picfure, 3 IF stages and noise cancellor for maximum sensitivity and best results under odverse receiving conditions. 3" Dynamic speoker reproduces full brilliance and depth of sound, with personal earphone supplied for private listening. Has telescoping VHF dipole antenna and bowtie UHF antenno. Cabinet is high impact plastic in block and silver, with die-cast handle and protective front cover. Complete with battery. Dimensions, $12^{\prime \prime} \mathrm{W} \times 131^{\prime \prime} \mathrm{D} \times 6 \frac{1 / 4^{\prime \prime}}{}$ H. Shpg. wt. 21 lbs.

No. 39A4034. Model CT551. Each ....................... \$449.95
No. 39A4051. Model TY-182P 12 volt batiery cord for CT 551 . Each $\$ 9.95$
No. 39A451. Replacement Batteries TY355C. Pair
$\$ 19.95$

# Panasonic 

MODEL RC-6900

"TELLS" THE TIME AM/FM CLOCK RADIO WITH REMOTE CONTROL $\$ 149^{95}$



20 cassette continuous playback up to 40 hours of music on C120 cassettes before repeating, or push button cassette selection lets you enjoy your choice of 20 cassettes. And automatic reverse plays both sides of each cassette without manual flipover af the end of side ane for hours and hours of uninterrupted listening, Push button controls for cassette selection work like a juke box. Reject button allows you to concel a selection. Has outo stop system and noise suppressor circuit. lighted cassette numbers on cantrol panel for program indication. Solid state engineered. Walnut wood cabinet with black and silver panel. Plexiglass cover over cassette compartment, Has 2 output jacks for line, 1 for headphone, ond 1 for remote line. Complete with connection cord and head cleaning tope. For 120 VAC . Size: $214^{\circ} \mathrm{W} \times 151 / 4^{\circ 1} \mathrm{D} \times 8-1 / 8^{\circ} \mathrm{H}$. Shpg. wt. 44 lbs.
No. 31 A7582. Model RS-296US. Each
$\$ 399.95$

## Panasonic model rf-60

"THE HEADSET"
FM STEREO HEADSET RADIO

## \$8500

In keeping with Panasonic's reputation for outstanding design and ultrothigh qualily stereo sound, we present the "Head-Set." One of the most unique and exciting stereo cancepts since stereo itself ....your own private stereo listening chamber. Styled in smart Midnight Black high-impact plastic accented by ear. phone cups of sotin-finished aluminum with block leatherette cushions. These completely portable stereophones are a true representation of advanced integrafed circuitry. Just touch the power switch to "on" and you're sealed into your very own chamber of stereo music. Two sensitive ontennos pull in both local and distant stations loud and clear. Features a 3 -position finger touch volume switch and a 2 -position tone control swith for instant selection of preferred boss or treble tanes. The "Headset" can also easily adapt to your home entertainment center. Just plug into the provided left and right output jacks and enjoy high-quality stereo FM broadcasts through your lorger equipment. Complete with 3 Panasonic "AA" batteries and gift bax. Shpg. wt. 3 lbs. No. 36 A3515. Model RF- 60.
Each
$\$ 85.00$

## HIGH QUALITY PORTABLE TV SETS



Panasonic tr-475
"THE POMONA" AC/BATTERY TV WITH AM/FM RADIO

## s $169^{95}$

$5^{\prime \prime}$ diog. screen ( 13 sq. In.) and AM/FM radio make a complete entertainment center. Operates from 120 VAC or self-contained Panalioid batteries that recharge on AC ( $5 / 2$ hrs. viewing on single charge, 500 hr . life spon). All solid state circuiry. 3 video if stages and keyed AGC for big-set performance. Has slide controls, lighted slide-rule dial. Front maunted $21 / 2^{\prime \prime}$ speaker. Black and silver molded cobinet, s.5 $16^{\prime \prime} \mathrm{H}_{\mathrm{M}}$ X 11 $13 / 16^{\prime \prime} \mathrm{W}$. $\times 15-3 / 8^{\prime \prime \prime}$ O. Duat VMF/UHF monopole antenna. With tinted screen. batteries, $A C$ adapter/recharger, sunshield and earphone. Shpg. wt. 17 lbs. No. 39 A3 029 . Model TR-475. $\$ 169.95$ 394406. 12 V. Car/Boat Cord. Ea. $\$ 9.95$ 394451. Repl. Batteries

## Panasonic tr-4798

"THE RUSSELLVILLE"AC/BATTERY PORTABLE TV
${ }^{5} 109{ }^{95}$
Beautiful modern styie in charcool groy with silver trim. Has 9 " diagonal ( 38 sq. in.) screen. Operates on 120 VAC , rechargeable bottery pack (optionol), or 12 V . car/boat source (cord optional). Eosily portable, weighs only $13^{1 / 4}$ lbs., is $9^{\prime \prime}$ H. $\times 144^{\prime \prime}$ W. $\times 10^{\prime \prime}$ 0 . Has 3 video if stages, Speed-O-Vision, keyed AGC and all the important feotures to assure big-set performance. $3 / /{ }^{\prime \prime}$ " front. mounted dynamic speoker for best sound. Has VHF monopole, UHF bowtie ontennas, detach able tinted screen and earphone. No. 39A3030. Model TR-479B Each
$\$ 109.95$
39A3032. TY-703P. Clip-On Battery Pack
39A406. TY-192P 12 V Cor/Boat Cord

2P 12 V
,


## Panasonic modet tr-542

## 'THE MILANO

## 12" DIAGONAL SCREEN TV

## ${ }^{5} 124^{95}$

Striking Curvelinear "European Design" port. oble TV that's outstanding in both looks and performance. 75 sq . in. piefure with detachoble tinted screen for sharper depail. 58 solid state devices and infegrated circuitry for finest picture and sound. Features feather-touch OntOff switch, Speed-O-Vision for instont on, keyed AGC for stability, 3 video IF stoges and front mounted $4.3 / 8 \times 3-18^{\prime \prime}$ dynamic speaker. VHF monopole and UHF bowtie antennas. Size $12-3 / 16^{\prime \prime} \mathrm{H}, \mathrm{X} 16 \%^{\prime \prime} \mathrm{W}$. $\times 12$ $3 / 16^{\prime \prime} \mathrm{O}$. For 120 VAC . With earphone. Shpg, wt. 21 lbs.
No. 39A3018. Antique White
No. 39A3031 - Pearl Gray
Model TR-542. Your Choice
Each
$\$ 124.95$

Panasonic | moon |
| :---: |
| $c \rightarrow 094$ |

"THE EVANSTON" 9 INCH DIAGONAL COLOR PORTABLE TV

## ${ }^{5} 299{ }^{95}$

A truly partable color TVI Only 29 lbs. net, with solid state circuitry and a beoutiful bright 39 sq. in. true color picture. Features Q-Lock II circuitry thot campensates for changes in signal, readjusting automatically for uniformly perfect calor, tint, contrast and brightness. Also has Ponalock AFT outomatic fine funing, no manual adjustments are required. Automatic degaussing for color purity, keyed AGC, 3 IF stages and noise cancellor circuit for picture stability, sensitivity and minimum interference under all conditions. Set and forget tuning on VHF with clickstop tuner. Has Speed-O-Vision for instont-an, vacation switch to turn off oll circuits when you're oway for extended periods of time. $5 \times 3^{\prime \prime}$ oval dynamic
 For 120 VAC. Hos VHF dipole and UHF bowtie antennas and earphone. Shpq w. 31 las.

No. 39A4050. Madel CT-994. Each
\$299.95

## Panasonic cict.

## THE RICHMOND

 16" DIAGONAL PORTABLE COLOR TV
## ${ }^{5} 389{ }^{95}$

This Deluxe model combines the most wonfed feotures in one beautifully campact portable. Swivel base lets you turn set to face you, locks of center position. Large 145 sq . in.
picture quality is ossured by auto. picture quality is ossured by auto-
motic illuminated Self.Set color control. Touch o button and get factory pre-set color instantly. Panalock automatic fine funing, automatic degaussing for permonent color fidelity, keyed AGC, 3 If stages and noise cancellor circuit for stable, sensitive reception under all conditions. Set-ond-forget tuning for easy, quick chonnel change, Speed-O.Vision for instantan. Slide lever controls for volume, tint and color. Vacation switch turns set entirely off for extended periods of time. Mas lighted UMF and VHF windows, detachable tinted screen. $4^{\text {" }}$ dynamic speaker. Walnut-grain hiimpact plastic cabinet, $171_{2}^{\prime \prime}$ H. $\times 23^{\prime \prime}$ W. $x 201 / 4^{\prime \prime} \mathrm{D}$. With eorphone. For 120 VAC. Shpg. wt. 68 lbs. No. 39A474. Model CT-604. Each
$\$ 389.95$

## Panasonic

## SPACE-AGE SOLID STATE TV

5 INCH DIAGONAL
16 SQ. IN. VIEWING AREA
Truly modern in its exciting capsule style pearl white cabinet. Makes TV a new experience. 3 IF stages provide best reception while $70^{\circ}$ deflection aluminized picture tube permits compact design.
Sound comes from a $21 / 2^{\prime \prime}$ PM dynamic speaker, or acheve private listening by use of earphone (provided). Composed of 41 solld state devices for cool trouble-free operation. Convenlent swivel pedestal and detachable tinted screen for better contrast in bright light. Speed-OVision gives instant picture and sound. Dipole antenna serves both UHF and VHF. 120 VAC .60 Hz . Size: $6^{\prime \prime} \mathrm{H} . \times 10^{\prime \prime} \mathrm{W} . \times 10^{\prime \prime} \mathrm{D}$. Shpg. wt. 16 lbs.
No. 39 A480.
\$129.95

## THE ORBITEL



Model TR-005. Each $\$ 129.95$

"THE WOODRIDGE" 17" DIAG. QUATRECOLOR PORTABLE TV
\$4395

The mast odvanced color features are all here in this strikingly beautiful 150 sq. in. partable. Quatrecolor modular chassis incorporates all salid state construction and 5 modular circuit boards for the most convenient serviceability. Pana-Matrix picture tube for brillian color and Q-Lock assures automatic compensation for pertect color, tint and contrast from all color broodcasts. Panalock automatic fine funing gives free. dom from manual adjustment with normal chonges in the incoming signal. Cantains 6 integrated circuits, 108 solid state devices. Speed.O.Vision for instant on, Vacation switch turns set completely off for extended periods of non-use. AGC for stability, 3 IF stages for sensitivity and noise cancellor circuit to minimize interference. Has $5^{\prime \prime} \times 3^{\prime \prime}$ oval dynamic speoker. Walnut groin finish hiimpact plastic cabinet, $17-38^{\prime \prime} \mathrm{H} \times 24-13 / 16^{\prime \prime} \mathrm{W} \times 18-7 / 8^{\prime \prime} \mathrm{O}$, has diecast handle. With earphone. Far 120 VAC . Shpg. wt. 65 lbs .
No. 39A4048. Model CT-701. Each


Magnavoxe MODEL 5255 7" DIAGONAL SOLID STATE AC/DC PORTABLE TV

## ${ }^{5} 114.95$

Compact, beoutfully styled, fits in anywhere! Oper. ates from AC outlet or battery pack (optionol) which recharges when set is used on $A C .24$ sq. in. picture. Has separate UHF and VHF tuners, keyed AGC, telescoping VHF and bowtie UHF antennas. Red high impact plastic cabinet, $10^{\prime \prime} \mathrm{L} \times 10 \%_{2}{ }^{\prime \prime} \mathrm{D}$. $\times 8 \mathrm{~K}^{\prime,} \mathrm{M}$. With earphane and sun shield. Shpg, wt.
14 lbs. A3021. Model 5255 . Each. \$114.95 39A 3022. 9225 . Battery Pack. 7 lbs. Ea. $\$ 39.95$ 39A3023. 12 V . Car/Boat Cord. 1 lb . Ea. $\$ 4.95$


Magnervore MODEL 5003
MONOCHROME 9" DIAGONAL PORTABLE TV

## s89.95

Easy to carry portoble ... only $13 / \mathrm{m}^{\mathrm{mp}}$ long, $101_{2}{ }^{\prime \prime}$ deep, and 9 /2" high, in rugged Midnight Black plastic cobinet of horizontal styling. Clear, share 42 sq. in. picture and "big set" periormance. AGC for sound and picture stability, up-front secondary controls, $3^{\prime \prime}$ PM speaker, telescoping VHF and de. tochoble UHF bowtie for glare-free viewing. For 120 VAC .
Shpg. wt. 18 lbs .
No. 39A3024. Model 5003. Each.
$\$ 89.95$


Magnervox MODEL 5009
$12^{\prime \prime}$ DIAGONAL MONOCHROME PORTABLE TV

## '79.95

Modular circuit design with integrated circuits in both video and saund If modules gives less electrical interference and improved performance. Keyed AGC assures stability. 12" diaganal tube delivers a 74 sq . inch picture that is clear and bright far real viewing pleasure. Aftractive style beige, high impact plastic cabinet, $171^{1 / 4 " L} \mathrm{~L}$. $111_{2}$ D. $\times 12 \% / 2$ H.

Shipg. Nt. 21 lbs.
No. 39A3025. Model 5009. Each .... \$79.95

## Magnavox MODEL 6124

## 12 INCH DIAGONAL -TAC PORTABLE COLOR TV ${ }^{5} 269^{95}$

- Total Automatic Color System keeps flesh tones natural, no more green or purple faces with TAC! Automatic fine funing, automatic chroma circuit, outamatic tint eliminates the critical manuol tuning so often necessary with ordinary color TV sets. The brilliant 75 square inch picture and compact Walnut finished high impact cabinet combine for greatest viewing enjoyment and easiest portability. Has 3 inch PM speoker for full tonal reproduction at all volume levels. Features 13 detent concentric VHF tuner, separate UHF tuner. Lighted dial inductar, quick-on operationckey AGC with dipole VHF and bowtle UHF antennos, 3 IF stages and sun shield for glare free viewing. For 120 VAC. 18 Y/" $\mathrm{L} \times 15^{\circ} \mathrm{D} \times 12 \mathrm{MH}$.
No. 39A4040. Model 6124. Shpg. wt. 46 Ibs. Each
\$269.95


Full 141 square inches of sharp. bright IV picture is yours in this compactly styled portable. The high impact plastic cose has an attractive grained Rosewaod finish. Uses the new Magnavox 1966 chossis which includes plug-in modules and integrated eircuitry for improved reliability and greater ease of serviceability. Has UHF and VHF concentric solid state funers for years of trouble free operation. Has pre-set VHF fine funing, keyed AGC for picture and sound stabilify, and a 4 inch oval speaker for fine sound. Telescoping VHF and detachabla bow tie UHF antennas, secandary controls for brightness and contrast are slide types. Earphone jack and removable sun filter are included. Far 120

No. 39A3003. Madel 5021.
Each
\$124.95

Magnervox MODEL 5054
19" DIAGONAL MONOCRHOME PORTABLE TV

## ${ }^{5} 139.95$

Enjoy real big picture viewing with this 184 square inch smartly styled portable IV. Features 70 detent UHF tun. ing, telescoping VHF dipote antenna and detachable UHF bowtie antenna, and is complefe with mobile cart for easy moving from room to room. High impact plastic case has beautiful grained walnut finish and is as much at home" on shelves or tables as on the cart supplied. Has retractable handle. Uses the T996 chassis featuring modular canstruction and integrated circuitry for most reliable aperation and ease of serviceability. Keyed AGC for stability and includes every feoture of the other Magnavox models shown here. $241^{\prime \prime} 1 \times 14^{\prime \prime} D \times 19 \frac{1 / 4 " H \text {. }}{}$ Shpg. wt. 45 lbs.
No. 3943027. Model 5054. Each
$\$ 139.95$

# ELECTRONIC 

 STROBE LIGHTSCOMPLETE KIT

## $\$ 2995$

## FACTORY WIRED



At last! A high mitensity strobe light of professional quality at a price anyone can afford! Speed control adjusts from a slow pulsating strobe to a fast, steady rhythm. Change a dull record session into a mind-blowing experience. Creat for rock groups, partles, etc. Beautifully housed in wainut wood case. Operates on 117 V 60 Hz . Shipg. wt. 3 lbs
No, 33 A 2090
Essy to Build Kit, Eoch
$\$ 14.95$
No. 33A2089. Factory Wired, Each
 DUAL STROBE LIGHTS

EASY TO BUILD KITS


YNCHRONIZE LIGHT
WITH MUSIC!

## Psycuedelic

## 3 CHANNELULIGHT CONTROL CENTER

Any sound from a Hi-f1, Phono or Radio may be fed into this unit. Use channel or sht or any group of incandescent inghts up to sindow displays or anywhere a big aftention getting display is wanted.
Operates from speaker output of amplifier, 3 separate color sensitivity controls. Color predominance can he obtained by adiustment of the sensitivity control. Indlestor light for adjusting light operation, With aluminum case, all parts and complete instructions. Size $5 \times 5 \times 21 / 2^{\prime \prime}$. Operates on 115 V . A. Shpg. wt. 2 lbs.

No. 20A1261. Complete Kir, Each
$\$ 12.95$
FREQUENCY CONTROLLED 3 CHANNEL LICHT CONTROL CENTER. Lights respond with different sound frequencies and volume. No chanmel interaction. sound spectrum $60-1,000 \mathrm{~Hz}, 1,000-8,000 \mathrm{~Hz}_{8} 8,000-15,000 \mathrm{~Hz}$. Other features same as above unit.
No. 20A1275. Complete Kit, Each......
$\$ 24.95$
No. 20A1276. Factory Wired, Each.
s39.95
$\$ 59.95$ COMPIETE KIT

Dual strobe light adds another dimension to your rock group or party. Built-in relay gives rondom alternating pulse rate. Walnut wood cabinet. Operate on 117 V .60 Hz . 5 hpg , wt. 6 lbs No. 33A2143. Kil
Each
$\$ 39.95$
No. 33A2144. Factory Wired
Eoch
 <br> \title{
$\approx$ DUAL CHANNEL <br> \title{
$\approx$ DUAL CHANNEL <br> <br> Color <br> <br> Color <br> <br> PAIR...
} <br> <br> PAIR...
}

A bookshelf size, 3 sided prismatic glass enclosure, with Walnut finish top and bottorn. Each unit is a dual channel color ofgan. Lights respond with sound volume and with different sound irequencies. Two color sensitivity controls in each unlt. Reliable solid state circuitry. Simple hook-up to amy Stereo System, Hi-Fi-Phono, etc, Size: per unit, $13^{\prime \prime} \times 91 / 2^{\prime \prime} \times 63 / 4^{\prime \prime}$. Shog Wt. 8 tbs.
No. 33 A2079. Per Pair



Easy to assemble kit
\$3995

WIRED READT TO INSTALL

$$
\$ 4995
$$

Solid state color viewer for high fidelity - . to "View" your music while you listen! Beautiful colors and intensity change with the frequency and volume of music, Connnects quickly to speaker output of any radio, hi-fl, recorder or guttar amplifier. Three color sensitivity confrols to adjust each recorder or guttar amplifier. Three coior sensitiviry consrols to adjust each not affect sound quallity.
Solid state circult uses silicon controlled rectifiers to trigger color intensity. Off-on switch. $18 \times 12 \times 9^{\prime \prime}$ oiled walnut cabinet with beaded translucen front. For 115 VAC. Made in U.S.A. Shpg. wt. II Ibs
No. 33A2063, Easy Tb Assemble Kit
$\$ 39.95$
No. 33A2062. Wired - Ready To Install.


HOME BURGLAR ALARM KIT
A complete security system you can install yourself. When a door or window is opened, or wires are cut, the alarm system is activated because of-interruption of a continuous current circuit. Once triggered the alarm can be turned off only at the control panel. Can be armed by on inside off-on switch or by the exterior key lock when leoving the premises. Alarm con be sounded from inside by a manual alarm switch. Designed for "Do it yourself" panel, loud interiar horn olarm, bell for loud warning to alert neighbors, police or possers-by, 3 magnetic door/window switches, manvalalarm switch and outside lack switch and key, 150 ft , twin wire. hardware and complete instructions. Control panel contains transformer for low voltage DC assuring complete saftey in operation. Carton size $15^{\prime \prime} \times 20^{\prime \prime} \times 5^{\prime \prime}$. Shpg. wt. 11 lbs. No. 41 A4092. B-1400 Kit. Each
$\$ 99.95$


ACCESSORY ITEMS FOR B-1400 ALARM KIT
(1) Interior Horn Alarm. To allow an increase in the area protected by the B1400 above. Sounds loud warning indoors. Sit an table top or hang from wall. Size $5 \times 2 \times 3^{\prime \prime}$. Shpg. wt. 1 lb
$\$ 4.95$
No. 41A4094. Model B7002. Each
$\$ 4.95$
(2) Heat and Fire Defector. Protect your valuables from bath fire and theft at the some time. Use with the B1400 for fire protection. Sounds alorm outomatically w/en temperature reaches $135^{\circ} \mathrm{F}$. Sensor mounts on wall or ceiling in any area. omplete with mounting screws.
No. 4. A4095, Model B7005. Shpg. wt. 1 lb . Each
$\$ 5.95$
(3) Door and Window Alarm Switches. Magnetic
for additional doors or windows. Shpg. wf. $11 / 2 \mathrm{lb}$.
No, 41A4093. B7004. Pkg. of 3
$\$ 11.95$
COMPACT HOME \& APARTMENT BURGLAR ALARM


Protect from intrusion at three openings. Two windows and a door! Contains 3 compact burglar alarm units, only $21 / /^{\prime \prime} \times 4^{\prime \prime}$. are complete with clamps making installation in any door or window easy, using only a screwdriver. When entry is attempted o piercing horn atarm sounds, olerting occupants and neighbors, frightening the intruders.
Carry the compact little alarms with you as a personal alarm device, too. Each unit uses 2 " C " batteries listed below. Shpg. wt. pkg. of $3,2 \mathrm{lbs}$.
No. 41 A4 100 . Model HP-4001. Pkg. of 3
$\$ 7.95$
No. 21A2. "C" Cell Battery. 2 required per unit. Each $20^{\text {x }}$
ROOM AND APARTMENT HORN TYPE BURGLAR ALARM
 Protect your home and family against intruders. Mount the unit next to the door with the magne unit on the door for the unit on the door if it is easier) and activate the alorm with your key. Only you can enter without the alarm sounding. A time delay of severat seconds allows you to enter and Unlock the unit with your key before the alarm sounds. Horn is loud enough to alert neighbors a
some distance. Powered by 2 " $\mathrm{D}^{\prime \prime}$ cell batteries. Alarm unit is $8^{\prime \prime} \times 3^{\prime \prime} \times 51 / 41$
Shpg. wt. 2 lbs
No. 41 A4098. Model B4500. Each
\$29.95
No. 21A1. "D" Cell Batteries, 2 required. Eoch $20^{\circ}$

## DON'T OPEN YOUR DOOR TO A STRANGER



Never again need you open your door to a strang. er...See your caller without opening the door. 160 degree wide angle lens lets you have a complete view of the outside without you being seen. Drill a $1 / 4 /$ " hole in the door at o convenient height, insert the viewer with the lens on the outside, tighten the two pieces with a screwdriver and your instollation is complete. Nothing to wear out...ever. Brass finish. Shpg. wt. $1 / 4 \mathrm{lb}$.
$\$ 2.95$


## SECURITEX

SIREN TYPE ROOM AND APARTMENT BURGLAR/FIRE ALARM
Complete fire and burglar protection in the same unit, without expensive installation. Unit can be mounted over door or on wall where 10 ft . cord can be attached to door knob or stretched across stairs or doorway. When cord is pulled a magnet is removed fram the olorm switch and the siren sounds a loud alarm. Buitt-in heat sensor activates the alorm when the temperature reaches $13^{\circ} \mathrm{F}$. for fire protection. Uses 2 " $\mathrm{D}^{\prime \prime}$ cell batteries. Size $5 \times 2.3 / 4 \times 1^{\prime \prime}$. Shpg. wt. 2 libs
No. 41 A4099. Model HP4000. Each
$\$ 19.95$
No. 21AT. "D" Cell Batteries. 2 required. Each


Completely self-contained compact, powerful siren for pocket or purse. Switch on the piercing olorm that can be heard $1 / 4$ mile awoy to frighten assailants or summon help. Take it while driving or walking alone or in any potentially dangerous situation. Easily activated switch is protected from false triggering by enclosure flange. Supplied with shoulder strap for easy carrying. Uses 4 " C " botteries, not included. Size $71 / 2 \times 41 / 4 \times 5^{\prime \prime}$. Shpg. wt. 2 lbs .
No. 41 A4096. Model P3004, Each
$\$ 29.95$
No. 21A2. "C" cell batteries, 4 required. Each

## AUTO BURGLAR ALARM KIT



Makes every parking space as safe from car thieves as your locked garage! Simple to install, a loud piercing siren blasts instantly when a car door, hood or trunk is opened. It stays on until turned off with your key. Can even be wired to sound the olarm when themergency brake is released, if you wish. Siren can be heard for blocks. It is bright finished die-cost metal and spun aluminum. Complete kit has built-in relay swith unit, -6 alarm switches, pick. proof key lock with 2 keys, $50^{\prime}$ wire, installation hardware and detailed instructions for easy installation. For 6 or 12 volt systems. In $101 / 4 \times 5 \times 7^{10}$ corton. Shpg. wt. 8 lbs.
No. 47A5631. Model A-6000. Each
$\$ 29.95$

## ALL PURPOSE BURGLAR ALARM SYSTEMS

MALLORY
CRIME ALERT ULTRASONIC BURGLAR ALARM


RECEIVER MORN


Plugs into 120 VAC, no wiring needed. Sends qut invisible sitent unavoidable ultrasonic waves that bianket an area. The silghtest movement by anyone 18 to 22 feet away will activate the crime alert. A loud audible alarm which may be switched on or off is bultt into the CAlA crime alert. Other bells. lights etc. up to 3 amps may be activated by plugging into 115 VAC outlet on side of crime alert.
After the alarm starts it may be stopped and reset in any of the following ways: Remote reset lets you activate and deactivate the alarm from a remote location. Lockswitch, shown at right, is recommended. Automatic reset. Alarm automatically stops after two minutes of operation. Accessory Timer CAT 100 (plugs into back of crime alert) must be used. Instant reset lets atarm trlp only when intruder moves. Manual resef. After intruder has been detected the alarm remains on until manually furned off and reset.
Size: $61 / 4^{\prime \prime} \times 4 \frac{1}{4 "} \times 21 / 2^{\prime \prime}$. Shpg. wt. 2 lbs.
$\$ 99.95$
No. 41A4064. Model CAlA. Each.
Remote Signal Set. Contains transmitter which plugs into CAlA crime alent Remofe Signal set. Contains transmitter which plugs into CAlA crime alert above (fits with CAlA in optional wood cabinet below) indoor receiver
horn and line coupling capacitor. Receiver horn can be located in any AC horn and line coupling capacitor. Receiver horn can be located in any AC
outlet on the same line transformer for remote signaling of intrusion.
 No. 41 A4065. Model KRSI. Each.... No. 41A4066. CACI Wood cabinet for CAI
No. 41 A4067. Model CATIOO Timer. Each.

## (T) HANDY BLAST

- PERSONAL PROTECTION


BIG NOISE: - SUMMONS HELP
in A

- BOAT HORN

SMALL
CANI

## \$250

Each
Small size firt pocket or purse. Loud hoise scares molesters or animals. Use when camping, boating, hunting or hiking. Helps you get emergency aid. Use it to call the kids. It sporting events, etc. $43 / 4$ tall. push top No. 17 A1403
Each
$\$ 3.50$
\$2.99
Eac
Replacement Cannisters
$\$ 1.25$


CHAIN LOCK BURGLAR ALARM
A low cost security device offering duol protection against burglars and intrusion. Chain lock stops intruders while siren seares them off. Mounts easily on doors and windows. Complete with mounting hordwore. Use 2 typ "AA" botteries. (not included). Size: $3-5 / 8$ " $\times 2$ $3 / 8^{11} \times 1-3 / 8^{\omega}$. Shpg. wt. 2 lbs.
No. 47 A5 589. Eoch
$\$ 4.95$
No. 21 A3. " $A A^{\prime \prime}$ Battery. Each
$17^{6}$
BUILD YOUR OWN PROTECTION SYSTEMI

## 110 VOLT SIREN

 away Resistant to corrosion, heat, cold whocks etc. Connect to warning systems or build your own low cost protection system against burglary and vandalism Operates on 110 VAC. $6^{\prime \prime}$ leads. Made in U.S.A. Size approximately $6^{\prime \prime}$ loads. Made in With mounting bracket. Shpe. wt, $41 / 2 \mathrm{lbs}$. Each

## FIRE \& THEFT

## SECURITY SYSTEMS

New handy guidebook completely covers the selection installation, and general maintenance of home and business securtty system. Shows equipment avaliable and how it works.
With the information in this book anyone can install and maintain a fire and security system. Size: $81 / 2^{\prime \prime} \times$ $51 / 4{ }^{\prime \prime}$. 176 pages. Over 100 illustratlons. $\$ 4.95$


## PHOTO-ELECTRIC WARNING SYSTEM

includes light source with infra red FILTER \& RELAY CONTROL FOR 117 VAC DEVICE

Interrupting light beam causes fast acting relay control to operate. For indoor warning or automatic counting system. Consists of two 117 VAC powered units, the light source and the photo cell receiver which can be separated 15 ff . of less dsy or night, when using the Infra red filter, and up to 50 ft , at night or 15 ft . during day without the filter. Internal relay controlled outiet supplies 117 VAC af 0.3 A . to your choice of alarm or counting device. supplies $23 / 4$ " wide. 5 hpg . wt. 6 lbs.
\$22.95
No. 41 A4041. Imported. Special
ENTRANCE
SWITCH MATS
PRESS AT ANY POINT
YITCHING FOR ALARMS
CONTROLS. SAFETY
Reliable, thin switching unit for use under entrance mat, runner or rug. $3^{\prime \prime}$ thick. $17^{\prime \prime} \times 23^{\prime \prime}$ with 6 ft , iead. Fully encased, weatherproof. Responds to light step, closing circult momentarily
No. 41 A 4034 . Wt. 5 lbs. \$18.60 10 a
$\$ 15.95$
WINDOW SILL RIBBON SWITCM. Sensitive durglar alarm switch. White, Comotetely sealed ribbon $18^{\prime \prime}$ long. $x$, ${ }^{\prime \prime}$ wide $x ~ 1 / 8^{\prime \prime}$ thick. Has $12^{\prime \prime}$ leads completely sealed ribbon $18^{\prime \prime} \operatorname{long}^{2} \times$ io wide $x$
at both ends. Responds to 1 lght pressure. closing circuit momentarily. No. $4144035 . \mathrm{Wt} .6 \mathrm{oz} . \$ 6.95$ 10 it . $\$ 6.40$ Net Each
$\$ 6.95$
Ench
\$6.40


## SWITCHES FOR ALARM CIRCUITS MAGNETIC PROXIMITY SWITCH FOR WINDOWS AND DOORS

Small molded case with screw terminals contains a reed switch capable of millions of operationt. Other case contains permanent magnet. When magnet is brought within I inch of switch the circuit is activated. Easily instaled on doors, and windows so that opening will move magnet activating circuit. Switch and Masnet
No. 19A7219-Normally Open. Closes when magnef is brought near. No. 19A7272-Normally Closed. Opens when magnet is brought nea

## 

HEAT/FIRE SENSOR SWITCHES
For fire detection systems. Normaily closed. Snaps open at $180^{\circ} \mathrm{F}$. Closes when cooled. $1 / 4^{\circ}$ disconnect or
 5 ozs.
$\$ 2.99$
No. 18A1549. 6 For

## ELECTRICAL

 SWITCH LOCKRound key lock with sleeve and washers comes with 2 keys No. 41 A4068. Each
\$6.95
SELF-STICK FOIL

$\$ 4^{95}$
EACH



## 3-INCH 117 V. AC ALARM BELL

 Produces loud. clear ring. Overcomes high background noises. Operates directly from output receptacle on photo electric warning system above, or from any 117 VAC power source.Shpg. wt. 8 ozs.
No. 41A4045. Imported. Special Ea.
$\$ 4.95$
6-inch 12 volt OC alarm bell. Loud clear tone. For use in Burglar alarm systems or as doorbell in high noise areas. $1 / 2 \mathrm{amp}$. Red finish. $6^{\prime \prime}$ wire


# The Professional Home Protection everyone can Install and Afford. <br> <br> HOME SECURITY HANDBOOK <br> <br> HOME SECURITY HANDBOOK <br> A comprehensive 40 -poge Homeowners Handbook which includes a wealth af information on professional home security as well as comprehensive installation on professional home security as well as comprehensive installation procedures in clear nan-technical language. <br> No. 16A1225. Each <br> \$2.95 <br> EICO FC-100 5ECURITY CONTROL CENTER <br> - Start your custom Burglar/Hold-up/Fire Alarm Sys- <br> tem with the FC-100 <br> - Add on Sensors, Alarm and Accessories to suit your own needs. <br> - No technical knowledge needed-no soldering. <br> - Ideal for Apartment, Home and certain Commercial Installations. <br> An extremely flexible home protaction device. Designed for use with all types of intruder and fire sensors. The alarm activating circuits accommodate burglar alarm bells, separate fire <br> <br> \section*{EICO <br> <br> \section*{EICO <br> <br> <br> BURGLAR/HOLD-UP <br> <br> <br> BURGLAR/HOLD-UP FIRE ALARM FIRE ALARM 5Y5TEM} 

 5Y5TEM}} horns, as well as various combinations of fire and burglar alarm and horns. A Remote Station Control with signal lights (EICO A.65) can be instolled to show that all doors and windows ore closed and the alorm system is ready to be "armed." The simple circuit uses only two whes. fire alarm circuits are always or and cannot be furned aff accidentally. Powered by 117 VAC which supplies 6 volts DC for operating the system. Optional 6 valt lantern boitery for standby emergency operation. Installers hondbook included. Size: $71 / 4 \times 103 / 4 \times$ $44^{\prime \prime}$. Shpg. wt. 6 lbs
No. 41 A4078. Model FC-100. Each ............................. $\$ 59.95$
No. 21 Bi 36. 6 Volt Lantern Battery. Shpg. wt. $34 / 4 \mathrm{lbs}$. Each
$\$ 2.30$
(1) SO-20 Heat fire Sensors. Open circuit type. Open when temperature reaches $135^{\circ} \mathrm{F}$. Size: $1.7 / 8^{\prime \prime}$ dia. Shpg. wt. 502.
No. 41 A4091. Package of $3 \ldots . . . . . . . .$. (1) SD-24 Furnace Altic Heat Semors. Open when the temperature reaches $190^{\circ} \mathrm{F}$.
No. 41 A4083. Package of $2 \ldots \ldots \ldots . . .$. (2) SO-40 Door Cords 12 Inch, 2 Wire. Withstand many years of flexing without damage. Shpg. wt. 2 lbs. No. 41 A4081. Package of $2 \ldots . . .{ }^{2}$........... $\$ 3.95$ (3) S0. 50 Tamper Switches. Prevents an intruder from deactivating the alarm system. No. 41 A4082. Package of 2
(4) A-35 Emergency Button. Overrides all other sensing devices, and can only be turned off by pushing the same button a second time.
. $\$ 2.95$ No. 41 A4087. Pockage of 2
(5) A. 65 Remote Station Contral With Indicator Lights. Consists of a wall mounting plate, momemtary switch, a white "Circuit Test" light, and a red "Alarm On" light. The momantary switch furns the burglar alarm ON and OFF. The white light indicates that all intruderdefecting devices are operative (closed). The red light indicates that the system is "armed" and any intrusion will activate the alarm bell. Mounts on standard box. Size: $2^{1 / 4} \times 4^{1 / 2}$ ".
No. 41 A4086. Each
$\$ 3.95$
(6) Protective Cirsuit Hook-Up Wire - 100 Ft. Two clear plastic cavered 22 gauge conductars. Used for burgiar and fire alarm circuits. Shpg. wt. $1 \mathrm{k} / \mathrm{lbs}$ No. 2M16. Specify Clear. 100 Ft . For
$\$ 2.88$
The FC. 100 cantral center with detectors, alarm accessaries and an alarm bell. Supplied with: $\$ \mathrm{SA}-258^{\prime \prime}$ Alorm Bell; I A-45 Entrance Key-Switch with "sys-tem-on" signal light; ${ }^{4}$ pairs A. 65 remote station control with signal lightss 1 SO-50 Tamper switch; 2 SO-40 Door Cords; 2 A-35 Emergency Buttons; Installers Handbook; 3 SD-20 Fire Sensors; SD-10, 4 pairs Door/Window Contact Switches; $6 \mathrm{~A} \cdot 105$ "Home Protected" decals and 250 feet of hook-up wire. Additional remote stations, enfrance key switches, alarm bells, signal homs as well as fire, smoke, intruder, defectors are optional. Size: $121 / 2121 / 4 \times 12^{1 / 4}$ Shpg. wt. $16 \mathrm{k} / \mathrm{lbs}$.
No. 41 A4079. Each
(7) S0-10 Door Window Magnetic Contact Read Switches. Normally-open reed switch encosed in a plastic housing, and a bor magnet in a similar plostic housing. Size: $\% \times 1 / 2 \times 21 / 4{ }^{\prime \prime}$. Shpg. wt. 2 lbs .
No. 41 A4080. Pkg. of 4 Pairs
$\$ 9.95$
(8) SA-25 Indoor/Outdoor 8 Inch Bell3 6 VOC. Extra loud alarm bell that can be used for both the burglar and fire alorm circuits.
No. 4 lA4084. Shpg. wt. 5 lbs. Each
..... . \$14.95
(9) SA-27 Steel Bell Box. Includes internally mounted safoty plote with drilled and tapped mounting holes for Eico SA-25 $8^{\prime \prime}$ underdome alarm bell (not supplied) and Eico SD-50 tamper switches (not supplied). Size: $\mathbf{1 2}^{\prime \prime} \mathrm{H} . \mathrm{X}$ $9^{\prime \prime}$ W. $\times 4^{\prime \prime} D$.
No. 41 A4085. Shpg. wf. $8 \mathrm{k} / 2 \mathrm{Ibs}$. Each
$\$ 9.95$
(10) A-45 Momemtary Entrance Key Switch with Signal Light. This switch enables you to get into your home without setting off the alarm.
No. 41 A4088 Each

## y

(11) A-105 Warning Decals.

No. 41 A4089. Package of 6
(12) Alarm Bell Wire Two 18 ..................... $\$ 1.95$ lbs.
No. 2A28. 100 ft . For
(13) SA-15 Indoor Twin Klaxon Horn Alarm $\$ 4.82$ Give loud ear-piercing sound. Sizet $6 \times 8^{1 / 4} \times 3-5 / 8^{\prime \prime}$. Shpg. wt. $11 / 4$ lbs.
No. 41 A4090. Each
$\$ 9.95$

WZRNING



## DELTALERT ULTRASONIC BURGLAR DETECTION \& ALARM SYSTEMS



Deffalert. Simple and easy to connect. The Dettalert monitors and blankets a fifteen to thirty foot area (depending on the shape of the area). An intruder cannot hear or see the ultrasonic sound waves. The Delialert witl detect an intruder entering the monitored area by turning on lights, activating alarms or both. Remains activated for 10 seconds to 3 minutes (adjustable). then automatically resets. Specifications: Ultrasonic frequency 35 KHz . Controls: Oi-Off switch. built-in timer, variable sensitluity control. 110 volt. 1 amp receptacle on back for plugging in lights, bell efc. Power requirements 110 130 V .60 Hz AC . Dtmensions: $10 / \mathrm{A}^{\prime \prime} \times 31 / 4^{\prime \prime} \times 31 / 4^{\prime \prime}$. Shpg. wt. 3 lbs . No. 4144051.
Complete, Ready to use. Net Each_
$\$ 69.95$

## оatruar ${ }^{5} 69^{95}$ oarmaom s24 ${ }^{95}$



110 Volt AC Deltahorn. Provides high intensity noise. Zero to 20 second adjustable delay allows you to enter without activating system. Plugs into Deltalert.
$\$ 24.95$
No. 41 A4062. Each
Super Deltalert System. Contalns Deltalert and hom described above except operates on 12 VDC . Also includes 115 VAC power supply and alarm alert light which mounts outside to warn you of tilegal entry. 12 volt lantern type battery can be used for standby power. Includes connecting wires. No. 41 A406?
Complete system. Each
$\$ 159.95$
No. 41A4063. I2VDC Deltahorn only. Each.
$\$ 26.95$

## Panasonic VIDEO RECORDING EQUIPMENT




## JUST SLIGHTLY AHEAD OF OUR TIME!

Easily operated by teachers and students, the PANASONIC "Mini-TV Studio" expands and enriches educational opportunities. Its use as an audio-visual aid is limited only by the imagination.

## NEW PANASONIC "MINI-TV" STUDIO

A mojor breokthrough in the rapidly expanding field af educational videagraphy from the world's leading praducer of professianal video equipmentl The PANASONIC "Mini-IV Studio" uncomplicates the program arigination phase af educational video taping by providing o complete two-camero portable IV studio at a cost that fits even the fightest oudio-visual budgets.
The all-new special effects generatar hos inputs far up to five cameras plus a VTR input far introducing previausly toped moterial into the progrom. Special "Gen-Lack" feature insures perfect sync. ... even when mixing taped and live material on split screen, titling over materiol on tope, etc. Provides superimposing, fades, lop dissolves, vertical and horizontal split-screen, and leff or right carner wipes. Special preview switching allows setting up next shat in advance. Balance control for uniform video output, reversing switch for.switching " $B$ " channel to negative, builf-in 2:1 interlace sync generotor, outomatic tolley light switching, intercam amplifier, etc. Input/output provisions include 10 -pin ond 6 pin type connectors as well as standard coax-type UHF connectors, insuring


## Panasonic

## MODEL NV-5120 CARTRIDGE VTR

The video cortridge of the future. . . here in 1972- the only video cartridge opproved by EIAI fully compatible with any moke and model EIAJ $=1$ type apen reel machines. Cartridge may be recorded as is or loaded from open reel tapes. NO OBSOLESCENSE OF EXISTING OPEN REEL RECORDINGS!
Records ond plays in color and monochrame. Controls include recard, play, fast forward, reverse, audio, dub, skew, tracking etc. Automatic shutoff and rewind. Cortridge outomatically ejects after rewind cycle is completed. PANA. SONIC. |ust slightly ahead of our time! Model NV. 5120 - Record/Play

Model NV-5110. Playbock Only Model NV-5125. Record/play with UHF/VHF funing.
3/4 "CASSETTE VTR. Similar to abave, but accepts $3 / 4$ " video cassettes. (Interchangeable with Sony and 3 M .) Solenoid operation automatic "tape lifter" during. tape return into cartridge.
Model.NV-2120. Record/play
Madel NV-2110. Playback only Model NV-2125. Record/play with UHF/NHF tuning.
camplete compatibility with any make and model cameras.
Console includes three $5^{\prime \prime}$ high-resalution monitors, five channel audio mixer (faur mike plus ane line level input), deluxe cabinet with lock. Mike inputs and output switchable for high or low impedance.
Includes two Madel WV-360P full-feature studio comeras complete with $5: 1$ $(14.70 \mathrm{~mm})$ rear contral zoom lenses, operatar headsets and mikes, deluxe tripads with removable $5^{\prime \prime}$-costor dallies. Single comera cables carry video output, sync, talley light and intercam hiookup.
The PANASONIC "Mini-TV Studio" is supplied complete with all cabling and accessaries-reody to connect to any video tape recarder. Amazingly easy to operote, it adds professionalism and interest to any video program. Teochers, students, troining directors ... anyane litorally becomes a "videa engineer" with only a few minutes practice. Program origination tokes on new dimensions limited only by the imagination. Be sure to contact the Pro-Industrial Division of Burstein.Applebee for a demonstration before finalizing your audio-visual budget.


## MODEL NV-3130 VIDEO TAPE RECORDER

The most advanced $1 / 2$ " VTR ever affered-the ideal choice for program origination or any recording application. Records and plays in both color and monochrome-both systems standard EIAJ\#1. Electronic drapout campensator "erases" dropouts in playbock by inserting previously scanned line in ploce of any line in which a dropout accurs . . cleans up old or mishondled tapes. Mas both assembly and insert electronic capston-serva editing modes for clean, professional edits. Includes variable-speed slow-motion, skew and tracking adjustments, record level contrals, record level meters atc. Autamatic indicator shows presence af the color signal. Audio dub contral ollows recarding of audio track while playing bock video.
Particularly suited for mastering, the NV-3130's professional editing capabilities, dropout compensator, efc. insure the cleonest pasible original tape and, copies. The perfect video tape recorder for use with the PANASONIC "Mini-TV Studio", listed above, the NV-3130 offers higher quality and more professional features thon any other $1 / 2$ " VTR avollable! Ask for a demonstration.

## NEW INFONICS CASSETTE DUPLICATING SYSTEM 200 DUTSTANDING FEATURES OF THE SYSTEM INCLUDE:

- Truly professional quality; 10 to $\$ 5,000 \mathrm{~Hz}$. frequency response on CrO cassettes.
- Ferrite heads. 50.000 hour life - very litrle cleaning required.
- Automatic rewind and cueing.
- New high speed $-160 / 80$ or $80 / 40$ ips master reel, 20 ips cassette.
- 50 db crosstalk rejection between stereo music programs.
- Auto-slave provides automatic, unattended duplication.

The new professional Infonics System 200 is a giant step ohead of anything ovailable in the tape and cassette duplicating fields. It consists of a family of building-block modules which can be combined in any configuration to meet the specific requirements of the user. System 200 is now in valume production. Each module of System 200 can be fastened to, or set adjacent to, other mod ules in either the horizontal or the vertical position. Each module electrically inter-connects with every ather by means of a single plug-in cable. All System 200 modules are available in 2-track monaural (System 202) or 4 -track stereo (5ystem 204) versions.

System 200 features the ultra-saphisticated heads of electronics of professional systems costing $\$ 100,000$ used by the large record companies. The costly ferrite heods are so durable that they, practically never need replacement enormous economy over the life of the duplicating system. Even more important they need little cleoning and have 50 db crosstalk rejection between stereo programs. Every single unit goes through a $100 \%$ vibration test as part of an aerospace caliber quality assurance cycle.

A minimum starter system consists of a cassette master and a cassetfe slave far a very small investment. Additional modules can be added to the system at any time with complete compatibility. In this way, System 200 achieves the ultimate
it is equally suitable for the small school or office and for the commercial duplicating firm providing 20,000 cassettes a day. Reproduction quality represents a quantum jump over that previously available with economical duplicafors and is equal to the most expensive professional systems. System 200 has the productivity, peHformance, ruggedness and operating reliobility of S 100 , 000 reel-to-reel systems at a fraction of their price.

System 200 Electrical and Mechanical Specification: Frequency response, $40.15,000 \mathrm{~Hz}, \pm 3 \mathrm{db}_{2}$ cassette duplicating speed, 20 ipsz master duplicating speed, (inches per second), 80/40 ips (\% $1 / 2 / 33 / 4$ ips masters), $160 / 80$ ips ( $15 / 7 / 1 / 2$ ips mosters); reel tape speed, $7 / 2 / 3 \%$ ips or $15 / 71 / 2$ ips; signal-tonoise ratio, within 3 db of master tape; fotol harmonic distortion, $0.2 \%$, cross talk rejection, 50 db between stereo programs; ferrite head life, 50,000 hours, bias frequency, $1.5 \mathrm{MHz}_{\text {; capstan }}$ drive motors, all synchronous; all units operate in horizontol or vertical position.

- Plug-in electronics with both digital and linear integrated circuits.
- Heavy duty, professional $101 / 2^{\circ "}$ reel and cassette decks of Infonics own design.
- Total versatility: Reet-to-cassette; cassette-to-cassette; 8 track tape reel-to-reel; even cassette-to-reel.
- External bias adjustment with separate bias meter in each slave module.
(1) A Reel Master is required wherever a reel-to-reel tape is to be duplicated onto any System 200 slave. Sensing fail provides automatic cueing at begin ning and end of tape. Lighted pushbuttons indicate duplicator function. Fool. proof internal computer logic allows buttons to be actuated in any sequence without damage to tape or mechanism. If both a reel master and cassette mas. ter are used in a system, the master not in use is "locked out" preventing any possibleoperator error during duplicating cycle. Available for $7 / 2 / 33 / 4$ fps masters (Model RM) or $15 / 7 / 2$ ips masters (Model RMS) up to $101 / 2$ " reel size. Model 202RM. 2-rack, $7 / 2 / 3 \%$ ips.
Model 204RM. 4-track, $7 / 2 / 2 / 3 / / 1$ ips.
Model 202RMS. 2-trock, $15 / 71 / 2 \mathrm{ips}$,
Model 204RMS. 4-track, $15 / 7$ /1/2 ips.
(2) The Cassefte Master permits duplication on any System 200 slaves fram a master cassefte recording. Features same as Reel Master, above. May be used alone, added to reel-to-cassette systems, etc.
Model 204CM. 4-rrack.
Model 202CM, 2-rack.
(3) and (4)Cassette Slaves are available to accommodate four cassettes (Model CSS) or one cossette (Model CS). Any number of slaves can be driven from any System 200 master. All slaves provide automatic or manual rewind and defective casseffe pasition stop and indication as an option (with this option, the letter "R" is added to model number). Duplicating time for C.30's is 1.4 minutes, etc.


#### Abstract

Model 202CSS. 2-track. Model 202CSSR. 2-rack. Model 204CSS. 4-trock. Model 204CSSR. 4-track.

Model 202CS. 2-track. Model 202CSR. 2-track Model 204CS. 4-track. (B) A real labor-saver, the Cassette Auto-Slave accepts and duplicates in sequence up to twelve cassetfe copies. Each cassette is duplicated and rewound automatically until all blanks have been recorded. Entire process takes less than two minutes per cassetfe. Ideal wherever minimum operator aftention is desirable. May be driven from any System 200 Reel Master or Cassette Master. Model 204AS. 4-track. Model 202AS. 2-track.


[^4]
## B-A SUPER BARGAIN SPECIAL! <br> REGULAR DIAL

 TELEPHONE A COMPLETE EXTENSION PHONE WITH BELL
Princess

## TYPE TELEPHONE

 WITH BELL

> SPECIAL EACH
SELECT YOUR OWN PHONE AND AVOID MONTHLY RENTAL CHARGESI
$\$ 3995$ Most popular type personal telephone! Ideal for home, business, etc. With 4 prong plug, ready to plug-in. Quality engineered for trouble-free service. Bisque white. These are new .. . do not confuse with rebuilt phones. Shpg. wt. 4 lbs.
$\$ 39.95$


EVERYBODY'S USING THEM STANDARD TELEPHONE PLUGS AND JACKS
Pattarned like popular "relephone plugs" and interchangesble with tham, Standard 4 wire type, with cade marked screw rerminols. Perfoct for extension sposker: intercom syatems, phones, atc. Surface fock, for exposed wiring, mounts with 2 screws. Fluth lack, for concealed wiring. has fitings ond walf plate for standerd alectrical outiet box. (Box not supplied). Soecify lvory or Brown.
(8) 32 A4003 Portable Plug. En....... 655 (8) 32 A4004 Surface Jack. ED

65 c
.65 c (3) 32 A 4005 Flush Jick.

Ivory Only. Each
$\$ 1.79$
TELEPHONE
"JACK-IN-A-PLUG"
Uñique telephone plug also contains built-in jack. Connect 2 or more phones from 1 existing jack. Easy to phones from loss existing jack, Easy to
install. No lo

Each ..............

## 56

## INSTANT JACK QUICK CONNECT

## TELEPHONE OUTLET

 Instantly converts any single line telephone wall function box into a convenient jack outlet without dlsturbing your present telephone. No wiring necessaryl simply remove junction box cover (one screw) and replace with"Instant jackin No. 32 A4034. Each
$\$ 1.99$

## 25 FOOT TELEPHONE EXTENSION CABLE



Standard style 4 prong plug and socket as used with regular telephones. Fully assembled with durable resistant plastic 25 ft . 4 -wire cord. Fine for telephone-intercoms etc. Shpg. wh. 1 lb . $\$ 2.99$
No. 32 A 4002

WONDERLOOP TELEPMONE PICKUP FOR RECORDING PHONE CALES


New design, extremely sensitive loop slips over Ilstening piece of Bell system handset. Requires no special installation. Hum cancelling design for perfect operation. Makes phone recording quick and easy. With 6 ft . shielded cord and minlature plug to fit most recorders. No. 32A4014. Special Each.
$\$ 3.95$


BELDEN COILED CORDS FOR TELEPHONE Spade terminats and metal cord clamp atSpade terminats and metal cord


25 FT. TELEPHONE

## EXTENSION CORD WITH LUGS

3 -conductor telephone cable. Makes any phone portable. Instructions included. Shpg. wt. 2 lbs.
No. 32A4035-Black YOUR CHOICE EACH No. 32A4037--White

## TELEPHONE ACCESSORIES



You'll never again miss o phone call or be disturbed by an unwanted call. For salesmen, business and professional men, housewives, coreer girls, singles, institutions, industry, retoilers. Automatically answers your phone and gives callers your recorded message, up to 30 seconds long, exactly what you want to say. Records incoming messages accurately and clearly up to 30 seconds lang. Lets you hear wha's calling without you touching your phone, without letting the caller know you're there. Never keeps callers an hold or scrombles messages. Pays for itself in about 6 months compared to cost of most live answering services. Helps protect your house; phone is never left ringing.
Plus Features: Can be used to "onnounce only." Gives callers your special message, but does not record incoming messages. Business, churches, social and civic arganizations find this a valuable built-in Phone-Mate feature. Plugs into stondard telephone jack. Works with any telephone. Complete with batteries, 4 " $D$ " size; microphone, opeating monual, 4 -prong extension plug. Size: $11 \frac{1 / 4}{} \times$ $91 / 4 " \times 3$ 有". Shpg. wt. 9 lbs
No. 32A4040. Each
$\$ 139.50$

## (1) WHEELER SOUND POWERED TELEPHONE HANDSETS

Two to 12 may be used in or outdoors. No fire or shock hazards. No batteries used! 2 way talking up to 25 miles over 2 -conductor wire as listed below. Ideal for construction work or football fietds. Impact resistant handset with 4 ft . rubber cable and rubber insulated clips for quick connectlons.
$\$ 14.88$
No. 3244006.
Model SPTIO2. Net Each
150: Transmitter has a special mouthpiece designed Mish Leval Handset SPT-150: Transmitter has a special moutplece ding igise. to improve acoustic coupling and reduce interterence of surrounding noise.
Retractile-type $8^{\prime \prime}$ to $48^{\prime \prime}$ cord with rubber insulated clips. \$17.20 No. 32A4024. Each
$\$ 17.20$
$\$ 9.19$


Transforms any ordinary telephone earplece into a unique sound-control amplifier. Overcomes difficult local noise problems and brings normal private telephone use to those with hearing lass. New solid-state electronic concept assures maximum hearing range and comfort ...attaches instantly and securely to any ohone with a simple, snug fitting band.
Four transistor amplifier raises incoming teleptoone volume up to 5 times higher with full clarity. Has recessed volume control. Precision built for reliable performance. Shpg. Wt. 1 ib. Less battery.
No. 32A4013. High Quallity Import.
Each. No 21A5000. Battery for above. Net Each

## PHONE-CENSOR

Enables you to eliminate sound input from your end of a telephone conversation with finger tip control. Installs in seconds in handset with no wires or changes. Switch has fixed or mamentary positions to cut off voice transmission. Does not interfere with normal telephone operation. Black color.
No. 32A4041. Model 771. Fits standard Western Electric, ITT Bell and Stromborg Carison telephones. Does not fit Princess or Trimline.
No. 32A4042. Model 871. Fits stondard Automatic Electric and General telephones.
Choice Each .
\$4.95



Allows everyone in the room to hear of speak over the phone with perfect clarity. Ideal for conference calls in home, shop or office. Also perfect aid for the hard of hearing. Completely portable, solid state, battery powered, requires no installation of any kind. When in use, the telephone handsei la placed on the unit much like a normal telephone cradle. Switch the solid state amplifier on to provide room volume for everyone to heat. Has extension speaker and adjustable volume controt. When conversation is completed phone is simply returned to its normal position. Case is durable breakeresistant polystyrene plasilc No. 32A4001. Each
\$16.95
No. 21878. Penlight Baltery
19c


Record both sides of felephone conversations with any tape recorder which uses a remote control mike. Connects at any point of your phone line. Does not interfere with normal operation of your phone. Ringing signal or vaice turns on recorder, automatically turns of when conversation ends. Makes recordings while monitor is ottached at one phone and conversation is made af extension phone. Easy way to keep permanent records of incoming and outooing phone calls. Relioble solid state circuit Operotes for weeks on inexpensive 9 volt transistor battery (not supplied). Sizes $11 / 2 \times 11 / 2 \times 21 / 2^{2 \prime}$ No. 1147540.
Noch
No. 21 Bi41. 9 Volt Bottery Each
\$29.95

## TELEPHONE <br> PATCH CORD <br> $\$ 795$

## for recording telephone calls

Works on all tandard telephones including those with shielded bases and handsets. Will not Interfere with telephone operation. Insialis anywhere along the telephone line. at a terminal block or inside the feiephone. No bulky suction cups or coila to hinder tetephone operation, with miniature phone plug. No. 32A4039. Each.
$\$ 7.95$

## HANDSET TYPE TELEPHONE INTERCOM

Amazing power and clarity. Simple to use. Iike ordinary telephone with hand-operated on" and "call" buttons. Excellent voice fidelity: Long distance communication for aither outdoor or indoor use. Electronic Ione call signat. Only 2 " C " flashlight batteries required for each handset. Simple to install with 2 conductor cable. No currem drain
when in standoy. Wall hanger supplied. Japan import. Shpa. wt. 2 lbs No. 22 A A 68. spoceclip Pe Per Par.. $\$ 29.95$
No. 21AZ Bomery (requires 2). Ea.....20c
No. 249889. 2-Conductor Cable.



## 2-CHANNEL WIRELESS INTERCOM SYSTEM

Features hi-power IC circult for extra range and sensitivity. Two-channel operation permits wider use with less interference. Special filtor circult minimizes background line noise. Operates room-to-room or between buildings on the sarme line. Units have pitot IIght, on/off volume control, talk-listen swlich with lock position for continuous transmission and channel setector switch. System can be expanded by adding several extra single stations. Ivory and brown with wood grain accents. $117 \vee \mathrm{AC} 7 \times 31 / 2 \times 2^{\circ}$. Shpg wt. $3 \mathrm{Y} / \mathrm{lbs}$.
$\$ 33.95$
No. 32 A 456 . IN-500 single Wireless Station. $13 / 4$ lbs. Each. ..$\$ 17.95$

# DELUXE SOLID STATE FI INTERCOM SYSTEMS USE AS MASTER-TO-MASTER OR MASTER-TO-REMOTE SYSTEM 


ters and permits any station to selectively communicote with any other station or group of stations in the system. Up to three simultaneous conversations moy take place in a Director 7 system (six in o Director 13 system). Conferences between several stations can also be held.
MASTER TO REMOTE SYSTEM permits one Director 7 Master to canverse with up to six model Director 1 Remotes (twelve remotes with the Director 13 Master). Master can selectively speok with any one or more remotes, however, remotes cannot speak to each other. Remotes reply to the moster "hands-free" and can operate either private or non-private by use of the privocy switch.
Full I watt power masters have volume control On/Off switch, talk/listen switch with lock position and U.L. listed power supply for $110-120$ VAC. Brown with wood grain accents and brushed aluminum frim. Size $91 / 2 \times 6 \frac{1}{4}$ " $\times 31 / 2^{\prime \prime}$ Cable requirements: One more conductor than total number of stations in system. Add one shielded wire for each PR-15 Paging/talk-back relay. Order cable from page 159.
No. $3<4474$. Model Director 7. Seven Station Master.
Shpg. wt. 3 tbs. Each
$\$ 34.65$
No. 32A472. Model Director 13. Thirteen Station Master.
Shpg. wt. 4 lbs. Each
No. 32 A473. Model Director 1 Remote. Shpg. wt. 2 lbs. Each
$\$ 43.50$ No. 32A4023. Model PR-15 Paging/Talk-back Relay. Connects Director 7 and Director 13 to PA system for Paging/Talk-back. Wi. i lb. Each.. \$22.25


TALK-A-PHONE SOLID STATE INTERCOMS


## AVAILABLE, IN NORMAL. POWER OR HIGH POWER MASTERS

Permits use of up to 5 remotes wlth KML-5 or K-AC-5406 master or up to 10 remotes with K-ML-10 or K-AC-5411 master. Master can talk and listen to any remote individually, more than one remote at once or to all remotes at same time. Remotes can originate calls to master, but cannot talk to each other.
Remotes can operate as private or non-private. When in non-private remotes can be answered from distance. Master is always private, and cannot be cavesdropped on.
Only one master can be used in master remote systems. Master is only station that needs power. Masters size $101 / 2^{\prime \prime}$ W. $\times 83 / 4^{\prime \prime \prime} \mathrm{D} . \times 31 / \mathrm{s}^{\prime \prime} \mathrm{H}$. Wt. 7 lbs. Case is grey vinyi clad and brushed chrome. Remotes size $71 / 2^{\prime \prime} \mathrm{W}$. $\times 83 / 4{ }^{\prime \prime} \times 21 / \mathbf{N}^{\prime \prime} \mathrm{H}$. Wt. $41 / 2$ lbs. Finished in grained baked enamel and brushed chrome. Wall mounting remote model $K-L R-3 R$ is $61 / 2 \times 41 / 8 \times 2^{\prime \prime}$ 0 . Two types of masters are available, one for normal nolse arcas (offices, etc.) the other for hi-noise areas (factories, etc.).

K-ML-5 NORMAL POWER MASTER for up to 5 remotes. No. 32A426. Mfg List $\$ 85.00$. Net Each. K-ML-IO NORMAL POWER MASTER for up to 10 remates. 32A428. Mfg. List $\$ 105.00$. Net Each K-AC-5406 HI-VOLUME MASTER for
32A427. Mfg. List $\$ 105.00$. Net Each K-AC-5411 HI-VOLUME MASTER for up to 10 remotes. 32A429. Mfg. List \$125.00. Net Each K-LR-3M DESK STYLE REMOTE.
32A430. Mfg List $\$ 29.95$. Net Each REMOTE
K-LR-3R FLUSH WALL MOUNTING R
32A431. Mfg. List 529.95 . Net Each.
$\$ 49.95$
$\$ 61.50$
$\$ 61.50$
$\$ 73.30$
$\$ 17.50$
$\$ 17.50$

For cable requirements measure from master to each remote. Order cable 5303 listed with two station system at right.

ACCESSORIES
FOR
TALK-A-PHONE INTERCOMS

(4)
(1) K-WI Wall Mounting Brackefs for Models K-LC-2, K-LR-3, K-LR-3M, K-LR-2. Wt. 1 oz. per pair
32A445. Mfg. List $\$ 1.00$ Per Pair. Net Per Pair
60c
(8) K-HP-3 MI-Power Remotes. With $8^{\prime \prime}$ speaker and 5 -watt handling capacity Charcoal gray metal cabinet. $12^{\prime \prime} \mathrm{W} . \times 8^{\prime \prime} \mathrm{D} . \times 12^{\prime \prime} \mathrm{H}$. Wt. $9 \mathrm{lbs} . \$ 23.20$ 32A442. Mfg. List $\$ 39.50$ Net....
or and out(3) K-C-20 Mi-Power Re-entrant Mom.
door use. Charcoal gray $9{ }^{\prime}$. Wt. 5 Ibs.
$\$ 33.00$
32A443. Mfg. List $\$ 56.50^{\circ} \mathrm{Net}$
Hi-Power Re-
(1) K-5-100 Wall Switch for Griginating catls through K-HP-3 Hi-Power Re-
mote or K-C-20 Re-entrant Horn. $53 / 4^{\prime \prime} \mathrm{W} . \times 21 / 2^{n \prime} \mathrm{D} \times 13 / 4^{n} \mathrm{H}$.
32 K 444 . Mfg. List $\$ 8.95 \mathrm{Wt}$. 1 ib. Net

All master systems in either 5 or 10 station capacity. Avallable In normal power models for average room level or high volume models (10 times volume output of normal unit) for noisy and larger areas. Each master can call and converse with other masters, selectively and privately, (cannot be eavesdropped on by other stations) or hoid conferences with 2 or more masters. Several 2-way conversations can be held simultaneously without interfering with one another. Each master controls incoming volume. Cabinets of Grex viry! and brushed chrome. Normal power Masters operate from 120 V . AC or OC. High power Masters operate, For 5 Master System run 6 conductor cable listed beiow between Masters. For 10 Master System run 11 conductor cable between Masters. All masters are $101 / \mathrm{a}^{\prime \prime} \mathrm{W}$. $\times 83 / 4^{\prime \prime} \mathrm{D} . \times 31 / \mathrm{s}^{\prime \prime} \mathrm{H}$.

K-IS- 5 5.STATION NORMAL POWER MASTER. W $\mathrm{t}_{\mathrm{t}} 7$ lbs
$\$ 49.95$
32A432. MIg. LIST $\$ 85.00$. Net Each.... MASTER. WT. 7 lbs.
$K-L S-10$
$10-5 T A T I O N ~ N O R M A L ~ P O W E R ~ M A S T ~$
K2A434. Mfg. List $\$ 105.00$. Net ENCh.
$K$-AC- 505 MI -VOLUME 5 -STATION MASTER. Wt. 7 lbs .
K -AC-505 Hi-V OLUME 5-STATION MASTER. Wt. 7 lbs.
$\mathbf{3 2 A 4 3 3}$. Mfg. List $\$ 105.00$. Net Each.......
$\$ 61.50$

32A43. Mfg. List $\$ 105.00$. Nat Each....
K-AC-510 MI-VOLUME $10-5 T A T I O N ~ M A S T E R . ~ W t . ~$
7 \$61.50 32A435. Mfg. List \$125.00. Net Each

SUPER SELECTIVE ALL MASTER SYSTEMS
i1 CONDUCTOR CABLE (9911) for connecting K-LSIO or K-AC-510 Master. For indoor and outdoor use. Approx. O.D. ris". Wt. per 100 ft . 5 lbs.


## K-LC-2 TWO-STATION INTERCOM SYSTEM



Provides finest two-way communications with unmatchable dependability for continuous duty. Complete sytem includes a master station. a sub station and 50 ft . of cable. Additional cable of up to 2000 ft . may be added llisted below). Both master and remote can be set for private fone cannot "eavesdrop: on the other) yet either can originate calls, even in private setting. Remote in non-private position may be answered from a distance without Master has Only master need be plugged into $110-120 \mathrm{~V}$. AC or DC outlet Master has volume control, talk-listen switch and pllot light. Charcoal grey finish steet case with brushed chrome face plate. Remote has only talk-listen Switch. Master size: $31 / 2 \times 10^{1} / 2 \times 83 / 4$ " Sub. $27 / 8 \times 71 / 2 \times 83 / 4^{\prime \prime}$;
K-LC-2 COMPLETE
13 lbs. COMPLETE 2-STATION SYSTEM with 50 ft . of cable. Shpg. wt. 13 los
$\$ 51.50$
5303. 3-CONDUCTOR INDOOR CABLE. Wt. per $100 \mathrm{ft}, 1 \mathrm{lb}$.
No. 2A9939. Mfg. List per ft. 7c. Net, Per Ft..................

B-A Can Supply All Talk-A-Phone intercoms

# HOME INTERCOMS BY NuTone 

## FM/AM MUSIC-INTERCOM PACKAGE SYSTEM

## NEW SOLID STATE 3-WIRE DECENTRALIZED SYSTEM

BASIC PACKAGE SYSTEM INCLUDES:

- FM-AM Master 5 tation in walnut color - 3 inside speakers in eggshell white with "permanent monitoring"
- I door speaker.
- A-frames, transformer, antenna, 200 ft . 3-conducfor wire.

${ }^{s} 134^{95}$


The total system provides AM-FM Radio throughout the house. System has flexibility of adding up to 8 remote stations. Crystal clear intercom and the protection of door answering from any inside speaker. Accurate slide rule funing, automatic intercom override. Open back Master housings for best sound reproduction. Exclusive tatching Tatk
speakers, for permanent-monitoring. System fits walls as thin as $2^{\prime \prime}$. Extra remotes can be added anytime.
No. 32A453. Model 2065. Complete system.
$\$ 134.95$
Extre Remote for use with above system.
No. 32A454. Model 2028 Remote. Net Ench
$\$ 8.95$


AM-FM RADIO PLUS INTERCOMS THROUGHOUT THE HOUSE

(1) Full Tronsistor Master

[2 B-in. HI-FI Remote

(6) HI-FI Patio Soeoker

(4) S-in. Full Range

(1) Outside

Remote

[ Door Remote
(1) FULL-TRANSISTOR FM-AM INTERCOM-RADIO MUSIC SYSTEM KEOUIRES ONLY 3 CONDUCTOR
CABLE TO REMOTE SPEAKERS

- Up to 8 Remote Stations. - 24 solid statecomponents. Easy to
- Large ceramic master FM with AFC. speaker. - Phono fack.
${ }^{\mathrm{s}} 147^{20}$
MFC. LIST $\$ 184.00$

Never before so many feafures in a luxury set at a budget price! New allcall lever at the master lets you "page" every room. with speakers, at the call lever at the master lets you page every room. wime. Each person can answer without walking to their remote speaker same time. Each person can answer without waiking to their remote sper for to.operate the controls. 3-stage FM tuner including field-Effect iransiverride." interference-free performance. Adjustable automatic intercom-Override. Tuner adapts for background music only. intercom section can be left operative ... Ideal for use in professionat offices. Economical to use include 8 station selector switches, talk-listen switch, volume control. tone include 8 station selector switches. talk-listen switch, volume control. control, master volume controt. Phono-AM-FM selector switch. separate AM and FM tuning controis. Master unit only complete with rough-in frame. Use finishes. Shpg. Wt. 9 fibs.
No. 32A410.2. Model 2090, Woodgrain Walnut. Net $\$ 147.20$
No. 32A410-2. Model 2090. Woodgrain Walnut. Net
No. 32 A411-2. Model 2091.
Egrshell White $\boldsymbol{G}$ Beige. Net
REMOTE SPEAKERS FOR USE WITH MASTERS


Small size, $2^{\prime \prime} \mathrm{H} . \times 4^{\prime \prime}$ W. X $44^{1 / 4^{\prime \prime}}$ U. Can be used in any 12 volt cor, truck, boat or plane. Postive or negative ground. Solid state, no worm-up. Input for high impedance mike and tope or phono. Use with any 4,8 or 16 ohm specter or trumpet. Operates on 12 VDC. Shpg. "wt. 4 lbs.
No. 49A209
Import Special Each
\$29.95

# B-A's 35-WATT PORTABLE PA SYSTEM <br>  

Features B-A's 35 watt feature-packed amplifier ( listed on page 64), two 6.8 oz. $12^{\prime \prime}$ speakers. each with $35^{\circ}$ cable and plug, split type carrying case, size $15 \times 17 \times 20^{\prime \prime}$, provides separate baffles for the two speakers plus convenient. secure carrying case for the amplificr. Your choice of E-V $\$ 95.00$ list 664 cardioid dynamic mike or the Shure cardioid dynamic 545 that will stip out of mount for hand-held use. Both mikes have $18^{\prime}$ detachable cable and plug and are supplited with B-A's leader value floor stand adjustable from $35^{\sim}$ to $63^{\prime \prime}$. Amplifler operates from $117 \mathrm{~V}, 60 \mathrm{~Hz}$. AC. Shpg. wt. 74 lbs. Less phono top.
No. 49A94. B-A's 35 waft systam with E-V 664 Dynamic Mike.
Completic $\$ 175.00$
No. 49A8001. B-A's 35 watt system with Shure 545SD Mike
Complete
No. 49A205, 4-5peed Phono Top for above

## B-A's 35-WATT PA SYSTEM WITH COLUMNS

## 50 <br> 

deal. comblnation for semi-permanent or permanent installations, $2-$ Argos 501064 Sound $\mathrm{Col}-$ Argos 501064 sound columns, B-A 35 watt Amplifier. Mike Stand and for stand mounting or the Shure 545 Mike which can be removed from stand for hand-held operation.
Complete system, everything included and ready to hook up for operation. Shpg. wt. 70 lbs.
No. 49A8003. With EV-664 Mike. \$239.95
No. 49A8002. With Shure S45SD make
Net Each

B-A's 35-WATT SYSTEM WITH SPEAKERS \& BAFFLES


Perfect system for custom installation. Features B-A's 35 watt power amplifier, 4 heavy duty $8^{\prime \prime}$ speakers, 4 walnut finish baffles. Famous ElectroVoice 654 microphone with cables and B -A's deluxe floor stand. The ideal system for small audi toriums, churches, club rooms, etc. No. 49 A 8005.
$\$ 185.00$ Complete
Identical to above systom but with 4 heavy duty 12 " speakers and 4 walnut finish baffles. Perfect for larger areas where bigger speakers with more sound output is required
$\$ 199.95$ No. 49A8006. Complete.................... No. 2A28. 2-Conductor Wire for connecting speakers to above amplifiers.
 WRITE DEPT. CS-PA FOR BPECIAL QUOTATIONS ON ANY SYSTEMYOU MAY REOUIRE.

## POWER PLUS "T" <br> AM/FM TUNER



Add AM or FM radio to your P.A. or stereo system. Tunes standard 540.1600 KHz or $88-108 \mathrm{MHz}$. Mas funing contral, AM.FM-AFC switch, and power switch. Black w/brushed oluminum ponel. Size $5 \times 7 \mathrm{k} \times 81 / 4^{\prime \prime}$. Shpg. wf. 13 lbs No. 49A243. Model Power Plus T
Each
$\$ 69.00$

## 35 WATT RMS P.A. AMPLIFIER WITH FM/AM

OPERATES ON 117 VAC OR 12 VDC


## POWER PLUS "35T"

AM/FM funer incorporated with a prolessional P.A. omp. Safety circuits pro tect against shorts, opens, and overdrive. Male 3 pin type connector for Na .1 mic. input (low impedance.) No. 2 mic. (switchable high or low Amphenot type screw connector) has "priority page" circuit which preempts music and voice. Aux. and mag. phono input. 40 to $20,000 \mathrm{~Hz}$. Frequency response. Operates on 117 VAC 60 Mz or 12 VDC for mobile use. $4,8,16 \mathrm{ohm}$ outputs. 25 and 70 voli balanced line outputs. Black w/brushed aluminum ponel. Size $5 \times 15 \mathrm{y} / \mathrm{h}$ $\times 12 \frac{1}{4 \prime}$. Shpg. wt. 30 lbs
No. 49A242. Model Power Plus 35T. Each
$\$ 150.00$


## ADD FM TO YOUR PA

 OR STEREO SYSTEMSolid stare Mi-Fi FM Tuner designed for the best reception in fringe areas or naisy locations where strong and effective limiting is o prime require. ment. AFC circuitry provides positive no-drift operation 24 hours o day. no-drift operation 24 hours a day.
Perfect for use with PA omp. Freq. Pertect $88-108 \mathrm{MC}$. Freq. resp. 2 D $20,000 \mathrm{Mz} . \pm 1 \mathrm{db}$. Sensitivity 2 MV. Beautiful gold bronze panel in hondsome metal cabinet. Small size, only $91 / 2 \times 7 \times 31 / 4$ " fits anywhere, Shpg. wt. 5 lbs. No. 49A23D. Net Each
\$69.95

AM-FM TUNERAMPLIFIER WITH MICROPHONE PAGING


Mono background music and paging receiver is a complete solid state high fidelity music system consisting of sensitive AM.FM Tuner complete with AFC for no drift reception and a self-contained audio amplifier with microphane preamplifier. Features include a volume control for program or phonogroph music, a separate volume control for microphone level for paging and a function switch for source selection. A microphone precedence circuit is incorporated so as to suppress the music if desired when using the microphone. Output jack permitting Tuner to be usad with external amplifier or recorder. The unit is supplied with a rugged brushed gold aluminum panel and is enclosed in o sturdy metal cabinet.
Specificotions: 15 watts RMS, AM.FM solid state. Audio inputs: 1 Mic - high or low imp. unbalanced. 1 phano/oux. Poging relay. Output imp. 8 ohm, 25 volt line, 70 volt line. Amplifier freq. resp. $50 \mathrm{~Hz}-20 \mathrm{KHz}$. Solid stote devices: 17 silicon transistors, 14 diodes. Tuner freq. FM: $88-108 \mathrm{MHz}_{;} \mathrm{AM}: 510-1650 \mathrm{KMz}$. Tuner frequency resp: $₹ \mathrm{M}: 20 \mathrm{Mz}-20 \mathrm{KHz} \pm 1 \mathrm{db} ; \mathrm{AM}: 20 \mathrm{Mz}-5 \mathrm{KMz} \pm 3 \mathrm{db}$. Tuner sensitivity, $F M$ : $2 \mathrm{mv}_{\text {; }}$ AM: 10 mv . Power consumption: 30 watts, 117 volts $A C, 60 \mathrm{Mz}$. Size 13 将 $\times 10-7 / 8 \times 3.9 / 16^{\prime \prime}$. Shpg, wt. 12 lbs Nठ. 49A231. Model 869. Net Each
$\$ 173.50$
30 Watts RMS AM-FM Tuner-Amplifier with Microphone Poging. Other specifications same as above. Shpg. wi. 15 lbs .
No, 49A244. Model 872. Net Each
$\$ 199.95$


## BOGEN CHB AMPLIFIERS

 FOR EVERY NEED! More useable features than other Ampliflers selling for much more!All are designed for continuous, heavy duty operation Ous, heavy duty operation 16 ohms, 25 V . line, 70 V . line.

## 20-WATT PA AMPLIFIER

Extremely versatile amplifier meets requirements for small auditoriums restaurants, paging systerns, etc.
Freq. response of $20-20,000 \pm 2 \mathrm{db}$ gives excellent quality music as well as voice reproduction. 3 inputs, one high impedance microphone, two aux. (Fader) Hi-impedance, Hi-fevel. Hum and noise -65 db mike, -80 db aux. below rated output. Gain 125 db microphone 100 db aux. Sensitivity microphone: 3 millivolts, aux. 5 volt. Controls; 1-Mike, 1-Aux. (Fader), F-Master Volume, 1 -Bass, 1 -Treble. $1-$ Power. Tone controls: Treble $(10 \mathrm{KHz})+10 \mathrm{db}$. -16 db. Bass $(50 \mathrm{~Hz})+14 \mathrm{db} .,-10 \mathrm{db}$. Tubes $1-6 E \mathrm{EV}, 2-6 \mathrm{CW} 8,2$ silicon rectifiers and 1 silicon diode. Power consumption 90 watts. Operates from
 17 lbs.
$\$ 79.50$

## 35-WATT PA AMPLIFIER

Ideally suited to small theatres, ouditoriums, night clubs, etc. Power output 35 watts. Inputs for 2 mikes ( 125 db goin; 4 MV sensitivity), high impedance; 1 magnetic phono ( 115 db gain; 12 MV sensitivity) and 2 aux. ( 100 db gain; 2 volt sensitivity), high impedance, high level. Controls ore Mike $=1$ VolumeMike $\mathbf{2} \mathbf{2}$ Volume, Fader for 2 auxiliary Inputs-Master Volume-Bass-Tre-ble-Power Switch-Magnetic Phono Switch, provision for remote control of Mike $=1$ and Mike $=2$ or mognetic phono. Tubes (5) 1-6EU7, 2-7868, 1-12AX7 1.6 C4, 2 silicon rectifiers and 1 silicon diode. $105-125 \mathrm{VAC}, 50-60 \mathrm{~Hz}$. Size: $6^{1 / 4}{ }^{\prime \prime} \mathrm{H}$. $\times 15 \not / \mathrm{H}^{\prime \prime} \mathrm{W} . \times 10^{\prime \prime} \mathrm{D}$. Shpg. wt. 20 lbs. No. 49A224. CHB35A. Mig. List $\$ 162.50$. Net Eoch
$\$ 97.50$

## 50-WATT PA AMPLIFIER

Conservatively rated for long life in continuous operation. Inputs for 2 mikes ( 120 db gain; 5 MV sensitivity), high impedance, 1 mognetic phono ( 110 db goin; 15 MV sensitivity), 2 aux. ( 95 db gain; 3 V . sensitivity), high imp., high level. Controls: Mike $=1$ Volume, Mike $=2$ Volume, Foder for 2 aux. inputs Moster Volume. Bass, Treble, Power Switch, Magnetic Phono Switch provision for remote control of Mike $=1$ and Mike 22 or Magnetic Phono. Tubes (5) 1 . 6EU7, 1-12AX7, 2-6L6GC, 1-6C4 and silicon rectifier. 105.125 V . AC, 50.60 Hz Size $63 / 4$ "H. $\times 15 \psi^{\prime \prime}$ W. x $10^{\prime \prime}$ D. Shpg. wt. 22 lbs. No. 49A226. CHB50. Mfg. List $\$ 190.00$. Net Each
$\$ 114.00$

## 100-WATT PA AMPLIFIER

Provides ample power for large auditoriums and vast outdoor areas. Inputs: 2 Mike ( 125 db gain; 5 MV sensitivity), high imp.; 1 magnetic phono ( 115 db gain; 15 MV sensitivity) 2 aux. ( 100 db gain; .3 volt sensitivity), high imped. once, high level. Controls: Mike $=1$ Volume, Mike $\# 2$ Volume, Fader for 2 aux. inputs, Master Volume, Bass, Treble, Power Switch, Magnetic Phono Switch, provisions for remote control of Mike $=1$ and Mike $=2$ or mog. phono. Tubes (7) $1-6 E U 7,11-12 A X 7,4-7868,1-6 C 4$ and silicon rectifier. Size $6 \% / \mathrm{H}, \mathrm{K}$ $15^{3} 3^{\prime \prime} \mathrm{W} . \times 10^{\prime \prime} \mathrm{D}$. Shpg. wt. $25^{\prime}$ lbs. No. 49A227. CHB100. Mig. List $\$ 247.50$. Nef Each
$\$ 148.50$


## BOGEN AMPLIFIER ACCESSORIES

(1) SR-2 Remote Volume Control. Adiusts amplifier volume of 2 channels from to to 2000 feet. For CHB35A, CHB50, CHB100, and MXMA. Uses 3 -cond unshielded cable Mfg. List $\$ 22.40$ No. 49A225. Net Each
$\$ 13.45$
(2) LPC-4 4-5peed Matching Phono Too Attaches to top of CHB20A, CHB35A, CH850 and CHB100. Wlth tone arm. cartridge, rubber turntable mat and built-in 45 RPM adaptor. size $43 / 4^{\prime \prime} \mathrm{H}, 13^{\prime \prime} \mathrm{W} .91 / 2^{\prime \prime} \mathrm{D}$. $\mathrm{W}_{\mathrm{W}} .8 \mathrm{lbs}$.
No. 49 A 20 . Mfg. List $\$ 48.75$. Net Esch
$\$ 29.25$


## BOGEN SERIES "CT"

 SOLID STATE AMPLIFIERSA distinctive feature of the CT amplifiers is the built-in equalizer filter circuitry, which provides a means of boosting or attenuating any or all of circuitry, which provides a means of bcosting or artenuating any or alsures five selected frequencies to suit room acoustics. The elecrionic limiter assures a uniform output from the amplifier regaroless of variations in the input level. Thermal cufout in autput circuit protects power transistors. May be operated from 120 V . $50 / 60 \mathrm{~Hz}$. Quick-disconnect plugs provided for speaker outputs.

Specifications: Frequency response: 1.5 db from 60 Hz to 12 KHz . Sensitivity: Hi-Z MIC. 3 mV ; LO-Z MIC. 3 mV ; Bridging Input, 30 mV ; AUX 0.3 V . Output levels; Bridging, 30 mV ; Tape, 0.68 V . Hum and Noise; MIC 60 db below rated output for both low and high impedance: AUX. 70 db belaw rated output: Fundamental, 80 db below rated output. inputs: $4 \mathrm{HI-Z}$ MIC. inputs, each convertible to LO-Z MIC. 2 AUX. inputs with fader control: Bridging input; $500 / 600$ ohm telephone line with optional WMT-1 accessory; 2 inputs for remote volume control. (Special order option.) Outputs: 4, 8, 16 -chm speaker taps; 25 -volt CT and 70 V balanced lines. Tape, booster and bridging outputs, $500 / 600$ ohm telephone line output with WMT-1 optional accessory. Filter Control action: $\pm 10 \mathrm{db}$ at following fre-
quencies: $80,300,1 \mathrm{~K}, 5 \mathrm{~K}, 10 \mathrm{KHz}$. quencies: $80,300,1 \mathrm{~K}, 5 \mathrm{~K}, 10 \mathrm{KHz}$.

## 30 WATT PA AMPLIFIER

Model CT-30. 30 watts at 1 KHz at less than $2 \%$ distortion. Cain 112 db.
Semi-conductors: 18 ailicon transistors, 1 zener diode, 7 silicon diodes. Size: $163 / 6^{\prime \prime}$ W. $x 123 / 4^{\prime \prime}$ D. $\times 41 / 4^{\sim}$. H. Shpg. wt. 19 lbs .
$\$ 180.00$

## 60 WATT PA AMPLIFIER

Model CT-60. 60 watts at less than $2 \%$ distortion. Gain 115 db. Semiconductors: 20 silicon transistors, 1 zener diode, 7 silicon diades. Size: $163 / 8^{\prime \prime} \mathrm{W}$ $\times 133 / 4^{\prime \prime}$ D. $\times 41 / 4^{\prime \prime}$ H. Shpg. wt. 22 lbs.
No. 49A240. Mfg. List $\$ 350.00$, Each....
$\$ 210.00$
100 WATT PA AMPLIFIER
Model CT-100. 100 watts at less than $2 \%$ distortion. Cain 118 db . Semiconductors: 22 silicon transistors, 1 zener diode, 7 silicon diodes. Size: $163 / 8^{\prime \prime} \mathrm{W}$. $\times 133 / 4^{\prime \prime} \mathrm{D}$. $\times 41 / /^{\prime \prime} \mathrm{H}$. Shpg. wt. 26 lbs
$\$ 255.00$
No. 49A241. Mfg. List \$425.00. Eseh.
ACCESSORIES
Model TM-50. Low Impedance tranaformer, 50 ohms. Shpg. wt. 1 ib.
No. 49A4036. Mig. List \$22.10. Esch,
Model TM-200. Low Impedance transformer, 200 ohms. Shpg. wt. 1 lo. $\$ 13.30$
No. 49A4037. Mfg. List $\$ 22.10$. Each..............
No. 49A4037. Mfg. List $\$ 22.10$. Each....
Model TM-500. Low Impedince transformer, 500 ohms. Shpg. wt. 1 ib.
Model TM-500. Low Impedance transformer, S00 ohms. Shpso Wh.
No. 49A4038. Mfg, List $\$ 23.00$. Each............ $500 / 600$ ohms. Shpg wt. I Ib.
No. 49A4035. Mfg. List $\$ 19.75$. Each.......................................................... $\$ 11.85$

## YOUR HEADQUARTERS FOR FINE P.A. EQUIPMENT



## B-A's 10 WATT POWER AMPLIFIER

Ideal for store demonstrations, ouctions, clubs, churches, offices, clossrooms etc. Full 10 wotts af power for improved performance sufficient for $2.12^{\prime \prime}$ speakers. Separate volume controls permit mixing microphone and phono. Hos two speaker output sockets
Specifications: 10 watts RMS. Tubes-6EU7, 2-6BQ5, 6 V4. Freq. resp. $\pm 2$ db 40 to $15,000 \mathrm{~Hz}$. Inputs: Microphone (high imp.), phono, ouxiliary. Sensitivity: Mic: .004 V.; Phano and Aux.: . 3 V. for rated output. Controls: Microphone, phono and ouxiliary fader, tane, power switch. Output impedance: $4,8,16$ ohms. 25 volt ( 62.5 ohms) and 70 volt ( 500 ohms). Hum and Noise: Phono 65 db ; Mic. 55 db below rated output. Dimensions: $101 / 2^{\prime \prime} \mathrm{W} \times 5^{\prime \prime} \mathrm{H} \times$ $61 / 2$ "D. Shpg. wt. 11 lbs .
No. 49 A 213 Nel Each
$\$ 49.95$


## B-A's 30-WATT UNIVERSAL ALL TRANSISTOR MOBILE AMPLIFIER ${ }^{5} 129^{95}$

The modemistic design of this tronsistorized amplifier provides a convenient way of obtaining 30 watts of oudio power at ony location, mobile or fixed. Operates onywhere... picnics, outdoor meetings, on boats, planes, cars on 12 V DC battery or $110-120 \mathrm{VAC}$. Low current drain of 22 amps ide or 3.5 amps at full power makes it easy on battery system.
Specifications: Freq, resp: $\pm 2 \mathrm{db} .40$ to 15,000 . Hz . Inputs: Microphone ( 50 to 250 ohms), phono and aux. (high impedance). Sensitrvity: Mic. . 001 V . phono and oux. 25v. Controls: Mic., Phono, and Aux, Fader, Bass, Treble, Master Volume with power switch. Tone Cantral Range: Bass 0 to $15 \mathrm{db}_{;}$ treble 0 to .15 db . Output impedance: 4, 8. 16 ohms. Output regulation 2 db . Hum and noise: Phono 75 db , mic 65 db below rated output. Semiconductors: 6 transistors, 3 diodes. Dimensions: $11^{\prime \prime} \mathrm{W} \times 312^{\prime \prime} \mathrm{H} . \times 9^{\prime \prime} \mathrm{D}$. Shpg. wt. 14 lbs.
No. 49A202. (Less Phona Top). Net Each
$\$ 129.95$
Na. 298213. Hand Held Mike for above. Net Each
$\$ 22.80$


For all B-A Amplifiers excepi BA 10 and BA Mobile. For playing 78, 45, $331 / 3$ and 16 RPM records. 117 V .60 Hz . Wt. 7 lbs No. 49A205. Eoch
\$34.95


PORTABLE SPEAKER CASE

DUAL SPEAKER - AMPLFIER CASE. FO TWO $12^{\prime \prime}$ speakers, amplifier space of $14 \times 161 / 4 \times 8^{\prime \prime}$; overall size, $15 \times 1711 / 2 \times 20^{\prime \prime}$. Plywood leatherette covered. No. 49 A4010. Wt. is lbs NET EACH......... $\$ 26.95$

5-WATT 70 AND 25 V. LINE TRANSFORMERS MATCHES 4 TO 8 OHM VOICE COILS IN MULTIPLE SPEAKER SYSTEMS Enables volume adjustment of each speaker in the system. Provides excellent wide range response. Primary impedance topped for $5,2.5,1.25$, .62 and .31 watts. Far mounting on speaker. Shpg wt. 1 lb .
No. 13A9SS-70 V. Choice
No. $13 A 9 S 4-25$ V. Each $\$ 1.69$


10 Each. \$1.52 25 Each \$1.35 HEAVY DUTY 10 WATT (3) 70 V .
Tapped for $10,5,2.5,1.25,0.625$ watts. Secondory 4 or 8 ohms. Size $2 \times$ $1 / 2 \times 1-5 / 8^{\prime \prime} \mathrm{H}$. Wi. $13 / 4$ lbs. Imported of big savings.
13 A953. Each... $\$ 2.55$ 10 Lats Ea....$\$ 2.2925$
 Lots Eo o ... $\$ 2.07$

Full Year Guazontee Covers Lobor and Parts. Just retum the Amplifies to us ond of our option we will repair or replace it without cost to you.


## B-A'S TOP SELLING 35 WATT POWER PA AMPLIFIER

Perfect power for small thearres, bands, churches, stores, ouditoriums, carnivals, night clybs, industrial plants, etc. Low price and quality construction assure extra prafits when used in rentals. Separate bass and treble tone controls permit adjustment to meet all acoustical conditions. Input mixing is for 2 Hi impedonce microphones and phono/aux channels. Phono top may be added. Specifications: Power output 35 watts RMS. Tubes and Diodess -2-6EU7, 6C4, $2.7868,5$ silicon rectifiers. Freq. resp. $\pm 2 \mathrm{db} 20$ to $15,000 \mathrm{~Hz}$. Sensitivity: mic. $.003 \mathrm{~V}_{-2}$ phono and aux. .25 V , mog. phono .01 V . Controls: Microphone 1, Microphone 2, Aux. 182 2, master volume, bass, freble, power switch, Aux.

Aux. 2 switch, normal-trumpet switch, mic. 2-mag. phono switch. Tone controi range: bass $\pm 10 \mathrm{db} . ;$ treble $\pm 10 \mathrm{db}$. Output Impedance. 4, 8, 16 ohms, 25 volt ( 18 ohms ), 70 volt ( 143 ohms). Output regulation 2 db . Hum and noise: phono 70 dib ; mic. 60 db below rated output. Dimensions: $15 \mathrm{k} / \mathrm{m}^{\prime \prime}$ W. $\times 8^{\prime \prime} \mathrm{H} \times 10^{\prime \prime} \mathrm{D}$. Shpg: wt. 23 lbs .

No. 49A212. (less Phono Top). Net Each
$\$ 89.95$

## B-A's 20 WATT POWER AMPLIFIER

Meets power requirements of chapels, clubs, schools, restauronts, industrial plonts, orchestras, paging systems. Ample output for $4.12^{\prime \prime}$ PM speokers. New improved cireuit using $2-68 Q 5 / E L 84$ high output tubes gives wide range frequency response.
Specifications: Power output 20 watts RMS. Tubes-2-6EU7, 2-6BQ5/EL84, $1-0 \mathrm{~V} 4$. Freq. resp. $\pm 2 \mathrm{db} 30$ to $15,000 \mathrm{~Hz}$. (Inputs: 2 microphones (high impedance), phono auxiliary.
Sensitivity: Mic. $.004 \mathrm{~V}_{\text {; }}$ phono and aux. 3 V . Controls: Mic. 1, Mic. 2, phono and aux. Yoder, master volume, bass, treble, power switch. Tone contral range: Bass 0 to -15 db ; Treble 0 to $\cdot 15 \mathrm{db}$. Output Impedance: 4,8 , 16 ohms, 25 volt ( 31 ohms), 70 volt ( 250 ohms). Output regulation 3 db . Hum and naise: phono 70 db ; mic. 60 db . below rated oulput. Dimensions: $151 / 4^{\prime \prime} \mathrm{W} \times 6^{\prime \prime} \mathrm{H} \times$ $10^{\prime \prime} \mathrm{D}$. Shpg. wt. 19 lbs.
No. 49A201, (Less Phono Top). Net Each
\$74.95

## B-A's 60 WATT POWER AMPLIFIER

Super amplifier conservatively rated for long life in continuous operation. Ideal for large installations such os ouditoriums, halls ond stadiums, foctories, fair grounds, airpotts, rail yards, hotels, outdoor gotherings, etc. Perfect for voice or music. It can be used with up to 12 trumpet type speakers or. 16 cone type $12^{\prime \prime}$ PM speakers or any combination of the two types
Specifications: Power output 60 watts RMS. Tubes and Diodes: 2-6EU7, $6 C 4$, 2-6GT5, OA2, 5 silicon rectifiers. Freq. resp. $\pm 2 \mathrm{db} 20$ to $15,000 \mathrm{~Hz}$. Inputs: 2 microphone (high imp.), phono, oux, mag phono. Sensitivity: Mic. . 004 V., phono and oux. $3 \mathrm{~V}, \mathrm{mag}$. phono .013 V .
Controls: mic. 1, mic. 2. Aux 182, master volume, bass, treble, power switch, Aux. 1-Aux. 2 Switch, mic. 2-mag. phano switch. Tane Control range: bass $\pm$ Aux.
10 db treble $\pm 10 \mathrm{db}$. Output imp: $4,8,16$ ohms, 25 volt ( 10.4 ohms), 70 volt ( 84 ohms). Output regulation 2 db . Hum and noise: phono 72 db , mic 62 db below rated output. Dimensionss $15^{1 / 4^{2}} \mathrm{~W} \times \delta^{\prime \prime} \mathrm{H} . \times 10^{\prime \prime} \mathrm{D}$. No. 49A203. (Less Phono Top). Shpg, wt: 26 lbs. Net eoch.
$\$ 109.95$

## B-A's 100 WATT POWER AMPLIFIER

For use where big power is required for large auditoriums and most outdoor areas.
Specificotions: Power output 100 watts RMS., Tubes and Diodes: 2-6EU7, OC4, 4-6GT5, OA2, 5 silicon rectifiers. Freq. resp. $\pm 2 \mathrm{db} 20$ to $15,000 \mathrm{~Hz}$. Inputs: 2 mic. (high imp.), phono, oux., mag. phono.
Sensitivity: Mic. .005V., phono and aux. . 4 V . mag. phono. .013 V . Controls: Mic. 1, Mic. 2, Aux. 1-Aux. 2 master volume, bass, freble, power switch, aux. 1 - aux. 2 Switch, normal-trumpet switch, Mic, 2 mag, phono switch. Tone control ronge: Bass $\pm 10 \mathrm{db}$; treble $\pm 10 \mathrm{db}$. Output imp.: 16 ohms, 25 voit ( 6.25 ohms), 70 volt ( 50 ohms). Output regulation 2 db . Hum and noise: phono 75 db . mic. 65 db . below roted output. Dimensions: $15 \frac{1}{4 \prime \prime} \mathrm{~W} \times 6^{\prime \prime} \mathrm{H} \times 10^{\prime \prime} \mathrm{D}$. Shpg. wt. 30 lbs.
No. 49A204. (Less Phono Top). Net Each
$\$ 139.95$

HIGH COMPLIANCE SPEAKERS © $\$ 888$

(1) $5^{\prime \prime}$ HICH COMPLIANCE SPEAKER ${ }^{2} \$ 14^{88}$


Outstanding base response in a small sealed enclosure makes this the perfect woofer for tiny bookshelf systems of other special speaker rystems. Has enormous power handiling capacity of 18 watts with its extra-heavy io specifications for enclosure. $51 / \mathrm{s}^{\prime \prime}$ Dla. x $21 / \mathrm{s}^{\prime \prime} \mathrm{D}$. Shpg. wt. 2 lbs. $\$ 8.88$ No. 34A493. Each

## (1) 8". 2-WAY, HICH COMPLIANCE SPEAKER

Full size $8^{\prime \prime}$ woofer for any multiple high-fidelity speaker system. Produces driving bass in sealed enclosures handling up to 30 watts. Plans provided driving bass in sealed enclosures handing up to 30 wafts. Plans provided extends highs and flattens overall response curve of $30-20,000 \mathrm{~Hz}$. All this yet only $3^{\circ}$ deep (Dia. $81 / 9^{\prime \prime}$ ), Shpg. wt. $23 / 4$ libs. No. 34A495. Each
$\$ 14.88$

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PROFESSIONAL QUALITY SPEAKERS WITH BARIUM FERRITE MAGNETS

Outstanding performance with minimum cost. Cives very high speech intelligibility and music quality. Rugged construction. Screw terminals to speed nstallation. 8 ohm impedance. "Extra thin, only $17 /{ }^{\circ}$ deep. W suffix indicates dual cone for extended highs, WCR-Cloth roll plus dual cone. D8dual voice coil. dual voice col

|  | Stock |  |  | $1.0$ | Power Watts | Range Freq. | Spk. Depth | Wt. | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | 34A480 | PABEC | $8^{\prime \prime}$ | . | 15 | 40-7M |  | $13 / 4$ | 6.16 |
| (2) | 34A481 | PABEC | $8{ }^{\prime \prime}$ | 3 | 18 | 40-15M | 2 | 13/4 | 5.56 |
| $(2)$ | $34 A 482$ | PA8JC | $8{ }^{\prime \prime}$ | 10 | 30 | 32-15M |  | 23/4 | 7.59 |
| (2) | 344483 | PABJC.W | $8{ }^{\prime \prime}$ | 10 | 30 | 32-19M | 3 | $23 / 4$ | 7.92 |
| (2) | $34 A 484$ | PABJC-WCR | $8{ }^{\prime \prime}$ | 10 | 30 | $30-20 \mathrm{M}$ | 3 | 23/4 | 8.46 |
| $(2)$ | 344485 | PABJC-D8 | $8{ }^{\prime \prime}$ | 10 | 30 | $40-8.6 \mathrm{M}$ |  | $23 / 4$ | 8.91 |
| (2) | 344486 | PAI2JC | $12^{\prime \prime}$ | 10 | 36 | $30-12 \mathrm{M}$ | 4 | 33/4 | 9.60 |
| (2) | 344487 | PAI2JC-WCR | 12" | 10 | 36 | 28-18.5M | M4, | $33 / 4$ | 11.34 |

## HAMN MA REPLACEMENT NumyMm ulah SERIES SPEAKERS



## POPULAR SPEAKERS AT MONEY SAVING PRICES!

## CR <br> ARGOS



## ARGOS SOUND COLUMNS

## greatiy minimize feedback problems

Argos Sound Columns actually "focus" sound so one column can cover an entire oudience even ly. No loud spots or unintelligible areas. Ideal for churches, auditoriums, meeting rooms, out doors, wherever sound is required.
provide vertical dispersion from 15 to 22 de grees ond horizontal dispersion 120 degrees. Easily mounted with speedy mounting clips.

Model SD-1064. 6-Speaker System for vaice reinforcement in rooms up to 80 ft .30 wotts power, 16 ohms. $651 / 2$ " speakers. Frequency response $200-10,000 \mathrm{~Hz}$. Clad in walnut wood grained vinyl with oftractive cane grill. Size $301 / 4{ }^{\prime \prime} \times 7^{\prime \prime} \times 3$ 1/6 "D. Shpg. wt. 9 lbs.

## No. 49A4033

NEWCOMB

## Net Each

$\$ 47.50$
Model SD-1100. 10 Speaker System hondles up to 50 watts power for voice reinforcement in rooms up to $200 \mathrm{ft}, 16$ ohms. 200 to $10,000 \mathrm{Mz}$. response. 10 specially designed $51 / 2$ " speakers are balanced and ocoustically damped. Size $491 / 2^{\prime \prime} \times 7^{\prime \prime} \times 6^{\prime \prime} \mathrm{D}$. Shpg. wt. 22 lbs. No. 49A4032. Net Each
$\$ 74.50$
Model MSD-1060. Six heavy magnet $8^{\prime \prime}$ speakers handie 60 watts of pawer. Uniform sound level of voice and music under auditorium conditions. Two will cover large indoor areas with ease. Walnut wood grain finish, cane grille. Response 70 to $15,000 \mathrm{~Hz}$. Will outperform 10 baffles, harns or ceiling speakers. 16 ohms. Size $10 \% /^{\prime \prime} \times 501 /{ }^{\prime \prime} \times 8 \mathrm{~m}^{\prime \prime}$. Shpg. wt. 48 lbs
No. 49A4044. Each
$\$ 89.95$

## NEWCOMB SOUND COLUMNS

No hot spots - sound is equal throughout auditorium or hall. Highest quality music reproduction. Handle for easy carrying.
Model C548. Most Practical Column on the Market! Combines exceptional directivity with portobility. Excellent efficiency, power hondting peak 60 watts. 25 ft . cord and plug in "hide-away" cord compartment. Extension jack and switch. $39-7 / 8 \times 111 / 4 \times 6-3 / 8^{\prime \prime}$. Shpg. wf. 22 lbs .
No. 49A4030. Each
$\$ 83.95$
Madel SCS412. Best Column Speaker Ever Heard! Contoins 4-12" speokers specially designed for column use. Power handling peak a husky 120 watts, mokes for intelligibility, dependability and low distortion. A mon-size system stands $56^{\prime \prime}$ high, $15^{\prime \prime}$ wide, $74_{2}$ " deep. 25 ft . cord, "hide-away" cord compartment, series type jack with sharting switch. W\&. $421 / 2 \mathrm{lbs}$.
No. 49 A 403 J . Each
$\$ 139.50$

## POLY-PLANAR SUPER-THIN SPEAKERS



The Poly-Planar is a new type of speaker design which employs a IIghtweight polystyrene acoustical panel supported by a frame of comoatiole plastic material to reproduce a wide range of frequencles. Due to the high acoustic efflciency, there is also a minimum of piston motion resulting in low distortion. The unique construction of this electromagnetic loudspeaker provides a combination of physical and electrical characteristicss not available from conmentional cone speaker designs All are 8 ohm impedance. (1) Model RP-8. 20 watts peak. Frequency range $40-20 \mathrm{KHz}$, diameter, $1^{\prime \prime}$ depth. Wt. 11 ozs.
No. 34A469. Each
Size $8^{\prime \prime}$
$\$ 795$
(2) Model C81.P. $8^{\prime \prime}$ speaker Model RP-8 above mounted on $123 / 4$ " white grilie. Has facility for transformer mounting \$12.95
No. 34A479. Wt. 17 ozs. Each.
(3) Model p-58. 18 watts pcak. Frequency range $60-20 \mathrm{KHz}$.
$41 / 2^{\prime \prime} \times 81 / 2^{\prime \prime}$. Wi. 10 ozs.
No. 49A4024. Each
$\$ 6.95$
(4) Model P-20. 25 watts peak. Frequency range $30-20 \mathrm{~K} \mathrm{~Hz}$. $113 / 4{ }^{\prime \prime} \times 141 K_{0}{ }^{\prime \prime}$. Wt. 19 ozs.
No. 49A4025. Each
(5) Model C201-P. 25 watts peak. Frequency range $30-20 \mathrm{KHz}$.
$131 / 4^{\prime \prime} \times 161 / 4^{\prime \prime}$. Wr. 31 ozs.
No. 49 A4023. Each

## POLY-PLANAR AUTO HI-FI SPEAKERS

Weatherproof speaker systems ready to insert Into walls, doors, cabinets, bulkheads, ceilings or vehicles. Tilt them up, tilt them down or mount them flush. Power handling: 18 wotts peak. Freq. ronge: $60 \mathrm{~Hz} \cdot 20 \mathrm{KHz} 8$ ohms. Size $7 / 8^{\prime \prime} \times 6^{\prime \prime} \times 10^{\prime \prime}$ Wt. 14 ozs.
No. 34 A467. Model G51P
No. Ivory Finish. Each
No. 34A468. Model A-500-Black with Chrome Trim Pair For


## (1) PACING SPEAKER

Natural tone paging speaker for universal application. Wide angle $90^{\circ}$ spread. Smooth frequency range, free of peaks, cuts out unintelligible lows and highs for maximum speech penetration. Weatherproof re-entrant type. for Indoor or outdoor use. $180^{\circ}$ swivel mount with screw flange. 5 watt power rating. 8 ohms. 5 inch horn opening. $5 \not / \mathrm{zac}^{\prime \prime}$ long. With wire lead. No. 49A4008. Shpg. wt. 2 lbs. import special.
$\$ 9.95$
(O) OUTDOOR MUSIC AND PAGING HORN

Enioy outdoor music on lawn, porch, or patio. Response to $10,000 \mathrm{~Hz}$. sturdy metal bell projector horn completely weatherproofs enclosed heavy duty 5 inch cone speaker. Allows musical range not possible with reflex speakers. Swivel base and flange with wing nut. Will stand by itself for portable use, High 8 watts, 8 , 8 watt, 8 ohms. $5^{\prime \prime \prime} \mathrm{D}_{1} 11 / 8^{\prime \prime} \mathrm{H}$. $3^{\prime}$ wire lead.
$\$ 17.95$

## (3) COMPACT PACING PA SPEAKER

Wide $120^{\circ}$ dispersion angle, compact size with full power driver unit reflex construction. Exceflent for high power paging or medium power public address applications. Provides high sound penetration with exceptlional brilliance and Hz . Swivel U -bracket mtg ., $28^{\circ \prime}$ wire lead. 8 watts. 8 ohms. $6^{\prime \prime}$ bell, $6^{\prime \prime} \mathrm{D}$. Shpg. wt. 5 lbs.
No. 49A4007. Import Special.
\$16.95
() HI-POWER OUTDOOR REFLEX SPEAKER

Rugged, high power trumpet speaker for outdoor publlc address. Conservatively rated 12 watts. Will handle up to 20 watts of power. Waterproof, rustproof, shockproof. Driver is completely enclosed. Cives crisp, clear, wideangle response even in high noise level areas. $340-7000 \mathrm{~Hz}$. $5 \times 8$," horn, $8^{\prime \prime \prime}$ L. 8 ohms. Grey hammertone. U-bracket and wire lead. Shpg. wt. 5 lbs No. 49A4006.
Import Special
$\$ 18.95$
(5) $53 / 4$-INCH WEATHERPROOF PACINC SPEAKER

Compact speaker with wide frequency range, 300 to $12,000 \mathrm{~Hz}$. Perfect for public Address, Citizens Band or music. Will fit behind grille on most cars. Has adjustable mounting bracket. Power capacity 5 watts, 8 ohms impedance. 5 ize $53 / 4^{\prime \prime}$ dia. x $3^{\prime \prime}$ D. Shpg. wt. $11 / 2$ lbs.
No, 49A4001. Net Each.
$\$ 9.95$
() MINIATURE WATERPROOF REFLEX SPEAKER

Unilmited in applications. Penetrating quality makes it ideal for CB and Ham mobile work as well as for paging where a high noise level makes the typical cone speaker ineffectlve. Small size, only $31 / 4^{\prime \prime}$ dia. and $2^{\prime \prime}$ deep. Yoke type mounting bracket mounts by two holes, allows over $180^{\circ}$ vertical movement. Ideal for mounting under dash, or under hood for listening outside of car. Frequency range $400-6500 \mathrm{~Hz}$-, handies 3 watts, impedance 8 ohms. shpg. wt. it lb.
No. 49A4009. Import Special.
$\$ 5.75$

## UTAH WEATHERPROOF PATIO SPEAKERS

## MOD-8 PATIO SPEAKER

Enloy your favorife program outdoors. A
chemically treated, $8^{\prime \prime}$ speaker in a steel chemically treated, $8^{\prime \prime}$ speaker in a steel case with baked on finish for maximum re-
sistance to weathering. Step-saving volume sistance to weathering. Step-saving volume
control. Key-hole slots for easy mounting control. Key-hole slots for easy mounting,
Connect the preattached 25 foot cable to

 pedance, 8 oh
Nach.
$\$ 12.95$
MOD-4 EXTENSION SPEAKER
Compact enough to use aimost anywhere the MOD-4 measures only $4 K_{0} x 5 K_{4} x$ $23 /{ }^{\prime \prime \prime}$. The $4^{\prime \prime}$ speaker is treated for moisture resistance and has an Alnico $V$ mag. net. Screw terminals for easy wiring, keyhole slots for easy mounting. will stand on shelf. Strong, steel case has baked-on finish. Impedance, 8 ohms; power, $41 / 2$ watts program. Shpg. wt. $11 / 4$ ' tbs .
No. 34A475. Each
$\$ 6.95$


# SPEAKERS \& BAFFLES TO FILL EVERY NEED <br> Lowell <br> FLUSH MOUNTBNG WALL AND CEILING BAFFLES AT LOWEST, COST EVER! <br> <br> in Plastic or metal <br> <br> in Plastic or metal <br> ARGOS DELUXE EXTENSION 



Extend music to the wall of any room. Hangs as easily as a picture. Beautiful walnut woodgrain finish on hardwood. Great sound from an $8^{\prime \prime}$ wide range speaker. Built-in volume control, Comes with connectors attoched to 20 ff. wire. 10 -watt power copacity. 8 ohm impedance. Size $12^{1 / 4}{ }^{\prime \prime} \times 9^{3 / 4 / "} \times 4^{3 / 4 "}$. Shpg. wf. $4^{3 / 4}$ lbs. No. 34A499. Model ESP-800. Each
 SPEAKER

## ARGOS PATIO SPEAKER

Enjoy music or ball games outdoors by the patlo, garden or pool. Has full fldelity sound built-in volume control to adjust sound level. Attaches to any amplifier or receiver with 8 ohm output. Completely weatherproof construction. Enclosure of Genulne Redwood for years of use.

No. 34M78. $\qquad$ $\$ 16.95$


Special Each


## THINLINE AND PRESTIGE

## WALL SPEAKER SYSTEMS



## (1) ARGOS THINLINE BAFFLES

Good looking, excellent quality. Easy to install with the exclusive Argos speedy mounting clip. Hos quality $8^{\prime \prime}$ speaker with 1 oz , mognet that hondles all lowlevel sound applications, such os TV, rodio extensions, PA bockground music. 6 wotts capocity, 8 ohms voice coit. Baffle is vinyl clod in, your choice of wolnut or blond wood grain, with cone grill. cioth. Size, $93 / 4$ " $\mathrm{H} . \times 121 / 4$ " W. $\times$ $43 / /^{\prime \prime} D_{\text {. Shog. wt }} 11 / 2$ lbs.
No. 34895. Model WB- 108 C 5 . Boffle with speoker. Nef Eoch
$\$ 9.35$
51175 No. 34897. Model WB-108C5V. Boffle with Speoker \& Volume Control.... S 11.75 Boftie with Speaker, Volume Control ond 70.7 Volt Transformer for use in mulfiple speaker installations. Shpg. wt. 5 lbs.
No. 34 B98. Model WB-108CSVT. Net Each
(3) ARGOS PRESTIGE BAFFLES
$\$ 14.40$
The innest you can buy. New heavy duty $8^{\prime \prime}$ Jensen speaker with 602 . mognet has 15 watt capocity, handles both voice and music superbly. 8 ohms impedance. Fine, furniture finishes in Antique Birch or Dusk Walnut. $9 \dot{1} / 4^{" H} \mathbf{H} \times 11^{\prime \prime} \mathrm{W} . \times$ $53 / a^{\prime \prime} \mathrm{D}$. Shpo. wt. $53 / 4 \mathrm{lbs}$.
No. 34899. Model PB508CS. Boffle with Speoker. Net Eoch ................ 513.95 No. $34 \mathrm{B104}$. Madel PB.508CSL. Boffle, Speaker í L-Pod. Net Eoch.......... \$16.45 Boffle, Speoker, L-Pod ond 70.7 Volt Tronsformes for use in multiple speaker installations. Shpg. wt. $61 / 4 \mathrm{lbs}$.
No. 34B105. Model PB5OBCSLT. Net Eoch.
$\$ 19.25$
(1) ARGOS CORNER BAFFLES

Efficient slont-front corner design aids performance because it oims sound downward and corner iocation increoses effective air moss. Easily installed with Argos speedy mounting clips. Front clips-in. Has $8^{\prime \prime}$ Jensen speaker with 6 oz. ceramic mognet, hondles 15 watts. 8 ohms impedance. Vinyl clad, in cholee of wolnut or
 No.34A7004.SCB-2085. Shpg. wt. 6 lbs. Nef Eoch .

## WALL BAFFLES PRICED SO LOW!

## DURABLE SPEAKER

 ENCLOSURES

Fine acoustic design for
improved tone.

Attractive non-resonant solid 3/8" wood baffies with hot-glue locked mitre joints for strength and rimidity wontrasting non-sag suran plastic orille Blends easily with any surrounding ideal tor schools clubs, hall-any locafion where good sound distribution is essential.
51
34
3
3
3
3
7
sach
Sth. No. Speaker Sise High

348151
348182
348159
348160
$5^{\prime \prime}$
$6^{\prime \prime}$
$8^{\prime \prime}$
$10^{\prime \prime}$
$12^{\prime \prime}$
76
(O)Beautiful Functional Design. Excellent dispersion of sound. Mounts stordord round $8^{\prime \prime}$ speakers. Self-tapping screws furnished for speaker mounting. No drilling necessary. Bottle size $12 \cdot 5 / 8^{\prime \prime}$ O.D. 5/8" D . White color may be painted to motch surroundings
No. 34A7009. White recessed baffle. Net Each
$\$ 1.80$ () Beautiful Aluminum Colling Baffle. 8-inch speaker mounts to batfle by to celling with wood screws, mollys or toggle bolts. $125 /{ }^{\prime \prime}$ " diameter, ceiling hole size $81 / 2^{\prime \prime}$ diameter. Weight 1 lb.
 No. 34A227. Brushed
Same as above except
for 12 -inch speaker.
No. 34A228. 8rushed Aluminum. Ea. .... $\$ 5.12$ Es. ..... \$4.5) Es. $\$ 4.10$ (3) Round $10^{\circ}$ Diometer Spun-Aluminum Boftle takes $8^{\circ}$ speoxer. Mounts directly to ceiling or wall by wood screws, loggle bolts or mollys. Edge has slight bevel. Shpg. wt. 1 lb No. 34A76. Net Eoih.... \$1.77 \& Eoch... \$1.56 10 @ Eoch... $\$ 1.42$

(1) Flush Mounting Woll or Ceiling Baffle. $10^{\prime \prime}$ square, mounts $8^{\prime \prime}$ speaker. Attroctlve brushed aluminum with beveled edges. Mounts readily with wood Acrews, togole bolts or motlys. Perfect for bockground music systems. If screws, toggle bolts or mollys. Perfect for bockground
desired may be painfed to motch any decor. 5hpg. Wt. I lb.
No. 34A77. Net Eoch.. $\$ 3.28$ @ Each. . $\$ 2.89 \quad 10$ @ Eoch. $\$ 2.62$ () Similar in oppearance to obove Grille except is $12^{\circ}$ " Squore and has 品" lip. Desioned to replace a block of acoustical tile. To instoll, you need only remove block of acoustical tile ana replace with this unir. Takes ony $8{ }^{\prime \prime}$ speaker. Brushed aluminum. Shpo. wt. I lb. No. 34A78. Net Eoch.. $\$ 6.35$ \& @ Eoch... $\$ 5.5910$ @ Each... $\$ 5.08$
(3) NEW $125 /{ }^{\prime \prime}$ Round White High Impoct Styrene Grille. Mounts any $8^{\prime \prime}$ speaker by self-tapping screws supplied. May be oftached to wotl or celling by wood screws, foggle bolts or mollys. Can be painfed ony color desired. Shpg. wr. 1202.
No. 34C96. Nef Eoch. . $\$ 1.91$ @ Esch. . $\$ 1.6810$ @ Eoch... $\$ 1.53$
O $10^{\prime \prime}$ Square White Plastic Grllle with Concentric Splrols. Designed to odd beouty as well as comoufloge the speaker. Mounts any $8^{\prime \prime}$ speaker. Attoches to wall or ceiling by wood screws, toggle bolts or mollys. Can be pointed ony color destred. 5 hpg . wh. I lb.
No. 34A80. Net Each... $\$ 3.95$ @ Each... $\$ 3.4810$ @ Each... $\$ 3.16$


## HARDWOOD WALL BAFFLES

Acoustically designed solid hardwood speaker baffles combine lasting beauty, heavy duty, construction and quality sound. Constructed of $5 / 8^{\text {" }}$ solid wainut or All mounting hardware is included Shpg whe 8 m 3 lbs $12^{-\cdots} 6$ lbs.

| Stk. No. | Speaker Size | Finish | H1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 34A7005 | 8'1 | Walnut | 9.18 | $117 / 8^{\prime \prime}$ | 5 Sep, | Net Ea. |
| 3447007 | 12" | Watnut | $131 / 2^{*}$ | 17* | $612^{\prime \prime}$ | 13.95 |

## 2-WIRE SPEAKER CABLE

Bare copper, flexible stranded size 24 parallel conductors; chrome vinyl



# MICROPHONE STANDS AND ACCESSORIES! <br> MIKE FLOOR STANDS AND BOOMS <br> DESK \& BANQUET MIKE STANDS 

1



(1) B-A LEADER V ALUE FLOOR STAND

A top notch quality stond with heavy high gloss double chrome plated brass tube. Easily adjustable from $35^{\prime \prime}$ to $63^{\prime \prime}$ in height by simple, damage proof one-hand clutch, without mar or scrotch on the chrome fube. Weighted $10^{\prime \prime}$ dia. base is finished in boked wrinkle enamel, has pads to prevent floor mars. $5 / 8^{\prime \prime}-27$ threads. Shpg. wt. 10 lbs.
No. 29A7003. Net Each
$\$ 8.91$

## ATLAS "VELVET ACTION" MICROPHONE STANDS

No stipoing - No Rattle - No Noise - No Scratching - No Wear Feoture full grip, jam-proot clutch for eosy height odjustment, functionotly designed "Anfi-tip" boses with chrome cover or scuff-proof baked on gray wrinkle finish, ond life-time super chrome ploted tube assemblies. MS iC uses $7 / 9^{\prime \prime}$ and $5 / 9^{\prime \prime}$ tube; MS-20 ond MS-25, $11 / 9^{\prime \prime}$ ond $7 / a^{\prime \prime}$ tube. MS-25 has $5 / 8{ }^{\prime \prime}-27$ top threod. MS-11C, and MS-20 have low profile bases.
$5 / 8^{\prime \prime}-27$ top threod. MS-11C, and MS-20 have low profile base
Sik. No. Madel
Weight
Base
Net Eoch
 $\begin{array}{llllll}\text { (3) } 29 A 7001 & \text { MS-20 } & 37^{\prime \prime \prime} \text { to } 66^{\prime \prime \prime} & 15 \text { lbs. } & 12^{\prime \prime \prime} \text { Wrinkle } & 15.00 \\ \text { (4) } 29 A 7002 & \text { MS-25 } & 38^{\prime \prime} \text { to } 67^{\prime \prime} & 22 \text { lbs. } & 17^{\prime \prime} \text { Wrinkle } & 24.00\end{array}$
(1) DELUXE "THREE-LEGGED" FLOOR STAND. Heovy cost Iron bose padded on each leg. 15". dio. Very stable ond more convenient to use since bose allows "toe room". Demountoble 2 -section gun metol grey wrinkie bose, fuli chiome stem $34^{\prime \prime}$ to $62^{\prime \prime}$ height. Shpo. wt. 9 lbs
No. 29A7004. Atias. CS-52. Mft. List $\$ 17.70$. Net Each.
\$10.62
(3) 800 M ATTACHMENT. An extremely versatile device to center mike over best pickup area. Con be ottoched to ony stand hoving $5 / 8 "-27$ thread. Ideal for piono and similor pickup where obstocles make reguitor mike stond impossible to use. All swivel parts are die-cast resulting in smooth operafion and
$31 / 2 \mathrm{lbs}$.
No. 29A7009 Atlas BB-1. Mfg. List $\$ 11.53$. Net Each
\$6.92

## (1) ${ }^{\text {a }}$ (3) <br> (B) <br> (3) <br> $E$ 0 0 0 0 <br>  <br> 5/8"-27 MIKE MOUNTING ACCESSORIES ALL CHROME PLATED <br> 

|  | Stock No. 29A3004 <br> 29A3005 <br> 29A3006 <br> 2943007 <br> 2943008 <br> 29A3001 |
| :---: | :---: |
|  | 2943010 |
| \% | 29A3011 |
| (8) | 2943012 |
| (3) | 29 A3013 |
| © | 2943014 |
| (1) | 2943015 |
| (1) | 2943016 |
| (1) | 29A3017 |



Net Each
6" Flexible Coose Neck 19" Flexible Coose Neck $41 / 2^{\circ}$ Swivel Adaptor Snap-on Mike to Stand Adaptor 2.37
3.35 with thumb release
3.15

Cable Hanger for stand
Male Flange $11 /{ }^{\prime \prime}$ " diameter Threaded Nipple $3 / /^{\text {m }}$ L Female Threaded Coupling $6^{\prime \prime}$ L. Extension Tube Right Angle Bend

## SWITCHCRAFT TRANSISTORIZED MIXERS

## MIXES MICROPHONES OR PHONO INPUTS

25 feet of heovy duty shielded microphone coble with stondard microphone connectors on each end. Adoptors convert to $1 / 4^{\text {" }}$ phone plug or $1 / 4^{\prime \prime}$ phone jock. Makes ony PA system more flexible. Big Import Saving! Wi. I lo
No. 33 A6585. Special Each.
$\$ 2.95$
(7) "STREAMLINED" DESK STAND. Features concealed rear cable exir and tunctional design. Perfect for any mike. Gun metal and chrome with rubber bumpers. 59 " -27 thread. Wt. 2 bs.
No. 29A7014. Aflos DS-10. Mía. List $\$ 8.98$. Nef Eoch.
\$5.39
(B) ATLAS "CHESTY" MIKE SUPPORT. Hangs around neck on lovalier cord. Wire frame ond flexible gooseneck hold mike-no honds! No. 29A3002. Atlas NS-1. Mfg. List $\$ 8.75$. Net Each..........
(9) CLAMP-ON BRACKET. Hotds securely on flat surfoce $2^{\prime \prime}$ thick or less Chiome $6^{\circ \prime}$ Iona tube. $5 / \mathrm{g}^{\prime \prime}-27$ threod. Wt. 2 lbs.
$\$ 3.41$ (21) NEW DELUXE BANQUET STAND. Adjustable height $141 / 2^{\prime \prime \prime}$ to $26^{\circ \prime}$ Super chrome $5 / /^{\prime \prime}-7 / 8^{\prime \prime}$ bross tubes. New full chrome low silhouette bose of trim modern, design. Wh. $51 / 2$ lbs.
$\$ 9.15$
No. 29A7005.

## MICROPHONE EXTENSION CABLE KIT

## WITH TWO ADAPTORS



4-channel high impedonce stereo-monaural mixer feoturing built-in transistor amplifier in each of two stereo channels with individual goin controls on eoch input. "Stereo-Mono" switch ollows all 4 inputs to be used monauraliy. Amplifier powered by 9 volt battery (included) overcomes usual loss encountered in resistance type mixers and provides a 6 db gain. Low noise level low distortion, frequency response 20 to $20,000 \mathrm{~Hz}$ inputs ore phone jocks, phono jocks output. Modern styling with ton finish, brown knobs with gold metallic Iocks output. Modern styling with ton finish, brown knobs with gold metalific
inserts. Size $6^{\prime \prime} \mathrm{L} . \times 2^{\prime \prime} \mathrm{H}, \times 3^{\prime \prime} \mathrm{D}$. Rubber mounting feet. Shpg. wt. 3 bibs. No. 29A115.
No. 29 All 306 TR. Stereo-Monaural Mixer, Net Each.
$\$ 24.00$
Transistorixed Manaural Mixer. Same os above except single transistor amplifier and 4 inputs for monoural use only.
No. 29A3019. Model 301 TR. Monaural Mixer. Net Each ............
SWITCHCRAFT

## STUDIO "MIX-MASTER" \$8700



## SWITCHCRAFT 4-CHANNEL MIXMASTER MIXER/AMPLIFIER

Solid state. stereo/monaural mixer amplitiers designed for remote or studio professional use or home high fidelity. All input-output jacks are standard $1 / 4^{*}$ - dia. phone lacks. Use mikes, magnetic phono, funers or tape recorders as program source
Specifications: Freg. resp. $\pm 0.5 \mathrm{db}, 20 \mathrm{~Hz}$ to 20 KHz with equalization switched "out". Output: up to 2 volts RMS (up to 4 volts RMS Model switched. Distortion: $1 \%$ max. $10.5 \%$ typicall. Signal to noise ratio: 60 db referred to 1 mv input. Recommended load: 50 K ohms or greater 1600 ohms or greater Model 308TR), Low level inputs: Four, Voltage greanter ( 60 oh ohms or greater Model 100 mv Magnetic phono inputs. Two gain. 60 db . Overdb at 1 KHz Auxiliary mv. Magnetic phono inputs: ${ }^{\circ}$ wo. Voitage gain: 40 do at 1 KHz . Auxiliary inputs: four. Voitage "gain: 20 db . Overload: greater than 10 volts. Size: $3^{\prime 2} \mathrm{H}, \times 12^{\prime \prime} \mathrm{W} . \times 71 / 4^{\prime \prime} \mathrm{D}$.
Model 307TR. Powered by 2 " $D$ " cell batteries. Wt. $41 / 2 \mathrm{lbs}$. No. 29A3003. Net Each
$\$ 87.00$
Model 308 TR. Operates on 117 volts AC. Wt. $51 / 2 \mathrm{lbs}$. $\$ 96.00$
No. 29A3036. Net Each ........... $\$ 9$.


## HIGH PERFORMANCE UNIDYNE CARDIOID DYNAMIC MICROPHONES

Shure Cardioid microphones are uni-directional. They pick up sound mainly from the front, while suppressing sound and noise coming from the back-
Allows user to work farther away from microphone and greatly reduces

## MODEL 548SD UNIDYNE IV

The ultimate for PA entertainment. For hond or stand usage. Now featuring a long life magnetic reed "On-Off" switch incorporated into the microphone case. An ultra high quality. super rugged microphone with on unusually effective cordioid pickup pattern. Response: $40-15,000 \mathrm{~Hz}$. Oual impedance, high and low, Hi-2 output $-55 \mathrm{db} ; 10-2-57 \mathrm{db}$. With 15 ft .2 -conductor shielded coble. Includes swivel adopter. Shpg. wt. 3 lbs.
No. 29A672. Model 54850. Net Each
$\$ 72.00$
No. 29A705. Model 5485D-CN. Same as above with prewired mole threepin audio connector at amplifier end. Net Each
$\$ 75.00$
No. 29A612. Model 548. Same as above but with no on-otf switch.
Nef Each
No. 29A613. Model 5485. Has switch on chrome swivel mount. Not for hand-held use. Shpg. wt. 3 lbs. Net Each chrome swivel mount. Not for

## MODEL 545SD UNIDYNE III

Approaches the theoretical ideal cardioid pickup pattern at all frequencies. providing extended range music and speech pickup for highest quality professitonal PA and recording. It now features a long life reed "On-Off" switch incorporated into the microphone case, Response $50-15,000 \mathrm{~Hz}$, Dual high or law impedance. High impedance output - 55 db ; low impedance swivel
5wivel stand adapter. Shpg. wt. 3 los.
No. 29A673. Net Each
\$61.20
No. 29A704. Model 545SD-CN. Same as above with prewired male threepin oudio connection of amplifier end. Net Each . . . . . . . . . . . . ..... . $\$ 64.20$ No. 29A208. Model 545. Same as above but with no On-Off switch and Amphenol type connectors. Net Each.................................................... $\$ 57.60$ No. 298235. Model $\mathbf{5 4 5 5}$. Same as Model 545 but On-Off switch is built into No. 29A366. \$33B. Black Desk Stand. Net Each


MODEL 565SD UNISPHERE I
Feedback-free, dynamic cardloid ball-type milcrophone for quality hi-fi recording and PA use, indoors or out. Features a long life magnetic reed "On-Off" switch incorporated into the microphone case. Wire mesh screen protects from breath blasts and wind. Response: $50-15,000 \mathrm{~Hz}$. Outputs:

No. 294674. Net Each
$\$ 67.80$
No. 29B221. Model 565. Same as above but with no "On-Off" switch and Amphenol type connectors. Swivel adapter. Wt. 21/2 lbs. Net Each..-. $\$ 64.80$ MODEL 585 UNISPHERE A SERIES AND MODEL 533 SPHER-O-DYNE SERIES
These rugged dynamic microphones are recommended for entertainers, interview. ars, singing groups, etc. Spherical screen prevents pop, blast and wind noise. Adaptable to hand or stand use. 533 and 585 have On-Off switch and 15 ft . detach. able cable. Satin chrame finish, block trim and black swivel $5 / 8^{\prime \prime}-27$ stand adopter. low impedonce types are recommended where lon microphone cables are to be used. Average size $6 \mathrm{~V} \mathbf{k}^{\prime \prime}$, approximately $2^{\prime \prime}$ dia. Wi. 2 lbs .

| Stock No. | Shure Type | Pickup Paftern | Impedance Ohms | Response Output Hz . level | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 298217 | 5855A | Cardioid | High | $50.13,000-59 \mathrm{db}$. | \$45.00 |
| 298218 | 585SB | Cardioid | Low | $50-13,000-58 \mathrm{db}$. | 42.00 |
| 298215 | 5335A | Omnidirectional | High | 40-11,000-55 db. | 34.20 |
| 298216 | 5335B | Omnidirectional | Low | $40-11.000-55.5 \mathrm{db}$. | 34.20 |
| 78 |  |  |  |  |  |

room notses. audience naises and reverberation.
Provides $70 \%$ reduction of background sound and noise over the entire usable audio specirum

MODEL 580SA-SB UNIDYNE
For better PA entertainment and improved home recording. Slips out of stand swivel mount for hand-held use. Response $50-11,000 \mathrm{~Hz}$. Hi-Z output,
 tached cable and switch. Wi. 3 lbs.
No. 298214. Model 5805A. High Impedance. Not Each
$\$ 42.00$

## MODEL 515SA-SB UNIDYNE "B"

Lowest cost Unidyne ever! Excellent choice for PA where budget is prime consideration. Has feedback suppression and symmetrical cardioid pattern features that have made Unidyne world famous. For stand or hand. Size: $6.7511 / 2^{\prime \prime}$ dia. With 15 ft . attached cable. built-in switch and swivel adapter. Response $80-13,000 . \mathrm{Hz}$. Hi-Z output buifing adapter. Response- $80-13,000 ~ \mathrm{~Hz}$.
Lo- 59.5 db . Shpg. wt. 2 ibs.
No. 29A615. Model 5155A. High impedance. Net Each
$\$ 27.00$
No. 29A616. Model 5155B. Low Impedance. Net Each............................ $\$ 27.00$ No. 29A675. Same as S15SB above with integral $18^{\prime \prime}$ gooseneck and mounting flange. Grip-to-talk relay controlling leaf switch. For permanent mounting Wt. 3 Ibs. Modal 515 SB-G18. Net Each.

## 55 SERIES UNIDYNE II

Famous for dependable indoor and outdoor service in regular or rugged duty. Response $50-15,000 \mathrm{~Hz}$. Output -55 dt . Selectable $35-50$, 150.250 or high impedance. Tilt head, defachable 18 ft . cable. Size: $78 / 8 \times 2.12 \times 31{ }^{1} 6^{\prime \prime} \mathrm{D}$. Wt. 3 lbs.
$\$ 57.00$
No. 298241. Satin Chrome Model 555W, with Switch. Net Each............. $\$ 58.80$


## SHURE BALL-TYPE MICROPHONES

588 Series. Feedback-tree cardioid pickup patfern, shock-mounted cartridge, wind, pop and blast filters, lockabie On-Off switch. broadcast-type Cannon connector ${ }^{15} \mathrm{ft}^{2}$. single conductor detachable cable. Includes swivel stand dapror, $51 / 3 \times 2$ dia. Wr. $1 / 2$ lbs. $5885 A C$ has prewled $1 / 4 "$ phone plug
$5795 B$. Extremely rugged. Ideal choice for high quality PA, entertaining. recording and studio applications. 20 ft . 2 -cond, detachable cable, Cannon connector, lockable On-Off switch.

| Stock No. | Shure Type | Plckup Pattern | Imped. Ohms | Response Hz | Output Level | Net <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 29A633 | 5885A | Cardioid | High | 80-13.000 | 59.5 db . | \$39.00 |
| 294635 | 5885B | Cardioid | Low | 80-13,000 | 59.5 db . | 39.00 |
| 294634 | \% 588SAC | Cardiond | High | 80-13,000 | 59.5 db . | 40.20 |
| $29 A 636$ | 5795B | Omnidirectiona | Low | 50-15,000 | 59 db | 45.00 |



## SHURE LAVALIER MICROPHONES

Rugged dynamic mikes hoving frequency response specially engineered for lavalier use. 560 size $333^{\prime \prime}$ " $x$ 11/3" D. high sponse $50-12,000 \mathrm{~Hz}$. $50-250$ ohm imped. Attoched light sponse $50-12,000 \mathrm{hz}$. $50-250$ on
weight cables. $\$ \mathrm{hpg}$. wt. $1^{1 / 2} \mathrm{lbs}$.

| Stock <br> No. | Shure <br> No. | Outpur <br> Level | Cable <br> Length | Net <br> Each |
| :---: | :---: | :---: | :---: | :---: |
| 298268 | 560 | -56.5 db | 18 ff. | $\$ 29.40$ |
| $\mathbf{2 9 8 2 6 9}$ | 5705 | -59 db | 30 Ft. | $\mathbf{7 2 . 0 0}$ |

CARDIOID DYNAMIC COMMUNICATIONS MICROPHONE
${ }^{5} 42^{60}$

- Noige Suppressing
- Uni-Directional
- Press. To. Talk


## SHURE MODEL 522 UNI-COM

 Problem-solving paging and communications microphone. Recuuces noise pickup. Provides utmost voice intelligiblitty. Adjustable $93 / /^{\prime \prime}$ to $121 / 2^{\prime \prime} \mathrm{H}$. Tough Ar-mo-Dur base and case. Dual high or low impedance. Locking or non-locking push bar for relay and microphone. 7 ft . cord cable. shpg. wh. 2 lbs.No. 29A618.
Not Each...
$\$ 42.60$

## 今ぃuصも MIKE MIXERS，TRANSFORMERS，ACCESSORIES

SHURE TRANSFORMERS

##  <br> A95F



A high quality impedance matching transformer which makes it possible to convert a low impedance microphone to a high impedance amplifier input． Solves problems of excessive high frequency loss and objectionabie，hum when long lengths of cable are used．Transtormer size： $3 / 4 "$ dia．$x^{21 / 2 " ~ l o n g . ~ C a n ~}$ also be used to match high impedance microphone to low impedance inputs． Will match impedance trom high to 10 w or low to high．Moy be changed to
accept $150-250$ ohm line，or $35-50$ ohm line for conversion to high impedance． Modal A95A．XL－3－12 Cannon type or Switcheraft A3M input and MCIM high impedance output．Mating plug supplied．
No．29A361．Nat Each $\qquad$ ．$\$ 12.60$
Model A95P．XL－3－12 Cannon type or Switchcraft A3M input with mating connecter supplied．High impedance output terminates in permanently at－ tached phone plug with locking ring．
Trached phone plug With
$\$ 13.80$
A95F Transformer，Same as Model A95A above except input is XL－3－11 Can－ non type or Switchcraft A3F
No． 2943041 ．Shpg．wt． 9
No．29A3041．Shpg wt． 9 ors．Not Each ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 14.40$ A95FP Transformer，Same as Model A95P above except input is XL－3－11 Cannon type or Switchcraft ABF．
No．29A3042．Shpg．wt． 10 ozs．Net Each
．．$\$ 15.60$

## SHURE IN－LINE MICROPHONE ATTENUATORS， <br> EQUALIZERS AND ADAPTERS

## inputs are female

CANNON XL TYPE，OUPUTS
ARE MALE CANNON XL TYPE
Model A15A Microphone Attenuator，Provides 15 db attenuation（150 ohms）． No．29A3043．Shpg．wt． 1 lb．Net Each ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 15.00$ Model A15PR Phase Reverser．Reverses phase of any balanced line． No．29A3044，Shpg．wt． 1 ib．Net Each $\$ 15.00$
Model A15HP High Pass Filter．Reduces low frequency nolse． No．29A3045．Shpg，wt． 1 lb．Net Each $\$ 15.00$
Modef A15LP Low Pass Filter．Reduces high frequency noise． No．29A3046．Shpg wt． 1 tb ．Net Each $\$ 15.00$ Model A15PA Presence Adapter．Increases presence range of low impedance microphones，
No．29A3047．Shpg．wt． 1 lb ．Net Each $\$ 15.00$
Model Al5RS Response Shaper．Reduces sibilant sounds $\$ 15.00$
Model A15LA line Input Adapter．Converts low impedance microphone input to high－Z or 600 ohms line input．
No．29A3049．Shpg．wt， 1 lb．Net Each
$\$ 15.00$

## NEW M62V AUDIO LEVEL CONTROLLER



Now with a variable input level controf that makes it possible to use any input signal ．even preamplified or phone line signals．．．In addi－ fion to regular microphone level signals．Also has a new aux．high level output which allows you to drive any high impedance amp．mixer or recorder requiring one volt or less（in addition to regular hi or lo impedance mic． level output）
Insert between Amplifier and any input．This transistorized varlable input level controlling device will prevent fadeout roller coaster sound level or ＂close up＂blasting．The M62 will permit the microphone to be used at varying distance without changing the output volume．It will upgrade tape recordings by preventing distortion and overloading of the tape re－ corder．Also prevents＂ear splitting＂feedback from becoming excessively loud．Distance selector switch can be set at $6^{\prime \prime} .12^{\prime \prime}$ or $18{ }^{\circ}$ for best piakup area to maintain an output level from the PA system that is always smooth， intelligible，and comfortable to the ear regardless of shouting or overly close talking．Battery operated 19 V ，battery included）．Frequency response 20 to 20.000 Hz ．Requires one each $X L R-3-11 \mathrm{C}$ and $X L R-3-12 \mathrm{C}$ or．Switch－
 No．29A3034．Net Each


Designed to give moximum flexibility in cantral of volume，boss response，treble response，high and low frequency roll－off．Works ideally with M68 series af mixers．Provides the means to shape response to equolize sound systems for correction of room ocoustics，reduce feedback and room noise．
All inputs are RCA phono lacks：mic．level oufput takes XLR－3－11C or Switchcraft A3F mating connector．
Features：ballistically correct VU meter， 5 outputs， 600 ohm balanced line， $\mathrm{Hi}-\mathrm{Z}$ high level， $\mathrm{Hi}-\mathrm{Z}$ mike levet，Lo－Z mike level and headphone jack．Two imputs：both accept mixer，tape recorder，tuner or phono fusing Shure A68P phono preampl．Continuously variable 6 db per octave Hi－Pass and Lo－Pass filters．Bass and treble tone controls．Either $105-13050 / 60 \mathrm{~Hz}$ or 30 V．D．C． power．Size： $21 / 2 \times 113 / 8 \times 53 / 4^{\prime \prime}$ ．Shpg．wt． 4 lbs ．
$\$ 96.00$

## SHURE MICROPHONE MIXERS



M68 SERIES
MICROPHONE MIXERS

Ceneral specifications： 5 channel，completely transistorized，portable micro－ phone mixer for use with public address，and tape recorders．Total harmonic distortion less than $1 \%$ ．Accommodates up to 4 high or low impedance micro－ phones in any combination．Does not require line transformers．Has 1 high level，high mpedance input for tape，tuner or accessorles．Individual volume level，high mpedance input for rape，tuner or accessortes．in each channel plus master gain control．Dutput is either high or control on each channel plus master gain control． mitting long cable to power amplifier input．Also has high impedance auxi－ mitting long cable to power amplifier input．Also has hagh impedance acti－ liary output for tape recorder．Two or more mixers may be interconnected，
For example two will provide inputs for eight microphones and one auxiliary．


（Use XLR－3．1iC／A3F Mating Connector）．Net Each
$\$ 84.00$
No．29A3037．Model M68FC．With Female Cannon－type inputs （Use XLR－3－12C／A3M Mating Connector）．Not Each
$\$ 90.00$ MODEL M68P MIKE MIXER With standard $1 /{ }^{\prime \prime}$ phone jeck input receptacles for 4 high impedance microphones and a fifth phono plug input for tape， tuners，etc．Otherwise same as M68 above．
$\$ 69.00$
No．29A3038．Net Each MODEL M68RM REVERBERATION MIXER，Use XLR－3－12C or Switcheraft A3M connector．Has built－in adjustable intensity reverb for special effects．
Response $40-20,000 \mathrm{~Hz}$ ．Four inpuls and jack for remotereverb．\＄1 17.00 No．29A3039．Eech


Designed to be used with stereo tape recorders and sound reinforcemen systerns．It has four dual impedance microphone inputs：three switchable to either leff or right channel and the fourth with a pan control（any to either left or right channel and the fourth with a pan control（any
position between $L$ and $R$ ）．Two aux．inputs．Individual volume controls position between $L$ and $R$ ．．Two aux．inputs．Individual volume controls
plus a stereo master volume control．Mono／stereo switch．Stereo high
impedance，hi level outputs，plus $L$ and $R$ mic．level output，hi or lo impedance，hi level outputs，plus L and $R$ mic．level output，hi or to craft A3M mating connectors for mic．inputs）．Size $2.1 / 2^{\circ} \times 11-3 / 8^{\prime \prime} \times 7^{\prime \prime}$ Shpg．wt． 7 lbs． Shpg．wt． 7 lbs．
No．29A3054．Eac

## SHURE M67 PROFESSIONAL MICROPHONE MIXER



Compact，lightweight micropháne mixer／remote amplitier for studio and re－ mote broadcosting，recording and sound reinforcement．Four low impedance balanced microphone inputs and one line input．Built－in tone oscillotor for ring ing up line．Response $\pm 2 \mathrm{db}$ from 20 to 20.000 Hz ．Gain 90 db ． 150 ohm mi crophone into 000 ohm line．Hum and noise -125 db ．Has illuminated VU meter calibrated +4 and +10 dbm out，two－level headphone monitor jock．Low noise $A C$ or battery operation．Size $11.3 / 8 \times 7.1 / 2 \times 2.1 / 2^{\prime \prime}$ ．W $\mathrm{W}, 5.1 / 2 \mathrm{lbs}$ ． Use XL－3－12C or Switchcroft A3M for mic，inputs；and XL－3－11C or Switcheraft A3F for mic．output．
No．29A3040．Net Eoch
$\$ 162.00$

## NEW MODEL M675 BROADCAST PRODUCTION MASTER



When used with the Shure Model M67（above）provides four additional channels for magnetic phono and line inputs with cue provision for pre－ viewing the material supplied to these added inputs．The M67－M675 combl－ nation makes a compact console，permitting mixing of four microphones four line inputs，and two tumtables．（For mic．inputs use XLR－3－12C of Switchcraft A3M mating connectors）．Battery or M67 powered．Stacking hardware included．Frequewcy response： 30 to $20,000 \mathrm{~Hz} \pm 2 \mathrm{db}$ ．Distortion


## MURA WX 172 WIRELESS MICROPHONE



FCC Approved．Tronsmits through any FM tuner or radio．Static－free perform－ ance．Solid state circuit．Fully shielded．Range 88 MHz to 106 MHz ．Will not drift．Compact $61 / 4 \times 11 / 2 \times I^{\prime \prime}$ ．Lightweight $5 \not / 4 \mathrm{oz}$ ．net．Shpg．wt． $11 / 2 \mathrm{lbs}$ Uses 9 volf tronsistor bottery（not supplied）．Mura Model W×172． No．29A692．Each
\＄24．88
No．21B141． 9 Volt Battery．Each


## SM61 OMNIDIRECTIONAL DYNAMIC MICROPHONE

Virtually eliminates cable，handling and mechanical shock noises．Super effi－ cient＂Blast Barrier＂and wind fitters cut breath and wind noise to insigniticant levels．Surprisingly rugged，ideal for location recording，sports coverage and remate broadcosts． $40.15,000 \mathrm{~Hz}$ ．frequency response．Omnidirectional pickup． 150 ohm impedance．With 20 ft ．cable．Non－reflecting matte metallic tinish． 7 ／／6＂long．Net wt． 5.6 oz．Shpg．wt． 2 ibs.
No．29A700．Eoch
$\$ 66.00$

## SM53 UNIDIRECTIONAL DYNAMIC MICROPHONE

Solve troublesome broadcast，recording and sound reinforcement assignments． Wide－range，notural，flat response．Cardioid pattern uniform at all trequencies． Very effective shock mount significantly reduces stand，cable and handling noise．Built－in hum rejection system．Integral＂pop＂filter limits explosive breath sounds and wind noise．Extremely rugged． 70.16 .000 Hz ．frequency response． Matches any input from 50 to 150 ohms impedance．Output level .58 .5 db ． With 20 ft ．cable．Non－giore motte metallic finish．Fits $5 / 8^{\prime \prime} \cdot 27$ stand． $7-3 / 16^{\prime \prime}$ long $X 11 /{ }^{\prime}$＂dio．Net wt． 8 oz．Shpg．wt． 2 lbs.
No．29A699．Eoch
$\$ 153.00$
SM54 Same as SM53 except for addition of A53G grille assembly which sup－ presses wind noise．
$\$ 162.00$

## SMS UNIDIRECTIONAL DYNAMIC BOOM MICROPHONE

Smooth，natural response for dialogue，vocal，music．Unusually effective car－ dioid pattern is uniform with freguency and completely symmetrical about the axis．Assures excellent rejection of unwanted sound．Maximum wind noise sup－ pression．For $5 / 16^{\prime \prime}$ or smaller boom studs； $5 / 8^{\prime \prime}-27$ stand thread adapter in－ cluded． $50-15,000 \mathrm{~Hz}$ ．trequency response．Output leval -57 db ．Non－glare gray finish．No cable supplied．Male 3 －pin receptacle on mike． $9-29 / 32^{\prime \prime}$ long X 5－1／32＇dio．Net wt． 1 lb .15 oz ．Shpg．wt． 3 lbs． No．29A706．SM5A－ 50 Ohm Impedance
No．29A707．SM5B－ISO Ohm Impedance
Your Choice Each
$\$ 255.00$

MODEL SM33 SUPER CARDIOID RIBBON MICROPHONE
Imparts a pleasantly warm characteristic to the speaking voice ．．．a feature which is especially desirable for announcing and narration applications．Polar pattern is somewhat more directional than a conventional cardioid．Smooth． wide range response．Unusually rugged．Two－position selector switch tailors bass frequency response．Self－adjusting lifetime swivel－shock mount permits tilt－ ing heod． $40-15,000 \mathrm{~Hz}$ ．freq．resp． 50 and 150 ohms dual impedance．Output level -58 db ．Texfured non－glare dark gray finish．With 20 ft ．cable．Fits $5,8^{\prime \prime}$ ． 27 stand． $4 \cdot 1 / 16^{\prime \prime}$ long $X 1^{1 / 4} /^{\prime \prime}$ wide．Net $w t .1 \mathrm{lb} .10 \mathrm{oz}$ No． 29 A708 Shpg．wf． 3 lbs．Eoch
$\$ 150.00$

## MODEL SMSI DYNAMIC LAVALIER MICROPHONE

Especially designed for radio，TV，motion－picture or applications calling for a small wearable microphone．Smooth exterior and recessed grille minimize cloth－ ing noise．Non－detachoble 30 ft ．two－conductor rubber cable． $70-12,000 \mathrm{~Hz}$ ． frequency response．Omnidirectional polar pattern．Matches any input from 50 10250 ohms impedance．Output level－ 60.5 ．Non－glare dark gray． $21 / 2^{\prime \prime}$ long $X$ $13 / 16^{\prime \prime}$ dio．Net wf． 2 oz．Shpg．wt． 1 lb
No．29A711．Each
$\$ 72.00$
SM60 OMNIDIRECTIONAL DYNAMIC MICROPHONE
Unique combination of beauty，strength，performance and econamy．It has smooth，natural，wide－range response for both voice and music．Buitt－in breath and pop filter minimizes breath and wind noise．Exceptional ruggedness．Can be used on stand or instantly removed from stand for in－thehand use．45－ $15,000 \mathrm{~Hz}$ ．frequency response．Matches any input from 50 to 250 ohms impedance．Output level $\cdot 60.5 \mathrm{db}$ ．Non－glare matte metallic finish．With 20 ft ． cable．Fits $5 / 8^{\prime \prime}-27$ stand． $6-7 / 32^{\prime \prime}$ long $X \quad 1 \mathrm{k}^{\prime \prime}$ dia．Net wf． 6 oz No． 29 A709 Shpg．wi．I lb．Eoch
$\$ 49.20$

## SM76 $\quad \$ / 4^{\prime \prime}$ DIA．OMNIDIRECTIONAL DYNAMIC MIKE

Extremely wide．peak－free，smooth response together with slim styling．Recom－ mended for exacting applications in which o very flat，wide－range microphone is required．inconspicuous，slender sseel case may be hand－held or used on a stand，indoors or out．Will withstand severe use． $45-20,000 \mathrm{~Hz}$ ．frequency re－ sponse． 50 and 150 ohms dual impedance．Output level 60 db ．Textured non－ glare dark gray finish．With 20 ft ．cable．Fits $5 / 8^{\prime \prime} .27$ stand． $81 / 4$＂long $X 3 / 44^{\prime \prime}$ dio．Net Wt． 7 oz．Shipg．Wf． 2 lbs
No．29A710．Each
$\$ 120.00$

## TURNER MICROPHONES

## TURNER UNI-DIRECTIONAL DYNAMIC MIKES

MODEL TC10. Professional recarding, broadcast, and pubbic address microphone, extremely flat response, excellent front to back discrimination. Multiport system greatly improves low frequency response. Shock and handing noises virtually eliminated. Porticularly fovorable for use in close-talk broadcost and entertainment applications. Low impedance 150 ohm . Frequency response 50 15000 Hz . Output 55 db .20 ft . detachable cable with Switcheraft A3F connector. Anodized desert gold finish. Specific response curve with each mike. With metal carrying case. Wi. 7 oz ,
No. 29A701. Mtg. list $\$ 225.00$ Each
$\$ 135.00$
No. 29 A 701 Mtg. Nist $\$ 225.00$ Each
.....................
MODEL TCIIS. Similar to TC10 above. Frequency response $50-140$
gray anodized finish. No carrying case or response curve included.
No. 29A702. Mfg. list $\$ 130.00$ Each gle conductor 20 ft . cable.
No. 29A703. Mfg. list $\$ 130.00$ Eoch
78.00

MO. "Live" al front, "dead" to sounds from rear, allows close up or moving about with great freedom. Cures feedback problems.
Response $40-15,000 \mathrm{~Hz}$. High or low impedance selection. Output, high - 55 db ; 150 ohms -79 db . Professional Canon XLR 4 pin connector, 20 ft . cable. Very outstanding mechanical design and appearance. Shock mounted for severe service. Withstands extremes of temperature and humidity. Slips from $5 / 8^{\prime}-27$ tilt stond adapior for hand held use. Satin chrome, a/-17/32 dia., $6-13 / 16^{\prime \prime}$ L. Stand adaptor is supplied. Shpg. wt. 3 lbs. No. 29B3 19 Mfg.. List $\$ 105.00$
Model S-500 with On/Off Switch. Net Each .....
$\$ 63.00$
COLD FINISHED MODEL 500
Very popular for church installations. Specifications as above.




20-ft. cable with phone plug for direct plug.in to any guitar amplifier. Rugged stand adoptor for in-hand or on-stand use. Built-in blast fitters to eliminate "pop", "howl", or wind noise. All ore high impedance. Shpg. wt. 4 lbs. MODEL 866. Cardioid performance at a low price. Ball screen styling, $100-13,000 \mathrm{~Hz}$ frequency response. Permanently attached cable. No on-oif switch. Mfg. Iist \$40.00.
$\$ 24.00$
No. 29A667. Each.
40-15.000

 On-off switch. Mig.
No. 29A66


## TURNER PROFESSIONAL LAVALIER

MODEL 35. Omni-directional, very high quality dynamic microphone for professional PA or recording applications. Features small size, $x^{\prime \prime}$ dia., $3^{\prime \prime}$ long, Wi. 12 oz. with attached 25 ft . 3 . conductor coble. High or 150 ohm low impedance selected of end of cable. Response: $70-10,000 \mathrm{~Hz}$. Output .61 db . Desert Gold finished. With Lavalier Neck Cord. Shpg. wt. $11 / 2$ lbs. No. 29A626. Mig. list $\$ 70.00$ Eoch
$\$ 42.00$

## TURNER MICROPHONE CARTRIDGES

## Stk. No. <br> 294383 298292

298292
298293
Tumer Type $13 C$ Dynamic
21 Crystal
$21 C$ Ceramic

9D Fits Mis
$\qquad$
$\qquad$
.
$90.33 D .2^{\prime \prime}-D . x^{7}$
$350 \times .254 \times 10^{\prime \prime}$
I


KODAK KODACOLOR-X FILM FOK COLOR PRINTS PRICES INCLUDE PROCESSING * - YOU RECEIVE PRINTS BACK FROM PROCESSOR


35MM \& 126 KODACHROME FILM FOR COLOR SLIDES
PRICES INCLUDE PROCESSING AND MOUNTED SLIDES

*High Quality Color Slide Processing by 3 M in modern high speed photo labs across the USA. Color print pracessing by Berkey photo. Send exposed film to address on Prepaid Processing mailers supptied with film order.

See separate processing mailers below


## GENUINE KODAK PREPAID PROCESSING MAILERS

Send film in special mailer to any Kodak Photolab listed on mailer. Finished work is promptly returned direct to you, Suffix $3 S$ on Kodak No. indicates size $31 / 2 \times 31 / 2^{\prime \prime}$ prints; $2 R$, sixe $21 / 2 \times$ $31 / 2^{\prime \prime}$ prints. 3R. size $31 / 2 \times 412^{\prime \prime}$ prints.



POLAROID

Black and White in 10 seconds, colar in 60 sec onds. 20C3000 is for the Swinger, 88.75 is for the Square Shooter.

| Stock No. | Type and ASA Speed | Piclures | $\begin{gathered} \text { Nei } \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 3(\underline{a} \\ & \text { Each } \\ & \hline \end{aligned}$ | $\begin{aligned} & 5 \text { E } \\ & \text { Each } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 66A3049 | $20 C 3000$ | Black \& White | \$2.26 | \$2.11 | \$2.00 |
| 66 A 3007 | 47-3000 | Black \& While | 3.15 | 2.95 | 2.75 |
| 6643008 | 42-200 | Black \& Whute | 3.15 | 2.95 | 2.75 |
| 66 A3009 | 37. 3000 | Black \& White | 2.40 | 2.24 | 2.06 |
| 66 A3010 | 32-400 | Black \& White | 2.40 | 2.24 | 206 |
| 6643011 | 48.75 | Color Rol! | 5.12 | 4.80 | 4.50 |
| 6643012 | 107-3000 | B \& W Pack | 3.10 | 2.90 | 2.71 |
| 6643089 | 88-75 | Color Pack | 3.75 | 3.51 | 3.44 |
| 66 A3013 | 108.75 | Color Pack | 5.35 | 5.01 | 4,69 |

KODAK FILM WITHOUT PROCESSING See separate processing maiters below. All film befor outdoors electronic flash or blue bulbs

110 POCKET INSTAMATIC COLOR FILM
Cl10 is Kodacolor II. XXIIO is Kodachrome $-X$. EX is Ekrachrome $-X$.

| Stocik Na . | Kodah No . \& Exposure | $\begin{aligned} & \text { ASA } \\ & \text { Speed } \end{aligned}$ | Kodah Price | Nal Ea. | $\begin{aligned} & 3(2) \\ & \text { Eact } \end{aligned}$ | $\begin{gathered} 10 \text { Assid } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3094 |  | 80 | \$1 40 | \$1.26 | \$1.23 | \$1.19 |
| 66 A3095 | C110-20 | 80 | 1.95 | 1.76 | 1.72 | 1 |
| 66A3096 | KX110-20 | 64 | 210 | 1.89 | 1.85 | . 79 |
| 66 A3097 | Ex110-20 | 64 | 2.30 | 2.07 | 2.02 | 1.95 |

## 126 CARTRIDGE COLOR FILM <br> FOR INSTANT LOAD CAMERAS

Buy Cx Type for Prints, others for Slides

| Stock No. | Kodak Mo. <br> E Exposure | $\begin{gathered} \text { ASA } \\ \text { Speed } \end{gathered}$ | Rodak Price | Net Ea. | $\begin{aligned} & 3 \Leftrightarrow \\ & \text { Each } \end{aligned}$ | Asstd. Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 86A3071 | CX126-12 | 80 | \$1.40 | \$1.26 | \$1.23 | \$1.1 |
| 6643072 | CX126-20 | 80 | 1.95 | 1.76 | 1.72 | 1.68 |
| 6643058 | KX126-20 | 64 | 2.10 | 1.89 | 1.05 | 1.78 |
| 66A30E4 | EX126-20 | 64 | 2.30 | 2.07 | 2.02 | 1.95 |
| 66A3065 | EH126-20 | 160 | 2.70 | 2,43 | 2.38 | 2,29 |

## POPULAR 35MM COLOR FILM

 Buy Cx135 for Prints. All others listed are for Slides Stock Kotak No. ASA Kodak B-A 3 O 10 Assto. No. Exposure speed Price Net Ea. Exich Each $\begin{array}{lllllll}6643054 & K 135-20 & 25 & 2.10 & 1.89 & 1.85 & 1.79 \\ 6643055 & K 135.35 & 25 & 2.95 & 2.65 & 2.80 & 2.51\end{array}$ $\begin{array}{lllllll}66 A 3056 & \text { KX135-20 } & 64 & 2.10 & 1.89 & \mathbf{1 . 8 5} & \mathbf{1 . 7 9} \\ 6643057 & \text { KX135.36 } & 64 & 2.95 & \mathbf{2 . 6 5} & \mathbf{2 . 6 0} & 2.51\end{array}$ $\begin{array}{llrrrrr}66 A 3077 & \text { KX135-36 } & 64 & 2.95 & 2.65 & \mathbf{2 . 6 0} & 2.51 \\ 66 A 3059 & \text { EX } 135-20 & 64 & 2.30 & 2.07 & 2.02 & 1.95 \\ 66 A 3060 & \text { EX135.36 } & 64 & 3.20 & 2.88 & \mathbf{2 . 4 4} & 2.72 \\ 664069 & \text { EH135-20 } & 160 & 2.70 & 2.43 & \mathbf{2} .39 & 2.30\end{array}$ 6643061 6643062
$\qquad$ EんB135-20 125
COLOR ROLL FILM
CX for Prints. EX for Slides

| 6643074 | CX120 | 80 | 1.25 | 1.13 | 1.10 | 1.08 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 66A3075 | CX620 | 80 | 1.25 | 1.13 | 1.10 | 1.06 |
| $66 A 3073$ | CX127 | 80 | 1.25 | 1.13 | 1.10 | 1.05 |
| 66A3070 | EX127 | 64 | 1.35 | 1.21 | 1.19 | 1.15 |

COMPARE B-A': HUGE SAVINGS ON PREPAID PROCESSING MAILERS
If any of your films have been purchased less processing from B-A or any place else-you may buy the prepald process mailers listed below and save $\$ \$ \$$. Each mailer is good for prepaid processing of one roll.

## MAILED DIRECTLY TO YOU FROM

 COAST-TO-COAST PROCESSING LABS New faster, finer service. Latest electronic autamation . . . In-lab time only one day.
## MAILERS FOR KODACOLOR

Use mailers beiow for color prints of any lastematic, $\mathbf{3 5} \mathrm{mm}$, of 120 Kodacolor film. Usa CX 126 for Pocket Instamatic.


## B-A SAVES YOU MONEY ON PHOTO NEEDS

COMPARE OUR LOWER PRICES

## SYLVANIA "BLUE DOT" FLASH BULBS



SYLVANIA BLUE FLASHBULBS, For all dual-purpose Kodachrome and Ektachrome films-plus daylight color films of any of her manufacturer.

|  | $\begin{aligned} & \text { Butb } \\ & \text { Type } \end{aligned}$ | Class | umen conds |  |  |  | © Cin. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6646032 | C 1 | Cube | 2MCPS | $500^{\circ}$ |  |  |  | \$ 1.27 |  |
|  |  |  | . 0.000 |  | AC |  |  |  |  |
| A60 | M |  | 9.000 |  |  | 2.79 | 2.29 | 2.15 |  |
| 646029 | M-2B |  | 6,000 | 5100 |  | 2.79 | 2.29 |  |  |
| 66A6030 | 25B |  | 9,000 | 6000 | B | 2.99 | 2.45 | 2. |  |
| 6646031 | FP26B |  | 8,500 | $6000^{\circ} \mathrm{K}$ | 6 B | 3.50 | 28 |  |  |
| Qndicates |  |  |  | Carto |  |  |  |  |  |
| STLVANIA CLEAR FLASHBULBS. For all Black and White. May be used with the High Speed Ektachrome Type (EHB) with an 81C filter. |  |  |  |  |  |  |  |  |  |
|  | Bulb <br> Type | Class | Lumen Seconds | Color <br> s Temp. |  | Cin. Per 3 Ctns. Case of List \# Ctn. © Ea. 12 Ctm . | Per 3 Cins. Case of \# Ctn. Ea. 12 Cm . |  |  |
|  |  |  |  |  |  |  | 1.71 | 1.61 |  |
| 6a6023 | M-3 |  |  | - |  |  | 2.29 | 2.15 | 23.77 |
| 646025 | Press | M | 20,000 | 3800 ${ }^{\circ} \mathrm{K}$ |  | 2.99 | 2.45 | 2.30 | 25.47 |
| 646026 | FP-26 | P | 19.000 | O $3800{ }^{\circ} \mathrm{K}$ | 6 | 3.50 | 2.87 | 2.70 | 29.82 |



SYLVANIA "MAGICUBE"
ACTIVATED WITHOUT BATTERIES! FITS KODAK INSTAMATIC "X"
ND POCKET INSTAMATICS ONLY

## Lumen seconds 2 mops. Color temperature $5500^{\circ} \mathrm{K}$. No. 66 A 6067 . Cin. List $\$ 2.35$. 12 flashes per cin.

 Per Carton12 Cartons

200 Flashes on one set of alkaline battories. Guide No. 34 for ASA25 film. 7-10 sec. recycling. Wight weight only 6 ox.
Fits cameras having "X" flash synch, also Polaroid. Mounts horizontally of vertically, $65^{\circ}$ to $55^{\circ}$ light dispersion "respectively. Color temperature balanced for daylight color fllms. Flash duration $1 / 3000$ sec. Recycles in $7-10$ sec. on batteries, 3.6 sec . on AC. Has ready light, $P C$ cord flash calculator. Size $31 / 4 \times 11 / 4 \times 21 / 2^{\circ}$. Shpg. wt. 1 lb . No. 66A252.
$\$ 16.88$
No. 21A41. Alkatine Pencell (Requires


LOW-PRICES ON AIREQUIPT MAGAZINES
 $\qquad$
 No. 66A219. Each ........ \$1.65 6 Lois, Each.... Circular Magazinc. Holds 100 slides. Shpg. wt. $1{ }^{\text {'3 }}$
 $\qquad$ . 2.20 Sfack Loader, Holds 150 slides. Shpg. wt. 1 lb.

## YANKEE TRAYS

Universal. 30 slot with piastic cover. Fits the Sawyer's Anscomatic. Viewlex. Keystone: AO Bxecutive, Tower Automatic, TDC-8ell \& Howell nnd Kodak Changers. Shpx. wt. 8 oz .
No. 66A225. Eherh.
36 biot
Revere-Wollemsak. 36 siot 6 Lhe Each 8 Shpg. wt 8 oz
No. 66A226. Each. $\$ 1.00$ ( Lote. Eicher.
Tankec-Sawyer Roto Tray. Holds 100 , Snps. wt. I fo.
. $\$ 2.65$
Yankee-Carousel Tray. Hoids 100. Shpg. wt. 1 lb.

## 3 WIRE PROJECTOR CORD

Belden 8 ft . groy SVT vinyl cord has No. 18 conductors. Has 3 contact molded female connector for Revere and Kodak projectors ond many business mochines. Has 3 prong plug for sofety grounding. Shpg. wi. I lb.
No. 41A444. Belden 17258. Each


SYLVANIA CERAMIC "BLUE TOP" PROJECTOR LAMPS


Exact replacement for all slide and movie projectors. Listed aiphabetically according to ASA Code.
 Schools. Cities, Municipalities and other large quantity users: Other projector amps and those for overhead and opaque projectors availabie on request Send your Projector Lamp Bid to Burstein-Applebee for lowest industria
price quotation.


MFG. LIST $\$ 84.95$
Remote control forwerd/reverse and micro focus. 500 W. CZA lamp. Accepts all four Airequipt slide handling systems, metal magazines, vari-mount plastic magazine, circular and the new stack loader. Festures elevation and leveling control. Shpg. Wf. 18 lbs. With circular magazine. No. 66A241. Special Each.
$\$ 49.95$

EA is Electronic Arrays
SPECIFY MANUFACTURERS NAME AND NUMBER ON YOUR ORDER
NJS is New Jersey Semiconductor

| Typt |  |
| :--- | :--- | :--- |
| Ne. | Mfg, Each Each |


| IN34A | IR | $\$ 0.24$ | $\$ 0.21$ |
| :--- | :--- | ---: | ---: |
| IN34A | RCA | 33 |  |
| IN60 | IR | 24 | 21 |



## RPI SEMICONDUCTORS



EXPLANATIONS OF SYMBOLS FOR RCA SEMICONDUCTORS
 ${ }^{P}$ O Power Dulput conunuous. PsV Supply Voltage. PT transistor power dissipation. VCEcollector to

SPECIFY MANUFACTURERS NAME AND NUMBER ON YOUR ORDER

RCA MOS FIELD EFFECT TRANSISTORS

| $\begin{aligned} & \text { RCA } \\ & \text { Typo } \end{aligned}$ | Packega | VOS | Usable to $\mathrm{MHz}_{2}$ | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} \text { 100-999 } \\ \text { Ench } \end{gathered}$ | $\begin{array}{r} 1000 \\ \text { up } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 N 128 | T0.72 | 20 | 250 | \$1.29 | 50.94 | \$0.78 |
| $3 \mathrm{N138}$ | 10.72 | 35 | 250 | 2.89 | 2.10 | 1.75 |
| 3N139 | 10.72 | 35 | 250 | 2.48 | 1.80 | 1.50 |
| 3 N 142 | T0-72 | 20 | 176 | 1.04 | 76 | . 83 |
| 3 N 143 | T0-72 | 20 | 250 | 1.30 | 95 | . 79 |
| 3N152 | T0-72 | 20 | 250 | 1.62 | 1.1 | 98 |
| 3 N 153 | T0.72 | 20 | 250 | 1.42 | 1.03 | 88 |
| 3N154 | T0-72 | 20 | 250 | 1.48 | 1.08 | . 90 |
| 40467 A | 10.72 | 20 | 220 | 1.24 | 90 | 75 |
| 40468 A | 10.72 | 20 | 125 | 75 | 54 | 45 |
| 40559 A | 10-72 | 20 | 125 | 30 | . 51 | 42 |


| L GATE TYPES |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31140 | T0-72 | 20 | 300 | 1.62 | 1.18 | 98 |
| 3M141 | 10.72 | 20 | 300 | 1.45 | 1.06 | 88 |
| 3 N159 | 10.72 | 20 | 300 | 2.06 | 1.50 | 1.25 |
| 40600 | 10.72 | 20 | 250 | 1.24 | 90 | 75 |
| 40601 | T0.72 | 20 | 250 | 1.16 | 84 | 70 |
| 40602 | T0-72 | 20 | 75 | . 83 | . 60 | 50 |
| 40603 | T0.72 | 20 | 150 | 1.04 | . 76 | . 63 |
| 40604. | 10-72 | 20 | 150 | . 98 | . 7 | 59 |
| DUAL GATE-PADTECTED TYPES |  |  |  |  |  |  |
| 30187 | 10-72 | 20 | 300 | 2.72 | 1.98 | 1.65 |
| 301200 | T0-72 | 20 | 500 | 4.30 | 3.18 | 2.65 |
| 40673 | T0-72 | 20 | 400 | 1.09 | 73 | 61 |
| 40819 | T0-72 | 25 | 300 | 1.73 | 1.26 | 1.05 |
| 40820 | T0.72 | 20 | 250 | 94 | . 68 | 57 |
| 40821 | 10.72 | 20 | 250 | 89 | 65 | . 54 |
| 40822 | T0.72 | 18 | 150 | 86 | . 62 | . 52 |
| 40823 | T0.72 | 18 | 150 | 81 | . 59 | 49 |
| 40841 | T0.72 | 18 | 500 | 68 | 49 | 41 |


| $\begin{aligned} & \hline \text { RCA } \\ & \text { Type } \end{aligned}$ | Package | P3V | Mhz | MF db/ Pow. | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{array}{r} 900- \\ 999 \\ \hline \end{array}$ | $\begin{array}{r} 1000 \\ \mathrm{up} \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 N 918 | T0.72 | ${ }^{6-15}{ }^{\text {. }}$ | 80 | NF6 | \$7.15 | \$0.84 | 50.70 |
| 2N1491 | T0-5 | 20 | 70 | 01 | 1.82 | 1.32 | 1.10 |
| 2N1492 | T0-5 | 30 | 70 | , | 4.29 | 3.12 | 2.60 |
| 2 NH 493 | T0.5 | 50 | 70 | . 5 | 7.01 | 5.10 | 4.25 |
| 2N2631 | 10.39 | 28 | 50 | 75 | 3.10 | 2.76 | 2.30 |
| 2N2857 | T0-72 | 8.15* | 450 | NF4.5 | 2.72 | 1.98 | 1.65 |
| 2N2:78 | T0.60 | 28 | 50 |  | 11.25 | 9.30 | 7.75 |
| 2N3118 | T0-6 | 28 | 50 | 1 | 4.95 | 360 | 3.00 |
| 2N3119 | 10-5 | 28 | 50 | 1 | 5.36 | 3.90 | 3.25 |
| 2N3229 | 10.60 | 50 | 50 |  | 22.21 | 18.38 | 15.32 |
| 2N3262 | T0-39 | High Spe | od Sw | tehing | 7.43 | 5.40 | 4.50 |
| 2N3375 | T0-60 | 28 | 400 |  | 9.90 | 7.20 | 6.00 |
| 2N3478 | 10-72 | 6.15* | 200 | NF4.5 | 1.48 | 1.08 | . 90 |
| 2N3553 | T0.39 | 28 | 175 | 2.5 | 3.00 | 2.20 | 1.93 |
| 2N3600 | T0-72 | 6-15. | 200 | NF4.5 | 2.14 | 1.56 | 1.30 |
| 2 N 3632 | T0.60 | 28 | 175 | 13.5 | 11.50 1270 | 10.50 | 8.93 |
| 2N3733 2 N 38 | 10.60 10.72 | 6.15 | 400 | NF3.9 | 12.70 9.90 | 10.50 7.20 | 8.75 |


| RF \& MICROWAVE TRANSISTORS (Continued) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Typ | Packsge | Ps $V$ | M Mz | Pow | Each | Eact | $\mathrm{Up}_{\mathrm{p}}$ |
| 2N3866 | T0.39 | 28 | 400 |  | \$ 1.68 | \$1.15S | 0.96 |
| 2 N 4012 | T0.60 | 28 | 1000 | 2.5 | 14.20 | 11.75 |  |
| 2 N 4427 | 10-39 | 12 | 175 |  | 1.78 | 1.30 | 1.08 |
| 2 N 4440 | 10.80 | 28 | 400 |  | 10.30 | 8.50 | 10 |
| 2 N 4932 | T0.80 | 13.5 | 88 | 12 | 29.00 | 24.00 | 20.00 |
| 2 N 4933 | T0-60 | 24 | 88 | 20 | 29.00 | 24.00 | 20.00 |
| 2N5018 | T0-60 | 28 | 00 | 15 | 29.00 | 2400 | 20.00 |
| 2N5070 | T0 80 | 28 | 30 | 25 | 29.00 | 24.00 | 20.00 |
| 2N5071 | 10-60 | 24 |  |  | 29.00 | 24.00 | 20.00 |
| 2N5090 | T0.60 | 28 | 400 | 1.2 | 11.40 | 1.30 | 6.90 |
| 2N5102 | T0.60 | 24 | 136 | 15 | 21.75 | 18.00 | 15.00 |
| 2 N 5108 | T0.39 | 28 | - 1000 |  | 10.70 | 7.80 | 6.50 |
| 2N5109 | T0.39 | 15 | 200 | NF3 | 2.80 | 2.05 | 1.70 |
| 2 N 5179 | T0-72 | $6^{\circ}$ | 200 | NF4.5 | 1 | 59 | 4 |
| 2N5913 | T0-39 | 12 | 470 | 2 | 3.63 | 2.64 | 2.20 |
| 2N5914 | T0-2164 | 12 | 470 | 2 | 9.90 | 7.20 |  |
| $2 N 5935$ | TO-216AA | 12 | 470 | 6 | 10.88 | 9.00 | 7.50 |
| 2N5916 | T0-218AA | 28 | 400 | 2 | 12.33 | 10.20 | 8.50 |
| 2N5917 | HF. 31 | 28 | 400 | 2 | 11.60 | 9.60 | 8.00 |
| 2N5918 | T0-216A | 28 | 400 | 10 | 17.40 | 14.40 | 12.00 |
| 2 N 5919 | 10-216A |  | 400 | 18 | 21.75 | 18.00 | 5.00 |
| 2N599 | T0-21 |  |  | 18 | 8.25 11.60 | 6.00 960 | 8.00 |
| 2N5994 | T0-218AA | 28 | 175 | 35 | 18.16 | 15.00 | 12.50 |
| 2 N 5995 | T0-216AA | 12.5 | 175 |  | 8.25 | 6.00 | 5.00 |
| 2N5996 | TO-216AA | 12.5 | 175 | 15 | 11.60 | 8.60 | 8.00 |
| 40080 | T0-5 | 12 | 27 | . 1 | 1.88 | 78 | . 65 |
| 40081 | 10.5 | 12 | 7 | . 4 | 1.41 | 1.02 | 5 |
| 40082 | T0-39 | 12 | 27 | 3 | 404 | 2.94 | 2.45 |
| 40280 | T0-39 | 3.5 | 175 | 1 | 4.62 | 3.36 | 2.8 |
| 40281 | T0.60 | 13.5 | 175 | 4 | 10.60 | 8.75 | 7.30 |
| 40290 | T0-39 | 12 | 135 | 2 | 2.48 | 1.80 | . 50 |
| 40291 | T0.60 | 12.5 | 135 | 2 | 10.40 | 7.55 | . 30 |
| 40446 | T0-39 | 12 | 27 |  | 4.29 | 3.12 | 260 |
| 40581 | 1039 | 12 | 7 |  | 4.87 | 3.54 | 2.95 |
| 40582 | T0-39 | 12 | 27 | 3.5 | 5.12 | 3.72 | 3.10 |
| 40565 | T0-60 | 28 | 75 | 13.5 | 14.00 | 11.65 | 9.70 |
| 40866 | 10.60 | 28 | 400 | 3 | 12.00 | 8.8 |  |

RCA POWER TRANSISTORS Ge.PNP

| $\begin{aligned} & \text { RCA } \\ & \text { Iypa } \end{aligned}$ | Pachage | VCEO | PIW ICA | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2N3732 | T0.3 | -100 | $3-3$ | \$1.65 | \$1.20 | \$1.00 |
| 2N3731 | T0-3 | -320 | $5-10$ | 2.81 | 2.04 | 1.70 |
| 2N4346 | T0-3 | -320 | $5-10$ | 3.63 | 2.64 | 2.20 |
| 40439 | T0-3 | -320 | $5-10$ | 2.56 | 1.86 | 1.55 |
| 40440 | T0-3 | -200 | $5-10$ | 1.98 | 1.44 | 1.20 |
| 2 N 1184 | T0-8 | -20 | $7.5-3$ | 2.48 | 1.80 | 1.50 |
| 2 N 1184 A | T0.8 | -30 | $7.5-3$ | 3.14 | 2.28 | 1.90 |
| 2N351 | T0.3 | -30 | $10-3$ | 1.90 | 3.38 | 1.15 |
| 2 N 376 | T0-3 | $-30$ | $10-3$ | 2.06 | 1.50 | 1.25 |
| 2N3730 | T0-3 | -200 | $10-3$ | 2.23 | 1.62 | 1.35 |
| $2 \mathrm{2N2148}$ | T0.3 | -40 | $12.5-5$ | 1.45 | 1.08 | 90 |
| 40022 | T0.3 | -32 | $12.5-5$ | . 75 | . 55 | 45 |
| 40050 | T0.3 | -40 | $12.5-5$ | 1.15 | . 85 | 70 |

POWER TRANSISTORS (Continued)

| $\begin{aligned} & \hline \text { RCA } \\ & \text { Type } \\ & \hline \end{aligned}$ | Packing | VCEO | PiW | 'CA | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | 1000 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40254 | T0-3 | -32 | 125 | -5 | 76 | 55 | 45 |
| 40462 | T0.3 | - 40 | 12.5 | -5 | 1.16 | 4 | \% |
| ${ }_{2} \mathbf{2 N 2 8 6 9}$ | 10-3 | -50 | 30 | -10 | 1.82 | 1.32 | 10 |
| $2 \mathrm{~N} 301 \mathrm{~A} /$ |  |  |  |  |  |  |  |
| 2 N 2370 | T0-3 | -50 |  | -10 | 3.22 | 2.34 | 95 |
| 2N1905 | T0-3 | $-50$ | 30 | -6 | 4.13 | 3.00 | 2.50 |
| $\begin{aligned} & 40421 \\ & .3 \mathrm{MHz} \end{aligned}$ | $\begin{gathered} 10-3 \\ t o 3 \mathrm{Mk} \end{gathered}$ | $-50$ | 12.5 | $-5$ | 1.65 | 1.20 | 1.00 |
| RCA POWER TRANSISTORS Si PNP <br> 3 MHz to 30 MHz (IT) |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 2N5495 | 10.5 | -200 |  | -1 | 1.24 | 90 | 75 |
| 2N5436 | T0. 5 | -300 |  | -1 | 1.60 | 1.18 | . 98 |
| 2N5781 | T0-5 | -65 | 10 | -3.5 | 1.41 | 1.02 | 85 |
| 2N5782 | 10-5 | -50 | 10 | -3.5 | 1.24 | . 90 | 75 |
| 2 N 5783 | T0.5 | $-40$ | 10 | -3.5 | 1.16 | 84 | 70 |
| 2 N 5954 | T0.68 | -75 | 40 | -6 | 2.15 | 1.56 | 1.30 |
| 2N5955 | 10-66 | -60 | 40 | 6 | 1.90 | 1.38 | 1.15 |
| 2N5966 | T0.68 | -40 | 40 | -8 | 1.65 | 1.20 | 1.00 |
| 30 MHz to 300 MHz (fT) Si PNP |  |  |  |  |  |  |  |
| 40406 | T0. 5 | -50 | 1 | -0.7 | 76 | . 55 | 6 |
| 40410 | T0.5 | -90 | 3 | -0.7 | 89 | . 65 | 54 |
| 40381 | 10-5 | -40 | 3.5 | -1 | 81 | . 69 | 9 |
| 40318 | 10-5 | -40 | 5 | -0.7 | . 71 | . 52 | 43 |
| 40382 | T0-5 | -70 | 5 | -0.7 | 76 | 55 | 4 |
| 40537 | 10.5 | -55 | 5 | -0.7 | . 69 | . 50 | 42 |
| 40538 | T0.5 | -55 | 5 | -0.7 | 59 |  | 36 |
| 2 N 4036 | 10.5 | -85 | 7 | -1 | 89 | 65 | 54 |
| 2 N 4037 | 10.5 | -40 | 7 | -1 | . 73 | 53 | 44 |
| 2 N 4314 | T0-5 | -65 | 7 | -1 | 1 | . 59 | 49 |
| 40394 | 10.5 | -40 | 7 | -1 | . 11 | . 59 | 49 |
| 40815 | 10.5 | -40 |  | -1 | 86 | 62 | 5 |
| 2 N 5322 | T0-5 | -75 | 10 | -2 | 1.40 | 1.02 | 85 |
| 2M5323 | 10-5 | -50 | 10 | -2 | 1.01 | 73 | . 61 |
| 40595 | T0-5 | -95 | 10 | -2 | 1.44 | 1.04 | 87 |

RCA POWER TRANSISTORS Si NPN

| $\begin{aligned} & \text { RCA } \\ & \text { TYpp } \end{aligned}$ | Pachage | ${ }^{\text {V CEO }}$ | Prw | 'CA | $\begin{aligned} & 1.99 \\ & \text { Eact } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | $\begin{array}{r} 1000 \\ \text { up } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2N1479 | T0.5 | 40 | 5 | 1.5 | 1.07 | 78 | . 65 |
| 2N1480 | T0. 5 | 55 | 5 | 1.5 | 124 | 00 | 5 |
| 2N1481 | TO-5 | 40 | 5 | 1.5 | 124 | 90 | 75 |
| 2N1482 | T0-5 | 55 | 5 | 1.5 | 1.40 | 1.02 | 85 |
| 2N1700 | T0-5 | . 40 | 5 |  | 1490 | 1.38 | 1.15 |
| 2N5189 | T0.39 | 35 | 5 | 5 | 16 | . 58 | 46 |
| 2N5262 | TO-39 | 50 | 5 |  | 1.62 | 1.18 | 98 |
| 40367 | TO-5 | 55 |  | 1.5 | 7.84 | 5.70 | 4.75 |
| 40372 | T0.68 | 55 | 58 | 4 | 99 | 72 | . 60 |
| 40373 | T0-66 | 140 | 58 |  | 1.57 | 1.14 | 95 |
| 40347 | 10.5 | 40 | 8.75 | 15 | . 5 | 54 | 45 |
| 40348 | TO-5 | 65 | 8.75 | 1.5 | 1.06 | 77 | . 64 |
| 40349 | T0.5 | 140 | 8.75 | 1.5 | 1.55 | 1.13 | . 94 |
| 2N5784 | T0-5 | 65 | 10 | 3.5 | 1.24 | 30 | 75 |

POWER TRANSISTORS (Continued) 0.3 MHz to 30 MHz - Si NPN.


POWER TRANSISTORS (Continued) 30 MHz to 300 MHz si NPN

| $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Patkage | ${ }^{\text {cheo }}$ | Ptw | ICA | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100 . \\ & 999 \end{aligned}$ | $\begin{gathered} 1000 \\ \text { up } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2N1613 | 10.5 | 50 | 3 | 1 | 50 | . 36 | . 30 |
| 2N1711 | 10.5 | 50 | 3 | 1 | . 68 | . 49 | . 41 |
| 2 N 1893 | T0-5 | 80 | 3 | 0.5 | . 81 | 59 | . 49 |
| 40409 | 10-5 | 90 | 3 | 0.7 | . 17 | . 64 | . 53 |
| 40389 | 10.5 | 40 | 3.5 | 0.7 | 74 | . 54 | 45 |
| 2N3119 | T0-5 | 80 | 4 | 0.5 | 5.36 | 3.90 | 3.25 |
| 2N2102 | T0-5 | 65 | . 5 | 1 | 1.07 | 78 | . 65 |
| 2N2270 | 10.5 | 45 | 5 | 1 | . 59 | 43 | . 36 |
| 2N2405 | T0.5 | 90 | 5 | 1 | 1.57 | 1.14 | . 95 |
| 2N3053 | T0.5 | 40 | 5 | 0.7 | 48 | . 33 | . 29 |
| 40309 | 10.5 | 18 | 5 | 0.7 | . 58 | 42 | . 35 |
| 40311 | 10.5 | 30 | 5 | 0.7 | . 59 | 43 | . 36 |
| 40314 | 10.5 | 40 | 5 | 0.7 | . 61 | . 44 | . 37 |
| 40315 | 10.5 | 35 | 5 | 0.7 | . 59 | 43 | . 36 |
| 40317 | 10.5 | 40 | 5 | 0.7 | . 61 | . 44 | . 37 |
| 40320 | T0-5 | 40 | 5 | 0.7 | . 61 | . 44 | . 37 |
| 40323 | T0.5 | 18 | 5 | 0.7 | . 58 | . 42 | . 35 |
| 40326 | T0-5 | 40 | 5 | 0.7 | . 61 | . 44 | . 37 |
| 40360 | T0-5 | 70 | 5 | 0.7 | . 79 | .5a | . 48 |
| 40361 | T0.5 | 70 | 5 | 0.7 | . 83 | . 60 | . 50 |
| 40366 | T0-5 | 65 | 5 |  | 5.36 | 3.90 | 3.25 |
| 40539 | 10.5 | 55 | 5 | 0.7 | . 53 | 38 | . 32 |
| 40635 | 10.5 | 75 | 5 | 0.7 | . 63 | . 46 | 38 |
| 40375 | 10-66 | 50 | 5.8 | 7 | 1.82 | 1.32 | 1.10 |
| 40392 | T0.5 | 40 | 7 | 0.7 | . 74 | . 54 | . 45 |
| 40544 | T0.5 | 50 | 7 | 0.7 | . 58 | . 42 | . 35 |
| 2N3262 | T0.5 | 80 | 8.75 | 1.5 | 7.43 | 5.40 | 4.50 |
| 2N5320 | T0.5 | 75 | 10 | 2 | 1.14 | 83 | 69 |
| 2 N 5321 | 10.5 | 50 | 10 | 2 | 91 | 66 | 55 |
| 40594 | T0-5 | 95 | 10 | 2 | 1.24 | . 90 | . 75 |
| 2N3*78 | T0.66 | 50 | 35 | 7 | 1.57 | 1.14 | 95 |
| ${ }_{2} \mathrm{~N} 3879$ | 10-66 | 75 | 35 | 7 | 2.48 | 1.80 | 1.50 |
| $2 \mathrm{~N} 5202$ | T0-66 | 75 | 35 |  | 2.48 | 1.38 | 1.15 |
| 2N5038 | $1{ }^{10-66}$ | 90 | 35 140 | 20 | 1.73 58 | 1.26 | 1.05 |
| 2N5039 | 10.3 | 75 | 140 | 20 | 4.87 | 3.54 | 3.50 |
| 2N5671 | 10-3 | 90 | 140 | 30 | 15.80 | 13.10 | 10.90 |
| 2N5672 | 10.3 | 120 | 140 | 30 | 21.60 | 17.90 | 14.90 |
| $2 \mathrm{N6032}$ | T0.3 | 90 | 140 | 50 | 34.65 | 28.70 | 23.90 |
| 2N6033 | 10.3 | 120 | 140 | 40 | 46.40 | 38.40 | 32.00 |

RCA THYRISTORS - SILICON TRIACS
Low-Voltage Operation 50 and 80 Hz VOROM $=100 \mathrm{~V}$


240-V Line Dperation $50 \& 60 \mathrm{~Hz}$ VOROM $=400 \mathrm{~V}$


THYRISTORS - SILICON TRIACS (Continued)
High-Voltage 0 peration 60 and 60 Hz VDROM - BOO V

| Type | Pkg. | ITRMS <br> A $0^{\circ}{ }^{\circ} \mathrm{C}$ | Gate <br> $V$ Typ. mA | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | $\begin{gathered} 1000 \\ \text { up } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40687 | T0.5 | 1.925 |  | \$2.28 | \$1.66 | \$1.38 |
| 2N5757 | T0-5 | 2.570 | 2.240 | 2.12 | 1.54 | 28 |
| 40671 | PF | 3085 | 2.580 | 6.71 | 4.92 | 4.10 |
| 40672 | Stud | 3060 | 2.580 | 7.10 | 5.16 | 30 |
| 2N5443 | PF | 4070 | 2.580 | 8.46 | 8.16 | 5.13 |
| N5445 | Stud |  | 2.580 | 8.79 | 6.40 | 5.33 |
| 412 | . T -2 | Oiact | Trer | 28 | 20 | 17 |
| RCA THYRISTORS - SCR's <br> 50 \& $60 \mathrm{~Hz} . V O R O M=100 \mathrm{~V}$. axcept as noted. |  |  |  |  |  |  |
|  | Pkg. | $\begin{aligned} & \text { ITRMS } \\ & \text { A } \end{aligned}$ | $V_{\text {Typ mA }}^{\text {Gate }}$ | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | 1000 |
| 10 | T0-5 | 2.575 | 95 | \$1.13 | S0.82 | . 68 |
| 40737 | Pf | 1085 | 98 | 1.49 | 1.08 | 0 |
| 40741 | Slud | $10 \quad 85$ | 96 | 1.82 | 1.32 | 1.10 |
| 40745 | ISO-S |  | . 96 | 2.97 | 2.16 | 80 |
| 2 N 3688 | T0.3 | 12.580 | 1.520 | 2.39 | 1.74 | 1.45 |
| 2N1842A | A T0-48a |  | 3.580 | 2.20 | 1.60 | 33 |
| 2 N 1843 A | A 10.48 b | 1680 | 3.580 | 2.61 | 1.90 | 58 |
| N1844A | A 10.48 | 1680 | 3.580 | 3.30 | 2.40 | 2.00 |
| 2N1846A |  | 1680 | 3.580 | 3.84 | 2.80 | 2.33 |
| 40749 | Pf | 2075 | 1.18 | 2.34 | 1.70 | 1.42 |
| 40753 | Stud | 2075 | 1.18 | 2.67 | 1.94 | 1.62 |
| 2N681 | T0-48a | 2585 | 350 | 2.34 | 1.70 | 1.42 |
| 2N682 | 10.48b |  | 350 | 2.82 | 2.05 |  |
| 2N683 | 10-48 | 25.65 | 350 | 3.67 | 2.60 | 2.16 |
| 2N664 | T0-48c | 2565 | 350 | 4.19 | 3.05 | 2.64 |
| 2 N 3650 | TO 48 | 3540 | 1.580 | 990 | 7.20 | 6.00 |
| 2 N 3870 | Pf | 3585 | 1. 25 | 3.63 | 2.64 | 220 |
| 2N3896 | Stud |  | 1.125 | 3.96 | 2.88 | 2.40 |
| $\begin{aligned} & 40680 \\ & \text { NTO } \end{aligned}$ | ISO-S VOROM | 3560 | 1.125 | 5.12 | 3.72 | 3.10 |
| 120-V Live 0peration 50 \& 60 Hz V0ROM $=200 \mathrm{~V}$. |  |  |  |  |  |  |
| 504 | T0-66 | 1.725 | 1.2 | \$1.64 | \$1.19 | \% |
| 2N3528 | 10-8 | 225 | 1.28 | 1.44 | 1.05 | 87 |
| 40507 | 10.5 | 2.25 | 1.28 | 1.63 | 1.19 | 9 |
| 40811 | T0-5 | 2.575 | 95 | 1.32 | . 96 |  |
| 40658 | 10.5 | 3.325 | . 656 | 1.57 | 1.14 |  |
| 2 N 322 B | T0-86 | 70 | 1.28 | 1.47 | 1.07 |  |
| 40553 | T0.66 | 60 | 1.815 | 2.75 | 2.00 | . 67 |
| 40378 | T0-5 | 85 | 1.28 | 1.47 | 1.07 |  |
| 40654 | T0-6 | 780 | .658 | 1.41 | 1.02 |  |
| 40656 | T0. 5 | 750 | . 656 | 1.49 | 1.88 |  |
| 40738 | Pr | 10.85 | . 96 | 1.57 | 1.14 |  |
| 40742 | Stud | 1085 | 96 | 1.90 | 1.38 | 1.15 |
| 40748 | SO-S | 1085 | 98 | 3.05 | 2.22 | . |
| 2N3669 | 10.3 | 12.580 | 1.520 | 2.81 | 2.04 | 1.70 |
| 2N1846A | A T 0.48 | 1880 | 3.580 | 4.46 | 3.75 | 2.71 |
| 40750 | Pf | 2075 | 1.18 | 2.48 | 1.80 | 1.50 |
| 40754 | Stud | 2075 | 1.18 | 2.81 | 2.04 | 1.70 |
| 1685 | 10-48 | 2685 | 3. 50 | 4.81 | 3.50 | . 9 |
| N3651 | T-48 | 3540 | 1.680 | 12.40 | 10.26 | 8.5 |
| 2N3871 | Pf | 3585 | 1.125 | 4.54 | 3.30 | 2.76 |
| 2N3897 | Slud | $35 \quad 65$ | 1.125 | 4.87 | 3.54 | 2.95 |
| 40681 | ISO-S | 3560 | 1.125 | 6.02 | 4.38 | . 65 |

$240-\mathrm{V}$ Line Operation $50 \& 60 \mathrm{~Hz}$ VOROM $=400 \mathrm{~V}$

| 40505 T0.66 | 1.725 |  |  | 1.94 | 1.41 | 1.17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2N3529 10-8 | 225 | 1.2 | 8 | 1.75 | 1.28 | 1.06 |
| 40508 T0-5 | 25 | 1.2 | 8 | 2.01 | 1.46 | 1.22 |
| 40812 T0-5 | 2.575 |  |  | 1.59 | 1.16 | 96 |
| 40658 T0.5 | 3.325 | . 65 | 8 | 1.5 | 1.35 | 1.12 |
| 2N3525 T0.86 | 75 | 1.2 |  | 1.77 | 1.29 | 1.07 |
| 40654 T0-66 | 580 |  | 15 | 4.44 | 3.22 | 2.68 |
| 40378 T0-5 | 765 | 1.2 | 8 | 1.05 | 1.34 | 1.12 |
| 40855 T0-5 | 760 | . 65 |  | 1.69 | 1.23 | 1.02 |
| 40657 T0.5 | 750 | . 85 | 8 | 1.77 | 1.29 | 1.07 |
| 40739 PF | 1085 |  | 8 | 2.39 | 1.74 | 1.45 |
| 40743 Stud | 1085 |  | 6 | 2.72 | 1.98 | 1.85 |
| 40747 ISO-S | 1085 |  |  | 3.85 | 2.85 | 2.35 |
| 2N3670 10-3 | 12.580 |  | 20 | 3.80 | 2.76 | 2.30 |
| 2N1849A TO-48 | 168 | 3.5 | 80 | 6.54 3 | 4.75 | 3.96 |
| 40751 PF |  |  |  | 3.75 | 2.72 | 2.27 |
| 40755 Stud | 2076 | 1.1 |  | 4.08 | 2.96 | 2.47 |
| 2N688 T0-48 | 2565 |  |  | 6.74 | 4.90 | 4.08 |
| 2N3663 T0-48 | 3540 |  |  | 22.77 | 18.84 | 16.70 |
| 2N3872 Pf | 3685 |  |  | 5.94 | 4.32 | 3.60 |
| 2N3898 Stud | 3585 |  |  | 6.27 | 4.56 | 3.80 |
| 40682 ISO-S | 3580 | 1.1 |  | 7.43 | 6.40 | 4.60 |
| High Voitage $60 \& 60 \mathrm{~Hz}$ VORDM $=600 \mathrm{~V}$. except as noted |  |  |  |  |  |  |
| 40508 T0-88 | 1.725 | 1.2 | 8 | 2.38 | 1.73 | 1.4 |
| 2N4102 T0-8 |  | . 2 |  | 2.70 | 1.80 |  |
| 40813 T0-5 | 2.575 |  | 5 | 1.98 | 1.44 | 1.2 |
| 2N4101 T0-66 | 75 |  | 8 | 2.72 | 1.61 | 1.3 |
| 40555 T0-86 | 60 |  | 15 | 4.76 | 3.47 | 2.89 |
| 40640 10-86 | 60 |  | 15 | 2.72 | 1.98 | 1.6 |
| 40641 T0.66 | 60 |  | 15 | 2.85 | 2.08 | 1.7 |
| 40740 Pf | 1085 |  |  | 3.38 | 246 | 2.0 |
| 40744 Stud | 1085 |  | 6 | 3.71 | 2.70 | 2.2 |
| 40748 ISO-S |  | . 9 |  | 4.87 | 3.54 | 2.9 |
| 2N4103 TO -3 | 12.580 |  |  | 5.12 | 3.72 | 3.10 |
| 2N1847A $10-48 \mathrm{~d}$ | 1680 | 3.5 |  | 5.10 | 3.70 | 3.0 |
| 2N1848A TO-4Be | 1680 | 3.5 | 80 | 5.51 | 4.00 | 3.3 |
| 2N1850A T0-481 | 16. 80 | 3.5 |  | 7.56 | 5.50 | 4.5 |
| 40752 Pf | 2075 |  |  | 4.95 | 3.60 | 3.0 |
| 40756 Slud | 2075 | 1.1 |  | 5.2 | 3.84 | 3.20 |
| 2N686 T0-48d | 2585 |  |  | 5.36 | 3.90 | 3.2 |
| 2N687 T0.488 | 2565 | 3 |  | 5,77 | 4.20 | 3.5 |
| 2N688 T0-48! | 2585 | 3 |  | 8.05 | 5.85 | 4.8 |
| 2N690 10.48 | 2565 | 3 | 50 | 8.67 | 6.30 | 5.25 |
| 2N3662 T0.48e | 3540 | 1.5 | 80 | 18.71 | 15.48 | 12.9 |
| 2 N 3873 PF | 3565 |  | 25 | 7.34 | 5.34 | 4.4 |
| 2N3899 Stud | 3565 |  | 25 | 7.67 | 5.58 | 4.6 |
| 40216 10-48 | 3580 |  |  | 42.20 | 34.90 | 29.1 |
| HOTE VOROM 250 V . 300 V 25 $00.05 \quad 6.42$ |  |  |  |  |  |  |
|  |  |  |  |  |  |  |


| $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Plat. | VRRM Max, | $\mathrm{To}_{10}$ | ${ }^{\circ} \mathrm{C}$ | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100- \\ & 999 \end{aligned}$ | $\begin{aligned} & 1000 \\ & 40 \end{aligned}$ | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Pkg. | $\begin{aligned} & \text { VRRM } \\ & \text { Max. } \end{aligned}$ | $\begin{aligned} & \text { Io } \\ & \text { Amp. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1N3754 | T0. 1 | 100 | 0.125 | 65 | \$0.32 | \$0.23 | \$0.19 | 1M5211 | D0-26 | 200 | 1 |
| 1N3755 | T0.1 | 200 | 0.125 | 65 | . 33 | . 24 | . 20 | 1N5212 | D0-26 | 400 | 1 |
| 1N3756 | T0. 1 | 400 | 0.125 | 65 | . 35 | . 26 | . 21 | 1N5213 | D0-26 | 600 | 1 |
| [M536 | DO-4 | 50 | 0.25 | 150 | . 38 | 27 | . 22 | 1 M5218 | D0-26 | 200 | 1 |
| TN537 | D0. 1 | 100 | 0.25 | 150 | . 40 | . 29 | . 24 | 1 N 5216 | D0-26 | 400 | 1 |
| 14538 | 00.1 | 200 | 0.25 | 150 | . 45 | . 32 | . 27 | 1N5217 | D0.26 | 600 | 1 |
| 1N539 | D0-1 | 300 | 0.25 | 150 | . 50 | . 36 | . 30 | 40642 | 00-26 | 550 | 1 |
| $1 \mathrm{~N}^{5} 40$ | 00.1 | 400 | 0.25 | 150 | . 56 | . 41 | . 34 | 40643 | D0-26 | 450 | 1 |
| INS47 | 00-1 | 600 | 0.25 | 150 | . 79 | . 57 | . 48 | 40644 | D0-26 | 550 | 1 |
| 1N1095 | D0-1 | 500 | 0.25 | 150 | . 61 | 49 | . 40 | 40266 | 00-1 | 100 | 2 |
| 1 N445B | D0-1 | 600 | 0.4 | 150 | 1.12 | . 82 | . 68 | 40267 | 00-1 | 208 | 2 |
| 1N3562 | 00-26 | 1000 | 0.4 | 150 | . 94 | . 69 | . 57 | 1 M 1612 | D0-4 | 50 | 5 |
| IM4448 | D0-1 | 500 | 0.425 | 75 | . 92 | . 67 | . 58 | TN1613 | 00-4 | 100 | 5 |
| 1N3198 | D0-26 | 800 | 0.5 | 150 | . 74 | . 54 | . 45 | 1N1614 | 00.4 | 200 | 5 |
| 1M3256 | D0-26 | 800 | 0.5 | 75 | . 78 | . 57 | . 47 | 1N1615 | 00-4 | 400 | 5 |
| AN3193 | D0-26 | 200 | 0.75 | 75 | . 35 | . 26 | . 21 | 1N1616 | 00-4 | 600 | 5 |
| 1 N3194 | D0-26 | 400 | 0.75 | 75 | . 38 | . 28 | .23 | IN13418 | D0-4 | 50 | ${ }^{6}$ |
| 1N3195 | D0-26 | 600 | 0.75 | 75 | . 53 | 39 | . 32 | 1N13428 | D0-4 | 100 | c |
| 1 N 3253 | D0-26 | 200 | 0.75 | 75 | . 38 | . 30 | . 23 | 1N13448 | D0-4 | 200 | ${ }^{6}$ |
| 1 N 3254 | D0.26 | 400 | 0.75 | 75 | . 40 | . 30 | . 25 | 1 N13458 | 00-4 | 300 | 6 |
| 1 N 2255 | D0. 26 | 600 | 0.75 | 75 | . 56 | . 41 | . 34 | 1 NT 3468 | 00-4 | 400 | - |
| 1N5214 | D0.26 | 800 | 0.75 | 75 | . 81 | . 59 | . 49 | 1 N 13478 | 00-4 | 500 | ${ }^{6}$ |
| 1N5218 | D0-25 | 800 | 0.75 | 75 | . 85 | . 62 | . 51 | 1/13488 | 00-4 | 500 | - |
| 1M1763A | D0.1 | 400 | 1 | 75 | . 42 | . 30 | . 25 | 40108 | 00-4 | 50 | 10 |
| M11764A | D0. 1 | 500 | 1 | 75 | . 32 | . 38 | . 21 | 40109 | 00.4 |  |  |
| 1N2358A | 00-1 | 50 | 1 | 75 | . 37 | . 27 | . 22 | 40111 | -00.4 | 300 | 10 |
| 1N2859A | 00-1 | 100 | , | 75 | . 37 | . 27 | 22 | 40111 | D0-4 | 300 | 10 |
| 1 N2860A | 00-1 | 200 | 1 | 75 | . 40 | . 28 | . 24 | 40112 | DO-4 | 400 500 | 10 |
| 1N281A | D0-1 | 300 <br> 400 | 1 | 75 | . 42 | . 39 | . 28 | 40114 | 00-4 | 600 | 10 |
| 1N2863A | D0-1 | 500 | 1 | 75 | . 58 | . 42 | . 35 | 40115 | 00-4 | 800 | 10 |
| 1N2864A | D0.1 | 600 | 1 | 75 | . 70 | . 51 | . 42 | 1N1198号 | D0-4 | 50 | 12 |


| $\begin{aligned} & \text { सिदA } \\ & \text { Iyps } \end{aligned}$ | Packag* | Description | $\begin{aligned} & 1-99 \\ & \text { Each } \\ & \hline \end{aligned}$ | $\begin{array}{r} \mathbf{5 0 0} \\ 999 \end{array}$ | $\begin{array}{r} 1000 \\ \text { up } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HC1000 | HC | 7 ampere Pwr. Amp (TA7625) | \$29.00 | \$24.00 | \$20.00 |
| HC2000 | HC | 7 ampere Op. Amp (TA7625A) | 29.00 | 2400 | 20.00 |
| HC3000 | 8 PL - 703 | $\mathrm{H}_{1}$ Grain Current Amp. Pair. Darington (TA8141) | 7.01 | 5.10 | 4.25 |
| HC3100 | 8L-T03 | $H_{1}$ Gain, Hi Votrage Current Amp. |  |  |  |
|  |  | Pair. Darlington (ta824i) | 6.90 | 5.70 | 4.75 |
| HC4005A | $81-\mathrm{TO} 3$ | 5 Volt Series Regulator (TA7955) | 11.50 | 9.50 | 7.95 |
| HC4012A | ${ }^{81-T 03}$ | 12 Voit Series Regurator [TA7956) | 11.50 | 9.50 | 7.95 |
| HC4015A | $8 \mathrm{~L}-\mathrm{T} 03$ | 15 Voit Seties Regulator (TA8397) | 11.50 | 9.60 | 7.95 |
| NOTE: HCl | 000H and | HC2000H. hermetically stafed units ate |  |  |  |

## REノ SEMICONDUCTORS



# MOTOROLA HEP SEMICONDUCTORS 


Ge RF Transistor-PNP $-100 \mathrm{MHz} 150 \mathrm{~mW} \mathrm{12V}$
Ge RF Transistor-PNP- 100 MHz 150 mW
Ge RF Transistor-PNP-750 MHz 300 mW 22 V .
Ge RF Ttansistor-PNP- 250 MHz 100 mW 20 V.
Si RF Transistor-NPN一 250 MHz 400 mW 25 V.
Si RF Transistor-NPN- 250 MHz 400 mW 25 V .
Si RF Transistor-PNP- 150 MHz 600 mW 30 V .
Si RF Transistor-PNP-200 MHz 400 mW 30 V .
Si RF Transistor-NPN-200 MH2 600 mW 35 V
SI R Transistor-NPN-200 MHz 310 mW 30 V
Si RF Transistor-NPN- 30 MHz .310
Si RF Transistor-NPN- 200 MH 2310 mW 30 V .
Si
Si
Si UHF Oschlator-NPN-750 MHz 310 mW 30 V
NPN RF SI Power Transistor 250 MHy 1 W out. 40 V .
Zenet Otode - $10 \vee 400 \mathrm{~mW}$
2ener Oiode- 20.8 V 1 W
2ener Oiode- 3.8 V
Zener Diode- 9.1 V I W
2enes Diode- 12 V 1 W
Ge Drode (IN34A Sut 60 PIV 50 MA )
Ge Diode (iN60 Suh 40 PN 30 MA
Si Power Rectifter-Stud- 50 PIV 15 Amp
Si Powes Rectifier-Stud- 200 PIV 15 Amp
SI Rectifies-Axial Lead- 50 PIV 1 Amp
SI Rectifier-Axial Lead-200 PIV 1 Amp
Si Rectitier-Axial Lead-200 PIV I Amp
Si Rectitier-Axial Lead-400 PIV I Amp
Si Rectufies-Axial Lead-600 PV I Amp
Si Rectities-Axtal Lead-800 PIV 1 Amp
St Rectilier-Axial tead- 1000 PIV 1 Amp
Si "Top Har" Rectifier- 50 PIV 3 A mp
SI Top Hat" Rectifier-200 PN 3 An
St Dual Diode-Common Cathode 70 V. 200 MA
Si Dual Oiode - Common Anode 70 V. 200 MA
Si Rectifier-Axial Lead-1000 PIV 2.5 Amp
Full Wave Bridge Rectifier-50 PIV 1 Amp
Full Wave Bradge Rectifier-400 PIV 1 Amp
full Wave Bridge Rectifier-500 PN 1 Amp
Ge Power Transistor-PNP-T0-3. 3 A. 90 W .30 V
Ge Power Transistor-PNP-TO-3-5 A. 90 W. 30 V .
Ge Power Transistor-PNP-T0-38. 15 A 150 W .30 V
Ge Power Transistor-PNP-T0.3.7 A 90 W .70 V
Ge Power Transistor-PNP-10-3. 7 A 90 W .70 V
Go Pow transistor-PNP- $10.36 \cdot 15 \mathrm{~A} .170 \mathrm{~W} 85$
Ge High Voltage Pwr Transistor-PNP-200 V. 5 A. 56 W
Ge High Voltage Pwr Transistor-PNP-320 V. 10 A. 56 W
Ge High Voltage Pwr Transistor-PNP-320 V. 10 A 56 W
Ge High Current Pwr Transistor-PNP- $110 \mathrm{~V}, 25 \mathrm{~A} 105 \mathrm{~W}$
Ge High Current Pwr Transistor-PNP- 110 V. 25 A
Ge Transistor. PNP. Hi-Current - 75 V. 30 A 170 W
Ge Transistor. PNP. Hi-Cutrent - 75 V. 30 A
Ge Transistor, PNP. GPA. 60 V. 3 th 20 W.
Ge Transistor, PNP. GPA. 100 V. 3 A. 20 W.
\$1 Power Transistor-NPN - 300 V .500 MA 10 W
Si High Power Transistor-NPN - 160 y 5 A 40 W
Si Med Power Transistor-PNP. 60 V. 3 A 6 W .
Si Med Power Transistor-NPN - 60 V. 3 A. 6 W.
Si High Voltag Pwi Transistor-NPN . 300 V. 500 MA 25 W
Si Mad Power Transistot $\rightarrow$ NPN - 60 V. 3 A 30 W
Si Mad Power Transistor-PNP - 80 V 3 A. 30 W
Si High Power Transistor-NPN - 70 V. 10 A. 150 W
Si High Power Transistor-PNP - 70 V 10 A. 150 W
Ge Gen. Pur. Transistor-PNP-Med Gain 200 mW 20 V 200 mA

Ge Gen. Pur. Transistor-PNP. to teekage 200 mW 20 V .200 mA
Ge Gen. Pur. Transistor-PNP - Med, Gain 225 mW 20 V. 400 mA
Ge Gen, Pur. Transistor-PNP - Med Gaın $\frac{225}{225 W} 20$ V. 400 mA
Thyristor (SCR) 50 V. 5 A. Gale $30 \mathrm{~mA}, 10 \mathrm{~V}$, max.
Thyerslor (SCR - 200 V 5 A Gate 30 mA .10 V . max.
Thytistor (SCR -50 V .15 A. Gate $50 \mathrm{~mA}, 10 \mathrm{~V}$. max.
Thytiston (SCR Rev. Pot. $50 \mathrm{~V}+5 \mathrm{~A}$. Gate $50 \mathrm{~mA}, 10 \mathrm{~V}$
Thyristar (SCR. 200 V. 15 A Ggte $50 \mathrm{~mA}, 10 \mathrm{~V}$. max
Thyristor. (SCR Rev. Pol. 200 V .15 A Gate 50 mA , 10 V
Si Unigunction Transisior 300 mW 35 V .50 mA
S! Bilateral Trigger Diode 300 mW 2A. Putse 28 V
Silialerai Trigger oitade 300 mW 2 A.
Silicon Photo Iransistor 30 V .100 mW
Thyristor (SCR) 30 V .800 mA Gate 200 uA, 5 V . max.
Triac - 200 V. 8 A. Gate $50 \mathrm{~mA}, 2 \mathrm{~V}$. mar.
integrated Circuil - ECL - Half Adder GV. 63 mW
integrated Circuit - ECL - Bras Orver 6 V .63 mW
Integrated Circuit.ECL - 3 Input Gats 8 V. 37 mW
Integrated Circuit - ECL J-K Flip flop 6 V. 37 mW
Integrated Circuit - RTL - Quad Gate 4 V. 250 mW
Integrated Circuit - RTL - Dual Buffer 4 V. 250 mW
Integrated Circuit - RTt. Oual J.K Fiop Flop 4 V. 250 mW
IC. RTL. Hex Inverter 4 V. 130 mW
Integrated Circuit - RTt - Oual 2 -Input Gale 4 V. 10 mW
Integraled Corcutt - RTI - Oual 4-Input Gat 4 V. 8 mW
Integrated Circuit. RTL. Ouas Bulfer 4 V. 46 mW
Intagrated Circuit - RTL - J-K Flip Flop 4 V .23 mW
Integrated Circuit - RTt - Oual 2 Input Gale 4 V .50 mW
IC Linear - High Freq. Amp 20 V. 680 mW
IC linear - Wide Band Amp/Oisc 10 V. 600 mW
IC Linear - Stereo Preamp 16 V 400 mW
IC Linear - 1 W. Audio Power Amp. 18 V. 1 W
FM Sterei Oemod Euuti-in Sep. Control 22 V. 150 mW
FM Stereo Demod. External Sep Control 22 V. 150 mW

| Hep Mo. | Case Style | Description | Price Each |
| :---: | :---: | :---: | :---: |
| C1036P | T0.116 | IC.OTL-Hex inverter (with pullup resistors) | \$1.10 |
| C1038P | T0.116 | IC.-OTL-Decade Counter 8 V | 3.95 |
| C1039P | T0.116 | IC-DTL-Divide-by Sixteen Counter 8 | 3.95 |
| C1044P | 10.116 | IC-OTL-Bual 4 - Input NANO Power Gate 8 V. | . 98 |
| C1045P | T0.116 | IC-DTL Clocked Flip-Flog 8 V. | 1.25 |
| C1046P | T0-116 | IC-OTL-Duad 2 -Input Nant Power Gate 8 V . | 98 |
| C1052P | T0-116 | IC-OTL-Dual J-K flip-Fiop 8 V . | 1.80 |
| C1053P | T0.116 | IC-DTL-Oual J-K Flip-Flop B V | 1.80 |
| C1057P | T0-116 |  | 1.10 |
| C1058P | T0.116 | IC-OTL-Quad 2 -Input NAND Power Gate 8 V . | 1.10 |
| C1062P | T0.116 | IC-OTL-Trple 3 -Inpus NANO Gate 8 V . | 88 |
| C2001P | T0-116 | IC-R7L Ouad 2 -ninut Expander 3.6 V . | 1.80 |
| C2002P | T0-116 | IC-RTL-Bual Buffer 3.6 V . | 1.80 |
| C2500P | T0-116 | IC-RTL-Dual 4-Input Expande | 1.49 |
| C2501P | 612 | IC-RTL-8CD-to-Decimal Decoder 3.6 V . | 2.73 |
| C2502p | T0-116 | IC-RTL-Ouad 2 -input NOR Gate 3.6 V . | 1.57 |
| C2503p | T0-116 | IC-RTL J.X Flip-Flop. 1 inverter. 2 Butfers 3.6 V . | 1.49 |
| C3000p | T0-116 | IC-Ti-Quad 2 -Input NANO Gate 5 V . | 98 |
| C3001P | T0-116 | IC-TIL-Ouad 2 -input NAND Gate (direct output) 5 V . | 98 |
| C3002P | T0.116 | IC-TTL-Ouad 2 -Input NOR Gate 5 V . | 98 |
| C3004P | T0.116 | IC-TTL-Hex Inverter 5 V . | 1.16 |
| C3010P | T0-116 | IC.-TTL-Triple 3 -input NAND Gate 5 V . | . 98 |
| C3020P | T0-126 | IC-TTL-Dual 4 -Inpui NANO Gat | . 98 |
| c3030P | TO-116 | $1 \mathrm{C}-\mathrm{TT}-8-\mathrm{laput}$ NAND Gate 5 V | 98 |
| C3040P | TO-116 | IC-TTL-Oua 4 -imput NAND Bufter 5 V . | 98 |
| C3041P | 612 | IC-TTL-8CD-to-Decimal Oecoder and High-Level Orives 5 V . | 3.12 |
| ${ }^{\text {c 3 3050P }}$ | T0.116 | IC-ITL-Oual 2 Wide 2 -Input AND-OR-INVERT Gate 5 V . | . 98 |
| C3073P | T0-116 | IC-TTL Oual J-K Flip-Flop 5 V . | 1.96 |
| C3075P | 612 | IC-TT-Quad Leth 5 V . | 3.40 |
| C3400P | T0-116 | IC-ECL-85-MHz J.K Flup.Flop 5.2 V . | 4.45 |
| C3401P | T0.116 | IC-ECL-120-MHz J-K Flip Flop 5.2 V . | 6.60 |
| C3800P | T0-116 | IC-ITL Decade Countet 5 V . | 3.80 |
| C3801P | T0-116 | 1 C -Tl-Oivide by Twelve Counter 5 y . | 3.80 |
| C3802P | 612 | 1 C -Ti-Seven-Segmeni Character Generator 5 V | 3.37 |
| C3803P | T0. 116 | IC.TTL-Retriggerable Monostable Multivibrator 5 V . | 2.45 |
| C3804P | TP-116 | IC-TTL-Oual Voliage Countrolled Multrvibrator 5 V | 4.63 |
| C3805P | 612 | IC-TTL-Programmable Module-N Decade Counter S V. | 10.60 |
| C3806P | T0.116 | 1C-TTL-Phase-Frequency Datectior 5 V | 4.63 |
| C6001 | 643A | IC. Linear FMW if Amp (replaces uA 703 or CA3053) 20 V . | 2.09 |
| C6002 | 644A | IC-Linear-Low-Noise Audio Preamplifier 33 | 2.50 |
| C6003 | 206A | IC-Linear-1/ Watt Audio Amplifiet 12 V . | 1.55 |
| C6004 | 644 A | IC-Linear-1 Weit Audio Amplifiei and Preamp. 22 V | 2.90 |
| C6005 | 641 | IC-Linear-2-Watt Audio Amplifier and Preamp. $24^{\circ} \mathrm{V}$. | 4.35 |
| C6006 | 641 | IC-Linear-4-Walt Audio Amplifier and Preamp. 26 V | 5.60 |
| C6007 | 2064 | IC-Linear-Single Toggle, Flip flop 19 V | 1.42 |
| C6008 | 643A | IC-Linear-1-Watt Audio Amplitier and Preāmp. 20 V. | 2.50 |
| C6009 | 643A | IC-Linear-Electronic Remote Control Altenuator 21 V . | 2.50 |
| C6010 | 206A | IC-Linear-Wide-Band Amplifier 18 V | 1.53 |
| C60496 | 602A | iC-Linear-Vottage Regulator PPosstival' 9.35 V .250 mA | 3.00 |
| C6049R | 614 | IC-Linear-Voitage Regulator (Posinive) $9-35 \mathrm{~V}$. 600 mA | 3.75 |
| C6050G | 602A | 1 C -Linear-Balanced Modylator/Demọdulator 30 V . | 3.35 |
| C60511 | T0.116 | IC-Linear-Dual Operationa! Amplifier $+18-18 \mathrm{VV} 1 \mathrm{~W}$ | 2.75 |
| C6052P | 626 | 1C.-Lineat-Operational Amplifier +18.18 V .625 mW | 2.10 |
| C6053G | T0.99 | 1 C -Linear-Operational Amplitie! $+18 \cdot 18 \mathrm{~V} .680 \mathrm{~mW}$ | 2.20 |
| C6053L | T0.116 | IC-Linear-Operational Amplifier L-18-18 V 575 mW | 2.85 |
| C6054G | 602A | IC-Litea-Voltage Regulator (Negative) 9.35 V .250 mA | 4.15 |
| C6054R | 614 | IC-Eipear-Voltage Regulator (Negative) $9-35 \mathrm{~V}, 600 \mathrm{~mA}$ | 4.49 |
| C6055L | T0.116 | 1 C -Linear-Siereo Preamplifier + $15.15 \mathrm{~V}, 400 \mathrm{~mW}$ | 3.85 |
| C6056P | T0-116 | IC-Linear-FM Muhiplex Stereo Demodulator 22 V | 3.00 |
| C6057P | 10-116 | 1 c - Linear-Dual Balanced Chroma Demodulator 30 V . | 4.54 |
| C6058P | 626 | 1 C -Linear +M and Color TV Tuning Indicator 20 | 2.44 |
| C6058P | 626 | IC-Lunear-IF and AGC Amplufier 18 V | 2.24 |
| C6050P | T0-116 | IC-Linear-TV FM Limiting Amp.. Def.. Preamp \& Drver 16 V. | 3.47 |
| C6061P | T0.116 | IC-Lsnear-High-Grain FM/IF Amplifiet 15 V . | 3.17 |
| C6052P | T0-116 | IC-Linear FM/IF Amp. with Quadrature Det IG V | 4.54 |
| C6063P | T0-116 | IC-Linear-FM/IF Amplifier, Limiter. Dafector, Driver |  |
|  |  | Electronic Attenuator 12 V . | 3.59 |
| C6064P | '627 | $1 C$-Linear-Class A Audio Driver 18 V. | 2.44 |
| C6065P | T0.116 | 1 C -Linear-fM Multiplex StereoDemod-Exact Repl. | 8.25 |
| C6066P | T0.116 | IC.Lenear-Chroma Demod. Exact Replacement. | 7.15 |
| F0021 | T0-92 | Field Effeci Transistor-VHF/UHF-N-Channel 25 V . | 1.89 |
| F1035 | T0.92 | Fieid Effeci Transistor-RF-P-Channel 40V | 1.29 |
| F2004 | T0.72 | MOS FET-Oual-Gate-VHF-N-Channel 20 V . | 2.50 |
| F2005 | T0. 72 | MOS FET-VHF/UHF-N.Channel 20 V. | 2.90 |
| F2007 | 206 | MOS FET-Dual Gare-N-Channel 25 V . | 1.65 |
| G6001 | TO-3 | Ge High Current Pwi Transistor-PNP. 90 V. 25 A 85 W. | 7.00 |
| P0001 | 82 | Si Photatransistor-NPN 30y 400 mW | 4.45 |
| P0002 | 173 | Si Phototransistor 40 V. 50 mW | 2.08 |
| P1001 | T0.92 | Si Darlungton Amp. Phototransistor -NPN 18 V V. 200 mW | . 98 |
| P2000 | 171 | Light-Emitting Uiode See Page 92 | 1.17 |
| P2001 | 234 | Light-Emitting Oiode See Page 92 | 1.49 |
| P2002 | 171 | Infrared-Emiting Dioda See Page 92 | 2.25 |
| P2003 | 171 | Light-Emitting Jode See Page \$2 | . 79 |
| R0030 | 70 | Si Press-Fit Rectifier-50piv 3A | . 80 |
| R008 1 | 70 | Si Press.Fit Rectifier-100pIV 3A | . 88 |
| R0082 | 70 | Si Press.Fit Reftifier-200PIV 3A | 1.02 |
| R0084 | 70 | Si Press-Fit Rectifier-400PIV 3A | 1.34 |
| R0086 | 70 | Si Press-Fit Rectifer-600pIV 3A | 1.71 |
| R0090 | 60 | Si "Top Hat" Rectifier-50PIV 3A | 80 |
| R0091 | 60 | Si "Top Hat"' Rectifier-100pIV 3A | 88 |
| R0092 | 60 | S1 "Top Hat" Rectifer-200PIV 3A | 1.02 |
| R0094 | 50 | S1 "Top Hat" Rectifier-400PIV 3A | 1.34 |
| R0096 | 60 | SI "Top Hat'" Rectifier-600PIV 3A | 1.71 |
| R0097 | 60 | St "Top Hat'", Rectifiter-800PIV 3A | 2.39 |
| R0098 | 60 | Si "Top Hat" Rectifier 1000PIV 3A | 3.62 |
| R0100 | 194 | Si "Axial Lead" Rectifier-50pIV 6A | 99 |
| R0101 | 194 | Si "Axial Lead", Rectifier-100PIV GA | 1,12 |
| R0102 | 194 | SI "Axial Lead", Rectifter-200PIV 6A | 1.25 |
| R0104 | 194 | Si "Axial Lead" Rectifier-400PIV 6A | 1.50 |
| $R 0106$ | 194 | si "Axial Lead" Rectifier-600PIV 6A | 2.39 |
| R0130 | 00-4 | Si Stud Mount Rectifier-50piv 12A | 1.23 |
| Ro131 | 00-4 | Si Stud Mount Rectifier-100PIV 12A | 1.39 |
| R0132 | 00-4 | SI Stud Mount Rectifier-200PIV 12A | 1.57 |
| R0134 | 00.4 | Si Stud Mount Rectifier-400PIV 12A | 1.99 |
| R0136 | 00.4 | Si Stud Mount Rectifier-600PIV 12A | 3.05 |
| R0137 | D0-4 | Si Stud Mount Rectifier-800 PIV 12A | 6.75 |
| R0138 | 00.4 | \$i Stud Mount Rectifier-1000pIV 12A | 9.40 |
| $\begin{aligned} & R 0160 \\ & \text { R0161 } \end{aligned}$ | -0.5 | S1 Stud Mount Rectifler-50PIV 15A | 1.53 1.68 |



# MOTOROLA HEP, LED'S, T四, SONALERT , SEMICONDUCTORS 

HEP SEMICONDUCTORS-Continued

| $\begin{aligned} & \text { Hep } \\ & \text { No. } \end{aligned}$ | Case Styla | Dascription | Price Esch |
| :---: | :---: | :---: | :---: |
| 20214 | T0-92A | 6.2 Volt Zener Diade 500 mW | . 70 |
| 20215 | T0.92A | 6.8 Volt Zener Dlade 500 mW | . 70 |
| -0217 | T0-92A | 8.2 Volt Zener Dlode 500 mW | . 70 |
| 1219 | T0-92A | 9.1 Volt Zener Dlode 500 mW | . 70 |
| 20220 | TO-92A | 10 Voit Zener Diade 500 mW | . 70 |
| 20222 | T0-92A | 12 Volt Zener Diode 500 mW . | . 70 |
| 20225 | 10-92A | 15 Voltt Zener Dlade 500 mW | . 70 |
| 20228 | T0-92A | 18 Voit Zener Dlode 500 mW | . 70 |
| 20230 | T0-92A | 20 Volt Zener Dlode 500 mW | . 70 |
| 20231 | T0.92A | 22 Volt Zener diode 500 mW | . 70 |
| 20234 | T0-92A | 27 Volt Zener Diode 500 mW | . 70 |
| 22500 | 17 | 3.3 Volt Zener Diode 5 Watt | 2.20 |
| 22502 | 17 | 3.9 Volt Zener Diode 5 Watt | 2.20 |
| 22504 | 17 | 4.7 Volt Zener Diode 5 Watt | 2.20 |
| 22506 | 17 | 5.6 Volt Zener Dlode 5 Watt | 2.20 |
| 22509 | 17 | 6.2 Volt Zener Diode 5 Watt | 2.20 |
| 72510 | 17 | 7.5 Volt Zener Dlode 5 Watt | 2.20 |
| 22513 | 17 | 9.1 Volt Zener Diode 5 Watt | 2.20 |
| 22514 | 17 | 10 Volt Zener Dlode 5 Watt | 2.20 |
| 22515 | 17 | 12 Volt Zener Dlode 5 Watt | 2.20 |
| 2519 | 17 | 15 Volt Zener Diode 5 Watt | 2.20 |
| 22522 | 17 | 18 Volt Zener Diode 5 Watt | 2.20 |
|  | 17 | 22 Volt Zener Diode 5 Watt | 2.20 |
| 22528 | 17 | 27 Volt Zener Diode 5 Watt | 2.20 |
| 22531 | 17 | 33 Volt Zener Dlode 5 Watt | 2.20 |
| 22537 | 17 | 56 Volt Zener Diode 5 Watt |  |
| 22542 | 17 | 82 Volt Zener Diode 5 Watt | 2.20 |
| 2545 | 17 | 100 Volt Zener Diode 5 Watt | 2.20 |
| 22547 |  | 120 Volt Zener Dlode 5 Watt |  |
| 23500 | D0.4 | 3.9 Volt Zener Dlode 10 Watt | 5.65 |
| 23502 | D0-4 | 4.7 Volt Zener Diode 10 Watt | 8.65 |
| 23504 | D0-4 | 5.6 Volt Zener Diode 10 Watt | 8.65 |
| 23505 | 00-4 | 6.2 volt Zener Diode 10 Watt | 5.65 |
| 23507 | D0-4 | 7.5 Volt Zener Dlode 10 Watt | 5.65 |
| 23511 | 00.4 | 9.1 Volt Zener Diode 10 Watt | 5.45 |
| 23512 | D0-4 | 10 Volt Zener Diode 10 Watt | 5.45 |
| 23514 | D0-4 | 12 Volt Zener Dlode 10 Watt | 5.45 |
| 23516 | 00.4 | 15 Volt Zener Diode 10 Watt |  |
| 23818 | D0-4 | 18 Voit Zener Diode 10 Watt | 5.45 |
| 73520 | D0-4 | 22 Volt Zener Dlode 10 Watt | 5.45 |
| 23522 | 00-4 | 27 Volt Zener Dlode 10 Watt |  |
| 23524 | D0-4 | 33 Volt Zener Diode 10 Watt | 5.45 |
| 23530 | 00-4 | 56 Volt Zener Diode 10 Watt |  |
| 23334 | 00-4 | 82 Volt Zener Diode 10 Watt | 5.45 |
| 23536 | 00-4 | 100 Volt Zener Dlode 10 Watt | 5.45 |

## MOTOROLA MOUNTING ACCESSORIES

| Motorola No | Deseription | Each |
| :---: | :---: | :---: |
| HEP-450 | Transistor Mounting Kit-T0.3 | \$0.30 |
| HEP.451 | Integrated Circult Socket (Pkg, of 2) 10 Pin | 1.49 |
| HEP-452 | Transistor Mounting Kit-TO-66 | 32 |
| HEP. 453 | Integrated Circuit Socket 14 Pin | . 39 |
| HEP-454 | 1.C. Socket-88 Pin-Pkg. of 2 | 1.43 |
| HEP-455 | TO-36 Mountling Kit | . 32 |
| HEP-458 | Mounting Kit $7 / 16^{\prime \prime}$, Stud |  |
| HEP-457 | Mounting Kit 11/16" Stud | . 32 |
| HEP.500 |  | 2.35 2.35 |
| HEP. 501 HEP. 502 | Heat Sink-T0-36 Heat Sink-T0.5 | 2.35 |

## LIAHT EMITTING <br> \section*{DIODES}



Visible red light emitting diodes for high brightness. used mdustrialiy for panel and circult indicators. light modulators, position encoders, punched card readers, optical switching and logic circuits. Infrared P2002 is sumiter excepl its radiated energy is in the 9000 Angstrom region, outside the visible spectrum, for photocell detection Absence of ary filament in these LED's eliminates fime lag in off-on-off operations Dome shaped units operate on AC or DC Install propet resistor in seties with these LED's to hmit curfent to forwart MA shown

Motorola No.
HEP-P2000
HEP-P2002
HEP-P2002
HEP-P2003

| Reverse | Forward |  |
| :---: | :---: | :---: |
| Volts | MA. | Brightness <br> Foot Lamberts |
| 4. | 50 | 1100 |
| 3. | 40 | 750 |
| 3. | 80 | 50 |
| 4 | 50 | 50 |


Each
$\$ 1.77$ $\$ 1.77$ 1.79
2.25
.79

## SPRAGUE LIGHT EMITTING DIODES (LED'S)




(3)
(1)

Solid state rehobility. no ihaments, no time lag when switched on ano oft. Exact replacements for original equipment or for experimental, tab and production uses. All are low voltege cequlring less than 9 volts Ask for complete set of techncal sheete on these LEDS. Order by Sprague Number.

|  | Sprague No. | Description | Size | Each |
| :---: | :---: | :---: | :---: | :---: |
| (3) | ED102 | Visitle Light Sourse, Green | . $1680 \times .203^{\prime \prime} \mathrm{L}$ | S5.62 |
| (3) | ED123 | Parel Indisator Light, Red | $.1850 \times 340^{\prime \prime}$ | 1.17 |
| (1) | ED150 | Visible Light Source. Red | . $1000 \times .100 \mathrm{~L}$ | . 85 |
| (4) | ED191 | Cartidge Indicator Light, Red | . $2880 \times 1.10 \%$ | 2.25 |
| (b) | ED201 | Alpha-Numeric Display, Red .27" high | 400W $\times .740^{-\mathrm{H}}$ | \$250 |
| (8) | E0203 | Alpha-Numeric Display. Red $.115^{\prime \prime}$ hrgh | .188W $\times .240^{\prime \prime} \mathrm{H}$ | 6.50 |
| (1) | E0360 | Infra-Red Emitter | . $0900 \times .120 \mathrm{~L}$ | 1.60 |
| 0 | E0401 | Si. Planar Photo Sensot | $2100 \times 20 \mathrm{BL}$ | 6.25 |
| (1) | E0702 | Coupled Pair Opto-fsolasor | 250W $\times .340 \mathrm{~L}$ | 5.85 |

## ELECTRONIC ARRAYS MOS DIGITAL SYSTEMS

STATIC Shift REGISTERS (SD Silicone Pkg.)


## INTECRATED CIRCUIT VOLTAGE REGULATOR

Capabie of providing a constant output voltage for varying input voltages and varying oukput loag currenis. By using conventional electronic components in conju iction with, the NIS 300, currents of severai amps can be delivered to a load,
Input voltage range +8 to +30 volts.
Output voitage range +2 to +20 volts.
input-output voltage differential 3 volts minimum, 20 voits maximum. Minimum loac current 3 MA .
Load regulation $.5 \%$.
line regulation. $1 \%$ change of output voltage per volt change of input voltage. 8 lead T0-5 package.
$\$ 4.99$

## IR2160 UNISUNCTION TRANSISTOR

Provides accurate timing and triggering for Silicon Controlled Rectlfier circuits. Rating $400 \mathrm{MW}, 30 \mathrm{~V}$. max.
I.R. Fo. IR 2160 . Each.
$\$ 1.49$
100-998 Each.
\$1.20

## MALLORY SONALERT AUDIBLE SIGNAL DEVICE



Compact solid stafe circuitry produces a penetrating sound by pulely electronic means with no mechanical contacts or adjustments and no RF noise. Use anywhere a completely dependable audio sıgnal is needed Standard Sonaien output is 68 db to 80 db depending on voltage. SC1.5 is 60 db SC6 to SC24 is 70 db Tempetature range - 20 to +150 F . Uses only a few miliamperas current, no contacts to atc. Both types mount in $\uparrow \cdot 1 / 8^{\prime \prime}$ hole in panel. Standard modets have screw-on ring on $7 / 16^{\prime \prime}$ long threaded neck for maunting. are $1-11 / 16^{\circ \prime}$ dia, extend $1-3 / 8^{-}$behind panel. Sciew conmections Minı Sonalerf moumts entirely on front of panel with crimp lugs to secure to panel, Propects $5 / 8^{\prime \prime}$ in tront of panel. $1-1 / 2^{\prime \prime}$ dia. Solder terminals. Shpg wi Standard 3 oz: Mini 2 oz

| STAMDARD SONALERTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock Mo. | Mallory No. | Freq. Hz | 2 Voltage | 1-24 Ee. | 25-49 Ee. | 50-99 Ee. |
| 12A2443 | SC628 | 2900 | 8.28 V OC | \$5.50 | \$5.40 | S5. 15 |
| 12A2444 | SC62BA | 2900 | 6.28 V AC/OC | 8.75 | 8.60 |  |
| 12 A2445 | SC628H | 4500 | 6.28 V DC | 6.35 | 6.25 | 5.95 |
| 12 A2446 | SC828P+ | 2900 | 6.28 V DC | 8.95 | 9.75 | 9.30 |
| 12 A2448 | SC110 | 2900 | $110 \mathrm{~V} A C / D C$ | 8.75 | 8.60 | 8.20 |
|  |  |  | MINI SONALERTS |  |  |  |
| 12A2841 | SC1. 5 | 3500 | 1.4 VOC |  | 5.15 | 4.88 |
| 12A2842 | SC6 | 3500 | 4.8 VOC | 5.27 | 5.5 | 4.88 |
| 12A2843 | SC12 | 3500 | 8-15 VOC | 5.27 | 5.15 | 4.88 |
| 12 A2844 | Sc18 | 3500 | 14-22 VOC | 5.27 | 5.16 | 4.88 |
| 12 A2845 | SC24 | 3500 | 20-30 VDC | 5.27 | 5.15 | 4.88 |



## I. R. SEMICONDUCTORS

I. R. Zener Voltage Regulators 21100 through $21120.38^{\prime \prime}$, dis. $\times .250^{\prime \prime}$ L Top Hat style. 21122 through $21134.22^{\prime \prime}$ dia. $x .345^{\prime \prime}$. 21300 series stud throush 21320 anode connected to stud $Z 1322$ and higher. $10 \%$ tolerance. Mounting hardware not included. see listing below.


Order By International Rectifier Numb
10 watt size

| I.R. No. | Volts | I.R. Na. | Volta | I.R. No. | Volte | 1.R. No. | Veltis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21100 | 3.9 | 11120 | 27 | 21140 | 180 | 21322 | 33 |
| 21102 | 4.7 | 11122 | 33 | 21304 | 5.6 | 21324 | 34 |
| 21104 | 5.6 | 3124 | 39 | 21306 | 6.8 | 21326 | 47 |
| 21108 | 6.8 | 212 | 47 | Z1308 | 8.2 | 21328 | 56 |
| Z1108 | 8.2 | 21129 | 56 | Z1310 | ${ }_{10} 8$ | 21330 | 68 |
| Z1110 | 10 | 21130 | 68 | Z1312 | 12 | 21332 | 82 |
| 21112 | 12 | 21132 | 82 | 21314 | 15 | 23334 | 100 |
| 21114 | 15 | 21134 | 100 | 21318 | 18 | Z1338 | 120 |
| 진118 | 18 | Z1138 | 120 | 21320 | 27 | 21338 | 150 |
| 21118 | 22 | 21138 | 150 |  |  |  |  |
| Your |  | 10.98 Ea. | 100.429 | Your | $\begin{gathered} 1-9 \mathrm{Ea} \\ 32.05 \end{gathered}$ | 10-99. So. | 100.999 |

## 1 WATT BILICON ZENER DIODES

Moisture resistant thermosetting polymer
107" max. dia. x 205" L. Cathode end marked by color band. Avaliable In $10 \%$ tolerance
suffix).

| Int Rect. No. | Mominal Zoner Voltage V2@If Vols | Test Current Ixt ma | ```Max Zener Impod. zt@lx Ohns``` | Int Ruct No. | Nominal Zaner Voltare va@lit Volts | Test Current Int mA | ```Maxzzaner Impad. ztalif Ohms``` |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1N4728 | 3.3 | 76 | 10 | 114748 | 18 | 14 | 20 |
| 1N4729 | 3.6 | 69 | 10 | 1N4747 | 20 | 12.5 | 22 |
| 1N4730 | 3.9 | 64 | 9 | 1N4744 | 22 | 11.5 | 23 |
| iN4731 | 4.3 | 58 | 9 | 1M4749 | 24 | 10.5 | 25 |
| 1M4732 | 4.7 | 53 | 8 | 1N4750 | 27 | 9.5 | 35 |
| 1N4733 | 5.1 | 49 | 7 | 1N4751 | 30 | 8.5 | 40 |
| 1M4734 | 5.6 | 45 | 5 | 1N4732 | 33 | 7.5 | 45 |
| 1N4735 | 6.2 | 41 | 2 | 1N4733 | 36 | 7.0 | 50 |
| 1M4736 | 6.8 | 37 | 3.5 | 1M4754 | 39 | 6.5 | 60 |
| iN4737 | 7.5 | 34 | 4.0 | 1M4755 | 43 | 6.0 | 70 |
| 1N4738 | 8.2 | 31 | 4.5 | 1N4736 | 47 | 5.5 | 80 |
| 1N4738 | 9.1 | 28 | 5.0 | 1N4757 | 51 | 5.0 | 95 |
| 1N4740 | 10 | 25 | 7 | 1N4758 | 56 | 4.5 | 110 |
| 1N4741 | 11 | 23 | 8 | 1N4759 | 62 | 4.0 | 125 |
| 1 N 4742 | 12 | 21 | 9 | 1N4760 | 68 | 3.7 | 150 |
| 1N4743 | 13 | 19 | 10 | TM4761 | 75 | 3.3 | 175 |
| 1N4744 | 15 | 17 | 14 | 1M4782 | 82 | 3.0 | 200 |
| 1N4745 | 16 | 15.5 | 16 | 1N4783 | 91 | 2.8 | 250 |

 5\% Tolerance ("A suffix') IN4728A Thru IN4763A


## ZENER DIODE KITS

An assortment of 5 popular 1-watt Zener diodes.
int. Rect DD.i70. Mot Each
K-546. 12 assorted Zener diod
27 volts.
$\$ 6.50$
Int. Rect. K546. Nat Each.
Zener Olode Handbook. Zel er diode AC, DC, ANdio, RF, Computer, Instrumentation
and clrcult protection applicatlons included. 74 pages. and clicult protection applicatlons included. 74 pages.
No. 16A1120. HB-20. Each
INTERNATIONAL RECTIFIER SELENIUM KLIP-SELS


Klip-Sals suppress tuansiant overload voliage peaks to potect solid state tectufiers. Do not adversely alfect citcuit operation, increases raliability. KY and KZ are round cortridge types with axial laads. KSA have $47^{7}$ long lugs, $B / 32$ mounting stud. KSL hava $89^{\circ \prime}$ long lugs. $1 / 4-20$ mounting stud. All are non-polarized. Ratings bolow ara based on avoraga industrial secufiers

To Protect rectifiers Ratod to 3 Amps (KY Peak I-25A)


## INTERNATIONAL RECTIFIER UNIVERSAL RECTIFIER

$21 / 2 \mathrm{AMP}$
1000 PIV
Exact ruplacement for Mallory M2 5 MA or Motorols HEP170. Replaces all axial lead reclifiers rated 600
$\mathrm{~mA} .750 \mathrm{~mA}, 1000 \mathrm{~mA} .2000 \mathrm{~mA}$ and 2500 mA unis, with voltages ranging up to 1000 PIV. ACTUAL SIZE mA .750 mA .1000 mA .2000 mA and 2500 mA unis, with voltages ranging up to 1000 PIV . IR R170. Eoch 10 Lots Each

```
49: 20 Lots Eack
```


## UNIVERSAL 3 AMP FULL WAVE BRIOGE RECTIFIER

Molded case. $\mathrm{K}_{1}{ }^{\prime \prime}$ sq. $\mathrm{Y} / \mathrm{z}_{2}^{\prime \prime}$ thick. Replaces all bridges ing up to 1200 volts. No. 18 A1 563 Special Each.
$\$ 1.49$



| Int Rect No. | Fig. | Description |  | $\begin{aligned} & 1.59 \\ & \text { Each } \end{aligned}$ |  | $\begin{gathered} 100.999 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1N348 | (1) | 60 Volt, 50 MA Germanium Diode |  | \$0.24 |  | \$0.21 |
| 1N60 | (1) | 40 Voit. 50 MA Germanium Diade |  | . 24 |  | . 21 |
| IN64 | (1) | 25 Volt, 50 MA Germanlum Diode |  | . 24 |  | . 21 |
| IN82at | (1) | 25 Volt, 50 MA UHF Sillcon Dlode |  | . 70 |  | . 61 |
| IN87A | (1) | 30 Volt, 50 MA Germanium Dlode |  | . 24 |  | 21 |
| IN295 | (3) | 50 Volt, 30 MA Germanium Dlode |  | 24 |  | 21 |
|  |  |  | 1-4 | -9 | 10.9 | $\begin{aligned} & 100 . \\ & 999 \end{aligned}$ |
| D004 | (3) | Bual Dlode Com. Cath, G.E. Equiv. 66Cl | . 55 | 50 | . 44 | . 39 |
| 0005 | (1) | Dual Diode Series Con. G.E. Equlv. 6G01 | . 55 | 56 | . 44 | 39 |
| D006 | (2) | Dual Diode Com. Anode G.E. Equlv, GEX1 | . 55 | 50 | . 44 | 39 |


| Int. Rect No. | $\begin{aligned} & \text { DC } \\ & \text { MA } \end{aligned}$ | Max RMS volts | inctes S120 | $\begin{aligned} & 1.4 \\ & \text { Each } \end{aligned}$ | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| E075 | To 75 | 130 | .67x.67x3/4 | \$0.70 | 50.63 |
| E150L | 75-150 | 130 | $1^{1 / x} 1^{\prime \prime}$ | 88 | . 79 |
| E300L | 150-300 | 130 | $11 / 4 \times 11 / 4 \times 1 \%$ | 1.12 | . 90 |
| E500L | 400-500 | 130 | $11 / 2 \times 11 / 2 \times 1$ \% | 1.40 | 1.26 |

-Three terminal fulf wave center industrial SELENIUM STACKS


IR Mo. BC101. 1-99 Each
J.R. SILICON BRIDGE RECTIFIERS

(1) 1.B AMP SILICON FULL WAVE BRIDGE RECTIFIERS
single-phase miniature bridge rectifler assemblies. Hermetically sealed and completely Insuiated. Size $.56^{\prime \prime} \times .56^{\prime \prime} \times .22^{\prime \prime}$.

| I.R. Number | Max. Peak Roverse voltare | $\begin{gathered} \text { May, RMS } \\ \text { Voltage } \end{gathered}$ | Max. de Output voltage | Max. de Output current ( $a$ ) | $\begin{aligned} & \text { Pricas Each } \\ & 1.98 \quad 100-999 \\ & \hline \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10082m | 200 | 142 | 125 | 1.8 | \$2.00 | \$1.35 |
| 18DE4A | 400 | 282 | 252 | 1.8 | 2.50 | 1.85 |
| 18086 A | 600 | 424 | 380 | 1.8 | 2.90 | 2.15 |
| 18DBAA | 800 | 560 | 500 | 1.8 | 3.50 | 3.00 |
| 180.tion | 1000 | 707 | 625 | 1.8 | 5.00 | 3.75 |

Size $1^{\prime \prime}$ dia. $\times .25^{(3)} 3^{3}$ amp Silicon fULL Wave brioge rectifiers

|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 300827 | 200 | 140 | 125 | 3 | 4.52 | 4.07 |
| 300847 | 400 | 280 | 250 | 3 | 4.99 | 4.62 |
| 300867 | 600 | 420 | 380 | 3 | 5.50 | 4.98 |

Size $\left.2.2^{\prime \prime} \times 1.7^{\prime \prime} \times .8^{(2)}\right)^{10}$. AMP SILICON FULL WAVE BRIDGE RECTIFIERS

| T00PB05P | 50 | 35 | 30 | 4.05 | 3.25 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100P81P | 100 | 70 | 60 | 4.30 | 3.35 |
| 100P ${ }^{\text {B2P }}$ | 200 | 140 | 120 | 5.15 | 4.15 |
| 100P84P | 400 | 280 | 240 | 6.35 | 5.15 |
| 100P86P | 600 | 420 | 360 | 0.95 | 8.00 |

All international Rectifier Semiconductors Are Available From B-A

# I.R. \& 畐 RECTIFIERS, R 

INTERNATIONAL RECTIFIER SILICON RECTIFIERS


Hermetically sealed. 40 amp . $1 / 4-28$ stud $\times 1.45^{\prime \prime}$ overall. 70 amp 4/s-28 stud x $1.37^{\prime \prime}$ overall. Standard polarity-cathode connected to stud. Reverse polarity-anode connected to stud
not included. See IIsting in column at right.

| If Mumbers |  | Volt. PRY | Rating RMS | Curreint MPS | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100.999 \\ \text { Each } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Standard Polarity | Revers Polarity |  |  |  |  |  |
| 404F5 | 40/wed | 50 | 35 | 40 | \$1.55 | \$1.10 |
| 40HF10 | 40 HFIOR | 100 | 70 | 40 | 1.85 | 1.38 |
| 40 HF 20 | 40HF20R | 200 | 140 | 40 | 2.85 | 2.02 |
| 40HF40 | 40MF40R | 400 | 280 | 40 | 4.45 | 3.14 |
| $404 \mathrm{F60}$ | 40HF60R | 600 | 420 | 40 | 6.00 | 4.23 |
| 40HF100 | 40HF100R | 1000 | 707 | 40 | \%. 00 | 7.20 |
| 70H10A | 70H10AR | 100 | 70 | 70 | 3.80 | 2.70 |
| 70H20A | 70H20aR | 200 | 140 | 70 | 5.05 | 3.53 |
| 70H40A | 70 H 40 AR | 400 | 280 | 70 | 7.25 | 8.12 |
| 70H60A | 70H6DAR | 600 | 420 | 70 | 9.50 | 6.70 |

INTERNATIONAL RECTIFIER 4 AMP RMS SCR's
Plasfic case. Mtg tah internally connecied to anode $1.2^{\prime \prime} \operatorname{long} X .38^{\prime \prime}$
wide overall including leads. Mig tab $.5^{\prime \prime}$ long with $12^{\prime \prime}$ hole Body
3 3" long

| Int. Rect. | Reverse | Gate Firing Raquirtmont |  |  | Prices |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Volts | Ma | 1.99 |  | 100 up |
| JR106Y 1 | 30 | 1 | . 5 | S0.75 |  | '50.50 |
| IR106F I | 50 | 1 | . 5 | . 78 |  | . 52 |
| IR108A 1 | 100 | 1 | . 5 | . 81 |  | 54 |
| IR106B 1 | 200 | 1 | . 5 | . 90 |  | 60 |
| IR10sC 1 | 300 | 1 | . 5 | 1.12 |  | 75 |

I. R. SCR EXPERIMENTER KIT

Assortment of 5 silicon controlled rectifiers In voltage ranges fram 50 to 200 volts at various current ratings from 1.5 amps to 9 amps rms.
I.R. No. K505C. Net Each.
$61-8968$ used as voltage booster rectifier and $61-8969$ used as focus rectifler.


## Trin

## COLOR CONVERGENCE RECTIFIERS

Meets over $95 \%$ of alf color TV replacement requirements. Insulated to eliminate shorting. Meet or exceed the specifications of the original part.

| I.R. No. | Cell Per Device | PRY, | VRMS. | Outpurt Current | Series Res. | $\begin{aligned} & 1-4 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 5-8 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 10-89 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CO-05 | 3 | 18 | 12 | 65MA | 100 ohm | \$0.00 | \$0.72 | \$0.65 |
| C0-07 | 4 | 18 | 12 | 65 MA | 100 omm | . 90 | . 61 | . 72 |
| CD-09 | 5 | 18 | 12 | 65 MA | 100 ohm | 1.00 | 90 | 80 |

## SILICON RECTIFIER TUBE REPLACEMENT

A plug. In replacement for 5U4, 5AW4, 5T4, 5V4, 5AV4, 5NX4, 5W4, 5Y3, 5Z4, 6004. Conains a surge limiting resisior which adds to its practically unlimited lite. ower fonward voltage drop characleristic results in higher equipment voltage I.R. ST-14/1N2388. Each
\$4.50 U10

## 

(1)

## SARKES TARZIAN RECTIFIERS

Dimensions: Fig 1 overall $3 / 8^{\prime \prime}$ dia. $\times 1$ " L. Fig. 2-1/4 28 stud $X 1.435$ " overall length; Fig. $3-3 / 4-16$ stud $X$ 6.13/16" overall length.
P. Cothode connected to stud M - anode connected to stud.

| Sarkes Tarrion No. | Fig. | PIV | Currant | $\begin{gathered} 1.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100 \mathrm{up}_{\mathrm{c}} \\ \text { Eath } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| M500/40M |  | 400 |  | \$0.80 | \$0.59 |
| 60 M |  | 600 | 1 | 1.35 | . 95 |
| ST3Alop | 2 | 100 | 25 | 1.55 | 1.24 |
| ST3AION | 2 | 100 | 25 | 1.55 | 1.24 |
| ST3A2OP | 2 | 200 | 25 | 2.14 | 1.70 |
| ST3A20N | 2 | 200 | 25 | 2.14 | 1.70 |
| ST3A40P | 2 | 400 | 25 | 4.35 | 2.90 |
| ST3A40N | 2 | 400 | 25 | 4.35 | 2.90 |
| ST3A60P | 2 | 600 | 25 | 6.75 | 3.90 |
| ST3A60N | 2 | 600 | 25 | 6.75 | 3.90 |
| ST710P | 3 | 100 | 160 |  | 10.32 |
| STIION | 3 | 100 | 160 | 12.90 | 10.32 |
| ST720 |  | 200 | 160 | 14.85 | 12.60 |
| ST720 | 3 | 200 | 160 | 14.85 | 12.60 |
| ST740P | 3 | 400 | 160 | 20.80 | 16.60 |
| ST740N | 3 | 400 | 160 | 20.80 | 16.60 |
| ST910p | 3 | 100 | 250 | 18.40 |  |
| ST910 |  | 100 | 250 | 18.40 | 14.20 |
| ST920 | 3 | 200 | 250 | 23.25 | 17.50 |
| ST920N | 3 | 200 | 250 | -23.25 | 17.50 |
| ${ }_{\text {STM }}$ | 3 | 400 | 250 | 30.65 | 24.10 |
| ST940N | 3 | 400 | 250 | 30.65 | 24.10 |

SARKES TARZIAN BRIDGE RECTIFIERS

(1) 2 amp. FULL WAVE SILICON BRIDGE REGTIFIERS Only $K_{s^{\prime \prime}}$ square $x \mathrm{y}_{4} \mathrm{a}^{\prime \prime}$ hight. Insulated case with solder lug terminals.

| Sarkes Tarzian | Yoltage PIY | Rating | 1.24 Each | 25-99 | 100-499 Each | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PIV | RMS | Esch | Each | Each |  |
| S6230A 2 | 200 | 140 | \$1.47 | \$1.28 | \$1.19 | \$1.05 |
| S6230A-4 | 400 | 280 | 1.77 | 1.52 | 1.41 | 1,27 |
| S6230A-6 | 600 | 420 | 2.11 | 1.80 | 1.60 | 1.51 |
| S6230A. 10 | 1000 | 700 | 3.47 | 2.97 | 2.76 | 2.48 |

(3) 6 AMP. FULL WAVE SILICON BRIOGE RECTIFIERS
-15/32" dia., $15 / 16^{\prime \prime}$ high. 8-32 mouning stud With solder terminats

| $\$ 6121-2$ | 200 | 140 | $\$ 4.21$ | $\$ 3.60$ | $\$ 3.35$ | $\$ 3.01$ |
| :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| $\$ 6121-4$ | 400 | 280 | 4.41 | 3.78 | 3.51 | 3.16 |
| $\$ 6121-8$ | 600 | 420 | $\$ .61$ | 4.81 | 4.47 | 4.02 |

(3) 12 AMP. FULL WAVE SILICON ERIDGE RECTIFIERS

Only $560^{\prime \prime}$ dia. Less'ihan $1^{\prime \prime}$ above mounump surface Including terminals. Reted 12 amps when mounted on metal chassis

| $\$ 6240-2$ | 200 | 140 | $\$ 3.78$ | $\$ 3.22$ | $\$ 3.00$ | $\$ 2.70$ |
| :--- | :--- | :--- | ---: | ---: | ---: | ---: |
| $\$ 6240-4$ | 400 | 280 | 5.15 | 4.40 | 4.00 | 3.60 |
| $\$ 6240-6$ | 600 | 420 | 6.93 | 5.93 | 5.40 | 4.66 |
| $\$ 6240-10$ | 1000 | 700 | 12.00 | 10.10 | 9.83 | 8.65 |

## RECTIFIER MOUNTINQ HARDWARE

No. 128943. Singis Clip.In Mounting for M500 and 60M. Each . 19 c No. 12:2457. Oual Clip-In Mounting for M500 and 60M. Each SOC Complete set for DO-4 Rectifler includes 2 mica washers, 1 brass washer, 1 tefion washer, 1 solder lug, 1 10-32 lock nut. No. 12:2402. Each .........23c 10 Each _......... 1 Ic Complete set for DO-5 Rectlifier. Includes one each mtca washer,



## RP/ MOTOROLA EXPERIMENTER KITS

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(1) BASIC EXPERIMENTER'S KIT KD2105. Build These 10 Circuits: Electronic Timer Electronic Time Delay Switch, Electroric Flasher, Battery Charger ( 6 V ). Battery Charger 122 V.I, Madel Roce Car and Railrood Speed Control, Overload Switch. Contains one silicon controlled rectifier as sembly, 2 transistors, and 5 rectifiers-al the solid state components needed to build 10 control circuits listed. Shpg. wt. I lb. RCA No. KD2105
$\$ 13.50$
(1)ADD-ON LIGHT-SENSOR KIT KD2106. Contoins one photocell. Used with basic kit to bulld light-operoted switch (turn-on) and light-aperated switch (turn-off). Ap plications: burolar or intruder olarm, yard
RCA No. KD'2106 Shpg. wt. 6 ozs. $\$ 3.50$

(3)

(1)
(9) ADD-ON HEAT-SENSOR KIT KD2110. Contains three thermistors each with a different temperature operating range. For building on electronic heat control (fum-on), electronic heot contral (furn-off). Applications: fire alarm, attic fon contrá, electric drver. etc. $\qquad$ $\$ 3.00$ RCA No. KD2110 Shpg. wt. 6 ozs. Net Each

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OZ4A，024 | 5425 | \＄2．53 | \＄1．81 | 51.70 | 6adio | S8，85 | 55，31 | 53.98 | \＄3．54 | $\triangle$ CN7 | 54.90 | 52.94 | \＄2．21 | \＄1．96 | 635 | 35.05 | 53.03 | 52.27 | \＄2．02 |
| lada | 4.25 | 2.55 | 1.91 | 1.70 | 6af3 | 4.35 | 2.61 | 1.96 | 1.74 | $6 \mathrm{CO8}$ | 5.05 | 3.03 | 2.28 | 2.02 | 6JSGT | 5.05 | 3.03 | 2.27 | 2.02 |
| liarza | 4.05 | 2.43 | 1.82 | 1.02 | 6afam | 5.35 | 3.21 | 3.41 | 2.14 | 6CS5 | 4.50 | 2.70 | 2.03 | 1.80 | 6J6a | 4.90 | 2.94 | 2.21 | 1.96 |
| 18 C 2 | 3.75 | 2.25 | 1.69 | 1.50 | bafg | 1.55 | 4.53 | 3.40 | 3.02 | 6 657 | 4.15 | 2.49 | 1.87 | 1.66 | $6 J 7$ | 6.95 | 4.19 | 3.13 | 2.78 |
| 18361／ |  |  |  |  | 6aF9 | 355 | 213 | 1.60 | 1.42 | ocus | 4.40 | 2.64 | 1.98 | 1.76 | 6J85／6MES | 5.20 | 3.12 | 2.34 | 2.08 |
| ig3gTa | － 35 | 2.61 | 1.96 | 8.74 | 6AF1］ | 5.70 | 3.42 | 2.57 | 2.28 | ${ }^{\text {ccus }}$ | 5.05 | 3.03 | 2.28 | 2.02 | 6JB6A | 7.00 | 4.20 | 3.15 | 2.80 |
| ｜K3A／1」3 | 4.35 | 2.61 | 1.96 | 1.74 | GAGS | 470 | 2.82 | 2.12 | 1.88 | OCW4 | 6.20 | 3.72 | 2.79 | 2.48 | bjcoa | 4.90 | 2.94 | 2.21 | 1.96 |
| 116 | 13.80 | 8.28 | 6.21 | 5.52 | 6AG7 | 8.45 | 5.07 | 3．81 | 3.38 | 6CW5／ELe6 | 2.75 | 1.65 | 1.24 | 1.10 | 6JC8 | 3.65 | 2.19 | 1.64 | 1.46 |
| 185 | 5.70 | 3.42 | 2.57 | 2.28 | GAMAGT | 3.25 | 1.95 | 1.46 | 1.30 | $6 \mathrm{Cx8}$ | 5.60 | 3.36 | 2.52 | 2.24 | 6J06 | 5.05 | 3.03 | 2.28 | 2.02 |
| 152A／PY87 | 2.55 | 1.53 | 1.15 | 1.02 | 6AH6 | 6.40 | 3.84 | 2.88 | 2.56 | scrs | 5.35 | 3.21 | 2.41 | 2.14 | bJEba |  | 5 | 6100 | bJEoc |
| 155 | 3.10 | 2.04 | 1.53 | 1.36 | GAKS／EF9S | 5.20 | 3.12 | 2.34 | 2.08 | $6 \mathrm{Cr7}$ | 3.35 | 2.01 | 1.51 | 1.34 | 6JEB | 4.05 | 2.43 | 1.82 | 1.62 |
| $1{ }^{1} 4$ | 4.25 | 2.55 | 1.91 | 1.70 | GAKG | 2.40 | 1.08 | 1.31 | 1.34 | ${ }_{0} \mathbf{C z}$ | 5.20 | 3.12 | 2.34 | 208 | 6JF6 | 7.95 | 4.77 | 3.58 | 3.18 |
| 104 | 4.25 | 2.55 | 1.91 | 1.70 | 6AL3／EY 88 | 2.85 | 1.71 | 1.28 | 1.14 | 6010 | 5.10 | 3.00 | 2.30 | 2.04 | 6JM6 | 3.90 | 2.34 | 1.76 | 1.56 |
| lus | 3.75 | 2.25 | 1.69 | 1.50 | bals | 3.25 | 1.95 | 1.46 | 130 | 6044／ODM4A | 4.05 | 2.43 | 1.82 | 1.62 | 6JME | 5.90 | 3.54 | 2.66 | －2．36 |
| IV2 | 2.60 | 1.56 | 1.17 | 1.04 | 6 ALl 1 | 0.25 | 3.75 | 2.42 | 2.50 | 60BS | 5.00 | 3.00 | 2.25 | 2.00 | GJM6A | 6.30 | 3.78 | 2.84 | 2.52 |
| $1 \times 2 \mathrm{C}$ | 450 | 2.70 | 2.03 | 1.80 | GAMBA | 5.05 | 3.03 | 2.22 | 2.02 | 60C6 | 4.25 | 2.55 | 1.91 | 1.70 | 6JNo | 385 | 3.51 | 2.63 | 2.34 |
| 2AF4E／20Z4 | 4.50 | 2.70 | 2.03 | 1.80 | dansa | 5.50 | 3.30 | 2.48 | 2.20 | 6DE4／8CO4 | 4.55 | 2.73 | 2.05 | 1.82 | 63N8 | 4.00 | 2.40 | 1，80 | 1.60 |
| $2 \mathbf{A V}^{2}$ | 3.45 | 2.07 | 1.55 | 1.38 | GAOSA | 3.70 | 2.22 | 1.67 | 1.48 | 6DE6 | 3.60 | 2.16 | 1.62 | 1.44 | 6JSEC | 8． 10 | 4.86 | 3.65 | 3.24 |
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| 28U2／2AM2 | 4.35 | 2.55 | 1.91 | 1.70 | 6AOTGT | 4.70 | 282 | 2.12 | 1.88 | 60G6GT | 4.60 | 2.76 | 2.07 | 1.84 | 6JTB | 4.90 | 2.94 | 2.21 | 1.96 |
| 2 Cr 5 | 5.35 | 3.21 | 2.41 | 2.14 | 6 AO8／ECC85 | 3.00 | 1.80 | 1.35 | 1.20 | 60J8／ECCE8 | 3.40 | 2.42 | 2.18 | 1.94 | bJusa | 4.85 | 2.91 | 2.18 | 1.84 |
| 2 FSS | 530 | 3.18 | 2.39 | 2.12 | gars | 2.70 | 1.62 | 1.22 | 1.08 | －DK． | 3.90 | 2.34 | 1.76 | 1.56 | 6JW8／ |  |  |  |  |
| 2GKS／2FOSA | 4.20 | 2.52 | 1.89 | 1.68 | 6AR！ 1 | 5.75 | 3.45 | 2.59 | 2.30 | 6ULS／ELY） | 3.25 | 1.95 | 1.40 | 1.30 | ECF802 | 3.40 | 2.04 | 1.53 | 1.36 |
| 2 MOS | 4.20 | 2.52 | 1.89 | 1.68 | 6AS5 | 4.40 | 2.64 | 1.98 | 1.76 | 60N7 | 5.05 | 3.03 | 2.28 | 2.02 | 6．J28 | 3.85 | 2.31 | 1.73 | 1.54 |
| 3 з3¢ | 4.40 | 2.64 | 1.98 | 1.76 | 6AsB | 5.70 | 3.42 | 2.57 | 2.28 | 6005 | 8.75 | 5.25 | 3.94 | 3.50 | 6KEGT | 4.40 | 2.04 | 1.98 | 1.76 |
| 3AF4A／3D24 | 4.50 | 2.70 | 3.03 | 1.80 | garb | 2.05 | 1.23 | ． 92 | ． 82 | 60068 |  | See | Gw6／ | DO6B | ${ }_{6} 6 \times 1$ | 6.00 | 3.60 | 2.70 | 2.40 |
| 3ALS | 2.90 | 1.74 | 1.31 | 1.16 | 6alba | 565 | 3.39 | 2，54 | 2.26 | 60R7 | 5.55 | 3.33 | 2.50 | 2.22 | 6K11／60 | 4.15 | 2.49 | 1.87 | 1.66 |
| 3 CT 28 | 4.25 | 2.55 | 1.91 | 1.70 | GAU4GTA | 530 | 3.18 | 2.39 | 2.12 | －054 | 5.90 | 3.54 | 266 | 2.36 | 6Kas | 5.35 | 3.21 | 2.41 | 2.14 |
| 3Aw2A | 4.45 | 2.67 | 2.00 | 1.78 | bausg ${ }^{\text {b }}$ | 5.70 | 3.42 | 2.57 | 2.28 | －05s | 3.65 | 219 | 1.64 | 1.46 | 6K06 | 9.75 | 5.25 | 4.39 | 3.90 |
| 3av6 | 3.25 | 1.95 | 1.46 | 1.30 | 6avoa | 325 | 1.05 | 1.46 | 1.30 | 6015 | 3.90 | 2.34 | 1.76 | 1.56 | 6KE8 | 6.65 | 3.99 | 3.00 | 266 |
| 3aCS／3CES | 3.25 | 1.95 | 146 | 1.30 | dava | 0.20 | 3.72 | 2.79 | 2.48 | d0tba | 3.55 | 2.13 | 1.60 | 1.42 | 6KM6 | 8.75 | 5.85 | 4.39 | 3.90 |
| 38 N 6 | 5.20 | 3.12 | 2.34 | 2.08 | bavSga | 5.90 | 3.42 | 2.57 | 2.38 | 6078 | 4.10 | 2.46 | 1，85 | 1.64 | 6K76 | 5.35 | 3.21 | 241 | 2.14 |
| 3Bus／3gss | 5，30 | 3.18 | 2.39 | 2.12 | gavo | 2.95 | 1.77 | 1.33 | 1.18 | 60 W4B | \＄，10 | 2.46 | 1.85 | 1.64 | 6K18 | 5.90 | 3.54 | 2.66 | 2.36 |
| 3 B 26 | 4.10 | 2.46 | 2.85 | 1.64 | GAW8a | 4.90 | 294 | 2.21 | 1.96 | 60x8／ECLEA | 2.90 | 1.74 | 1.31 | 1.16 | 6xve | 6.45 | 3.87 | 2.91 | 2.58 |
| $3 \mathrm{Ca3}$ | 4.05 | 2.43 | 1.82 | 1.62 | $6 \mathrm{Cax}^{4}$ | 3.75 | 2.25 | 1.69 | 1.50 | $6 \mathrm{DZ4}$ | 5.35 | 3.21 | 2.41 | 2：14 | 6KY8A | 8.15 | 4.89 | 3.67 | 3.26 |
| $3 \mathrm{CB6} / 3$ | 2.95 | 1.7 | 1.33 | 1.18 | 6AX4G78 | 4.05 | 2.43 | 1.82 | 1.62 | 685 | 0.20 | 3.72 | 2.79 | 2.48 | 6K78 | 4.50 | 2.70 | 2.03 | 1.80 |
| 3 CSO | 4.05 | 243 | 1.12 | 1.62 | GAXSGT | 4.25 | 2.55 | 1.91 | 1.70 | 6EAS | 430 | 2.58 | 1.94 | 1.72 | 616 | 11.20 | 6.72 | 5.04 | 4.48 |
| 3 Cu 3 A | 5.35 | 3.21 | 2.41 | 2.14 | 6AY38 | 4.05 | 2.43 | 1.82 | 1.62 | 6EB8 | 0.20 | 3.72 | 2.79 | 2.48 | 6loGc | 6.65 | 3.99 | 2.99 | 2.60 |
| 3 CY 5 | 4.15 | 2.49 | 1.87 | 1.06 | 6428 | 6.00 | 3.60 | 2，70 | 2.40 | GEMT／EF183 | 4.20 | 2.52 | 1：89 | 1.08 | 6186 | － 30 | 5.58 | 4.19 | 3.72 |
| $3083 / 3 \mathrm{Cr} 3$ | 4.80 | 2.88 | 2.16 | 1.92 | 6810 | 4.90 | 2.94 | 2.21 | 1.96 | 6EJ7／EF184 | 3.90 | 2.34 | 1.76 | 1.56 | 017 | 6.95 | 4.17 | 3.13 | 2.78 |
| 3DG4 | 6.35 | 3.81 | 2.86 | 2.54 | 68A6／EF93 | 3.60 | 2.16 | 1.62 | 1.44 | －EMS | 490 | 2.94 | 2.21 | 1.96 | ${ }^{\text {a }}$ ¢ 68 | 4.10 | 3.66 | 2.75 | 2.44 |
| 3DK6 | 3.90 | 2.34 | 1.76 | 1.56 | 68a7 | 6.45 | 3.87 | 2.91 | 2.58 |  | 6.15 | 3.69 | 2.77 | 2.46 | 6LF8 | 5.65 | 3.39 | 2.54 | 2.26 |
| 3DT6A | 3.60 | 2.16 | 1.62 | 1.44 | brasa | 5.70 | 3，42 | 2.57 | 2.28 | GERS | 4.65 | 2.79 | 2.09 | 1.86 | 61．8 | 4.80 | 2.88 | 2.16 | 1.92 |
| 3GK5 | ＋ 20 | 2.52 | 1.69 | 1.68 | 68 A11 | 5.35 | 3.21 | 2.41 | 2.14 | GESS | 3.15 | 1.89 | 1.42 | 1.26 | 6LM8 | 5.35 | 3.21 | 2.41 | 2.14 |
| 3Mm5／3MAS | 4.20 | 2.52 | 1.89 | 1.68 | 6BC5／6CES | 3.60 | 2.16 | 1.62 | 1.44 | 6E58／ |  |  |  |  | GINB／icFso | 2.65 | 1．59 | 1.19 | 1.06 |
| 3MOS | 5.05 | 3.03 | 2.28 | 2.02 | $68 C 7$ | 3.60 | 2.16 | 1.02 | 1.44 | ECC189 | 5.45 | 3.27 | 2.45 | 2.18 | 6106／6JEbC | 9.65 | 5.79 | 4，35 | 3.86 |
| 3JC6A | 5.55 | 3.33 | 2.50 | 2.22 | ${ }^{6868} 86878$ | 5.35 | 3.21 | 2.41 | 2.14 | 6EU7 | 4.35 | 2.61 | 1.96 | 1.74 | 6108 | 605 | 3.63 | 2.73 | 2.42 |
| 3 V 4 | 4.90 | 2.94 | 2.21 | 8.96 | 6BE3／baz3 | 4.90 | 2.94 | 2.21 | 1.96 | GEUS | 4.05 | 2.43 | 1.82 | 1.62 | ${ }^{\text {blf }}$ | 4.40 | 2.64 | 1.98 | 1.76 |
| 4ave | 4.25 | 2.55 | 1.91 | 1.70 | 68E6 | 3.75 | 2.25 | 1.69 | 1.50 | GEVS | 4.70 | 2.82 | 2.12 | 1.88 | 6UU8 | 5.25 | 3.15 | 2.37 | 2.10 |
| $4 \mathrm{CC8}$ | 4.35 | 2.61 | 1.96 | 1.74 | 6855 | 3.35 | 2.01 | 1.51 | 1.34 | 6EW6 | 3.90 | 2.34 | 1.76 | 1.56 | 61X8 － 1 CF 802 | 2.60 | 1.56 | 1.17 | 1.04 |
| $4818 / \mathrm{XCFP}$ | 2.40 | 1.44 | 1.08 | ． 96 | 6856 | 3.10 | 1.86 | 1，40 | 1.24 | 6EW7 | 7.15 | 4.29 | 3.22 | 2.86 | ${ }^{6}$ IY8 | 4.25 | 2.55 | 1.91 | 1.70 |
| 4B07a／4B27 | 4.40 | 2.04 | 1.98 | 1.76 | 68G6G | 7.85 | 4.71 | 3.54 | 3.14 | 6 Fs | 6.45 | 3.87 | 2.91 | 2.58 | 6MDE | 5.80 | 3．48 | 2.61 | 2.32 |
| 4Bus／4GS8 | 4.85 | 2.91 | 2.18 | 1.94 | ${ }^{68 \mathrm{H}} 6$ | 4.40 | 2.64 | 1.98 | 1.76 | $6{ }^{6} 6$ | 6.70 | 4.02 | 3.02 | 2.68 | OME8 | 6.20 5 | 3．72 | 2.79 | 2.48 |
| 4826 | 4.10 | 2.46 | 1.85 | 1.64 | 6BM8 | 5.05 | 3.03 | 2.28 | 2.02 | 6FD7 | 6.20 | 3.72 | 2.79 | 2.48 | 6N7 | 5.55 | 3.33 | 2.50 | 2.22 |
| $4{ }^{4} 86$ | 2.95 | 1.77 | 1.33 | 1.18 | 68H11 | 415 | 3.09 | 2.32 | 2.06 | 6FG7 | 5.05 | 3.03 | 2.27 | 2.02 | 607 | 590 | 3.54 | 2.66 | 2.36 |
| 4 Cs 0 | 4.05 | 2.43 | 1.82 | 1.02 | 68.16 | 4.45 | 2.67 | 2.00 | 1.78 | 6FM5 | 5.00 | 3.00 | 2.25 | 2.00 | 654A | 4.05 | 2.43 | 1.82 | 1.62 |
| 4DT6A | 4.15 | 2.49 | 1.87 | 1．66 | 60.17 | 2.95 | 1.77 | 1.33 | 1.18 | 6fJ7 | 4.55 | 2.73 | 2.05 | 1.82 | 6SA7 | 5.50 | 3.30 | 2.48 | 2.20 |
| 4EM7 人F183 | 3.90 | 2.34 | 1.76 | 156 | 68.18 | 4.75 | 2.85 | 2.14 | 1.90 | 6FM7 | 5.05 | 3.03 | 2.28 | 2.02 | ${ }^{65 C 7}$ | 5.90 | 3.54 | 2.06 | 2.36 |
| 4E」7へF184 | 3.90 | 2.34 | 1.76 | 1.56 | 68K4C／OELAA | 815 | 4.89 | 3.67 | 3.26 | OFM8 | 4.15 | 2.49 | 1.87 | 1.66 | 6SFS | 5.50 | 3.30 | 2.48 | 2.20 |
| 4 GKS | 4.20 | 2.52 | 1.89 | 1.68 | 68 K 5 | 3.50 | 2.10 | 1，58 | 1.40 | 6FO7／6CG7 | 3.25 | 1.95 | 1.46 | 1.30 | 6567 | 6.15 | 3.69 | 2.77 | 2,46 |
| 4 MSS | 4.05 | 2.43 | 1.82 | 1.62 | 68678 | 5.20 | 3.12 | 2.34 | 2.08 | 6fss | 4.55 | 2.73 | 2.05 | 1.82 | ${ }^{65177}$ | 6.00 | 4.08 | 306 | 2.72 |
| 4JCGA | 5.50 | 3.30 | 2.48 | 2.20 | 6817GIA | 6.65 | 3.99 | 3.00 | 2.66 | 6FVO | 4.90 | 2.94 | 2.21 | 1.96 | 6517 | 5.85 | 3.51 | 2.63 | 2.36 |
| 4306 | 5.05 | 3.03 | 2.27 | 2.02 | 6BL8／ECF80 | 2.95 | 1.77 | 133 | 1.18 | 6FV8A |  |  | Soe | garba | 65k7 | 5.45 | 3.27 | 2.46 | 2.18 |
| 4KE8 | 6.65 | 3.99 | 3.00 | 2.66 | 6日M8／ECLE 2 | 290 | 1.74 | 1.31 | 1.16 | OFYS／EC97 | 2.75 | 1.65 | 1.24 | 1.10 | 6St7GT | 5.40 | 3.24 | 2.43 | 2.16 |
| 4158 | 4.80 | 2.88 | 2.16 | 1.92 | 6BN4A | 3.95 | 2.37 | 1.78 | 1.58 | 6FY7 | 3.85 | 2.31 | 1.73 | 1.54 | OSN7GT8 | 4.40 | 2.64 | 1.98 | 1.76 |
| SAMa | 535 | 3.21 | 2.41 | 2.14 | 68N6／6K56 | 4.95 | 297 | 2.23 | 1.98 | 6GBS／EL500 | 4.15 | 2.49 | 1.87 | 1.66 | 6507 | 5.40 | 3.24 | 243 | 2.16 |
| SAN8 | 5.70 | 3.42 | 2.57 | 2.28 | $68 \mathrm{N8}$ | 4.70 | 2.82 | 2.12 | 1.18 | 6GC5 | 6.20 | 3.72 | 2.79 | 2.48 | 6r8a | 5.15 | 3.09 | 2.32 | 2.06 |
| SAOS | 4.10 | 2.46 | 1.85 | 1.64 | 68N11 | 5.65 | 3.39 | 2.55 | 2.26 | GGES | 6.30 | 3.78 | 2.84 | 2.52 | 6710 610 | 5.90 | 3.54 2.55 | 2.60 | 2.36 1.70 |
| 5AR4／G234 | 4.65 | 2.79 | 2.09 | 1.66 | 6805／tas | 425 | 2.55 | 1.91 | 1.70 | 6GFS | 4.15 | 2.49 | 1.87 | 1.66 | 6U8A／6KD8 | 4.25 | 2.55 | 1.91 | 1.70 |
| SASAA | 3.35 | 2.01 | 1.51 | 1.34 | 6806／6CU6 | 590 | 3.54 | 2.66 | 2.30 | 6G87A | 5.80 | 3.48 | 2.61 | 2.32 | 6410 | 445 | 2.67 | 2.00 | 1.78 |
| SATS | 4.80 | 2.88 | 2.16 | 1.92 | 6BO7A／6BS8 | 5.45 | 3.27 | 2.46 | 2.18 | 6GM8a | 3.50 | 2.10 | 1.58 | 1.40 | 6 V 6 | 740 | 4.44 | 3.33 | 2.96 |
| 588 | 5.50 | 3.30 | 2.48 | 2.20 | 68R8／ |  |  |  |  | 6Gg5a | 6.65 | 3.99 | 2.99 | 2.66 | SVOGTA | 4.90 | 2.94 | 2.21 | 1.96 |
| SBC3A | 3.75 | 2.25 | 1.69 | 1．50 | ofvaa | 5.70 | 3.42 | 2.57 | 2.28 | 6GJ7／ECF801 | 3.40 | 2.04 | 1.53 | 1.36 | OWAGT OWGG | 3.60 5.05 | 2.16 3.03 | 1.62 2.28 |  |
| 58k7a | 4.00 | 2.40 | 1.80 | 1.60 | obs3a | 4.05 | 2.43 | 1.82 | 1.62 | 6GK5／6FOSA | 5.05 | 3.03 | 2.27 1.82 | 2.02 | ${ }_{6 \times 4}{ }_{6}{ }^{\text {6／bag }}$ | 5.05 3.75 | 3.03 2.25 | 2.28 1.69 | 2.02 1.50 |
| 5807a | 4.70 | 2.62 | 2.12 | 1.88 | 6848 | 5.55 | 3.33 | 2.50 | 2.22 | ${ }_{6} 6$ GK6 | 4.05 3.80 | 2.43 | 1.82 | 1.62 3 | $6 \times 4$ $6 \times 5 G T$ | 3.75 3.95 | 2.25 2.37 | 1.69 1.78 | 1.50 |
| SBR8／SFV： | 5.35 | 3.21 | 2.41 | 2.14 | 68V8 | 3.60 | 2.16 | 1.62 | 1.44 | ${ }_{6} 6$ G7 | 3.80 | 3.48 | 2.61 | 2.32 1.70 |  | 3.95 4.90 | 2.37 2.94 | 2.21 |  |
| ${ }^{\text {SCG8 }}$ | 440 | 2.04 | 1.98 | 1.76 | 68W4 | 3.00 | 1.80 | 1.35 | 1.20 | 6GM6 | 4.25 | 2.55 | 1.91 | 1．70 | 6X8A／ECF200 | 3.90 | 2.94 1.95 | 2.21 1.46 | 1.96 1.30 |
| SCL8A | 5.35 | 3.21 | 2.41 | 2.14 | 68 Ws | 5.05 | 3.39 | 2.55 | 2.26 | －GN8 | 620 | 372 | 2.78 | 2，48 | 6YOGECF／OYOG | 5.25 | 3.27 | 2.46 | 1.30 2.18 |
| SEA8 | 6.20 | 3.72 | 2.79 | 2.48 | 68x7GT | 6.50 | 3.90 | 2.93 | 2.00 | 6GT5A | 6.95 | 4.19 | 3.13 205 | 2.78 | orocaloroc 6Z10／6110 | 5．45 | 3.27 3.99 | 2.46 2.98 |  |
| SEU8 | 4.35 | 2.61 | 1.96 | 1.74 | 6er6 | 3.75 | 2.25 | 1.69 | 1.50 | OGU7 | 4.55 |  | 2.05 2.03 | 1.82 1.80 | 6210／6Jo lau7 | 6.65 340 | 3.99 204 | 2.98 1.53 | 2.66 136 |
| SEW6 | 4．40 | 2.64 | 1.98 | 1.76 | 6BY8 | 2.95 | 1.77 | 9， 33 | 1.18 | OGV5 OGW6／ | 4.50 | 2.70 | 2.03 | 1.40 | ${ }_{7 C 5}$ | 3.70 | 2.82 | 2.12 | 1．88 |
| SfG7 | 5.05 | 3.03 | 2.28 | 2.02 | 6826 | 3.40 | 2.04 | 1.53 | 136 | OGW6 |  |  |  |  | 767 | 1.13 | 4．45 | 3.12 | 1.88 3.34 |
| SGMia | 5.15 | 3.09 | 2.32 | 2.06 | $0 \mathrm{C4}$ | 4.05 | 2.43 | 1.82 | 1.62 | － 6 O68 6 ／ECL8 | 5.85 3.05 |  | 2.64 1.37 |  | 7N7 | 8.80 | 4.48 | 3.51 | 3.36 3.12 |
| 5GJ7／ | 3.25 | 1.95 | 1.46 | 1.30 | ocs | 5.85 | 3.51 | 2.64 | 2.34 | ${ }_{6 G \text { WB／ECL }} 6$ | 3.05 | 1.83 | 1．37 | 1．22 |  |  |  |  | 3.14 |
| LCf801 |  |  |  |  | 6 C 9 | 6.90 | 3.60 | 2.70 | 2.40 | OGX6 OGX |  | $3.54{ }^{5}$ | － 6.6 | $66 \times 6$ 2.36 | bawaa | 5.35 5.85 | 3.21 3.51 | 2.64 | 2.14 |
| SGm6 | 3.60 | 2.16 | 1.62 | 1.44 | ${ }^{6}$ CA4 | 4.15 | 2.49 | 1.87 |  | $66 \times 7$ $6 G Y 5$ |  |  | 2.66 2.28 |  |  | 5．85 4.80 | 2.88 | 2.16 | 1.92 |
| SH26 | 3.60 | 2.16 | 1.62 | 1.44 | OCAS | 3.30 | 1.98 | 1.49 | 1.32 | 6GY5 ${ }_{\text {GGY6／6GX6 }}$ | 5.05 3.75 | 3.03 2.25 | 2.28 1.69 | 2.02 1.50 |  | 6.00 |  |  | 2.40 |
| SJK6 | 420 | 2.52 | 1.89 | 1.68 | OCAT／EL34 | 5.90 | 3.54 | 2.66 | 2.36 | 6GY6／6GX6 OGY8 | 3.75 5.15 | 2.25 3.09 | 1.69 2.32 | 1.50 2.06 | $88 \mathrm{Cl\mid l}$ | 5.15 | 3.60 3.09 | 2.32 |  |
| 5 J6 | 4.20 | 2.52 | 1.89 | 1.68 | 6CBSA | 10.85 | 6.51 | 4.89 | 4.34 | ${ }^{6} \mathrm{GY} 8$ | 5.15 | 3.09 | 2.32 | 2.06 | 8805 | 4.10 | 2.46 | 1.38 1.85 | 1.64 |
| SK08 | 2.75 | 1.65 | 1.24 | 1.10 | OCBOA／SCF6 | r3．00 | 2.16 | 1.02 | 1.44 | $6{ }^{6} 6$ | 6.05 | 363 | 2.73 2.28 | 2.42 | 88811 | 4.75 | 2.86 2.85 | 2.14 |  |
| $5 \mathrm{KE8}$ | 6.65 | 3.99 | 3.00 | 2.66 | OCDOGA | 7.30 | 4.38 | 3.29 | 2.92 | 6MBe／6Mac | 3.05 | 3.03 | 2.28 | 2.02 | 88011 | 4.75 | 2.85 3.27 | 2 | 1.90 2.18 |
| 5158 | 4.80 | 2.88 | 2.16 | 1.92 | CCF6 |  |  | ac88a | ／bF6 | 6ME7 | 4.75 | 2.85 | 2.14 | 1.90 | ${ }_{\text {8BC5 }}$ | 5．45 | 3.27 2.61 | 2.46 | 2.18 1.74 |
| 518 | 4.45 | 2.67 | 2.00 | 1.78 | 6CG3／68w3 | 4.30 | 2.58 | 1.94 | 1.72 | 6MES |  |  |  |  |  |  |  |  |  |
| Su4ge | 3.35 | 2.01 | 1.51 | 1.34 | 6CG7 |  |  | 6FO7 | bCG7 | 6MF5 | 9.60 600 | 5.76 | 4.32 | 3.84 | 8CW5／X186 $8 F O 7 / 8 C G 7$ | 2.75 3.25 | 1.65 1.95 | 1.24 | 1.10 1.30 |
| 548 | 5.15 | 3.09 | 2.32 | 206 | OCG8A | 4.70 | 2.82 | 2.12 | 7.88 | 6MF8 | 6.50 | 3.90 | 2.93 | 2.60 | $8{ }^{867 / 8 C G 7}$ | 3.25 3.70 | 1.95 2.22 | 1.46 | 1.30 |
| SU9ACF201 | 3.10 | 1．86 | 1.10 | 1.34 | 6 CMg | 5.60 | ＇3．36 | 2.52 | 2.24 | GMG 5 | 3.70 | 2.22 | 1.67 | 1.48 | ajuga | 3.70 | 2.22 | 1.67 | 1.48 |
| SV3a／Sau4 | 4.15 | 249 | 1.87 | 1.66 |  | 4.10 | 246 | 1.85 | 1.64 | 6MGA／ECFPG | 3.70 | 2.22 | 1.67 | 1.48 | OJVB | 4.70 | 2.82 3.06 | 2.12 | 1.88 |
| SV4GA | 4.70 | 2.92 | 2.12 | 1.88 |  |  |  | Ce 6 CL3 | ／6Cx 3 | 6M 18 | 3.10 | 1.86 | 1.40 | 1.24 | BKAB BLC | 5.10 | 3.06 3.15 | 2.30 2.37 | 2.04 2.10 |
| $5 \times 8$ | 4.15 | 2.49 | 1.87 | 1.66 | $6{ }^{6} \mathrm{~K} 4$ | 3.55 | 2.13 | 1.60 | 1.42 | 6M18 6 ／${ }^{\text {GH5／GMAS }}$ | 3.35 | 2.01 | 1.51 | 1.34 | ${ }^{\text {BLC8 }}$ | 3.25 440 | 3.15 2.64 | 2.37 1.98 | 2.10 1.76 |
| 5 Y3GT | 3.25 | 1.95 | 1.46 | 1.30 | ${ }^{6} \mathrm{CL3} / 6 \mathrm{CK} 3$ | 4.10 | 2.46 | 1.85 | 1.64 | 6MM 5／6MAS | 4.20 | 2.52 | 1．89 | 1.68 | ${ }_{\text {Q4B }}^{81 \text { PCFP80 }}$ | 440 | 2.64 1.74 | 1.98 1.31 | 1，76 |
| 54461 | 3.40 | 2.04 | 1.53 | 1.36 | 6 C16 | 5.20 | 3.12 | 2.34 | 2.08 | 6 HOS | 5.35 | 3.33 | 2.50 | 2.22 | 9AB／PCFBO QAU7 |  | 1.74 |  |  |
| 523 | 4.90 | 2.94 | 2.21 | 1.96 | 6CLIAA | 4.90 | 2.94 | 2.21 | 1.96 | 6H5S |  |  | 3.83 1.82 | 3.40 1.62 | 9BJI！ | 5．25 | 3.51 |  |  |
| 6 6AB4 | 3.95 | 2.37 | 1.78 | 1.58 | ${ }^{6} \mathrm{Cm6}$ | 4.25 | 2.55 | 1.91 | 1.70 | 6MS6 | 4.05 | 2.43 | 1.82 | 1.62 208 | 10CW5／486 | 2．85 | 1.65 | 2.64 1.24 | 2.34 1.10 |
| ${ }^{6 A C 7}$ | 6．30 | 3.78 | 2.84 | 2.52 | －CM7 | 4.55 | 2.73 | 2.05 | 1.82 |  |  |  | 2.38 |  | 10DE7 | 5． 40 | 3.24 | 2.43 | 2.16 |



RCA BLACK WHITE SILVERAMA TUBES - 3 YEAR WARRANTY FOR HOME ENTERTAINMENT USE

| 5tock <br> No. |  | Type | Wi. Lbs. | $\begin{aligned} & \text { Total } \\ & \text { Price } \end{aligned}$ | 5 fack <br> No. | Type | W). Lbs. | Totol Price | 5lock Ne. | Type | wi. tbs. | Toral Pree | Stock Ne. | Type | Wi. <br> Lbs | Toial Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 A200 | 178) | Al AV CBP4 | 17 | 525.26 | 64206 | $21 A M / A C / A Q P A B$ | 27 | \$24.54 | 64212 | 217 P 48 | 3) | \$22.94 | 6 A217 | 23EN/ECP4 | 33 | \$44.95 |
| 6A201 | 1705 | /82/CK/DIP4 | 13 | 26.66 | 64207 | 21 V/AUPS | 31 | 27.33 | 64213 | $212 P 4 C$ | 31 | 22.94 | 6A218 | 23F/K/M/WP4A | 33 | 41.49 |
| 6A202 | 19av | $8 \mathrm{BV} \times \mathrm{P}$ [P4 | 19 | 33.84 | CA20B | 2TCB/AT/FIPAA | 27 | 20.31 | 64214 | 23AH/ASP4 | 36 | 41.49 | 6 A224 | 23HF/ MXP4A $^{\text {a }}$ | 40 | 48.49 |
| 6 A 203 | 19ar | AX BWP4 | 19 | 33.54 |  |  |  |  | 6 A215 | 238X/BL/ANP4 | 44 | 46.08 | 6 A219 | $23 Y /$ //TP/80P4 | 33 | 46.08 |
| 6 A204 | 19CX | COP4 | 19 | 33.84 | 64210 | 2105/Cxp4 | 27 | \$29.99 | 6 A216 | 2380/UP4 | 40 | 46.14 | 6 A220 | 24AE/AN/DP/2P4 | 39 | 31.19 |
| 64205 | 1900 | DW EWPA | 19 | 34.98 | CA211 | 21EMP4/21EQP4 | 26 | 27.33 | 64223 | 23C/BN/HP4 | 43 | 46.14 | SA221 | 24AM/ALP4 | 39 | 45.41 |

## B-A TV PICTURE TUBES



Black and white tubes contrin new materials except for the envelope which is inspected to meet new-glass standards. Color fubes contain used materials carefully inspected to meet high quality standard of original tube. Shipped freight or express.
fheturn ofd fube prepoid in the some carton in which your now tube is ree cerved to recenve bulb allowance. Old tube mus have no cratches of chapl an
foce and be under vocuum. Rore Earth types onty ean be occepted for Rare Eorth Credit.

| Stk. No. | Type | Weight | PBulb Allowance | Total Price |
| :---: | :---: | :---: | :---: | :---: |
| sa7s08 | 19EYP22 | 30 tor. | \$20.00 | 573.33 |
| GA7503 | 21FBP22A | 45 lbs . | 32.50 | 90.00 |
| 6at504 | 21fip22a | 45 tbe. | 32.50 | 90.00 |
| ga75 05 | 23EGP22A | 50 Lbs | 20.00 | 110.67 |
| GA7500 | 254P22A | 52 lbs | 25.00 | 80.00 |
| 6A7507 | 258P22A | 52 Hm | 25.00 | 80.00 |
| SULPMIOE COLOR PICTURE TUBES |  |  |  |  |
| 647500 | 218 PP 22 | 45 ton. | \$10.00 | \$60.00 |
| 647501 | 21FJP22 | 54 lbs. | 10.00 | 60.00 |

DURACELL MERCURY BATTERIES

| Stock No． | Mallory No． | Replaces Eveready | User Each | Pkg． Qty． |  | Volts | $\begin{aligned} & \text { Size Inches } \\ & \text { O.D. H. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2145010 | RMI | E1 | \＄0．85 | 4 | \＄0．67 | 1.4 | $5 / 8 \mathrm{x}$ |
| 21 A5011 | RM3R | E3 | 1.66 | 4 | 1.27 | 1.35 | $\times$ |
| 2145012 | RM4R | E4 | 2.13 | 4 | 1.62 | 1.35 | $1.2 \times$ |
| 2145013 | RM12 | E12 | 1.49 | 4 | 1.14 | 1.4 | $5 / 8 \times 1$ |
| 21 A5014 | RM12R | E12N | 1.66 | 4 | 1.27 | 1.35 | $5 / 8 \times 1$ |
| 2145015 | RM42 | E42 | 4.25 | 2 | 3.25 | 1.4 | $1.2 \times 2$ |
| 2145016 | RM42R | E42N | 4.68 | 2 | 3.56 | 1.35 | $1.2 \times 2$ |
| 2145017 | RM400R | E400A | ． 85 | 6 | ． 67 | 1.35 | 析x |
| 2145018 | RM401 | E401 | ． 85 | 3 | ． 67 | 1.4 | ${ }^{17} \times 11 / 8$ |
| 21 A5020 | RM575 |  | 30 | 6 | ． 24 | 1.4 | $455 \times .12$ |
| 2.145021 | RM625 | E625 | ． 81 | 4 | ． 63 | 1.4 | $5 / 8 \times 1 / 4$ |
| 21 A5022 | RM625R | E625N | ． 94 | 4 | ． 73 | 1.35 | $5 / 8 \times 1 / 4$ |
| 21 A5023 | RM630 | E630 | ． 80 | 4 | ． 63 | 1.4 | $5 / 8 \times 1 / 4$ |
| 2145024 | RM640 | E640 | ． 80 | 4 | 263 | 1.4 | $5 / 8 \times \frac{1}{17}$ |
| 21 A5025 | RM675 | E675 | ． 64 | 6 | ． 50 | 1.4 | \％${ }^{3} \times$ |
| 2145026 | TR115R | E1ISN | 3.19 | 2 | 2.44 | 6.75 | 7 ${ }^{2} \times 1{ }^{\frac{1}{14}}$ |
| 2145069 | TR126 | 5126 | 2.13 | 4 | 1.67 | 8.4 | $3 \% \times 2$ |
| 2145027 | TRI32R | El32N | 1.87 | 4 | 1.47 | 2.7 | 4 $\times 1$ |
| 2145028 | TR133 | E133 | 2.13 | 4 | 1.67 | 4.2 | $51 \times 2$ ． |
| 21 A5029 | TR133R | El33N | 2.38 | 4 | 1.87 | 4.05 | 5182. |
| 21 A5030 | TR134R | E134N | 2.89 | 2 | 2.27 | 5.40 | \％$\times 2$ 最 |
| 2145091 | TR135R | E135N | 3.40 | 2 | 2.68 | 6.75 | 9 $\times 31 / 4$ |
| 2145072 | TR136R | E136N | 3.83 | 2 | 3.00 | 8.1 | 7 $\times 3$ 3 |
| 2145073 | TR146X | E146X | 1.66 | 4 | 1.27 | 8.4 |  |
| 2145034 | TR163 | E163 | 2.34 | 2 | 1.84 | 4.2 | \％$\times 1$ |
| 2145039 | TR164 | E164 | 2.13 | 4 | 1.67 | 5.6 | 数x13／4 |
| 2145036 | TR165 | E165 | 2.76 | 2 | 2.17 | 7 | $\frac{7}{3} \times 2$ \％ |
| 214235 | TR175 | E175 | 1.91 | 4 | 1.50 | 7 | \％$\times 1$ 灰 |
| 2145037 | TR177 | E177 | 2.12 | 4 | 1.67 | 9.8 | 14x13 |
| 21 A5038 | TR233 | E233N | 3.83 | 2 | 3.00 | 4.2 | $18 \times 1$ 极 |
| 2145057 | TR289 | E289 | 4.25 | 4 | 3.35 | 2.6 | $1 \times 2$ if |
| 2145039 | ZM－9 | E9 | ． 85 | 4 | ． 65 | 1.4 | $1 / 2 \times 15$ |

MALLORY PHOTOGRAPHIC BATTERIES

|  |  |  |  |  | $\begin{array}{r} 149 \\ \hline .67 \\ .68 \\ .98 \\ \hline \end{array}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

CHKRLIDT BATTERIES
FOR RADIO AND ELECTRONICS

| Stock No． | Eveready Type | Burgess Equiv． | Each | Voltage | Wt． <br> Lbs． | Dimensions <br> L． $\mathbf{W}$ ． H ． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 218116 | 460K |  | 2.40 |  | ． 8 | Winklite w／Lamp |
| 214218 | 489 | $\times 150$ | 7.88 | 225 | 2.7 | $413 \times 2 \cdot 13^{1} \times 4,3{ }^{3 \prime}$ |
| 214219 | 491 | U，160 | 7.19 | 240 | ． 8 | $21 \times 15 \times 41 /{ }^{\prime \prime}$ |
| 214205 | 497 | U320 | 12.98 | 510 | 1.6 | $3 \times 14 \times 55 /{ }^{\prime \prime}$ |
| 214128 | 504 | Y 10 | 1.03 | 15 | ． 03 | 5／8 $\times 1 \times 13 / 8$ |
| 214195 | 531 |  | 1.27 | $41 / 2$ | ． 08 | For Polaroid |
| 21450 | 815 | 920 | ． 20 | 1.5 | ． 05 | Pen Cell Size |
| 21451 | 835 | ． 120 | ． 23 | $11 / 2$ | 1 | $\bigcirc$ Cell Size |
| 21 A52 | 850 | 220 | ． 23 | 11／2 | 2 | D Cell Size |
|  | RADIO－INSTRUMENT－ELECTRONIC EQUIPMENT |  |  |  |  |  |
| 218113 | W350 | Z30NX | 3.42 | 45 | $1 . U$ | $378 \times 18{ }^{2} \times 4.15$ |
| 218123 | W353 | $2 F$ | 1.33 | $11 / 2$ | ． 8 | $23 \times 13 / 6 \times 43_{2}$ |
| 21871 | 411 | U10 | 1.03 | 15 | ． 05 | 1 sex $5 / 8 \times 18$ |
| 21427 | 412 | U15 | 1.20 | 221／2 | ． 1 | $1 \frac{1}{15} \times 5 / 8 \times 2$ |
| 21869 | 413 | U20 | 1.34 | 30 | ． 1 | $13 \times 5 / 8 \times 2.8$ |
| 218138 | 415 | U30 | 1.88 | 45 | 1 | $1 \operatorname{trgx}^{5 / 8 \times 31 \%}$ |
| 218164 | 416 | U $\times 45$ | 2.23 | $671 / 2$ | ． 3 | $1 \pm \times 1 \times 31 / 2$ |
| 216165 | 417 | K10 | 1.71 | 15 | ． 1 | $11 \times 1 \times 31 / 2$ |
| 218104 | 420 | K15 | 2.02 | 221／2 | 2 | $17^{2} \times 8 \times 1{ }^{2}$ |
| 218110 | 425 P | $\times 15$ | 3.08 | $22^{1 / 2}$ | ． 3 | $18 \times 1 \frac{1}{31} \times 3.16$ |
| 218121 | 437 | $\times \times 50$ | 3.77 | 75 | ． 9 | 1 1，$x 14 \times 6$ 年 |
| 21417 | 455 | $\times 30$ | 2.29 | 45 | .5 | $2 \mathrm{x} \times 1 \times 34$ |
| 21867 | 457 | K45 | 2.91 | $671 / 2$ | 5 | $2+2 \times 13 / 8 \times 21 / 2$ |
| 21 A18 | 467 | $\times \times 45$ | 2.71 | $671 / 2$ | 8 | $274 \times 13 / 9 \times 3$. |
| 21826 | 477 | P45 | 2.71 | $671 / 2$ | ． 5 | $1818 \times 5 \frac{1}{10}$ |
| 218132 | 479 | P60 | 2.98 | $90^{\circ}$ | ． 7 | $1 \frac{1}{2} \times 1 \frac{1}{2} \times 71$ |
| 21419 | 482 | M30 | 2.98 | 45 | 2.0 | $34 \times 135 \times 51 / 2$ |
| 216143 | 484 | B30 | 3.77 | 45 | 3.1 | $31 / 2 \times 23 \times 5$ ， |
| 2 ¢A337 | 487 | D30 | 3.90 | 22．5． 45 | 6.5 | $51 / 8 \times 21_{4} \times 71 / 4$ |
| 21820 | 490 | N60 | 3.25 | 90 | 1.0 | $3 \mathrm{~S} \times 13 / 8 \times 318$ |
| 21 B68 | 493 | U200 | 9.75 | 300 | 1.2 | $24 \times 2 \times 3 \times$ |
| 21B145 | 505 | Y15 | 1.20 | 221／2 | ． 04 | $5 / 8 \times 5 \times 1$ 最 |
| $21 C 140$ | 506 | $Y 20$ | 2.53 | $30^{1 / 2}$ | ． 05 | 1 120 5／8x13 |
| 21893 | 703 | 532 | 1.54 | $41 / 2$ | ． 3 | $2{ }^{2} \times \times 3$ |
| 218153 | 713 | B5 | 2.71 | $71 / 2$ | ． 4 |  |
| 21870 | 717 | C5 | 1.30 | $71 / 2$ | ． 6 | $2{ }^{2} \times 14 \times 3$ |
| 21866 | 724 | 24 | 1.34 | 6 | 2 | $1 \frac{1}{32} \times 1=\frac{1}{2} \times 2 \frac{1}{2}$ |
| 218122 | 735 | 4 H | 1.06 | $11 / 2$ | 1.5 | $25 / 8 \times 25 / 8 \times 43 / 8$ |
| 214192 | 738 | 230 | 3.42 | 45 | 1.5 | $3 \times 2 \times 41 / 8$ |
| 21412 | 742 | 4 F | 1.23 | $11 / 2$ | 1.4 | $25 / 9 \times 214 \times 4$ |
| 21431 | 744 | F4P1 | 1.20 | 6 | 1.4 | $25 \times 25 / 93$ |
| 21415 | 746 | C3 | 2.67 | $41 / 2$ | 1.3 | $\text { 3 }\|x\|+x 4$ |
| 21891 | 750 | 422 | 1.30 | 31 | ． |  |
| 21892 | 751 | 432 | 2.02 | $41 / 2$ | ． 2 | $2 \times 4 \times 2$ |
| 218102 | 7625 | 5308 | 3.60 | 45 | 3.3 | $4 \frac{3}{17} \times 2 \times 5 \times 5$ |
| 21B100 | 763 | 4156 | 1.88 | 221／2 | ． 7 | $31 / 2 \times 2 \times 24$ |
| 21423 | 773 | 5540 | 2.40 | $71 \%$ | ． 6 | Scr．Term，GLead |
| 218101 | 778 | $51565 C$ | 5.45 | 221／2 | 1.5 | $41 / 8 \times 24 \times 3$ |
| 21 A9 | 781 | 5360 | 1.71 | $41 / 2$ | ． 4 | Scr，Term． |
| 21811 | 964 | 218 | ． 65 | $11 / 2$ | 6 | $131 \text { da. } \times 4$ |
| 21 A135 | 2356N | C6X | 2.40 | 9 | ． 7 | $21^{2} \times 13^{2} \times 6 \frac{1}{4}$ |

Everendy Nicket－Cadminm $1.25 \vee$ Rechargeable Batteries



 100

# CD，$=$ CORNELL－DUBILIER CAPACITORS 



WBR TUBULAR ELECTROLYTICS
All the characteristics of the Blue Beaver BR Series updated in smaller sue with Thermopiastic imsulation for more compact tircuitry in all single section wire leads on all single section，duals and triples have insulated leads with intg．stran．Roted $85^{\circ} \mathrm{C}$ ercept 500 V ．and higher $65^{\circ} \mathrm{C}$ ．Tolerance to $50 \mathrm{~V} .10 \% 10+150 \%$ ， 51 to $350 \mathrm{~V} .-10 \%$ to $+100 \%$ ． 351 V ．and over $-10 \%$ to $50 \%$ ．Can size shown

| Stock No． | ul | $\begin{aligned} & \text { WV } \\ & \text { DC } \end{aligned}$ | Sius | $\begin{aligned} & \text { 1-24 } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25 \\ & 49 \end{aligned}$ | $\begin{aligned} & 50- \\ & 89 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & 499 \end{aligned}$ | $\begin{aligned} & 500 \\ & 599 \end{aligned}$ | $\begin{gathered} 1000 \\ U_{p} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 A5218 | 3000 | 10 |  | S2．10 | S1．57 | \＄1．22 | 50.98 | 50.84 | \＄0．71 | S0．70 |
| 15 A5217 | 4000 | 10 | 婎1＂的＂ | 2.62 | 1.89 | 1.47 | 1.17 | 1.00 | ． 92 | 835 |
| 15 A5218 | 5000 | 10 | $3 \times 2{ }^{2}$ | 3.00 | 225 | 1.75 | 1.40 | 1.20 | 1.10 | 1.00 |
| 15A5605 | 100 | 16 |  | 69 | 52 | 40 | ． 32 | 28 | 25 | 23 |
| 1545606 | 500 | 18 |  | 1.08 | 81 | 63 | ． 51 | 43 | 40 | ． 35 |
| 15 A5807 | 1000 | 16 | 此挑的＂ | 1.38 | 1.07 | 83 | 67 | ． 51 | 63 | 48 |
| 15 A5 608 | 2000 | 16 | $3 \times 2{ }^{\text {2 }}$ | 1.68 | 1.26 | 97 | 78 | ． 67 | ． 82 | 58 |
| 15A5694 | 5000 | 16 | $1 \times 2{ }^{3} 0^{\prime \prime}$ | 3.27 | 2.45 | 1.91 | 1.53 | 1.30 | 1.20 | 1.09 |
| 15A5219 | 1000 | 16 |  | 6.19 | 3.89 | 3.03 | 2.42 | 2.08 | 1.91 | 1.73 |
| $15 A 5808$ | 10 | 25 | 1／4x $1_{2}{ }^{\prime \prime}$ | ． 67 | ． 43 | 33 | ． 27 | 23 | 21 | ． 19 |
| 15A5610 | 25 | 25 | ＂haxt＂ | ． 60 | ． 46 | ． 35 | ． 28 | 24 | 22 | 20 |
| 15 A5811 | 50 | 25 | ${ }^{3} \mathrm{~h} \times x^{3 / 4}{ }^{4}$ | 63 | 47 | 37 | 30 | 25 | 23 | ． 21 |
| 15 A5612 | 100 | 25 |  | 75 | 68 | ． 44 | ． 35 | 30 | 28 | ． 25 |
| 1545613 | 250 | 25 | 位1＇的＂ | 1.05 | 79 | 61 | 49 | ． 42 | 39 | ． 35 |
| 16 A5614 | 500 | 25 | $5 \times 170^{\prime \prime}$ | 1.41 | 1.06 | 82 | ． 66 | ． 57 | 62 | 47 |
| 15 A5E15 | 1000 | 25 | 鮕1＂和＂ | 2.37 | 1.78 | 1.38 | 1.11 | 95 | 87 | ． 79 |
| 15 A5616 | 2000 | 25 | 13\％21／2＂ | 2.91 | 2.18 | 1.70 | 1.36 | 1.17 | 1.07 | ． 97 |
| 15 A5228 | 100 | 35 | ＊）${ }^{\text {\％}}$ | ． 75 | ． 58 | ． 44 | ． 35 | ． 30 | ． 28 | ． 25 |
| 15 A5227 | 300 | 35 | 4x1＇A＂ | 1.02 | ． 79 | 61 | 49 | 42 | 39 | ． 35 |
| 15 A5228 | 500 | 35 | tox＇ho＂ | 1.44 | 1.08 | 84 | ． 67 | ． 58 | 63 | ． 48 |
| 16 A5228 | 1000 | 35 | 偻11／10＂ | 2.40 | 1.80 | 1.40 | 1.12 | 96 | ． 88 | 80 |
| $15 A 5230$ | 2000 | 35 | 1／2\％2り＂ | 3.21 | 2.40 | 1.87 | 1.49 | 1.28 | 1.18 | 1.07 |
| 15A5231 | 3000 | 35 | 1221／3＂ | 3.60 | 2.70 | 2.10 | 1.68 | 1.44 | 1.32 | 1.20 |
| 15A5232 | 5500 | 35 |  | 6.40 | 4.05 | 3.15 | 2.52 | 2.16 | 1.98 | 1.80 |
| 15 A5595 | 1 | 50 | NX1／2＂ | ． 51 | 38 | ． 30 | ． 24 | 21 | ． 19 | ． 17 |
| 1545596 | 5 | 50 | 30x／2＂ | ． 57 | 42 | ． 33 | ． 26 | ． 22 | ． 21 | ． 185 |
| 15 A5617 | 10 | 50 | 34x\％＂ | ． 57 | .42 | ． 33 | 27 | 23 | 21 | ． 19 |
| 15 A5618 | 25 | 50 | 73x4＂ | ． 80 | .44 | ． 35 | ． 28 | 24 | 22 | 20 |
| 15A5619 | 60 | 50 | ＊＊1＂ | ． 72 | ． 54 | ． 42 | ． 33 | 29 | ． 26 | 24 |
| 15A5620 | 100 | 50 |  | ． 78 | ． 59 | 46 | ． 37 | ． 31 | 29 | ． 26 |
| 1545621 | 150 | 50 |  | ． 87 | ． 65 | ． 51 | 41 | ． 35 | 32 | 29 |
| 1545822 | 250 | 50 | ＊$x^{\text {x }} 17$／8＂ | 1.05 | 83 | ． 64 | ． 61 | ． 44 | .41 | ． 37 |
| 15A5823 | 500 | 50 |  | 1.44 | 1.10 | ． 86 | ． 69 | 59 | ． 54 | ． 49 |
| 1545824 | 1000 | 50 | 7x2＂ | 2.49 | 1.84 | 1.44 | 1.15 | 98 | ． 90 | ． 82 |
| 15 A5625 | 2000 | 50 |  | 3.45 | 2.69 | 2.01 | 1.61 | 1.38 | 1.27 | 1.15 |
| 15 A5220 | 3000 | 50 |  | 3.90 | 2.92 | 2.28 | 1.82 | 1.58 | 1.43 | 1.30 |
| 15A5221 | 5000 | 50 | 130x3＊＊ | 5.05 | 4.38 | 3.41 | 2.73 | 2.34 | 2.15 | 1.95 |
| 15A5233 | 150 | 75 | 3\％11／4＂ | ． 96 | ． 71 | .65 | ． 44 | 38 | ． 35 | ． 315 |
| 15 A5234 | 500 | 75 | $3 \times 2{ }^{\text {² }}$ | 2.19 | 1.64 | 1.28 | 1.02 | 88 | ． 30 | ． 73 |
| 1515235 | 1000 | 75 | 1 $\times 2 \mathrm{~m}^{-}$ | 3.75 | 2.81 | 2.18 | 1.75 | 1.50 | 1.38 | 1.25 |
| 1545236 | 2000 | 75 | 13r29 $0^{*}$ | 5.25 | 3.93 | 3.06 | 2.45 | 2.10 | 1.93 | 1.75 |
| 15 A5222 | 400 | 100 | 1／2\％＂ | 1.80 | 1.35 | 1.05 | ． 84 | ． 72 | 66 | ． 60 |
| 1545223 | 600 | 100 | 182 $2^{\prime \prime}$ 他＂ | 2.70 | 2.01 | 1.54 | 1.25 | 1.07 | 99 | ． 895 |
| 15 A5224 | 1000 | 100 | $1 \times 4^{1} \mathrm{he} \mathrm{\prime}$ | 4.05 | 3.03 | 2.36 | 1.89 | 1.62 | 1.49 | 1.35 |
| 15 A5225 | 2000 | 100 | 13684 $\%^{\prime \prime}$ | 5.70 | 4.26 | 3.32 | 2.66 | 2.28 | 2.09 | 1.90 |
| 1545626 | 4 | 150 | ＂／mx＋4＂ | ． 57 | .43 | ． 33 | ． 27 | ． 23 | 21 | 19 |
| 15 A5627 | 8 | 150 | 34x\％ | ． 60 | ． 45 | ． 35 | 28 | ． 24 | ． 22 | 20 |
| 15A5S28 | 10 | 150 | 34\％3＂ | ． 63 | ． 45 | ． 36 | ． 29 | 25 | 23 | ． 205 |
| 1545597 | 16 | 150 | 3／x1＂ | 66 | 49 | 38 | ． 31 | ． 27 | 24 | 22 |
| 15 A5629 | 20 | 150 | 3＊11／4＂ | ． 86 | 50 | ． 38 | ． 31 | 27 | 24 | 22 |
| 15 A5630 | 30 | 150 | 7611／2＂ | ． 72 | ． 54 | ． 42 | ． 34 | ． 29 | 28 | 24 |
| 15 A5631 | 40 | 150 |  | ． 78 | ． 59 | ． 48 | ． 37 | ． 31 | ． 29 | ． 26 |
| 1545632 | 50 | 150 | $3 / \mathrm{x} 1^{7}$ 的＂ | 81 | 61 | ． 47 | ． 38 | ． 33 | ． 30 | ． 27 |
| 15 A5633 | 80 | 150 | 如吅的＂ | ． 90 | ． 68 | ． 53 | 42 | 36 | ． 33 | ． 30 |
| 15 A5834 | 100 | 150 |  | ． 99 | ． 74 | ． 58 | ． 48 | ． 40 | ． 36 | ． 33 |

CORNELL－DUBILIER DIPPED SILVERED MICAS


Rated 500 working volts DC．Temperature range $-55^{\circ}$ to +125 C． $5 \%$ tolerance except 5 pf is $\pm 1 / 2$ pf．
Size of CD15 from $.45 \times .36 \times .17$ to $.49 \times .42 \times .24^{\prime \prime}$

5 pecily Slock No． 15 M2122 and Capecity on Drders

| Cap．P． | mit．Type | 1.24 Ea ． | 25.99 Ea ． | 100.499 Ed ． | 500．999 E0． | $1000 \mathrm{UP}^{\text {d }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5{ }^{\circ}$ | CDISCDOSODO3 | \＄0．32 | 50.19 | 50.106 | \＄0．080 | \＄0．064 |
| 10 | CD15CD100103 | ． 32 | 19 | ． 106 | ． 085 | ．064 |
| 27 | C015E022003 | ． 26 | ． 15 | ．086 | ．065 | ． 055 |
| 33 | COI5ED330103 | ． 26 | ． 15 | ．086 | ． 065 | ． 052 |
| 39 | CO15ED390J03 | 26 | ． 15 | ． 086 | ． 065 | ． 052 |
| 47 | CO15ED470103 | ． 26 | 15 | ． 086 | ． 065 | ． 052 |
| 51 | CDIEED510103 | ． 26 | 15 | ． 086 | ． 065 | ． 052 |
| 56 68 | CO15ED560103 | ． 26 | 15 | ． 086 | ． 065 | 52 |
| 75 | CDISED750103 | ． 26 | 15 | ．086 | 065 | ．052 |
| 100 | CO15FD101303 |  | ． 15 | ． 088 | ． 066 | ． 053 |
| 150 | CDIFFDIS1，03 |  | 18 | ． 102 | ． 077 | ． 061 |
| 200 | C015F020103 | ． 35 | ． 21 | ．118 | ． 089 | 71 |
| 270 | CD15FO271．03 | ． 43 | 25 | ． 142 | ：107 | ． 085 |
| 300 | CDIF50301．03 | ． 45 | ． 6 | ． 150 | ． 13 | ． 090 |
| 360 | CDIF50361103 | ． 52 | ． 31 | ． 174 | 31 | 05 |
| 390 | CD15ED391103 | ． 55 | ． 32 | ． 182 | 137 |  |
| 30 | CD15FD431103 | ． 59 | ． 34 | ． 196 | 47 | 118 |
| 470 | C015PD471103 | ． 61 | ． 36 | ． 208 | 53 | 23 |
| 510 | CO15FOS 11103 | ． 66 | 39 | ． 220 | ． 67 | ． 132 |
| 560 | C019F0561．03 | 43 | ． 27 | ．152 | ． 177 | ． 085 |
| 680 | C019FO681， | 47 | ． 37 |  | 17 | 92 |
| 820 | CD19FD821103 | ． 51 | ． 30 | 170 | 128 | 102 |
| 910 | CD19FD911j03 | ． 55 | ． 32 | 184 | ． 138 | 11 |
| 1000 | COIFPD10203 | ． 60 | ． 35 | ． 200 | ． 150 |  |
| 1500 | C019F0152303 | 8 | ${ }_{58}^{48}$ | ． 272 | ． 204 | ． 163 |
| 2000 | Colspoz203 | 99 | 58 | ． 330 | ． 24 | 198 |
| 2400 | C019F024203 | 1.3 | ． 66 | ． 378 | ． 28 | 227 |
| 3000 | C019P030203 | 1．4 | 17 | ． 480 | ． 360 | 888 |
| 4300 | C0199043203 | 2.00 | 1.17 | ${ }^{.668}$ | ． 501 | 101 |
| 4700 | C019P042203 | 2.15 | ${ }^{1.28}$ | ． 718 | ． 539 | 431 |
| 5100 | CD19FD51203 | 2.36 | ． 38 | ． 788 | ． 779 | $4{ }^{43}$ |
| 10，000 | Co30FD103J03 | 3.11 | ． 82 | 1.038 | ． 779 | ． 623 |


| Stock Ne． | ut | $\begin{aligned} & \text { WV } \\ & \mathrm{DC} \end{aligned}$ | Size | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25 \\ & 49 \end{aligned}$ | $\begin{aligned} & 50- \\ & 99 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & 499 \end{aligned}$ | $\begin{aligned} & 500 \text { - } \\ & 999 \end{aligned}$ | $\begin{gathered} 1000 \\ U_{p} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1845635 | 150 | 150 | 3 $\times 11^{11}$ 右＂ | 1.08 | 81 | 83 | ． 50 | 43 | 40 | 36 |
| $15 A 5636$ | 200 | 150 | 3t2＂ | 1.32 | ． 99 | ． 17 | ． 62 | ． 53 | 49 | ． 44 |
| 15 A 5598 | 250 | 150 | 181140＂ | 1.65 | 124 | 96 | ． 71 | ． 66 | 61 | ． 55 |
| 1545637 | 300 | 150 | $1 \times 2^{3}$ ha $^{\circ}$ | 1.80 | 1.35 | 1.05 | 84 | ． 72 | ． 66 | ． 60 |
| 15 A5638 | ＋ | 250 | 12x11体＂ | ． 63 | ． 47 | ． 37 | 30 | 25 | 23 | 21 |
| 15A5639 | 8 | 250 | 4／81 $1^{1 / 4}$ | 72 | ． 53 | 41 | 33 | 28 | 28 | 235 |
| 15 A5640 | 12 | 250 |  | ． 75 | ． 56 | 4 | ． 35 | 30 | 28 | 25 |
| 1545641 | 20 | 250 |  | 84 | ． 63 | 49 | ． 39 | 34 | ． 31 | ． 28 |
| 1545642 | 30 | 250 |  | 90 | ． 68 | ． 53 | 42 | ． 36 | ． 33 | 30 |
| 15 A5643 | 40 | 250 | 5加11／4＂ | 93 | ． 13 | ． 67 | 46 | A0 | 36 | ． 33 |
| 15 A5644 | 50 | 250 |  | 1.08 | ． 81 | ． 63 | ． 51 | ． 43 | 40 | 36 |
| 15 A5645 | 100 | 250 | 7／x $2^{\prime \prime}$ | 1.29 | ． 97 | 75 | ． 50 | ． 52 | 47 | 43 |
| 1548646 | 225 | 250 | 1x21／0＂ | 2.10 | 1.58 | 123 | ． 98 | ． 84 | 77 | ． 70 |
| 15 A5647 | 2 | 450 | \％ 7 1／16＂ | ． 69 | ． 52 | 40 | ． 32 | 28 | 25 | 23 |
| 15A5648 | 4 | 450 |  | ． 12 | ． 54 | 42 | 34 | ． 29 | 27 | 24 |
| 15 A5649 | 8 | 450 | 3x11／8 ${ }^{\circ}$ | ． 78 | ． 59 | 46 | 37 | ． 31 | 29 | ． 26 |
| 15 A5650 | 10 | 450 | 36x1／10＂ | 78 | ． 59 | 45 | ． 37 | ． 31 | .29 | ． 28 |
| 16 A5591 | 16 | 450 | ＋6x190＂ | 90 | 68 | 63 | ． 42 | 36 | ． 33 | ． 30 |
| 15A5651 | 20 | 450 | 3 $\times 1{ }^{11} 100$ | 96 | ． 72 | 56 | 45 | ． 39 | 35 | 3.3 |
| 1545652 | 30 | 450 | 3x1＂的＂ | 1.05 | ． 79 | 61 | ． 49 | 42 | 39 | ． 35 |
| 15 A5653 | 40 | 450 | 1／22－ | 1.11 | ． 3 | 65 | ． 52 | 45 | 41 | ． 37 |
| 1545599 | 50 | 450 | 4x2\％＂ | 129 | 97 | 75 | ． 60 | ． 52 | 47 | 43 |
| 15 A5654 | 80 | 450 | $1 \times 2^{11 / 16 "}$ | 1.68 | 1.26 | 98 | 79 | ． 67 | 62 | 56 |
| 1545565 | 100 | 450 | $1 \times{ }^{31}$ \％$^{\prime \prime}$ | 1.98 | 1.49 | 1.16 | 93 | 79 | 73 | ． 66 |
| 15 A5686 | 180 | 450 |  | 2.85 | 2.14 | 1.65 | 1.33 | 1.14 | 1.05 | ． 95 |
| 1545567 | 225 | 450 | 13ヶ34＂ | 4.02 | 3.01 | 2.34 | 1.87 | 1.61 | 1.47 | 1.34 |
| 15 A5590 | 5 | 600 |  | ． 78 | ． 59 | 45 | 36 | ． 31 | 29 | 26 |
| 15 A5658 | 8 | 500 | \％$\times 1{ }^{1 / 4}$ | 82 | ． 61 | A7 | ． 38 | ． 33 | 30 | ． 27 |
| 1545600 | 18 | 500 | 3x111／90＂ | 93 | ． 70 | 54 | 44 | 37 | 34 | ． 31 |
| 1545593 | 20 | 500 | $3 \times 2$ | 95 | ． 74 | ． 58 | 46 | 40 | 36 | ． 37 |
| 1545559 | 30 | 500 |  | 1.05 | 82 | ． 65 | 52 | 44 | 41 | 37 |
| 1545502 | ${ }^{8}$ | 600 | $3^{3} / 4 \times 2^{1 / 4}$ | 1.68 | 1.26 | 98 | ． 79 | ． 67 | ． 62 | 56 |
| 15A5680 | 20 | 600 |  | 2.31 | 1.73 | 1.35 | 1.08 | 93 | 85 | 71 |
| 1545692 | 10 | 700 |  | 1.85 | 1.40 | 1.09 | ． 87 | 74 | 68 | 62 |
| 15 A5604 | 16 | 700 |  | 2.25 | 1.69 | 1.31 | 1.05 | 90 | 83 | 15 |

bero dual section－ 150 voit

| 5 tock No． | uf． | Size | 1.2 Eac | $\begin{array}{ll} 44 & 25-49 \\ \text { h } & \text { Each } \\ \hline \end{array}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{array}{r} 100 \cdot 24 \\ \text { Each } \end{array}$ | $\begin{array}{r} 9250-45 \\ \text { Each } \end{array}$ | $\begin{aligned} & 9500 . \\ & 999 \text { E. } \end{aligned}$ | $\begin{gathered} 1000 \\ \text { Un Ea } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T5A230 | 20－20 | 3／4x111／4＂ | \＄0．99 | \＄0．79 | \＄0．60 | \＄0．5．3 | \＄0．48 | \＄0．47 | \＄0．38 |
| 15A984 | 40.40 | 1／102 ${ }^{16}$ | 1.11 | ． 87 | ． 66 | ． 59 | ． 53 | ． 51 | ． 42 |
| 154401 | 50.30 | 3／182 | 1.17 | ．87 | ． 67 | ． 59 | ． 53 | ． 51 | ． 42 |
| 158551 | 80.50 | $1 \times 21 / 2$ | 1.38 | 1.02 | ． 78 | ． 70 | ． 62 | 60 | ． 50 |
| BARD OUAL 5ECTION－450 VOLT |  |  |  |  |  |  |  |  |  |
| 154209 | 8.8 | \％x11／60＂ | 1.02 | ． 91 | ． 69 | ． 62 | 55 | 53 | ． 44 |
| 154980 | 20－20 | 1×3 | 1.50 | 1.23 | ． 94 | ． 84 | ． 75 | ． 72 | ． 60 |
| 158434 | 40.40 | $1 \times 4 Y_{0}{ }^{\prime \prime}$ | 2.04 | 1.74 | 1.32 | 1.19 | 1.08 | 1.02 | ． 85 |
| BBRT TRIPLE SECTION－150 VOLT |  |  |  |  |  |  |  |  |  |
| T5A803 | 20－20－20 | 7x1154．＂ | 1.32 | 1.23 | ． 94 | ． 84 | ． 75 | ． 72 | ． 60 |
| 154613 | 40－20．20 | 1x140 | 1.41 | 1.30 | ． 99 | ． 88 | ． 79 | ． 76 | ． 63 |
| 154804 | 40－40－40 | 1×2\％＂ | 1.47 | 1.36 | 1.04 | ． 93 | ． 83 | ． 80 | ． 66 |
| 158546 | 80．40－20 | $1 \times 3{ }^{\prime \prime}$ | 1.65 | 1.40 | 1.08 | ． 97 | ． 86 | ． 83 | ． 69 |

## CORNELL DUBILIER RF

## INTERFERENCE FILTERS

tWO－TERMINAL SERIES FEED THRU－CASE CROUNDED Popular for quieting ignition，generator and regulator noises in mobile radio installations and for by－passing AC input to transmitting equipment．Type NFF－315D has flanged bulkhead mig．，Illustrated at far left；NFF－0558－1 has bracket mig．Average wt． 2 oz

| Stik．No． | Type | Mffd． | Amps． | Voltage | Dis． | Cength | Eseh |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 158988 | NFF－0558－1 | ． 5 | 40 | 50 V．DC | 1 | $1+4$ | \＄3．03 |
| 15B987 | NFF－315D | ． 1 | 20 | 600 V．DC | 118 | 14 | 2.16 |

Rated 500 working volts DC except $\dagger$ is 100 volts and＊is 300 volts．Temparature range is -550 to $+125^{\circ}$ C． $5 \%$ tolerance except＊which is $\pm 1 / 2$ of Size of CD6 is $.265 \times 135 \times 095$

| Cap．Pf． | Hfg．Type | 1－24 Es． | 25－99 Ea． | 100－499 Ea． | 500－899 E． | 1090 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3^{\circ}$ | CDSCD030003 | 50.75 | 50.44 | \＄0．250 | \＄0．188 | \＄0．150 |
| 5 | CD6CD050003 | ． 75 | ． 44 | ． 250 | ． 188 | .150 |
| $10^{\circ}$ | CD6CD100003 | ． 75 | .44 | ． 250 | ． 188 | ． 150 |
| 15 | CDECD 150103 | ． 74 | ． 43 | ． 246 | ． 185 | ． 148 |
| 18 | CDSCD180J03 | ． 74 | ． 43 | ． 246 | ． 185 | ． 148 |
| 22 | CD6CD220J03 | ． 51 | ． 30 | ． 170 | ． 128 | ． 102 |
| 33 | CD6ED330J03 | ． 56 | ． 33 | ． 186 | .140 | ． 112 |
| 39 | CO6ED390103 | ． 56 | ． 33 | ． 186 | ． 140 | .112 |
| 47 | CD6ED470103 | ． 56 | ． 33 | ． 186 | ． 140 | ． 112 |
| 56 | CD6ED560103 | ． 60 | ． 35 | ． 200 | ． 150 | ． 120 |
| 68 | CDEED680103 | ． 65 | ． 38 | ． 218 | ． 264 | ． 130 |
| $82^{\circ}$ | CDEEC820JO3 | ． 67 | ． 39 | ． 224 | ． 168 | ． 134 |
| $100^{\circ}$ | CD6FCl101103 | ． 67 | ． 39 | ． 224 | ． 168 | ． 134 |
| $120^{\circ}$ | CD6FCl21．03 | ． 69 | ． 40 | ． 230 | ． 173 | ． 138 |
| 150 | CD7FD151103 | ． 70 | 41 | ． 234 | ． 176 | ． 140 |
| 180 | CD7FD181103 | ． 73 | .43 | ． 244 | ． 183 | ． 146 |
| $200{ }^{\circ}$ | CD7FC201103 | ． 77 | ． 45 | ． 256 | H192 | ． 154 |
| $220{ }^{\circ}$ | CD7FC221 03 | ． 81 | ． 47 | ． 270 | ． 203 | ． 162 |
| $270{ }^{\circ}$＊ | CO7FC271103 | ． 89 | ． 52 | ． 296 | ． 222 | ． 178 |
| $300^{\circ}$＊ | CO7FC301503 | ． 92 | ． 54 | ． 306 | ． 230 | ． 184 |
| $330+$ | CD7FA331503 | 1.00 | ． 59 | ． 334 | ． 251 | ． 200 |
| $390 \%$ | CD7FA391103 | 1.05 | ． 61 | ． 350 | ． 263 | ． 210 |
| $470+$ | CD7FA471103 | 1.10 | ． 64 | ． 366 | ． 275 | ． 220 |
| $510 \%$ | CD7FA511103 | 1.15 | ． 67 | ． 384 | ． 288 | ． 230 |
| $560{ }^{\circ}$ | CD7FA561103 | 1.20 | ． 70 | ． 400 | ． 300 | ． 240 |
| $620{ }^{+}$ | CD7FAS21J03 | 1.25 | ． 73 | .416 | ． 312 | ． 250 |
| 8804 | CD7FA681103 | 1.50 | ． 88 | ． 500 | ． 375 | ． 300 |
| 8201 | CO7FA821．03 | 1.65 | ． 98 | ． 550 | ． 413 | ． 330 |
| 1000 ＋ | CD7FA102103 | 1.95 | 1.14 | ． 650 | ． 488 | ． 390 |
| $1500 \cdot$ | CD7FA152103 | 2.55 | 1.49 | ． 850 | ． 638 | ． 510 |

## CD，$=$ CORNELL－DUBILIER CAPACITORS

CORNELL－DUBILIER DMF MINIATURE DIPPED MYLAR CAPACITORS
Flat pressed mylar dielectric radial lead capacitor．Moisfura and humidity re


Ortier by Stock No．and Capacity
100 WVDC－Stock No． 151410

| uf | DNF No． | Size Inchas | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25-49 \\ & \text { Esch } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100.499 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 500.999 \\ \text { Esch } \end{gathered}$ | $\begin{aligned} & 1000 \\ & \text { Up Eo. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 015 | 1515 | $\mathrm{K}_{6} \times \mathrm{K}_{6} \times 3 / 4$ | \＄0．21 | \＄0．16 | \＄0．12 | \＄0．10 | \＄0．09 | \＄0．07 |
| ． 022 | 1522 | $3 \times 10 \times 3 /$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 033 | 1533 | $3 / 7 \times 118 \times 3 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 047 | 1547 | 7／2x ${ }^{10} 8 \times 1 / 4$ | ． 24 | ． 17 | ． 13 | ． 11 | ． 09 | ． 08 |
| ． 068 | 1568 | $1 / 6 \times 8 \times 1 / 4$ | ． 24 | ． 18 | ． 14 | ． 12 | ． 10 | ． 08 |
| ． 1 | 1 P 1 | K．$\times 1 / 0 \times 3 / 4$ | ． 27 | ． 20 | ． 16 | ． 13 | ． 11 | ． 09 |
| .15 | 1 PI 5 | $8 \times 11 / 4 \times 3 / 4$ | ． 33 | ． 25 | ． 19 | ． 16 | ． 14 | ． 11 |
| ． 22 | 1 P 22 | \％$\times 1 / 6 \times 3 / 4$ | ． 39 | ． 29 | ． 23 | ． 19 | ． 16 | ． 13 |
| ． 33 | 1P33 | \％10 $\times 1 / 12 \times 3 / 4$ | ． 45 | ． 32 | ． 25 | ． 22 | ． 18 | ． 14 |
| ． 47 | $1 \mathrm{P}^{4} 7$ | \％$\times 3 \times 11 /$ | ． 51 | ． 38 | ． 29 | ． 25 | ． 21 | ． 17 |
| ． 68 | 1P68 | 1／82 $\times 1 / 23 \times 11 / 6$ | ． 57 | ． 42 | ． 33 | ． 28 | ． 23 | ． 19 |
| 1.0 | 1W1 | $\mathrm{K}_{0} \times 1 \%_{0} \times 11 / 5$ | ． 75 | ． 57 | ． 44 | ． 38 | ． 31 | ． 25 |
| 200 WYOC－Stock No． 15 M 420 |  |  |  |  |  |  |  |  |
| ． 01 | 251 | \％ $16 \times 8 \times 1 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 015 | 2515 | 3／72 $\times 1 / 48 \times 3 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 022 | 2522 | $1 / 4 \times 3 \times 3 / 4$ | ． 21 | ． 16 | .12 | ． 10 | ． 09 | ． 07 |
| ． 033 | 2533 | $1 / 4 \times 1 / 4 \times 3 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 047 | 2547 | $1 / 4 \times 3 \times 1 / 4$ | ． 24 | .17 | ． 13 | ． 11 | ． 09 | ． 08 |
| ． 068 | 2568 |  | ． 24 | ． 18 | ． 14 | ． 12 | ． 10 | ． 08 |
| ． 15 | ${ }_{2} \mathrm{2P1}^{\text {P1 }}$ |  | .27 | ． 20 | ． 16 | ． 13 | ． 11 | ． 09 |
| ． 15 | 2P15 | \％$\times^{2 \%}{ }^{2} \times 1 / 4$ | ． 33 | ． 25 | ． 19 | ． 16 | ． 14 | ． 11 |
| ． 22 | 2P22 | $11 / 8 \times 1 / 38 \times 3 / 6$ | ． 39 | ． 29 | ． 23 | ． 19 | ． 16 | ． 13 |

1致芜 CORNELL－DUBILIER WMF WRAPPED MYLAR TUBULARS

WhF axlal lead，Mylar tubutar capacitor is Ideal where space is limited and require ments are demanding．Minimum size and maximum moisture resistance．Tolerance is $\pm 10 \%$ ．Dperating temperature range is -55 C to +125 C ．For temperature above 85 C ，derate voltage $10 \%$ at 100 C ，and $50 \%$ at 125 C ．

SPECIFY STOCK NUNBER ANO CAPACITY ON ALL OROERS

| ut | WMF No． | Size Inchas | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25-49 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 50.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100.499 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 500.999 \\ \text { Each } \end{gathered}$ | $1 U_{P}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 1 | 05P1 | ． $25 \times 1$／14 | \＄0，33 | \＄0．24 | 50.19 | \＄0．161 | 50.134 | \＄0．107 |
| 15 | 05 P 15 | ． $285 \times 1 \%$ | ． 33 | ． 25 | ． 19 | ． 165 | ． 138 | ． 110 |
| ． 22 | 05 P 22 | ． $33 \times 180$ | ． 36 | ． 26 | ． 21 | ． 174 | ． 145 | ． 116 |
| ． 27 | 05 P 27 | ． $39 \times 1$ 1／6 | ． 39 | ． 29 | ． 22 | ． 191 | ． 159 | ． 127 |
| ． 33 | 05P33 | ．$\times 1$ 1\％ | ． 42 | ． 31 | ． 24 | ． 207 | ． 173 | ． 138 |
| ． 47 | 05 P 47 | $.375 \times 1114$ | ． 51 | ． 38 | ． 30 | ． 254 | ． 211 | ． 169 |
| ． 68 | 05968 | $.49 \times 1 \%$ | ． 66 | ． 49 | ． 38 | ． 323 | ． 269 | ． 215 |
| 1.0 | 05W1 | $.5 \times 1 \%$ | ． 90 | ． 68 | ． 53 | ． 452 | ． 376 | ． 301 |
| 2.0 | 05W2 | ． $6 \times 1 \%$ | 1.50 | 1.12 | ． 87 | ． 747 | ． 623 | ． 498 |
| 3.0 | 05W3 | ． $73 \times 18$ | 2.10 | 1.57 | 1.22 | 1.05 | ． 873 | ． 698 |
| 4.0 | 05W4 | ． $76 \times 1 / 8$ | 2.49 | 1.86 | 1.44 | 1.24 | 1.03 | ． 824 |
| 5.0 | 05W5 | ． $85 \times 1 \%$ | 3.09 | 2.32 | 1.80 | 1.55 | 1.29 | 1.03 |

100 WVDC－Stock No． 15 M996

| ． 001 | 101 | ． $15 \times 1 / 2$ | $\$ 0.27$ | \＄0．20 | 80.15 | 50.131 | \＄0．109 | \＄0．087 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 0015 | 1015 | ． $15 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 0022 | 1022 | ． $15 \times 1$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | 087 |
| ． 0033 | 1033 | ． $15 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 0047 | 1047 | ． $15 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 0068 | 1063 | ． $17 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 01 | 151 | ． $2 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 015 | 1515 | ． $23 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 022 | 1522 | ． $27 \times 4$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 033 | 1533 | ． $3 \times \%$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 047 | 1547 | ． $26 \times 3 /$ | ． 27 | ． 21 | ． 16 | ． 137 | ． 114 | ． 091 |
| ． 068 | 1568 | ． $28 \times 3 /$ | ． 30 | ． 22 | ． 17 | ． 144 | ． 120 | ． 096 |
| ． 1 | 1P1 | ． $29 \times 3$ | ． 30 | ． 22 | ． 17 | ． 147 | ． 123 | ． 098 |
| ． 15 | 1 1P15 | ． $33 \times 1 / 8$ | ． 30 | ． 23 | ． 18 | ． 15 | ． 125 | ． 10 |
| ． 22 | 1 P 22 | ． $38 \times 1$ | ． 33 | ． 24 | ． 19 | ． 158 | ． 131 | ． 105 |
| ． 33 | 1 1P33 | ． $41 \times 11 / 4$ | ． 39 | ． 28 | ． 22 | ． 189 | ． 158 | ． 126 |
| ． 47 | 1 P 47 | ． $47 \times 11 / 4$ | 45 | ． 34 | ． 27 | ． 23 | ． 191 | ． 153 |
| 1.0 | 1W1 | ． $62 \times 11 / 2$ | ． 84 | ． 62 | ． 48 | ． 411 | .343 | ． 274 |
| 2.0 | 1W2 | ． $95 \times 13$ | 1.35 | 1.02 | ． 79 | ． 678 | ． 565 | ． 452 |


| ． 001 | 201 | ． $15 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | 087 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 0047 | 2047 | ． $17 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 01 | 251 | ． $23 \times 1 / 2$ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 022 | 2522 | ． $27 \times$ \％ | ． 27 | ． 20 | ． 15 | ． 131 | ． 109 | ． 087 |
| ． 047 | 2S47 | ． $32 \times 1 /$ | ． 27 | ． 21 | ． 16 | ． 137 | ． 114 | ． 091 |
| ． 1 | 2P1 | ． $41 \times 1 / 8$ | ． 36 | ． 26 | ． 20 | ． 174 | ． 145 | ． 116 |
| ． 22 | 2 P 22 | $.5 \times 1 \%$ | ． 39 | ． 29 | ． 23 | ． 195 | ． 163 | ． 13 |
| 47 | 2P47 | ． $6 \times 11 / 4$ | 51 | ． 38 | ． 29 | ． 251 | ． 209 | ． 167 |
| ． 68 | 2P68 | ． $65 \times 13$ | ． 60 | ． 44 | ． 34 | ． 294 | ． 245 | ． 196 |
| 1.0 | 2W1 | ． $75 \times 13 / 4$ | ． 84 | ． 62 | ． 48 | ． 411 | ． 343 | ． 274 |
| 2.0 | 2W2 | ． $98 \times 1 \%$ | 1.35 | 1.02 | ． 79 | ． 678 | ． 565 | ． 452 |


| ． 01 | 451 | ． $3 \times 8 / 8$ | ． 30 | ． 22 | ． 17 | ． 149 | ． 124 | ． 099 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 022 | 4 S22 | ． $32 \times 1 / 6$ | ． 30 | ． 22 | ． 17 | ． 149 | ． 124 | ． 099 |
| ． 047 | 4547 | ． $4 \times 7 /$ | ． 30 | ． 23 | ． 18 | ． 155 | ． 129 | ． 103 |
| ． 1 | 4 Pl | ． $46 \times 1$ | ． 33 | ． 25 | ． 20 | ． 168 | ． 140 | ． 112 |
| ． 22 | 4 P 22 | ． $56 \times 1$ \％ | ． 42 | ． 30 | ． 24 | ． 201 | ． 168 | ． 134 |
| ． 277 | 4 P 47 | ． $7 \times 18$ | ． 78 | ． 58 | ． 46 | ． 389 | ． 324 | 259 |
| 1.0 | 4W1 | ． $875 \times 2$ | 1.14 | ． 85 | ． 66 | ． 566 | ． 471 | 377 |
| 2.0 | 4W2 | $1.25 \times 21 / 4$ | 1.86 | 1.39 | 1.08 | ． 923 | ． 769 | ． 615 |


| 41 | $\begin{gathered} \mathrm{DNF} \\ \mathrm{No} . \end{gathered}$ | Size Inches | $\begin{aligned} & 1.24 \\ & \text { Esch } \end{aligned}$ | $25.49$ | $\begin{gathered} 50.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100.499 \\ \text { Each } \end{gathered}$ | $500.499$ Each | $\begin{aligned} & 1000 \\ & \text { Up Ea. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 33 | 2 P 33 | \％1／$\times^{23 / 42} \times 1 / 4$ | ． 45 | ． 32 | ． 25 | ． 22 | ． 18 | ． 14 |
| ． 47 | $2 \mathrm{P4} 7$ | $1 / 2 \times 1 / 8 \times 11 / 4$ | ． 51 | ． 38 | ． 29 | ． 25 | ． 21 | ． 17 |
| ． 68 | 2P68 | \％$\times_{1} \times 1 /{ }^{2} \times 11 / 4$ | ． 57 | .42 | ． 33 | ． 28 | ． 23 | .19 |
| 400 WVDC－Stock No．15M2279 |  |  |  |  |  |  |  |  |
| ． 0047 | 4047 |  | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 0068 | 4068 | K6x $\times 1 / 4$ | ． 21 | ． 16 | .12 | ． 10 | ． 09 | ． 07 |
| ． 01 | 451 | 7／3x $\times 1 / 2 \times 3 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 015 | 4515 | $1 / 6 \times 3 \times 3 / 6$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 022 | 4522 | $815 \times 18 \times 3 / 4$ | ． 21 | ． 16 | ． 12 | ． 10 | ． 09 | ． 07 |
| ． 033 | 4S33 | \％$\times 11 / 1 \times 3 / 4$ | ． 21 | ． 16 | .12 | ． 10 | ． 09 | ． 07 |
| ． 047 | 4547 |  | ． 24 | ． 17 | ． 14 | ． 12 | ． 10 | ． 08 |
| ． 068 | 4568 | $13 / 2 \times 38 \times 3 / 4$ | ． 27 | ． 19 | ． 15 | ． 13 | ． 11 | ． 09 |
| ． 1 | 4P1 | $1 / 2 \times 3 / 5 \times 1 / 4$ | ． 30 | ． 22 | ． 17 | ． 15 | ． 12 | ． 10 |
| ． 15 | 4P15 | $11 / 2 \times 118$ | ． 36 | ． 26 | ． 20 | ． 17 | ． 14 | ． 12 |
| ． 22 | 4 P 22 | $1 / 82 \times 1 / 8 \times 11 / 8$ | ． 39 | ． 29 | ． 23 | ． 19 | .16 | ． 13 |
| 600 WYDC－Stock No． 15 M 2280 |  |  |  |  |  |  |  |  |
|  |  | 760 $\times 1 / 4 \times 3 / 4$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 0015 | 6015 | K16 $\chi_{4} \times \frac{1}{4}$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 0022 | 6 D 22 | K6 X $\mathrm{K}_{6} \times 3 / 4$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 0033 | 6033 | \％$\times 2 \times 1 / 4$ | ． 21 | ． 16 | .13 | ． 10 | ． 09 | ． 07 |
| ． 0047 | 6047 | $318 \times 1 / 28 \times 1 / 4$ | ． 21 | ． 16 | .13 | ． 10 | ． 09 | .07 |
| ． 0068 | 6068 | 3，x $13 \times 1 / 4$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | .07 |
| ． 01 | 651 | \％${ }^{1} \times 130 \times 1 / 4$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 015 | 6515 | 吅 $\times^{21 / 20} \times 1 / 4$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 022 | 6522 | 不 $\times^{23} \times 8 \times 3$ | ． 21 | ． 16 | ． 13 | ． 10 | ． 09 | ． 07 |
| ． 033 | 6533 |  | ． 27 | ． 19 | ． 15 | ． 13 | ． 11 | ． 09 |
| ． 047 | 6547 | $1 / 20 \times 1 / 4 \times 3 / 4$ | ． 30 | ． 22 | ． 17 | ． 15 | .12 | ． 10 |
| ． 068 | 6568 | \％x \％$x^{1} 11 /$ | ． 33 | ． 25 | ． 19 | ． 16 | ． 14 | .11 |
| ． 1 | 6 Pl | 兂 $\times 1 / 18 \times 11 / 4$ | ． 39 | ． 28 | ． 22 | ． 19 | ． 16 | ． 13 |

CORNELL－DUBILIER DPMS DIPPED PAPER－MYLAR CAPACITORS
Combination paper－myiar in high－impset rock－hard dipped casing ai fords excelient protection against moisture and soldering iron contacts． Leads are straight．Operates from $-55^{\circ} \mathrm{C}$ ．to $+125^{\circ} \mathrm{C}$ ．st full， rated voltage．20AWG tinned copper leads

| uf | DPWS No． | D．X L． | lead Spacing | $\begin{aligned} & 1.24 \\ & \text { Esch } \end{aligned}$ | $\begin{aligned} & 25.49 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-499 \\ \text { Esch } \end{gathered}$ | $\begin{gathered} 500.999 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 1000 \\ & \text { Up Ea. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ． 01 | 451 | ． $390 \times .600$ | ． 530 | 50.18 | \＄0．14 | 50.11 | \＄0．10 | \＄0．08 | 50.05 |
| ． 02 | 452 | $.390 \times .855$ | ． 688 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 1 | 4 P 1 | $.520 \times 1.180$ | 1.00 | ． 27 | ． 20 | ． 16 | .13 | .11 | ． 0 |
| ． 22 | 4P22 | ． $620 \times 1.560$ | 1.375 | .36 | ． 26 | ． 21 | ． 18 | ． 15 | 12 |
| 25 | 4P25 | ． $650 \times 1.560$ | 1.375 | ． 42 | ． 32 | ． 25 | ． 21 | ． 18 | ． 14 |
| ． 47 | 4 P 47 | ． $850 \times 1.600$ | 1.375 | ． 60 | ． 44 | ． 34 | ． 29 | ． 24 | ． 19 |
| ． 5 | $4 \mathrm{P5}$ | ． $850 \times 1.600$ | 1.375 | ． 60 | .45 | ． 35 | ． 30 | ． 25 | ． 2 |

600 WVDC－Oider by Sth．Np．15M422 and uf．

| 001 | 601 | ． $340 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0015 | 6015 | ． $340 \times$ | ． 660 | ． 530 | ． 18 | .14 | ． 11 | ． 10 | ． 08 | ． 06 |
| 0020 | 6 D 2 | ． $340 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| 0022 | 6022 | ． $340 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| 0025 | 6025 | ． $340 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| 0030 | 603 | ． $370 \times$ | ． 660 | ． 530 | ． 18 | .14 | ． 11 | ． 10 | ． 08 | 06 |
| 0033 | 6033 | ． $370 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| 0039 | 6039 | ． $370 \times$ | ． 660 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 0047 | 6047 | ． $400 \times$ | ． 690 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ：06 |
| ． 0050 | 605 | ． $400 \times$ | ． 690 | ． 530 | －18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 0068 | 6068 | ． 430 X | ． 690 | ． 530 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 0082 | 6082 | ． $370 \times$ | ． 870 | ． 688 | ． 18 | .14 | ． 11 | －10 | ． 08 | ． 06 |
| ． 010 | 651 | ． $390 \times$ | ． 870 | ． 688 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 015 | 6 615 | ． $415 \times$ | ． 870 | ． 688 | ． 18 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 020 | 6 62 | ． $445 \times$ | ． 870 | ． 688 | ． 21 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 022 | 6522 | ． $470 \times$ | ． 870 | ． 688 | 21 | ． 14 | ． 11 | ． 10 | ． 08 | ． 06 |
| ． 025 | 6525 | ． $500 \times$ | ． 870 | ． 688 | ． 21 | ． 16 | .12 | ． 10 | ． 09 | ． 07 |
| ． 030 | 653 | ． $415 \times$ | 1.150 | 1.00 | ． 24 | ． 18 | ． 14 | ． 12 | ． 10 | ． 08 |
| ． 033 | 6533 | ． $430 \times$ | 1.150 | 1.00 | ． 24 | ． 18 | ． 14 | ． 12 | ． 10 | ． 08 |
| ． 039 | 6539 | ． $470 \times$ | 1.150 | 1.00 | ． 24 | ． 18 | ． 14 | ． 12 | .10 | ． 08 |
| ． 047 | 6547 | ． $490 \times$ | 1.150 | 1.00 | ． 27 | ． 20 | ． 16 | ． 13 | ． 11 | ． 09 |
| ． 050 | 655 | ． $490 \times$ | 1.150 | 1.00 | ． 27 | ． 20 | ． 16 | ． 13 | ． 11 | ． 09 |
| 1 | 6 P 1 | ． $640 \times$ | 1.300 | 1.125 | ． 36 | ． 26 | ． 20 | ． 17 | ． 14 | ． 11 |
| 15 | $6 \mathrm{6P15}$ | ． $650 \times$ | 1.560 | 1.375 | ． 42 | ． 31 | ． 24 | ． 20 | .17 | ． 18 |
| 25 | 6P25 | ． $830 \times$ | 1.560 | 1.375 | ． 57 | ． 42 | ． 33 | ． 28 | ． 23 | ． 19 |

1600 WVDC ．Order by Sth．No．15M2200 ind ut．

| 001 | 1601 | $.350 \times$ | .870 | .688 | .21 | .16 | .13 | .11 | .09 | .07 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0022 | 16022 | $.420 \times$ | .870 | .688 | .24 | .17 | .13 | .11 | .10 | .08 |
| 0033 | 16033 | $.480 \times$ | .870 | .688 | .24 | .18 | .14 | .12 | .10 | .08 |
| 005 | 1605 | $.565 \times$ | .870 | .688 | .27 | .19 | .15 | .13 | .11 | .09 |
| .0068 | 16068 | $.485 \times 1.180$ | 1.00 | .27 | .20 | .15 | .13 | .11 | .09 |  |
| 01 | $16 S 1$ | $.525 \times 1.180$ | 1.00 | .30 | .22 | .17 | .14 | .12 | .10 |  |
| 022 | 16522 | $.585 \times 1.600$ | 1.375 | .36 | .27 | .21 | .18 | .15 | .12 |  |
| .033 | 16533 | $.695 \times 1.600$ | 1.375 | .42 | .32 | .25 | .21 | .18 | .14 |  |
| .05 | $16 S 5$ | $.815 \times 1.600$ | 1.375 | .48 | .36 | .28 | .24 | .20 | .16 |  |


| 2000 WVOC－Drder ity Stk．No．15M2282 and uf． |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| .001 | 2001 | $.360 \times$ | .870 | .688 | .27 | .19 | .15 | .13 | .11 | .09 |
| .0015 | 20015 | $.395 \times$ | .875 | .688 | .27 | .19 | .15 | .13 | .11 | .09 |
| .0022 | 20022 | $.440 \times$ | .875 | . .688 | .30 | .22 | .17 | .15 | .12 | .10 |
| .0027 | 20027 | $.415 \times 1.187$ | 1.00 | .30 | .23 | .18 | .15 | .13 | .10 |  |
| .0039 | 20039 | $.465 \times 1.187$ | 1.00 | .33 | .25 | .19 | .17 | .14 | .11 |  |
| .0047 | 20047 | $.495 \times 1.187$ | 1.00 | .36 | .26 | .20 | .17 | .14 | .12 |  |
| .0056 | 20056 | $.560 \times 1.187$ | 1.00 | .36 | .26 | .21 | .18 | .15 | .12 |  |
| .012 | 20512 | $.600 \times 1.250$ | 1.125 | .48 | .35 | .27 | .23 | .19 | .16 |  |
| .022 | 20522 | $.585 \times 1.250$ | 1.125 | .54 | .39 | .31 | .26 | .22 | .18 |  |
| .025 | $20 S 25$ | $.595 \times 1.250$ | 1.125 | .57 | .42 | .32 | .28 | .23 | .19 |  |
| .027 | $20 S 27$ | $.625 \times 1.250$ | 1.125 | .60 | .44 | .34 | .29 | .24 | .20 |  |
| .036 | 20536 | $.700 \times 1.250$ | 1.125 | .66 | .50 | .39 | .33 | .28 | .22 |  |
| .039 | $20 S 39$ | $.735 \times 1.750$ | 1.562 | .69 | .52 | .40 | .35 | .29 | .23 |  |
| .047 | 20547 | $.785 \times 1.750$ | 1.562 | .72 | .54 | .42 | .36 | .30 | .24 |  |
| .050 | 20550 | $.800 \times 1.750$ | 1.562 | .75 | .55 | .43 | .37 | .31 | .25 |  |

# cos CORNELL-DUBILIER CAPACITORS 

## CORNELL-DUBILIER FAH COMPUTAMITE COMPUTER QUALITY CAPACITORS

Reliable long life Aluminum Electrolytic Capacitors for dower supply filtering, charge-distharge applications and others requiring high
Mfd $X$ volts per cubic inch. Shock and vibration resistant. Meets
iuminum constmuction. Stable capacitance vs temperature Tempers. ture range $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$. Tolerence of 3 to $50 \mathrm{OCV}-10+100 \%$, 51 to 350 ture range $-40{ }^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$. Tolerance of 3 to
$\mathrm{OCV}-10+75 \%, 351$ to $450 \mathrm{OCV}-10+50 \%$.

| Stt. No. | Wif. No. | Cep. <br> - | $\begin{aligned} & D C \\ & W V \end{aligned}$ | Sin. XL. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { 25-49 } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100 \mathrm{Up}_{\mathrm{p}} \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1515237 | FAH852-10 | 8,500 | 10 | $11 / 8 \times 21 / 8$ | \$2.40 | \$1.68 | 31.30 | \$1.15 |
| 1545238 | FAM1452-10 | 14,500 | 10 | $13 / 8 \times 31 / 8$ | 2.75 | 1.93 | 1.49 | 1.32 |
| 1545239 | FAH223-10 | 22,000 | 10 | $1 \% \times 4 \%$ | 3.15 | 2.21 | 1.70 | 1.51 |
| 15.5240 | FAH373.10 | 37,000 | 10 | $13 / 4 \times 41 /$ | 4.43 | 3.10 | 2.39 | 2.12 |
| 1545241 | FAH1353.10 | 135,000 | 10 | $3 \times 41 / 4$ | 12.03 | 8.42 | 6.49 | 5.77 |
| 15.5242 | FAH652-15 | 6,500 | 15 | 1\% $\times 21 /$ | 2.40 | 1.68 | 1.30 | 1.15 |
| 15.5243 | FAH113-15 | 11.000 | 15 | $1 \% \times 31 /$ | 2.75 | 1.93 | 1.49 | 1.32 |
| 1545244 | FAH173-15 | 17,000 | 15 | $11 / 841 / 3$ | 3.20 | 2.24 | 1.73 | 1.53 |
| 1545245 | FAH2852-15 | 28,500 | 15 | $13 / 4 \times 4$ | 4.43 | 3.10 | 2.39 | 2.12 |
| 1545246 | FAH4252-15 | 42,500 | 15 | $2 \times 41 \%$ | 5.40 | 3.78 | 2.92 | 2.59 |
| 1545247 | FAH603-15 | 60.000 | 15 | $2 \times 5 \%$ | 6.75 | 4.73 | 3.65 | 3.24 |
| 1545248 | FAH154-15 | 150,000 | 15 | $3 \times 5 \%$ | 15.45 | 10.82 | 8.34 | 7.41 |
| 1585249 | FAH372.25 | 3,700 | 25 | $11 / 8 \times 21 / 6$ | 2.33 | 1.63 | 1.26 | 1.12 |
| 1515250 | FAH602-25 | 6,000 | 25 | $1 \% \times 31 /$ | 2.75 | 1.93 | 1.49 | 1.32 |
| 1515251 | FAH952-25 | 9,500 | 25 | $11 / \times 4 \%$ | 3.20 | 2.24 | 1.73 | 1.53 |
| 15.5252 | FAH163.25 | 16.000 | 25 | 11/4×41\% | 4.30 | 3.01 | 232 | 2.06 |
| 15.5253 | FAH3452-25 | 34,000 | 25 | $2 \times 5 \%$ | 6.75 | 4.73 | 3.65 | 3.24 |
| 1545254 | FAH593-25 | 59,000 | 25 | $3 \times 41 \%$ | 12.03 | 8.42 | 6.49 | 5.77 |
| 1545255 | FAH492-30 | 4,900 | 30 | 1\% $\times 2 \%$ | 2.75 | 1.93 | 1.49 | 1.32 |
| 1545256 | FAH752.30 | 7.500 | 30 | $1 \% \times 41 \%$ | 3.20 | 2.24 | 1.73 | 1.53 |
| 1545257 | FAH1252-30 | 12,500 | 30 | $13 \times 4 \%$ | 4.30 | 3.01 | 2.32 | 2.06 |
| 1 14.5258 | FAH1752-30 | 17,500 | 30 | $2 \times 41$ | 5.28 | 3.69 | 2.85 | 2.53 |
| 1515259 | FAH663-30 | 66.000 | 30 | $3 \times 5 \%$ | 15.33 | 10.73 | 8.28 | 7.35 |
| 1545260 | FAH162.50 | 1,600 | 50 | $11 / 8 \times 21 / 6$ | 2.40 | 1.68 | 1.30 | 1.15 |
| 1545261 | FAH272.50 | 2.700 | 50 | $11 / 8 \times 31$ | 283 | 1.98 | 1.53 | 1.35 |
| 1545262 | FAH412.50 | 4,100 | 50 | $11 / 8 \times 41 / 8$ | 3.33 | 233 | 1.80 | 1.59 |
| 1545263 | FAH702.50 | 7,000 | 50 | $13 \times 4 \%$ | 4.43 | 3.10 | 2.39 | 2.12 |
| 1545264 | FAH942.50 | 9.400 | 50 | $2 \times 4 \%$ | 5.53 | 3.87 | 2.98 | 2.65 |
| 1545265 | FAH233-50 | 23,000 | 50 | $3 \times 4 \%$ | 12.03 | 8.42 | 6.49 | 5.77 |
| 1545266 | FAH501-200 | 500 | 200 | 1\% $\times 4 \%$ | 3.45 | 2.42 | 1.86 | 1.65 |
| 1545267 | FAH452-200 | 4.500 | 200 | $3 \times 5 \%$ | 15.95 | 11.17 | 8.61 | 7.65 |
| 1545268 | FAH651-350 | 650 | 350 | $2 \times 41 \%$ | 6.75 | 4.73 | 3.65 | 3.24 |
| 1545269 | FAH242-350 | 2.400 | 350 | $3 \times 5 \%$ | 15.95 | 11.17 | 8.61 | 7.65 |
| 1545270 | FAH181-450 | 180 | 450 | $13 \times 41 / 8$ | 3.70 | 2.59 | 2.00 | 1.77 |
| 15A5271 | FAH3250-450 | 325 | 450 | $13 \% \times 4 \%$ | 5.53 | 3.87 | 2.98 | 2.65 |
| 1545272 | FAH601.450 | 600 | 450 | $2 \times 5 \%$ | 7.60 | 5.32 | 4.11 | 3.65 |

PKM PAPER MYLAR TUBULARS
Combination djelectric strength of paper and mylar is superion o either paper or mylar alone. High impact resistant case ilso highly moisture and humidity resistant. Tolerance $\pm \mathbf{1 0 \%}$ temperature to $125^{\circ} \mathrm{C}$.
SPECIFY STOCX NUMBER AND CAPACITY ON ALL OROERS


ANTENNA ROTOR CAPACITORS
Wide range types cover all rotor capacitor needs. Inter-
mittent $A C$ voltage rated 50 V . $A C$.
No. 15A5092. CD ETZ 10002-1. 66 to 92 uf. 7/8" $\times 27 /$ n $^{\prime \prime}$ Each

## CORNELL-OUBILIER WIDE RANGE

## TWIST PRONG ELECTROLYTICS

Guaranteed electrical replacement for any capacity within the minimum to maximum ranges shown and any voltage equal to or lower than volt. age shown. Example: to replace 18 uf Gi. 150 V . use 15 A 2047.15 to 20 ut (a) 500 V . "Indicates $1^{\prime \prime}$ côn dla. All others $1 \% / 9$ da. Average shipg. wt. 8 ozs.

SINGLE SECTION

| Cap. 4 Min. Max: |  | Volts OC W. | Ltth. | Stk. No. | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 to | 20 | 500 | *11/2 | 1542047 | \$1.35 |
| 30 to | 40 | 500 | * 2 | 1542046 | 1.80 |
| 35 to | 50 | 450 | -2 | 1542045 | 1.65 |
| 60 to | 80 | 500 | 2 | 15月2044 | 2.40 |
| 60 to | 100 | 150 | 11/2 | 15.2035 | 1.38 |
| 60 to | 100 | 300 | ${ }^{*} 2$ | 15\$2042 | 1.80 |
| 100 to | 125 | 450 | $21 / 2$ | 1587518 | 2.55 |
| 100 to | 160 | 250 | -3 | 1542036 | 1.88 |
| 100 to | 160 | 250 | 21/2 | 15A7519 | 1.98 |
| 100 to | 160 | 350 | $21 / 2$ | 1542040 | 2.40 |
| 130 to | 175 | 150 | -13/4 | 15.7520 | 1.56 |
| 120 to | 200 | 150 | $11 / 2$ | 1587521 | 1.80 |
| 120 to | 200 | 150 | * 2 | 1582034 | 1.80 |
| 120 to | 200 | 300 | 2 | 15.2041 | 2.40 |
| 275 to | 350 | 350 | 31/2 | 1512038 | 3.99 |
| 240 to | 400 | 150 | 2 | 1517522 | 2.16 |
| 250 to | 500 | 50 | 2 | 1542033 | 1.80 |
| 300 to | 500 | 100 | - 3 | 15A7523 | 1.98 |
| 350 to | 750 | 25 | -11/2 | 15/2031 | 1.50 |
| 500 to | 1000 | 25 | 2 | 1512030 | 1.98 |
| 750 to | 1500 | 50 | 2 | 1512032 | 2.85 |
| 1500 to | 3000 | 25 | 2 | 1512028 | 2.67 |
| 1500 to | 3000 | 40 | 21/2 | 15.7524 | 3.48 |
| 2500 to | 5000 | 45 | 4 | 1547525 | 4.98 |

DUAL SECTION

| 710 | 10 | 500 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 to | 10 | 500 | \$13/4 | 15A2068 | \$1.56 |
| 1510 | 20 | 500 |  |  |  |
| 15 to | 20 | 500 | 2 | 1582067 | 1,98 |
| 20 to | 30 | 350 |  |  |  |
| 20 to | 30 | 350 | -2 | 13A7511 | 1.77 |
| 30 to | 40 | 250 |  |  |  |
| 3010 | 40 | 250 | -13/4 | 15A2059 | 1.71 |
| \%) to | 40 | 500 |  |  |  |
| 3010 | 40 | 500 | 2 | 1542066 | 2.58 |
| 30 to | 50 | 150 |  |  |  |
| 30 to | 50 | 150 | *11/2 | 15A.7500 | 1.59 |
| 30 to | 50 | 450 |  |  |  |
| 30 to | 50 | 450 | 21/2 | 15.20.65 | 2.49 |
| 4010 | 50 | 350 |  |  |  |
| 30 to | 40 | 350 | *21/2 | 15:2063 | 2.01 |


| Cap. ut Min. Max: |  | volts DC W. | Leth. | Stk. Mo. | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 60 to | 80 | 450 |  |  |  |
| 15 to | 20 | 450 | 21/2 | 1547512 | 2.49 |
| 60 to | 80 | 450 |  |  |  |
| $\frac{30}{60}$ to | 40 | 450 | 21/2 | 1547513 | 2.70 |
| 60 to 30 to | 80 50 | 500 500 | 3 | 152070 | 3.09 |
| 50 to | 80 | 300 |  |  |  |
| 50.10 |  | 300 | 2 | 15A2061 | 2.55 |
| 60 to | 80 | 500 |  |  |  |
| $\frac{60}{60}$ to | 80 | 500 | $31 / 2$ | 15 A7514 | 3.51 |
|  | 80 60 | $\begin{aligned} & 500 \\ & 250 \end{aligned}$ | $31 / 2$ | 15A7515 | 3.42 |
| 60 to 1 | 100 | 150 |  |  |  |
| 60 to 1 | 00 | 150 | -2 | 15 2056 | 1.83 |
| 70 ta 1 | 00 | 350 |  |  |  |
| 7010 | 00 | 350 | 3 | 1542062 | 3.51 |
| 120 10 2 | 00 | 300 |  |  |  |
| 60 to 1 | 00 | 300 | 3 | 1542060 | 3.60 |
| 100 to 2 |  | 150 |  |  |  |
| 100 to 2 |  | 150 | 2 | 1582055 | 2.40 |
| 120 to 2 | 00 | 250 |  |  |  |
| $\frac{12010}{} 2$ | 200 | 250 | 3 | 15 22058 | 3.60 |
| 250 to 5 | 500 | 25 |  |  |  |
| 250 to 500 | 00 | 25 | $\cdot 11 / 2$ | 15 A7509 | 2.22 |
|  |  |  | 11/2 15A2052 |  |  |
|  |  |  | 2.46 |
|  |  |  | $\cdot 3$ | $15 \times 7510$ | 2.08 |
| TRIPLE SECTION |  |  |  |  |  |
| $\begin{array}{llll}10 \text { to } & 15 & 450 \\ 10 & \text { to } & 15 & 450\end{array}$ |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 10 to | 15 | 450 | * $21 / 2$ | 15A2085 | \$2.04 |
| 15 to | 20 | 500 | $\cdot 3$ | $15 A 7516$ |  |
| 15 to | 20 | 500 |  |  | 2.40 |
| 15 to | 20 | 500 |  |  |  |
| 20 to | 30 | 350 | ${ }^{2}$ | 15 A7534 | 1.98 |
| 15 to | 20 | 350 |  |  |  |
| 7 to | 10 | 350 |  |  |  |
| 30 to | 40 | 500 |  |  |  |
| 20 to | 30 | 500 |  |  |  |
| 20 to | 30 | 500 | 3 | 1542093: | 3.15 |



## SPRAGUE CAPACITORS




Stk. No.
$15 A 5518$
$15 A 5519$
$15 A 5520$
$15 A 5521$ x 2.249 " .

No. 15A5561

TYPE 36D "POWERLYTIC" ELECTROLYTICS
Maximum capacitante in a given case size for space economy. Extremely
 Plastic outer tube.




## VERTICAL MOUNTING CLAMPS

rpe Dismeter 124 Ea 25.49 Ea 50.99 Es 100 Up En
TyPE
CMC. 22
CMC- 32
CMC- 40
CMC. 48 iameter
$1^{3 / 4}$
$2^{n}$
$2^{1 / 1 / 2 "}$
$3^{\prime \prime}$

| 1.24 Es | 25.49 Ea | 50.99 Ea | 100 Up Ea |
| :---: | :---: | :---: | :---: |
| $\$ 0.21$ | $\$ 0.39$ | $\$ 0.18$ | $\$ 0.16$ |
| .36 | .32 | .30 | .27 |
| .36 | .32 | .30 | .27 |
| .42 | .38 | .35 | .32 |

## TYPE 6000 EXTraLYtic aluminum electrolytic capacitors

Extended operating temperature range from - 55 C to +125 125 C . Improved Ox Oxide systems ons atching tect either 85 C or sasals: New Electrolyte makes the Type 6000 equivilent to or better than comparable foil Tantalum Capacitors. Lower cost and one third the weight of comparable foil Tantalums.




$$
\begin{aligned}
& 20 \text { WVDC © 85C OR } 15 \text { wVDC © 125C } \\
& \begin{array}{lllllllll}
1555465 & 60001076020 D 04 & 100 & 00 & 3.06 & 2.29 & 1.535 & 1.337 & .962 \\
1545465 & 6005
\end{array} \\
& \begin{array}{llllllllll}
15 A 5466 & 600002276020044 & 220 & \text { DG } & 5.98 & 4.48 & 2.995 & 2.31 .67 & 1.864 & 1.785 \\
15 A 5467 & 6000447020014 & 440 & \text { DL } & 6.58 & 4.93 & 3.295 & 2.877 & 2.064 & 1.892
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{llllllllll}
1545468 & 60004766030 \mathrm{KDA} & 47 & \mathrm{KD} & 3.06 & 2.29 & 1.535 & 1.337 & .962 & .885 \\
15 A 5469 & 600010760300 E 4 & 100 & \mathrm{DE} & 3.98 & 2.98 & 1.995 & 1.747 & 1.254 & 1.152
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{lllllllll}
15 A 5471 & 60003060040004 & 30 & \mathrm{KD} & 3.06 & 2.49 & 1.535 & 1.337 & 1.962 \\
15 A 571.885 \\
1545772 & 60000107600064 & 100 & \mathrm{DG} & 5.98 & 4.48 & 2.995 & 2.617 & 1.874 \\
1.722
\end{array} \\
& \begin{array}{llllllllll}
15 A 5472 & 600021760400 L 4 & 210 & \text { DL } & 6.58 & 4.93 & 3.295 & 2.877 & 2.864 & 1.829
\end{array}
\end{aligned}
$$

## PHOTOFLASH ELECTROLYTIC

Ultra-low leakage for either dry battery or AC operated power supplies film formation assures burnouts. Weighs only 11 ozs. Highly stable $21 / 2=$ dia. X 4 Kin


## TYPE 39D "POWERLYTIC"

 ELECTROLYTIC CAPACITORSHigh capacitance units in axial-tead tubular configuration. Furnished with outer insulating sieeve. Dperating temperatyra renge, -55 C to +85 C .
Siock
$15 A 555$
154555
15555
$15 A 555$
$15 A 5556$
$15 A 5557$

## TYPE AB MOTOR STARTING

## CAPACITORS

Molded phenolic cases protect against mols ture, dirt and grease. Humid atmosphere has no effect. Dual blade universal terminals for quick connect or solder connections. Sete serew connector adaptors, end caps and clip tyoo breckets listed below.

10 WVDC, 12 VDC 5URGE
(
Stoc
No
15
15
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15
15
15
15

Dperating temperatures $-30^{\circ} \mathrm{C}$. to $+65^{\circ} \mathrm{C}\left(-22^{\circ} \mathrm{F}\right.$ to $+149^{\circ} \mathrm{F}$. Each capacitor re places any value between minimum and maximum rating shown.
All are rated 125 VAC except * which are 250 VAC, 60 Hz .

| Stock No. | Mig. No. | -1 | Sira | $\begin{aligned} & 1.9 \\ & \text { Each } \end{aligned}$ | $10.24$ Each | 25 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1512412 | AB1207 | 53.64 | $17 \times 23 / 1$ | \$1.36 | \$1.02 | \$0.89 |
| $15 / 2413$ | AB1209 | 72.88 | $13 \times 23 \%{ }^{\circ}$ | 1.38 | -1.05 | . 90 |
| 15.2414 | AB1210 | 88.108 | $17 \times 23 \%$ | 1.40 | 1.07 | 91 |
| 15 A2415 | AB1213 | 108.130 | 170 $\times 23$ | 1.44 | 1.08 | 91 |
|  | AB1216 | 124-149 | 170 $\times 2 \times$. |  | 1.08 | 93 |
| 15 L 216 | AB1216 | 124-149 | $170 \times 23$ | 1.48 | 1.09 | 96 |
| 1512417 | AB1219 | 130-156 | 17402\%" | 1.54 | 1.17 | 1.00 |
| 1512418 | AB1222 | 145-175 | $171023{ }^{\prime \prime}$ | 1.66 | 1.25 | 1.07 |
| 15A2419 | AB1225 | 161-193 | 1\%63 \% ${ }^{\text {co }}$ | 1.72 | 1.30 | 1.12 |
| 1512420 | AB1228 | 189.227 | $130 \times 3 \%$ | 1.96 | 1:48 | 1.27 |
| 15 A2421 | AB1231 | 216-259 | 1\%, $\times 3$ \% | 2.10 | 1.58 | 1.36 |
| 1542422 | AB1237 | 243-292 | 11\% $\times 3 \%$ " | 2.28 | 1.73 | 1.49 |
| 15 A2423 | AB1240 | 270.324 | 11\% $\times 31 / 8$ | 2.46 | 1.87 | 1.60 |
| 1512424 | AB1242 | 324-388 | $112 \times 3$ \% ${ }^{\text {\% }}$ | 2.72 | 2.07 | 1.77 |
| 15 A2425 | AB1246 | 378.440 | 13\%40 $3^{3 / 4}$ | 2.92 | 2.22 | 1.90 |
| 15 A2426 | AB1252 | $430-516$ | $2 K_{0} \times 4 y_{8}^{\prime \prime}$ | 3.60 | 2.72 | 2.33 |
| 1542427 | AB1258 | 540-648 | 1\%6 $\times 43 / 8{ }^{\prime \prime}$ | 4.52 | 3.42 | 2.93 |
| 1542428 | AB2502 | - 25.30 | $170 \times 23 /{ }^{\prime \prime}$ | 2.42 | 1.83 | 1.57 |
| 15 A2429 | A82507 | - 53.64 | 1\%60 ${ }^{1} /{ }^{\prime \prime}$ | 3.06 | 2.40 | 2.06 |
| 1542430 | AB2509 | - 72.88 | 1\%143\%" | 3.58 | 2.74 | 2.39 |
| 1542431 | AB2516 | -124.149 | $2 \mathrm{y} \times 4{ }^{3}{ }^{\circ}$ | 4.68 | 3.55 | 3.04 |
| 15.2432 | AB2519 | -130-156 | 2K.14 4 \% | 5.00 | 3.78 | 3.24 |

[^6]

## SPRAGUE CAPACITORS

|  |  |  |  |  |  |  |  | 17 | -L | TIC | EC | OLY |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | mal | depe | dable | ll wel | ed const | uction hilands | or tranempers. | Stho No. | Mig. Ko. | uf | WYDC | Siz* | 1.24 | 25.49 | 50.99 | 100.249 | 250.499 | 500.10 |
|  |  |  |  |  | and | miature |  |  |  | With | 1505296 | TE. 1156 | 15 | 16 | BB | $\$ 0.57$ | \$0.39 | \$0.31 | \$0.233 | 50.194 | \$0.171 |
|  |  |  |  | to |  | ow leal |  |  |  | . With | 1545297 | TE. 1157 | 20 | 16 | B | . 57 | + 39 | . 31 | . 2333 | . 194 | .171 |
|  |  |  |  |  |  |  |  |  |  | 848 ${ }^{\prime \prime}$ | 1545298 | TE-1157.1 | 25 | 16 | 88 | . 57 | . 39 | . 31 | . 273 | 194 | . 171 |
| $\begin{aligned} & \text { Size Cod } \\ & \text { DC-. } 385 \end{aligned}$ | $\begin{aligned} & 8 \mathrm{BA}-260 \\ & 5 \times .848: D \end{aligned}$ | $00=$ | $35^{\circ} x^{\circ}$ | $73^{-26}$ | $\text { DF }-3$ | $35^{5} x^{C 8}$ | $86^{\prime \prime}$ | $\begin{aligned} & 723 . \\ & 1-.385 \end{aligned}$ | $1.322 \times$ |  | $15 A 5299$ $15 A 5300$ | TE. 1158 | 30 50 | 16 | CB | . 63 | . 44 | . 35 | . 263 | . 219 | . 193 |
| Stk. No. | Mfg. No. | ut | WYDC | Size | 1.24 | 25.49 | 50.99 | 100-249 | 250.499 | 500 Up | 1545301 1545302 | TE. 1162 | 100 | 16 | DC | . 84 | .58 .60 | . 46 | . 345 | . 288 | . 253 |
| 1512574 | TE. 1052.2 | 5 | 3 | BA | \$0.57 | \$0.39 | \$0.31 | \$0.233 | \$0.194 | \$0:171 | 15 15303 | TE.1164 | 200 | 16 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 |
| 15.5275 | TE. 1053 | 10 | 3 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 15304 | TE. 1164.5 | 250 | 16 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 |
| 1545276 | TE. 1055 | 25 | 3 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1585305 | TE. 1165.5 | 300 | 16 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| 1595277 | TE. 1058 | 50 | 3 | B8 | . 67 | . 39 | . 31 | . 233 | . 194 | . 171 | 1545306 | TE-1166 | 350 | 16 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| 15 ¢5278 | TE-1059.5 | 100 | 3 | CB | . 63 | . 44 | . 35 | . 263 | . 219 | . 193 | 15 A5307 | TE. 1200 | 1 | 25 | BA | . 57 | . 39 | . 31 | 233 | . 194 | 2171 |
| 1505279 | TE-1061 | 150 | 3 | CC | . 81 | . 55 | .44 | . 33 | . 275 | .242 | 15 \$5308 | TE. 1201 | 2 | 25 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 |
| $15 \wedge 5280$ | TE-1064 | 200 | 3 | CC | . 81 | . 55 | .44 | . 33 | . 275 | . 242 | 15 \$5309 | TE-1201.1 | 3 | 25 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | .171 |
| 15A5281 | TE. 1065 | 250 | 3 | CC | . 84 | . 58 | . 46 | . 345 | . 288 | . 253 | 1545310 | TE. 1202 | 5 | 25 | 8A | . 57 | . 39 | . 31 | 233 | . 194 | . 171 |
| 1585282 | TE-1068 | 500 | 3 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 | 1545311 | TE. 1204 | 10 | 25 | BB | . 57 | . 39 | . 31 | . 233 | .194 | . 171 |
| 1545283 | TE.1070.1 | 800 | 3 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 | 15 S5312 | TE. 1205 | 15 | 25 | BB | . 67 | . 39 | . 31 | . 233 | . 194 | . 171 |
| 15 A5284 | TE. 1080 | 1 | 6 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 ¢5313 | TE. 1206 | 20 | 25 | CB | . 63 | . 44 | . 35 | . 263 | . 219 | . 193 |
| 15 A 5285 | TE-1081 | 2 | 6 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5314 | TE. 1207 | 25 | 25 | C ${ }^{\text {c }}$ | . 63 | .44 | . 35 | . 263 | . 219 | . 193 |
| 15.5286 | TE. 1084 | 5 | 6 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5315 | TE. 1208 | 35 | 25 | CB | . 63 | . 44 | . 35 | . 263 | . 219 | .193 |
| $15 \times 5287$ | TE-1087 | 10 | 6 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1515316 | TE-1209 | 50 | 25 | CC | . 81 | . 55 | . 44 | . 33 | . 275 | 242 |
| 15A5288 | TE. 1090 | 20 | 6 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5317 | TE-1211 | 100 | 25 | DD | . 87 | . 60 | . 48 | . 36 | . 30 | . 264 |
| 1545289 | TE-1091 | 25 | 6 | BB | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5318 | TE. 1212 | 150 | 25 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 |
| 1585290 | TE. 1093 | 35 | 6 | B8 | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1545319 | TE. 1213 | 200 | 25 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| 1545291 | TE-1100 | 50 | 6 | BB | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 55320 | TE. 1300 | 1 | 50 | BA | . 57 | . 39 | . 31 | 233 | . 194 | . 171 |
| 1545292 | TE-1101.5 | 75 | 6 | C8 | . 63 | . 44 | .35 | . 263 | . 219 | . 193 | 15 A5321 | TE-1301 | 2 | 50 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 |
| 1545293 | TE-1102 | 100 | 6 | CC | . 81 | . 55 | .44 | . 33 | . 275 | . 242 | 15 A5322 | TE-1302 | 3 | 50 | BA | . 57 | . 39 | . 31 | . 233 | .194 | . 171 |
| 15 A5334 | TE-1104 | 200 | 6 | DC | . 84 | . 58 | . 46 | . 345 | . 288 | . 253 | 1545323 | TE. 1303 | 5 | 50 | BB | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 |
| 15A5335 | TE-1105 | 250 | 6 | DO | . 87 | . 60 | . 48 | . 36 | . 30 | . 264 | 15 . 5324 | TE. 1304 | 10 | 50 | CB | . 63 | .44 | . 35 | . 263 | . 219 | . 193 |
| 1595336 | TE-1106 | 300 | 6 | DF | . 87 | . 60 | . 48 | . 36 | . 30 | . 264 | 1585325 | TE. 1305 | 20 | 50 | CC | . 81 | . 55 | .44 | . 33 | . 275 | . 242 |
| 1545337 | TE-1107.5 | 500 | 6 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 | 15 A5326 | TE-1305.5 | 25 | 50 | CC | . 81 | . 55 | .44 | . 33 | 275 | . 242 |
| $15 A 5338$ | TE-1120 | 1 | 12 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5327 | TE-1306 | 35 | 50 | DC | . 84 | . 58 | .46 | . 345 | . 288 | . 253 |
| 15 A5339 | TE. 1121 | 2 | 12 | BA | . 57 | . 39 | . 31 | . 233 | .194 | . 171 | 15 A5328 | TE. 1307 | 50 | 50 | DD | . 87 | . 60 | . 48 | . 36 | . 30 | . 264 |
| 154.340 | TE-1122 | 3 | 12 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | .171 | 1545329 | TE-1309 | 100. | 50 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| 15 \$5341 | TE. 1127 | 5 | 12 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15.5330 | TE-1400 | 1 | 100 | 日 | . 63 | . 43 | . 34 | . 255 | . 213 | . 187 |
| $15 A 5342$ | TE-1128 | 10 | 12 | BA | . 67 | . 39 | . 31 | . 233 | . 194 | 771 | 15 A5331 | TE-1401 | 2 | 100 | BB | . 63 | . 44 | . 35 | . 263 | 219 | . 193 |
| 15 A5343 | TE. 1129 | 15 | 12 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1585332 | TE. 1404 | 5 | 100 | CC | . 81 | . 55 | .44 | . 33 | . 275 | . 242 |
| 15 A5344 | TE. 1131 | 25 | 12 | BB | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1545333 | TE. 1407 | 10 | 100 | DC | . 84 | . 58 | . 46 | . 345 | . 288 | . 253 |
| 15 15345 | TE. 1133 | 50 | 12 | CB | . 63 | . 44 | . 35 | . 263 | . 219 | . 193 | 1585354 | TE-1409 | 20 | 100 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 |
| 15 S5346 | TE. 1135 | 100 | 12 | CC | . 84 | . 58 | . 46 | . 345 | . 288 | . 253 | 1585355 | TE. 1410 | 25 | 100 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| -15A5347 | TE. 1137 | 200 | 12 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 | 1545356 | TE-1411 | 30 | 100 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |
| -1545348 | TE-1138 | 250 | 12 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 | 1505357 | TE-1500 | 1 | 150 | BA | . 63 | . 43 | 134 | . 255 | . 213 | . 187 |
| 1545349 | TE. 1139 | 290 | 12 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 | 15.9538 | TE. 1501 | 2 | 150 | 88 | . 63 | .44 | . 35 | . 263 | . 219 | . 193 |
| 15 15350 | TE-1140 | 390 | 12 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 | 1585359 | TE-1502 | 3 | 150 | CB | . 72 | . 49 | . 39 | . 293 | . 244 | . 215 |
| 1585351 | TE-1148 | 1 | 16 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15 A5360 | TE. 1503 | 4 | 150 | CC | . 81 | . 55 | . 44 | . 33 | . 275 | . 242 |
| 1585352 | TE. 1149 | 2 | 16 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1545361 | TE-1504 | 5 | 150 | CC | 181 | . 55 | . 44 | . 33 | 275 | . 242 |
| 1545353 | TE-1150 | 3 | 16 | 84 | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 1545362 | TE. 1507 | 10 | 150 | DD | . 87 | . 60 | . 48 | . 36 | 30 | . 264 |
| 1545294 | TE. 1152 | 5 | 16 | BA | . 57 | . 39 | . 31 | . 233 | . 194 | . 171 | 15.5363 | TE. 1508.1 | 15 | 150 | DF | . 90 | . 63 | . 50 | . 375 | . 313 | . 275 |
| 15 A5295 | TE. 1155 | 10 | 16 | BA | . 57 | . 39 | . 31 | . 233 | .194 | . 171 | 15 15364 | TE. 1509 | 20 | 150 | DH | . 96 | . 65 | . 52 | . 39 | . 325 | . 286 |



## SPRAGUE CAPACITORS





## SPRACUE

CERAMIC CAPACITORS
Small General Application Types for by-pass and
coupling use 1000 WVDC all coupling use 1000 WVDC all values below .025 mf .
.025 through .1 are 500 WVDC . Rated for $85^{\circ} \mathrm{C}$,

|  |  <br>  <br>  <br>  |
| :---: | :---: |
|  |  |
| $\begin{aligned} & \text { 노웅 } \\ & \text { in } \end{aligned}$ |  <br>  <br>  <br>  |
|  |  <br>  <br>  <br>  |
|  | 응ㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇㅇ응 <br>  |
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| 莤 |  |
|  |  <br>  <br>  <br>  |

SPRAGUE HYPERCON LOW VOLTAGE CERAMIC DISCS
Ulira minuture, ideal for by-pass and coupling in transistor circeitry where low power factor is required. Tolerance $+50,-20 \%$

| Stock No. | Sprague No. | , | WVDC | O. $\times$. | $\begin{aligned} & \text { Each } \\ & 1.99 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250 . \\ & 499 \end{aligned}$ | $\begin{aligned} & 500 . \\ & 999 \end{aligned}$ | 1,000 $U p$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15A2580 | HY340 | . 022 | 12 | $1 / 4 \times 5 / 32^{\prime \prime}$ | \$. 15 | . 086 | . 076 | . 057 | 038 |
| 15 A2581 | HY345 | . 033 | 12 | $5 / 16 \times 5 / 32^{\prime \prime}$ | . 15 | . 086 | . 076 | . 057 | . 038 |
| 15 A2582 | HY350 | . 047 | 12 | $3 / 8 \times 5 / 32^{\prime \prime}$ | . 15 | . 102 | . 09 | . 068 | . 045 |
| 1542583 | HY355 | . 068 | 12 | $3 / 8 \times 5 / 32^{\prime \prime}$ | . 15 | . 106 | . 094 | . 071 | . 047 |
| 1542584 | HY360 | . 1 | 12 | 7/16 ${ }^{\text {¢ }}$ (5/32" | . 18 | . 12 | . 106 | . 08 | 053 |
| 15A2585 | HY365 | .15 | 12 | $9 / 16 \times 5 / 32^{\prime \prime}$ | 24 | . 169 | . 15 | . 113 | . 075 |
| 1542586 | HY370 | 22 | 12 | $5 / 8 \times 5 / 32^{\prime \prime}$ | . 27 | . 189 | . 168 | . 126 | . 084 |
| $15 / 2587$ | HY375 | . 33 | 12 | $3 / 4 \times 5 / 32^{\prime \prime}$ | . 33 | . 248 | . 22 | . 165 | . 11 |
| 1542588 | HY380 | . 47 | 12 | 7/8 $\times 5 / 32^{\prime \prime}$ | . 45 | . 318 | . 282 | . 212 | 141 |
| $15 \wedge 2589$ | HY625 | . 022 | 16 | $1 / 4 \times 5 / 32^{\prime \prime}$ | . 15 | . 086 | . 076 | . 057 | . 038 |
| 15A2590 | HY630 | . 033 | 16 | $5 / 16 \times 5 / 32^{\prime \prime}$ | . 15 | . 086 | . 076 | . 057 | . 038 |
| 1542591 | HY635 | . 047 | 16 | $3 / 8 \times 5 / 32^{\prime \prime}$ | 15 | . 101 | 09 | . 068 | 045 |
| 15A2592 | HY640 | 068 | 16 | $7 / 16 \times 5 / 32^{\prime \prime}$ | 15 | . 113 | .10 | . 075 | . 05 |
| 1542593 | HY650 | 1 | 16 | $1 / 2 \times 5 / 32^{\prime \prime}$ | 15 | . 113 | . 10 | . 075 | . 05 |
| 15A2594 | HY665 | 15 | 16 | $5 / 8 \times 3 / 8^{\prime \prime}$ | . 24 | . 176 | . 156 | . 117 | . 078 |
| 15A2595 | HY670 | 22 | 16 | $11 / 16 \times 3 / 8^{\prime \prime}$ | . 27 | . 191 | . 17 | . 128 | . 085 |
| 1542596 | HV675 | 33 | 16 | $7 / 8 \times 3 / 8^{\prime \prime}$ | . 33 | 248 | 22 | . 165 | 11 |
| 1542597 | HY720 | . 015 | 25 | 1/4×5/32" | . 15 | 097 | . 086 | . 065 | 043 |
| 1542598 | HY725 | . 022 | 25 | $5 / 16 \times 5 / 32^{\prime \prime}$ | . 15 | 101 | 09 | . 068 | 045 |
| $15 \wedge 2599$ | HY730 | . 033 | 25 | $3 / 8 \times 5 / 32^{\prime \prime}$ | . 15 | . 108 | 096 | . 072 | . 048 |
| $15 A 2600$ | HY735 | . 047 | 25 | $7 / 16 \times 5 / 32^{\prime \prime}$ | . 18 | . 119 | . 106 | . 08 | 053 |
| 15A2601 | HY740 | . 068 | 25 | $1 / 2 \times 5 / 32^{\prime \prime}$ | 21 | . 144 | . 128 | . 096 | 064 |
| 1542602 | HY750 | . 1 | 25 | 19/32 $\times 3 / 8^{\prime \prime}$ | . 24 | . 162 | . 144 | . 108 | 072 |
| 1542603 | HY765 | 15 | 25 | $11 / 16 \times 3 / 8^{\prime \prime}$ | . 27 | . 194 | 172 | 129 | 086 |
| 15A2604 | HY770 | 22 | 25 | 7/8×3/8' | . 39 | . 293 | . 26 | 195 | 13 |



## CRL CAPACITORS



CENTRALAB TEMPERATURE COMPENSATING DISCS TYPE DTZ-NPO ZERO DRIFT WITH TEMPERATURE-500 WVDC

| Sttk. No. | pt. | $\begin{aligned} & \text { Sixe } \\ & \text { Dio. } \end{aligned}$ | $\begin{aligned} & 1.99 \\ & \text { Eoch } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { UP Ea. } \end{aligned}$ | 5tk. No. | f. | $\begin{aligned} & \text { Size } \\ & \text { Sio. } \end{aligned}$ | $\begin{aligned} & 1.99 \\ & \text { Eoch } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { UP EO. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 154768 | 1.5 | .320', | \$0.18 | \$0.14 | 158334 | 22 | .390", | 50.18 | 0.14 |
| $15 A 769$ $15 A 770$ | $\frac{2.2}{3}$ | .290", | . 18 | 14 | 158336 15837 153 | 33 | . 5900 ", | . 18 | ${ }^{14}$ |
| 15 1771 | 4.7 | .290" | 18 | .14 | 15 ¢338 | 68 | 590' | 18 | . 14 |
| A772 | 6.8 | .290" | 18 | 14 | 158339 | 100 | .590" | 18 |  |
| 158332 | 10 | .290"1 | 18 | 14 | 158379 | 220 | .719"' | 30 |  |
| 158333 | 15 | .290" | . 18 | 14 | 158380 | 270 | 719" | 30 | 24 |

## CENTRALAB CERAMIC TRIMMERS

Type 822. Precision adjustable gives smooth linear capacity change with rotation 500 WVOC rated Size $844 \times .656^{\prime \prime}$, mounting hole centers $.430^{\prime \prime}$ clear no. 4 screws

Sik. Na
1542565
$15 A 2566$
$15 A 2567$
$15 A 2568$
1542568 5 5A2570 822-

| Mfg . |  |  | 1-4 |  | 26. | 101. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | TYRe | Pld. | Each | 5-25 | 100 | 250 |
| 822.EZ | NPOO TC | 1.5107 | 51.14 | S. 95 | 5.90 | S. 76 |
| $822 \cdot 72$ | NPO 0 | 31012 | 1.14 | 95 | s0 | . 76 |
| 822 -AZ | NPOO $0^{\text {TC }}$ | 4.51025 | 1.14 | 95 | 90 | . 76 |
| 822.0 N | N650 | 2 to 6 | 1.14 | . 95 | 90 | . 76 |
| 822 -EN | N650 | 41030 | 1.14 | . 95 | 90 | 76 |
| 822-AN | N650 | 8 to 50 | 1.14 | . 95 | 90 | . 76 |

## CENTRALAB CERAMIC FEED-THRU CAPACITORS

## econt Type FT Type MFT

FT Fesd-thru, Efficient RF bypassing. Tolerance $20 \%$ for 1000 pf. and $+50-20 \%$ for 1500 f. 500 WVOC.

5tk. No. $\begin{array}{crr}\text { pf. } & 1.99 & 100 U_{p} \\ 1000 & \$ 0.75 & \$ 0.60 \\ 1500 & .75 & .60\end{array}$

MFY Feed-thru. $875^{\prime \prime}$ overall length, $.15^{\prime \prime}$ dio. Efticient low cost, solder flange mitg. For modern space saving circuit design. 500 volts DC.



CENTRALAB TRANSMITTING CERAMICS For high frequency cir- $\mathbf{5 t k}$. No. No. No. cap. Tomp.
cuits. Tolerance type 850
Sts. $\pm 10 \%$; $858 \pm 20 \%$. 156787\% 850SL 100 N750 $\begin{array}{lllll}\text { Al! hove 6-32 tapped } & 15 \AA 246 & 8505 & 100 & \mathrm{~N} 750\end{array}$
 5000 volts.

# © $\mathbf{0}$ MITE RHEOSTATS \& ADJUSTABLE RESISTORS 

## OHMITE POWER RHEOSTATS



Designed ta praduce permanently smooth. cose control. Construction is all ceramic and motal with proted, universal aclion mounted mefal-graphite brush. Mounting for panels up to
$1 / 8^{\prime \prime}$ panel Avarage shpg. wt. K ib Oider hnoh and Díal Piate from listing below. 'Silicone Coramic Coating.

MODEL "E" 121/2WATT
Dia. 7/8". Oepth $11 / 16^{\circ}$. Shaft $1 / 8^{*}, y_{1}=32$ bushing. Rated on melal panel Uses No 5151 knob and No. 5007 dial plate

| Sinch No. | Ohmite No. | Ohms | Man. Amps | 1-4 | Pricas Each 5-9 | 10.24 | 25-49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 148808 | $0: 01$ | 1 | 3.53 | S6 30 | S5.35 | S4.22 | S3.47 |
| 148809 | 0106 | 10 | 1.12 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148810 | 0107 | 15 | . 91 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148811 | 0108 | 25 | . 71 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148812 | 0110 | 50 | . 50 | 5.50 | 4.68 | 3.69 | 3.03 |
| 14BE13 | 0112 | 100 | 35 | 5.50 | 4.68 | 3.69 | 3.03 |
| $14 \mathrm{Ba14}$ | 0115 | 250 | . 22 | 5.50 | 4.68 | 3.69 | 3.03 |
| 14 BA 15 | 0117 | 500 | . 16 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148816 | 0119 | 1000 | . 11 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148817 | 0121 | 2500 | . 071 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148918 | 0123 | 5000. | 050 | 7.60 | 6.46 | 5.09 | 4.18 |
| 148819 | 4190 | $7500^{\circ}$ | 041 | 7.90 | 8.72 | 5.29 | 4.35 |
| 148820 | 4191 | $10000^{\circ}$ | . 035 | 7.90 | 6.72 | 5.29 | 4.35 |
| 148821 | 4193 | 15000* | . 029 | 8.60 | 7.31 | 5.76 | 4.73 |

MODEL "H" 25-WATT
0ia. 1-9/16". Depth. 1-3/8". Shaft $1 / 4^{\prime \prime} .3 / 8^{\prime \prime}-32$ hushing. Uses No. 5150 knob and No. 5000 dial plate

| Stoch No. | Ohmite No. | Ohms | Mas. Amps | 1-4 | Pricen Each 5.9 | 10.24 | 25-48 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 A 700 | 0140 | 1 | 5.0 | S6 30 | \$5.36 | S4.22 | \$3.47 |
| 14A701 | 0142 | 3 | 2.88 | 6,30 | 5.36 | 4.22 | 3.47 |
| 148773 | 0145 | 10 | 1.58 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148774 | 0147 | 25 | 1.00 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148775 | 0149 | 50 | . 707 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148776 | 0151 | 100 | . 500 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148771 | 0154 | 250 | 316 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148778 | 0156 | 500 | 222 | 5.50 | 4.68 | 3.69 | 3.03 |
| 148779 | 0158 | 1000 | . 155 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148780 | 0160 | 2500 | 100 | 6.30 | 5.36 | 4.22 | 3.47 |
| 148781 | 0162 | 5000 | . 070 | 7.10 | 6.04 | 4.76 | 3.91 |
| 148823 | 4201 | $10000^{\circ}$ | . 050 | 7.40 | 6.29 | 4.86 | 4.07 |
| 148824 | 4202 | $15000^{\circ}$ | . 041 | 7.90 | 6.72 | 5.29 | 4.35 |
| 148025 | 4203 | 20000 | . 035 | 8.40 | 7.14 | 5.63 | 4.62 |
| 148826 | 4204 | $25000^{*}$ | 032 | 9.20 | 7.82 | 6.16 | 5.06 |

MODEL "J" 50-WATT
Ola, 2-5/16". Oepth. 1-3/8". Shaft $1 / 4 / 2 / 8^{\prime \prime}-32$ bushing. Uses No. 5150 knob and No. 5000 dial plate.

| Stack No. | Ohmite No. | Ohms | Max. Amps | 1.4 | Price 5-9 | 10-24 | 25-49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14A702 | 0309 | 1 | 7.07 | S7.40 | S6.29 | \$4.96 | S4.07 |
| 144703 | 0311 | 4 | 3.53 | 740 | 6.29 | 4.96 | 4.07 |
| $14 A 1122$ | 0313 | 8 | 2.50 | 6.60 | 5.61 | 4.42 | 3.63 |
| 144711 | 0315 | 16 | 1.76 | 6.60 | 5.61 | 4.42 | 3.63 |
| $14 A 704$ | 0317 | 35 | 1.19 | 6.60 | 5.61 | 4.42 | 3.63 |
| 14 A 712 | 0318 | 50 | 1.00 | 6.60 | 5.61 | 4.42 | 3.63 |
| $14 A 705$ | 0319 | 80 | . 79 | 6.60 | 5.61 | 4.42 | 3.63 |
| 14 A 708 | 0321 | 150 | . 575 | 8.60 | 5.61 | 442 | 3.63 |
| 14 A 707 | 0323 | 300 | . 408 | 6.60 | 5.61 | 4.42 | 3.53 |
| 148782 | 0324 | 500 | . 318 | 6.60 | 5.61 | 4.42 | 3.63 |
| 148784 | 0328 | 1000 | . 224 | 7.00 | 5.95 | 4.69 | 3.85 |
| 148785 | 0328 | 2500 | . 141 | 7.00 | 5.95 | 4.69 | 3.85 |
| 148786 | 0330 | 5000 | . 100 | 7.40 | 6.29 | 4.96 | 4.07 |
| 148787 | 0332 | 10000 | 070 | 7.40 | 6.29 | 4.96 | 4.07 |
| 14 C 719 | 4210 | 15000 . | . 058 | 8.40 | 7.14 | 5.63 | 4.62 |
| 14 C 720 | 4211 | 20000. | . 050 | 9.40 | 7.99 | 6.30 | 5.17 |
| 14.721 | 4212 | $25000^{*}$ | 045 | 10.40 | 8.84 | 6.97 | 5.72 |
| 14 C 724 | 4215 | $50000^{*}$ | . 032 | 14.70 | 12.50 | 9.85 | 8.09 |

MDDEL "K" 100-WATT


| Stech No. | Ohmite No. | Ohnts | Max. <br> Amps | 14 | Prices Each $5 \cdot 9$ | 10-24 | 25-49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14A960 | 0441 | 1 | 10.00 | \$10.60 | S9.01 | \$7.10 | \$5.83 |
| 14A951 | 0444 | 5 | 4.47 | 10:60 | 9.01 | 7.10 | 5.83 |
| 144962 | 6446 | 10 | 3.16 | 10.60 | 9.01 | 7.10 | 5.83 |
| 14A963 | 0448 | 25 | 2.00 | 9.70 | 8.25 | 6.50 | 5.34 |
| 14 A964 | 0449 | 50 | 1.41 | 9.70 | 8.25 | 6.50 | 5.34 |
| 14 A965 | 0451 | 100 | 1.00 | 9.70 | 8.25 | 6.50 | 5.34 |
| 14A986 | 0452 | 200 | 707 | 9.70 | 8.25 | 6.50 | 5.34 |
| 14 A967 | 0453 | 300 | 575 | 9.70 | 8.25 | 6.51 | 5.34 |
| '14A968 | 0455 | 500 | 447 | 9.70 | 8.25 | 6.51 | 5.34 |
| 14A969 | 0457 | 1000 | . 316 | 10.60 | 9.01 | 7.11 | 5.83 |
| 144970 | 0459 | 2000 | 224 | 10.60 | 9.01 | 7.10 | 5.83 |
| 14A1309 | 0461 | 5000 | . 141 | 13.10 | 13.14 | 8.78 | 7.21 |
| 14 A1310 | 0463 | 10.000 | . 100 | 14.90 | 12.57 | 9.98 | 8.20 |

KNDBS AND DIAL PLATES

| Sth. No. | Type | 1-9 Ea. | 10-49 Ea. | 50 up Ea |
| :---: | :---: | :---: | :---: | :---: |
| 12 A 2399 | 8151 Knob | $33^{\text {c }}$ | 28 | $21^{*}$ |
| 1242397 | 6150 Knoh | $33^{5}$ | $20^{\circ}$ | $21{ }^{\circ}$ |
| 12AB12 | 5007 Plate | 33. | $28^{\circ}$ | $21^{\prime}$ |
| 12 AB73 | 5000 Plate | $33^{*}$ | 28 | $21{ }^{1}$ |



12-WATT Oividohm. Specily Sth. No. 14 M5019 and Resistance whan ordariag

| Value | 1.9 EA . | 10-49 | 50.99 | 100-249 | 250-489 | 500-Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 to 1000 Ohms | \$1.50 | S1.28 | \$1.05 | S .83 | 5.68 | \$.63 |
| 1500 to 50000 hms | 1.55 | 1.32 | 1.09 | 85 | 70 | . 65 |
| 7500 to 100000 hm | 1.70 | 1.45 | 119 | 94 | 77 |  | 7500 to $10,0000 \mathrm{hms}$

25-WATT Oividohm, Spacify Sth. No. 14 An 5020 and Rasistanca when ordaring-

| 11010000 hms | 1.65 | 1.40 | 1.16 | .91 | .74 | .69 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 15001050000 hms | 1.70 | 1.45 | 1.19 | .94 | .77 | .71 |
| 75001010.0000 hms | 1.80 | 1.53 | 1.26 | .99 | .81 | .76 |
| 15.0000 hms | 1.90 | 1.62 | 1.33 | 1.05 | .86 | .80 |
| 25.0000 hms | 2.05 | 1.74 | 1.44 | 1.13 | .92 | .86 |


| 50-WATT Oividohm. Value | Sth No. 1-9 EA. | 10-49 | orderin $50-99$ | 100 up |
| :---: | :---: | :---: | :---: | :---: |
| 10 hm | 2.80 | 2.38 | 1.86 | 1.54 |
| 2101000 Onms | 2.20 | 1.81 | 1.54 | 1.21 |
| 15001050000 hms | 2.25 | 1.91 | 1.58 | 1.24 |
| 7500 to 10,000 Ohms | 2.30 | 1.96 | 1.61 | 1.27 |
| 15.0000 hms | 2.40 | 2.04 | 1.68 | 1.32 |
| 25.0000 hms | 2.70 | 2.30 | 1.89 | 1.49 |
| 50,000 Ohms | 2.90 | 2.47 | 2.03 | 1.60 |
| 100,000 Ohms | 3.45 | 2.93 | 2.42 | 1.90 |


| 1 to 30 mms | 3.60 | 3.06 | 2.52 | 1.98 |
| :---: | :---: | :---: | :---: | :---: |
| 5 to 1000 Ohms | 2.80 | 2.38 | 1.96 | 1.54 |
| 1500 to 50000 hms | 2.85 | 2.42 | 2.00 | 1.57 |
| 10.000 Ohms | 3.05 | 2.59 | 2.14 | 1.68 |
| 15.000 to 20.0000 hms | 3.20 | 2.72 | 2.24 | 1.76 |
| 25.000 Onms | 3.55 | 3.02 | 2.49 | 1.95 |
| 50.0000 mms | 3.65 | 3.10 | 2.56 | 2.01 |
| 100.000 Ohms | 4.35 | 3.70 | 3.05 | 2.39 |
| 225-WATT Oividahm. Specily Stack No. 14N5023 and Resifistance when ordering |  |  |  |  |
| 1 to 50 hms | 6.00 | 5.10 | 4.20 | 3.30 |
| 10 to 1000 ahms | 4.60 | 3.91 | 322 | 2.53 |
| 15001050000 hms | 4.70 | 4.00 | 3.29 | 2.59 |
| $10,0001020,0000 \mathrm{hms}$ | 4.95 | 4.21 | 3.47 | 2.12 |
| 25.000 Ohms | 5.30 | 4.51 | 3.71 | 2.92 |
| 50.000 Ohms | 5.50 | 4.68 | 3.85 | 3.03 |
| 100.0000 hms | 6.00 | 5.10 | 4.20 | 3.30 |


| Standard Adjustable Luge For Oividohms |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sth. No. | Ohmite Ne. | For | 1-9 E. | 10-49 En. | 50 up E. |
| 14A5024 | 2115 | 12 Watl Size | \$0 21 | S0.18 | \$0.15 |
| 14A5025 | 2121 | 25 and 50 Watt Size | 21 | . 18 | . 15 |
| 14 A 5026 | 2125 | 100 Walt Size | 21 | . 18 | . 15 |
| 14 A5027 | 2133 | 225 Warl Siza | . 32 | .27 | 22 |

# ©HMITE AND TRW RESISTORS 



## OHMITE 8-12-20 WATT

 TYPE 200 "BROWN DEVILS'Wire-wound units with wire leads for convenient mounting. Sturdy, vitroous enameled costing provides protection from humidity and mechanical damage. Tolerance $\pm 5 \%, 1$ ohm and higher. $\pm 10 \%$ values below 1 ohm.
Table of Stock Resistance Values and Ohmite Brown Oevil Numbers

| Ohms | 8 Watts $1^{\prime \prime} L x^{B} \wedge 5^{\prime \prime}$ " | $\begin{aligned} & 12 \text { Watss } \\ & 1 \frac{1}{4^{\prime \prime}} \mathrm{tx}^{5} \text { dg }^{\prime \prime} D \end{aligned}$ | 20 Watts $2^{\prime \prime \prime} 1 x^{1} 400$ | Ohms | $\begin{gathered} 8 \text { Watts } \\ 1^{\prime \prime L}-x^{5} \text { A } s^{* D D} \end{gathered}$ | 12 Watts <br>  | $\begin{aligned} & 20 \text { Watts } \\ & 2^{\prime \prime} \mathrm{E}^{\prime} \mathrm{m}^{*} \mathrm{D} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . 5 |  | 1700A | 1800 A | 100 | 1528 | 1732 | 1817 |
| 1 | 1500 | 1701 | 1802A | 750 | 1529 | 1733 | 1818 |
| 1.5 | 15008 | 1704 |  | 1000 | 1532 | 1736 | 1821 |
| 2 | 1501 | 1705 | 18028 | 1200 | 1534 | 1738 | 1822 |
| 3 | 1502 | 1706 | 1802C | 1250 | 1535 | 1739 | 1823 |
| 4 | 1503 | 1707 | 18020 | 1500 | 1536 | 1740 | 1824 |
| 5 | 1504 | 1708 | 1803 | 1750 | 1537 | 1741 | 1825 |
| 7.5 | \$505 | 1709 |  | 2000 | 1538 | 1742 | 1827 |
| 10 | 1506 | 1710 | 1804 | 2250 | 1539 | 1743 |  |
| 12 | 1507 | 1711 |  | 2500 | 1540 | 1744 | 1830 |
| 15 | 1508 | 1712 |  | 3000 | 1541 | 1745 | 1832 |
| 20 | 1509 | 1713 |  | 3500 | 1542 | 1746 | 1833 |
| 25 | 1510 | 1714 | 1805 | 4000 | 1543 | 1747 | 1834 |
| 30 | 1511 | 1715 |  | 4500 | 1544 | 1748 | 1835 |
| 35 | 1512 | 1716 |  | 5000 | 1545 | 1749 | 1836 |
| 40 | 1513 | 1717 |  | 6000 | 1546 | 1750 | 1837 |
| 50 | 1514 | 1718 | 1806 | 7000 | 1547 | 1751 |  |
| 75 | 1515 | 1719 | 1807 | 7500 | 1548 | 1752 | 1839 |
| 100 | 1516 | 1720 | 1808 | 8000 | 1549 | 1753 |  |
| 125 | 1517 | 1721 |  | 9000 | 1550 | 1754A |  |
| 150 | 1518 | 1722 | 1809 | 10.000 | 1551 | 1755 | 1841 |
| 200 | 1519 | 1723 | 1810 | 12.5 K | 1552 | 1758 | 1842 |
| 225 | 1520 | 1724 |  | 15 K | 1553 | 1761 | 1843 |
| 250 | 1521 | 1725 | 1811 | 20 K | 1555 | 1785 | 1844 |
| 300 | 1522 | 1726 | 1812 | 25 K | 1557 | 1767 | 1845 |
| 350 | 1523 | 1727 | 1813 | 30 K |  | 1768 | 1846 |
| 400 | 1524 | 1728 | 1814 | 50 K |  | 1772 | 1850 |
| 500 | 1526 | 1730 | 1815 | 100 K |  |  | 1860 |

OHMITE BROWN OEVIL PRICES
B-WATT - Specify Stoch No, 14M5012 and Resistance Value on Ordars.

| Value | $\begin{aligned} & \text { 1-9 } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 10.49 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-249 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 250-499 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 500 \text {-up } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1101000 ohtris | S .71 | \$ 60 | S . 50 | 5.39 | S . 32 | S . 30 |
| 1200 to 5000 ohms | . 76 | . 65 | . 53 | . 42 | . 34 | . 32 |
| 6000 to 10.000 ohms | . 87 | . 74 | 61 | . 48 | 39 | . 37 |
| 12.500 to 20.000 ohms | 1.05 | 89 | . 74 | . 58 | . 47 | 44 |
| 25.000 ohms | 1.10 | . 94 | . 77 | . 61 | . 50 | . 46 |
| 12-WATT-Spacriy Stock No. 14M5013 and Resistance Value on Orders. |  |  |  |  |  |  |
| .5 ohms | \$1.05 | S . 89 | S. 74 | S . 58 | S . 47 | S . 44 |
| 1101000 ohms | . 74 | . 63 | . 52 | . 41 | . 33 | . 32 |
| 1200 to 5000 ohms | . 79 | . 67 | . 55 | . 43 | 36 | . 33 |
| 6000 to 10.000 ohms | . 89 | . 76 | . 62 | . 49 | 40 | . 37 |
| 12.500 to 20.000 ohms | 1.05 | . 89 | . 74 | . 58 | . 47 | . 44 |
| 25.000 to 30.000 ohms | 1.10 | . 94 | . 71 | . 61 | . 50 | . 46 |
| 50.000 ohms | 1.20 | 1.02 | 84 | . 66 | . 54 | . 50 |
| 20-WATT-Specily Stock No. 14M5014 and Resistance Value an Orders |  |  |  |  |  |  |
| . 5 ohms | \$ 1.20 | \$1.02 | S 84 | S . 66 | \$ . 54 | S . 50 |
| 1 to 1000 ohms | . 87 | . 74 | . 61 | . 48 | .39 | . 37 |
| 1200 to 5000 ohms | . 89 | . 76 | . 62 | . 49 | . 40 | . 37 |
| 6000 to 10,000 ghms | 1.10 | . 94 | . 71 | . 61 | . 50 | . 46 |
| 12.500 In 20.000 ohms | 1.15 | . 98 | . 81 | . 63 | . 52 | . 48 |
| 25.000 to 30.000 shms. | 1.25 | 1.06 | 88 | . 69 | . 56 | . 53 |
| 50.000 ohms | 1.45 | 1.23 | 1.02 | 80 | . 65 | . 61 |
| 100.000 ohms | 2.00 | 1.70 | 1.40 | 1.10 | 90 | 84 |

WORKMAN FUSED RESISTORS
 Often needed replacement in series wired TV sets. 5 watt rating. Sth. No. Resistance $\$$ th. No. Resistarce Sth. No. Resistance $\begin{array}{llllll}14 A 5028 & 4.7 \text { Ohms } & 14 A 5031 & 6 \text { Ohms } & 14 A 5034 & 22 \text { Ohms } \\ 14 A 5029 & 5 \text { Ohms } & 14 A 5032 & 7.5 \text { Ohms } & 14 A 5035 & 47 \text { Ohms }\end{array}$ $\begin{array}{llll}14 A 5029 & 50 h m s & 14 A 5032 & 7.5 \text { Ohms } \\ 14 A 5030 & 5.60 \mathrm{hms} & 14 \AA 5043 & 9 \text { Ohms }\end{array}$
 No. 14A3038. Wit of 10 Assorted Fused Resistors In Handy Plastic Box, Contains: $6-7.5,2-4.7$, plus 1 each 5.6 and 9 ohm.

OHMITE OHMS LAW CALCULATORS
Pocket size slide rule with parallel resistance scale and standard slide rule scales $A, B, C, D$ on one side and Ohms Law Calculator with full instructions on ofther side.


TRW TYPE RC COMPOSITION RESISTORS

## FORMERIY IRC



EIA/MIL color coded. Conforms to MIL-R-11 specs. Formerly known as GBT and SR tyoes.
RC07 $1 / 4$-watt slocked in 2.7 ohms thru 22 Meg Size $1 / 4 \times y_{3}{ }^{\prime \prime}$ RC20 $1 / 2$.Watt stacked in 2.7 ohms thru 22 Meg. Size $2 \% x_{10} x^{\prime \prime}$ RC20 12-Watt stacked in 2.7 ohms thru 22 Meg. Size ${ }^{2}$. Watt stocked in 2.7 Oms thru 22 Meg . Sire RC42 2 Watt stocked in 10 ohms thru 22 Meg. Size " $10.10 \times / x^{\prime \prime}$ " Values may be assorted for quantity price if multiples of 10 of each value are ordered.
Specity Stit. Ne., Rasistance, Wattage and Tolerance on order.

| Stock No. | Type | Wattage | Tolerance | $\begin{gathered} 1.9 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 10.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100-499 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 000.999 \\ & \text { Each } \\ & \hline \end{aligned}$ | $\begin{aligned} & 1000- \\ & 2499 \end{aligned}$ | $\begin{aligned} & 2500 \\ & U_{p} \text { Ea. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14M5002 | RC07 | 1/4.Watt | 5\% | \$0.26 | \$0.10 | \$0.07 | \$0.06 | \$0.05 | \$0.044 |
| 14M5003 | RC07 | $1 / 4$ Watt | 10\% | . 13 | . 09 | . 06 | . 045 | . 035 | . 027 |
| 14M5004 | RC20 | 1/2-Watt | 5\% | . 24 | . 10 | . 07 | . 08 | . 05 | . 044 |
| 14M5005 | RC20 | 1/2.Watt | 10\% | . 12 | . 08 | . 05 | . 04 | . 03 | . 023 |
| 14 M 5006 | RC32 | 1-Watt | 5\% | . 38 | . 18 | . 10 | . 09 | . 08 | . 069 |
| 14M5007 | RC32 | 1-Watt | 10\% | 18 | . 10 | . 07 | . 035 | . 045 | . 036 |
| 141015008 | RC42 | 2-Watt | 5\% | 48 | . 27 | . 23 | . 20 | . 17 | . 16 |
| 14M5009 | RC42 | 2-Watt | 10\% | 24 | . 15 | . 13 | .11 | .10 | . 09 |

RC STANDARD STOCK VALUES
All resistances stocked in $5 \%$ Tolerance.
$10 \%$ Tolerance stocked anly in resistances ilstad in Bold Face.

| Ohms | Ohms | Ohms | Ohms | Ohms | Ohms | Mes | Meg | Meg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2.7 | 16 | 100 | 620 | 3900 | 24,000 | 0.1 | 0.62 | 3.9 |
| 3.0 | 18 | 110 | 680 | 4300 | 27,000 | 0.11 | 0.68 | 4.3 |
| 3.3 | 20 | 120 | 750 | 4700 | 30,000 | 0.12 | 0.75 | 4.7 |
| 3.6 | 22 | 130 | 820 | 5100 | 33,000 | 0.13 | 0.82 | 5.1 |
| 3.9 | 24 | 150 | 910 | 5600 | 36,000 | 0.15 | 0.91 | 5.8 |
| 4.3 | 27 | 160 | 1000 | 6200 | 39,000 | 0.16 | 1.00 | 6.2 |
| 4.7 | 30 | 180 | 1100 | 6800 | 43,000 | 0.18 | 1.1 | 8.8 |
| 5.1 | 33 | 200 | 1200 | 7500 | 47,000 | 0.20 | 1.2 | 7.5 |
| 5.6 | 36 | 220 | 1300 | 8200 | 51,000 | 0.22 | 1.3 | 8.2 |
| 6.2 | 39 | 240 | 1500 | 9100 | 56,000 | 0.24 | 1.9 | 9.1 |
| 6.8 | 43 | 270 | 1600 | 10,000 | 62,000 | 0.27 | 1.6 | 10.0 |
| 7.5 | 47 | 300 | 1800 | 11,000 | 88,000 | 0.30 | 1.8 | 11.0 |
| 8.2 | 51 | 330 | 2000 | 12,000 | 75,000 | 0.33 | 2.0 | 12.0 |
| 9.1 | 58 | 360 | 2200 | 13,000 | 82,000 | 0.36 | 2.2 | 13.0 |
| 10 | 62 | 390 | 2400 | 15,000 | 91,000 | 0.39 | 2.4 | 15.0 |
| 11 | 68 | 430 | 2700 | 16,000 |  | 0.43 | 2.7 | 16.0 |
| 12 | 75 | 470 | 3000 | 18,000 |  | 0.47 | 3.0 | 18.0 |
| 13 | 82 | 510 | 3300 | 20,000 |  | 0.51 | 3.3 | 20.0 |
| 15 | 91 | 560 | 3600 | 22,000 |  | 0.56 | 3.6 | 22.0 |

## TRW BWH MOLDED WIRE-WOUND RESISTORS

Exceptional stability, rellablity and long-term life characteristics of a wire-wound unit. Provides resistances not avallable in composition resistors. Rated $1 / 2$-watt a $137^{\circ} \mathrm{C}$ Amblent, 1 -watt (0) $115^{\circ} \mathrm{C}$ Ambient, and 2 watt (10 $70^{\circ} \mathrm{C}$ Amblent.
Size, $k_{6} \times 1 / \mathrm{Z}^{\prime \prime}$. EIA color coded. Wide first band distinguishes from composition resistors.
Specify Stk. No., Resistanca and Tolerance on order. Values may be assorted for quantity price if multiples of 10 of each value are ordered.


Quantity purchasers of 1000 or more of each value contact B-A for quotation.

| 0 hms | Ohms | Ohms | Ohms | Ohms | Ohms | Ohms | Ohms | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.10 | 0.33 | 1.0 | 3.3 | 10 | 33 | 100 | 330 | 1000 |
| 0.11 | 0.36 | 1.1 | 3.6 | 11 | 36 | 110 | 360 | 1100 |
| 0.12 | 0.39 | 1.2 | 3.9 | 12 | 39 | 120 | 390 | 1200 |
| 0.13 | 0.43 | 1.3 | 4.3 | 13 | 43 | 130 | 430 | 1300 |
| 0.15 | 0.47 | 1.5 | 4.7 | 15 | 47 | 150 | 470 | 1500 |
| 0.16 | 0.51 | 1.6 | 5.1 | 16 | 51 | 160 | 510 | 1600 |
| 0.18 | 0.56 | 1.8 | 5.6 | 18 | 56 | 180 | 560 | 1800 |
| 0.20 | 0.62 | 2.0 | 6.2 | 20 | 62 | 200 | 620 | 2000 |
| 0.22 | 0.68 | 2.2 | 6.8 | 22 | 68 | 220 | 680 | 2200 |
| 0.24 | 0.75 | 2.4 | 7.5 | 24 | 75 | 240 | 750 | 2400 |
| 0.27 | 0.82 | 2.7 | 8.2 | 27 | 82 | 270 | 820 |  |
| 0.30 | 0.91 | 3.0 | 9.1 | 30 | 91 | 300 | 910 |  |

## TRW RESISTOR ASSORTMENTS



Sturdy metal cabinets are FREE with any assortment. Designed for stocking. Four non-splli drawers and 28 compartments. Size: $5 \% \mathrm{k} \times 51 \mathrm{Kt} \times 10 \% \mathrm{~g}^{\prime \prime}$. Shpg. wt. 5 lbs .
No. 14A5018.7A Assortment. $150 \mathrm{y} / 4$-Watt. Range from 47 ohm thrs 1 meg. $\pm 10 \%$.
$\$ 19.50$
No. 14A5016.4A Assortment. $1501 / 2$-Watt. Range from 47 ohm thris 10 meg. $\pm 10 \%$
$\$ 18.00$
Each 14A5017.5A Asst. 125 1-Watt, Range from 47 ohm thru 4.7 meg. $\pm 10 \%$.



## COLOR CODE GUIDE

Here is one of the handiest Color Code Cuides for Resistors ever devised. Standard EIA range is automatically and accurately indicated.

25c

## DALE PRECISION WIREWOUND RESISTORS

A complete line of $1 \%$ precision power wrewound resistors designed for stability and dependability of perfommance under the most severe environmental conditions

Temperature coefficient is less than $\pm 20 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$ above 950 ohms, $\pm 30$ or $50 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$ between 1 and 950 hm and $\pm 90 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$ below $1 \mathrm{ohm} . \pm 1 \%$ tolerance. Ratings based on $275^{\circ} \mathrm{C}$ max. hotspot temp.

Chart is inlended as a gulde only, see QPL for MIL qualifications. Dale MIL Dale MIL Dale NIL OAfe MIL OAfo MIL Dale MIL RS-5 RW67 RS-1A RW70 RS-2B RW79 RH-5 RE60 RH-25 RE70 RH-100 RE77 $\begin{array}{lllllllllll}\text { RS-10 } & \text { RW68 } & \text { RS-5 } & \text { RW74 } & \text { G-3 } & \text { RW80 } & \text { RH-10 } & \text { RE65 } & \text { RH- } 50 & \text { RE75 } & \text { RH- } 250 \\ \text { RS-2C } & \text { RW69 } & \text { RS-10 } & \text { RW78 } & \text { G-1 } & \text { RW81 }\end{array}$

RS PRECISION WIREWOUND RESISTORS $\pm 1 \%$ TOLERANCE


B-A maintains complete stocks on RS1A from . 1 ohm to 10 K , RS2B from il ohm to 6.3 K and on RS5 from 1 ohm to 22 K . Others are spectal ordered for you from factory stocks. $\$ 15.00$ minimum item charge applies to special orders only, do not assort values of types for minimum charge.
RLS radial lead counter parts of RS types are available on special order. Call B-A Indus. trial Dept. Phone (816) 561.5460 for quatation.

G BERYLLIUM OXIDE CORE 1\% PRECISION WIREWOUND
G. 5 thru G. 15 G.1, G-2, G-3

SEE STANOARD RESISTANCE VALUES ABOVE
Specily Stock Number and Ohms on All Order

| Steck No. | Typs Watts Dimensions | $\begin{aligned} & \text { Max. } \\ & \text { Res. } \end{aligned}$ | Resistance ( 0 hms ) | $\begin{gathered} 1-24 \\ \text { Ea. } \end{gathered}$ | $\frac{25}{49}$ | $\begin{aligned} & 50- \\ & 99 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250 \\ & 495 \end{aligned}$ | $\begin{aligned} & 500 . \\ & 998 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $14 \mathrm{M5158}$ | G | 3.4K | . $1 \cdot .49$ | \$3.46 | \$2.70 | \$2.57 | \$2.37 | \$2.21 | 2.08 |
|  | . $25 \times .08$ |  | 5-. 99 | 2.66 | 2.08 | 1.98 | 1.82 | 1.70 | 1.60 |
| 14M5159 | G-2 $\quad 1.5 \mathrm{~W}$ | 4.9K | 1.0.1K | 1.78 | 1.48 | 1.39 | 1.29 | 1.18 | 1.07 |
|  | . $312 \times .08$ |  | 1.1K-5K* | 1.91 | 1.59 | 1.49 | 1.38 | 1.28 | 1.17 |
| 14M5160 | G-3 2.2W. | 10.4K | 5.1K-10K* | 2.07 | 1.73 | 1.61 | 1.49 | 1.39 | 1.27 |
|  | . $222 \times .093^{\circ}$ |  | 10,1K-20K* | 2.20 | 1.84 | 1.71 | 1.59 | 1.47 | 1.35 |
| 14M5161 |  | 24.5K | 20.1K-24.5K* | 2.34 | 1.95 | 1.11 | 1.68 | 1.56 | 1.43 |
|  | 562 |  | ABOVE PRICES APPLY TO |  |  | S | 6-1 THRU G-5 |  |  |
| T4M5162 | G.5A 4.5W | 42.1K | .1-.99 | 4.32 | 3.60 | 3.36 | 3.12 | 2.08 | 2.64 |
|  | $.81 \times .19^{\prime \prime}$ |  | 1.0.1K | 2.77 | 2.31 | 2.18 | 2.00 | 1.85 | 1.69 |
| 14N5163 | G-5C 5W. | 32.3K | 1.1K-5K | 2.88 | 2.40 | 2.24 | 2.08 | 1.82 | 1.76 |
|  | $5 \times .22^{\prime \prime}$ |  | 5.1K-10K | 2.99 | 2.49 | 2.32 | 2.16 | 1.99 | 1.83 |
| 14M5164 | G.6 6W. | 47.1K | 10.1K-20K | 3.13 | 2.61 | 2.44 | 2.26 | 2.09 | 1.91 |
|  | . $63 \times .25^{\prime \prime}$ |  | 20.1K-40K | 3.28 | 2.73 | 2.55 | 2.37 | 2.18 | 2.00 |
| 14M5165 | $\mathrm{G} 10^{7 W}$. | 95.2K | 40.1K-60K | 3.42 | 2.05 | 2.66 | 2.47 | 2.28 | 2.09 |
|  | . $87 \times .31^{\prime \prime}$ |  | 60.1K-75K | 3.59 | 2.89 | 2.79 | 2.59 | 2.38 | 2.18 |
|  |  |  | 75.1K-95.2K | 3.74 | 3.12 | 2.82 | 2.71 | 2.51 | 2.30 |
| ABOVE PRICES APPLY T0 TYPE5 6.5A THRU G.10 |  |  |  |  |  |  |  |  |  |
| 14M5168 | G-12 10W. |  | .1-.99 | 5.52 | 5.18 | 4.82 | 4.47 | 4.13 | 3.78 |
|  | $1.218 \times .312^{\prime \prime}$ |  | $1.0 \cdot 1 \mathrm{~K}$ | 3.84 | 3.60 | 3.36 | 3.12 | 2.88 | 2.64 |
|  |  |  | 1.1K-5K | 3.94 | 3.69 | 3.44 | 3.20 | 2.85 | 2.71 |
| Val | to 154 K |  | 5.1K-10K | 4.00 | 3.75 | 3.50 | 3.25 | 3.00 | 2.75 |
|  |  |  | 10.1K - 20K | 4.10 | 3.84 | 3.58 | 3.33 | 3.07 | 2.82 |
|  |  |  | 20.1K-30K | 4.19 | 3.93 | 3.67 | 3.41 | 3.14 | 2.88 |
| 14M5 67 | G-15 15W |  | 30.1K-50K | 4.33 | 4.05 | 3.78 | 3.51 | 3.24 | 2,87 |
|  | $1.780 \times .375^{\prime \prime}$ |  | 50.1K-75K | 4.46 | 4.17 | 3.89 | 3.61 | 3.34 | 3.06 |
|  |  |  | 75.1K - 100K | 4.55 | 4.26 | 3.98 | 3.69 | 3.41 | 3.12 |
| Values to 273 K |  | CALL B-A FOR PRICES ON VAL UES NOT LISTED |  |  |  |  |  |  |  |

G Resistors are special ordered from the factory for you. Minimum line item charge of $\$ 15.00$ applies, do not assort values or types for minimum
HG aluminum housed, chassis mount counterpart of type $\mathbf{G}$ is avallable from B-A. Call (816) 561.5460 for quotation.

NOTE: Space does not permit pricing out to maximum quantities in sill types.
Contact B-A for prices on larger quantities, as woll as for prices on Dale Products not listed in this catalos
standard resistance values for Precision Wirewound Resistors (Ohms)

| . 1 | 8 | 45 | 125 | 375 | 900 | 3K | 7.5K | 27.5K | 90K |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . 2 | 9 | 47 | 130 | 400 | 950 | 3.3K | 8K | .30K | 100K |
| . 25 | 10 | 50 | 150 | 425 | 1K | 3.5 K | 8.2 K | 35K | 110K |
| . 5 | 11 | 55 | 160 | 450 | 1.1K | 3.75 K | 9 K | 40K | 120K |
| . 75 | 12 | 60 | 170 | 470 | 1.2 K | 4K | 10K | 42K | 130K |
| 5 | 12.5 | 65 | 175 | 500 | 1.3K | . 4.2 K | 11K | 45K | 140K |
| 1.5 | 15 | 70 | 180 | 510 | 1.4 K | 4.3K | 12K | 47K | 150 K |
| 2 | 17.5 | 75 | 200 | 560 | 1.5K | 4.5K | 12.5K | 50K | 160K |
| 2.5 | 20 | 80 | 220 | 600 | 1.6 K | 4.7K | 13K | 55K | 170K |
| 3 | 22.5 | 85 | 225 | 620 | 1.75 K | 5K | 15K | 60K | 175K |
| 4 | 25 | 90 | 250 | 650 | 1.8 K | 6K | 17.5K | 65K | 200K |
| 5 | 27.5 | 100 | 270 | 700 | 2K | 6.2K | 18K | 70K |  |
| 6 | 30 | 110 | 300 | 750 | 2.1K | 6.3K | 20K | 75K |  |
| 7 | 35 | 115 | 330 | 800 | 2.2 K | 6.8K | 22K | 80K |  |
| 7.5 | 40 | 120 | 350 | 850 | 2.5K | 7K | 25K | 85K |  |

NS NON-INDUCTIVE COUNTERPART OF RS RESISTORS
SEE RS RESISTORS AT LEFT


NS Resistors are special ordered from tactory stocks for you. Minimum $\$ 15.00$ tine itern charge applies, no assortment of values or types for minimum charge.

RH ALUMINUM HOUSED 1\%
PRECISION WIREWOUND RESISTORS
SEE STANDARD RESISTANCE VALUES ABOVE
Specity Stock Number and Ohms on All Orders

| Stock No. | Type Watts Dimensions | Resistance (0hms) | $\begin{aligned} & 1.24 \\ & \text { Eesh } \end{aligned}$ | $\begin{aligned} & 25 . \\ & 49 \end{aligned}$ | $\begin{aligned} & 50 \\ & 99 \end{aligned}$ | $\begin{aligned} & 100 . \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & 499 \end{aligned}$ | $\begin{aligned} & 500- \\ & 999 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14M5126 | ${ }^{\text {© RH-5 }} 5 \mathrm{~F}$. | 1-. 49 | 2.69 | 2.43 | 2.21 | 2.03 | 1.89 | 1.80 |
|  | . $6 \times .334 \times .32^{\prime \prime}$ | . 5 - . 99 | 2.59 | 2.25 | 2.09 | 1.92 | 1.78 | 1.69 |
| *RH-5 Res. Range limits |  | 1.1K | 2.00 | 1.60 | 1.50 | 1.40 | 1.30 | 1.22 |
| . 1 ohm - 24.5K |  | $1.1 \mathrm{~K} \cdot 5 \mathrm{~K}$ | 2.10 | 1.68 | 1.58 | 1.47 | 1.36 | 1.32 |
|  |  | $5.1 \mathrm{~K} \cdot 10 \mathrm{~K}$ | 2.29 | 1.83 | 1.72 | 1.60 | 1.49 | 1.41 |
| 14 MF 047 |  | 10.1K-12K | 2.51 | 2.00 | 1.88 | 1.75 | 1.62 | 1.55 |
|  | RH-10 10W | 12.1K-15K | 2.73 | 2.18 | 2.05 | 1.92 | 1.77 | 1.68 |
|  | . $75 \times .42 \times .39^{\prime \prime}$ | 15.1K-25K* | 2.93 | 2.68 | 2.44 | 2.18 | 1.92 | 1.84 |
| Values below 1 ohm available Call B-A for prices |  | 25.1 K - 40 K * | 3.25 | 2.97 | 2.70 | 2.43 | 2.16 | 2.02 |
|  |  | 40.1K-47.1 ${ }^{\circ}$ | 3.57 | 3.26 | 2.96 | 2.71 | 2.36 | 2.22 |

ABOVE PRICES APPLY TO TYPES RH-5 AND RH-10

| 14W5048 RH-25 25W. | . 1 - . 49 | 2.83 | 2.59 | 2.38 | 2.18 | 2.05 | 1.96 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1.062 \times .55 \times .546^{\prime \prime}$ | . 5 -. 99 | 2.73 | 2.46 | 2.24 | 2.06 | 1.92 | 1.83 |
|  | 1-1K | 2.00 | 1.60 | 1.50 | 1.40 | 1.30 | 1.22 |
|  | 1.1K.5K | 2.10 | 1.68 | 1.58 | 1.47 | 1.36 | 1.32 |
|  | 5.1K.10K | 2.29 | 1.83 | 1.72 | 1.60 | 1.49 | 1.44 |
|  | 10.1K-12K | 2.51 | 2.00 | 1.88 | 1.75 | 1.82 | 1.55 |
| Values below 1 ohm available | 12.1K-15K | 2.73 | 2.18 | 2.05 | 1.92 | 1.77 | 1.68 |
| Call B-A for prices | 15.1K-25K | 2.93 | 2.68 | 2.44 | 2.18 | 1.92 | 1.84 |
|  | 25.1K - 40K | 3.25 | 2.17 | 2.70 | 2.43 | 2.18 | 2.02 |
|  | 40.1K - 50K | 3.57 | 3.26 | 2.96 | 2.71 | 2.36 | 2.22 |
|  | 50.1K-60K | 3.90 | 3.55 | 3.21 | 2.84 | 2.53 | 2.45 |
|  | 60.1K-75K | 4.24 | 3.85 | 3.47 | 3.09 | 2.78 | 2.70 |
|  | 75.1K-95.2K | 4.67 | 4.24 | 3.82 | 3.44 | 3.06 | 2.97 |
| 14M5129 RRH-50 50W. | . $010 \cdot .015$ | 3.02 | 2.77 | 2.54 | 2.38 | 2.23 | 2.14 |
| $1.96 \times .63 \times .61^{\prime \prime}$ | . $016 \cdot .035$ | 2.98 | 2.73 | 2.51 | 2.33 | 2.20 | 2.11 |
|  | . 036 - . 050 | 2.95 | $2 .{ }^{\text {d }}$ | 2.45 | 2,27 | 2.14 | 2.07 |
|  | . 051 -. 075 | 2.91 | 2.65 | 2.43 | 2.25 | 2.12 | 2.03 |
|  | . 076 -. 099 | 2.88 | 2.62 | 2.40 | 2.22 | 2.08 | 1.99 |
|  | . 1 -. 49 | 2.95 | 2.68 | 2.45 | 2.27 | -2.14 | 2.07 |
|  | . 5 - . 99 | 2.91 | 2.65 | 2.43 | 2.25 | 2.12 | 2.03 |
| Values to $\mathbf{2 7 3 K}$ available | I- 5.9 | 2.73 | 2.48 | 2.20 | 2.02 | 1.89 | 1.80 |
| Call B-a for prices | 6 -1K | 2.45 | 1.96 | 1.84 | 1.72 | 1.60 | 1.52 |
|  | 1.1K-5K | 2.56 | 2.08 | 1.94 | 1.80 | 1.67 | 1.58 |
|  | 5.1K-10K | 2.78 | 2.22 | 2.08 | 1.95 | 1.80 | 1.71 |
|  | 10.1K-20K | 3.08 | 2.48 | 2.31 | 2.16 | 1.99 | 1.88 |
|  | 20.1K-55K | 3.36 | 2.68 | 2.51 | 2.35 | 2.18 | 2.07 |
|  | 55.1K-75K | 3.65 | 2.92 | 2.73 | 2.85 | 2.36 | 2.29 |
|  | 75.1K-100K | 3.92 | 3.12 | 2.95 | 2.74 | 2.55 | 2.46 |
| 14M5130 RH. 100 100W. | .1-. 99 | 12.32 | 10.88 | 10.15 | 9.42 | 8.69 | 7.97 |
| $3.5 \times 1.812 \times 1.75^{\prime \prime}$ | 1.5 | 10.92 | 9.64 | 9.00 | 8.35 | 7.71 | 7.06 |
| *RH-100 Max. | 5.1 -50 | 10.68 | 9.43 | 8.79 | 8.16 | 7.54 | 6.91 |
| Res. 50 K | 50.1 - 1K | 9.88 | 8.71 | 8.13 | 7.55 | 6.97 | 6.39 |
| $14 \mathrm{MET31}$ RH-250 250 W. | 1.1K-10K | 10.53 | 9.30 | 8.67 | 8.05 | 7.44 | 6.81 |
| $4.5 \times 2.125 \times 2.188^{\prime \prime}$ | 10.1K-20K | 11.38 | 10.05 | 9.37 | 8.70 | 8.04 | 7.37 |
| Nott: Add $\$ 1.25 /$ Unt for | 20.1K-35K | 12.05 | 10.64 | 9.92 | 9.22 | 8.51 | 7.80 |
| RE77G \& RE80G Prices |  | 12.63 13.26 | 11.16 11.70 | $\begin{aligned} & 10.40 \\ & 10.92 \end{aligned}$ | 9.67 10.15 | 8.94 9.37 | 8.19 8.60 |
| ABOVE PRICE | APPLY T0 TYP | RH-10 | 0 鲳D | RH-25 |  |  |  |

8.A maintains complete stocks on RH10 trom. 1 ohm to 2K ohms, and on RH25 from 1 ohm to 2 K ohms. Others are special ordered for you from factory. $\$ 15.00$ line item minimum applies, do not assort types or values for minmum charge. Type NH, non-in-

## DALE. <br> PRECISION FILM \& WIREWOUND RESISTORS

## DALE BEYSCHLAG SUPERIOR QUALITY DEPOSITED CARBON 5\% RESISTORS

| Ohms | Ohm | Ohms | Ohm | Meg | Mog | Mog |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 47 | 330 | 2200 | 15,000 | 0.1 | 0.68 | 4.7 |
| 51 | 360 | 2400 | 16,000 | 0.11 | 0.75 | 5.1 |
| 56 | 3990 | 2700 | 18,000 | 0.12 | 0.82 | 5.6 |
| 62 | 430 | 3000 | 20,000 | 0.13 | 0.91 | 6.2 |
| 68 | 470 | 3300 | 22,000 | 0.15 | 1.00 | 6.8 |
| 75 | 510 | 3600 | 24,000 | 0.16 | 1.1 | 7.5 |
| 82 | 5600 | 3900 | 27.000 | 0.18 | 1.2 | 8.2 |
| 91 | 620 | 4300 | 30,000 | 0.20 | 1.3 | 9.1 |
| 100 | 680 | 4700 | 33,000 | 0.22 | 1.5 | 10.0 |
| 110 | 750 | 5100 | 36,000 | 0.24 | 1.6 | 11.0 |
| 120 | 8820 | 5600 | 39,000 | 0.27 | 1.8 | 12.0 |
| 130 | 910 | 6200 | 43,000 | 0.30 | 2.0 | 13.0 |
| 150 | 1000 | 6800 | 47.000 | 0.33 | 2.2 | 15.0 |
| 160 | 1100 | 7500 | 51,000 | 0.36 | 2.4 | 16.0 |
| 180 | 1200 | 8200 | 56,000 | 0.39 | 2.7 | 18.0 |
| 200 | 1300 | 9100 | 62,000 | 0.43 | 3.0 | 20.0 |
| 220 | 1500 | 10.000 | 68,000 | 0.47 | 3.3 | 22.0 |
| 240 | 1600 | 11.000 | 7,000 | 0.51 | 3.6 |  |
| 270 | 1800 | 12,000 | 82,000 | 0.56 | 3.9 |  |
| 300 | 2000 | 13,000 | 91,000 | 0.62 | 4.3 |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |


#### Abstract

The world's best semt-precision 5\% Deposited Carbon Resistors compettively priced with ordinary composition resistors. Feature superior load life. moisture resistance. ternperature coefficient, shop time overfoad stability, noise generation and resistance to soldering heat. exceeding MIL.R-11 requirements.


Wattage ratings are at $70^{\circ} \mathrm{C}$. Tape lead packed.

| Specily Stock Number and Resistance When Ordering |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. Type | Inches | Ranges | Each | 99 | 249 | 499 | 999 | Uo |
| 14M5200 SBA.14W | . $16 \times .063$ | 10 to 100K | \$.50 | \$.25 | \$.13 | \$.12 | \$. 10 | \$. 08 |
| 14 M 201 SBE-1/W | 25×.098 | 1 to 1 M | 24 | . 09 | . 055 | . 05 | . 04 | . 027 |
| 1445202 SBC.4W | . $35 \times 1.14$ | 1 to 1 M | 24 | . 09 | . 055 | . 05 | . 04 | . 025 |
| 14 M 5203 SBE. KW | . $47 \times .157$ | 1 to 10 M |  |  | - | - |  | . 035 |
| 14 M 5204 SBF-1W | . $554 \times .236$ | 4.7 to 22M |  |  | $\sim$ | - | 05 | . 04 |
| 14M5205 SBH.2W | 81×.354 | 10 to 22M | - | - | - | . 09 | . 075 | . 06 |

SBA, SEB, SBC Yalues are tocked and may be assorted if minimum of 10 of oach val. - an orderad. SBE, S8F and SBH ze special ordered from factory stocks in standard packages of 1000 SBE. 500 SBF or 250 SBH. Order SBE. SBF and SBH in multiples of these quantities only, and allow for detivery time. Contact B-A Industrial Deps. for
quotations on 5,000 or more.

## MF AND MFF PRECISION METAL FILM RESISTORS $\pm 1 \%$ TOLERANCE



MF, Epoxy molded, are QPL to MIL-R-10509F. MFF combines smalt size wihn fame retardant Epoxy coating. Temperature coefficient (T.C.) codes: T-0 (MIL Char. D) $\pm 150 \mathrm{PPM} /{ }^{\circ} \mathrm{C}, \mathrm{T} .1$ (MIL Char. D) $\pm 100 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$,
$\mathrm{T}-2$ (MIL Char. C) $\pm 50 \mathrm{PPM} /{ }^{\circ} \mathrm{C} . \mathrm{T} .9$ (MIL Char. E) $\pm 25^{\circ} \mathrm{PPM} /{ }^{\circ} \mathrm{C}$. Tem-T-2 (MIL Char. C) $\pm 50 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$
perature range $-65^{\circ} \mathrm{C}$ to $\pm 175^{\circ} \mathrm{C}$.

STANDARD 1\% FHLM RESISTANCE VALUES
All decade multiples of these values, within the catalog range shown for each resistor model, are Dale standard values. (Example: For an MF-1/4,

$200,20,200,2,000,20,000$ and 200000 are all decade multiples of | 2.00 |
| :--- |
| 2.00 |



For a guide only - check OPL At $70^{\circ} \mathrm{C}$, others rated $125^{\circ} \mathrm{C}$ B A maintains complete stocks on MF-1/10-T1, MF-1/8-T1, MFF-1/4-T1 and MFF-1/2.T1. These types may be ordered in any quantity and may be assorted or quantity prices if minimum of 10 of each value are or dered. Other sizes and types are special ordered from factory stocks for you and a minimum item charge of $\$ 15.00$ applies. For quotation on arger quantities call B.A Industrial Dept. Phone (816) 561-5460.

| Stock No. | Molded Type | Stock No. | Olpped тype | $\begin{aligned} & \text { T.C. } \\ & \text { Code } \end{aligned}$ | Resistance (Ohms) | $\begin{aligned} & 1-24 \\ & \text { Eech } \end{aligned}$ | $\begin{aligned} & 25- \\ & 99 \end{aligned}$ | $\begin{aligned} & 100 . \\ & 249 \end{aligned}$ | $\begin{aligned} & 250 . \\ & 499 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14M5055 | MF. 50 |  |  | T. 0 | 24.9 to 100K | \$1.49 | \$0.54 | \$0.30 | \$0.28 |
| 14 M 5056 | MF-50 |  |  | T. 1 | 499 to 100K | 1.49 | . 54 | . 30 | . 28 |
| 1445057 | MF. 50 |  |  | T-2 | 100 to 100 K | 2.09 | . 76 | 41 | . 37 |
| $14 \mathrm{M5058}$ | MF-50 |  |  | T-9 | 100 to 100 K | 4.60 | 1.67 | . 85 | . 80 |
| 14M5059 | MF-1/10 |  |  | T-0 | 10 to 301K | 1.05 | . 48 | 24 | 18 |
| $14 \times 5049$ | MF-1/10 |  |  | T-1 | 30.1 to 301K | 1.05 | 48 | 24 | . 18 |
| 14M5060 | MF-1/10 |  |  | T-2 | 30.1 to 301 K | 1.44 | . 66 | . 32 | . 20 |
| $14 \times 5061$ | MF-1/10 |  |  | T. 9 | 30.1 to 301 K | 1.77 | 1.07 | . 72 | . 51 |
| 14M5062 | MF-1/8 | $14 \mathrm{M5173}$ | MFF. $1 / 8$ | T-0 | 10 to 1 Meg | 1.05 | . 48 | 24 | . 18 |
| $14 \mathrm{N5} 550$ | MF-1/8 | $14 \mathrm{M5174}$ | MFF.1/8 | T-1 | 24.9 to 1 Meg | 1.05 | . 48 | . 24 | . 18 |
| $14 M 5063$ | MF-1/8 | $14 N 5175$ | MFF-1/8 | T-2 | 30.1 to 499 K | 1.44 | . 66 | . 32 | . 20 |
| 14 M5064 | MF1/8 | $14 \times 5176$ | MFF-1/8 | T. 9 | 30.1 to 499 K | 1.77 | 1.07 | . 72 | . 51 |
| 14M5065 | MF-1/4 | $14 \mathrm{M5177}$ | MFF-1/4 | T. 0 | 10 to 2 Mes | 1.05 | . 48 | . 24 | 18 |
| 1445066 | MF.1/4 | 1405178 | MFF-1/4 | T-1 | 24.9 to 2 Meg | 1.05 | . 48 | . 24 | . 18 |
| 1445067 | MF-1/4 | 14 M 5179 | MFF. $1 / 4$ | T-2 | 30.1 to 1 Meg | 1.44 | . 66 | . 32 | . 20 |
| $14 \mathrm{M5068}$ | MF-1/4 | $14 \mathrm{M5180}$ | MFF-1/4 | T. 9 | 30.1 to 1 Meg | 1.77 | 1.07 | . 72 | . 51 |
| 14145069 | MFS-1/2 | 14 M 5181 | MFF-1/2 | T. 0 | 10 to 2.49 Meg | 1.05 | . 48 | . 24 | . 18 |
| 14M5070 | MFS. $1 / 2$ | 1445182 | MFF-1/2 | T. 1 | 24.9 to 2.49 Meg | 1.05 | 48 | 24 | . 18 |
| $14 \mathrm{M5071}$ | MFS-1/2 | $14 \mathrm{M5183}$ | MFF-1/2 | T. 2 | 24.9 to 1 Meg | 1.44 | 66 | . 32 | . 20 |
| 1440072 | MFS-1/2 | 1445184 | MFF-1/2 | T. 9 | 24.9 to 1 Meg | 1.77 | 1.07 | . 72 | . 51 |
| 14 M5073 | MF-3/4 |  |  | T.0 | 10 to 2.49 Meg | 1.43 | . 86 | 52 | . 39 |
| $14 M 5074$ | MF.3/4 |  |  | T. 1 | 24.9 to 2.49 Meg | 1.43 | . 86 | . 52 | . 39 |
| $14 M 5075$ | MF.3/4 |  |  | T-2 | 100 to I Meg | 1.91 | 1.14 | . 68 | . 51 |
| $14 \times 5076$ | MF-3/4 |  | , | T. 9 | 100 to 1 Meg | 2.40 | 1.43 | . 86 | . 64 |
| 14 M 5077 | MF-1 | 14 M5185 | MFF-1 | T0 | 10 to 5,11 Mes | 1.38 | 87 | . 68 | . 64 |
| 14415078 | MF-1 | $14 \times 5186$ | MFF-I | T. 1 | 24.9 to 4.02 Neg | 1.38 | . 87 | . 68 | . 64 |
| $14 M 5079$ | MF-1 | 14 M 5187 | MFF-1 | T-2 | 49.9 to 2.61 Meg | 2.15 | 1.23 | . 9.94 | . 91 |
| $14 \times 5080$ | MF. 1 | 14105188 | MFF-1 | T. 9 | 49.9 to 2.61 Me8 | 4.02 | 2.32 | 1.76 | 1.74 |
| 14M5081 | MF-2 | $14 \mathrm{M5189}$ | MFF-2 | T-0 | 30.1 to 3 Meg 3.01 to 6 Meg 6.01 to 10 Meg | $\begin{aligned} & 1.93 \\ & 2.77 \\ & 4.13 \end{aligned}$ | $\begin{aligned} & 1.13 \\ & 1.98 \\ & 3.33 \end{aligned}$ | $\begin{array}{r} .78 \\ 1.63 \\ 2.98 \end{array}$ | $\begin{array}{r} .76 \\ 1.61 \\ 2.96 \end{array}$ |
| 1440082 | MF. 2 | $14 \mathrm{M5190}$ | MFF. 2 | T. 1 | 100 to 3 Meg 3.01 to 6 Meg 6.01 to 8 Meg | $\begin{aligned} & 1.93 \\ & 2.77 \\ & 4.13 \end{aligned}$ | $\begin{aligned} & 1.13 \\ & 1.98 \\ & 3.33 \end{aligned}$ | $\begin{array}{r} .78 \\ 1.63 \\ 2.98 \end{array}$ | $\begin{array}{r} .76 \\ 1.61 \\ 2.96 \end{array}$ |
| 1405083 | MF-2 | 14 M5191 | MFF-2 | T-2 | 100 to 3 Meg 3.01 to 8 Meg | $\begin{aligned} & 2.31 \\ & 3.45 \end{aligned}$ | $\begin{aligned} & 1.52 \\ & 2.67 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.13 \\ & 2.26 \end{aligned}$ | $\begin{aligned} & 1.10 \\ & 2.08 \\ & \hline \end{aligned}$ |
| 14M5084 | MF-2 | 14M5192 | MFF. 2 | T. 9 | 200 to 3 Meg <br> 3.01 to 5.11 Meg | $\begin{aligned} & 4.65 \\ & 6.50 \end{aligned}$ | $\begin{aligned} & 2.96 \\ & 4.81 \end{aligned}$ | $\begin{aligned} & 2.24 \\ & 4.09 \end{aligned}$ | $\begin{aligned} & 2.20 \\ & 4.05 \end{aligned}$ |
| TOLERANCE PRICE AOOER <br> (ADD TO PRICES ABOVE) |  |  |  |  | 0.10\% | . 50 | . 40 | 25 | 20 |
|  |  |  |  |  | 0.25\% | . 35 | . 25 | . 18 | 15 |
|  |  |  |  |  | 0.50\% | . 18 | . 12 | . 10 | . 08 |

## CW INDUSTRIAL POWER WIREWOUND RESISTORS <br> TOLERANCE $\pm 5 \% 1$ OHM AND ABOVE $\pm 10 \%$ BELOW 1 OHM

Axial lead, high temp, sllicone coated with complete welded construction. CW resistors feature high performance, low cost excellent stability and high power to size ratio.
$032^{\circ}$ diameter tinned leads, TC to $50 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$. Exceed electrical, environmental and dimensional requirements of MIL.R-26.
All CW resistors listed are stocked by B-A. Values or wattages may be assorted for quantity prices if minimum of 10 of each value are ordered. For values not shown and for larger quantities call B.A Industrial Dept., Phone (816) 561.5460.
STOCK RESISTANCE VALUES FOR CW WIREWOUND RESISTORS (OHMS)

| .1 | 7.5 |
| :--- | :--- |
| .5 | 10 |
| 1 | 12 |
| 2 | 15 |
| 3 | 17.5 |
| 4 | 20 |
| 5 | 25 | cape. In due to space limitations. All Dale tiems are avallable from B-A



Fireproof insulated resistors, may be mounted directiy to chassis, Rectangular shape fa cilities stacking and clamping together. Ceramic case is resistant to solvents and moisture. You may assort sizes for quantity price if a minmum of 10 of each value are ordered.

| Srock No. | Type oimensions Watts | Resistance Ohms | $\begin{aligned} & 1.99 \\ & \text { Each } \\ & \hline \end{aligned}$ | $\begin{gathered} 100.499 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 500-999 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14M5194 | CP.5 5 | . 1 to .99 | \$0.23 | \$0.18 | \$0.14 |
| d4v5194 | $7 / 8 \times 3 / 8 \times 11 / 32^{\prime \prime}$ | 1. to 999 | . 13 | . 11 | . 10 |
| Avaifable to | 8.5 K | 1 K to 8.5 K | . 14 | .12 | . 11 |
| $14 \mathrm{MS196}$ | $1.7 / 8 \times 3 / 8 \times 11 / 32^{10}$ | 1 to . 99 | . 33 | 23 | . 19 |
|  |  | 1 to 999 | 25 | . 20 | . 13 |
|  |  | 1 K to 30 K | . 26 | 21 | . 14 |

## HL INDUSTRIAL WIREWOUND RESISTORS

## $\pm 5 \%$ TOLERANCE 1 OHM AND ABOVE, $10 \%$ BELOW 1 OHM

High femperature siticone coated power resistors with solder lug terminals. Type Ht meets or exceeds electrical, environmental and dimensional requirements of MIL-R.26. You may assort resistance values in any single type for quantity prices, but wattage ra ngs may not be assonted in HL resistors. Fiease note that mounting brackets are not supplied unless included separately on your order

| $\begin{array}{ll} \hline 1 & 5 \\ .5 & 7.5 \\ 1 & 10 \\ 2 & 12 \\ 3 & 15 \\ 4 & 17.5 \end{array}$ | 20 50 <br> - 75 <br> 30 100 <br> 35 125 <br> 40 150 <br> 47 175 | 200 350 <br> 220 400 <br> 250 470 <br> 270 500 <br> 300 560 <br> 330 750 | $\begin{aligned} & 1 K \\ & 1.2 K \\ & 1.5 K \\ & 1.75 K \\ & 2 K \\ & 2.2 K \end{aligned}$ |  | $\begin{aligned} & 2.5 K \\ & 3 K \\ & 3.3 K \\ & 3.5 K \\ & 4 K \\ & 4.7 K \end{aligned}$ |  | $\begin{aligned} & 5 K \\ & 7.5 \\ & 10 K \\ & 12 K \\ & 15 K \\ & 20 K \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock Ho. | Type Watts Dimensions | Resistance ( Chms ) | $\begin{aligned} & 1.9 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 10- \\ & 24 \end{aligned}$ | $\begin{aligned} & 25 \\ & 49 \end{aligned}$ | $\begin{aligned} & 50- \\ & 99 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & -499 \end{aligned}$ | $\begin{aligned} & 500 . \\ & 899 \end{aligned}$ |
| 14M5139 | $\begin{array}{ll} \mathrm{HL}-6 \\ 1 \times \frac{5}{3} f^{\prime \prime} & 6 \mathrm{~W} . \end{array}$ | $\begin{aligned} & 1 \cdot .99 \\ & 1 \cdot 1 k \\ & 1.1 k \cdot 5 k \\ & 5.1 k \cdot 15 k \end{aligned}$ | $\begin{array}{r} .59 \\ .48 \\ .50 \\ .53 \end{array}$ | $\begin{aligned} & .53 \\ & .43 \\ & .45 \\ & .47 \end{aligned}$ | $\begin{array}{r} .47 \\ .38 \\ .40 \\ .42 \end{array}$ | $\begin{aligned} & .44 \\ & .36 \\ & .37 \\ & .39 \end{aligned}$ | $\begin{array}{r} .40 \\ .32 \\ .34 \\ .36 \end{array}$ | $\begin{aligned} & .33 \\ & .26 \\ & .28 \\ & .29 \end{aligned}$ | $\begin{aligned} & .27 \\ & .21 \\ & .22 \\ & .24 \\ & \hline \end{aligned}$ |
| 14M5142 | $\begin{aligned} & \mathrm{HL-12} \\ & 13 / 4 \times \text { s }^{\prime \prime} \\ & \end{aligned}$ | $\begin{aligned} & 1-.99 \\ & 1-100 \\ & 101-1 K \\ & 1.1 \mathrm{~K}-2.5 \mathrm{~K} \\ & 2.51 \mathrm{~K}-5 \mathrm{~K} \\ & 5.1 \mathrm{~K}-10 \mathrm{~K} \\ & 10.1 \mathrm{~K}-25 \mathrm{~K} \\ & 25.1 \mathrm{~K} \cdot 50 \mathrm{~K} \end{aligned}$ | $\begin{aligned} & .70 \\ & .51 \\ & .54 \\ & .58 \\ & .60 \\ & .82 \\ & .68 \\ & .72 \end{aligned}$ | $\begin{array}{r} .63 \\ .46 \\ .49 \\ .52 \\ .54 \\ . .51 \\ . .65 \\ \hline \end{array}$ | $\begin{array}{r} .36 \\ .41 \\ .44 \\ .46 \\ .48 \\ .50 \\ .54 \\ .58 \end{array}$ | $\begin{aligned} & .52 \\ & .38 \\ & .41 \\ & .45 \\ & .46 \\ & .51 \\ & .54 \\ & \hline \end{aligned}$ | $\begin{aligned} & .47 \\ & .35 \\ & .37 \\ & .39 \\ & .41 \\ & .42 \\ & .48 \\ & .49 \\ & \hline \end{aligned}$ | $\begin{aligned} & .39 \\ & .29 \\ & .30 \\ & .32 \\ & .34 \\ & .35 \\ & .38 \\ & .40 \\ & \hline \end{aligned}$ | .32 <br> .23 <br> .24 <br> .26 <br> .27 <br> .28 <br> .31 <br> .33 |

No. 14A5206. 204 Push-In Brackets for horszontat mounting of HL-6 and HI-12. Avail abie only with resistor order. Pair

## $\begin{array}{llll}14 \mathrm{M} 5145 & \mathrm{HL}-25 & 25 \mathrm{~W} & \begin{array}{c}1-.99 \\ \\ 2 \times\end{array} \\ & 2 \times 250\end{array}$ <br> 1.250 $1.25-1 K$ $1.1 K=5 K$ $5.1 K-10 K$

| 78 | .70 | .62 | .58 | .52 | .43 | .35 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 60 | .54 | .48 | .45 | .41 | .34 | .27 |
| 63 | .57 | .51 | .47 | .43 | .35 | .28 |
| 58 | .51 |  |  |  |  |  |
| 74 | .56 | .59 | .51 | .46 | .38 | .31 |
|  |  |  | .50 | .41 | .33 |  |


| Stock No. | Type Watts Dimansions | Resistance (Dhtss) | $\begin{gathered} 9.9 \\ \text { Each } \end{gathered}$ | $10-$ | $\begin{aligned} & 25 \\ & 49 \end{aligned}$ | $\begin{aligned} & 50 \\ & 99 \end{aligned}$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250 \\ & 498 \end{aligned}$ | $\begin{aligned} & 500- \\ & 999 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $14 \mathrm{M5145}$ | HL-25 25 W . | 10.1K-25K | . 78 | . 70 | . 62 | . 50 | . 53 | .43 | . 35 |
|  | $2 \times 1{ }^{\prime \prime}$ | $25.1 K-50 K$ | .88 | . 78 | . 69 | . 65 | . 58 | . 48 | . 39 |
|  |  | $50.1 \mathrm{~K} \cdot 100 \mathrm{~K}$ | . 93 | . 84 | . 75 | . 70 | . 63 | . 52 | . 42 |
| 14 M 5147 | HL-50 50W. | 1. .99 | 1.09 | . 98 | . 87 | . 01 | . 74 | . 61 | . 49 |
|  | $4 \times 1$ \% | 1.250 | 0.88 | . 79 | . 70 | . 66 | . 59 | . 49 | . 40 |
|  |  | 251.1K | . 89 | . 80 | . 71 | . 67 | . 60 | . 50 | . 41 |
|  | s to 250K | 1.1K-5K | . 97 | . 87 | .77 | . 72 | . 65 | . 54 | . 44 |
|  | valiabie | 5.1K = 15K | 1.10 | 1.00 | . 88 | . 82 | . 74 | . 61 | . 50 |
|  | II B-A for | $15.1 K-45 K$ | 1.19 | 1.07 | . 95 | . 89 | . 81 | . 66 | . 54 |
|  | Prices | 45.1K-75K | 1.31 | 1.17 | 1.04 | . 98 | . 88 | . 73 | . 59 |
|  |  | 75.1K-100K | 1.41 | 1.27 | 1.13 | 1.06 | . 96 | . 79 | . 64 |
| No.14A5207. 203 Push-in Brackets for horizontal mounting of HL-25 and HL-50. Available only with resistor order. Pair |  |  |  |  |  |  |  |  |  |
| 14M5153 | HL-120 120W | . 1 - . 99 | 2.44 | 2.19 | 1.95 | 8.82 | 1.65 | 1.36 | 1.10 |
|  | $6 \times 11 /{ }^{\prime \prime}$ | 1.8 | 2.16 | 1.95 | 1.73 | 1.62 | 1.46 | 1.20 | . 98 |
|  | (RW37) | 8.1-60 | 1.99 | 1.79 | 1.59 | 1.48 | 1.34 | 1.10 | . 88 |
|  |  | 60.1 - 1 K | 1.91 | 1.72 | 1.53 | 1.43 | 1.29 | 1.06 | . 87 |
|  | es to 750K | 1.1K-2.5K | 2.01 | 1.81 | 1.61 | 1.51 | 1.36 | 1.12 | . 91 |
|  | Available | $2.51 \mathrm{~K}=5 \mathrm{~K}$ | 2.10 | 1.89 | 1.68 | 1.07 | 1.42 | 1.17 | . 95 |
|  | all B-A for | $5.1 \mathrm{~K}-10 \mathrm{~K}$ | 2.21 | 1.99 | 1.77 | 1.66 | 1.50 | 1.23 | 1.00 |
|  | Prices | 10.1K-25K | 2.30 | 2.07 | 1.84 | 1.72 | 1.55 | 1.28 | 1.04 |
|  |  | 25.1K-55K | 2.58 | 2.32 | 2.06 | 1.93 | 1.74 | 1.43 | 1.16 |
|  |  | 55.1K - 10K | 2.75 | 2.48 | 2.20 | 2.06 | 1.86 | 1.53 | 1.24 |
| 14MS167 | HL-225 225 | .1-. 99 | 3.75 | 3.38 | 3.00 | 2.81 | 2.54 | 2.09 | 1.70 |
|  | $101 / 2 \times 11 /{ }^{\prime \prime}$ | 1-15 | 3.23 | 2.90 | 2.58 | 2.41 | 2.18 | 1.79 | 1.46 |
|  | (RW47) | 15.1-75 | 2.93 | 2.63 | 2.34 | 2.15 | 1.98 | 1.63 | 1.32 |
|  | (RW) | 75.1-2.5K | 2.78 | 2.50 | 2.22 | 2.08 | 1.88 | 1.54 | 1.25 |
|  | es to 1.3 Meg | $2.51 \mathrm{~K}=5 \mathrm{~K}$ | 2.98 | 2.88 | 2.38 | 2.23 | 2.01 | 1.65 | 1.35 |
|  | Avallable | 5.1K-10K | 3.10 | 2.79 | 2.48 | 2.32 | 2.10 | 1.72 | 1.40 |
|  | all B-A for | 10.1K-35K | 3.40 | 3.06 | 2.72 | 2.54 | 2.30 | 1.89 | 1.54 |
|  | Prices | 35.1K-50K | 3.53 | 3.17 | 2.82 | 2.64 | 2.38 | 1.96 | 1.59 |
|  |  | $60.1 \mathrm{~K}=100 \mathrm{~K}$ | 4.03 | 3.62 | 3.22 | 3.01 | 2.72 | 2.24 | 1.82 |

## DALE TRIMMER•POTENTIOMETERS



High reliability with simple designs developed for milizary electronics now adapted to both MIL and Industrial uses.


Specify Stock Number and Resistance on All Orders

| Fig. | Stock M No. | Mil. Equiv. Type | Oale No. | Term. Conf. | Res. Range (Ohms) | $\begin{aligned} & 1.9 \\ & \text { Esch } \end{aligned}$ | $\begin{aligned} & 10 \\ & 24 \end{aligned}$ | $\begin{aligned} & 25 . \\ & 49 \end{aligned}$ | $\begin{aligned} & 50 \\ & 99 \end{aligned}$ | $\begin{aligned} & 100 \\ & 249 \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | 14M1263 | R110.02P | 691 |  | 10.10 K | \$5.56 | \$5.13 | \$4.71 | \$4.34 | \$4.03 |
| (2) | 14 M 1264 | R170C2L | 697 | $A$ | Over 10K-30K | 6.11 | 5.64 | 5.17 | 4.77 | 4.42 |
| Above Prices for all RY10's |  |  |  |  | Ovet 30k-50K | 6.43 | 5.94 | 5.47 | 5.07 | 4.72 |
| (1) | 14 M1172 | R]11C2P | 1287 | A | 10-10K | 5.56 | 5.13 | 4.71 | 4.34 | 4.03 |
| (2) | 14M1265 | RIIIC2L | 1288 | A | Over 10k-30k | 6.11 | 5.64 | 5.17 | 4.77 | 4.42 |
|  |  |  |  |  | Over 30k-50k | 6.43 | 5.94 | 5.47 | 5.07 | 4.72 |
| Above Prices for all RT11's |  |  |  |  | Over $50 \mathrm{~K}-100 \mathrm{~K}$ | 7.83 | 7.23 | 6.63 | 6.11 | 5.68 |
|  | 14 M 1173 | R!12C2P | 1680 | , | 10.10 K | 5.56 | 5.13 | 4.71 | 4.34 | 4.03 |
| (2) | 1441266 | RII2C21 | 1697 | A | Over 10K.30K | 6.11 | 5.64 | 5.17 | 4.77 | 4.42 |
|  |  |  |  |  | Over 30K.50K | 6.43 | 5.94 | 5.47 | 5.07 | 4.72 |
| Above Prices for all RT12\% |  |  |  |  | Over 50k-100x | 7.83 | 7.23 | 6.63 | 6.11 | 5.68 |
| (1) | 14N1301 | RIR!20P | $1880^{\circ}$ |  | 10.20 K | 12.68 | 11.65 | 1067 | 9.84 | 9.15 |
| (2) | $14 \mathrm{M1302}$ | RTR1201 | 1897* | A | Above Prices for all RTRs |  |  |  |  |  |
| (3) | $14 \mathrm{Ml267}$ | R122C2i | 5050* | $B$ | 10-10x | 5.47 | 5.14 | 4.84 | 4.54 | 4.24 |
| (4) | 14M1268 | RT22C2W | $5080{ }^{*}$ | 0 | Over 10k-30k | 6.02 | 5.69 | 5.36 | 5.03 | 4.70 |
| (5) | 14M1269 | RT22C2P | 5091** | 0 | Over 30k.50k | 7.07 | 6.68 | 6.29 | 5.90 | 5.41 |
| (4) | 14M1270 | RT22C2X | $5087{ }^{*}$ | 0 | Above Prices for all RT2Z |  |  |  |  |  |
| (3) | 14M1271 | RT24C2L | 5850 | B | 10-10K | 6.17 | 5.76 | 5.28 | 4.87 | . 53 |
| (4) | 14 M 1272 | RT24C2W | 5880 | 0 | Over 10K-30K | 6.58 | 6.17 | 5.69 | 5.28 | 4.94 |
| (4) | 14 M1273 | RT24C2X | 5887 | 0 | Ove 30K-50K | 7.21 | 6.80 | 6.32 | 5.91 | 5.57 |
| (5) | 14 M 1274 | RT24C29 | 5891 | D | Above Prices for all RT24's |  |  |  |  |  |
| (5) | 14M1297 |  | $85+{ }^{\circ}$ | H | 10.1 M | 2.00 | 1.79 | 1.66 | 1.53 | 1.41 |
| (5) | 14 M 1298 |  | 85at** | G | 10.1 M | 200 | 1.79 | 1.66 | 1.53 | 1.41 |
| (6) | 14M1299 |  | $87+*$ | H | 10.1M | 1.65 | 1.49 | 1.38 | 1.27 | 1.17 |
| (6) | 14M1300 |  | $87 \mathrm{At}{ }^{\text {c }}$ | 6 | 10.1M | 1.65 | 1.49 | 1.38 | 1.27 | 1.17 |
| (1) | $14 \mathrm{ML295}$ |  | $817{ }^{\circ}$ | F | 10.2m | 3.10 | 2.80 | 2.60 | 2.41 | 2.22 |
| (1) | 14 Ml 1296 |  | $887^{\circ}$ | $F$ | 10.2 M | 284 | 2.55 | 2.38 | 2.19 | 2.03 |

Terminal Configurations: "A" 28AWG stranded Teflon leads. "B" 30AWG stranded Telion leads. "C" 28AWG stranded Vinyl leads. "D" PC Pins 21AWG. F" PC pins 22AWG. "G" PC terminats, gold plated, hand insertable. "H" PC terminals gold plated, machine insertable. "J" solder lugs.

Standard Stock Values: $10,20,50,100,200,500,1 \mathrm{~K}, 2 \mathrm{~K}, 5 \mathrm{~K}, 10 \mathrm{~K}, 15 \mathrm{~K}, 20 \mathrm{~K}, 25 \mathrm{~K}$. $50 \mathrm{~K}, 100 \mathrm{~K}, 200 \mathrm{~K}, 250 \mathrm{~K}$. $500 \mathrm{~K}, 1 \mathrm{M}, 2 \mathrm{M}$ within ranges shown 15 K is not stocked in all models. See notes on Dale Trimmer Potentiometer Prices

B-A mantains complete stocks on 14M1172, 14M1173. 14M1174, 14M1175 and 14M1176. Other numbers are available on special order. Minimum special order amount is $\$ 15.00$ for each line ltem. Do not assort sizes or types for minimum charge.

For quotation on larger quantities call B-A Industrial Dept., Phone (816) 561-5460.


[^7]
## MALLORY - ©HMITE AND TRW CONTROLS

## TRW-CTS TRIMMER CONTROLS <br> 

WIREWOUNO TRIMMERS 2 WATT $\pm 10 \%$
Fully enclosed, insulated nylon rotor, cross slot adjustment. 2 watt, tinear taper, $\pm 10 \%$ tolerance. Both have printed circult board terminals. Type P115. Twist tab for PC board.
Type 117 have rivet ear mountings.
$5.10,25,50,100,250,500,1.000 .2 .500,5.000 .10 .000$ ohm.
No. 14M8. P115. Your Cholce
No. 14M9. 117. $1-24$ Each

$\$ 1.25 \quad \begin{gathered}\text { 25.49 Each } \\ \$ 1.00\end{gathered}$
$50 \mathrm{U}_{\mathrm{p}}$ Each
MINIATURE CARBON TRIMMERS $V_{4}$ WATT $\pm 20 \%$
U201 Series. " $1 / 2 z$ " da. Arrow indicator knob, slotted for front or rear screwdriver adjustment. 5 nap-In self supporting paraliel to printed circult board. Linear taper. $\times 201$ Series. As above with vertical mounting.



| 144951 | MLC222LS | 2200 | 4 | 144956 | MC55AS | . 5 Meg | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14 A952 | MLC252AS | 2500 | 1 | 144957 | MLC5SLS | . 5 Meg | 4 |
| 144953 | MLC53AS | 5000 | 1 | 14A958 | MLC16AS | 1 Meg | 1 |
| 148954 | MLC53LS | 5000 | 4 | 148959 | MLC16LS | 1 Meg | 4 |
| 148955 | MLC14AS | 10.000 | 1 |  |  |  |  |

$\begin{array}{llllllll}\text { Your Choice Each } \\ \text { 1-24. } \$ 1.86 & 25-49 . \$ 1.67 & 50-99 . . \$ 1.55 & 100-174 . \$ 1.40 & 175-299 . . \$ 1.33 & 300 & \text { Up. } \$ 1.24\end{array}$



Top quality American
Top quality American made controls available at lower prices! 5mooth action. 5 witch rated 3 A. © 125 V.
$A C$. Nylon shaft easily cut to proper AC. Nylon shaft eastly cut to proper length . With wire cutters. Rotary type
has $1 / 6$ " shaft. Push-pull has $T^{\frac{7}{6}}$ shaft. WITH ROTARY SWITCH WITH PUSH-PULL SWITCH
Stk. No. Resistance Each 10 Ea . 14A1101 500 K Ohm $\$ 0.89 \quad \$ 0.79$

58k. No. Resistanca Each 10 Ea. $1441103 \quad 500 \mathrm{~K}$ Ohm $\$ \$ .19 \quad \$ 0.99$ 14A1100 I Meg $\quad .89 \quad .79$ 14A1102 I Meg $1.19 \quad .99$ 1. INCH BLACK KNOBS for above.

No. 12A2026, with $\mathrm{K}^{\prime \prime}$ brass insert and screw for push-pull.
Each 28 c 10 Each ........................23c 100 Each
ch $\qquad$ 20 "
No. 12A692. With $1 / 4^{\prime \prime}$ molded hole and screw for rotary
MALLORY "L"", "T" \& "L-A" PAOS
Standard 15 Audio Watts (4 watts DC).
L8T pads $15 / /^{\prime \prime}$ dia.; L pad Is $11 / \mathbf{b}^{\prime \prime}$ deep; shaft. $2^{\prime \prime}$ long with $3^{\prime \prime \prime}{ }^{\prime \prime}$ bushing. All are complete with mounting hardware, knob. and dial plate.

15-WATT "L" PAOS


15-WATT "L-A" PAOS WITH T" 日USHING, $11 / 2$ " SHAFT


MALLORY STEREO LEVEL CONTROL
Controls volume on stereo speakers. Rated 10 watts audio. With nuts, washers, dial and knob. Bushing $3 \mathrm{skm}^{\prime \prime}-32 \times \mathbf{1}^{\prime \prime}$. 10 Each. No. 14A1152. RR50. Each...-......... $\$ 2.10$ 10 Each. 52.00

"180" diameter with universal $3^{\prime \prime}$ " shaft. Meets most every roplacement raguiremont. Sae
switches at right. Add multisections to as. semble dual or multisection controls. Shpg. .wt. 4 ozs.

| Stk, No. | INC Type | Ohms Res. | Taper | Stk, No, | IRC Type | Ohms Res. | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $14 \mathrm{C371}$ | Q11-201 | 250 | A | 148183 | M11-116 | 10K |  |
| 148416 | 011.103 | 500 | A | 148200 | M11-120 | 25k |  |
| 148417 | 011-108 | 1000 | A | 148201 | M11-123 |  |  |
| 14.379 | 011-109 | 1500 | A | 148208 148208 | M11.133 |  | A |
| $14 \mathrm{C3B0}$ | Q11-110 | 2000 | A |  |  |  |  |
| 148419 | Q11-112 | 3K | A | 148208 | M11.137 | 1.0 | A |
| 148421 | Q11.114 | 5K | A | $14 \mathrm{B212}$ | M11-141 |  |  |
| 148425 | Q11-116 | 10 K | A | CHOfCE |  |  |  |
| 148426 | 013.116 | 10k | c | EACH | \$1. | ACH | 1.74 |
| 4A3 | Q11-119 | 20 |  |  |  |  |  |
| 148432 | $011-120$ | 25K |  | (3) SNAP-ON SWITCHES <br> Type GC S.P.S.T. Switch No. 14A1177. EACH |  |  |  |
| 148435 | Q11-123 | 50K | A |  |  |  |  |
| 148436 | Q13-123 | 50k | C |  |  |  |  |
| 14B440 | Q11-128 | 100K |  | Type WF D.P.S.T. Switch No. 14A1178. EACH |  |  |  |
| 148441 | Q13-128 | 100 K | C |  |  |  | c |
| 148444 | Q11-130 | 250 K | A |  |  |  |  |
| 148445 | Q13-130 | 250K | C | MALLORY PUSH-PULL REPLACEMENT SWITCHES |  |  |  |
| 148451 | Q11-133 | 500 K | A |  |  |  |  |  |
| 148452 | 013.133 | 500K | c |  |  |  |  |  |
| 148456 | Q11-137 | 1 Meg . | A |  |  |  |  |  |
| 148457 | Q13-137 | 1 Meg. | C |  |  | dimen |  |
| 144395 | Q11-139 | 2 Meg . | , |  |  | KR9M | sion |
| 149394 | Q11-239 | 2.5 Meg. | A |  | 14 | is |  |
| $\begin{aligned} & 148470 \\ & 148471 \\ & \text { CHOICE } \\ & \text { EACH } \end{aligned}$ | Q11-141 | $\begin{aligned} \begin{aligned} 5 \text { Meg. } \\ 10 \text { Meg. } \end{aligned} \\ 66 \\ \text { EACH } \end{aligned}$ |  | Replaces push-pull AC switch sections of single and dual controls. Rated 6 amp . 125VAC. Easy to replace. |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  | 5tk. No. | Type | Each | 8 Each |
| EXPLANATION OF IRC CONTROL TAPERS: "A" Linear; "C" Logarithmic for audio; |  |  |  | $\begin{aligned} & 14 A 1150 \\ & \text { i } 4 \text { 11515 } \end{aligned}$ | $\begin{aligned} & \text { KR8M } \\ & \text { KR9M } \end{aligned}$ | $\begin{aligned} & 99 \mathrm{c} \\ & 996 \end{aligned}$ | $\begin{aligned} & 90 c \\ & 90 c \end{aligned}$ |

## VOLUME CONTROL ACCESSORIES

## (1)

(目)
(3) $\%$
(4) 2
 (3) Olal Plates. Calibrated $0-10$, matching rotation of volume controls and meostat No. 14A160. For Wire-Wound Controls.

Your Choice No. 14A162. For Carbon Controls

Each $\qquad$ .35c 10 Each 32c (1) Adapter Bushing. For mtg, above controls in thick panels or enclosures. Fits any control with standard $\%$ bushing and extends bushing ${ }^{n}$.

## OHMITE MOLDED

## COMPOSITION CONTROLS

Used in commercial and military elec-tronic applications where highest quality and dependability aro most important. Rated at 2 watts at $70 \%$ C. Meets all specs. of MIL-R-94.
 round shaft, CLU has \%w. slotted shaft with lacking nut. $10 \%$ tolerance to 500 K . $20 \%$ sbove 500 K . Wr. 302 .


## , CRL-CONTROLS, mammad SWITCHES

## HAMLIN MAGNETIC REED SWITCHES

Hermetically sealed dry reed and mercury-wetted switches. May be actuated by permanent or electro-magnet. Unaffected by high or low temperature extremes or pressure. High sensitivity, rapid cycling rate, and compact size. Used in position indicators, counting instruments, flow meter, reed relays, limiting switches, computating instruments, etc. Actuating time; 1 millisecond or less. Life expectancy; dry reed 10 milfion operations; merc-wetted* 1 biltion operatlons. Contacts: Form " $A$ " (SPST.NO) or "C" (SPDT). Average wt. 1 oz.
stock No.
197268
1917269
1987270
1987271


| Stoch No. | Manufacturers Number | OC Cont. Rating | Max. <br> Amps | OC Max. Yolt | Max. Cont. Resistance | DC Breakdown Voltage | Use Masnet | Con- tacts | Overall <br> Length | Glass Length | $\begin{aligned} & \text { Glass } \\ & \text { Oia. } \end{aligned}$ | 1.24 | 25-99 | $\begin{aligned} & \text { Prices E } \\ & 100-998 \end{aligned}$ | $\begin{aligned} & \text { ch } \\ & 1000-4999 \end{aligned}$ | 5000 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947228 | MMRR-2-185 | 3W | . 010 | 28 | . 200 | 250 | H.31 | SPST | 2.000 | . 375 | . 090 | \$ 1.84 | \$ 1.31 | + 1.05 | \$ 0.85 | \$0.7 |
| 1947229 | MINI-2-115 | 3W | .110 | 28 | . 200 | 200 | H-31 | SPST | 2.000 | . 500 | . 070 | 2.10 | 1.05 | 1.70 | 1.00 | . 60 |
| $19 \times 7230$ | MINI-DT-125 | 1W | . 010 | 10 | . 200 | 200 | H-31 | SPDT | 2.000 | . 500 | . 070 | 8.30 | 5.00 | 4.75 | 4.50 | 4.25 |
| 19A7231 | MTRR-2-185 | 10W | . 250 | 100 | . 150 | 300 | H.33 | SPST | 2.125 | . 560 | . 092 | 1.32 | . 95 | .75 240 | .69 2.25 | 8.88 |
| 1987234 | MRG-DT-175 | 3W | . 250 | 28 | . 150 | 250 | H.33 | SPDT | 2.125 | . 610 | . 130 | 4.20 | 3.00 | 2.40 | 2.25 | 1.80 |
| 19A7345 | MLC-DT-186 | 3W | . 11 | 28 | . 500 | 250 | H. 33 | SPDT | 2.125 | .610 | . 130 | 2.10 | 1.70 | 1.33 | 1.20 | .90 |
| 19A7236 | MSRH-2.185 | 10W | . 500 | 28 | .100 | 300 | H.33 | SPST | 2.250 | . 800 | . 090 | 1.58 | 1.28 | 1.00 | .75 50 | . 60 |
| 1947237 | MSRR-2-185 | 10W | . 500 | 200 | . 100 | 300 | H-33 | SPST | 2.250 | . 800 | . 090 | 1.15 | . 83 | . 68 | . 50 | . 35 |
| 197238 | MSRR-2CD-155 | 3W | . 500 | 200 | . 200 | 300 | H. 33 | SPST | 2.250 | . 800 | . 090 | 1.32 | 1.12 | 1.08 | . 83 | . 28 |
| 1987347 | MLC-2.186 | 10W | . 50 | 28 | .150 | 300 | H-33 | SPST | 2.230 | . 800 | . 105 | 1.05 1.15 | .70 83 | . 55 | . 35 | . 25 |
| 1917242 | MRR-2-185 | 10w | . 500 | 200 | . 100 | 300 | H. 33 | SPST | 2.250 | .800 .800 | . 130 | 1.15 2.10 | .83 1.80 | .66 1.70 | 1.30 | . 35 |
| 1947244 | MRH-15-185 | 10W | . 500 | 50 | . 150 | 300 | H. 33 | SPST | 2.250 | . 800 | . 130 | 2.10 | 1.80 | 1.70 | 1.33 | . 90 |
| 1987248 | DRG-2-425 | 15W | 1.0 | 250 | . 075 | 500 | H.34 | SPST | 3.250 | 2.100 | . 218 | . 79 | . 56 | . 45 | . 35 | . 31 |
| 19 A249 | DRR-1-425 | 15W | 1.0 | 400 | . 060 | 500 | H-34 | SPST | 3.250 | 2.100 | . 218 | . 89 | . 64 | . 51 | . 39 | . 31 |
| 1987251 | DRR-5-425 | 25W | 1.0 | 1000 | . 060 | 1500 | H. 34 | SPST | 3.250 | 2.100 | . 218 | 1.58 | 1.35 | 1.10 | 1.00 | . 70 |
| $19 A 7252$ | DRT-5.425 | 50w | 3.0 | 1000 | . 100 | 1590 | H-34 | SPST | 3.250 | 2.100 | . 218 | 2.10 | 1.50 | 1.20 | 1.10 | . 90 |
| 1917253 | ORVT-10-658 | 50W | 3.0 | 7500 | . 080 | 10000 | H. 34 | SPST | 3.250 | 2.100 | . 218 | 4.20 | 3.00 | 2.40 | 2.25 | 2.00 |
| 1947257 | DRVT-20-979 | 50W | 3.0 | 17500 | . 100 | 20000 | H. 34 | SPST | 3.195 | 2.100 | . 218 | 12.60 | 11.00 | 10.20 | 7.98 | 6.00 |
| 1987259 | SRR-2-425 | 15W | 1.0 | 400 | . 060 | 500 | H. 32 | SPST | 3.375 | 1.610 | . 195 | . 9 | . 64 | . 51 | . 39 | . 31 |
| $19: 7348$ | DLC-DT-327 | 10w | . 5 | 200 | . 100 | 350 | H. 32 | SPDT | 3.375 | 1.562 | . 218 | 1.32 | 1.12 | 1.06 | . 83 | . 56 |
| 19 A7262 | DRR-DIH-445 | 10w | . 5 | 250 | . 075 | 1000 | H-32 | SPDT | 3.375 | 1.562 | . 218 | 2.63 | 1.88 | 1.50 | 1.35 | 1.10 |
| 19A72*3 | DRT-DTH-445 | 20w | 1.5 | 500 | . 150 | 1000 | H. 34 | SPDT | 3.375 | 1.562 | . 218 | 4.20 | 3.65 | 3.40 | 2.66 | 1.80 |
| 19A7266* | WRC.3-387 | 28W | 1.0 | 100 | . 050 | 1000 | H. 33 | SPST | 2.250 | . 800 | . 130 | 4.20 | 3.00 | 2.90 | 2.50 | 1.75 |
| 19A7267* | HRC-1-535 Indicates Merc | 50 W y wetted. | 3.0 | 400 | . 050 | 1000 | H-34 | SPST | 3.250 | 2.100 | . 218 | 2,10 | 1.50 | 1.20 | 1.00 | 1.00 |

REAR SEAT AUTO SPEAKER CONTROLS

For switching between dual speakers such as auto rear seat and front seat speakers; TV, radio, etc. Operates either speaker seprately or both together.
O. 19A7108. Centralab PK.300. EACH

No 19A71日7. Wired Fader Control Kit. For Intermixing
front and rear speakers Shpg. Wt. 3 oz. Not Each. $\qquad$ $\$ 1.18$
$\$ 1.76$


MINIATURE MAGNETIC REED SWITCH

## Actual

4 FOR SIZE!

## $\$ 1.95$

Fantastic B-A special purchase. Would normally cost way over $\$ 1.00$ each. High sensitivity, small size. Only $13 / "^{\prime \prime}$ long overall $X \%{ }^{\prime \prime}$ dia.. Glass length $11 / 8{ }^{*}$. Use fot al low current applications
$\$ 1.95$

CENTRALAB RVA HOT MOLDED POTENTIOMETERS


HMS
RY4NAYSK

Madel 12. Meets all requiraments of MIL-R-94 specificatlons. Designed for long Iffe and noiseofree operation. Totally en dirt. Tolerance 50 ohm thru $500 \mathrm{~K} \pm 10 \%$ above $500 \mathrm{~K} \pm 20 \%$ Linear taper. Rated 2.25 watts at $70^{\circ} \mathrm{C}$. Siz* $17 / 4^{\prime \prime}$ dia.. $\%^{\prime \prime}$ deep.

| stock No. | Dhms | Centralab No. | $\begin{gathered} \text { MIL } \\ \text { RY4NAYSK } \end{gathered}$ | Stock No. | Dhms | Centralab No. | $\begin{aligned} & \text { WIL } \\ & \text { RY4LAYSA } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 141221 | 50 | HMS- 50 | 500A | 14 A 1193 | 50 | HML- 50 | 500A |
| 14 A 1222 | 100 | HMS. 100 | 101A | 14A1194 | 100 | HML- 100 | 101A |
| 14 A1223 | 150 | HMS. 150 | 151A | 24A1195 | 150 | HML- 150 | 151A |
| 1481224 | 250 | HMS. 250 | 251A | 1441196 | 250 | HML 250 | 251A |
| 1411225 | 350 | HMS - 350 | 351A | 14A1197 | 350 | HML. 350 | 3514 |
| 14 A1226 | 500 | HMS - 500 | 501A | 14 A 1198 | 500 | HML. 500 | 501A |
| $14 \wedge 1227$ | 750 | HMS. 750 | 751A | 14 A1199 | 750 | HML. 750 | 751A |
| 1441228 | 1000 | HMS -1000 | 102A | $14 \mathrm{Al200}$ | 1000 | HML-1000 | 102A |
| 14A1229 | 1500 | HMS. 1500 | 152A | 14A1201 | 1500 | HML- 1500 | 152A |
| 14A1230 | 2500 | HMS-2500 | 252A | 14 A1202 | 2500 | HML-2500 | 252A |
| 14A1231 | 3500 | HMS 3500 | 352A | 14 A 1203 | 3500 | HML-3500 | 352A |
| $14 \mathrm{Al232}$ | 5000 | HMS 5000 | 502A | 14 Al 204 | 5000 | HML 5000 | 502 A |
| $14 \mathrm{Al233}$ | 7500 | HMS 7500 | 752A | 14A1205 | 7500 | HML 7500 | 752 A |
| 14A1234 | 10K | HMS. 10K | ( 103 A | 14.1206 | 10K | HML- 10K | $\times 103 A$ |
| 14A1235 | 15K | HMS 15 K | 153A | 14 Al 207 | 15K | HML $\quad 15 \mathrm{~K}$ | K 153A |
| 14 A 1236 | 25K | HMS. 25 K | K 253A | 14 A 1208 | 25K | HML- 25 K | K 253A |
| 14 A1237 | 35K | HMS- 35 K | ( 353A | 14A1209 | 35 K | HML- 35K | K 353A |
| 14 A1238 | 50K | HMS. 50 K | 503A | 1491210 | 50K | HML- 50K | K 503A |
| +14A1239 | 75K | HMS. 75K | 753A | 14A1211 | 75K | HML. 75K | 7 753A |
| 14A1240 | 100K | HMS. 100 K | K 104A | 14 A1212 | 100K | HML. 100K | K 104A |
| $14 \mathrm{A1241}$ | 150K | HMS. 150K | 154A | 14 A1213 | 150K | HML. 150K | K 154A |
| 14 Cl 1242 | 250k | HMS- 250K | 254A | 14.1214 | 250 K | HML. 250K | K 254A |
| $14{ }^{1} 1243$ | 350K | HMS - 350K | 354A | 14A1215 | 350K | HML-350K | 354A |
| $14 \mathrm{Al244}$ | 500K | HiMS 500K | K 504A | 14.1216 | 500K | HML- 500K | - 504A |
| 14 A 245 | 750K | HMS. 750 K | K 754B | 14*1217 | 750K | HML - 750K | K 754B |
| 14 A 1246 | 1 M | HMS-1 M | 1058 | 14 A1218 | 1 M | HML-1 M | 1058 |
| 14 A1247 | 2.5 M | HMS-2.5 M | 2558 | $14 \mathrm{Al219}$ | 2.5M | MML-2.5 M | 1 2558 |
| $14 \mathrm{Al248}$ | 5 M | HMS. 5 M | 5058 | 14 A1220 | 5 M | HML 5 M | 5058 |

TYPE HMS has standard $k^{\prime \prime}$ bushing with $1 / 6^{\prime \prime}$ slotted shaft $21 / 2^{\prime \prime}$ long. Meats MIL designation RV4N.


TYPE HML has $\mathbb{K}^{\prime \prime}$ locking type bushing with stotted shaft $\%$ " long. Meets MIL desig. nation RV4L



WIRE-WOUND CONTROLS packs 5 -watt capacity into a 2 watt sire unit; rear taper, $11 / 2 z^{\prime \prime}$ dla. K K" deep; Model WW lonk. Model WN has fingertlp knurled, slotted shaft $1 / 4^{\prime \prime}$ dia. $x 1 / 4^{\prime \prime}$ tong. Linear taper. Break down. 900 V. AC rms to ground. WN or WW prefix Indicates manufacturers number. Shpg. wt. 4 ozs.

| Ohms | WW or WN | Ohms | WW or WN | Ohms | WW or WN | Ohms | WW or WN | Ohms | WW or WH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 010 | 15 | 150 | 100 | 101 | 1500 | 152 | 15K | 153 |
| 2 | 020 | 20 | 200 | 200 | 201 | 2000 | 202 | 20K | 203 |
| 3 | 030 | 25 | 250 | 250 | 251 | 2500 | 252 | 25K | 253 |
| 4 | 040 | 30 | 300 | 300 | 301 | 3000 | 302 | 30K | 303 |
| 5 | 050 | 40 | 400 | 400 | 401 | 4000 | 402 | 40K | 403 |
| 6 | 060 | 50 | 500 | 500 | 501 | 5000 | 502 | 50K | 503 |
| 8 | 080 | 60 | 600 | 750 | 751 | 7500 | 752 | 75K | 753 |
| 10 | 100 | 75 | 750 | 1000 | 102 | 10K | 103 | 100K | 104 |
| Specify Stock No. 14 M 303 for WW. 3 inch shaft. Specity Stock No. 14 M1 099 for WN. $3 / 4^{\prime \prime}$ shaft. |  |  |  |  |  |  |  |  |  |
| Values |  |  | 1-9 Ea. | 10-24 Ea. |  | 25-49 Ea. | 50.99 E2. |  | 100.249 Es. |
| Sthrt | 7300 ol | - | \$1.32 |  |  | \$1.10 | \$1.0 |  | \$0.99 |
| 10,000 | thru 30,0 | 30 ohr | .... 1.39 |  | 43 | 1.33 | 1.2 |  | 1.19 |
| 40,000 | and 50,00 | 00 oh | ... 2.01 |  | 11 | 1.68 | 1.5 |  | 1.51 |
| 75,000 | and 100 | 000 ol | -- 2.46 |  | 22 | 2.05 | 1.9 |  | 1.85 |

HOT MOLDED-. 5 WATT RV6 POTENTIOMETERS


## MALLORY AND - CENTRALAB SWITCHES

MALLORY SINGLE GANG ROTARY SWITCHES


Compact switches having wide application for use in all electronic equlpment. Rating 500 . breakdown; max. cur rent $\frac{2}{6}$ amp 300 VDC; 5 amp ai 6 VDC; 25 amp (a) 300 $x$ 3'rl $10 n g$ brass threided bushing with bar knob' and hardware all 300 index except ${ }^{\circ}$ which $100^{\circ}$ mhp wt. 4 ozs. See Plates below.
Stock No. 19 M7035 and Switch No. when Ordering. NON-SHORTING - BREAK BEFORE MAKE

| Mfg. No. | Poles | Posi. tions | $\begin{aligned} & \text { Base } \\ & \text { Dla. } \end{aligned}$ | 1-4 | 5-9 | $\begin{array}{r} \text { Pric } \\ 10-24 \end{array}$ | $\begin{gathered} \text { Eacly } \\ 25-49 \end{gathered}$ | 50-99 | 100.499 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3215] | 1 | 5 | 11/4" | \$1.20 | \$1.00 | \$0.80 | \$0.85 | \$0.00 | \$0.72 |
| 321121 | 1 | 12 | $11 / s^{\prime \prime}$ | 1.20 | 1.00 | . 90 | . 0.5 | . 80 | . 72 |
| 3222J | 2 | 2 | 11/4" | 1.20 | 1.00 | . 90 | . 05 | . 60 | . 72 |
| 32231 | 2 | 3 | $11 / a^{\prime \prime}$ | 1.20 | 1.00 | . 0 | . 85 | . 80 | 72 |
| 32261 | 2 | 6 | 11/4" | 1.20 | 1.00 | . 50 | . 05 | . 80 | 72 |
| 32341 | 3 | 4 | $11 / 4^{\prime \prime}$ | 1.24 | 1.03 | . 03 | . 80 | .3 | . 74 |
| 3242] | 4 | 2 | $11 / 4^{\prime \prime}$ | 1.24 | 1.03 | . 83 | . 8 | . 83 | 74 |
| 3243J | 4 | 3 | 11/4" | 1.24 | 1.01 | . 3 | . ${ }^{\text {d }}$ | . 3 | 74 |
| 32117J | 1 | 17* | 1116" | 1.83 | 1.52 | 1.37 | 1.30 | 1.22 | 1.10 |
| 3229J | 2 | 9* | $1^{11}{ }^{\prime \prime}$ | 1.83 | 1.52 | 1.37 | 1.30 | 1.22 | 1.10 |
| 32361 | 3 | 6** | $111 c^{\prime \prime}$ | 1.93 | 1.81 | 1.45 | 1.37 | 1.29 | 1.16 |
| 3263J | 6 | 3* | 1'K6" | 1.83 | 1.81 | 1.45 | 1.37 | 1.29 | 1.16 |
| SHORTIMG - MAKE BEFORE GREAK |  |  |  |  |  |  |  |  |  |
| 3115] | 1 | 5 | 11/4" | 1.20 | 1.00 | . 90 | . 85 | .80 | 72 |
| 31112J | 1 | 12 | 11/4" | 1.20 | 1.00 | . 80 | . 85 | . 80 | .72 |
| 3123J | 2 | 3 | 11/4" | 1.20 | 1.00 | . 90 | . 85 | . 80 | . 72 |
| 3126J | 2 | 6 | 12/" | 1.20 | 1.00 | . 80 | . 85 | . 80 | . 72 |
| 3143J | 4 | 3 | $11 / 4{ }^{\prime \prime}$ | 1.24 | 1.03 | . 83 | . 88 | . 3 | . 74 |
| 311171 | 1 | 17* | 1\%10" | 1.83 | 1.52 | 1.37 | 1.30 | 1.22 | 1.10 |
| 31631 | 6 | 3 * | $1^{1} 1 \mathrm{Kc}^{\prime \prime}$ | 1.93 | 1.11 | 1.45 | 1.37 | 1.23 | 1.16 |



CERAMIC SECTION ROTARY
$13 / 4^{\prime \prime}$ diameter, non-shorting adjustable stops, 2 gang, $1 / 2^{\prime \prime}$ spacing. Rated .75 amp a 300 VAC; 10 amps $6 \mathrm{VAC} / 0 \mathrm{C}$. Use $30^{\circ}$ dial plates below. Shpg. wt. 802 cs .
pecity B-A Stack No. 19M7038 and
Switch Number When Ordering

| Mfg. | Gang |
| :---: | :---: |
| 172C | 1 |
| 173C* | 1 |
| 174C* | 1 |
| 176C | 2 |
| 177C* | 2 |
| 178C* | 2 |
| 180¢* | 3 |
| 181C* | 3 |

$\square$ Past.
Ilons
10

|  |  | Prices Each |  |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 1.4 | 5.9 | 10.24 | $25-49$ | 50.99 | $100-499$ |
| 2.77 | $\$ 2.31$ | $\$ 2.08$ | $\$ 1.97$ | $\$ 1.85$ | $\$ 1.66$ |
| 2.77 | 2.31 | 2.08 | 1.97 | 1.85 | 1.86 |
| 2.77 | 2.31 | 2.08 | 1.87 | 1.85 | 1.66 |
| 3.97 | 3.31 | 2.88 | 2.82 | 2.64 | 2.38 |
| 3.97 | 3.31 | 2.98 | 2.82 | 2.64 | 2.38 |
| 3.97 | 3.31 | 2.98 | 2.82 | 2.64 | 2.38 |
| 5.04 | 4.21 | 3.78 | 3.58 | 3.36 | 3.02 |
| 5.04 | 4.21 | 3.78 | 3.38 | 3.36 | 3.02 |

## SWITCH DIAL PLATES

Aluminum flgures etched on black background. $1^{\prime \prime} \mathrm{Kec}^{\prime \prime} 0 . D$. wlth Ke" hole. For switches with $30^{\circ}$ indexing except those marked * which are for switches with $20^{\circ}$ indexing. Shpg. wt. 2 ozs.

Specify B-A Stack No. 19M7037 and Type When Ordering.

| Type | Marked | Tур* | Marked | Type | Marked | Fype | Marked | Fy58 | Harked |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 372 | 1 to 2 | 377 | 1 to 7 | 382 | 1 to 12 | 387 | Off 1 to 7 | 453 ${ }^{\circ}$ | 1 to 3 |
| 373 | 1 to 3 | 378 | 1 to 8 | 383 | Off 1 to 3 | 388 | Off 1 to 8 | 456* | 1 to 6 |
| 374 | 1 to 4 | 379 | 1 to 9 | 384 | Off 1 to 4 | 389 | Off 1 to 9 | 459* | 1 to 9 |
| 375 | 1 to 5 | 380 | 1 to 10 | 385 | Off 1 to 5 | 390 | Off 1 to 10 | 467 | 1 to 17 |
| 376 | 1 to 6 | 381 | 1 to 11 | 386 | Off 1 to 6 |  |  |  |  |

YOUR CHOICE EACH

## MINIATURE PUSH-BUTTON

Non-locking for test panels, etc. Silver contacts on alloy springs. Rated 0.4 amp at 300 VDC and 220 VAC; 4 amps. 6 VDC. Bushing $3 / 6^{\prime \prime} \cdot 32 \times$ 3/3" long. Integral pherolic knob. With nut and washer
Specify B-A Stock No. 19M7097 and Type Nu. When Ordering.

(1) SINELE POLE ROTARY For lamp and appliance repairs SPST switch. Rated 3 amp -125 volt; 1 amp- 250 volt. "3" dia. shank, Xe" long. Black phenolic knob, $6^{\prime \prime}$ wire leads. Wt. 2 ozs.
No. 18A7023. 574T. Each................................. 31c 10 Lots, Each.................. high. Shank 3 a $^{\prime \prime}$ dla. by $3 /^{\prime \prime \prime}$ long. Metai knob. $6^{\prime \prime}$ wire leads.

(1) 4 POSITION ROTARY For 3 Ifght floor and desk lamps. Rated 6 amps at 125 volts. Round metal case and knob. Ik ${ }^{\prime \prime}$ dia. $x^{11} \mathrm{~m}^{\prime \prime}$ behind panel. $3 /{ }^{\prime \prime}$ long shank.
 (3) SINGLE POLE PUSH-BUTTON SPST. Rated 3 amp at 125 volts. Bakelite case $1^{\prime \prime}$
 $32^{\prime \prime}$ dia, push button, Shp. wt. 2 ozs.
No. 18A7024. 575. EaCh 15 to 40 W . lamps. $1 \mathrm{~K}_{6}^{\prime \prime}$ dia, by $8 / /^{\prime \prime} \mathrm{hlgh}$. Shank $3 / \mathrm{a}^{\prime \prime}$ dia. by $\mathrm{K}^{\prime \prime \prime}{ }^{\prime \prime} 6^{\prime \prime}$ wire leads. Phenotic push button. Shpg. wit. 2 oz . Phenolic push button. Sh
Ho. 19a7025. 382. Each.
miniature steatite pa 2000 series rotary
Small and compact. Silver plated spring brass clips and contacts: adjustabie stop or continuous rotation; $30^{\circ}$ in dexing; $2 / 2^{\prime \prime}$ spacing between sections; $1 / 4^{\prime \prime}$ round shati, 1/8" ${ }^{\prime \prime}$ long. Includes $11 / 4^{\prime \prime}$ bar knob and mounting hardwart. All are non-shorting (break before make), except Which milllamps at 115 VAC Use $30^{\circ}$ dial plates shown In left column. Avg. shpg. wt. 6 ozs.
Specify B-A Stock No. 19 M7098 and Switch No. When Ordering

| Mis. Mo. | Gang | Pole | Poslo tions | 1.4 | 5.9 | $\begin{aligned} & \text { Prices } \\ & 10-24 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 25-49 \end{aligned}$ | 50.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000* | 1 | 1 | 12 | \$3.04 | \$2.53 | \$2.28 | \$2.17 | \$2.02 | \$1.82 |
| 2001 | 1 | 1 | 12 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.82 |
| 2002* | 1 | 2 | 6 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.82 |
| 2003 | 1 | 2 | 6 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.82 |
| 2004* | 2 | 2 | 12 | 4.29 | 3.58 | 3.22 | 3.07 | 2.86 | 2.56 |
| 2005 | 2 | 2 | 12 | 4.29 | 3.58 | 3.22 | 3.07 | 2.86 | 2.56 |
| 2006* | 1 | 3 | 5 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.82 |
| 2007 | 1 | 3 | 5 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.12 |
| 2008* | 3 | 3 | 12 | 5.48 | 4.57 | 4.11 | 3.92 | 3.65 | 3.28 |
| 2009 | 3 | 3 | 12 | 5.48 | 4.57 | 4.11 | 3.92 | 3.65 | 3.28 |
| 2010* | 2 | 4 | 6 | 4.29 | 3.58 | 3.22 | 3.07 | 2.88 | 2.56 |
| 2011 | 2 | 4 | 6 | 4.29 | 3.58 | 3.22 | 3.07 | 2.86 | 2.56 |
| 2013 | 4 | 4 | 12 | 6.58 | 5.48 | 4.94 | 4.71 | 4.39 | 3.94 |
| 2015 | 1 | 5 | 3 | 3.04 | 2.53 | 2.20 | 2.17 | 2.02 | 1.82 |
| 2017 | 5 | 5 | 12 | 7.88 | 6.37 | 5.91 | 8.63 | 5.26 | 4.72 |
| 2019 | 1 | 6 | 2 | 3.04 | 2.53 | 2.28 | 2.17 | 2.02 | 1.82 |
| 2021 | 2 | 6 | 5 | 4.29 | 3.58 | 3.22 | 3.07 | 2.86 | 2.56 |
| 2023 | 3 | 6 | 6 | 5.48 | 4.57 | 4.11 | 3.92 | 3.65 | 3.28 |
| 2025 | 6 | 6 | 12 | 9.15 | 7.63 | 6.86 | 6.55 | 6.11 | 5.48 |
| 2027 | 4 | 8 | 6 | 6.58 | 5.48 | 4.94 | 4.71 | 4.39 | 3.94 |
| 2029 | 3 | 9 | 5 | 5.48 | 4.57 | 4.11 | 3.92 | 3.65 | 3.28 |
| 2031 | 2 | 10 | 3 | 4.29 | 3.58 | 3.22 | 3.07 | 2.88 | 2.56 |
| 2033 | 5 | 10 | 6 | 7,88 | 6.57 | 5.91 | 5.63 | 3.26 | 4.72 |
| 2035 | 2 | 12 | 2 | 4.29 | 3.58 | 3.22 | 3.07 | 2.86 | 2.56 |
| 2037 | 6 | 12 | 6 | 8.15 | 7.63 | 6.86 | 6.53 | 8.11 | 5.48 |
| 2039 | 3 | 15 | 3 | 6.20 | 5.17 | 4.65 | 4.43 | 4.14 | 3.72 |
| 2041 | 3 | 18 | 2 | 6.20 | 5.17 | 4.65 | 4.43 | 4.14 | 3.72 |
| +2042 | 1 | 1 | 10 | 2.75 | 2.28 | 2.07 | 1.97 | 1.84 | 1.65 |

$\$ 2042$ has 9 active contacts, all open In fulf CCW position and progressively picked up and shorted to common contact with CW rotation.

## MINIATURE PHENOLIC PA1000 ROTARY

Same specifications as PA2000 above, except sections are Phenolic. Usé $30^{\circ}$ dial plates Ilisted at left. All are non-shorting type.

Specify E-A Stack No. 19 M7099 and Switch Na. When Ordering.

| Mig. No. | Gang | Pole | Posi. <br> tlans | 1-4 | 5.9 | $\begin{aligned} & \text { Prices } \\ & 10.24 \end{aligned}$ | $\begin{gathered} \text { Each } \\ 25.49 \end{gathered}$ | 50.89 | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1001 | 1 | 1 | 11 | \$2.29 | \$1.90 | \$1.72 | \$1.84 | \$1.53 | \$1.36 |
| 1003 | 1 | 2 | 5 | +2.29 | 1.90 | 1.72 | 1.64 | 1.53 | 1.36 |
| 1005 | 2 | 2 | 11 | 3.26 | 2.72 | 2.44 | 2.33 | 2.17 | 1.95 |
| 1007 | 1 | 3 | 3 | 2.29 | 1.90 | 1.72 | 1.64 | 1.53 | 1.36 |
| 1009 | 3 | 3 | 11 | 4.14 | 3.44 | 3.10 | 2.96 | 2.76 | 2.48 |
| 1011 | 1 | 4 | 2 | 2.29 | 1.90 | 1.72 | 1.64 | 1.53 | 1.36 |
| 1013 | 2 | 4 | 5 | 3.26 | 2.72 | 2.44 | 2.33 | 2.17 | 1.95 |
| 1019 | 2 | 6 | 3 | 3.26 | 2.72 | 2.44 | 2.33 | 2.17 | 1.95 |
| 1021 | 3 | 6 | 5 | 4.14 | 3.44 | 3.10 | 2.96 | 2.76 | 2.48 |
| 1025 | 2 | 8 | 2 | 3.26 | 2.72 | 2.44 | 2.33 | 2.17 | 1.95 |
| 1029 | 3 | 12 | 2 | 4.14 | 3.44 | 3.10 | 2.96 | 2.76 | 2.48 |

## LEVER ACTION PHENOLIC SWITCHES



Space savine lever switches have many uses. Particularly adaptabla to intercoms. PA systems, test instruments, broadcast, antenna interchange, speaker selection, otc. Two 6.32 thread mounting 28 VDC; 230 milliamps at 115 VAC (make and break, resistive load) 38 VDC; 230 miliamps at 115 vac (make and break, resistive load). plete with screws and black knob. Avg. shpg. wit. 4 ozs
Specify B-A Stock No. 18 m 7103 and Switch No. When ordering.

| $\begin{aligned} & \text { Mig. } \\ & \text { No. } \end{aligned}$ | Poles | Pasition | Indexling | 1-4 | 5-9 | $\begin{aligned} & \text { Prices } \\ & 10-24 \end{aligned}$ | $\begin{aligned} & \text { s Each } \\ & 25-49 \end{aligned}$ | 50.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1452† | 2 | 3 | Positive | \$1.76 | \$1.46 | \$1.32 | \$1.25 | \$1.18 | \$1.06 |
| 1454 | 2 | 3 | Posltive | 1.76 | 1.48 | 1.32 | 1.25 | 1.18 | 1.06 |
| 1455 | 2 | 3 | Spring Return | 1.76 | 1.46 | 1.32 | 1.25 | 1.10 | 1.06 |
| 1467 | 2 | 3 | Posit. \& Sp. Return | 1.78 | 1.46 | 1.32 | 1.25 | 1.15 | 1.06 |
| 1457 | 4 | 2 | Spring Return | 1.98 | 1.63 | 1.47 | 1.40 | 1.31 | 1.18 |
| 1458 | 4 | 2 | Positive | 1.96 | 1.63 | 1.47 | 1.40 | 1.31 | 1.18 |
| 1475* | 1 | 3 | Positive | 1.76 | 1.46 | 1.32 | 1.25 | 1.18 | 1.06 |

## CENTRALAB UNIVERSAL PHENOLIC SWITCHES

Rating 1.75A (2) 24 VDC, 230 milliamps @ 115 VAC. Aushing $3 / /^{\prime \prime} .32$ thread. $3 / /^{\prime \prime}$ long. With hardware, Shpg. wt. $607 s$.
Specify B-A Stk. Na. 19 M7100 and Switch Na. When Ordering.
1460: 1 pote, 2 position, shorting. Positive index.
1481: 1 pole, 3 position, shorting. Positive index.
1462: 2 pole, 2 position, shorting. Pasitive index.
1463: $\frac{1}{2}$ pole, 2 position, non-shorting, spring return index,
1484: 2 pole, 2 position, non-shorting. Spring return index.
$\begin{array}{lllllll}\text { Your Cholce } & 1-4 & 5.9 & 10.24 & 25.49 & 50.99 & 100.249\end{array}$
Each

## 4 POLE, 2 POSITION SWITCHES

For long hard use in intercom, test equipment, etc. 2.75 amp at

No. $19 A 7102.1451$ Spring return. 1.4 Each $\quad \$ 2.77$ 5.9 Ea..... $\$ 2.31$


## Parling ARROW-HART STACKPOLE SWITCHES <br> CARLING TOGGLE SWITCHES <br> (3) <br>  <br>  <br> (4) <br> (1) AC.DC TDGGLE SWITCHES <br> 


"fias wire leads, all others have solder lug terminals.

| stock No. | $\begin{aligned} & \text { Motg. } \\ & \text { Type } \end{aligned}$ | Action | Amperes 125 V .250 V. |  | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25-49 \\ \text { Each } \end{gathered}$ | $\underset{\text { Each }}{\text { Each }}$ Each |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1987000 | $110-73$ | SPST | 6 | 3 | \$0.80 | \$0.72 | \$0.62 | \$0.55 | \$0.50 |
| 19A7001 | 112.73 | SPOT | 3 | 1 | 1.02 | . 91 | . 78 | . 70 | . 63 |
| 19 7 7002 | 216.73 | DPST | 3 | 1 | 1.40 | 1.26 | 1.07 | . 96 | . 87 |
| 19^7003 | 316.73 | DPDT |  | 1 | 1.54 | 1.39 | 1.18 | 1.06 | . 95 |
| 19 ¢ 7004 | 111-16-73* | SPST | 6 | 3 | . 91 | . 82 | . 70 | . 63 | . 56 |

11" hat heavy duty ac teggle switches
 \$Both sides momentarily on. Center off. All 3/4 H.P. $-115-230$ V. A.c. Shpg. wt. 2 oz.

 DK $284-73$ rated 1 Hen 250 vi EK204.73 rated $11 / 2 \mathrm{HP}-250 \mathrm{~V}$.

| 1947014 | $0 \mathrm{KK284-73}$ | DPST | 16 | 8 | 1.58 | 1.42 | 1.20 | 1.08 | .98 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $18 A 7015$ | EK204-73 | DPST | 20 | 10 | 2.63 | 2.36 | 2.01 | 1.81 | 1.63 |

## PUSH-PUSH AC-DC \$WITCHES



Positive action push on, push again for off. For any application where a pushbutton is proferable. Stem K K L. X ${ }^{1 S z_{2}^{\prime \prime}}$ dia., body $1 \$ z^{\prime \prime} \mathrm{L} X$ $5 / /^{\prime \prime}$ W. depth behind panel $1 / 2^{\prime \prime}$. Complete with mitg. nuts. Screw terms. Shpg. wt. 302 . $\begin{array}{llllll}\text { terms. Shpg. Wt. } \\ \text { Stock. } & \text { Mfg. Amperes } & 1-24 & 25-49 & 50.99 & 100-499\end{array}$ $\begin{array}{cccccccc}\text { No. } & \text { Typo } & 125 \mathrm{~V} .250 \mathrm{~V} . & \text { Each } & \text { Each } & \text { Each } & \text { Each } \\ 19 \text { A7016 } & 110-\mathrm{SP} & 6 & 3 & \$ 1.51 & \$ 1.35 & \$ 1.15 & \$ 1.04 \\ 19 A 7017 & 160-S P & 10 & 5 & 1.86 & 1.67 & 1.42 & 1.28\end{array}$

## CARLING

## SPST MIDGET SWITCH



Type 125RB. 3 amps at 125 volts AC. Solder standard knlfe terminals. Threaded Switches. Ideal for stem length in frical needs. Porce. stem length hat has lain base. Rated 25 bat handle length ${ }^{3 / 6 " \text {. }}$. emps at 125 volts. With hex and knurled

$\qquad$
$+.63 c$

No. Type Size Each 10 Ea,
 500 Up Each............................................... 1987022 DPDT $11 / 2 \times 25 / 10$

## MOMENTARY PUSH-BUTTON SWITCH



Normally open. Ideal for signal bells, lights, buzzers, etc. Pearl button with a nickel plated outer ring. Screw ferminals. Snap mounts in \%** dia. hoie. Depth of shank $1 / 2^{\prime \prime}$. Shpg. wt. 2 or.


## STACKPOLE SLIDE SWITCHES

WORLD'S LARGEST PROOUCER OF SLIDE SWITCHES
Low cost switches for use where a small size is needed. Contacts
 cht.ig. Wt. 3 ozs. All are positive actiong. UL and CSA listed.

| Stack No. | Mfg. No. | Type | Action | $\begin{gathered} \text { Amps @ } 128 \mathrm{~V} . \\ \text { DC } \end{gathered}$ |  |  | $\begin{gathered} \text { Prices Each } \\ 10.99 \quad 100-499 \end{gathered}$ |  | 560.999 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947046 | SS. 26 | A | SPST | 4 | 1.0 | \$0.32 | \$0.25 | \$0.146 | \$0.096 |
| 1947047 | \$5.26.1 | A | SPDT | 4 | 1.0 | . 33 | . 26 | . 149 | . 0911 |
| 19A7048 | SS.50 | A | DPDT | 3 | 0.5 | . 35 | . 30 | . 164 | 114 |
| 848053 | SS-12 | C | 4PDT | 6 | 1.8 | . 72 | 51 | . 364 | 314 |

## ARROW-HART SUBMINIATURE SWITCHES


 nals gold plated brass. push-button -1 amp a 115 V. AC. Mounting hardware supplied. TC, TS Indicates togerie, PM Indicates push-button.

| Stock No. | $\begin{gathered} \text { Mfg. } \\ \text { No. } \end{gathered}$ | Actlon | 1.24 | $25-89$ | $\begin{aligned} & \text { Each } \\ & 100-499 \end{aligned}$ | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947007 | TS.3 | SPOT | \$3.00 | \$2.40 | \$2.25 | \$2.10 |
| 1927085 | TS-6 | DPOT | 3.90 | 3.12 | 2.93 | 2.73 |
| 1927086 | TC-3 | SPDT-Center Dff | 3.00 | 2.40 | 2.25 | 2.10 |
| 19A7088 | TC-6 | DPDT-Center Off | 3.90 | 3.12 | 2.93 | 2.73 |
| 1947089 | PM. 3 | SPDT-Mom, Contact | 2.86 | 2.28 | 2.15 | 2.00 |
| 19 A7090 | PM-6 | DPDT-Mom. Contact | 3.51 | 2.11 | 2.63 | 2.46 |

(B) LIGKT DUTY TYPE AC-DC TOGGLE SWITCH

Long life and dependability in electronic and fractional, horsepower applications Laminated phenolic sections . "年y" long slotted sleeve ( $s_{2}$ " inch) with hex and knurled nut : nickel finish. Solder lug connections. UL listed. Bat handle. Shpg, wt, 2 ozs.

| Stock No. | Arrow-Hart No. | Circuit | $\operatorname{limp}_{125 \mathrm{~V}}$ | $\begin{aligned} & \text { res } \\ & 250 \mathrm{~V} . \end{aligned}$ | 1.24 | 25.49 | $\begin{gathered} \hline \text { Prices } \\ 50-99 \end{gathered}$ | $\begin{aligned} & \text { ach } \\ & 100.499 \end{aligned}$ | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947060 | 20994LH | SPST | 3 | 1 | S0.84 | S0.78 | \$0.65 | S0.59 | S0.53 |
| 1947061 | 21350 EH | SPDT | 3 | 1 | 1.05 | . 98 | . 81 | 73 | . 65 |
| 1927062 | 20902CX | DPST | 3 | 1 | 1.52 | 1.41 | 1.17 | 1.05 | . 83 |
| 19A7063 | 209058X | DPDT | 3 | 1 | 1.74 | 1.62 | 1.34 | 1.21 | 1.08 |

## (2) STANDARD OUTY TYPE AC TGGGLE SWITCHES

Slow make and break. Designed to offer high capacity on a small phenolic base. Exceptionally long life expectancy. Sofder terminals. $15 y_{2}$ " sleeve longth. "Center off $+1 / 4 \mathrm{HP} 120-240 \mathrm{~V}$. AC; $\ddagger 1 / 6$ HP $120 \cdot 240 \mathrm{VAC}$. Bat handle.

| Stack No. | Arrow-Hart Ng . | Circult | $125$ | $50 \mathrm{~V} .$ | 1.24 | 25-49 | $\begin{gathered} \text { Prices } \\ 50.99 \end{gathered}$ | 106.499 | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1987066 | \$82601 | SPST | 15 | 10 | \$0.79 | \$0.73 | \$0.61 | \$0.549 | \$ 0.489 |
| 1947067 | +82603 | *SPDT | 15 | 10 | . 90 | . 84 | . 70 | . 630 | . 561 |
| 1947068 | +82609 | * DPDT | 15 | 10 | 1.46 | 1.36 | 1.13 | 1.017 | . 905 |

(1) STANOARO OUTY TYPE AC-OC TOGGLE SWITCHES - Bat Handle

Qulck make guick break with wiping biade action designed for small motor use Screw terminals, K" sleeve length, Rated $1 \mathrm{HP} 125,250 \mathrm{~V}, \mathrm{AC}$-DC.
Stock Arrow-Hart Amperas 1 HP 125, 250 V. AC-DC.

| Stock | Arrow-Hart |  | Amperas |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | CIrcult | 125V. 250 V. | $1-24$ | 25.49 | 50.99 | $100-499$ | 500 Up |  |
| 1947073 | 80607 BJ | SPST | 12 | 6 | $\$ 1.52$ | $\$ 1.41$ | $\$ 1.17$ | $\$ 1.053$ | $\$ 0.937$ |
| $19 A 7074$ | 80600 B | DPST | 16 | 8 | 1.52 | 1.41 | 1.17 | 1.053 | 937 | |  | $80607 B J$ | SPST | 12 | 6 | $\$ 1.52$ | $\$ 1.41$ | $\$ 1.17$ | $\$ 1.053$ | $\$ 0.937$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $19 A 7074$ | $* 80600$ B | DPST | 16 | 8 | 1.52 | 1.41 | 1.17 | 1.053 | .937 |

(O) EXTRA HEAVY DUTY AC-OC TGGGLE SWITCH - 3 POSITION

On-Off-On. Positive off center. Lever can't be moved from one side through center without stopping. For heavy current circuits such as transmitters, ampilifers, etc. "Fast break" contacts. Screw terminals, $3 / 4$ HP 250 V. AC-DC. With 2 hex nuts UL listed. Balt handle. $1 \mathrm{~K}_{2}$ " sleeve length. Shpg. wt. 2 ozs

| $19 \AA 7075$ | $80638-D$ | DPDT | 10 | 5 | $\$ 4.43$ | $\$ 4.12$ | $\$ 3.42$ | $\$ 3.078$ | $\$ 2.739$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(4) MOMENTARY PUSH SWITCHES AC - LIGHT OUTY 1 ANP

Slow make and break operated with light pressure-Laminated phenolic sectionsslotted sleeve ("sa" dia. 32 threads per inch)-hex and knurled nut assembled. Slotted sieeve ( ${ }^{2}$ " dia. 32 threads per inch)- hex and knuried nut assembled.
"Two circuit (one circult on-one circuit off, reverses when pushed), All have Two circuit one circuit on one
solder terminals. Shpg. wt. 2 ozs.
 Normally open Screw terminals. Rated 1 HP 125 or 250 V. AC-DC. With 2 hex nuts. UL listed. Wt. 2 ozs.
$\begin{array}{lllllllllll}1947081 & 80630 & \text { DPST } & 7 / 6^{\prime \prime} & \text { Metal } & \$ 2.27 & \$ 2.11 & \$ 1.75 & \$ 1.575 & \$ 1.402\end{array}$

(O) (7) MOMENTARY PUSH SWITCHES AC - LIGKT DUTY MIDGET SIZE

Slow make and break. Moided phenolic base, slotted sleeve Ko long, is/ ${ }^{\prime \prime}$ dia. 32 threads per inch. Hex and knurled nut assembled brass nickel finish button. Solder lugs. N.O. is normally open; N.C. Is normally closed. UL listed. Shpg. wt. 2 ozs. 'Has phenolic snap-on button Fig. © 7 . All are 3 amp or $1 / 10 \mathrm{HP} 120 \mathrm{~V}$. AC.

| Stock No. | Arrew. Hart No. | Circuit | Button Colar | 1-24 | 25-49 | $\begin{gathered} \hline \text { Pricos } \\ 50-99 \end{gathered}$ | $\begin{aligned} & \text { ach } \\ & 100-499 \end{aligned}$ | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1987054 | 80511 F | SPST-NO | Metal | $\$ 0.57$ | \$0.53 | \$0.44 | \$0.396 | \$0.352 |
| -1947055 | 80511 | SPST-NC | Metal | . 57 | . 53 | . 44 | . 396 | . 352 |
| 19 A7056 | * 80541ER | SPST-NO | Red | 1.07 | 1.00 | . 83 | . 747 | . 665 |
| 19 A 7057 | -80541E | SPST-NO | Glack | 1.07 | 1.00 | . 83 | . 747 | 665 |

Lockswitch with key for use on power tools, appliances. Fits panels to $\mathrm{z}_{2}^{\prime \prime}$. Lamk nated phenolic sections. Hex and dress nuts, key. Solder lugs. ${ }^{15 z_{z}^{\prime \prime}}$ sleeve length. UL Iisted. Wt. 2 ozs.
Key Removable in Off Position onily. 6 Amp- 125 V, 3 Amp- 250 V.

| Stock No. | Arrow-Hart Ho. | Circuit | 1-24 | 25.49 | $\begin{aligned} & \text { Hees E: } \\ & 50-99 \end{aligned}$ | $\begin{aligned} & \text { ach } \\ & 100-499 \end{aligned}$ | 500 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947058 | 1561L | SPST | \$2.97 | \$2.02 | S1.68 | \$\$.51 | \$1.34 |

Key Removable in Both Positions-3 amp-250 V.

| 19A7083 | $1561 L E$ | SPST | $\$ 2.17$ | S2.02 | $\$ 1.68$ | $\$ 1.51$ | $\$ 1.34$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | EXTRA KEYS FOR ABOVE LOCK SWITCHES


| $19 A 7107$ | $1561-488$ | for 1561 L | $\$ 0.22$ | $\$ 0.20$ | $\$ 0.17$ | $\$ 0.153$ | $\$ 0.136$ |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| $19 A 7084$ | $1561-487$ | for 15611E | .22 | .20 | .17 | .153 | .136 |

$\begin{array}{lllll}1927084 & 1561-487 & \text { for } 1561 L E & .22 & .20 \\ \text { () ON-aFF PLATE. Fits slot In threaded sleeve of toggle switches. Mounts vertically. }\end{array}$ Nickel finish.
19A7059. 1.89. Each.......3c $100-499$, Each.......... $\$ 0.027 \quad 500$ Up, Each........ 0.024

## P\&B, LINEMASTER, GRAYHILL SWITCHES



| Stock Mo. | Fig. No. | $\begin{gathered} \text { G2 } \\ \text { Type } \end{gathered}$ | Miero. Equit. | Opar. Force Ozs. | $\begin{aligned} & 1.9 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 10.19 \\ & \text { Esch } \end{aligned}$ | $\begin{gathered} 20.49 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I9A615 | 1 | 111.8 | BA-2R.A2 | 14.22 | \$1.80 | \$1.62 | \$1.44 | \$1.26 |
| 194616 | 3 | $113-8$ | BA-2RB-A2 | 14.22 | 2.25 | 2.03 | 1.80 | 1.58 |
| 194617 | 4 | 114 -1 | BA-2RQ1 | 14-22 | 4.10 | 3.69 | 3.28 | 2.87 |
| 194618 | 4 | 114-8 | BA-2RQ1-A2 | 14-22 | 3.85 | 3.47 | 3.08 | 2.70 |
| 19A619 | 5 | 115.1 | BA-2RL | 9 Max. | 2.25 | 2.03 | 1.80 | 1.58 |
| 19 A620 | 5 | 115.8 | BA.2RL-A2 | 9 Max. | 2.10 | 1.89 | 1.68 | 1.47 |
| 194622 | 6 | 116-8 | BA-2RL2-A2 | 9 Max. | 2.65 | 2.39 | 2.12 | 1.86 |
| 194623 | 7 | 117.8 | BA-2RV-A2 | $21 / 2$ Max. | 2.30 | 2.07 | 1.84 | 1.61 |
| 194624 | 9 | 118.1 | BA-2fV2 | $21 / 2$ Max. | 3.10 | 2.79 | 2.48 | 2.17 |
| 19 A625 | 9 | 118.8 | BA-2RV2-A2 | $21 / 2$ Max. | 2.90 | 2.61 | 2.32 | 2.03 |

## LINEMASTER TOP QUALITY FOOT SWITCHES


(1) Model T51-S "Treadilte." Compact, rugged treadie switch. SPDT momentary contacts rated 7 amps at $125-250$ VAC. $1 /$ HP 125 VAC. Has heavy rubber tread and skidproof base pad. Durable black finsh. Size $31 / 2 \times 25 \times 1{ }^{\prime \prime \prime}$. Shpg. wt. 702 s . No. 19a7091. $\$ 2.36$ (8) Modes $491-5$ "Compact." Lightweight momentary contact switch with SPOT con-
tacts rated 10 amps at 125 VAC. $1 / 2 \mathrm{HP}, 115 \mathrm{VAC}$. Has steel housing, blach wrinkie
 (3) Model 632-S "Clipper." Momentary contact heavy duty switch. SPDT contacts take 20 amps at $125-250$ VAC, 1 HP $115-230$ VAC. Cast iron housing has antl-skid pad. black wrinkle finlsh, mig. holes. Size $41 / 2 \times 31 / 2 \times 11 / 2^{\prime \prime}$. Shpg. Wt. $21 / 2$ lbs. No. 19A7093. 1-9 Eannon $\$ 8.5 \mathrm{U}$ 10-19 Ez. ............ $\$ 1.65$. 20-49 Ea__ $\$ 80$ (3) Model 632-0. As above, but maintains contact untt again actuated. Wt. 21/2 lbs. (1) Model L-2-S Lektro-Lock. Teoter-totter principle. Mechanical interlock prevents both sides being operated at same time. Each side SPDT momentary. When pres. sure is released. switch returns to normal. May be wired normally open or normally closed on each side. $15 \mathrm{~A} .125-250$ VAC. Black wrinkle metal housing. $5 \times 21 / 2 \times 11 / \mathrm{B}^{\prime \prime}$. Wt. 10 ozs.
 (0) Model 121-S Junlor Footswltch. An ideal unit for office machines and shop equlpment. Light pressure required. Popular for knee operation. Momentary SPDF, 15 amp 125.250 VAC. Aluminum housing $51 / 2 \times 31 / 4 \times 11 / 4^{\prime \prime}$. Wt. 1 lb . No. 19A 7096 . 1.9 Ea...........S8. 70

## EWMHITHENXSWITCHES

SERIES 65000 DW "MULTI-SWITCH"
SERIES 35000 "MULTI-SWITCH" NON-ILLUMINATED FRAMES Mount on panels up $101 / 8^{\text {" }}$ thick-permits SPST to 6POT switching in 8 sq. in for each push-bulton. Push-buttons are $5 / 8^{\prime \prime}$ center to centw. Nartow rectangular shape permits stacking in paraliel rows on $3 / 4^{-}$centers. $2-5 / 16$ depth behind panal. Has injerlock functiote actuating a button restores to normal the button previously actuated. Lockout fealure prevents operation of more than one bution al a tume these numbers cover basic liame only. Ordet swilch stacks, solenod release, tic., from listings below to complate yout swinch

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Switcheraft Part No. | No. of Stations | 1.9 | $\begin{gathered} \text { Prices } \\ 10-24 \end{gathered}$ | $\begin{aligned} & \text { Each } \\ & 25.49 \end{aligned}$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19A7118 | 35021 | 2 | \$5.53 | \$5.10 | \$4.68 | \$4.25 |
| 1987119 | 35041 | 4 | 7.80 | 7.20 | 6.60 | 6.00 |
| 1947120 | 35061 | 6 | 10.40 | 8.60 | 8.80 | 8.00 |
| 1947121 | 35081 | - | 13.00 | 12.00 | 11.00 | 10.00 |
| 1987122 | 35101 | 10 | 15.60 | 14.40 | 13.20 | 12.00 |
| J9A7123 | 35121 | 12 | 18.20 | 18.80 | 15.40 | 14.00 |

SERIES 37000 "MULTI-SWITCH" SINGLE LAMP ILLUMINATED FRAMES
Identical in switching functions and charecteristics to non-illuminaled Series 35000 . but feature large rectangular shaped push. buttons each of which serves as a panel Indicator light which actuates up to 6 PDT switching. Push-buttons with large transparent clear display screan and white legend insert. Use one switch stack 183P for each button for lighting in aither "in" or "out" .position. H83P provides rear of switch wifing for all lighting functions including continuous lightiag of bulbs in ald switch positions, but if "rear of switch" miring is not required the socket terminals may be directly connected to a power source for continuous lighting of any bulb. A single 6 V . or 28 V . lamp can be used at each station. Use 327 and 328 lamp shown on page 133.

| Stock No. | Switcheraft Part No. | No, of Stations | 1.9 | ${ }_{10.24}^{\mathrm{PrI}}$ | 25-49 | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917124 | 37021 | 2 | \$7.74 | \$7.14 | \$6.55 | \$5.95 |
| 1947125 | 37041 | 4 | 12.55 | 11.58 | 10.62 | 9.65 |
| 1987126 | 37061 | 6 | 17.36 | 16.02 | 14.69 | 13.35 |
| 19 A 127 | 37081 | 8 | 22.49 | 20.76 | 19.03 | 17.30 |
| 19 A 7128 | 37101 | 10 | 27.30 | 25.20 | 23.10 | 21.00 |
| $19 \mathrm{A7129}$ | 37121 | 12 | 32.11 | 29.64 | 27.17 | 24.70 |

## SWITCH STACKS

For 35000, 37000. Saries 80P. Cross-bar welded palladium contacts. Rated 3 amps, 300 watts max., AC non-inductive load. -H-83P lamp circuit switch stack for rear-of-frame wiring.

| Stock No. | Switcheraft Part No. | Circuits | 1.9 | $10.24 \text { Prices }$ | $\begin{aligned} & \text { Each } \\ & 25.49 \end{aligned}$ | 50-89 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947130 | 81 P | 1.4 | \$0.52 | 50.48 | 50.44 | \$0.40 |
| 19 A 131 | 82 P | 1-B | . 52 | . 48 | . 44 | . 40 |
| 19 A132 | 83P | $1 \cdot 6$ | . 68 | . 63 | . 58 | . 53 |
| 1927133 | 83 PD | 1.D | . 78 | . 72 | . 66 | . 60 |
| 19 A7134 | H-83P | . | 94 | . 87 | . 80 | 73 |

## SERIES NJ SDLENOID RELEASE

A simple solenoid assembly which can be added to the end of a standard Series 35000 or 37000 trame to provide olectfical release of activated stations For 115 VAC.
No. 19a 7141 Switchcrat Part No. NJ-1. 1-9 Each .....

10-24 Ea
No. $56.00 \quad 25-49 \mathrm{Ea}$
HOW TO ORDER "MULTI-SWITCH" SWITCHES
Determine part number of frame or complete swith.

1. Illuminated or non-illuminated.
2. Number of stations.
3. Function of stations, select proper switch stacks or propar type of completed switch.
4. Type of illumination determines whether a set of contacts, or a switch stack will be required for lurn "off" or "on"" of bulbs.

SWITCH FUNCTIONS

(A) SPST-NO
(1) SPST-NC

It spor
witcheraft Multi-Switches ars also avalabie in non-lock, sll lock, push-to-lock an oush to-release types with a wide variation of types of knobs, colors, legends, etc. All types of Multi-Switches" not shown here are available from B-A on special order. Ash for No, 16A1190 Switchcraft Catalog FREE to help you In your selection.


SWITCHCRAFT BOX SWITCHES
Minature momentary pushbutton switch "1Kis" sq. Depth $1^{18}$ " max behind panel. Molded plastic body. Snap-in front panel mounting in $.615^{\prime \prime}$ sq. hole. $\mathbb{x}^{\prime \prime}$ button stroke. Rated $250 \mathrm{MA}, 30$ watts max. AC. fig. Stock Mif

| Stock | Mif. |  |  |  |  | ricas Eac |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | - | Button | Contacts | 1.24 | 25.49 | $50.99$ | 100.249 | 250-4 |
| 1987109 | BX-01.1 | Red | SPST-NO | $\$ 2.07$ | \$1.90 |  | \$1.38 | \$1.31 |
| 19 7 7110 | BX-02-1 | Black | SPST.NO | 2.07 | 1.90 | 1.73 | 1.38 | 1.31 |
| 1947334 | Bx-03-1 | Green | SPST-NO | 2.07 | 1.90 | 1.73 | 1.38 | 1.31 |
| $19 ¢ 7335$ | 8X-05-1 | White | SPST-NO | 2.07 | 1.90 | 1.73 | 1.38 | 1.31 |
| 19 A7336 | BX-01-3 | Red | SPDT | 2.16 | 1.98 | 1.80 | 1.44 | 1.37 |
| 1927337 | BX.02.3 | Black | SPDT | 2.16 | 1.98 | 1.80 | 1.44 | 1.37 |
| 1987338 | BX-03-3 | Green | SPDT | 2.16 | 1.98 | 1.80 | 1.44 | 1.37 |
| 19 A 7339 | BX-05-3 | White | SPOT | 2.16 | 1.98 | 1.80 | 1.44 | 1.37 |
| 19A7111 | BX.01.6 | Red | DPDT | 2.37 | 2.17 | 1.98 | 1.58 | 1.50 |
| 1987340 | BX-02-6 | Black | DPDT | 2.37 | 2.17 | 1.98 | 1.58 | 1.50 |
| 19 7 341 | BX-03.6 | Green | DPDT | 2.37 | 2.17 | 1.98 | 1.58 | 1.50 |
| 9 A | BX.05.6 | White | DPDT | 2. | 2.17 | 8 | . 58 |  |

DW "(doublewipe) coniscts rited at 3 amps $A C, .5 \mathrm{mp} D C, 125$ volt non-induetive load. Push-buttons are on $z_{3}$ centers, overall height is $27 / 30,2 C$ assemblies (suffix No. 206) extend 1 Ya" behind panel, iC assemblies (suffix No. 212) extend $1 \%_{1}{ }^{\prime \prime}$. Interlock function retums any button to "out" position when any other button is pushed. lock-out prevents operation of more then one button at a time. All Series 65000 DW switches are completely assembled and tested
 at the factory.

| Stock No. | Switcheraft Part No. | No. of Stations | 1.9 | $\begin{aligned} & \text { Pri } \\ & 10.24 \end{aligned}$ | $\begin{array}{lcc} 25-49 \end{array}$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1947135 | 65021K-206 | 2 | \$2.24 | \$1.68 | \$1.54 | \$1,40 |
| 1987136 | 65041K-206 | 4 | 4.00 | 3.00 | 2.75 | 2.50 |
| 1987137 | $65061 \mathrm{~K}-206$ | 6 | 5.76 | 4.32 | 3.96 | 3.60 |
| 19 7 7138 | 65081K-206 | 8 | 7.52 | 5.64 | 5.17 | 4.70 |
| 1987139 | 65101K-206 | 10 | 9.24 | 6.93 | 6.35 | 5.78 |
| $19 \times 7140$ | 65121K-206 | 12 | 11.00 | 8.25 | 7.56 | 6.88 |
| 4C ASSEMBLIES (4PDT) |  |  |  |  |  |  |
| 1987322 | $65021 \mathrm{~K}-212$ | 2 | \$2.64 | \$1.98 | \$1.82 | \$1.65 |
| 1927323 | 65041 K -212 | 4 | 4.80 | 3.60 | 3.30 | 3.00 |
| 19 A 7324 | 65061 K 212 | 6 | 6.96 | 5.22 | 4.79 | 4.35 |
| 19 A 7325 | 65081 K -212 | 8 | 9.12 | 6.84 | 6.27 | 5.70 |
| 19 A 7326 | $65101 \mathrm{~K}-212$ | 10 | 11.24 | 8.43 | 7.73 | 7.03 |
| 19193327 | 65121K-212 | 12 | 13.40 | 10.05 | 9.21 | 8.38 |

## SERIES 67000 ILLUMINATED "MULTI-SWITCH"

Same quality construction and relizble switching turctions as Serles 65000 . Has large square white push-buttens for brilllant evenly diffused lighting. Snap-off buttons allow bulb replacement from front of switch.
A single, 6 volt (328) or 28 volt (327) lamp. not furnishad, is used for each button. See lamp listing on page 133. Overall height is 11/4." depth behind panes is $2 \%^{*}$. Two 6/32 screws required for mounting. 4C switch contacts on each station.


| Stock | Switcheraft | No. of |  | Prices Each |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pari No. | Stations | 1.9 | 10.24 | 25.49 | 50.99 |
| 19 A7328 | $67021 \mathrm{~K}-512$ | 2 | \$3.36 | \$2.52 | \$2.31 | \$2.10 |
| 1987329 | $67041 \mathrm{~K}-512$ | 4 | 6.26 | 4.62 | 4.24 | 3.85 |
| 1987330 | $67061 \mathrm{~K}-512$ | 6 | 8.96 | 6.72 | 6.16 | 5.60 |
| 1987331 | 67081K-512 | 8 | 11.76 | 8.82 | 8.09 | 7.35 |
| 19 A7332 | 67101 K .512 | 10 | 14.56 | 10.92 | 10.01 | 9.10 |
| 19 A7333 | 67121K-512 | 12 | 17.36 | 13.02 | 11.94 | 10.85 |

## SOLENOID RELEASE-DW SERIES

Solenoid assemblies that can be added on the and of a Senes 65000, 68000. $67000,70000.71000$ OW "Multi-Switch" switch used with intertock function IIFs switches having 1 to 12 stations Operates from 115 VAC Solenord assembly. mounting hardwace, screws and instruction sheet turnished.
No. 19A7321. Switcheraft Part No. DW.1.
1.9 Each $\$ 4.23 \quad 10.24$ Each $\$ 3.90 \quad 25.49$ Eac $\quad \$ 3.58 \quad 50.99$ Each $\$ 3.25$

SWITCHCRAFT LEV-R SWITCHES Compact lever-action switches. Sllver contacts rated at 3 amps AC, non-inductive load, Length $21 / 4 \mathrm{~m}$ behind position off.
TWO POSITION TYPES

| Stock Numbers |  | Mfg. <br> No. | Action | Schematic Circuit Pos. 1 Pos. 2 | 1.24 | Prices Each |  | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Spring | locking |  |  |  |  |  |  |  |
| Return | Type |  |  |  |  | 25.49 | \$0.99 |  |
| 1987167 | 1987175 | 3001 | SPST-NO | 1-A | \$1.44 | \$1.32 | \$1.20 | \$0.96 |
| 1987168 | 1987176 | 3003 | SPDT | 1-6 | 1.71 | 1.57 | 1.43 | 1.14 |
| 1987169 | 1987177 | 3004 | DPST-NO | 2-A | 1.86 | 1.71 | 1.55 | 2.24 |
| 194717 | 1987179 | 3006 | DPDT | $2-6$ | 2.07 | 1.90 | 1.73 | 1.38 |
| 19A7223 | 1987224 | 3006D | SPDT | 10 | 2.22 | 2.04 | 1.85 | 1.48 |
| THREE POSITION TYPES |  |  |  |  |  |  |  |  |
| 1987172 | 1847180 | 3033 | SPDT-ND | 1-6 $\dagger$ | \$1.86 | \$1.71 | \$1.55 | \$1.24 |
| 1987673 | 1987181 | 3036 | SPDT Ea. Sec. |  | 2.43 | 2.23 | 2.03 | 1.62 |
| 1987174 | 19A71a2 | 3037 | SPOT-ND Ea. Sec. | 1-Ct 1-C\% | 2.22 | 2.04 | 1.85 | 1.48 |

## SWITCHCRAFT "TINY SWITCH" \& <br> "LITTEL-SWITCHES"

MOMENTARY MINIATURE PUSh-BUTTON SWITCHES
Littel" 200 Series mounts in $3 \mathrm{~s}^{\prime \prime}$ hole. Black button.
"Tiny" 950 Series mounts in $1 / 4^{\prime \prime}$ hole. Red button.



## GMrIGHEANAT SWITCHES(G)RELAYS G/GSOLENOIDS

SWITCHCRAFT SERIES PL "PUSH-LITE" SWITCHES

"Push-Lire" is the frist completely enclosed. lighted pushbutton switch which features long-life, high ty-reliable leaf-spring switthing. Pusbbution color supplied is white, other colors listed at right Moided crossbar palladium contacts rated at 2 amps. 200 watts, max. A.C. non-nductive load. Mount with clamp-type bracket, no screws, washers or nuts needed. (A) Flange mounting requires $1^{\prime \prime} \times .875^{\prime \prime}$ panel cutout: ( 8 ) barrier mounting requires $1-3 / 16^{\prime \prime} \times .875^{\prime \prime}$ panel cutout. Can be mount. ed in vertical or horizontal tows and in maltres. Bepth behind panel only 1*/ ". "Push-Lite" switeh accepts standard $\mathrm{T}-1 \%$ llange base lamps (not furnished with swith) in either 6 V type 328 or 28 V type 327 listed on page 133. Specity one lamp for stngle lamp type or iwo lamps of twin-lamp type when redundant of split-face lighting is required. Barriers and coiored filter snap-inserts listed at sipht.

|  | mDMENTARY AC | IDN-SINGLE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Black Housing <br> Sth. No. Mfe. No. | Groy Housing <br> Str. No. Mis. No. | \# Sche- | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $25-49$ Each | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { 100.249 } \\ & \text { Each } \end{aligned}$ |
| 19 A 7297 PL-1032-05 | 19A7300 PL-4032.05 | SPDT 1-C | \$5.55 | \$5.09 | 4.63 | \$3.70 |
| 19 A 298 PL -1062-05 | 19A7301 PL-4062-05 | DPDT $2 . C$ | 5.70 | 5.23 | 4.75 | 3.80 |
| 1917299 PL-1122-05 | 19A7302 PL.4122-05 | $4 \mathrm{PDT} 4 . \mathrm{C}$ | 6.15 | 5.64 | 5.13 | 4.10 |
| MOMENTARY ACTION-TWIN LAMP |  |  |  |  |  |  |
| 19 A 303 PL -2032-05 | 19A7306 PL4 5032-054 | SPDT 1-C | 5.70 | 5.23 | 4.75 | 3.80 |
| $19 \mathrm{~A} 7304 \mathrm{PL}-2062.05$ | 19 A 707 PL 5062 -05 ${ }^{\text {b }}$ | DPDT 2-C | 5.85 | 5.36 | 4.88 | 3.90 |
| 1917305 PL-2122-05 | 19A7308 PL-5122-05 | 4PDT 4-C | 6.30 | 5.78 | 5.25 | 4.20 |
| PUSH-LOCK/PUSH-RELEASE-SINGLE LAMP |  |  |  |  |  |  |
| $19 \mathrm{~A} 7309 \mathrm{PL}-1$ | 19 A 312 PL -4037.05 | SPDT 1.C | 5.85 | 5.36 | 4.88 | 3.90 |
| 19 A 7310 PL -1067-05 | 19A7313 PL.4067.05 | DPDT 2.C | 6.00 | 5.50 | 5.00 | 4.00 |
| 1987311 PL-1127.05 | 19 A 7314 PL-4127.05 | 4PDT 4-C | 6.45 | 5.9 | 5.38 | 4.30 |
| PUSH-LOCK/PUSH-RELEASE-TWIN LAMP |  |  |  |  |  |  |
| 19 7 315 PL-2037-05 | 19A7318 PL-5037-05 | SPDT 1-C | 6.45 | 5.91 | 5,38 |  |
| 19 A 316 PL-2067-05 | 19A7319 PL-5067-05 | DPDT 2-C | 6.60 | 6.05 | 5.50 | 4.40 |
| 19 C 317 PL -2127-05 | 19A7320 PL-5127.05 | 4PDT 4-C | 7.05 | 6.46 | 5.88 | 4.70 |
| - Schematics are on page 119. |  |  |  |  |  |  |

SWITCHCRAFT "PL" INDICATORS


PL Indicator lights perfectly match Push-Lite switches in appearance, but furction only as B pilot light. Use the same colored push buttons. color filters. light dividers, Lite switches. Supplied with white push buttons, lass iumps. Mounting dimensions same as Push-Lite switches. Combination lamp retainer uses either 1 or 2 lamps.
$\begin{array}{llllll}\text { Stock Mig. } & & \mathbf{1 . 2 4} & 25.49 & 50.99 & 100-249 \\ \text { No. } & \text { Ho. } & \text { Color } & \text { Ench } & \text { Each } & \text { Each } \\ \text { Each }\end{array}$ 19 A 343 PL. 9105 Black $\$ 1.50 \quad \$ 1.38 \quad \$ 1.25 \quad \$ 1.00$ $\begin{array}{lllllll}19 A 7344 & \text { PL. } 9205 & \text { Giack } & 1.50 & 1.38 & 1.25 & 1.00\end{array}$
No. 37A3367. CHASSIS PUNCH for PL. $1^{\prime \prime} \times .875^{\circ \prime}$ Each
$\$ 25.00$

5uries PL.500. Colored pushbuttons are important elements of the "Push-Lite" Switch. All pushbuttons have a lusteriess matte finish to eliminate reflective glare

| Stock | Mfg. |  | 1-24 | 25-49 | 50.99 | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Color | Each | Esch | Emeh | Each |
| 1917274 | PL-501 | Red | 50.15 | \$0.14 | \$0.13 | \$0.10 |
| 19 P 7275 | PL-503 | Green | . 15 | . 14 | . 13 | . 10 |
| 19 A7276 | PL-504 | Blue | . 15 | . 14 | . 13 | 10 |
| 1947277 | PL. 505 | White | 15 | . 14 | . 13 | . 10 |
| 19 A 278 | PL-508 | Yellow | . 15 | . 14 | . 13 | . 10 |
| 1947279 $19 \wedge 7280$ | PL-512 |  | . 15 | 14 | . 13 | : 10 |

## SWITCHCRAFT MOUNTING BARRIERS

Barriers, molded of plastic, saparete "Push-Lite" switches and prevent accidental opera. tion of adjacent switches. Series PL-100 is an ond barrier. One is required whon switches Pre adjacently mounted; two are required whan switchas are individually mounted. Saries PL-200 is center barrier. Two required betwean switches when adjacently mounted.


## SWITCHCRAFT LIGHT DIVIDER

Used in the standard pusibutton to separate the dighting from twin lamps

| Stock No. | Mfg. No. | $1-24 \mathrm{Ea}$ | 25.49 Ea | $50-99 \mathrm{Ew}$. | 100-249 Ea. |
| :--- | :--- | :--- | :--- | :--- | :--- |



## SWITCHCRAFT COLOR FILTER SNAP-INSERTS

Transiucent filters for special color-coding in "Push-Lite" switch. Use with whito or clear pushbuttons.

SERJE5 PL-300 FULL DISPLAY COLOR FILTERS

| Stock | Hetg. |  | 1-24 | 25-49 | 50.99 | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Coler | Each | Each | Each | Emeh |
| 1987281 | PL-301 | Red | \$0.07 | \$0.06 | \$0.055 | \$0.044 |
| 19 A 7282 | PL. 303 | Grean | . 07 | . 06 | . 055 | . 044 |
| 19 A7283 | PL-304 | Blue | . 07 | . 06 | . 055 | . 044 |
| 1947284 | PL-305 | White | . 07 | . 06 | . 055 | . 044 |
| $-1947285$ | PL-308 | Yellow | . 07 | . 06 | . 055 | . 044 |
|  | SERIE | 400 SPL | CE DIS | COLOR | TERS |  |
| Use 2 fill | each pus |  |  |  |  |  |
| 1987286 | PL-401 | Red | . 05 | .. 044 | . 04 | . 032 |
| 1947287 | PL-403 | Green | . 05 | . 044 | . 04 | . 032 |
| $19 \times 7288$ | PL. 404 | Blue | . 05 | . 044 | . 04 | . 032 |
| 1947289 | PL. 405 | White | . 05 | . 044 | . 04 | . 032 |
| 1987290 | PL. 408 | Yellow | . 05 | . 044 | . 04 | . 032 |

## SWITCHCRAFT LAMP ADAPTER



Converts T-1 lamp base to $\mathrm{T}-1$ \% lamp base. Adapter permits use of $\mathrm{T}-1$ ( No . 718) midget flange base in sockets designed for $\mathrm{T}-113$ lamps. See page 133 for 718 lamp
No. 19A7292. Mfo T-1. 1-24 Ee.45' 25-49 Ea.
$100-24 \mathrm{~EB}$.
50.99 Each

## GUARDIAN ALL PURPOSE

 ECONOMY 10 AMP RELAYS

Compact, lightwelght relay capable of unusually heavy power contro for its size. Long ilfe, high quality relay avallable in varlety of AC and OC voitages with a selection of contact combinations. 10 amp. contacts, 115 . AC non-inductive load. Tapped for $8-32$ singte screw mounting. Size, $11 K_{6}^{\prime \prime} \times 11 / 2^{\prime \prime} \times 1^{\prime \prime}$. Shpg. wt. 4 oz


T154 OC Relays. Moniature enclosed type. 1 amp 115 VAC contacts

| Sth. No. | Mfg. No. VPOT (Use 30055 -t |  | H. 50.92 Ea . | 100 Up Ea. |
| :---: | :---: | :---: | :---: | :---: |
| 19 A 1772 | F154-2C 6 DC | \$3.25 \$2.93 | \$2.44 | \$2.28 |
| 19 A1773 | T154.2C 12 DC | $3.26 \quad 2.93$ | 2.44 | 2.28 |
| 19A1774 | T154-2C 24 DC | $3.25 \quad 2.93$ | 2.44 | 2.28 |
| 19A1775 | T154-2C 48 DC | $3.25 \quad 2.83$ | 2.44 | 2.28 |
| 1941776 | T154-2C 115 DC | 4.95 4.45 | 371 | 3.46 |
| 19A1777-30 | 30055-1 Socket for 2C | . 60 . 65 | . 45 | . 43 |
| 19a17JJ-30055-1 Socket |  |  |  |  |
| $19 \mathrm{A1778}$ | T154-4C 6 DC | \$3.65 \$328 | 52.74 | \$2.56 |
| 19 A1779 | T154-4C 12 DC | $3.65 \quad 3.29$ | 2.74 | 2.56 |
| 19 A1780 | T154.4C 24 DC | $\begin{array}{ll}3.65 & 3.29\end{array}$ | 2.74 | 2.56 |
| $19 \mathrm{Al781}$ | T154-4C 48 DC | 3.65 -3.29 | 2.74 | 2.56 |
| 1981782 | T154-4C 115 DC | $5.33 \quad 4.80$ | 3.99 | 3.73 |
| 19A1783-30055-2 Socket for 46 <br> 19A1841-30055-8 Socket for 4C |  |  |  |  |
|  |  |  |  |  |
| with 10 | onger center terminals. | 80 . 73 | . 60 | . 57 |

## 80 Series Power Types. DPDT heavy duty power relay. 15 amp. $15 / 6 \times 11 / 2 \times 14^{n} \mathrm{H}$

$\begin{array}{llrllll}19 A 1784 & B D-6 A & 6 A C & S 6.26 & S 5.63 & \$ 4.69 & \$ 4.38 \\ 19 A 1785 & B 0-6 A & 24 A C & 6.25 & 5.63 & 4.69 & 4.38 \\ 19 A 1786 & B 0-6 A & 115 A C & 6.25 & 5.63 & 4.68 & 4.38\end{array}$

## ALLIED CONTROL

 RELAYS


## GUARDIAN PUSH-TYPE SOLENOIDS

Plunger pushes out when Solenoid is energized. Length of push rods equals maximum stroke length shown.

| Stock No. | Mfg. No. | Duty | Volts | $\begin{gathered} A C \\ \text { or } D C \end{gathered}$ | Ohms | Adj. Stroke | Max. Lift Ozs. | $\begin{aligned} & \text { Body Size } \\ & \text { L. XW. XH. } \end{aligned}$ | Wt. O2s. | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25-49 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 50-99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100.24 \mathrm{~g} \\ \text { Esch } \end{gathered}$ | $\begin{gathered} 250 \mathrm{Up} \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 A5017 | 18 P | 1 | 120 | AC | 8.8 | $1 / 4.1^{\prime \prime}$ | 280 | $21 / 9 \times 13 / 4 \times 21^{1 / 1}$ | 16.5 | S6. 29 | 55.66 | S5.35 | 54.40 | \$4.09 |
| 19 S 018 | 18 P | c | 120 | AC | 19.7 | 1/10 | 145 | $218 \times 1{ }^{1 / 14} \times$ | 16.5 | 6.29 | 5.66 | 5.35 | 4.40 | 4.09 |
| 19 A 019 | 28P | C | 24 | AC | 17.4 | $1101 / 2{ }^{1}$ | 16 | $11 \% \times 10_{6} \times 1 K_{4}$ | 3.5 | 4.17 | 3.75 | 3.54 | 2.92 | 2.71 |
| $19 \mathrm{A5020}$ | 28P | I | 120 | AC | 220 | K01/ | 28 |  | 3.5 | 4.46 | 4.01 | 3.79 | 3.12 | 2.90 |
| 19 A 021 | 28P | c | 120 | ${ }^{\text {AC }}$ | 400 | 16.1/2. | 16 | $116 \times 10^{1 \%}$ | 3.5 | 4.46 | 4.01 | 3.78 | 3.12 | 2.90 |
| 19 A 022 | 28 P | C | 6 | DC | 7.7 |  | 19 | $11 /{ }^{1010} \times 16^{\prime \prime}$ | 3.5 | 3.82 | 3.53 | 3.33 | 274 | 2.55 |
| 1915023 | 28 P | C | 12 | DC | 27 | K-1/2" | 19 | $1 \% \times 1 \% \times 16^{\prime \prime}$ | 3.5 3.5 | 3.92 | 3.53 | 3.33 | 2.74 | 2.55 |
| 1985024 | 28P | C | 24 | DC | 104 | Ks. $1 / 2{ }^{\prime \prime}$ | 19 | $11 / 8 \times 1 \%^{\prime \prime}$ | 3.5 | 3.92 | 3.53 | 3.33 | 2.74 | 2.55 |

## GUARDIAN SOLENOID SWITCHES

(3. Standard type 11 pull-type solenoid with a SPDT switch operated by a push rod on the plunger. Switch contacts rated 10 A . at 120 VAC .

| Stock Ne. | Duty | Volts | $\begin{gathered} A C \\ \text { or } D C \end{gathered}$ | Ohma | Adt. Stroke | $\begin{gathered} \text { Wax. Uft } \\ \text { Oza. } \end{gathered}$ | $\begin{aligned} & \text { Body } 5120 \\ & \text { L. XW. X H. } \end{aligned}$ | $\begin{aligned} & \text { Wt. } \\ & \mathbf{O z} . \end{aligned}$ | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25.49 \\ & \text { Esch } \end{aligned}$ | $\begin{aligned} & 50-99 \\ & \text { Esech } \end{aligned}$ | $\begin{gathered} 100.249 \\ \text { Esch } \end{gathered}$ | $\begin{aligned} & 260 \text { Up } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1915013 | I | 120 | AC | 85 | 1/4.1" | 25 |  | 7.5 | \$4.79 | \$4.31 | \$4.07 | \$3.35 | \$3.11 |
| 19 A5014 | C | 120 | AC | 200 | 1/6.1" | 12 |  | 7.5 | 4.79 | 4.31 | 4.07 | 3.35 | 3.11 |
| 19 A5015 | 1 | 24 | DC | 31 | 1/8.3/4" | 40 | $2761 \% \times 210 \times$ | 7.5 | 4.79 | 4.31 | 4.07 | 3.35 | 3.11 |
| 19 A5016 | c | 24 | DC | 72 | $1 / 8.3 / 4$ | 25 |  | 7.5 | 4.79 | 4.31 | 4.07 | 3.35 | 3.11 |



For accurate sequence selecting, puise multiplying, pulse dividing, circult selecting, counting and latching. Direct drive. Switching operations completed upon energization.
(1) MER ELECTRICAL RESET STEPPER. Capable of counting up to 21 then rasotting automatically. Can be reset to zero by 10 MS or longer impulse to resat coll. Two or more may be interconnected to incresse count ss desired. Size $2 \%_{6}{ }^{"} \times 3 K_{4}{ }^{" 1} \times 2 K_{4}{ }^{\prime \prime}$ H. Contacts $11 / 2 \mathrm{amp}$. Intermittent duty coil. Wi. $111 / 2$ ozs.
 (1) IR-MC 24 POINT MIDGET. Continuous rotation stepper with 24 pointa. For eircuit selecting, Contacts $11 / 2 \mathrm{mp}$. Intermittent duty coil. Size $31 / 4 \times 3 \times 2 \mathrm{~K}_{4}{ }^{\prime \prime} \mathrm{H}$. Wt. $91 / 2085$. No. 194471, IR-MC- 120 VAC. 20 steps per second
 (3) ROTOMITE STEPPER-DC. 12 positions-continuous rotation. Completely metal enciosed. 3 amp contacts resistive losd. Used in business machines, computer circuits, automation. Size $2^{\prime \prime} \mathrm{L} \times 1 \mathrm{~K}_{\mathrm{h}}{ }^{\prime \prime}$ dia, Continuous duty. Wt. 5023 .
Stk. No. Volts Wras. No. $1-24 \mathrm{Es} . \quad 25.49 \mathrm{Ea}, \quad 50.99 \mathrm{Ea} .100-249 \mathrm{Ea}$.

©) LATCHING ON/OFF RELAY. Midgel Latching relay. Provides positive on-alf control for positioning dovices: ramote contiols, lighting cutuils. ate. 5 amp contacts, snap action switheng. Shan duration pulse reverses awitct and holds lasi posmion with coll de energized. Size $1.29 / 32 \times 1.7 / 32 \times$ $\mathbf{i - 1 3 / 1 5} 5^{\prime}$. Intermittent duty coll Single $8 / 32$ tapped mounting hole Wi 4 ors
 $\begin{array}{llllllll}19 A 376 & 120 \mathrm{AC} & \text { IR640L.A120 } & \text { SPST } & \$ 4.90 & \$ 4.41 & \$ 4.17 & \$ 3.43 \\ 194398 & 120 \mathrm{AC} & \text { IR640L-Cl20 } & \text { SPDT } & 5.23 & 4.72 & 4.45 & 3.66\end{array}$


IMPULSE RATCHET RELAY8
Type 660 . Contact ratings $121 / 2 \mathrm{amp}$. resistive load 120 volts AC. Each impulse reverses contacts. Intermittent dut coll. Relay slie $3 \times 11 / 4 \times 2 \mathrm{Kt}^{\prime \prime}$. Wt. 8 oz .

## Stock No. No. latis

 194523 $\begin{array}{llllllll}19253 & 660 \cdot C-120 A C & \text { SPDT } & \$ 7.54 & \$ 6.79 & \$ 6.41 & \$ 5.28 \\ 19 A 524 & 660-2 C-120 A C & \text { DPDT } & 8.14 & 7.33 & 6.92 & 5.70\end{array}$

## INTERLOCKINE AC RELAYS

TYPI IR-1200/1200. Used to maintain circults continuously whout coll power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. 10 3 mp contacts 60 Hz , non-inductive. Size $11 / 4 \times 13 / 4 \times 2 \%$ Wt. 5.5 oz .
No. 19A549. IR1200/1200-4C-120A. 4PDT. 120 VAC,



| $\begin{aligned} & \text { stock } \\ & \text { Nock } \end{aligned}$ | Not. | Nom. Current or Yoltare | Resistance | 1-24 | $\begin{aligned} & \text { Prices } \\ & 25.49 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 50-99 \end{aligned}$ | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 A 701 | MS40.901 | 6 V . | 250 | \$2.17 | \$1.95 | \$1.74 | \$1.52 |
| 19 A1702 | MS40-902 | 13.5 MA | 500 | 2.17 | 1.95 | 1.74 | 1.52 |
| 19191703 | MS 40.904 | 12 V . | 1000 | 2.26 | 2.03 | 1.81 | 1.58 |
| 1911704 | MS40-906 | 6.0 MA | 2500 | 2.29 | ${ }_{2}^{2.06}$ | 1.83 | 1.6 |
| 19A1705 | ( MS40.907 | 4.9 MA | 5000 10,000 | 2.26 2.89 | 2.03 2.60 | ${ }_{2.31}^{1.81}$ | ${ }_{2}^{1.02}$ |

## MS 64 MINIATURE

DC SENSITIVE RELAYS
Contacts rated 2 amps, non-inductive 28 V . DC or 115 V . AC. 1 PD ' gold alloy cross bar contacts. Snap on cover. Molded construction. isolated contacts. 1 in $\times 3 / 4 \times 11 / 6^{\prime \prime}$. (1) PRINTED CIRCUIT TERMIMALS

| Stock No. | $\begin{aligned} & \mathrm{NHg} . \\ & \mathrm{No} . \end{aligned}$ | Voitage or Current | Resistance | 1.24 | $\begin{gathered} \text { Prices } \\ 25-49 \end{gathered}$ | $\begin{aligned} & \text { Exch } \\ & 50-99 \end{aligned}$ | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1961822 | MS64-901 | 6 V. | 400 | $\$ 2.27$ | \$2.04 | \$1.82 | \$1.59 |
| 1901823 | MS64-902 | 12 V . | 1600 | 2.42 | 2.18 | 1.94 | 1.69 |
| $19 \times 1824$ | MS64-903 | 24 V . | 6500 | 2.56 | 2.30 | 2.05 | 1.79 |
| 19 1825 | MS64-904 | 3 Ma | 10,000 | 2.82 | 2.54 | 2.26 | 1.97 |
| (2) BRACKET MOUNTING |  |  |  |  |  |  |  |
| 18181826 | MS64-911 | 6 V . | 400 | \$2.38 | \$2.14 | \$1.90 | \$1.67 |
| 19181827 | MS64-912 | 12 V . | 1600 | 2.46 | 2.21 | 1.97 | 1.72 |
| 181828 | MS64-913 | 24 V. | 6500 | 2.69 | 2.42 | 2.15 | 1.88 |
| 1981829 | MS64-914 | 3 Mi | 10,000 | 2.89 | 2.60 | 2.31 | 2.02 |



## 129 AC POWER RELAYS

Totally enclosed. Screw connections. Contact rating inductive load: 18 amp al 250 VAC. continuous $1 \mathrm{HP}-125 \mathrm{~V}, 2 \mathrm{HP}-250 \mathrm{~V}$ : resistive load. 18 amp continuous $O$ perates in any postion. 2-3/8 $\times 1$ $7 / 8 \times 1.7 / \mathrm{B}^{\prime \prime}$. Shpg. wh. 5 ors.

| stock No. | $\begin{aligned} & \mathrm{Mfg} . \\ & \mathrm{No.} \end{aligned}$ | $\begin{gathered} \text { Coll } \\ \text { voltage } \end{gathered}$ | Contact 1.24 |  | $\begin{aligned} & \text { Prices Each } \\ & 25-49 \text { 50.99 } \end{aligned}$ |  | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 \times 1744$ | 129-902 | 24 VAC | 1PNO | \$4.42 | \$3.98 | \$3.54 | \$3.09 |
| 1911745 | 129-903 | 120 VaC | 1 PND | 4.69 | 4.22 | 3.75 | 3.28 |
| 19141727 | 129.906 | 24 VAC | 1 PDT | 5.50 | 4.95 | 4.40 | 3.85 |
| 19 11728 | 129-907 | 120 VAC | 1 POT | 5.80 | 5.22 | 4.64 | 4.06 |
| 19ß1729 | 129.908 | 208/230 VaC | 1POT | 6.14 | 5.53 | 4.91 | 4.30 |

84 AC GENERAL PURPOSE RELAYS Totally enclosed. Screw terminals. Operates in any position $23 / 8 \times 13 /{ }^{2} \times 11 / 2^{\prime \prime}$. Shpg. wt. 5025 .
Contact Rating at $125 / 250$ V. AC. Inductive loadis 8 amp continuous, 25 amps inrush; resistive load: 16 amps continuous. Stock Mot PCCOII Prices Each

 \begin{tabular}{llllllll}
\hline 198179 \& 84.902 \& 24 \& SPNO \& $\$ 3.21$ \& $\$ 2.89$ \& $\$ 2.57$ \& $\$ 2.25$

 

1941722 \& 84.904 \& $230 / 240$ \& SPNO \& 3.95 \& 3.56 \& 3.16 \& 2.77 <br>
\hline
\end{tabular} Contact Rating at $\mathbf{1 2 5 / 2 5 0} \mathrm{V}$. AC. Inductive load: 8 amps continuous, 18 amps inrush; resistive load: 8 amps continuous.

| stock Na. | $\begin{aligned} & \text { Mfig. } \\ & \text { No. } \end{aligned}$ | ac Coll Voltage | Action | 1.24 | $\begin{gathered} \text { Prices } \\ \hline 25-49 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Each } \\ 50.99 \end{gathered}$ | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1891723 | $84-908$ | 24 | SPDT | \$3.54 | \$3.19 | \$2.83 | \$2.48 |
| 19^1724 | 84-907 | 120 | SPOT | 3.83 | 3.45 | 3.06 | 2.68 |
| 19 1725 | 84-908 | 230/240 | SPOT | 4.18 | 3.76 | 3.34 | 2.93 |

TYPE 70 DC POWER CONTACTORS
Single pole, normally open. Continuous duty coll. Non-turning studs. Drawn steel dustproof enclosure, copper stud power and coll terminals, double break rotating disc movable contact, solenoid actuated. Contact rating DC inductive load- 36 V . max.; normally open 6 V . OC, 80 amp continuous, 300 amp inrush; $12 \mathrm{~V} . \mathrm{DC}, 80 \mathrm{amp}$ continuous, 150 amp Inrush; 24 to 36 v DC 50 amp cantinuous, 50 amp inrush. Suggested mounting cap down. Size $21 / 2 \times 31 / 2 \times 21 / 2^{\prime \prime}$. Wt. 1 lb .

4 TERMINAL-ISOLLTED COIL.

| Stock Ne. | $\begin{aligned} & \text { Wig. } \\ & \text { No. } \end{aligned}$ | $\xrightarrow{\text { Coil }}$ | Rasistance Ohms | 1.24 | $\begin{gathered} \text { Priel } \\ 25-49 \end{gathered}$ | $\begin{aligned} & \text { Each } \\ & 50.99 \end{aligned}$ | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 198176 | 70-901 | 6 V. DC | 4 | \$4.20 | \$3.78 | \$3.36 | \$2.94 |
| 198177 | 70.902 | 12 V . DC | 19 | 4.20 | 3.78 | 3.36 | 2.94 |
| 198178 | 70.903 | 24 V. DC | 60 | 4.20 | 3.78 | 3.36 | 2.94 |
| 19191734 | 70-904 | 36 V .0 OC | 114 | 4.20 | 3.78 | 3.36 | 2.94 |
| 3 TERMINAL-COIL COMmOn to Case |  |  |  |  |  |  |  |
| 1941790 | 70-913 | 6 V .0 C | 19 | \$4.20 | \$3.78 | \$3.36 | $\$ 2.94$ |
| 191791 | 70-914 | 12 V. OC | 19 | 4.20 | 3.78 | 3.36 | 2.94 |
| 19 A1792 | 70.915 | 24 V . DC | 60 | 4.20 | 3.78 3 | 3.36 3 | 2.94 |
| 19 A 1793 | 70-916 | 36 V . DC | 114 | 4.20 | 3.78 | 3.36 | 2.94 |

## 143 AC POWER CONTACTORS

Two pote normally open. Screw power terminels (\#10 solld wire max.) Auxiliary quick-connect terminals. Straight through wiring. Double break contacts. $31 / 4 \times 23 / 9 \times 21 / 2^{\prime \prime}$. Wt. 8025 .
Contact rating Inductive loads 18 amp . continuous, 903 mp . inrush @ 277 V. AC per pole. Resistive load: 25 amp @ 277 V. AC per pole.

| Stock No. | $\begin{aligned} & \text { Mfg. } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} \text { Coll } \\ \text { voltate } \end{gathered}$ | 1.24 | $\begin{aligned} & \text { Prices } \\ & 25-49 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 50.99 \end{aligned}$ | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16 | 143-901 | 24 | \$4.78 | 4.3 | \$3.82 | \$3.35 |
| 19 A 817 | 143-902 | 120 | 4.78 | 4.30 | 3.82 | 3.35 |
| 191818 | 143-903 | 208/24 | 4.78 | 4.30 | 3.82 | 3.35 |

Contact rating inductive load: 25 amp . continuous. 150 amp. inrust @ 277 V . AC per pole. Resistive lead: $35 \mathrm{amp} @ 277 \mathrm{~V}$. AC per pole. With cover.

| stt. No. | Mig. No. | Coll votage | 1-24E2. | 25-49 Ea. | 50-99 En. | 100-249 E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19A1819 | 143-914 | 24 | \$8.00 | \$7,20 | \$6.40 | \$5.60 |
| 19 A1820 | $143-915$ | 120 | 8.00 | 7.20 | 6.40 | 5.60 |
| 19A1821 | 143.916 | 208/240 | 8.00 | 7.20 | 6.40 | 5.60 |

## 75 AC POWER CONTACTORS



Screw terminal contacts (Bolid wire max.) Hardware Included. gn leads on coll. Contact rating inductive load 2 pole rating 18 amp . continuous, 90 inrush at 230 V . (2 HP-230 V.) Resistive load: 25 amp -240 volt per pole. $21 / 2 \times 21 / 8 \times 21 / 4^{\prime \prime}$. Shpg. wt. $80 z 5$.

| Stack No. | Mif. No. | Coll Voltage | 1-24 | $\begin{aligned} & \text { Prices } \\ & 25.49 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 50-99 \end{aligned}$ | 100-24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1941730 | 75-901 | 24 V. AC | \$4.86 | $\$ 4.37$ | $\$ 3.89$ | 3.4 |
| 198211 | 75.902 | 115/120 | 4.86 | 4.37 | 3.89 | 3.40 |
| 198212 | 75.903 | 230/240 V | 4.86 | 4.37 | 3.89 | 3.40 |

## 85 AC POWER CONTACTORS



Three pole naimaliy open. Screw terminals (\#\# sold wies mak., $14^{\prime \prime}$ auxilary wiring terminals. Straight-through wiring. Contact 250 V . AC, 12.5 amp continuous, 75 amp Inrush © 600 V . AC . $31 / 2 \times 31 / \mathrm{B} \times 2 \mathrm{~K}_{6}^{\prime \prime}$. Shpg. wt. 8 ozs .

| Stuck <br> No. | Mfg. <br> No. | Coil <br> Voltage | 1.24 | $25-49$ | $50-99$ | $100-249$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 \& 1813$ | $85-901$ | 24 | $\$ 10.80$ | $\$ 9.72$ | $\$ 8.84$ | $\$ 7.56$ |
| 1841814 | 85.902 | 120 | 10.80 | 9.72 | 8.64 | 7.56 |
| $19 \& 1815$ | $85-903$ | $208 / 240$ | 10.80 | 9.72 | 8.64 | 7.58 |

10 TO 30 AMP AC INDUSTRIAL CONTACTORS Doublebreak contacts. Silver altoy contacts. Replaceable contacts and coll. Hi dielectric arc resistant contact block and carrier. $50 / 60 \mathrm{~Hz}$ coil, resilient mountingA:l types are $35 / 8 \times 2^{3} 3 / 4 \times 33 / 8^{\prime \prime}$. Shpg. wt. 502 s .


Pressure type power terminals, \#10 solid wire max. All contacts convert to N.C.

| Stock No. | Coll |  | Prices Each |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Type | Voltage | 1.24 | 25.4 | 50.99 | 100-24 |
| 1735 | C10-901 | $24 \mathrm{~V} . \mathrm{AC}$ | \$13.10 | \$11.79 | \$10. | $\$ 9.17$ |
| 19A1736 | C10-902 | 110 V. AC | 13.10 | 11.79 | 10.48 | 9.1 |
| 19 A 1737 | C10.903 | 220 V. AC | 13.10 | 11.79 | 10.4 |  |

C30 30 AMP 4-POLE NORMALLY OPEN
Pressure type terminals, \#8 solid wire max.

| Stt. Mo. | Type | Coil Voltage | 1.24 Ea . | 25-49 Ea. | 50.99 Em . | 100.249 E |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1911739 | C30.901 | 24 V. AC | \$18.20 | \$16.38 | \$14 | \$12.74 |
| 1981740 | C30-902 | 110 V. AC | 18.20 | 15.38 | 14.56 | 12.74 |
| $19 A 1741$ | C30.903 | 220 V. AC | 18.20 | 16.38 | 14.56 | 12.74 |

TYPE C REPLACEMENT CONTACT ASSEMBLIES
Reversing type, 2 sets required.
Stk. No. Mfg. No. Replaces For Relays 1 -24 Perset 25 Up Per Set
 (1)

## AMPERITE TIME DELAY RELAY

Thermostatic type hermetically sealed, unaffected by altitude, moisture or other atmuspheric conditions. Operate on AC or OC. Contacts are SPST rated at 3 amps. Heater may be operated continuously, Heater wattage-2 2 W . 8 . ${ }^{2} \mathrm{prox}$. For 220 V . use a 6500 ohm 5 watt
resistor $\operatorname{In}$ serjes with 115 V . heater.
"atandard type are $2^{3 / 4^{\prime \prime}}$ high, less pins, $x 11 / 4^{\prime \prime}$ maximum diameter, have octal base. Miniature type are $21 / 2^{\prime \prime}$ ebove pins $x \quad 7 / \mathbf{n}^{\prime \prime}$ diameter
 with 9 pin minfature base.

|  | NORMALLY OPEN COKTACTS |  |  |  | NORMALLY CLOSED COnTacts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Delay | Neater Voltag |  |  |  | Heater Voltage |  |  |  |
| Sec. | 8.3 | 12 | 26 | 115 | 6.3 | 12 | 28 | 115 |
| 2 |  |  |  | 115 NO |  |  |  | $115 C 2$ |
| 3 | 6 NO 3 | 12 NO 3 | 25 NO 3 | $115 N 03$ | 603 | 12 C | $26 \mathrm{C3}$ | 115 C 3 |
| 5 | 6NOS | 12 NOS | 26N05 | 115 NOS | $6 \mathrm{C5}$ | $12 \mathrm{C5}$ | $26 \mathrm{C5}$ | 115 C 5 |
| 10 |  |  | - | ${ }^{115 N 08}$ |  | - | - | ${ }_{1}^{115 c 8}$ |
| 15 | 6N015 | 12N015 | 26 NTO 0 | 115 NO 15 | 6 C15 | 12 Cl 5 | $26 \mathrm{Cl} \mathrm{I}_{5}$ | 115 C 15 |
| 30 | 6N030 | 12 NO 30 | 26N030 | $115 N 020$ $115 N 030$ | 6 C 30 | 12 C 30 | 26 | 115 C 20 115 C 30 |
| 45 |  |  |  | 115 NO 45 |  |  |  | 115645 |
| 60 | 6N060 | 12N060 | 26N060 | $115 N 060$ | $6 \mathrm{C60}$ | 12C60 | 26C60 | 115660 |
| 120 | 6 NO 0120 | 12N0120 | 26 NO 120 | $115 \mathrm{NO9O}$ 115 N 012 O | 6C120 | 12 Cl 20 | 26C120 | $115 C 90$ $115 C 120$ |
| 180 | 6N0180 | 12N0180 | 26N0180 | $115 \mathrm{NO180}$ | $6 C 180$ | 12 Cl 80 | 26C180 | $115 C 180$ |

STANDARO DCTAL GASE TIME DELAY RELAY
Specify Stuck No. 19m5008 and Amperite Typo Number. Any Type, Each........... $\$ 2.40$ 9-PIN MInIature-time delar melay
Stocked only In 115 volt from 2 to 120 second delay.
Spacify Stock No. 19m5009 and Amperite Type Kumber with T ,suffix. Each... ... $\$ 2.40$

 contacts Soldet in or plug in sockets hsted.

| Stk. No. | $\begin{aligned} & \text { P\& B No. } \\ & \text { R10-Ei } \end{aligned}$ | Volts | Ohms | Cont | $\stackrel{\substack{1-9 \\ \text { Each }}}{ }$ | $\underset{\text { Each }}{10-49}$ | $\underset{\text { Each }}{50.99}$ | $\begin{gathered} 100-499 \\ \text { Each } \end{gathered}$ | $500$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 A1880 | X2-V52 | 6VOC | 52 |  | \$3.35 | \$3.02 | \$2.51 | \$2.35 | \$2.18 |
| 1941881 | X2-V185 | 12VOC | 185 |  | 3.35 | 3.02 | 2.51 | 2.35 | 2.1 |
| $19 A 1882$ | $\times 2.1700$ | 24 VOC | 700 | 2 PDT | 3.35 | 3.02 | 2.51 | 235 | 2.1 |
| 19 A1883 | $\times 2 . \mathrm{V} 2.5 \mathrm{~K}$ | 48 VOC | 2500 |  | 3.35 | 3.02 | 2.51 | 2.35 | 2.1 |
| 19 A1884 | $\times 2$-vis.ok | 115 VOC | 15.000 |  | 5.05 | 4.55 | 3.79 | 3.54 | 3.2 |
| 19 A 1885 | X4-V52 | GVDC | 52 |  | 3.85 | 3.47 | 2.89 | 2.70 | 2. |
| 1941886 | X4-V185 | 12 VDC | 185 |  | 3.85 | 3.47 | 2.89 | 2.70 | 2. |
| 1941887 | X4-V700 | 24VOC | 700 | 4PDT | 3.85 | 3.47 | 289 | 270 | 2.5 |
| 19 A1888 | X4.V2.5K | 48VOC | 2500 |  | 3.85 | 3.47 | 2.89 | 2.70 | 2.5 |
| 19 A1889 | X4-V15.0K | 115 VDC | 15.000 |  | 5.55 | 5.00 | 4.16 | 3.89 | 3.6 |
| 19 A1B90 | $\times 6 . \sqrt{25}$ | 6VOC |  |  |  | 45 | 3.79 | 3.54 |  |
| 19 A1891 | X6-V90 | 12 VOC | 90 |  | 5.05 | 4.55 | 3.79 | 3.54 | 3.2 |
| 19 A1892 | X6.v430 | 24 VOC | 430 | 6PDT | 5.05 | 4.55 | 3.79 | 3.54 | 3.2 |
| 19 A1893 | X6.V1.5K | 48VOC | 1500 |  | 5.05 | 4.55 | 3.79 | 3.54 | 3 |
| 19 A1894 | X6-V9.0K | 115VOC | 9000 |  | 5.95 | 5.36 | 4.46 | 4.17 | 3.8 |
| 19A1095 | X2-115VAC | 115 VAC | 4.8 K | 2PDT | 5.10 | 4.59 | 3.3 | 3.57 | 3.3 |
| 9 A1896 | -115VA | 15 VAC | 4.8K | 4PDT | 6.25 | 5.63 | 4.69 | 4.3 |  |

R40 SERIES SLIMLINE DC RELAYS
Case size $.43^{\prime \prime} \times 1.4^{-\times 1.2} \times 1{ }^{\circ}$ H. 2 amp contacts.

| 19A1907 | $\begin{aligned} & \text { R40-E1.74 } \\ & -V 50 \end{aligned}$ | 6VOC | 50 |  |  | 4.82 | 4.01 |  | 3.58 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 \mathrm{A1908}$ | - 200 | 12 VaC | 200 |  | 5.35 | 4.82 | 4.01 | 3.75 | 58 |
| 19 A1909 | . 8800 | 24VDC | 800 | 4PDT | 5.35 | 4.82 | 4.01 | 3.75 | 3.58 |
| 19 A1910 | -v3.2K | 48 VDC | 3.2 K |  | 5.35 | 4.82 | 4.01 | 3.75 | 3.58 |

hit variable time oelay relays
Adustable time delay has 15 turn polentiometer, calibrated tuming capacitor. Oelay on operate. Internal contacts rated 5 amps


## SOLID STATE TIME DELAY RELAYS

Electronic timing with solid state switching combihed to provide - trouble free timing device with no moving parts, Knob adjust able through delay range shown. All have internal relay with DPDT contacts rated 10 amps. -120 VAC. SIze $1.78 \times 1.41$. Heigh Including knob, $3.56^{\prime \prime}$.
CHB - DELAY "ON OPERATE"

Accuracy $\pm 10 \%$ of nominal, reset times 100 miliseconds, repeat-

## ability $\pm 2 \%$ octal base. <br>  <br>  <br> $19 \mathrm{~A} 1789 \mathrm{CHE38-30003}$ <br> 1881460 CHB38-70003

CHB - OELAY "ON RELEASE"
Rolease occurs when control circult is de energized. Accuracy $\pm 10 \%$ of nominal, reset time 100 miliseconds, repeatability $\pm 2 \%$. 11 pln base.
$\begin{array}{llllllll}1981463 & \text { CHB38-70011 } & 120 \text { VAC } & 1-10 & 23.95 & 22.75 & 21.56 & 19.19 \\ 19 A 1747 & \text { CHB38-70013 } & 120 \text { VAC } & 1-180 & 23.95 & 22.75 & 21.56 & 19.18\end{array}$

Accuracy $\pm 5 \%$ of nominal, reset time 60 milliseconds, repeatability $\pm 1 \%$. octal base.
$\begin{array}{llllllll}1981482 & \text { CD838-70003 } & 120 \text { VAC } & .1 .10 & 44.25 & 42.04 & 38.83 & 38.40 \\ 1981483 & \text { CD838-70005 } & 120 \text { VAC } & 1.8 .180 & 44.25 & 42.04 & 38.83 & 35.40\end{array}$


CUF SOLPD STATE TIME DELAY RELAYS Adjustable thru delay range shown by using external resisior (not furnished). For minimum time two terminals. 2 and 5 . must be shorted; for maximum time the listed extornal resistor between terminals 2 and 5 musi be added For intermediate times select a iesser value resistor, of a potentiomeler. Has internal DPOT 10 amp 115 VAC contact relay. $1.53 \times 1.41 \times 2.50^{\circ} \mathrm{H}$. Wire in circuit of use 9 KUI socket.

|  | Mre. No. | Input | Second |  | $1.9$ | Each | $25-49$ | $50-99$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12.al74. | 70010 | 120 VAC | 1.10 | 200 K | \$15.00 | \$14.25 | \$13.50 | \$12.00 |
| $19 \times 1749$ | 70120 | 120 VAC | 1.120 | 2.4 Meg. | 18.30 | 15.49 | 14.67 | 13.04 |
| 19 A 1750 | 30010 | 24 VAC | 1.10 | 200 K | 15.00 | 14.25 | 13.50 | 12.00 |
|  |  |  |  |  |  | 25-50 | 51-99 | 100-24 |

## POTTER \& BRUMFIELO PR POWER RELAYS




Dependable, fast acting, sturdy, continuous duty relays for industrlal use. Molded base, bobbin and contact carrier. 25 amp silver contacts. $21 / 2^{\prime \prime} \times 21 / 2^{\prime \prime} \times 27 / 16^{\prime \prime} \mathrm{H}$. (PR11 is $43 / 16^{\prime \prime} \mathrm{L}$.) AC types are 60 Hz . ST contacts are NO. UL and CSA listed. screw terminals. Wt. 1 lb.

| Stt. No. | Typu | Contacts | Coll Volt. | 1-24 Ea. | 25-50 Ea. | 51-99 Ea. | 249 E入. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 198366 | PR3AY | SPST | 24AC | \$4.82 | \$4.56 | \$ 4.32 | \$3.36 |
| 1941402 | PR3ay | SPST | 120AC | 4.80 | 4.56 | 4.32 | 3.36 |
| 19A1335 | PR3AY | SPST | 240AC | 5.30 | 5.04 | 4.77 | 3.71 |
| 1941415 | PR3DY | SPST | 60C | 4.80 | 4.56 | 4.32 | 3.38 |
| 19 A1336 | PR3DY | SPST | 120C | 4.80 | 4.56 | 4.32 | 3.36 |
| 154370 | PRSAY | SPDT | 24AC | 5.05 | 4.80 | 4.55 | 3.54 |
| 1941403 | PRSAY | SPDT | 120AC | 5.05 | 4.80 | 4.55 | 3.54 |
| 198371 | PRSAY | SPOT | 240AC | 5.55 | 5.27 | 5.00 | 3.89 |
| 1941337 | PRSDY | SPDT | 120 C | E.05 | 4.80 | 4.55 | 3.54 |
| 19 A1322 | PR5DY | SPDT | 24DC | 8.05 | 4.80 | 4.55 | 3.54 |
| 19A1368 | PR7AY | DPST | 6AC | 5.65 | 5.37 | 5.09 | 3.96 |
| 19A368 | PR7AY | DPST | 24AC | 8.65 | 5.37 | 5.09 | 3.96 |
| 1981404 | PR7AY | DPST | 120 AC | 5.65 | 5.37 | 5.09 | 3.98 |
| 194369 | PR7AY | DPST | 240AC | 4.15 | 5.84 | 5.54 | 4.31 |
| 1981373 | PR70Y | DPST | 120C | 5.70 | 5.42 | 5.13 | 3.99 |
| 19 A1321 | PR7OY | DPST | 24DC | 5.70 | 5.42 | 5.13 | 3.99 |
| 1941368 | prilay | DPDT | 6AC | 7.45 | 7.08 | 6.71 | 5.22 |
| 194372 | PRIIAY | OPDT | 24AC | 7.45 | 7.08 | 6.71 | 5.22 |
| 194160 | PR11AY | DPDT | 120AC | 7.45 | 7.08 | 6.71 | 5.22 |
| 194373 | Prilay | DPDT | 240AC | 7.95 | 7.55 | 7.16 | 5.57 |
| 1981338 | PR110Y | DPDT | 12DC | 7.45 | 7.08 | 6.71 | 5.22 |
| 198377 | PR110Y | DPDT | 1100C | 8.15 | 7.74 | 7.34 | 5.71 |
| N0. 18A4 1. 24. | Metal +3.45 | Cover for | $\begin{aligned} & \text { Relays. } \\ & 31.2899 \end{aligned}$ | $\# 35$ | $\begin{array}{ll}13 \\ \\ \$ 3.11 & \\ 2\end{array}$ | 8 Ea. | . $\$ 2.42$ |

## PR11AS TYPE

Same type PR described above. DPDT with additional set of SPDT $3 / 16^{\prime \prime}$ silver contacts rated 5 amps. Not UL or CSA listed. Wt 1 lb.
 PM $\triangle$ SDT POWER TYPE
$1 / a^{\prime \prime}$ contacts rated 25 amp 120 or $240 \cup \vee A C, 50 / 60 \mathrm{~Hz}$. resistive load. UL and CSA llsted. Screw terminals. $2.7^{\prime \prime} \times 3.4^{\prime \prime} \times 2.7^{\prime \prime} \mathrm{H}$. Wt. 1 lb .

|  |  |  | 1.24 | 25.50 | 51.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stk No. | Mte. Mo. | Coll Yolts | Each | Each | Emeh | Each |
| 19A1510 | PM17AY | 6AC | \$14.30 | \$13.59 | \$12.07 | \$10.01 |
| 1941512 | PMITAY | 24AC | 14.30 | 13.59 | 12.87 | 10.01 |
| 1981513 | PM17AY | 120AC | 14.30 | 13.59 | 12.87 | 10.01 |
| 19 A1514 | PM17AY | 240 AC | 14.85 | 14.11 | 13.37 | 10.40 |
|  |  | COVER FOR | PM Reliys |  |  |  |
| $19 C 91$1981876 | 350227 | (Metal) | \$ 3.45 | \$ 3.28 | \$ 3.11 | \$ 2.42 |
|  | 350203 | (Plastic) | . 48 | . 46 | . 43 | . 34 |
| MS |  |  |  |  |  |  |

For capacitor start, Induction run motors. Operates on back EMF of start winding. Corries UL component recognition. Size $21 / 16^{\prime \prime} \times 3^{\prime \prime} \times 21 / 0^{\prime \prime}$ high. Pure silve SPST, NC, double break contacts. For motors to 3 HP. Wt. 1 lb.

$\begin{array}{lllllll}19 A 1441 & 350130 & 2.20 & 2.09 & 1.98 & 1.54\end{array}$
own plug in modules.
$\begin{array}{lllllll}\text { \$tk. No. Type No. Base } & \text { 1-24 } & 25-50 & 51.99 & 100-249\end{array}$



## JM MERCURY WETTED CONTACT RELAYS

Long Iffe, high speed unvarying dependability through billions of operatlons. Internal giass capsule contains contacts, armature, reservolr of mercury, sealed in hlah pressure hydrogen. A fism of mercury is renewed every operathon minimizing contact bounce. Upright mounting, but deviation to $30^{\circ}$ causes only minor devlation in operating characterlstics. All have octal bases.


JML contacts 500 V. max., 2 amp max. with contact protection. R-C contact pro tection circuit with each relay. Up to 200 operations per sec. SPDT break before make (form C) contacts. $2.64^{\prime \prime}$ seated helght. 1,31 max. dia. Wt. 502 s .

JM1 confacts 500 V . max, 5 amp , max. Up 10
100 operatuons per sec. SPDT make belore break (form D) conlacts $2.64^{*}$ seated height. 1.31


| Stock | Mtg. | Coll | Coil |  |  | ach |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Ohms | MA | 1.9 | 10-24 | 25.99 |
| 18 17753 | JML-1110-81 | 350 | 13.1 | \$14.00 | \$10.44 | \$0.88 |
| 1921754 | JML-1160-81 | 1000 | 8.1 | 14.00 | 10.44 | 8.89 |
| 19A1755 | JML-1190-81 | 2500 | 4.0 | 14.05 | 11.15 | 5.49 |
| $19 \times 1756$ | JML-1200-81 | 4000 | 3.4 | 14.05 | 11.15 | 9.4 |
| 198401 | JM1-109-12 | 130 | 38.8 | 16.95 | 12.64 | 10.70 |
| 198439 | JM1-112-11 | 500 | 20.1 | 16.85 | 12.64 | 10.76 |
| 198470 | JM1-118-11 | 2500 | 10.1 | 17.25 | 12.87 | 10.90 |
| 198472 | JM1-119-11 | 4K | 8.1 | 8.55 | 8.55 | 8.59 |

## POTTER AND BRUMFIELD RELAYS



MEDIUM DUTY MR POWER RELAYS
armature. Fast cetion 60 Hz aC coils 3.25 wurpose use. Full floating armature. Fast ection 60 Hz . AC coils 3.25 watts. $O C$ cails 1.6 watts.
 $32 K_{4} \times 2^{\omega} \mathrm{H}$ for three pole.

| Stk. Mo. | Type | Contacts | Colt Y. | 1.24 | 25.50 | 51.99 | 100.249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 \times 1405$ | MR5A | SPDT | 6AC | 8.05 | 33.85 | \$3.65 | \$2.84 |
| 1941417 | MR5A | SPDT | 24AC | 4.05 | 3.85 | 3.65 | 2.84 |
| 1981406 | MR5A | SPDT | 120AC | 4.05 | 3.85 | 3.65 | 2.84 |
| 1981316 | MR5D | SPOT | 120C | 3.75 | 3.56 | 3.38 | 2.63 |
| 1941318 | MR50 | SPOT | 1100C | 4.30 | 4.09 | 3.87 | 3.01 |
| 1981407 | MR11A | DPDT | 6AC | 5.70 | 5.41 | 5.18 | 3.99 |
| 19A1319 | MR11A | DPDT | 12AC | 5.70 | 5.41 | 5.18 | 3.99 |
| 1941419 | MRIIA | DPDT | 24AC | 5.70 | 5.11 | 5.18 | 3.99 |
| 1941408 | MRIIA | OPDT | 12046 | 5.70 | 5.41 | 5.18 | 3.99 |
| 19 A387 | MR1ID | DPDT | 120C | 5.40 | 5.13 | 4.86 | 3.78 |
| 19 A1320 | MR110 | DPDT | 24DC | 5.40 | 5.13 | 4.86 | 3.78 |
| $19 \mathrm{Al440}$ | MR14A | SPDT | 24AC | 6.80 | 6.46 | 6.12 | 4.76 |
| 1941422 | MR14A | 3 PDT | 120AC | 6.80 | 6.46 | 6.12 | 4.76 |
| 191441 | 350130 |  | DUST | $\begin{aligned} & \text { R FOR } \\ & \$ 2.20 \end{aligned}$ | \$2.09 | \$1.98 | \$1.54 |

Smaff size lone life relay for dependable use in automation control, communications switching, otc. Enclosed in clear plastic dust cover. Size $11 / 5$ $\times 1^{11 / 2} \times 2^{\prime \prime}$ high. 10 amp contacts on KRP types ending in G, all others are 5 amps . Dctal base for type P5 and P11. 11 pin for P14. Wt. 3 oz .

| Sta. Mo. | Typo | Contacts | Coll V. | 1.24 | 25-50 | 51.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19A1354 | KRP5A | SPDT | 120AC | \$6.30 | \$5.99 | $\$ 5.67$ | 4.41 |
| 19A1390 | KRP5AG | SPDT | 120AC | 6.45 | 6.13 | 5.81 | 4.52 |
| 19A1391 | KRP11AG | DPDT | 6AC | 7.25 | 6.89 | 6.53 | 5.08 |
| 19A1357 | KRP11A | OPDT | 12AC | 7.00 | 6.65 | 6.30 | 4.90 |
| 1981349 | KRP11AG | DPDT | 12AC | 7.25 | 6.89 | 6.53 | 5.08 |
| 19 A1382 | KRP11A | DPDT | 24AC | 7.00 | 6.65 | 6.30 | 4.90 |
| 1941392 | KRPIIAG | OPDT | 24AC | 7.25 | 6.89 | 6.53 | 5.08 |
| 19 A1439 | KRP11A | DPOT | 120AC | 7.00 | 6.65 | 6.30 | 4.90 |
| 19 A1393 | KRP11AG | DPDT | 120AC | 7.25 | 6.89 | 6.53 | 5.08 |
| $19 \mathrm{Al771}$ | KRP11AG | DPDT | 240AC | 7.70 | 7.32 | 6.93 | 5.39 |
| 19 A 1383 | KRP110 | DPDT | 60C | 6.95 | 6.60 | 6.26 | 4.87 |
| 19 A 1394 | KRP110G | OPDT | 60C | 7.20 | 6.84 | 6.48 | 5.04 |
| 19A134 | KRP11D | DPDT | 120C | 6.95 | 6.60 | 6.26 | 4.87 |
| 19 A1395 | KRPIIOG | DPDT | 120C | 7.20 | 6.84 | 6.48 | 5.04 |
| 19 A1385 | KRP110 | DPDT | 24DC | 6.95 | 6.60 | 6.26 | 4.87 |
| 19 A1396 | KRP110G | DPDT | 240C | 7.20 | 6.84 | 6.48 | 5.04 |
| 19 A1358 | KRP110 | DPDT | 1100C | 7.65 | 7.27 | 6.89 | 5.36 |
| 19 A1462 | KRP14A | 3PDT | 120AC | 8.70 | 8.27 | 7.83 | 6.09 |
| 19 A 1397 | KRP14AG | 3 3PDT | 120AC | 9.05 | 8.60 | 8.15 | 6.34 |
| 19 A1788 | KRP14AG | 3PDT | 240AC | 9.50 | 9.03 | 8.55 | 6.65 |
| 19 A1328 | KRP140 | 3PDT | 120C | 8.60 | 8.17 | 7.74 | 6.02 |
| 19A1359 | KRP140 | 3PDT | 240C | 8.60 | 8.17 | 7.74 | 6.02 |
| 1981350 | KRP140G | 3PDT | 240C | 8.95 | 8.50 | 8.06 | 6.27 |
| 1981351 | KRP140G | 3 3PD | 1100C | 9.65 | 9.17 | 8.69 | 6.76 |

KCP SENSITIVE TYPE
PLATE CIRCUIT RELAYS
Same appearance as KRP above. Dperates on 125 MW for SP, 250 MW for DP, and 375 MW for 3P. $1 / 8^{\prime \prime}$ silver contacts rated 2 amps. $11 / \%_{2}^{* "}$ square $\times 2^{\text {tr }}$ high. Wt. 3 oz . KCP5 and KCP11 havo 8 pin base and KCP14, 11 pin base.

|  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Sth. No. | TYP | Contacts | Dhms | 1.24 | 25.50 | 51.99 | 100.249 |
| $19 A 1353$ | KCP5 | SPDT | $5 K$ | $\$ 6.95$ | $\$ 6.60$ | $\$ 6.26$ | $\$ 4.87$ |
| $19 A 1312$ | KCP5 | SPDT | $10 K$ | 7.40 | 7.03 | 6.66 | 5.18 |
| 1981352 | KCP11 | DPDT | $2.5 K$ | 7.30 | 6.94 | 6.57 | 5.11 |
| $19 A 1532$ | KCP11 | DPDT | $5 K$ | 7.40 | 7.03 | 6.66 | 4.94 |
| $19 A 1533$ | KCP11 | DPDT | $10 K$ | 7.85 | 7.46 | 7.07 | 5.50 |
| $19 A 1311$ | KCP14 | 3PDT | $10 K$ | 9.55 | 9.07 | 8.60 | 6.69 |

KRP-N INDICATOR TYPE
Same as regular KRP ralays with indicating lamp to show currenty or voltage avallability in power circuit. Wt. 3 oz. All have 10 amp contacts.

| Stt. No. | Type | Contacts | Coll V. | $1-24$ | 25.50 | 51.99 | 100.249 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 B 1364$ | KRP11AN | DPDT | $120 A C$ | $\$ 0.30$ | $\$ 7.89$ | $\$ 7.47$ | $\$ 5.81$ |
| 1981379 | KRP14AN | 3PDT | $120 A C$ | 10.10 | 9.60 | 9.09 | 7.07 |



SMALL LIGHT DUTY KA RELAY
DC AND 60 Hz . AC COILS
High quality, all purposs relay, UL listed. Silver contacts, choica, 5 or 10 amps. Single 6.32 stud mounting with locating tab. Solder lug
 ohms. Wt. 202.

| Sth. No. | Typs | $\begin{aligned} & \text { CON } \\ & \text { Contacts } \end{aligned}$ | $\begin{aligned} & \text { T RATJN } \\ & \text { Coll Y. } \end{aligned}$ | $5 \underset{1.24}{ }$ | 25.50 | 51.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19A1429 | KASAY | SPDT | 6. ${ }^{\text {c }}$ | 53.70 | \$3.52 | 33.33 | 27.59 |
| 19A1332 | KASAY | SPOT | 12AC | 3.70 | 3.52 | 3.33 | 2.59 |
| 1981430 | KA5AY | SPOT | 24AC | 3.70 | 3.52 | 3.33 | 2.59 |
| 19A1431 | MA5AY | SPDT | 120AC | 3.70 | 3.52 | 3.33 | 2.59 |
| 19 A1432 | KA5DY | SPDT | 60C | 3.55 | 3.37 | 3.20 | 2.49 |
| 191379 | KA5DY | SPDT | 120C | 3.55 | 3.37 | 3.20 | 2.49 |
| 198378 | KA5OY | SPDT | 240C | 3.55 | 3.37 | 3.20 | 2.49 |
| 19 A1370 | KA5DY | SPOT | 1100C | 4.25 | 4.04 | 3.83 | 2.98 |
| 19A1423 | KAllay | DPDT | 6AC | 4.50 | 4.28 | 4.05 | 3.15 |
| $19 \mathrm{A1424}$ | KAllay | OPDT | 24AC | 4.50 | 4.28 | 4.05 | 3.15 |
| 19 A1425 | KAlIAY | DPDT | 120AC | 4.50 | 4.28 | 4.05 | 3.15 |
| 19 A1426 | KAlloy | DPDT | 60C | 3.95 | 3.75 | 3.56 | 2.77 |
| 19 A1427 | Kalloy | DPDT | 120C | 3.95 | 3.75 | 3.56 | 2.77 |
| 19 A 1428 | KAlloy | DPDT | 240C | 3.95 | 3.75 | 3.56 | 2.77 |
| $19 \mathrm{A1371}$ | KA11DY | OPDT | 110DC | 4.65 | 4.42 | 4.19 | 3.26 |
| 1981433 | Kal4AY | 3PDT | 6AC | 4.90 | 4.66 | 4.41 | 3.43 |
| 19 A1434 | KAl4AY | $3 P \mathrm{PD}$ | 24AC | 4.90 | 4.66 | 4.41 | 3.43 |
| 19 A1446 | kal4ay | 3 3PD | 120AC | 4.90 | 4.66 | 4.41 | 3.43 |
| 19 A380 | KA14DY | 3 PDT | 6DC | 4.45 | 4.23 | 4.01 | 3.12 |
| 194381 | KA14DY | $3 P D T$ | 12DC | 4.45 | 4.23 | 4.01 | 3.12 |
| 194382 | KA14DY | 3PDT | 240C | 4.45 | 4.23 | 4.01 | 3.12 |
| 19 A 1372 | KA14DY | 3 3PD | 1100C | 5.15 | 4.89 | 4.64 | 3.61 |
| 1911375 | KA5AG | CON | RAC | 10 A. 3.75 | \$3.56 | 33.38 | \$2.63 |
| 1941445 | KA5AG | SPDT | 12AC | 3.75 | 3.56 | 3.38 | 2.83 |
| 19 A 147 | KA5AG | SPOT | 24AC | 3.75 | 3.56 | 3.38 | 2.63 |
| 1941448 | KASAG | SPDT | 120AC | 3.75 | 3.56 | 3.38 | 2.63 |
| 1941501 | KAlIAG | DPDT | 6AC | 4.60 | 4.37 | 4.14 | 3.22 |
| 19 A1502 | KAIIAG | DPDT | 12AC | 4.60 | 4.37 | 4.14 | 3.22 |
| 1941503 | KAl1AG | OPOT | 24AC | 4.60 | 4.37 | 4.14 | 3.22 |
| 1941504 | KaIIAG | DPDT | 120AC | 4.60 | 4.37 | 4.14 | 3.22 |
| 19.364 | KA14AG | 3PDT | 12AC | 5.10 | 4.85 | 4.59 | 3.57 |
| 190386 | KA14AG | 3 3PT | 24AC | 5.10 | 4.85 | 4.59 | 3.57 |

$\left\{\begin{array}{l}0 \\ 0\end{array}\right.$
LATCHING TYPE KB
One coil sets latch, another coll releases it. Both operete on sume voltage with only momentary pulse. 5 amp contacts except No. onding in $G$ are 10 amp . Sizo $1,8^{*} \times 3.2^{4 *} \times 2.1^{\text {TH H. Wt. }} 6 \mathrm{oz}$.

| Stk. No. | Type | Contacts | Coil Y. | 1.24 | 25-50 | 51.99 | 100-249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19A1468 | K817AY | 4 PDT | 6AC | 512.20 | \$11.59 | \$10.98 | 88.54 |
| 19 Al 88 | K817AY | $4 P D T$ | 12AC | 12.20 | 11.59 | 10.98 | 8.54 |
| 19 A1469 | KB17ay | 4 PDF | $24 A C$ | 12.20 | 11.59 | 10.98 | 8.54 |
| 1941470 | K817AY | 4 PDT | 120AC | 12.20 | 11.59 | 10.98 | 8.54 |
| 19A1360 | KB170 | 4PDT | 120C | 10.95 | 10.40 | 9.86 | 7.67 |
| 1981361 | KB170 | 4 4PD | 240 C | 10.95 | 10.40 | 9.86 | 7,67 |
| 1941443 | K817AG | 4 PDT | 120AC | 12.30 | 11.69 | 11.07 | 8.61 |
| 19A1399 | KB170G | 4 PDT | 240 C | 11.20 | 10.64 | 10.08 | 7.84 |

## AP RATCHET OPERATED

For applications requiring on-off or reversing action on afternate operstions. Positive action on electrical impulse os shori as 60 milliseconds. Each successive impuise reverses contact pasition. $\chi_{6}$ " firie silver con-

| Stk. No. | Type | Contacts | Voil Y. | 1.24 | 25.50 | 51.99 | 100.249 |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: |
| $19 A 1435$ | AP11A | DPDT | $24 A C$ | $\$ 10.15$ | $\$ 9.64$ | $\$ 9.14$ | $\$ 7.11$ |
| $19 A 1436$ | AP1IA | DPDT | $120 A C$ | 10.15 | 9.64 | 9.14 | 7.11 |
| $19 A 1529$ | AP11A | DPDT | $240 A C$ | 10.70 | 10.17 | 9.63 | 7.49 |
| $19 A 1438$ | AP17A | 4PDT | $120 A C$ | 12.30 | 11.69 | 11.07 | 8.61 |



PC IMPULSE TYPE
Armature driven rocker type actuator with $\$$ ingle coll provides impulse swltching for circuit reversing or on-off use. Requiras only 30 MS
 mounting. Wt. 5 oz.

| Stk. No. | TyPA | Contacts | Coll V. | 1.24 | 25.50 | 51.99 | $100-249$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 191344 | PC11A | DPDT | $120 A C$ | $\$ 6.55$ | $\$ 6.22$ | $\$ 5.90$ | $\$ 4.59$ |
| $19 A 1345$ | PC17A | 4PDT | $24 A C$ | 9.00 | 8.55 | 8.10 | 6.30 |
| $19 A 1346$ | PC17A | 4PDT | $120 A C$ | 9.00 | 8.55 | 8.10 | 6.30 |

## GP COIL AND CONTACT ASSEMBLIES



Complete interchangeability of switch assemblles and contact colls. Separate $A C$ and DC colls to match with $2 P D T$ and 4 PDT switches. Assemble to your specifications. Contacts *u dia. silver.

| $\begin{aligned} & \text { Stk. No. } \\ & \text { 19A1757 } \\ & 19 A 1758 \end{aligned}$ | SWITCH ASSEMBLIES |  |  |  |  | 51.99 | 100.249 | GPD CURRENT COILS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mfg. No. GP11 | Contacts DPDT | Amps | $3 \quad \begin{aligned} & 1.24 \\ & \$ 2.00 \\ & \\ & \end{aligned}$ | $25.50$ $\$ 1.90$ |  |  | Str. ${ }^{\text {No }}$ - |  | GPD 1.24 | RREN ${ }_{25}{ }^{\text {che }}$ | 51.99 | 100.249 |
|  | GP17 | 4 PDT | $\begin{aligned} & 5 \\ & 5 \end{aligned}$ | $\begin{array}{r} \$ 2.00 \\ 3.40 \end{array}$ | $\begin{array}{r} \$ 1.90 \\ 3.23 \end{array}$ | $\begin{aligned} & \$ 1.80 \\ & 3.06 \end{aligned}$ | $2.38$ | 1917764 | 2,500 | \$1.80 | \$1.71 | \$1.62 | \$1.26 |
|  | Coll Vottaza |  |  |  |  |  |  | $19 \mathrm{Al765}$ | 5,000 | 2.05 | 1.95 | 1.85 | 1.68 |
|  |  |  | GPA AC COILS |  | 51-99* |  | 100.249 | 1911766 | 10,000 | 2.40 | 2.28 | 2.16 |  |
| Stz. No. |  |  | $1-24$ | 25.50 |  |  |  |  | GPD DC COILS |  |  |  |  |
| 1917759 | 6 V | - | \$1.95 | \$1.85 |  | \$1.76 |  | \$1.37 | Sth. No, | Coil Yoltage | 1.24 | 25.50 | 51.99 | 100-249 |
| 19A1760 | 12 V |  | 1.95 | 1.85 |  | 1.76 | 1.37 | 1941767 | 6 V . | \$2.40 | \$2.19 | \$2.07 | \$1.61 |
| 1911761 | 24 V |  | 1.95 | 1.85 |  | 1.76 | 1.37 | 1941768 | 12 V . | 2.40 | 2.19 | 2.07 | 1.61 |
| 1941762 | 120 |  | 1.95 | 1.85 |  | 1.76 | 1.37 | $19 \mathrm{A1769}$ | 24 V. | 2.40 | 2.19 | 2.07 | 1.61 |
| 1911763 | $240 . \mathrm{V}$ |  | 2.40 | 2.28 |  | 2.16 | 1.68 | $19 \mathrm{Al770}$ | 110 V . | 3.60 | $3.42=$ | 3.24 | 2.52 |
| 124 |  |  |  | A |  | ustria | 倍 | all Po | Brumf | Relays |  |  |  |

# POTTER AND BRUMFIELD RELAYS 



KUP 10-AMP SERIES
Covers a wide range of voltages and contact arangements. Highly reliable, well designed, asy to instail or replace. . 187 terminals are quick connect/solder typo. Enclosed in clear plastic cover. Silver-cadmium-oxide contacts assure long contact life. Continuous opertion. Size $2.25^{\prime \prime}$ seated heighi $\times 1.406^{\circ}$ 1.531". Wt. 3 oz. Socket for KUP relays isted below.


9KU1 SOCKETS FDR KUP RELAYS. Rated 10 amperes, molded nylon, pierced solder terminals. $2.03 \times 1.50^{\prime \prime}$ overall including mounting tabs. Na. 19 EA 61

79 c Each
$75 \mathrm{c} \quad 51.99$
11c $\quad 100.249$

KUP SERIES

## WITH SLOTTED FLANGE CASE

For direct chassis mounting. Not sultable for socket mounting, othenwise dentical in mechanical and electrical specifications to the KUP described shove. $.187^{*}$ quick-disconnect/solder teminals. $156^{\prime \prime}$ slot width

| Sth. No 19A1851 | $\begin{aligned} & \text { Coil Y. } \\ & 120 \text { VAC } \end{aligned}$ | $\left.\begin{array}{cc}\text { KUP5A55-SPOT } 10 \\ \text { Coil Ohms } & 1-24 \text { Ea, } \\ 2250 & \$ 4.10\end{array}\right)$ | $\begin{aligned} & \text { AMP } \\ & 25-50 \mathrm{Ea} . \\ & \$ 3.90 \end{aligned}$ | $\begin{gathered} 51.99 \text { Ea. } \\ \$ 3.69 \end{gathered}$ | $\begin{gathered} 100.249 \text { Еа. } \\ \bullet . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1981852 | 24 VDC | KUP5055-SPDT <br> 472 | ${ }_{\text {AMP }}{ }^{3.75}$ | 3.56 | 2.77 |
| 19 A 1853 | 24 VAC | KUP11A55 DPOT 75 5.00 | AMP $^{4.75}$ | 4,50 | 3.50 |
| 1981854 | 120 VAC | 22505.00 | 4.75 | 4.50 | 3.50 |
| 19 A1855 | 6 VDC | KUP11055 DPDT 10 | ANP 4.28 | 4.05 | 3.15 |
| 19 A1856 | 12 YDC | $120 \quad 4.50$ | 4.28 | 4.05 | 3.15 |
| 1981857 | 24 VDC | $472 \quad 4.50$ | 4.28 | 4.05 | 3.15 |
| $19 \mathrm{A1858}$ | 110 VDC | 10.000 | 4.94 | 4.68 | 3.64 |
|  |  | KUP14A55 3PDT 10 | AMPS 5 |  |  |
| 1981859 | 6 VAC | 4.25 | 5.32 | 5.04 | 3.92 |
| $19 A 1860$ | 12 VAC | $18 \quad 5.60$ | 5.32 | 5.04 | 3.92 |
| 1981861 | 24 VAC | $72 \quad 5.60$ | 5.32 | 5.04 | 3.92 |
| 19 A1862 | 120 VAC | $1700 \quad 5.60$ | 5.32 | 5.04 | 3.92 |
| 19 A1863 | 240 VAC | 72006.05 | 5.75 | 5.45 | 4.24 |
|  |  | KUP14D55 3PDT 10 | AMPS 8 |  |  |
| 19月1864 | 6 VDC | 32.15 | 4.89 | 4.64 | 3.61 |
| 191865 | 12 VDC | $120 \quad 5.15$ | 4.89 | 4.64 | 3.61 |
| 1981866 | 24 VDC | 4725.15 | 4.89 | 4.64 | 3.61 |
| $19 \mathrm{A1867}$ | 110 VDC | $10.000 \quad 5.60$ | 5.32 | 5.04 | 3.92 |
|  | RS5D SENSITIVE RELAY |  |  |  |  |
|  | Low price, light weight for model controls, light dimmers. radiosonde. etc. 2 amp palladium contacts. Size $1 \times 1 \frac{18}{2} \times 15 \mathbf{x}^{2} \mathrm{H}$. Wt. $11 / 2 \mathrm{oz}$. |  |  |  |  |
| Sth. No. | Coll 0hms | Pull in 1-24 Ea, | 25-50 Ea. | 51-99 Ea. | 100-249 En. |
| 1901491 | 335 | 6 V . $\$ 3.05$ | \$2.90 | \$2.75 | \$2.14 |
| 19 A 1442 | 1.35 K | 12 V [ $\quad 3.20$ | 3.04 | 2.88 | 2.24 |
| 19 A1494 | 5 K | $3.5 \mathrm{MA} \quad 3.60$ | 3.42 | 3.24 | 2.52 |
| 19 A 1495 | 10 K | 2.5 MA 4.20 | 3.99 | 3.78 | 2.94 |

## KT ANTENNA RELAYS

Low-foss glass base insulation. For swliching 300 ohm RF line. DPDT Low-foss giass base insuration. For switching 300 ohm Rr Mine. OPDT
silver contacts rated at 5 amps. Size $1,3^{\prime \prime} \times 1.9^{\prime \prime} \times 1.7^{\prime \prime} \mathrm{H}$. Mounts with siver cont.
6.32 stud.
Sth, No.
19A1451
19 11452
$19 A 1453$
1981454
Type
KJ11
KJ11
KT11D
KT11D
$\begin{array}{rr}\text { Coll Y. } & 1.24 \text { Ea } \\ 6 \mathrm{AC} & \$ 4.30 \\ 120 \mathrm{AC} & 4.30 \\ 6 \mathrm{DC} & 4.30 \\ 12 \mathrm{DC} & 4.30\end{array}$
$25-5$
$\$ 4.09$
4.09
4.09
4.09
51.99
$\$ 3.87$
3.87
3.8
3.8
100.249
$\$ 3.01$
3.01
3.01
3.01

B-A Is Your Industrial Distributor for all Potter \& Brumfield Relays

## POWER INVERTERS, DC POWER SUPPLIES



## 12 VOLT DC POWER SUPPLY

RATED 4 AMP<br>$\$ 1995$

Double the use of your auto stereo tape player, car radio or CB mabile equipment by using in your home or office. Converts 115 VAC to 12 volts DC. Up to a whopping lood of 4 amps. No noticeable hum or voltoge dip. Heovy duty binding posts, neon on-aff indicator light. Automatic circuit breaker. Shpg. wt

No. 13 A 8041 , Each
$\$ 19.95$
4 Amp Regulated Supply. Delivers 13.8 voC $\pm 4 \%$ other teaturos same as 13 A804 1 obove.
No. 13A8043. Each
$\$ 29.95$
6 Amp Power Supply. H
same as $13 A 8041$ above.
No. 13 A8042. Each
$\$ 24.95$

## TRIPP LITE SOLID STATE POWER INVERTERS



Oelivers 100 watts continuously. Has 2 power switching transistars! Where cigor lighter convenience is leeded, use this model. Specially engineered to power the new 11 -inch personal $V$ sets. Use in boat. plane, trailer or car! Lightweight. Size: $3 / 2 \times 61 / 2 \times 51 / 2 "$. Shpg. wi. 6 lbs . No. 13A8036. Tripp Lite Model PV-iOO. Each
$\$ 29.95$ Oelivers 40 watts continuously. With cigaratte lighter plug \& cord. Size $31 / 2 \times 31 / 2 \times 2 /{ }^{1 / 2}$. Shpg. wt. 3 lbs .
No. 13A8049. Tripp Lite Model PV-40. Each .
$\$ 19.95$

## 115 VAC INVERTER AND 12 V. BATTERY CHARGER



Model PV200B. 200 W . Continuous. 115 VAC from 12 V . DC inputChorges 12 V . Battery at 5 Amps on AC Power. Ideal for compers where $A C$ power is sometimes ovailable. Your storage battery can then be charged. later, when external AC is not avoilable switch from "chorge" to "invert". Has four transistors. Rugged construction. Metal part's plated to resist corrosion. Mounts under dosh, etc. $312^{\prime \prime} \times 5 \times 5$ ". Fused.
No. 13 A8023. Shpg. wt. 9 lbs. Net Each
$\$ 54.95$
Model PV350 350 W . Continuous. 115 VAC from $12 \mathrm{~V} . \mathrm{DC}$ input. 8 transistors. Size 3 // $\times 6$ / $/ \times 9^{\prime \prime}$. Shpg. wt. 12 lbs .
No. 13A80SO. Net Each
579.95

Exira High Power Model PV-500B. 500 W. Continuous 115 VAC from 12 VDC input. Built-in 12 V. Battery Charger. 10 transistors. Max. charge 10 omps. Neon pilot warns of averloods. Size $5 \times 9 / 2 \times 9{ }^{\prime \prime}$
Shpg. wt. 20 lbs.
No. 13A8037. Net Each
\$109.95
Model PV-SOOFC. With Frequency Control. For frequency sensitive equip. ment such as phonogrophs and recorders. $\pm 1 \mathrm{HZ}$ from 11 to 14 volts, 25 to 450 watts. 15 transistors ... no battery charger otherwise same as PV-5008. No. 13A8038. Each
$\$ 199.95$
Model PV-1000FC 1000 W . Continuous with frequency control. For frequeney sensitive equipment such as phonagraphs and recorders. 27 transistors. Size $5 \times 91 / 2 \times 17^{\prime}$. Shpg. wt. 47 lbs .
No. $13 A 8051$. Not Each
\$299.50
Do Not use Inverters with Refrigerators, Air Conditioners, Toasters, Electric Skillets and other heavy current devices.

SENOORE UPS 164 UNIVERSAL POWER SUPPLY Hf-FILTERED VARIABLE REGULATED


It is 0 to 30 volt regulated and Mi-Filtered variable suppiy far powering ony solid state circuit or circuits. Provides virtually DC. It is a well-filtered, Mi-Current regulated 6 and 12 volt supply for powermg any radio, tope deck, aircraft equipment, boat equipment etc.... up to 20 amps. Ifs o 20 amp battery charger at 6 volts and a 10 amp charger at 12 volts. It's a complete power monitor for all conditions. Two $D^{\prime}$ Arsonvol Meters monitor both valtoge and current of all times. You can't peg the meters either because the internal circuit is regulated to stop you. It is fully protected with outomatic circuit limiting. You can short any terminal with o screwdriver without internal domage. If protects the circuit too. Current limiting adjustment on Mí-Filtered Section can be set at any level to protect transistor circuit being powered. Size $10 \times 10 \times 12^{\prime \prime} \mathrm{H}$. Shpg. wt. 23 lbs.
No. 35 A3124. Sencore UPS164. Each
$\$ 240.00$

'COLOR VOLT' COLOR TELEVISION VOLTAGE REGULATOR

Operates automatically .... turns "on and off" with your regulor IV switch. Safeguards against changes in line voltage that cause bad TV pictures. Prevents "shokes", "flips", "ralls", "flashes". "shrinks". "fades", or calor changes aften braught of or aggravated by the "on and off" operation of your narmal househald opplionces, oir canditioners, etc. Also prevents line valfage increases which can seriously shorten the life of tubes, fransistors, picture tube and other components in your IV set. Simple plug-in installation, operates silently. Input voltage range 95 to 130 volts $A C 60 \mathrm{Mz}$. Output constant $117 \mathrm{~V} . A C, 375$ watts copacity. In attractive wood grained metal enclosure. $81 / 2 \times 41 / 2 \times 61 / 2^{\prime \prime} \mathrm{M}$. W F . 13 lbs . Mfg. List $\$ 59.95$
No. 13A8025. Net Eoch
$\$ 49.95$


## SOLID STATE REGULATED POWER SUPPLIES

Output valtage continuously adjustabie. Meter indicates output voltage or current level. Panel swlich selects meter function, clrculf automatically ilmits overload current to prevent damage to the supply. Maintains constant output voltage regardless of varying line volfage or load resistance. . 0005 rms volt max. ripple. Electronic short circuit protection. Three output terminals, $D C+D C-$, Cnd. to obtain positive or megative output. Three wire cord Operate on '105-135 VAC, $50-60 \mathrm{~Hz}$.
WP-700A Zero ;o 20 volts at current levels up to 200 MA . Size $4 \times 61 / 2 \times 3^{\prime \prime}$. Shpg. Wt. 3 lbs.
No. 35 A3039.
$\$ 48.00$ sor more
$\$ 40.00$
WP-704A Zera to 40 volts at cuprent levels up to 250 MA . Size $5 \mathrm{l} / \mathrm{a} \times 8 \mathrm{k} \times 3 \mathrm{k}$ Shpg. Wt. 5 lbs
No. 35 A3053 5 or more
Each .............. \$60.00 Eoch
$\$ 50.50$
DUAL BANANA PLUC G LEADS Includes alligator clip connectors.
No. 35 A8021. WG-413A. Net Each.

## SPRAGUE TYPE 112 TRIGATE

 PULSE TRANSFORMERSSpecifically dosigned for commercial and industrial SCR triggering applications where low cost and oxceiliont periormance are required. Baianced puise charicteristics and energy transfer between windings. Minimum satura. tion ffect to allow operation where Increased pulse widths are required. Finst pulse rise time and Increased current capability to prevent SCR $\mathrm{di} / \mathrm{dt}$ tailure. Operating temperature range of -10 C to +70 C .
..$\$ 3.75$


HORIZONTAL
PLUG.IN
 180. MAE L L


FIEXIULE LECD DESIGN

| ESI |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stoch | Mfg. | Tums | Max. 11 | Max. DCR | 1.24 | 25-49 | 50.99 | 100-249 | 250.499 |
| No. | No. | Ratio | (u1H) | (ohm) | Each | Esch | Each | Each | Each |
| 1381021 | 11212 | 1:1 | 3.0 | 1.5-1.5 | \$2.10 | \$1.65 | -\$1.08 | \$0.780 | \$0.720 |
| $13 A 1022$ | 11213 | 1:1:1 | 3.0 | 2-2.2 | 2.45 | 1.93 | 1.26 | . 910 | . 840 |
| 1341023 | 11214 | 2:1 | 10.0 | 10-2 | 2.98 | 2.34 | 1.53 | 1.105 | 1.020 |
| 1341024 | 11215 | 2:1:1 | 15.0 | 10-2-2 | 3.33 | 2.61 | 1.71 | 1.235 | 1.140 |
| 13 A1025 | 11216 | 5:1 | 1500 | 19.3 | 3.15 | 2.48 | 1.62 | 1.170 | 1.080 |
|  |  |  | HDR12 | 15 | - |  |  |  |  |
| 13 A1026 | 1122000 | 1:1 | 3.0 | 1.5-1.5 | 53.68 | \$2.89 | \$1.89 | \$1.365 | \$1.260 |
| $13 A 1027$ | 1122001 | 1;1 | 12.0 | 8.8 | 3.85 | 3.03 | 1.98 | 1.430 | 1.320 |
| 13 A1028 | 1122003 | $2: 1$ | 10.0 | $10-2$ | 4.73 | 3.71 | 2.43 | 1.755 | 1.620 |
| 13 A 1029 | 1122004 | 5:1 | 1500 | 19.3 | 4.20 | 3.30 | 2.16 | 1.560 | 1.440 |
| 1341030 | 1122100 | 1:1:1 | 3.0 | 2-2.2 | 4.38 | 3.44 | 2.25 | 1.625 | 1.500 |
| 13 11031 | 1122101 | 1:1:1 | 12.0 | 10.10-10 | 4.55 | 3.58 | 2.34 | 1.690 | 1.560 |
| 13 A1032 | 1122103 | 2:1:1 | 15.0 | 10-2-2 | 5.43 | 4.26 | 2.79 | 2.015 | 1.860 |
| $13 \mathrm{Al033}$ | 1122104 | 5:1:1 | 1500 | 20-4-4 | 4.90 | 3.85 | 2.52 | 1.820 | 1.680 |
| H1-Leskege Inductancs; DCR-O.C Resistance. |  |  |  |  |  |  |  |  |  |

# SUPERIOR AND sola TRANSFORMERS 



## SUPERIOR POWERSTAT VARIABLE TRANSFORMERS

## WITH＂POWRKOTE＂HIGH TEMPERATURE INSULATED COILS

For precise variable AC voltage control from zero up to or above line voitage with full rated current avaliable over the ontire range．Design is highly efficient auto．former type with single winding over toroidal core． Extremely low heating，zero waveform distortion and excellent regulation from no load to full load．Gold alloy plated commutator，virtually main－ tenance free．

OPEN CONSTRUCTION POWERSTATS

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Mts. } \\ & \text { No. } \end{aligned}$ | Input |  | Output |  | KY品 | Sizt |  | Shpg． WL． | $\begin{aligned} & \text { Not } \\ & \text { Eneh } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Volts | Hertz | Volts | Amps |  | Ola． | Depth |  |  |
| 138941 | 108 | 120 | 50／60 | 0.120 | 2.25 | ． 27 |  |  |  |  |
|  |  | 120 | 60 | 0.132 | 2.25 | ． 30 | $213^{\prime \prime}$ | 217＂ | 2．5 Lbs． | \＄13．00 |
| 134942 | 21 | 120 | 50／60 | $0-120$ | 4.5 | ． 54 |  |  |  |  |
|  |  | 120 | 50／60 | 0.140 | 4.5 | ． 63 | －374＂ | $3 \mathrm{H}^{\prime \prime}$ | 6 Lbs． | 18.00 |
| 138943 | 116BU | 120 | 50／60 | 0.120 | 10 | 1.2 |  |  |  |  |
|  |  | 120 | 50／60 | 0－140 | 10 | 1.4 | 5＇ | 478＂ | 12 Lbs． | 25.00 |
| $\begin{aligned} & 13 A 944 \\ & 13 A 945 \end{aligned}$ | 1178U | 120 | 60 | 0－120 | 12 | 1.4 | $5^{\prime \prime}$ | 4319 ${ }^{\prime \prime}$ | 12 Lbs． | 27.00 |
|  | 126 U | 120 | 50／60 | 0－120 | 15 | 1.8 |  |  |  |  |
|  |  | 120 | 50／60 | $0 \cdot 140$ | 15 | 2.1 | 67 | 4考＂ | 18 Lbs． | 46.00 |
| 134917 | 136BU | 120 | 50／80 | 0－120 | 22 | 2.6 |  |  |  |  |
|  |  | 120 | 50／60 | 0－140 | 22 | 3.1 | 67／4＂ | $418^{6 \prime \prime}$ | 26 Lbs． | 67.00 |
| 13 A918 | 146 U | 120 | 50／60 | 0.120 | 30 | 3.6 |  | 缺 |  |  |
|  |  | 120 | 50／60 | 0.140 | 30 | 4.2 | $9 \mathrm{H}^{\prime \prime}$ | 413＇ | 38 Lbs． | 109.00 |
| 134946 | 216BU | 240 | 50／60 | 0－240 | 3.5 | ． 84 |  |  |  |  |
|  |  | 240 | 50／60 | 0.280 | 3.5 | ． 98 | $5{ }^{\prime \prime}$ | 43／＂ | 12 Lbs． | 30.00 |
| $\begin{aligned} & \text { 13AB19 } \\ & 13 A 820 \end{aligned}$ | 217 BU | 240 | 60 | 0－240 | 5 | 1.2 | $5^{\prime \prime}$ | 43／6＂ | 12 L．bs． | 22.00 |
|  | 226 U | 240 | 50，460 | 0－240 | 7.5 | 1.8 |  |  |  |  |
|  |  | 240 | 50／60 | 0－280 | 7.5 | 2.1 | $6^{\prime \prime}$ | $4 \mathrm{~S}^{\prime \prime}$ | 18 Lbs． | 46.00 |
| 13 A 821 | 236EU | 240 240 | $50 / 60$ $50 / 60$ | 0.240 0.280 | 10 10 | 2.4 | 67／8 | 4 ${ }^{\prime \prime}$ | 26 Lbs． | 67.00 |



## MOOEL 1064 BATTERY ELIMINATOR ANO CHARGER

Delivers ripple free $D C$ in two ranges． $0-8$ volts and 0.16 volts continuousiy vari－ able by front panel control adjustment of variable transformer．Ideal for servicing transistor equlpment．auto radios，portables，as battery substitute or battery charcar．Ranges（selected by toggle switch） 0 vorinuts at 6 amps continuous， 10 amp intermittent．Output voltmeter and ammeter permits constant monitoring．Fused primary，automatic reset voltmeter and ammeter permits constant monitoring．Fused primary．automatic reset
overload relay on secondary．Cabinet size $81 / 2 \times 53 / 4 \times 712^{\prime \prime}$ ．Wh 16 lbs．Use on overload relay on secondar
117 volts AC $50-60 \mathrm{~Hz}$ line．
No．35A272． 1064 R Kit，Each $\qquad$
$\qquad$ $\$ 59.95$
$\$ 79.95$
No．35A273． 1004 Factory WIred，Each

## MOOEL 1020 SOLID STATE POWER ANO BIAS SUPPLY

Ideal bench unit which will supply all voltage needed to operate transistor devices， varlable bias supply，DC filament supply and to recharge batteries of varlous kinds． Output voltage continuously variable from 0.30 ．Current rating 150 Ma from 0 to 12 voits． 200 MA from 12 to 24 and 300 MA from 24 to 30 ．Extremely low ripple 120 He at full load is only $0.005 \%$ ．Siticon rectifier．Size $5 \times 4 \times 51 / 2^{\prime \prime}$ ．Housed in gray steel cabinet．Fuse protected．WL 5 lbs．
No．35C397．1020X Mat，Each $\qquad$ 325.05

Mo．35C39． 1020 Factory Wired，Each
$\$ 38.95$
MODEL 1032 SOLID STATE REGULATED POWER SUPPLY
Regulated low ripple power supply which is free of malor variations with line valtage and load changes．Regulated output voltage adjustable from 0 to 30 VDC．Output current 0.500 MA．Voltage regulation is 0.2 volts chanke from 0 to maximum load and $105-135$ volt line．Ripple is less than 2.5 mv pesk－to－peak． $33 / 4^{\prime \prime} \times 8^{\prime \prime} \times 43 / 4^{4}$ ．Wt． 5 lbs o．35A711．Model 1032 Kit．Each
No．35＾3099．Model 1032 Factory Wired．Each
$\$ 44.95$
$\$ 59.95$

## EICO 1030 VARIABLE REGULATED POWER SUPPLY

Featuring：Regulated continuously variable DC roits $0-400$ ，continuous current at $0-200$ volts 100 MO ．at $200-400$ volts 150 MA ．Intermit－ tent current at 0.200 volts 125 MA ．㫙能 voltage from 0.150 volts at 2 MA ．Regulation $3 \%$ ．Variation $.4 \%$ or .5 volt for $\pm 10$ volt line variotlon．Ripple，less than 3 MV RMS， Aiso suppiles 6.3 volts 3 amps， 6.3 volts center tapped 3 amps． 12.3 volts at 3 amps， and 6.3 volts at 6 amps．Input 120 volts 50 ． 60 Hart． 160 watts．Has dual range 0.200 ， $0-400$ voltmater and 0.200 DC miliameter． $81 / 2^{\prime \prime} H_{.}, 121 / 2^{\prime \prime}$ W．， $9^{\prime \prime}$ D．Wt． 21 lbs． 35858．．Model 1030．Xit Es．．．．．．．．．．．．．．．．．．．．．$\$ 79.95$

## FOR LABS－SCHOOLS

 TESTING

Uncased open construction Powerstats 108 thru 236BU are panel mounting．Portable types 3PN116B thru 3PN136B are enclosed with 3 wire input cord and output receptacle； 1168 enclosed with 2 wire cord and output receptacle； 146 thru 12560 are cased with exposed terminals．
Current and KYA is maximum for a constant－current load．

## PORTABLE PLUG－IN POWERSTATS W／2 WIRE CORD

| Stock No． | $\underset{\substack{\mathrm{Mg} \\ \mathrm{Mo} \\ \hline}}{ }$ | input |  | Output |  | KYa | Sia. Depth |  | $\begin{aligned} & \text { shpg. } \\ & \text { wt. } \end{aligned}$ | Not Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 138937 | 1168 | $\begin{aligned} & 120 \\ & 120 \end{aligned}$ | $\begin{aligned} & 50 / 60 \\ & 50 / 60 \end{aligned}$ | $\begin{aligned} & 0.120 \\ & 0.140 \end{aligned}$ | $\begin{aligned} & 10 \\ & 10 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1.2 \\ & 1.4 \end{aligned}$ | 5＇ | 53／7＇ | 12 Lbs． | 34. |

PORTABLE PLUG－IN POWERSTATS W／3 WIRE CORD


## CASED POWERSTATS WITH EXPOSED TERMINALS

| $13 A 938$ | 146 | 120 | $50 / 60$ | $0-120$ | 30 | 3.6 |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | 120 | $50 / 60$ | 0.140 | 30 | 4.2 | $948^{\prime \prime}$ | $63 / 8^{\prime \prime}$ | 38 Lbs． |$\$ 16.00$

## SOLA CONSTANT voltage TRANSFORMERS



## （1）STANOARO SINUSOIDAL TYPE CVS

Harmonic－free，static－magnetic line voltage regulators having ultra－fast reguiating actlon．Response time 1.5 cycles or less．Output voltage constant within $\pm 1 \%$ with input voltage variation as great as $\pm 15 \%$ ．Less than $3 \%$ total RMS harmonic content in output．All have exposed core．end housings and screw terminals in outiet box．Paraliof units of sama type to increase output．Regulation effective at from $20 \%$ to $100 \%$ of full load rating．
SHIPPING WEIGHTS： 30 VÂ it lbs．， 60 VA $10 \mathrm{lbs} ., 120$ VA 14 lbs．， 250 VA 28 lus．， 500 VA 45 lbs．， 1000 VA 72 lbs．， 2000 VA 140 lbs． 3000 VA $194 \mathrm{lbs} ., 5000$ VA 335 lms.

| Stock No． | Mfg． Mo． | －Inpat Volts | Output Vofs | Voit Amps | 6. | $\begin{aligned} & \text { slize } \\ & W . \end{aligned}$ | H． | $\begin{aligned} & \text { Prices } \\ & 14 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 5-8 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 138913 | 23．13－030－2 | 95 to 130 | 118 | 30 | 61／ | 4 | $5{ }^{2}$ | \＄32．45 | \＄28．55 |
| 13 A926 | 23－13－060－2 | 95 to 130 | 118 | 60 | 6 | 4 | 51 | 38.50 | 33.98 |
| 134927 | 23－22－112－2 | Note 1 | 118 | 120 | 8 | 4 | 5 | 49.30 | 43.48 |
| 13 1928 | 23－22－125 | Note 1 | 118 | 250 | $9 \%$ | 53／8 | 7 | 87.30 | 69.20 |
| 134929 | 23－22－150 | Note 1 | 118 | 500 | 12 | 9 | 61 | 104.60 | 92.05 |
| 13 A 30 | 23－25－210 | Note 2 | $118 \& 236$ | 1000 | 17\％ | 9 | 61 | 175.50 | 54.45 |
| 13 A1048 | 23－25－220 | Note 2 | 1188236 | 2000 | 197／ | 104 | 931 | 307.75 | 270.80 |
|  | $23 \cdot 25 \cdot 230 \cdot 3$ | Note 2 | 1188236 | 3000 | 217／8 | $10 \pm$ | 91 | 427.95 | 376.80 |
|  | 23－25－250 | Note 2 | 118 \＆ 236 | 5000 | 2014 | $10+1$ | 93 | 663.35 | 580．15 |

$\dagger$ shipped direct from factory．
（1）NORMAL HARMONIC TYPE CVN
Provide the same $\pm 1 \%$ regulation as the Sinusoidal serles．Output contains aver－ age of $20 \% \mathrm{rms}$ harmonic content．Recommended for electrical loads not affected age of $20 \%$ ms harmonic content Recommended for electrical loads not affected is required．
Shpg．wts： 30 VA $7 \mathrm{lbs} ., 60$ VA 10 lb .120 VA 12 lbs .250 Va 25 lbs .500 Va 36 lbs .1000 VA 48 lbs.

| Stock No． | Mig．No． | input Volts | Outpet Volts | Volt amps． L ． |  | $\begin{aligned} & 5128 \\ & w . \end{aligned}$ | H． | Prices $14$ | $\begin{aligned} & \text { Each } \\ & 5-9 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A 972 | 20－13－030－2 | 95－130 | 118 | 30 | 5\％ | 4 | 5\％． | \＄26．45 | \＄23．30 |
| 13 9973 | 20－13－060－2 | 95－130 | 118 | 60 | $6^{1 / 2}$ | 4 | 5\％． | 32.45 | 28.65 |
| 134974 | 20－13－112－2 | 95－130 | 118 | 120 | 73 | 4 | 5\％ | 43.35 | 38.15 |
| 13 1975 | 20．22．125 | Note 1 | 118 | 250 | 11\％ | 61\％ | 6\％ | 83.70 | 58.05 |
| 13 A976 | 20．22－150 | Note 1 | 118 | 500 | 12\％ | 611／10 | 6\％ | 18.75 | 17.80 |
| 13 A 77 | 20－22－210 | Note 1 | 118 | 1000 | 151／3 | 61\％ | 6\％ | 185.90 | 146.00 |

－Input Volts：Note（1）dual range， 95 to 130 end 190 to 260 volts；Note（2）three range input， 95 to 130,175 to 235 and 190 to 260 volts．
（8）PIUG－IM MOAPTOR RITS FOR CVS．CVN RBOVE
Line cord with socket mounted on plate to fit end bell of transformer．


## STANCOR TRANSFORMERS

# StANCOR <br> (a) <br> A \& Pa 

SMOOTHING FILTER CHOKES

FILAMENT TRANSFORMERS
Primaries for 117 V. 60 Hz AC. P6456, P6454, P6458, P6308, P6309 have tap for 117.107 V. Electrostatic shield on P5015. P6133, P6308, P6309 and P6433. Secondary is center tapped except P4026, P8389 and P6469.

|  | $\begin{aligned} & \text { Mrg. } \\ & \mathrm{No} . \end{aligned}$ |  |  |  | Fil |  | Lbs. | . |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A335 | P4 | 2.5 | 1.5 | 2500 |  | 56927/8x11/2 |  | 50 | \$3.15 |  |  |
| 1313 | P613 | 2.5 | 5 | 7500 |  | 21/4x | 1.5 | 5.90 | 5.31 | 4. |  |
| 129 | P6454 | 2.5 | 10 | 7500 |  |  | 2.5 | 5.60 | 5.04 | 4.54 | 20 |
| A399 | P6467 | 5 | 3 | 2500 |  | $2 \times 31 / 4 \times 21 / 8^{\prime \prime}$ | 1.4 |  | 3.69 | 3.32 |  |
| 134630 | P6433 | 5 | 15 | 2500 | B | $31 / 3 \times 21 / 4 \times 21$ | 3 | 10.16 | 9.14 | 8.2 |  |
| A231 | P646 | 6.3 | . 6 | 1500 | A | 1\%362\% $\times 11$ | . 4 | 3.00 | 2.70 | 2.43 | , |
| 3821 | P8389 | 6.3 |  | 1500 |  | 1\%627/411 | 6 | 3.10 | 2.79 | 2.51 | 3 |
| 3999 | P613 | 6.3 | 1.2 | 3000 | A | 15\% $\times 2$ | 8 | 3.14 | 2.83 | 2.54 |  |
| 4402 | P6 | 6.3 |  | 2500 |  | $2 \times 31 / 4 \times$ | 1.4 | 4.40 | 3.96 | 3.5 |  |
| A329 | P6456 | 6.3 | - | 2000 | A | $23 / 6 \times 23 / 423 / 4$ |  | 6.50 | 5.85 | 5 |  |
| 8147 | P6308 | 6.3 | 10 | 2500 | NV | 37/6x2\% $\times 2{ }^{1} \mathrm{~K}$ | 3.4 | 12.04 | 10.84 | 9. | 9. |
| 13 A 21 | P6309 | 6.3 | 20 | 2500 |  | 4 1 , $\times 331 / \times 33$ | 6.7 |  |  | 112 |  |
| 13 A1014 | 501 | 7.5 | ) | 2500 |  | $31 / 8 \times 21 / \times 21 / 2$ | 2.7 | 9.40 | 8.4 | 7.61 | . 0 |
| 13433 | P645 | 10 | 5 | 2000 | NY | $31 \times 1 \times 21 / \times 21 / 2$ |  | 9.16 | 8.24 | 7.42 | , |
| 13 A330 |  | 10 | 10 | 2000 | $c$ | 37/ $\times 31 / 4$ | 5.0 | 13.98 | 12.58 | 11.32 | 10.4 |
| 13 A1020 | 8384 | 2.6 | 10 | 1500 | A | $2^{11 / 102 \times 11 / 2}$ | , | 4.21 | 3.79 | 3.41 |  |
| 138192 | P9130 | 12.6 |  | 1500 | A | $2 x_{1} \times 31 / 4$ | 1.4 | 4.00 | 3.60 | 3.2 | 3.0 |
| 13 A331 | P8358 | 12.6 | 3 | 1500 | A | $2 \%$ x $31 / 21 / 2$ | 1.6 | , | 4.19 | 3. |  |
| 138211 | P6469 | 25.2 | 1 | 1500 | A | $2 \times 31 / 4 \times 23$ | 3.4 | . 10 | 3.4 | 3. |  |
| 13A978 | P8180 | 25.2 | 1 | 1500 | A 2 | $2 \times 31 / 4 \times 21 / 0$ | 1.4 | 4.10 | 3.69 | 3.3 | . 0 |
| A332 | P8357 | 25.2 | 2 |  |  | $25 / 6 \times 4 \times 21 / 4^{\prime \prime}$ | 2.2 | . 60 |  | . 54 | 4.2 |
|  |  |  | 2 |  |  | $3 \mathrm{~K}_{6} \times 2 \%$ \% $\times 21 / 4$ " | 2.2 |  | 1.22 | 50 |  |

## POWER TRANSFORMERS

Commercial grade transformers. Primaries $117 \mathrm{~V}, 60 \mathrm{~Hz}$ AC. *No center tap on indicated winding. Prefix on manufacturers number indicates Illustration.

|  |  |  |  | © | $\text { Y. } 5$ |  |  | $\begin{gathered} \text { Prices Each } \\ 1.9 \quad 10.2425 .49 \end{gathered}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13A381 | PC8402 | 480 | 55 | 2A | 2 | $31 / 21 / 2$ | 24 | \$8.40 | \$7.56 | 58 |
| 13A38 | PC840 | 500 | 70 | 2A | $2.5 A$ |  | 3.2 | 9.10 |  |  |
| 134979 |  | 20 | 90 | 2A | 3a | $31 / 2$ | 4 | 11.24 | 10.1 |  |
| 1388 |  |  | 120 | 3A | 3.5A | 37/8 $3^{1 / 1 / 8 \times 31}$ | 4.9 | 12.4 | 11.21 | 10.09 |
| 134688 | P835 | 540 | 260 | 3 A | 8.8A |  | 6.5 | 18.25 | 16.43 | 4 |
| 134578 |  | 650 | 40 | 2A | 2 Cl | 20 | 2.4 | 8.00 | 7.20 | 6.4 |
| 13A388 | PC8409 | 700 | 0 | $2 A$ | 3ACT | $31 / 2 \times 21 K_{4} \times 33$ | 4.5 | 12.50 | 125 | 0. |
| 134369 | PC8410 | 720 | 120 | 3A | 3.5A | $37 / 0 \times 31 / 4 \times 33$ | 5.5 | 12.00 | 10.80 | 9.1 |
| 4391 | PC84 12 | 800 | 200 | 3A | 5 Cl | $4114.3{ }^{3} 3 / 4 \times$ | 8.2 | 1735 | 5.62 | 促 |
| 830 | PS8415 | 125 | 15 |  | . 6 A | $1^{1} \mathrm{Y}_{1} \times 2 \%^{2} \times 13$ | 7 | 3.64 | 3.28 | 2.9 |
| 13832 | PA8421 | -125 |  |  | 2 | $21 / 4 \times 31 / 6_{6} \times 21$ | 1.5 | 5.69 | 5.12 | 4.6 |
| 3 A 105 | P8824 | -125 | 15 |  | - | /bx 2 \% $\mathrm{t} \times 1$ |  | 3.64 |  |  |
| A105 | P8625 | 25 | 25 |  | (6) 8 A | 1/1923/10 |  | 4.56 | 4.19 |  |
| 3A1053 | P8626 | -125 | 50 |  | (1) | $21 / \times 3{ }^{1 / 8 \times 2}{ }^{-1}$ | 1.5 | 5.69 | 5.12 |  |
|  | PS8416 | 250 |  |  | $1 \bar{A}$ |  | 1.0 | 66 | 19 |  |

## MULTI-VOLTAGE TRANSFORMERS

Three isolated 12 V . secondaries, one with $\mathrm{CT}_{\text {, }}$ provlde $6,12,18,24,30$ and 36 V . output with varying current capacity by using series or paraliel connections. All are $5 \mathrm{mtg} . \mathrm{g}^{\mathrm{g}}$ loads. Excellent for building transistor power supplies.

| Stock No. | Stancor No. | Amps Each Sec. | olmensions <br> N. W. D. | $\begin{aligned} & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | 1.9 | $\begin{gathered} \text { Price } \\ 10.24 \end{gathered}$ | $\begin{aligned} & \text { Esch } \\ & 25-49 \end{aligned}$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 138669 | P8361 | 0.10 | $13 \times 2 \times 1{ }^{1 / 27}$ | . 36 | \$4.60 | \$4.14 | \$3.73 | \$3.45 |
| 138670 | P8362 | 0.15 | 2123/4 $\times 13 / 4^{\prime \prime}$ | . 60 | 3.68 | 3.31 | 2.98 | 2.76 |
| 138678 | P8363 | 0.25 | 23/6270x $31 /^{\prime \prime}$ | . 85 | 5.00 | 4.50 | 4.05 | 3.75 |
| 138678 | P8364 | 0.50 |  | 1.25 | 5.50 | 4.95 | 4.46 | 4.9 |



## STANCOR LINE VOLTAGE CONTROL TRANSFORMERS

## LINE ISOLATION 50/60 Hz AC

Eliminates most shock hazard because of pessible grounded circuits within the equipment being lested. A necessity when tesing AC-OC sets. Built-in ebectrostatic shields are grounded to core
All have slanderd line cord. P6410 has outlet receptacle, P6 160 and P6 161 have voliage switch and oullel recepiacle, and P6 145 has 3 oullet receptacles

Stock Mis. Watt Imput Output Dimensions Wt. Prices Each No. No. Max. Volts Volts H, W. O. Lbs. 1.9 10-2425.4950.99




230 TO 115 V. STEP-DOWN AUTO-TRANSFORMERS
For operarion of 115 VAC devicas in areas where 230 V .50 or 60 Hz . AC is the supply voltage. All have 115 VAC plug-in receptacle maunted on transformer. Windsigs are nol isolated. Primaries have standard-line cord and plug.

| Stock No. | Mifg. No. | Watis Max. | Dimansions H. W. D. | Wt. <br> Lhs | Prices: 1.9 | $\begin{gathered} \text { Each } \\ 10.24 \end{gathered}$ | 25.49 | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13A1055 | P6630 | 85 | 312x2342\%** | 2.5 | \$7.51 | \$6.76 | \$6.08 | \$5.63 |
| 13A1055 | PR631 | 125 | $3.24 \mathrm{x} 3^{-}$ | 3. | 8.68 | 7.81 | 7.03 | 6.51 |
| 13A1057 | P8633 | 300 | 31/x3 $4 \times 4{ }^{\text {" }}$ | 5.2 | 13.34 | 12.01 | 10.81 | 30.01 |
| 13A1058 | P8635 | 500 |  | 10.3 | 18.35 | 16.52 | 14.86 | 13.76 |
| 13A1059 | P8836 | 1000 | $4^{\circ} \mathrm{h} \times 3 \mathrm{H} \times 6 \%^{\prime \prime}$ | 17. | 27.52 | 24.77 | 22.29 | 20.64 |
| 128 |  |  |  |  |  | 11 |  |  |


| $\begin{aligned} & \text { Stock } \\ & \text { Ng. } \end{aligned}$ | $\begin{aligned} & \hline \text { Mifg. } \\ & \text { Mo. } \end{aligned}$ | Hys. | MA | Ohms | fig. | Dimensions <br> H. W. D. | $\begin{gathered} \mathrm{wbs} \\ \mathrm{Lb}_{2} . \end{gathered}$ | 1.9 | Prices Exeh 10.24 25-49 | 30-99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 AS 1 | c1515 | 20 | 15 | 900 | A | $136 \times 27 / 6 \times 138^{\prime \prime}$ | . 7 | \$3.30 | \$2.67 |  |
| 13401 | C170 | 4.5 | 50 | 300 | A |  |  |  | 2.181 .96 | 82 |
| 13461 | C1279 | 8.5 | 50 | 400 | A | 15\% $27 / 18 \times 13 / 6^{\prime \prime}$ | . 7 | 3.38 | 3.0482 .74 | 2.54 |
| ${ }_{\substack{13443 \\ 13464}}$ | $\mathrm{ClO}^{103}$ | 16 | 50 85 | 580 | A | ${ }^{2 \times 31 / \times 15 \%^{\prime \prime}}$ | 1 | 3.50 3.42 | 3.16 <br> 3.08 | 2.63 |
| 13448 | ${ }^{6} 1001$ | 10.5 | ${ }_{110}^{85}$ | 225 | A | ${ }_{2 \% \times 4 \times 21 / 2 \%}$ | 2.4 | 5.04 | 4.544 .08 |  |
| 134638 | C2304 |  | 150 |  | A | 2 $\times 314 \times 13$ |  | 4.40 | 6 |  |
| 13 A635 | C2327 | 1.5 | 200 | 85 | A | $1961 / 1 / \times 11 / 2^{\prime \prime}$ | . 7 | 3.22 | $2.90 \quad 2.81$ | 2 |

HIGH CURRENT FILTER CHOKES
C2700 series is $A$ mounting. TC-2 is A with crimp tabs. C2600 series is similar to NV

| Stock No. | $\begin{gathered} \mathrm{Mig} \\ \mathrm{No} \\ \hline \end{gathered}$ | Ind. Hys. | $\underset{\text { Amps }}{\text { DC }}$ | Ohms Ras. | Dimensions H.W.O. | $\underset{\text { Wh }}{\mathrm{Lbs}}$ |  | $\begin{aligned} & \text { as Each } \\ & 10-24 \end{aligned}$ | 25-49 | 50-99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A 1067 | C2723 | 7 | 135 | 40 |  | 35 | \$1.67 | \$1.50 | \$1 | \$1.25 |
| 13 A1068 | C2725 | . | 275 | 22 |  | . 65 | 2.00 | 1.80 | 1.2 | 1.50 |
| 13 A1059 | C2727 | :25 | 5 | 10 | 2x $31 / 21116^{\prime \prime}$ | 1. | 2.52 | 227 | 2.04 | 189 |
| 13 A1012 | TC2 | 011 |  | . 75 | $1^{1} / 6 \times 11^{\prime \prime} 16 \times 1 \mathrm{~V}^{-1}$ | 8 | 2.08 | 1.87 | 1.68 | 1.56 |
| 13 A550 | C2685 | 035 | 2 | . 75 | $2^{\circ} \mathrm{Acx} \times 2 \mathrm{2} \times 2 \mathrm{~V}^{\prime \prime}$ | 1.9 | 5.75 | 5.18 | 4.66 | 4.31 |
| 13 A55 | C2686 | 025 | 4 | 425 | $21 / 4 \times 3+4 \times 2 \times{ }^{\prime \prime}$ | 3.4 | 7.60 | 5.84 | 6.16 | 5.70 |
| 13 A552 | C2687 | . 01 | 8 | . 15 | $3^{\circ} \mathrm{K} 6 \times 374 \times 3{ }^{\text {a }}$ | 5.3 | 11.09 | 9.98 | 8.98 | 8.32 |

## AUTOMATION CONTROL TRANSFORMERS

Dual winding primaries are connected par allelfor 115 V . in series for $230 \mathrm{~V} .50-60 \mathrm{~Hz}$. AC Oual secondaries also may be connected series or paraliel. P6375. P6376, P6377, P8616 and P8617 are J type Others 3re 8 V mounting.

| Stock No. | $M f_{g}$No. | Paraliel | Sacondary |  | $\begin{gathered} \text { Size } \\ \text { H.W.O. } \end{gathered}$ | Prices Each |  | $25-49$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Seriea |  |  | 1-9 | 10-24 |  |  |
| 13824 | P6375 | $6 V \& 2 A$ | $12 \vee @ 1 A$ |  | $24 \times 2 \pi \times 150$ | \$4.40 | \$3.96 | \$3.56 | \$3.30 |
| $13 \mathrm{A622}$ | P6376 | 6V (a) A. | $12 V \circlearrowleft 2 A$ |  | $23 \times 36 \times 1 \%$ | 5.20 | 4.68 | 4.21 | 3.90 |
| 13 A623 | P6317 | 12 V @4A | 24 V (6)2A. | 2.5 | 316 3 3 $\times 2 \times 2 \mathrm{k}{ }^{-1}$ | 6.60 | 5.94 | 5.35 | 4.95 |
| 13 A624 | P6378 | 12V@BA. | 24V@4A | 4.3 | $3^{1 / 40523 / 62 ~} 2^{19} / 0^{-0}$ | 11.90 | 10.71 | 9.64 | 8.93 |
| 13 A627 | P6379 | 12 V . 016 A | . 24 V.@8A. | 8 | 4, $3^{3} \times 3 \%{ }^{2} \times 3$ 尔" ${ }^{\prime \prime}$ | 22.00 | 19.80 | 17.82 | 16.50 |
| 13 A1063 | P8616 | 24V@1A. | 4BV@5A | 1.5 | 23/43 $\times 1 \times 1 /{ }^{1 /}$ | 5.80 | 6.22 | 4.70 | 4.35 |
| $13 A 1064$ | P9617 | 24V@2A | 48V.(1) 1 A | 2.5 | 31/93 $3 \times 1 \times 214{ }^{-1}$ | 7.20 | 6.48 | 5.83 | 5.40 |
| 13 A1065 | P9618 | 24V. $04 \mathrm{4A}$ | 4BV(a) 2 A | 4.2 | $3^{1}$ ¢6 $62^{11 / 4 \times 2}$ | 12.50 | 11.25 | 10.13 | 9.38 |
| 13A 1066 | P8619 | 24V@8A. | 4 BV (o) 4 A . | 8 |  | 22.43 | 20.19 | 18.17 | 16.82 |

## MINIATURIZED CONTROL TRANSFORMERS

FIG. A SECONOARY 12 VOLTS NO C.T.

| $\begin{aligned} & \text { Stock } \\ & \text { Mo. } \end{aligned}$ |  | Secondary Amperss Bridge Half Wave |  | Dlmendons H. W. D. | Wi. Lbs. | $\begin{aligned} & \text { Pricas Each } \\ & 10-24 \quad 25-49 \end{aligned}$ |  |  | 50-99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 34992 | P. 8390 | . 1000 C | 05 | 21/4 $\times 11 /{ }^{1} \times 11 / 4$ | 25 | \$3.00 | \$2.70 | S2. | S2 25 |
| 34993 | P-8391 | . 22 | 1100 C |  | 35 | 3.50 | 3.15 | 2 |  |
| 13499 | P-8392 | . 4500 C | .2250C |  | 60 | 3.67 | 3.30 | 2.97 | 2.7 |
| A9 | P. 8393 | 7500 C | 3750 C | $31 /{ }^{\text {" } \times 2}$ | 85 | 3.90 | 3.5 | 3.16 |  |

FIG. A SECONOARY 24 V.C.T.

| Bridga Full Waw |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 134996 | P-8394 | .0650C | .1350C |  | . 25 | \$3.38 | \$3.04 | \$2.74 | \$2.54 |
| 134997 | P. 8395 | .135DC | .2750C | 21/81\%"X1\%" | . 35 | 3.52 | 3.17 | 285 | 2.64 |
| 134998 | P-8396 | .2700C | .5500C | $21 / 2 \times 1$ \% ${ }^{\text {" }}$ 11/2" | . 60 | 3.55 | 3.20 | 2.88 | 2.66 |
| 134999 | P. 8397 | .4500C | .9250C | 31/4"X2"X1\%** | . 85 | 7.90 | 3.51 | 3.16 | 2.93 |

## SILICON OR SELENIUM RECTIFIER TRANSFORMERS

Variable tap isolated primary and secondary windings provide output voltages in 12 steps within ranges shown. OC output voltages are based on selenium rectifiers and high capacity filters. All are figure BV. Dimensions and Weighis: RT-208, $21 / 2 \times 23 / 3 \times 3 \mathrm{~K}^{\prime \prime} \mathrm{H}$. Wt. 2.5 lbs .; RT- 202 .




|  |  |  | Rang | $\begin{gathered} \text { DC } \\ \text { Amps. } \end{gathered}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A 734 | 20 | CT <br> Bndpe <br> CT <br> Bridge <br> CT <br> Bradge <br> Bridge <br> CT <br> Bndge <br> CT <br> Bridge <br> CT <br> Bridge <br> Bridge | $\begin{aligned} & 11.7-29.4 \\ & 11.28 .5 \\ & 12.029 .8 \\ & 12.0-29.8 \\ & 11.729 .2 \\ & 11.6-29.2 \\ & 12.29 .7 \\ & 12.29 .7 \\ & 12.1-29.2 \\ & 12.1-29.2 \\ & 23.50 .2 \\ & 23.560 \\ & 24 .-69 \\ & 24.59 \\ & 23.58 \\ & 23.58 \end{aligned}$ | 2125428841261581..22.1.4. | $\begin{aligned} & 3.31011 .2 \\ & 7.41023 \\ & 3.71011 .1 \\ & 8.91024 .3 \\ & 4.31012 \\ & 8.81024 \\ & 8.41011 .5 \\ & 8.41024 \\ & 3.91011 .4 \\ & 8.71023 .7 \\ & 91025 \\ & 20.51053 \\ & 91025 \\ & 20.51052 .5 \\ & 9.025 \\ & 201051.5 \end{aligned}$ | $\begin{aligned} & 3.510138 \\ & 8.71030 \\ & 41014.7 \\ & 10.81033 \\ & 4.51014 .5 \\ & 1141032.4 \\ & 3.91014 .4 \\ & 101032 \\ & 4.41014 .8 \\ & 10.41032 .5 \\ & 111034 \\ & 271074 \\ & 11.51034 \\ & 28.51073 .5 \\ & 111033.5 \\ & 271072.5 \end{aligned}$ | 0 | 57.02 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 36 | AT. 20 |  |  |  |  |  |  |  |
| 37 | 206 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 1.4 |  |
|  |  |  |  |  |  |  | 0.97 |  |
| 1060 | IT 400 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 0.00 |  |
| 13A1062 | AT 402 |  |  |  |  |  |  |  |

LINE TO VOICE COIL TRANSFORMERS
AB101 and $A 7947$ are type $Q$ mig. others type J. WL. 4 to 1.5 lbs .

| Stock Me. | Mrr's. No. | $\begin{gathered} \text { Primary } \\ \text { Ohms } \end{gathered}$ | sec. Ohms | Aualo Watts | $\begin{aligned} & \text { SIze } \\ & \text { H. W. D. } \end{aligned}$ | 1.8 | $\begin{aligned} & \text { Prices } \\ & 10.24 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 25-49 \end{aligned}$ | 50.89 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13818 | A8101 | 500 | 5.8/3.2 | 5 | 13/4x23/811/2 | 22.90 | \$2.61 | \$2.35 | \$2.18 |
| 13825 | A3883 | 500 | 15/8/6/4 | 25 | 23/6x ${ }^{2} / 6 \times 13 / 4$ | 4.69 | 4.22 | 3.80 | 3.52 |
| 13837 | A7947 | $\begin{aligned} & 2000 / 1500 \\ & 1000 / 500 \end{aligned}$ | 6.8/3. | 8 | 15\%x2\%x15/9 | 4.59 | 4.13 | 3.72 | 3.44 |
| 134532 | A8104 | $\begin{aligned} & 3000 / 2000 / 16 / 8 / 4 \\ & 1500 / 1000 / 500 \end{aligned}$ |  | 10 |  |  |  |  |  |
|  |  |  |  | 23/6 $\times 27 / 0 \times 13 / 4$ | 5.20 | 4.88 | 4.21 | 3.9 |

# STANCOR \＆ <br> PS <br> 0 <br> YD <br> VE 

## 10 WATT LINE－TO－LINE TRANSFORMER

Primary 500／333／200／125／50 ohms，Secondary 500／300／200／125／50 ohms．Pri－ mary and secondary 500 and 200 sections have center taps（ 125 and 50）．Figure

MICROPHONE AND LINE INPUT TRANSFORMERS TD mounting is fully shlelded for fow hum pickup，A4779 is for Sgl．or PP grids， all others for single grid．Wt． 1 lb ．

|  | $\begin{aligned} & \text { Mfg. } \\ & \text { No. } \end{aligned}$ | Pri．Ohms | sec． Ohms | Mt． |  | ． 9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 134570 | A4778 | 600／500CT | 24 | C1 | 21／4x | \＄7．39 | \＄8．65 | \＄5 | 5. |
| $13 \times 57$ | A4779 | 600／500CT | 60，000 | $A$ | 13／6x2\％x1\％ | 4.09 | 3.68 | 3.4 |  |
| 13 A 4 | A4351 | $\begin{aligned} & 500 / 333 / 20 \\ & 125 / 50 \end{aligned}$ | 89.00 | 10 | $2 \mathrm{H} \times 2 \mathrm{H} \times 2$ | 1.47 | S． 72 | 6.05 |  |

## INTERCOM TRANSFORMERS

A4744 is voice coil to grid A4748 is voice coil or line to grid．A8091（8 watt）is line to voice coil output．

| Stock No． | $\begin{aligned} & \mathrm{Mfg} . \\ & \mathrm{No} \text {. } \end{aligned}$ | Pri． | Secondary | Mtg． | Dimensions H．W．D． | 1.9 | $\begin{aligned} & \text { Price } \\ & 10.24 \end{aligned}$ | $\begin{aligned} & \text { E Each } \\ & 25.49 \end{aligned}$ | $50.99$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A 1 | 44744 | 40 hm | 25x Ohms | VE | $13 / 1 / 21 / 0 \times 112^{\prime \prime}$ | \＄3．70 | \＄3．33 | \＄3．18 | \＄2．96 |
| 13 A 410 | A4748 | 450 hm | 50K 0 hms | a | 11／4×21／6x1\％／${ }^{\prime \prime}$ | 4.89 | 4.40 | 3.98 | 3.67 |
| 134471 | A8091 | 450 hm | 3.4 or 6.8 | a | 15／8×27／611／2＂ | 3，37 | 3.03 | 2.86 | 2，70 |

## INTERSTAGE TRANSFORMERS

A．53，single plate（ 7 K to 20K）to single grid．A4711 PP plates（ 7 K to 156 ）to PP grids，others single plate（ 7 K to 15 K ）to Pp grids．Max．DC in primary 10 MA ． Average shpg．wt． 1 lb.

| Stack No． | Mfr＇s． No． | Turns Ratio | Mtis． | $\begin{aligned} & \text { Size } \\ & \text { H. W. D. } \end{aligned}$ | 1.9 | $\begin{gathered} \text { Pric } \\ 10.24 \end{gathered}$ | $\begin{gathered} \text { Esech } \\ 25.49 \end{gathered}$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A359 | A53 | 1.3 | A | 13／9x27／8x13／9 | \＄3．74 | \＄3．37 | \＄3．18 | \＄2．99 |
| 1348 | A53C | 1：3 | A | 13／9x23／913／8 | 3.83 | 3.45 | 3.26 | 3.05 |
| $13{ }^{1} 7$ | A63C | 1：3 | A | 15\％623\％／211／2 | 4.52 | 4.07 | 3.84 | 3.62 |
| 13 A10 | A4711 | 111 | A | 15／827／4x15 | 4.69 | 4.22 | 3.00 | 3.52 |

## AUDIO OUTPUT TRANSFORMERS

UNIVERSAL SINGLE OR PUSH－PULL TO VOICE COHL 4 K to 14 K primary， 05 to 122


## SINGLE PLATE TO VOICE COIL

Figure A Average wt．． 5 lbs．

| Stock No． |  | Impedance |  | Dimensions |  |  | Prices Eich |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No． | Pri． | Sec | Watts | H ． | W．D． | 1－9 | 10.24 | 25－49 | 50－3 |
| 13 A378 | A3332 | 2 K | 3.2 | 3 | 11／4 | 21／8x ${ }^{1 / 4 / 4}$ | \＄2．30 | \＄2．07 | \＄1．86 | \＄1．73 |
| 138127 | A3877 | 5K | 4 | 5 |  | 和》／4 | 2.37 | 2.13 | 1.82 | 1.78 |
| 138128 | A3879 | 品 | 4 | 5 | 1\％ | 2\％$\times 13$ | 2.30 | 2.07 | 1.88 | 1.73 |

## PUSH－PULL PLATES TO VOICE COIL

－Indicates 500／250／15／8／4 ohms．A3800，A3801 style C mig．A3857 similar to A． Shpg Wis：$A 3800-4$ lbs．，A 38015 lbs ．，A $3857 \mathrm{l} / 2 \mathrm{lb}$.
$\begin{array}{llllllllll}13 A 36 & \text { A3800 } & 5 \mathrm{KCT} & \quad 30 & 31 / 2 \times 2\left[8 \times 334^{\prime \prime}\right. & \$ 10.00 & \$ 9.00 & \$ 8.10 & \$ 7.50\end{array}$


## TUBE TO LINE TRANSFORMER

Primary single $20 \mathrm{~K} / 10 \mathrm{~K} / 5 \mathrm{~K}$ plate or push－pull 20 K plates． $15 \mathrm{MA} D C$ ．Secondary $500 / 333 / 200 / 125 / 50$ ohms．Rated 5 watts．Figure A． $2^{\prime \prime}$ H．$\times 31 / 4^{\prime \prime}$ W．$\times 17 / \mathbf{h}^{\prime \prime} \mathrm{D}$ ． Wt． 1 lb ．

70.7 V ．LINE TO VOICE COIL TRANSFORMERS

For matching speakers to amplitier output allowing selection of desired speaker power
level．AB105 has $4 / 8$ ohm sec．；A8080 has $8 / 16$ ohm sec．；A8083 has 8 ohm sec．； all others $4 / 8 / 16 \mathrm{ohm} \sec$ ．Weight varies from .4 to 1.5 lbs ．

| $\begin{aligned} & \text { stock } \\ & \mathrm{No.} \end{aligned}$ | $\begin{gathered} \text { Mfr's. } \\ \mathrm{No} . \end{gathered}$ | Power Staps In Watts | $\begin{gathered} \text { Mrg. } \\ \text { Type } \end{gathered}$ | $\begin{aligned} & \text { Size } \\ & \text { H.W.D. } \end{aligned}$ | 1.9 | $\begin{gathered} \text { Price } \\ 10-24 \end{gathered}$ | $\begin{aligned} & \text { Each } \\ & 25-49 \end{aligned}$ | 50－99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A 15 | A8103 | 16／8／4／2 | 1 | 23／4x31／921／4 | \＄7．19 | \＄6．47 | S5．82 | \＄5．39 |
|  |  |  |  |  |  |  |  |  |
| 134414 <br> 131016 <br> 13 A252 | $\begin{aligned} & \text { A8102 } \\ & \text { A8080 } \\ & \text { A8105 } \end{aligned}$ | $8 / 4 / 2 / 1 / 1 / 5$$5 / 4 / 3 / 2 / 1$ | A | 2x2 $1 / 8 \times 11 / 2$ | $\begin{aligned} & 4.55 \\ & 4.60 \end{aligned}$ | 4.10 | 3.69 | 3.41 |
|  |  |  |  |  |  | 4.14 | 3.73 | 345 |
|  |  | 5／2．5／1．25／ |  |  |  |  |  |  |
|  | $\begin{aligned} & 48081 \\ & 48082 \end{aligned}$ | $\begin{aligned} & 02 / 98 \\ & 10 / 9 / 8 / 7 / 6 \\ & 15 / 14 / 13 / \end{aligned}$ | 9 | $\begin{aligned} & \frac{13}{2} \times 23 \times 11 / 2 \\ & 2 \times 21 / 2 \times 15 \end{aligned}$ | $\begin{aligned} & 4.64 \\ & 5.44 \end{aligned}$ | 4.184.90 | 3.764.41 | 3.484.08 |
| $\begin{aligned} & 13 A 361 \\ & 13 A 362 \end{aligned}$ |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | 12／11 | J | 23／1 $21 / 4 \times 13 / 4$ | 5.69 | 5.12 | 4.61 | 427 |
| 131017 | A8083 | 2／1／． 5 | A | $13 / 4 \times 21 / 4 \times 13 / 4$ | 3.03 | 2.73 | 2.45 | 2.27 |

25 V．LINE TO VOICE COIL TRANSFORMERS
A8095 has $4 / 8 \mathrm{ohm} \mathrm{sec} . ~(4793$ and $A 8088$ thave 8 ohm sec.$$

| Stock No． | Mfr＇s． No． | Power Steps In Watts | Mtg． Type | $\begin{gathered} \text { Size } \\ \text { W. } \end{gathered}$ | D． | $\begin{aligned} & \text { we. } \\ & \text { Lb. } \end{aligned}$ | 1.9 | $\begin{aligned} & \text { Prices } \\ & 10-24 \end{aligned}$ | $\begin{aligned} & \text { Esch } \\ & 25 \cdot 49 \end{aligned}$ | 50.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 A980 | 48095 | 5／2．5／1．25／ |  |  |  |  |  |  |  |  |
|  |  | ．62／．31 | A | 13／1 |  |  | \＄4．15 | \＄3．74 | \＄3．36 | \＄3．11 |
| 13 A1015 | A4793 | 8／4／2／1／ |  | 2x2kx |  | ． 65 | 5.42 | 4.88 | 4.39 | 4.07 |
| 13 A 1018 | A8088 | 4／2／1／．25／ | 12 A | 1\％／8x ${ }^{7 / 6 x}$ |  | 7 | 3.87 | 3.48 | 3.13 | 2.90 |

CONTACT B－A INDUSTAIAL DEPT．FOR BULK PAICES ON 100 OR MORE OF ANY STANCOR NUMBERS．

## STANCOR MINIATURE <br> TRANSISTOR AUDIO TRANSFORMERS



Open frame style with coded wire leads．Size， 150 milliwatt unlts $\left\{\mathbf{i l}^{\prime \prime}\right.$ between mounting tabs， $3^{\prime \prime}$ high， $\mathrm{t}^{\prime \prime}$ wide， $\mathrm{H}^{\prime \prime}$ deep．Wt .65 ozs
 1.2 ozs．
－Indicates 300 MW units．All others rated 150 MW ．

| Stock No． | Stancor No． | Appli． cation | Turns Rotio | Imped． Pri． | Ohms Sec． | 1.9 | $\begin{aligned} & \text { Pricas } \\ & 10-24 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 25-49 \end{aligned}$ | 50.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 AB18 | TA52＊ | In．Stg． | 1．00：1．00 | 500CT | 500CT | \＄5．40 | \＄4．86 | \＄4．37 | 54.05 |
| 13 A 909 | TA28 | In．Stg． | 1．65：1：00 | 1500 | 500 cr | 5.40 | 4.86 | 4.37 | 4.05 |
| 13 A1005 | ta30 | In．Stg． | 1．00：1．22 | 5KCT | 7．5KCT | 5.00 | 4.50 | 4.05 | 3.75 |
| 1341006 | TA31 | In．stg． | 1．00：1．41 | 5KCT | 10KCT | 5.00 | 4.50 | 4.05 | 3.75 |
| 13 A832 | ta34 | In．Stg． | 6．97：1 | 10 K | 200 CT | 5.40 | 4.86 | 4.37 | 4.05 |
| 13 A833 | TA35 | in．Stg． | 2．24：1 | 10K | 2 KCT | 4.84 | 4.36 | 3.92 | 3.63 |
| 13 A1007 | TA38 | In．Stg． | 1．72：1．00 | 500Ct | 150 CT | 4.92 | 4.43 | 3.99 | 3.69 |
| 13 A825 | TA21 | Output | 5．53：1 | 500 CT | 4，8， 16 | 5.00 | 4.50 | 4.05 | 3.75 |
| 13 A911 | ta33 | Output | 24．6：1．00 | 10KCT | 4．8． 16 | 4.00 | 3.60 | 3.24 | 3.00 |
| 13 A912 | TA39＊ | Dutput | 2．50：1．00 | 100CT | 4．8． 16 | 4.25 | 3.83 | 3.44 | 3.19 |
| 1301008 | Ta41． | Output | 5．00：1．00 | 400CT | 16 CT | ． 8.4 | 4.36 | 3.92 | 3.63 |
| 134836 | TA42＊ | Output | 5．80：1 | 500CT | 4． 8,16 | 4.60 | 4.14 | 3.73 | 3.45 |
| 1311009 | TA43＊ | Dutput | 8．63：1．00 | 700CT | 16 CT | 6.00 | 5.40 | 4.86 | 4.50 |
| 13 A1010 | TA55＊ | Input | 50：1．00 | 500K | 200 CT | 7.00 | 6.30 | 5.87 | 5.25 |

TRANSISTOR AUDIO TRANSFORMERS
0esigned eapecially for transistor applications．Highest quality throughout．All A mount－ ings except TA5 f I mtg．：TA57． S mtg．TA5，TA6．TA16，and TA59 are for driver use． others for output use．

| Stock Na ． | $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | Ohms Pri． | Ohms Sec． | $\begin{aligned} & \text { DC } \\ & M A \end{aligned}$ | Power Watta | Ht． | $\begin{aligned} & \text { Base } \\ & \text { Area } \end{aligned}$ | 1.9 | Prica Each |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $13 \mathrm{Al002}$ | TA． 5 | 1000 | 200 CT | 10 | O5 | 1／60 | 11／0x ${ }^{5}$ | \＄5．94 | \＄5．35 | \＄4．81 | \＄4．48 |
| 13 A1003 | TA． 6 | 2000 | 200 Cr | 5 | 05 | $11 / 10$ | 11100\％ | 4.50 | 4.05 | 3.65 | 3.38 |
| 131004 | 1 1． 9 | 1000 | 16 | 10 | \％ | \％ | $1 \%$ \％ | 4.30 | 3.87 | 3.88 | 3.23 |
| 138815 | TA－16 | 20 | 36CT | 400 | 1 W | 11／4 | $2810 \times 1 /$ | 3.37 | 3.03 | 2.86 | 2.70 |
| 134813 | TA－12 | 20 Cr | 8 | 500 | 10.0 | 13／1 | 2\％x1\％ | 3.23 | 2.91 | 2.62 | 2.42 |
| 138819 | TA． 56 | 48 Cr | 3.21 |  |  |  |  |  |  |  |  |
|  |  |  | 8／16 | 550 | 10 | $2 \%$ | 27／3n13／4 | 4.17 | 3.75 | 3.38 | 3.13 |
| 131011 | TA． 59 | 500 CT | 200CT | 50 | ． 5 | 1\％ | $13 \times 13 / 1 /$ | 3.68 | 3.31 | 2.98 | 276 |
| 13 A820 | TA． 57 | 100CT | $\begin{aligned} & 3.21 \\ & 8 / 16 \end{aligned}$ |  | 10 |  |  |  | 4.50 | 4.05 | 3.75 |
| 134824 | TA． 62 | 25 |  | 400 |  | 1\％ | 2 $7 / 8 \times 1 \%$ | 3.000 | 2.70 | 2.43 | 2.25 |

## TRANSISTOR POWER TRANSFORMER

Multiple tapped primary and secondary to furnist 24 different vollazes from 6.5 V to 42 V 1000 CMA for bridge rectification with capaeltor input filtering．Style A M\＆g． $1 \%$ ． $\mathrm{H} . \mathrm{x}$
 No．13A632 TP－2 1－9 Ea．$\$ 4.10 \quad 10-24$ Eso．．．$\$ 369 \quad 25.49$ En．$\$ 3.32 \quad 50.99$ Ea $\$ 3.08$

## 100 WS ELECTRONIC PHOTOFLASH

Power transtormar for AC powered electronic flash circuits． 380 VAC at 20 DCMA in hatf wave circult． 2 Y $_{6}$＂H． $22 \%$＂W． $\mathbf{x 2}^{\prime \prime D}$ ．Wt． 1.4 lbs．Figure S．
No． 13 A 1000 P 6425
$1-9$ Ea＿$\quad \$ 5.52 \quad 10.24$ Ea $\quad \$ 4.97 \quad 25.49 \mathrm{Ea} \ldots . .$. ngger coil tor use with P．6425． $3 / 4^{" H} \mathrm{H} . \times$ Ko $_{0}{ }^{\text {O }}$ Oiz．



Use with power transislors and siticon rectifiers to produce HV OC from 12 volts DC． Typical circuit included．
TY 79 thnu TY－84 are highly efficient epoxy molded toroidal design．Exceed Grade 5 Class $R$ requirements of specs．MIL－T－27B TF5RX40ZZ
TY－68S thru TY－74S are commercial open frame transformers． Order by B－A Stock No． 13 Mg 07 and Triad Type No．

| Triad No． | DC Output From FW Bridge Rectifier |  |  | $\begin{gathered} \text { Dimenslons } \\ \text { H. W. O. } \end{gathered}$ | $\begin{aligned} & \text { Wt. } \\ & \text { Los. } \end{aligned}$ | 1.9 | $\begin{aligned} & \text { Prices } \\ & 10-24 \end{aligned}$ | $25-48$ | 50.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TY－79 | 300 V ． | （37 | 200 MA | $1^{3 / 4}{ }^{\prime \prime}$ Dia．${ }^{\prime \prime \prime} \mathrm{H}$ ． | 35 | \＄15．50 | \＄13．95 | \＄122 | 11.6 |
| TY－81 | 375 V． | （9） | 200 MA | $2^{\prime \prime}$ Dla． $1^{\text {¢ }} \mathrm{H}$ ． | ． 5 | 14.98 | 13.48 | 12.13 | 28 |
| TY－84 | 600 V ． | © | 200 MA | $23 / 4^{\prime \prime}$ D． $13 / 6^{\prime \prime} \mathrm{H}$ ． | 1 | 23.27 | 20.94 | 18.85 | 17.53 |
| TY－68S | 250 V ． | （1） | 65 Ma | 13／413／4×1起＂ | ． 2 | 6.60 | 5.94 | 5.35 | 4.98 |
| TY－69S | 300 V ． | （1） | 100 MA | $176 \times 23 / 6 \times 1^{1 / 8}{ }^{\prime \prime}$ | ． 5 | 9.51 | 8.56 | 7.70 | 7.16 |
| TY．70s | 325 V ． | （a） | 150 MA | $2 \times 2$ \％9 2 \％${ }^{\text {\％}}$ | ． 6 | 8.53 | 7.68 | 6.91 | 6.43 |
| TY－715 | 375 v． | （ | 200 MA | 2x2\％$\times 2$ \％${ }^{\text {\％}}$ | 65 | 8.53 | 7.68 | 6.91 | 6.43 |
| TY－74S | 600 v ． | （1） | 200 MA | $2 \times 41 / 8 \times 3{ }^{\prime \prime}$ | 1.07 | 2.93 | 11.64 | 0.48 |  |

FOR 115 V ． 60 Hz AC POWER FROM 12 V ．OC SOURCE
12 V．inut， $110-115-125$ VAC 60 Hz .115 watt output． $37 / \mathbf{s}^{\prime \prime} \mathrm{H} . \mathrm{x} 3 \mathrm{~s}^{\prime \prime}$ W． $\mathrm{x}^{\prime} 31 / 2^{\prime \prime} \mathrm{D}$ ． Wt． 5 los．
13А907．TY．75A．1．9 Ea．$\$ 18.76$ 10．24 Es．$\$ 14.89 ; 25-48$ Ea．$\$ 15.19$ 50－99 E2．$\$ 14.13$
VERY TINY TRANSISTOR TRANSFORMERS
Exceptionally small，only $1 / 2$ inch largest dimension nicely constructed． Equivalent domestic made units would cost many times more．impreg． nation and special coating seals the coil．The right types for butiding transistor radios，tiny audio or mike ampllfiers，etc．Mtg．tabs and wire leads．Size $1 / 2 \times 1 / 2 \times 1 / 2^{\prime \prime}$ H．Shpg．wt． 5 ozs．Import． No．13A904．Input，Pri．Imped．200K ohms．Sec． 1000 ohms． No．13A905．Driver．Pri．Imped． 10 K ohms．Sec， 2000 ohms．
No．13A906．Output．Pri．Imped． 500 ohms．Sec． 8 ohms．
Choiet， 10 Each ……．．．．．．．．．．．．．．．．．．．．．$\$ 1.01$（a）Each
$\$ 1.12$

## TV TRANSFORMERS \& COILS-RF CHOKES



STANCOR TV COMPONENTS FLYBACKS, VERTICAL DEFLECTION OUTPUTS \& DEFLECTION YOKES
Order Flyback Transformers below or send us the stancor part number or make, model and chassls number of set, name of part promptly from B-A's stock or direct from the factory to you. Please send adequate remittance with your order we will refund every penny not used.
Average Flybeck Price for B \& $W$ is Average Vortical Deflection Output Price lib
EXACT REPLACEMENT FLYBACK TRANSFORMERS average shlpping weight 1 th.

| Stock No. | Stancor No. | Na Each | Stock Na. | 5tancor No. | Not Each | Stock No. | Stancor No. | Ner Exch |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $13 \mathrm{B480}$ | H0164 | \$11.00 | 134854 | H0363 | \$9.28 | 13A964 | 602CF | \$18.74 |
| 13 A 1049 | H0202 | 9.85 | 1341034 | H0364 | 8.48 | 13 A 040 | H0603C | 17.49 |
| 138489 | H0204 | 8.43 | 134856 | H0366 | 9.28 | $13 \mathrm{Al041}$ | H0605C | 16.56 |
| 138494 | H0242 | 7.50 | 13 l 1035 | H0378 | 9.35 | 13 A965 | 607 CF | 21.99 |
| 134497 | H0271 | 7.81 | 1341036 | H0390 | 9.33 | 13 A 1042 | 608 CF | 15.99 |
| 134983 | H0272 | 7.2 | 13 A1037 | H0396 | 9.33 | 13 A 1050 | H0618C | 19.58 |
| 134499 | H0280 | 11.68 | 138985 | H0402 | 7.81 | 13 A1043 | H0620C | 14.58 |
| 131957 | H0289 | 8.73 | 1341038 | H0405 | 6.40 | 1341044 | H0621C | 15.41 |
| 134842 | H0304 | 9.16 | 1341039 | H0410 | 11.25 | 1341045 | H0624C | 15.33 |
| 134847 | H0344 | 10.00 | 134962 | H0600C | 14.44 | 13 A1046 | H0626C | 14.99 |
| 134960 | H0351 | 8.21 | 134963 | H0601C | 14.83 | 13 A1047 | 647CF | 18.49 |

## NATIONAL RF CHOKES


A. wide setection of popular RF Chokes for recelver and transmitter circuits. R103 ( rated 4000 volts, for 6 through 80 meters, 3000 V. Modulated. Current riting below is 20 degrees rise.

|  |  |  |  | Current | Ohms | Lensth |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 1t. | Sti, Me. | Mfy. No. | Induc. |  | Res. | Inches | Each |
| (1) | 1385043 | R100 | 2.5 mh | 115 | 44 | 2 | \$0.84 |
| (1) | 1345044 | R300 | 1.0 mh | 400 | 11 | 21/10 | 80 |
| (1) | $13 A 5045$ | R300 | 2.5 mh | 375 | 17 | 21/0 | 1.00 |
| (3) | 13 A5046 | R100U | 2.5 mh | 115 | 44 | 21 | 1.00 |
| (3) | 1395047 | R50 | .5 mh | 150 | 15 | 1 | . 60 |
| (3) | 13 A5048 | R50 | 1.0 mh | 135 | 23 | 1 | . 60 |
| (3) | 1345049 | R50 | 2.5 mh | 125 | 38 | 1 | . 60 |
| (3) | 1305050 | $R 50$ | 10 mh | 115 | 36 | 1 | . 85 |
| (3) | 1305051 | R33 | 50 uh | 225 | 3.5 | \% | . 45 |
| (0) | 13 A5052 | R33 | 100 uh | 200 | 5 | \% | . 48 |
| (1) | 1315053 | R33 | 750 uh | 125 | 16 | \% 6 | . 48 |
| (4) | 13A5054 | R60 | 4 uh | 700 | . 15 | 11/8 | . 51 |
| (3) | 1345055 | R154U | 1 mh | 600 | 6 | $31 / 3$ | 4.00 |
| (0) | 13 AS056 | R175A | 145 th | 800 | 5 | 6 | 7.50 |

OHMITE RF CHOKES


Single layer wound to operate best over freq. range indicated. Ohmite number Indicates frequency in MHZ at which maximum efficiency is obtained

| Flg. | Ste. No. | Ohmite No. | Ind. UH | MA | Op. Frea. Mhz | Length | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | 1385094 | 27 | 84. | 1000 | 3-20 | 6 | \$1.70 |
| (3) | 1345095 | 214 | 44. | 600 | 7.35 | 2 | . 89 |
| (2) | 1345057 | 228 | 21. | 600 | 20-60 | 17/4 | . 74 |
| (2) | $134505 \%$ | 250 | 7. | 1000 | 35.110 | 1 | 58 |
| (0) | 13A505 | 2144 | 1.8 | 1000 | $80-200$ | \%/4 | . 5 |
| (a) | 13A5096 | 235 | 0.84 | 1000 | 160-350 | 3/4 | . 55 |
| (0) | 13 A5155 | P300 |  | Parasitic | Suppressor |  | 2.40 |

## MILLEN COIL FORMS

Low loss mica base phenalic. For permanent mounting no prongs
Dia. $\mathrm{y}^{\prime \prime} \times 15$ al $^{\text {" }}$ long.
No. 1305038. No. 45000. Each
No. 45004 with 4 prongs for standard tubs socket.
No. 13A5039. Each
No. 45005 with 5 prongs for standard tube socket.
75
No. 13a5040. Each

## MORRIS COIL-WINDER FOR ELECTRONICS



Mokes all kinds of ceils and chokes with factory accuracy.

- Hondles size 22 to 40 wire.

Counter shows number of turns.
ORDER ALL J. W. MILLER PRODUCTS FROM BA
All Miller ltems available from BA's stock or shipped direct from factory promptly. Let BA help you avoid long delays in getting your projects completed, Send ample remittance with your order, we'll refund overy cent not used. Ask for Miller Catalog BA stock Number 16 All 49 free.

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## ADJUSTABLE WIDTH

CONTROLS FOR TV

With mig. cijp to fit Kin" or "Ki" hole. Required in TV, widely used in low frequency oscillator circuits and as adjustable RF chokes.

| Stock Nn. | Miller Tvan | Induct. Milll-Hv. | Nef <br> Each | 5tock No. | miller Typ: | Induct. Milli-Hy. | Not Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1345187 | 6196 | .054-245 | \$1.39 |  |  |  |  |
| 1345188 | $6210^{\circ}$ | $16-42$ | 2.10 | 13.5103 | 6318 | .3-3 | 1.59 |
| 1385098 | $6211{ }^{*}$ | 1642 Tapped | 2.10 | 13 A5104 | 6319 | $8 \cdot 60$ | 2.16 |
| 13 S 5189 | 6212 | 12.35 | 210 | 13 A5107 | 6322 | 1.5-10 | 1.69 |
| 13 A 5099 | 6313 | .5-5 | 1.75 | 1345109 | 6324* | 60.130 Tapped | 2.18 |
| 1395100 | 6314 | $2 \cdot 18$ | 1.75 | 13A5110 | 6195 | . 185.1 | 1.52 |
| 1385101 | 6315 | 4.30 | 1.75 | $13 / 5111$ | 61998 | .5-1.7 | 2.16 |



TV AND RADIO INTERFERENCE FILTER Stops ltina static from electric razors. can openers, mixers. knives. vacuum cleaners, refrigerators and simitar appliences. $11 / 0^{" d i a}$ | $x$ |
| :--- |
| No. |
|  |

8.74

## TV AND APPLIANCE FILTER



Designed for use with larger household appliancas and commu. tator-type motors, communications-type receivers and recording equipment. Useful for elimination of TV interference in redio feceivers when inserted in television receiver ine cord. Handes
load requirements up to 550 watts 115 VAC. Gray Hammer. ton case. $21 / 4^{*}$, square $\times 41 /{ }^{*}$ long.
Mo. $13 A 5076$. Miller 7818.

## SUB-MINIATURE R. F. CHOKES

Ultra miniature iron core R.F. chokes designed for high rellability, The colls are ideally suited to network and filter design, delay lines, and computer applications. Impregnated with moisture resistant lacquer. folerance $1.0 \mathrm{UH} \pm 20 \%$. 1.1 to 15 $\mathrm{UH} \pm 10 \%$, over $15 \mathrm{UH} \pm 5 \%$

| Stock No. | Miller No. |  | O.C. | Milliamp | Windint Olameter | Form Lenter | $1.99$ <br> Each | $100 \text { up }$ Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { No. } \\ 1315077 \end{gathered}$ | $\begin{aligned} & \text { No. } \\ & \text { 70F106Al } \end{aligned}$ | Inductance | Resistance 048 | Rating | Oiameter 165 | Lenstin | $\begin{aligned} & \text { Each } \\ & 50.92 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 0.48 \end{aligned}$ |
| 1305079 | 70F336al | 3.3 uh | . 240 | 159 | . 150 | $1 / 4$ | + 0.72 | . 48 |
| 1345080 | 70F396AI | 3.9 uh | . 264 | 159 | . 150 | 1/4 | .72 | . 48 |
| 1345081 | 70F476A1 | 4.7 uh | . 457 | 100 | . 150 | $1 / 4$ | . 72 | 40 |
| 1305082 | 70F826A1 | 8.2 uh | . 744 | 100 | . 150 | 1/4 | . 72 | 4 |
| 1395093 | 70F105al | 10 uh | 1.56 | 75 | . 160 | 1/4 | . 84 | . 56 |
| 1345084 | 70F125al | 12 uh | 1.68 | 75 | . 160 | 1/4 | . 84 | . 58 |
| 13A5095 | 70F155Al | 15 uh | 1.92 | 75 | . 165 | 1/4 | . 84 | . 8 |
| 13A5086 | 70F225A! | 22 uh | 2.28 | 75 | . 165 | $1 / 4$ | . 84 | . 8 |
| 13A5088 | 70F335AI | 33 uh | 2.76 | 75 | . 170 | $1 / 4$ | 14 | . 58 |
| 1345089 | 70F475AP | 47 uh | 3.36 | 75 | . 175 | 1/4 | 14 | 58 |
| 1345090 | 70F124A | 120 uh | 8.16 | 75 | . 165 | 1/4 | . 84 | 56 |
| 1385091 | 70F204AI | 200 uh | 10.3 | 75 | . 170 | $1 / 4$ | . 84 | 56 |
| 13a5158 | 70F224A1 | 220 uh | 11.5 | 75 | . 170 | 1/4 | . 8 | . 58 |
| 13A5092 | 70F564Al | 560 uh | 19.2 | 75 | . 195 | $1 / 4$ | . 90 | 60 |
| 1345093 | 70F824A1 | 820 wh | 22.9 | 75 | . 210 | 1/4 | 90 | 60 |
| 13,5063 | 70F393A1 | 3.9 mh | 57.6 | 75 | . 275 | 36 | . 99 | 68 |
| 1395064 | 70F753AI | 7.5 mh | 85.2 | 75 | . 310 | * | . 98 | . 85 |
| 13 AS085 | 70F182AI | 18 mh | 128 | 75 | . 325 | 1/2 | 1.29 | 18 |
| 13A5066 | 70F222A | 22 mh | 144 | 75 | . 330 | 1/2 | 1.38 | 82 |

## $=-5$ (1) -

|  | (1) | axial |  | Onms | 6 CORE | SINGLE | \%g | 4 | Cur |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock | Mis. | Ind. | Cur. | Onms | N | Stock | Mg. | Ind. | cup. | Ohms | t |
| No. | No. | UH | MA | Res. | Each | No. | No. | UH | MA | Res. | Each |
| 13 A5113 | 4580 | 0.10 | 3000 | . 017 | \$0.66 | 13,5120 | 4606 | 2.40 | 1500 | . 190 | \$0.66 |
| 13 L 5114 | 4586 | 0.33 | 2600 | . 024 | 68 | $13 / 5121$ | 4609 | 5.50 | 850 | . 57 | . 66 |
| 1385115 | 4588 | 0.47 | 2500 | . 034 | . 66 | 1395122 | 4610 | 6.20 | 700 | . 83 | .6) |
| 1385116 | 4602 | 1.00 | 2000 | . 05 | . 66 | 1345123 | 4611 | 8.20 | 600 | 1.2 | . 69 |
| 13 A5117 | 4504 | 1.50 | 1800 | . 093 | . 66 | 1315124 | 4612 | 10 | 500 | 1.5 | . 69 |
|  |  | (2) AXI | LEAO | FER | E COD | E $V^{\prime \prime}$ | " LG. | CORE |  |  |  |
| Stock | Mft. | Ind. | Cur. | Ohms | Nat | Stock | Mfg. | fins. | Cur. | Ohms | Net |
| No. | Mo. | MN | MA | Res. | Each | Mo. | Mo. | MH | Mar | Res. | Each |
| 1385118 | 6302 | 2.5 | 160 | 9 | \$1.24 | 1395125 | 6306 | 10.0 | 100 | 31 | \$1.59 |
| 13 ¢5119 | 6304 | 5.0 | 160 | 14 | 1.43 | 1395126 | 6308 | 25.0 | 65 | 82 | 1.59 |

## FREQUENCY SELECTIVE R.F. CHOKES

Maximum efficlency and highest impedanca at specific operating frequencles ellminates the designer's task of attempting to choose the best coll for a particular application. Covers the major Amateur and Industrial communication frequencies. 600 MA rating. Tolerance $10 \%$.


## CAPACITY RELAY COIL

Basic oscillator coll for constructing a capacity operated control system for displays, show windows, alarms, etc. 5ystem would take the piace of normal "off-on" switch and provide automatic $\times 21 /{ }^{\circ}$ when person or object moves close. Coil size: $1 / 8^{\circ}$ dia $x$
No.
Now
H. With typlcal wiring diag

# Tiv <br> auAbity <br> J．W．MILLER COILS，SUPEREX ANTENNAS 

## J．W．MILLER COILS

## सी <br> 

（3）miniature adjustable coils Extremely compact iron core units $1 / 2$ dia．Tune 540.1600 KHz with any condenser having maximum capacity berween 250 and 450 pid．Oscillator coils track with if amplifier between 100 and 550 KHz ．Type 70.0 SC has primary and tapped secondary．
$69-\mathrm{DSC}$ has capacity coulld winding Clip mte in $5 / 16 \mathrm{~m}$ 69－DSC has

| Stk．No． | Miller No． | Oescription | Size | Eac |
| :---: | :---: | :---: | :---: | :---: |
| 1345013 | 70－A | Antenna | 1／2＂Dia．$\times 1 / 2^{\prime \prime}$ long | \＄1．82 |
| 13 A 014 | 70．0SC | Oscillator | 1／2＂Dia． $\mathrm{X}^{1 / 4 / 4} \mathrm{long}$ | 58 |
| 13 A5015 | 69－0sc | Oscillator | $1 / 2^{\prime \prime}$ Dia．$\times 11 /{ }^{\prime \prime}$ long | 1.58 |

134013
13345014
$13 \times 5015$
（3）

3／2＂Dia．$\times 11 / 2^{\omega \prime}$ long
$1 / 2^{\prime \prime}$ Dia．$\times 11 /{ }^{\prime \prime}$ Iong
$1 / 2^{\prime \prime}$ Dia．$\times 11 /^{\prime \prime}$ Iong
䰻 Dia．$\times 1$


MILLER 3／4＂UNIVERSAL I．F．TRANSFORMERS
Standard pnnted circuit（ $P C$ ）or chassis type clip mounted IF＇s．Hex holes in cores allow top tuning for both cores．Use for inpurt，interstage or output． stk．No．
Typa
$\mathrm{KHz262}$
$\mathrm{KHz455}$
$\mathrm{KHz262PC}$
$\mathrm{KHz455PC}$

TRANSISTOR I．F．CONPONENTS
Modern design shielded transformers for solid state equipment． 8814 incorporates a sharpens the I．F．passband appreclabiy 4


Iron core adjustable for tracking with variable condensers having max．vilue between 250 and 450 pid．in padded circults and 100 to 200 pid．in un－ padded circults with af types of tubes．Size $5 / 6^{\prime \prime}$ dia．$x 12 / 2^{\prime \prime}$ high．Spring mtg． clips fit 大̛＂${ }^{\prime \prime}$ dia，hole．RF range $540-1800 \mathrm{KHz}$ ．IF range $100-550 \mathrm{KHz} .4 \mathrm{oz}$ ． No．13A5016．Miller No．71－0SC．Net Each． $\qquad$ $\$ 3.36$

## （2）ADJUSTARLE ALL－WAVE RADIO COILS

High a unshielded． $7 / 8 \times 2^{\prime \prime}$ ．Tune whth 365 pfd．condenser．Order by Group Stack No． 13 M 5017 and Miller No．

| Frequency | Antenna | RF Stage | Std．Osx． | Tapped 0 sc． | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 140.420 KHz | X5495A | X5495RF | X5495C | $\times 5496 \mathrm{C}$ | \＄3．42 |
| 540.1700 KHz | A5495A | A5495RF | A5495C | A 5496 C | 2.85 |
| $1.7 \cdot 5.5 \mathrm{MHz}$ | B5495A | B5495RF | 85495C | B5496C， | 2.85 |
| 5．5．15MHz | C5495A | C5495RF | C5495C | C5496C | 2.85 |
| 12.36 MHz | D5495A | D5495RF | DS495C | DS496C | 2.85 |

MILLER SLUG TUNED CERAMIC COIL FORMS Precision made of ceramic material，silicone impregnated to reduce
moisture absorption．Two adjustable solder terminal clips．Singie hol mounting hardware．


MILLER SLUG TUNED PHENOLIC COIL FORMS Constructed of varnish impregnated tubing．Mechanlcally stronger than ceramic， exhibiting extremely low loss．With 2 adjustable solder rings．
 $\begin{array}{cccccccc}\text { Type } & 1.0-20 \mathrm{MHz}^{2} & 2.0-25 \mathrm{MHz} & 25 \mathrm{MHz} \text { \＆Up } & \text { Dia．} & \text { Lgth．} & \text { Hole } & \text { Each } \\ 20 A 000 & 13 A 5032 & 13 A 5034 & 13 A 5036 & .250 & .860 & .192 & \$ 1.24\end{array}$

MILLER HIGH＂Q＂SLUG TUNEO WOUND COILS On Phenollc forms $1 / 4^{\prime \prime}$ dia．x $3 / \mathrm{sic}^{\prime \prime}$ long．Order by stock No． 13 M 5009 and Manufacturers number of coll selected．

|  | Range uh |  | Nat |  | Range th |  | Not |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mfg．No． | Min． | Max． | Each | Mfg．No． | Min． | Max． | Each |
| 20A107R日 | ． 088 | ． 120 | \＄1．68 | 20A696R81 | 5.08 | 8.16 | \＄1．76 |
| 20A157RB1 | ． 108 | ． 180 | 1.68 | 20A826RBI | 7.35 | 9.84 | 1.76 |
| 20A227RBI | ． 162 | ． 264 | 1.68 | 20A105RBI | 8.85 | 12.0 | 1.99 |
| 20A337R8 | ． 238 | ． 396 | 1.76 | 20A155RBI | 10.8 | 18.0 | 1.99 |
| 204477 RBI | ． 356 | ． 564 | 1.76 | 20A225RBE． | 16.2 | 26.4 | 1.76 |
| 20A687R8！ | ． 508 | ． 816 | 1.76 | 20A335RBI | 23.8 | 39.6 | 1.99 |
| 20A827R8 | ． 735 | ． 984 | 1.76 | 20A475RBi | 35.6 | 56.4 | 1.99 |
| 20A106RB1 | ． 885 | 1.20 | 1.76 | 20A685R自 | 50.8 | 81.6 | 1.99 |
| 20A156RE1 | 1.08 | 1.80 | 1.76 | 20A825RBI | 73.5 | 98.4 | 1.99 |
| 20A226RE1 | 1.62 | 2.64 | 1.76 | 20A104RB： | －88．5 | 120. | 1.99 |
| 20A336R8 | 2.38 | 3.96 | 1.76 | 20A154R日 | 108. | 180. | 1.99 |
| 20A476RBI | 3.56 | 5.64 | 1.76 | 20A224RB | 162. | 264. | 1.99 |

COIL SELECTOR CHART FOR MILIER COILS ABOVE
Shows proper coll for use in circuits intended for the various amateur bands when parallel caparitance is know

|  | Band |
| :---: | :---: |
| 1.8 | MHz （ 160 Mtrs ） |
| 3.6 | MHz （ $75 / 80 \mathrm{Mers}$ ） |
| 7.2 | MHz （ 40 Mtrs ） |
| 14.2 | $\mathrm{MHz}_{2}$（20 Mtrs） |
| 21.3 | MHz（ 15 Mtrs ） |
| 28.0 | $\mathrm{MHz}_{2}$（10 Mtrs） |
| 51.0 | MHz （ 6 Mtrs ） |

## 40 PFD． 20A224RBI 20A475RBI 20A155RBI 20A336RBI 20A156RBI 20A827RBI 20A227RBI

$$
\begin{aligned}
& 90 \text { PFD. } \\
& 20 A 825 R B 1 \\
& 20 A 225 R B 1 \\
& 20 A 686 R B! \\
& 20 A 156 R B 1 \\
& 20 A 106 R B I \\
& 20 A 337 R B I \\
& 20 A 107 R B I
\end{aligned}
$$ 130 PFD． 20A685RBI 20A155RBI 20A336RBI 20A106RBI 20A337RBI 20A227RBI

## VERTICAL MOUNTED PRINTEO CIRCUIT

## VELVETORK ADJUSTABLE R．F．COILS

The coll form is Polyester impregnated Aipha－Cellulose tubing with inter－ The coll form rs polyester impregnated alpha－cellulose tubiog win inter naliy bonded resilient ribs which provide both thread and torque control． Coils may ${ }^{\prime \prime}$ ． over Collar $36^{\prime \prime}$ Dla．$x^{3 / 4}$＂long．pr
Spocity Stock No． $13 M 5143$ and Miller No．on All Orders

| Milier | Specity Stock No． $13 M 5143$ and Miller No．on All Orders |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Minimum | Maximum | Each | No． | Minlmum | Maximum |
| 23A107RPC | ． 095 | ． 125 | \＄1．39 | 23A686RPC | 4.6 | 8.5 |
| 23A157RPC | ． 130 | ． 170 | 1.39 | 23AB26RPC | 5.6 | 10.0 |
| 23A227RPC | ． 185 | ． 265 | 1.39 | 23A105RPC | 7.1 | 12.5 |
| 23 A337RPC | ． 285 | ． 410 | 1.39 | 23A155RPC | 10.0 | 18.7 |
| 23A477RPC | ． 420 | 580 | 1.39 | 23A225RPC | 14，8 | 27.5 |
| 23A687RPC | ． 540 | ． 850 | 1.39 | 23A335RPC | 22.0 | 41.0 |
| 23AB27RPC | ． 640 | 1.00 | 1.39 | 23A475RPC | 31.0 | 58.0 |
| 23A106RPC | ． 760 | 1.25 | 1.39 | 23A685RPC | 43.5 | 85.0 |
| 23A156RPC | 1.20 | 1.87 | 1.39 | 23A825RPC | 61.0 | 100.0 |
| 23A226RPC | 1.65 | 2.75 | 1.49 | 23A104RPC | 76.0 | 125.0 |
| 23A336RPC | 2.40 | 4，10 | 1.49 | 23A154RPC | 105.0 | 187.0 |
| R | ． |  |  | 23A224PPC | 160.0 | 275 |

[^8]KHz at 6 db and 12 KHz at 20 db ．

SUB．MINIATURE 10.7 MHz TRANSISTOR TRAN5FORUERS


## （1） 455 KHz SOLID STATE I．F．STRIP <br> Pre－tuned strip gives 8 KHz selectivity at 6 db when 8901 B inou transformer is used．Use without 89018 for less selectivity．Gain 45 db ．




## SUPEREX POWERFUL RADIO ANTENNAS

 REPLACES LOOPS AND ANTENNA HANKS FOR GREATLY IMPROVED AM PERFORMANCE

1 EXTRA POWERFUL $7^{\prime \prime}$ KING－SIZE LOOPSTICK

$1345004 \quad 2$ POPULAR＝VARJ－LOOPSTICK＂$-2^{2 \prime} \pm 7 / 16^{\prime \prime}$ dia． $69 \quad .60$
－With adjustable mnob for tuning．Use for tiny erystal radios．too．


4 SUPER ENERGIZED FERRI－LOOPSTICK－Adjustable 4－1／2＂max．x $\mathbf{3 / 8} \mathbf{2 m}^{\prime \prime}$

## BUSS FUSES AND HOLDERS

BUSS GLASS TUBE FUSES


Quick-acting general purpose fuses for radios, amplifiers, etc. Rated 250 V . UL Histed. size $11 / 4^{\prime \prime \prime} \times 1 / 4^{\prime \prime}$. 125 V.


Size $1 / 4 \times 11_{4}{ }^{n}$. High interrupting capacity fuses for use on circulits delilver-
lig as high as 25,000 amps at 125 V . ing as high as 25,000 amps at 125
or 10,000 amps at 250 V . ${ }^{125} \mathrm{~V}$.
$\begin{array}{llllll}122 A 8032 & \text { ABC } & \frac{1}{2} & 50.95 & 50.80 & 50.68 \\ 12 A B 033 & A B C & 2 & & \end{array}$

| $12 A B 033$ | ABC | 1 | 50.95 | $S 0.80$ | $S 0.68$ |
| :--- | :--- | :--- | ---: | ---: | ---: |
| $12 A 8034$ | ABC | 3 | .95 | .80 | .68 |
| $12 A B 035$ | ABC | 5 | .85 | .80 | .68 |
| $12 A B 036$ | ABC | 8 | .80 | .70 | .60 |
|  | 80 | .70 | .50 |  |  |

$12 A 8036$ ABC
$12 A 8037$ ABC
12ABO
12 A8039 ABC
12AB110 ABC $25^{\circ}$
LOW VOLTAGE FUSES
1/4" dia., with various lengths shown. BUSS AGC FUSES, 32 VOLT Formerly Calléd 3AG
Stock Amps Lgth.
19 Boxes of Five ${ }_{12 A B O 25}$ Nating lis. 1.19 20-99 100.199 $\begin{array}{lllrrr}1248025 & 4 & 11 / 4 & 50.48 & 50.43 & 50.37 \\ 12 A 8026 & 5 & 11 / 4 & .38 & .33 & .28\end{array}$ 1248027 $\qquad$ $\begin{array}{lll}12 \text { A } 0228 & 10 & 11 / 4 \\ 12 A 8029 & 15 & 11 / 4 \\ 12 A 8111 & 20 & 11 / 4 \\ 12 A 8030 & 25 & 11 / 4\end{array}$ 12 A8030 BUSS SFE FUSES, 32 VOLT For Auto, Radio, instrument Protection


## INSULATE

FUSETRON FUSES
Drat-Element, Slow Blowing
Formerly called 3aG


High time lag withstands heavy surges having high inductive of capacitive startlng loads. Sizes $1 / 100$ to 1 for 250 v UL listed $12 / 10$ to $61 / 4$ for 125 V , UL Itsted; 8 to 30 for $32 \mathrm{~V} .11 / 4 \times 1 / 4^{\prime \prime}$.



## LIMITED CURRENT BAYONET TYPE

 C AND N FUSESDesign safeguards against use of wrong size and type of fuse.
 FIt only lock-type bayonet hoiders. UL listed.

Regular Type C 250 V .

## Stock <br> $\begin{array}{ll}\text { No. Amps } \quad 1.19 \quad 20.99 & 800.189\end{array}$ <br> 

## BUSS PANEL MOUNTED

 FUSEHOLDERS

Bayonat knob. Termin. als designed lor severa service. Molded black body with Hat side to lock against rotatıen.
With mitg. hdwe
Fits panels ap $105 / 16^{\circ}$ thick. UI listed.
Stock Mig. Fuse Prices Each No. No. size 1 1-99 100.498 500-999
 2A8060 HJM $1 / 4 \times 1^{\prime \prime}$


HLF HTA
HMM

## SPACE SAVER HOLDER

HLF and HMM are 1.5/8 long. extend $29 / 32^{\prime \prime}$ behind panel iront. HTA types are $1-25 / 32$ $1 / 2^{\prime}$ hole except HLF lequires $5 / 8^{\prime \prime}$ mounting hole. HMM has screwdrivet slot tand.

| Stack | Buss |  | 100 | 500 - |
| :--- | :--- | ---: | ---: | ---: |
| No. | No. | 1.99 | 499 | 999 |
| 12A8189 | HLF | $\mathbf{5 0 . 4 7}$ | 50.39 | 50.33 |
| $12 A 8192$ | HMM | .47 | .39 | .33 |
| 12A8370 | HTA | .47 | .39 | .33 |

OUICK CONNECT TERMINALS
HTA-DD has $3 / 16^{\prime \prime}$. HTA-HH has $1 / 4^{\prime \prime}$ quick connect terminals
$\begin{array}{lllll}12 A 8363 & \text { HTA-DD } & .55 & .46 & .3 \\ 12 A 8364 & \text { HTA-HH } & .55 & 46 & .3\end{array}$

## LAMP INDICATOR

FUSEHOLDER


BUSS IN-LINE HOLDERS


Conslsts of fuse and holder with Insulated $19^{\prime \prime}$ wire loop. For $1 / 4^{\prime \prime}$ fuse ${ }^{\circ}$ Fits all $1 / 4 \times 11 / 4^{\prime \prime}$ fuses.

| Stock No. | Buss No. | Fuse |
| :--- | :---: | :---: |
| 12A124 | HRF | SFE4 |
| $12 A 8125$ | HRH | SFE9 |
| 12R128 | HR1 | SE14 |
| 12AB127 | HRJ | SFE20 |

## ${ }^{1248127}$

Your Cholce Each
1.99-47'; 100-499-39'; 500-999-33

UNIVERSAL IN-LINE HOLDER
Fits all fuses from SFE $1 / 2^{\prime \prime}$ through 3AG supplled with each holder. HRK.
No, 128881. 1-99 Each
47'
FOREIGN CAR FUSES
For Volkswagen, Mer.
cedes and others using
the German type fuses.
Buss Glass Tube Fuses Buss Glass Tube Fuses
reduce danger of
Used in foreign equipment. Size $5 M M \times$ 20MM. (.197 $\times .769^{m}$ ). Order by beth stock number and amps.

|  | Box of Five |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Stock |  | 1.19 | $20-99$ | 199 |
| No. | Amps | 199 |  |  |
| $12 A 8040$ | $1 / 8$ | $\$ 2.00$ | $\$ 1.55$ | $\$ 1.40$ |
| $12 A 8049$ | $1 / 4,1 / 2,7 / 10$ | 1.60 | 1.35 | 1.15 |
| $12 A 8050$ | $1,1.2,11 / 2,2$ | 1.30 | 1.10 | .94 |
| $12 A 8051$ | $3,4,5,6,10$ | 1.30 | 1.30 | 94 |

## FUSES, MNIATURE LAMPS



MINIATURE INDICATOR AND FLASHLIGHT LAMPS

| Stock No. | Mfg. Na . | Volts | Amps. | Fig. | Each | $\begin{gathered} \text { Pkg. } \\ 1.9 \end{gathered}$ | $\begin{aligned} & 0 f 10 \\ & 10.99 \end{aligned}$ | Stock No. | Mfs. | Volts | Amps. | F1t. | Each | $\begin{aligned} & \text { Pkg. } \\ & 1.9 \end{aligned}$ | $\begin{aligned} & \text { of } 10 \\ & 10-98 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1244086 | PR2 | 2.4 | . 5 | (3) | S0.26 | \$1.59 | \$1.36 | 1244081 | 50 | 7.5 | . 22 | (1) | 30.22 | \$1.31 | \$1.11 |
| 1244067 | PR3 | 3.57 | . 5 | 0 | 26 | 1.59 | 1.36 | 1244057 | 51 | 7.5 | . 22 | (6) | . 19 | 1.15 | . 98 |
| 12A4068 | PR4 | 2.33 | . 27 | O | 27 | 1.60 | 1.37 | 12A4050 | 53 | 14.4 | . 12 | (3) | 21 | 1.28 | 1.09 |
| 12A4074 | 656 | 115 | 6 W. | (3) | 24 | 2.10 | 1.80 | 1244059 | 55 | 7.0 | . 41 | (3) | . 22 | 1.29 | 1.10 |
| 12 A 4075 | 6S6DC | 115 | 6 W. | (1) | 43 | 3.70 | 3.20 | 1244060 | 57 | 14.0 | . 24 | (8) | . 22 | 1.31 | 1.11 |
| 1244087 | PR6 | 2.47 | . 3 | (1) | 26 | 1.59 | 1.36 | 1244494 | 93 | 12.8 | 1.04 | (11) | 43 | 2.57 | 2.19 |
| 12A4069 | PR12 | 5.95 | . 5 | 0 | 27 | 1.60 | 1.37 | 1244092 | 112 | 1.2 | . 22 | (3) | . 22 | 1.34 | 1.94 |
| 12A408B | 12 | 6.3 | . 15 | (1) | 36 | 2.13 | 1.71 | 1244093 | 158 | 14.0 | . 24 | (13) | . 28 | 1.65 | 1.40 |
| 1244066 | 14 | 2.47 | . 3 | (3) | . 22 | 1.34 | 1.14 | 12A4094 | 159 | 6.3 | . 15 | (1) | . 35 | 2.11 | 1.78 |
| 12A4089 | 15 | 7.0 | . 4 | 11 | . 71 | 4.27 | 3.53 | 12A4070 | 222 | 2.25 | . 25 | (a) | . 22 | 1.34 | 1.14 |
| 12A4090 | 19 | 14.4 | . 1 | (11) | . 50 | 2.87 | 2.52 | 12A4095 | 224 | 2.15 | . 22 | (1) | . 31 | 1.86 | 1.58 |
| 12A4040 | 40 | 6.3 | . 15 | (3) | . 18 | 1.10 | . 93 | 12A4050 | 313. | 28 | . 17 | (1) | .46 | 2.75 | 2.34 |
| 12, 4041 | 41 | 2.5 | . 5 | (3) | .36 | 2.14 | 1.82 | 12A4061 | 327 | 28 | . 04 | (6) | . 91 | 5.44 | 4.83 |
| 1244045 | 43 | 2.5 | . 5 | (1) | . 36 | 2.14 | 1.82 | 1244062 | 328 | 6 | . 2 | (13) | .12 | 4.30 | 3.66 |
| 12A4046 | 44 | 6.3 | . 25 | (1) | . 19 | 1.11 | . 94 | 12A4081 | 330 | 14 | . 08 | (1) | 1.21 | 7.28 | 6.19 |
| 12 A 4047 | 45 | 3.2 | . 35 | (1) | .31 | 1.83 | 1.56 | 12.4096 | 334 | 28 | . 04 | (1) | 1.36 | 8.16 | 6.94 |
| 12A4042 | . 46 | 6.3 | . 25 | (2) | 18 | 1.09 | . 92 | 1244044 | 335 | 28 | . 04 | (13) | 2.13 | 12.75 | 10.74 |
| 12A4049 | 47 | 6.3 | . 15 | (1) | 19 | 1.11 | . 94 | 12A4082 | 336 | 14 | . 08 | B | 2.08 | 12.47 | 10.61 |
| 1244043 | 48 | 2.0 | . 06 | (2) | . 36 | 2.14 | 1.82 | 12A4083 | 337 | 6 | . 2 | (6) | 2.40 | 14.35 | 13.28 |
| 1244048 | 49 | 2.0 | . 06 | (1) | . 30 | 1.80 | 1.53 | 12A4084 | 373 | 14 | . 08 | (13) | 2.42 | 14.53 | 13.30 |

-Doubre Contact Candelabra Bayonet Base. tFlasher For Lanterns.


## QE NEON AND ARQON LAMPS



NE neon tamps glow orange-red, AR argon bulbs glow blua with limited ultra-violet confont. Screw base types have bullan resistor for 125 volts. others require resisior show in sufies for 125 volt operation

| Fig. | Stock No. | $\begin{gathered} \text { Lamp } \\ \mathrm{Na} . \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Nom } \\ & \text { Wats } \end{aligned}$ | Nam. |  | or Buse | Eath | $\begin{gathered} 10 \\ \text { Esch } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 12A4133 | NE20(C7A) | 1/12 | . 7 | 100k | SC Mid Flange | \$1.46 | S0.874 |
| 2 | 12A4073 | NE2EA9A) | 1/12 | 7 | 100K | Wire leads | 22 | . 13 |
| 2 | 12 A4142 | NE2H1C2A). | $1 /$ | 1.9 | 30 K | Wire leads | 22 | 13 |
| 1 | 12 A4134 | NE2J(C9A)* | \% | 1.9 | 30K | SC Mid.Flange | $\$ .46$ | . 874 |
| 3 | 12A4130 | NE30 ${ }^{\text {J }}$ A ${ }^{\text {a }}$ | 1 | 12 | none | Med.Serew | 2.73 | 1.637 |
| 4 | $12 \times 4135$ | NE32 L5A | 1 | 12 | 7.5k | 0C. Bayonel | 2.31 | 1.384 |
| 5 | 12A4131 | NE34(R2A) | 2 | 18 | note | Med. Scrow | 3.59 | 2.152 |
| 5 | $12 \times 4132$ | NE40,RGA | 3 | 30 | nons | Med. Screw | 5.28 | 3.168 |
| 6 | 12A4949 | NE45, B1A. | K | 2 | none | Cand, Screw | 1.87 | 1.00 |
| 7 | 12 A4136 | NE4B(B9A) | 1/4 | 2 | 30K | OC. Bayanet | 1.36 | 114 |
| 8 | 1244071 | NE51 B1A | 1/25 | . 3 | 220K | Min Eayonet | . 48 | 289 |
| 8 | 12 A4072 | NE5in(B2A)* | 1/7 | 1.2 | 47K | Min. Bayonat | 48 | 289 |
| 5 | 1244137 | ARIIWIAI | , | 18 | none | Med. Screw | 3.85 | 2.306 |
| 8 | 1244138 | AR3 (J2A) | N | 3.5 | none | Cand. Sctew | 1.72 | 1.031 |
| 7 | 12A4139 | AR4 J3A) |  | 3.5 | 15K | 0¢. Bayonet | 1.54 | . 922 |
| 2 | 12A4140 | AR9 (K4A) | 1/25 | 3 | 200K | Wire leads | . 37 | . 222 |
| - High Brightness Type |  |  |  |  |  |  |  |  |



SUS-MINIATURE GMV FUSES AND FUSEMOLDER holder body $375^{\prime \prime}$. Fuse has transparent window for visual Ifspection of element. Fuse may be used alone for mounting into printed circuit boards. HWA holder can be panel mounted or soldered on holdar waterproof. Carry $100 \%$, open at $200 \%$ within 10 seconds.

## Bax of 10

 $\begin{array}{llllllllll}\text { No. Typ Rating } & 1.9 & 10-49 & 50-99 & 12 A 8197 & \text { FNM } & 1 / 10 & \$ 4.00 & \$ 3.40\end{array}$ $\begin{array}{llllllllll}12 A 8214 & G W W & 1 / 200 & \text { S8.80 } & \text { S7.40 } & \text { S6.29 } & 12 A B 199 & \text { FNM } & 1 / 2 & 4.00 \\ 12 A 8215 & \text { GMW } & 1 / 100 & 8.80 & 7.40 & 6.29 & 12 A B 200 & \text { FNM } & 1 & 40 \\ 12 A 8218 & G M W & 1,64 & 8.80 & 7.40 & 6.29 & 12 A B 200 & 3.40\end{array}$ $\begin{array}{lllllllllll}12 A B 216 & G M W & 1, ' 64 & 8.80 & 7.40 & 6.29 & 12 A B 200 & \text { FNM } & 1 & 800 & 3.40 \\ 12 A 8217 & G M W & 1 / 32 & B .80 & 7.40 & 6.29 & 12 A B 201 & \text { FNM } & 16 / 10 & 8.00 & 3.40\end{array}$ $\begin{array}{lllllllllll}12 A 8217 & \text { GMW } & 1 / 32 & 8.80 & 7.40 & 6.29 & 12 A B 20 & \text { FNM } & 16 / 10 & 4.00 & 3.40 \\ 12 A 1218 & \text { GMW } & 1 / 16 & 8.80 & 7.40 & 6.29 & 12 A B 202 & \text { FNM } & 2 & 4.00 & 3.40 \\ 12 A B 219 & \text { GMW } & 1 / 10 & 6.80 & 5.10 & 4.85 & 12 A B 203 & \text { FNM } & 21 / 2 & 4.00 & 3.40\end{array}$ | $12 A B 219$ | $G M W$ | $1 / 10$ | 6.80 | 5.70 | 4.85 | $12 A B 203$ | FNM | $21 / 2$ | 4.00 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $12 A .40$ | 3.40 |  |  |  |  |  |  |  |  |
| $12 A M$ | GMW | $2 / 10$ | 6.80 | 5.70 | $4 . B 5$ | $12 A B 204$ | FNM | $32 / 10$ | 4.00 | $\begin{array}{lllllllllll}12 A 8220 & \text { GMW } & 2 / 10 & 6.80 & 5.70 & 4 . B 5 & 18 A 8205 & \text { FNM } & 4 & 4.00 & 3.40 \\ 12 A 8221 & \text { GMW } & 1 / 4 & 6.80 & 5.70 & 4.85 & 12 A 8208 & \text { FNM } & 5 & 4.00 & 3.40 \\ 12 A 8227 & \text { GMW } & 3 / 10 & 6.80 & 5.70 & 4.85 & 1288207 & \text { FNM } & 8 & 4.00 & 3.40\end{array}$ $\begin{array}{lll}12 A 8227 & \text { GMW } & 3 / 10 \\ 2 A 8228 & \text { GMW } & 4 / 10\end{array}$ $\begin{array}{lll}12 A 8228 & \text { GMW } 4 / 10 \\ 12 A B 222 & \text { GMW } \\ 1 / 2\end{array}$ $12 A 8223$ GMW

$\qquad$
$2 A B 225$
$12 A B 226$
GMW
$\begin{array}{ll}2 \mathrm{~A} R 212 \text { HWA Holder Each } & 499 \\ 999\end{array}$ $\begin{array}{llll}12 A 212 & \text { HWA Holder SO.75 SO.63 } & \text { S0.54 } \\ 12 A 8213 & \text { AF Kngh } & 11 & 09\end{array}$

FNM FUSETRON FUSES Oual-Eloment. Slow Blowing Fibre Tube, 3 $\times 1^{11 / 2^{\prime \prime}}$ 。
long time lag prevents needless blows from starting currents or surges-yet quick on shorts. Rated 250 v. UL Ilsted - 125 V.
> $\begin{array}{lll}\text { Stock Buss amps Box ef } 10 \\ \text { No. No, Rating } & 1.9 & 10 \text { Up }\end{array}$

HPC PANEL MOUNTEO FUSEHOLDER
Molded phenolic. Screw knob, For $1 \frac{1}{2} x$ $11 / 2^{\prime \prime}$ fuse.
No. 12A8211 1.99 Each. 75
100.499 Ea.

## SYLVANIA INDICATOR LIGHTS

## 

INDICATOR SOCKETS AND COLOR CAPS FOR ESB LAMPS
(3) Strip Sockets for ESB Indicator Lamps. 12 sockets on $1 / 2^{\prime \prime}$ centers. Easily cut to number desired. With 3 Tinnerman clips for mitg. Combination solder $/ .205^{\prime \prime \prime}$ quick disconnect terminal. Black Lexan. Size $5^{\prime \prime}$ tong $\times$ Kis $^{\prime \prime}$ wide. Shpg. wt. 3 ozs
No. 12A1678. Sylvania 33250-0. Individual Contacts,
Each ................ $\$ 3.62$ 10-99 Ea. ............. $\$ 3.13100$ ap Ea.
Ho. 12A4193 Sylvania $31250-\mathrm{C}$. Common Ground. Individual Sockets for ESB Indicator Lamps. Each socket with Tinnerman clip. Combination soider/.205" quick-disconnect terminal. Black color. $1 / 2^{\prime \prime}$ mtg. hole. Shpg. wt. 2 ozs.
(3) No. 12A1676. Sylvania 30151-0. Rectangular Nylon Socket.
(3) No. 12A1677. Sylvania 30150-0. Round Phenolic Socket.

Choice Each ........... 271 10-99 Ea. ................ $23^{3} 100$ up Ea.
(4) Color Caps. Fit direcily on top of ESB Lamps. Plastic profax caps for $20^{-}$ rated below 1.5 watts. Specity color: Aed, Yellow, White, Green or slue.
No, 12m1675. Syivania $38001-0$ thru 38005 -0.
Each.
$10 \cdot 10-99 \mathrm{Ea}$

##  <br>  <br> HOUSINGS \& LENS CAPS FOR ESB \& PSB LAMPS

(1) Lamp Housing for ESB Indicator Lamps. Biack nyton. Tinnerman clip for mtg. $1 / 2^{\prime \prime} \mathrm{mtg}$. hole. Combination solder/ $205^{\prime \prime}$ quick-disconnect terminals. Order round or square lens caps below.
No. 12A1719. Syivania $30153-0$ Housing Only.
Euch.
36' 10-99 Es.
(1) Lamp Housing for PSB Pilot Lamps. Black phenolic. UL approved 125 voits. Tin. nerman clips for $\mathrm{mtg} 1 / 2^{\prime \prime} \mathrm{mtg}$. hole. Combination solder/.205" quilck-disconnect terminals. Order round or square tens caps below.
No. 12A4111. Syivania 30152-0 Housing Only.
Each................ $38^{*}$ 10-99 Ea............... 33' 100 up Ea .............. 28 Polycarbonate Snap-On Lens Caps for 30152.0 and $30153-0$ housings. Specify Color: Red, Clear, Amber, White, Green or Blue.
(3) No. 12m1720. Round "/k" Dia. Sylvania 30160-0 thru $30165-0$.
(3) No. 12M1721. Square $1 / 64^{\prime \prime}$ Sq. Sylvania 30170-0 thru 30175-0.


PILOT LAMP HOUSINGS \& LENS FOR PSB LAMPS (1) Lamp Housing for PSB Pilot Lamps. Phenolic body with threaded "Ko" metal bushing and bezel. Mounts in panels up to ${ }^{1} \mathrm{y}_{2}{ }^{\prime \prime}$ thick. With washer and mitg. nut. UL approved for 120 wolts combination solder/205" quick-disconnect terminals. Order Lens below.
No. 12A1679. Sylvania 30099-0 Housing only.
 Lens for 30099.0 Housing above. Sylvania $30100-0$ series
(2) 12 M 1680 . Jeweled Lens, Specify Red, Green, Blue or Amber.

Each .................... $42^{\text {i }} 10-99$ Ea.
(3) 12W1681. Transparent, Specify Red, Green, Glue, Amber, Yellow or Clear.
(1) 12M1682. Fluted, Specify Red, Green, slue, Amter or Clear. (1) 12m1683. Transfucent, Specify Red. Green, Yellow. White.

Choice Each
19. 10-99 £.

## CARTRIDGE LIGHT HOUSING AND LENS

 all. Order Lens below.

Each
(5) Housing for Pilot Lamps number 21 thru 81 shown at right. $13 / \mathrm{g}^{\prime \prime}$ long overall Otherwise same as above. Order Lens below.
No. 12A1710. Svivania SM-2 $30095-0$.
Sach $\$ 1.0410-99 \mathrm{fe}$
Polycarbonate Screw-on Cartridge Lens for SM-1 and SM-2 housings. $1 / z^{\prime \prime}$ diameter (2) No. 12m1717. Iransparent. Sylvania 30140.0 thru 30144-0. Specify Cololr: Amber, clear, Red, Blue or Green.
(8) No. 12m1718. Translucent. Sylvania $30145-0$ thru 30147-0. Specify Color: YelJow, White, Red, Blue or Green.
Choice Each
44. 10-99 Ea

## PILOT LIGHT JEWELS

All purpose jewel lenses. Mount with nut in panels $7 \mathrm{~B}^{\prime \prime}$ thick
Specify Choice of Color: Red, Green or Amber.
Sth. No.
12.2110
$12 m 159$
$12 m 710$
12 ma30
$12 m 709$

Lens
Faceted
Smooth
Faceted
Smooth
Faceted
Fig.
(2)
1
8
8
18
(3)
1.9 Ea
$\$ 1.04$
.21
21
.18
.18
10.24 Ea.
50.94
.19
.19
.16
.16
$25-99$ EA.
$\$ 0.87$
18
.18
.15
.15
$\$ 0.78$
.16
.16
.14
.14
52.66
$\$ 2.95100$ up Es
$\$ 2.51$
31. 100 up Ea

36' 100 up Ea
310

17 100 up Ea .
$14{ }^{1}$
(1) Housing for 900 Serles indicator Lamps shown at right. Black anodized aluminum to Mil. Spec. MIL-A-8625. Phenolle base hole. Solder terminals. $111 \mathrm{~K}^{\prime \prime}$ long over

No. 12A1716, Sylvania SM-1 30097-0. No...... $89{ }^{1} 100$ up Ea.
$89^{1} 100^{\prime}$ up Ea. 76

38: 100 up E.
$33^{\prime}$
PSB PILOT LAMPS - SLIDE BASE
Engineered to give a minimum of 5000 hours Jife. $1.075^{\prime \prime} \mathrm{L} \times .25^{\prime \prime}$ de.
Pka. of 10

| Sth. No. | Lamp No. | Volts | Amps | Each | 9.9. Pkg. | 10. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 A 1684 | 6PSB | 6 | . 14 | \$0.90 | \$5.46 | \$4.64 |
| 12A1685 | 12PSB | 12 | . 17 | . 90 | 5.46 | 4.64 |
| 12A1688 | 24 PSB | 24 | . 073 | 90 | 5.46 | 4.64 |
| 1216168 | 28PSB | 28 | . 04 | . 90 | 5. 46 | 4.64 |
| 12A1688 | 48PS8 | 48 | . 053 | 90 | 5.46 | 4.64 |
| 1241689 | 60PSB | 60 | . 05 | 90 | 5.46 | 4.64 |
| 12A1690 | 120PSB | 120 | . 025 | S0 | 5.46 | 4.64 |

ESB INDICATOR LAMPS - SLIDE BASE
Engineered to give a minimum of 5000 hours life. $.875^{n} \mathrm{~L}, .25^{\prime \prime}$ dia.
$\begin{array}{lllllll}211698-6 E S B & 6 & .04 & \$ 0.82 & \$ 4.97 & \end{array}$

| 121698 | 6ESB | 6 | .04 | $\$ 0.82$ | $\$ 4.97$ | $\$ 4.23$ |
| :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| 1211899 | 12 ESB | 12 | .04 | .82 | 4.97 | 4.23 |
| 121700 | 245 SB | 24 | .04 | .82 | 4.97 | 4.23 |
| 1221701 | 28 ESB | 28 | .04 | .82 | 4.97 | 4.23 |
| $12 A 1702$ | $48 E S B$ | 48 | .04 | 1.09 | 6.62 | 5.63 |

INDICATOR CARTHIDGE LAMPS - SERIES 900
Fits SM-1 cartridge lamp housing. $1.142^{\prime \prime}$ long less dins, $.328^{\prime \prime}$ dia.

| Stk. No. | mpN | olt | mps |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 121771 | 909 | 6 | . 04 | \$1.36 | \$8.24 | \$7.04 |
| 12 A 1712 | 918 | 12 | . 04 | 1.36 | 8.24 | 7.04 |
| 12 A 4114 | 934 | 24 | . 04 | 1.3/ | 8.28 | 7.04 |
| 12 A 1714 | 938 | 28 | . 04 | 1.37 | 8.28 | 7.04 |
| 12A1715 | 941 | 48 | . 04 | 1.50 | 9.10 | 1.74 |

## PILOT CARTRIDGE LAMPS



ES INDICATOR LAMPS WITH WIRE LEADS
$.875^{\prime \prime}$ long, $.25^{\prime \prime}$ dia., $7 / 8^{\prime \prime}$ wire leads.
stk. No. Lamp No. Volts Amps

| Stk. No. | Lamp No. | Volts | Amps |  |  | \$323 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1244115 | 6ES | ${ }^{6}$ | . 04 | S0.62 | 53.80 3.80 | \$3.23 |
| 12 A4116 | 12 ES | 12 | . 04 | . 62 | 3.80 3.80 | 3.23 |
| -1244117 | 24ES | 24 | . 04 | . 62 | 3.80 | 3.23 |
| 1244118 1284119 | 28ES 48 | 28 | . 04 | 87 | 5.29 | 4.50 |
|  |  |  |  |  |  |  |

MINIATURE BAYONET BASE PILOT LAMPS
Replaces any $\mathrm{T} 31 / 4$ miniature bayonet lamp such as type 44 . 47, etc. May Replaces any $131 / 4$ miniature bayonet lamp such as type 44 . 47 , etc. May
be used in any miniature beyonet pilot light assembly. Englneered for be used in any miniature
5000 hour's minimum life.

| 12A1691 | 6 MB | 6 | . 14 | \$0.98 | \$5.96 | \$5.07 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1241692 | 12MB | 12 | . 17 | . 98 | 5.96 | 5.07 |
| 12A1693 | 24MB | 24 | . 073 | . 98 | 5.96 | 5.07 |
| 12A1694 | 28MB | 28 | . 04 | 98 | 5.96 | 5.07 |
| 12A1695 | 48 MB | 48 | . 053 | 90 | 5.46 | 4.64 |
| 12A1696 | 60 MB | 60 | . 05 | . 90 | 5.46 | 4.64 |
| 12 A 1697 | 120 MB | 120 | . 025 | 90 | 5.48 | 4.64 |

Call B-A's Industrial Department (816) 561.5460

## ANNUNCIATOR LAMPS

Longlifte with high brighiness. Unique light control is made possible by seff-contained reflector. 5000 hour minsmum Iffe. $1 K_{0}$ " long $X 1 / s^{\prime \prime}$ wide at the reflector.



WORKMAN CIRCUIT BREAKERS Universal replacement for radio TV, etc. Top quality American made. Recognized by U.L. circult is re-fused by pushing and releasing button
Specify stock No. of Type Wanted.
Your Choice Each 1.9
10 Up Cou may



## DRAKE AND DIALCO INDICATOR LIGHTS

## MEOR indicators <br> E <br> H8117．323 <br>  <br> $H_{2}$

Econoglo Indicator Lights HR117．Attractive inexpenslve indicator assemblies．Macro－
 Mounts in $1 / 2^{\prime \prime}$ dia．hole．Max，panel thickness $\mathrm{Ks}^{\prime \prime}$ ．High brightness non－replaceable type neon lamp with attached limiting resistor and leads for direct connection to $110-125 \mathrm{~V}$ ．AC or OC．Specity choice of color：Red，Amber or Clear．
No．12M993．Drake HR117－323
 Cylindrical Piastic Lens．Extends $1 / 4^{\prime \prime}$ in front of panel，F／6＂behind panel face． Otherwise as above．Specify choice of color：Red，Amber or Clear
No．12M4106．Orake HR117－603
1.9 Each．＿－42c 10－24 Each＿．．．．38c 25.99 Each．．．．．．．．35c 100 Up Each．．．．．．．．．3 32c Flushlite Indicator Lights．One－piece translucent nylon construction．Mounts with 2 screws．Mtg，centers $11 / 2^{\prime \prime}$ ．Base Yo $x 17 夕^{\prime \prime}$ ．High brightness non－replaceable neon lamp with bulit－in resistor for direct connection to $110-125 \mathrm{~V}$ ．AC or DC． Solder lug terminals．Specify choice of color：Rad，Amber，White or Clear． No． $12 \mathrm{m994}$ ．Drake 110.025.
t．9 Each．．．．56e 10－24 Each．51c 25.99 Each．．．．．．．．47c 100 Up Each．．．．．．．．．．．．．．42c Postlight indicator Lights．All polystyrene．Extremely decorative．Lens is \＄／8＂square， extends $3 / 4^{\prime \prime}$ front of panel，1K ${ }^{\prime \prime}$ behind panel face．Mounts in panels up to K＂thick．Mounts in $1 / 2^{\prime \prime}$ hole．High brightness non－replaceable neon lamp with built－in resistor for direct connection to $110-125 \mathrm{~V}$ ．AC or DC．Solder lug terminals Speclfy choice of color：Red，Amber or Clear．
No．12 M995．Drake 105－025．
t－9 Each．．．．．．．92c 10－24 Each．．．．．．83e 25－99 Each．．．＿．．77c 100 Up Each．．．．．．．．．．．．69c

## DRAKE MONEY－SAVING INDICATOR EIEHTS



Mi－Brightness non－replaceable neon lamp assembly ready to operate on 125 volts AC Designed for mintmum 5000 hour life． $1 / 3$ watt rated．Glves that new modern appear－ ance at very low cost．Choice of two mountings．One－piece nyton body and Iens construction．Size：body dia．脢＂．Specify choice of color：Red，White or Amber． Fig．Stock
Fig．No．Drake No．Description
（1）12M726 6073－001．534 Snap－In Type flush lens
（2） 12 M 727 6073－001－634，Snap－In Type tapered lens

$\begin{array}{lll}12 M 728 & 6063-001-534 & \text { Thnerman Nut Mtg．flush Iens } \\ 12 \mathrm{my29} & 6063-001-634 & \text { Tinnerman Nut Mtg．tapered tens }\end{array}$


## ＂MINEON＂NEON GLOW INDICATOR LIGHTS

Cytudrical $11 / 32^{\prime \prime}$ plastic Iranslucent lens projects $9 / 32^{\prime \prime}$ in fromt of pan el．Length behind panel lace is $1-3 / 16^{\circ}$ ．Mount in panel up $103 / 8^{\prime \prime}$ thick in a $3 / \mathrm{A}^{\prime \prime}$ hole．Solder terminals．High brightness non－replaceable neon lamp with built－in resistor for direct connection to $110-125$ volts．Specity choice of color；Aed．Yellaw，Colorless or Translucent White．
No．12M715．Drake HR118：604
1－9 Each ．．．．$\$ 1.08$ 10－24 Each．．．．97＇ $25-99$ Each ．．．90． 100 Up Each ．． $81^{\circ}$

## MINIATURE BAYONET BASE INDICATOR

Hood type for illuminating tront of panel on instruments and equipment． Has mlniature bayonet socket for T．3 K bulb．Mounts from frant in panets up 10 13／32＂ in $11 / 18^{\prime \prime}$ dia．hole．Butb replaceable trom frant．See page： 133 for bulb olack matte finish．

## No．12日7：5．Draks 168E

## I－9 Each ．．．． 51.59 10－24 Each．．$\$ 1.43 \quad 25-99$ Each ．S1．33 100 Up Each $\$ 1.19$

## DRAKE＂TINYEITE＂INDICATOR LIGHTS

SMALLEST INDICATOR LIGHTS WITH MIDGET SCREW BASE REPLACEAGLE LAMP
Fully enclosed．Supplled with midget lamp installed．Lamps re placed and units mounted from front of panels up to ses＂thick In $7_{10 \prime}^{\prime \prime}$ dia．mounting hole on $1 / z^{\prime \prime}$ centers．Friction device pre vents lamps from loosening in use．Lens dia． $7 / \mathrm{s}^{\prime \prime}$ ．Extends $2 \mathrm{z}_{\mathrm{a}} \mathrm{k}$ in front of panel． Specify Choice of Color：Red，Green，Yellow，White，Clear or Blue．
Stock Drake Lsth．Eehind Lamp Replecement or Your Choice Each

 Stock Mo．Drake No．REPLACEMENT LAMPS FOR ABOVE $\quad$ YOItere $\begin{array}{lccccc}\text { Stock No．} & \text { Orake No．} & \text { Voltare } & 1.9 \text { Each } & 10-24 \text { Each } & 100 \text { Up Each } \\ 1244120 & 162 & 7 & \$ 0.35 & \$ 0.26 & \$ 0.177 \\ 124121 & 163 & 14 & .35 & .26 & .176 \\ 1244122 & 333 & 28 & .75 & .59 & 40\end{array}$
昰至

（1）Hooded Panel Hght for front panel illuminatlon．Nickel plated hood． $1 / 2^{\prime \prime}$ mtg． hole．Bulb removable from front．For miniature bayonet base lamps． No．128247．Johnson 147－329．Each．
（3）12A1170．Bakellte Base，Double Contat Candelabra．Fits neon lamps NE32，NE48． （2）12a1172．Bakelite Base，Single Contact Candelatra．Fits auto lamp，etc． Choice， $1-24$ Each ．－． 79 c 25－99 Ea （0）Millen 33991 Double Contact Candelabra Socket for type 991 VR tube or neon lamps．Also fits standard auto lamps．
No．12A1421．Each．
O Bakelite 5 crew Base for minlature base lamps．

（9）Bakellte 5 crew Bas for candelabra base lamps．

（5）Bakelite Cleat Receptacle for standard screw base lamps．


1 INCH
INDICATOR LIGHTS
FOR SG LAMPS


（1）Torpedo Wide．View Lens．Use $\$ 6$ screw base candelabra 115 V ．Iamp，Instalied from front，UL and CSA listed．Screw terminals． $2^{\prime \prime}$ behind pänel， $1^{\prime \prime}$ mtg．hale． Dialco ${ }^{\text {Spe }}$ Red $\begin{gathered}\text { Dialco No } \\ B 0.0901-0531\end{gathered}$ Necity
$1-301$

Dialco No

| laico No |
| :--- |
|  |
| $901.0533-30$ |

 $\begin{array}{lllllll} & \$ 2.42 & 10.24 & 25.99 & 100.249 & 250.499 & \$ 00.389 \\ \text { Each } & \$ 2.13 & \$ 1.94 & \$ 1.76 & \$ 1.57 & \$ 1.45\end{array}$ （8）Faceted $1^{\prime \prime}$ lens． $1^{\prime \prime}$ mtg．hole．Uses $\mathbf{5 6}, 115$ valt bulbs．Chrome piated holder， UL and CSA listed． $21 / 2^{\prime \prime}$ length．Less lamp．
 Green DJalco No．32－3101－0432－302 Clear Dialco No．32－3101－0437－302 Chaice $\quad 1 \begin{array}{llllll}1-9 & 10-24 & 25-99 & 100-249 & 250-499 & 500-909\end{array}$ Each irtight，Completely Sealed agalifst oil，water or dust．Front lamp replacement． $\mathbf{1}^{\prime \prime} \mathrm{mtg}$ ．hole，Chrome finish．Use S6 115 V ．bulbs．UL and CSA listed．faceted lens． Spacify Stock Mo．12M974 and Color on Orders
Red Dialco No．103．3101－1331－403 Amber Dlalco No．103－3101－1333－403 Green Dialco No．103－3101－1332－403 Clear Diaico No．103－3101－1337－403 $\begin{array}{lllllllll}\text { chaice } & & 1.9 & 10.24 & 25-99 & 100-249 & 250-499 & 500.999\end{array}$
 $1 / 2$ INCH INDICATOR LIGHTS FOR MINIATURE BAYONET LAMPS CR

for T31／4 incandescent lamps． 2.55 volts．Smooth faced translucent Jewels In $1 / \mathbf{h}^{\prime \prime}$ rass holder．Bulb replaceable from front．Mounts in＂he＂hole in paneis up to $38^{\prime \prime}$ thick． $21 / 2^{\prime \prime}$ long．UL and CSA listed．Solder terminals．Lets lamp．
（2）WHITE NICKEL FINISH
Specify No． 12 we85 and Color Desired
Red Dialco No． $81.9110 \cdot 0111-102$
Green Dlaico No．81－9110－0112－102
$\begin{array}{ll}\text { Amber } & \text { Dlalco No．81－9110－0113－102 } \\ \text { Blue } & \text { Olalco No．} 81-9110-0114-102\end{array}$
White Dlaico No．81－9110－0115－102
$\begin{array}{cccc}\text { Each } 1.9 .51 .03 & 10-24 & 25.99 & 100-249 \\ 96 c & 92 c & 80 c\end{array}$

（1）5／5＂PLASTIC STOVEPIPE（DDME）LENS Specity Mo． 12 W． 335 and Color Desired Red Dialco No．95－9110－0931－102 Green Olaico No．95－9110－0932－102 $\begin{array}{ll}\text { Amber Dialco No．} 95-9110-0933-102 \\ \text { Crear } & \text { Dialco No．} 95-9110-0937.102\end{array}$ $\begin{array}{ll}\text { Clear } & \text { Dialco No．} \\ \text { Choice } & 10-24-9110-0937-102 \\ 25-99100-249\end{array}$ Each 1－9．．．．．92c 85c 82c 71c

$250 \cdot 498 . .-67 \mathrm{C}$
（D）OPEN TYPE $1 / 2$ INCH INDICATOR LIGHTS
\％＂transparent faceted Jewel．Bulb replaceable from front of panel．＂Ke＂mtg．hole． Specify Stock No．12m1181 and Color Desired

| Côlor | Dialco | 1.9 | 10－24 | 25－99 | Prices $100-249$ | Esth | 500－998 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red | 502－8136－2131－102 | 71c | $66 \%$ | 62c | 58 c | 54 c | 51 c |
| Green | 502－8136－2132－102 | 71c | $66 ¢$ | 62 c | 58 c | 84c | 51c |
| Amber | 502－8136－2133－102 | 71 c | 66 c | 62. | 58 c | 54 c | 51 c |

Economical angle bracket assemblites with $1 / /^{\prime \prime}$ transparent face lewel．Mount in Kot hole．Bracket held by threaded shank of lens holder．Bulb accesslble from rear．

| $\begin{aligned} & \text { Bayonet Bas } \\ & \text { Mo. } 12 \end{aligned}$ |  |  |
| :---: | :---: | :---: |
| Red | Dialco | No．502－1025－2131－102 |
| Green | Dialco | No．502－1025－2132－102 |
| Amber | Oialco | No．502－1025－2133－102 |
| Choice |  | $1-1 \quad 10-24$ |
| Each |  | 51 c 48c |

## Scraw 8ase

Red Specify No． 12 W1156 and Cosor． $\begin{array}{ll}\text { Red Dlalco No．502－1015－0622－102 } \\ \text { Green } & \text { Oialco No．502－150 }\end{array}$ Green Diaico No． $502-1015-0622-102$
Amber Diaico No． $502-1015-0622-102$

TOR LIGHTS
for midget flange base lamps such as number 327 or 328. Black nicke！flinish．y／2＂transparent stovepipe（dome）lens． Mounts in＂1／2＂hole with nut behind panel．Lamp removable
from front．Solder lug terminals．Extends＇ists＂behind panel．
Specify Stock No． 12 Mg 977 and Color on Orders．
Red Dialco No．101－5030－0931－201 Amber Dialco No．101－5030－0933．201
Green Dialco No．101－5030－0932－201 White Dich Green Dialco No．101－5030．0932－201 White Diaico No．101－5030－0935－201 $\begin{array}{lllllll}\text { Choice } & \$ .9 & 10-24 & 25-99 & 100-249 & 250-499 & \$ 00 \mathrm{UD} \\ \text { Each } & \$ 1.45 & \$ 1.27 & \$ 1.14 & \$ 1.03 & \$ 0.95 & \$ 0.87\end{array}$
As above except black anodized aluminum，$K^{\prime \prime}$ Stovepipe（dome）Lens，mounts In ＂ $31^{\prime \prime}$＂hole with nut behind panel，extends ${ }^{\prime \prime} / 4^{\prime \prime}$ behind paneb face．Meets MIL M5－25256．
Specify Stock No． 12 M555 and Color on Orders．
Color Olatco No．Color Dlaice Na．Color Olalco No．



NEON INDICATOR EIGHTS
With built－in reslstor for $110-125$ volts． $5 / \mathrm{B}^{\prime \prime}$ plastic stove－
pipe（dome）lens．Mounts in $11 / \mathrm{s}^{\prime \prime}$ hole．Length $2 \mathrm{~K}_{6}{ }^{\prime \prime}$ ．Solder
terminals．UL and CSA listed．Less Lamp．
For NE51 Neon Lamp－ 56 K ohms
resistor．
Specity Sth．No．12mes6 arid Color
Desired．
Red Dlalco No．95－9108．0931－142
Amber Dialco No．95－9108．0933－142
White Diaico No． 95.9108 .0935142
White Diaico No．95－9108－0935－142
Clear Dlaico No． 95.9109 .0937
Clear $\quad$ Olaico No．95－9108－0937－142
Choice
$\begin{array}{lll}\text { Choice } & 1.9 & 10-24 \\ \text { Each } & \text { 1．．．．．．．．．．．．．．．．．} \$ 1.08 & \$ 1.02\end{array}$
REPLACEMENT PLASTIC DOME LENS CAPS
$12 A 886$ and $12 A 887$ shown above．
Red Diaico $95-0931$ Amber Dialco $95-0933$ White Dialco $95-0935$ Clear Oialco $95-0937$


The complete line of quality indicator lights using long life, non-replaceable lamps. Alt are friction or snap fit in the mounting hole sizes shown.
125 and 250 volts types are high brightness neon with resistors built-in. Ext. rated types are $1 / 3$ watt high brightness neon without bult-in resistor, maximum rated 250 votts with external resistor. Low voltage types are filament lamps. Design life is 10,000 hours for neon types, 4000 hours for 6 volt. 12,000 hours for 12 volt (usable to 14
volts) and 32,000 hours for 24 volt (usable to 28 volts). Actual life may be more or less depending on use and environment.
Suffix $T$ indicates quick-connect tab terminals, others have wire leads


Color codes listed R-Red, G-Green, A.Amber, B-Blue, W-White and C-clear. Housings are white nylon except types are black housing. Bezels are C-chrome. A-aluminum, N-none
Type 51. figure 10 are SPST switch-indicator Ilght combined. Lights when switch is All Type 31 series mounting hole $1.281 \times .395^{\prime \prime}$
B-A can supply any other Leecratt component on special order. Contact B-A Industrial Department, Phone (816) 561.5460 for quotation.

## Call B-A for OEM Prices On All Leecraft Products - Phone (816) 561.5460

## LEECRAFT INDICATOR LIGHTS (Continued)

| Fig. |  | Leecraft No. | Colar | Meg. Hole |  | Bezal | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $99$ | $\begin{aligned} & 100- \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & 499 \end{aligned}$ | $\begin{aligned} & 500- \\ & 999 \end{aligned}$ | $\begin{gathered} 1000 \\ U p \end{gathered}$ | Fig. | Stack Ne. | Leecraft No. | Colar | Mig Hole | Volts Berel | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25- \\ & 99 \end{aligned}$ | $\begin{aligned} & 160-1 \\ & 249 \end{aligned}$ | $\begin{aligned} & 250- \\ & 499 \end{aligned}$ | $\begin{aligned} & 500- \\ & 999 \end{aligned}$ | $1000$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & 12 A 4276 \\ & 12 A 4276 \end{aligned}$ | 41 N 1311 | R | $\begin{aligned} & 3 / 10^{\circ "} \\ & 315^{\prime \prime} \end{aligned}$ | Ext | N | 51.03 <br> 1.03 <br>  <br> 0 | S0.83 | \$0.563 | S0.478 | $\begin{array}{r} 50.399 \\ .399 \end{array}$ | $\begin{array}{r} 50.338 \\ .338 \\ .388 \end{array}$ | 8 | 12A4304 <br> 12A4305 | 45N2311 45N2313 |  |  | $\begin{aligned} & 125 \mathrm{~N} \\ & 125 \mathrm{~N} \end{aligned}$ | $\begin{array}{r} \$ 1.16 \\ 1.16 \end{array}$ | $\$ 0.93$ .93 |  |  |  | $\begin{array}{r} 0.439 \\ \hline 199 \end{array}$ |
|  | 1244277 | $4 \mathrm{~N}_{2} 313$ | W | 3 $8^{\circ}$ | Ext | N | 1.03 | .83 | .563 .563 | .478 .478 | $\begin{array}{r}.399 \\ \hline\end{array}$ | .338 <br> 338 | 8 | 12A4305 | $45 \mathrm{~N} 2313$ |  |  | $125 \mathrm{~N}$ | $1.16$ | 93 | . 625 | $.556$ | $.504$ | $.439$ |
|  | 1244278 1244279 | 412315 $41 N 2317$ | W |  | Ext | N | 1.03 1.03 | . 83 | .563 .563 | .478 <br> .478 | .399 | $\begin{array}{r}.338 \\ .338 \\ \hline\end{array}$ |  | 1244309 1244310 | 47-2 | W | Below | 125 N | $\begin{array}{r} 1.33 \\ 1.33 \\ \hline \end{array}$ | $\begin{aligned} & 1.07 \\ & 1.07 \end{aligned}$ | $\begin{aligned} & .662 \\ & .662 \end{aligned}$ | $\begin{array}{r} .634 \\ .634 \\ \hline \end{array}$ | $\begin{array}{r} .513 \\ .513 \\ \hline \end{array}$ | .474 <br> .474 |
|  | 12A428 | 4 ING1-23 | 1 R | " 0 ", | 6.3 | N | 2 | 1.0 | 9 | , | . 676 | 9 | 10 | 12 A 43 | 51.21 | R |  |  | 1.69 | 1.19 | 1.016 |  |  |  |
|  | 12 A4285 | 41 NG 1.2312 | 2 G | "10" | 8.3 | N | 1.52 | 1.09 | 709 | 693 | . 676 | 629 | 10 | 1244312 | 51-2133 |  | See | 125 | 1.69 | 1.19 | 1.016 | 847 | . 762 | 741 |
|  | 12 A 4286 | 41NG1-2313 | 3 A | "/4" | 8.3 | N | 1.52 | 1.09 | 709 | 693 | . 676 | . 829 | 10 | 12 A 4313 | 51.2135 |  | Size | 125 | 1.69 | 1.19 | 1.016 | 847 | . 762 | 741 |
|  | 1244287 | 41N61-2314 | 4 旦 | $3100^{\circ}$ | 6.3 | N | 1.52 | 1.99 | . 709 | 693 | 676 | 629 | 10 | 12A4314 | 51-21317 | A | Below | 125 | 1.69 | 1.19 | 1.016 | 847 | 762 | 741 |
|  | 12A42888 | $41 N G 1-2315$ $41 N G 3.2311$ | 1 W |  | 12 | ${ }_{\text {N }}$ | 1.47 | 1.13 | 709 | 791 | 703 | 629 | 10 | 1244315 | $5161-213$ | T R |  |  | 1.81 | 1.30 | 1.185 | 1.095 | 971 | 944 |
|  | 12 A4292 | 41NG3-2312 | 2 G | ${ }^{100}$ | 12 | N | 1.47 | 1.13 | 346 | . 741 | 703 | . 655 | 10 | 1244316 | 5161-2133T |  | See | 6 C | 1.81 | 1.30 | 1.186 | 1.095 | . 871 | 944 |
|  | 12 A4293 | 41 NG 3 -2313 | 3 A |  | 12 | N | 147 | 1.13 | 746 | . 741 | .703 | 655 | 10 | 1244317 | 5163.21317 |  |  |  | 1.81 | 1.30 | 1.151 | 1.061 | 937 | 911 |
|  | 12A4298 | 41NG5-2311 | 1 |  | 28 | N | 1.42 | 1.09 | . 711 | 30 | 675 | 828 | 10 | 12 A4318 | 5163.2133 T | T | Below |  | 181 | 1.30 | 1.151 | 1.061 | . 937 | 911 |
|  | 12 A4299 | 4NG5-2312 | 2 |  | 28 | N | 1.42 | 1.09 | . 711 | . 70 | . 675 | . 628 |  | 1244319 | 5165-2131T | T R |  | 24 | 1.81 | 1.30 | 1.112 | 1.039 | . 868 | 834 |
| 8 | 12 A 300 | 41NG5-2315 |  | - | 28 | N | 1.42 | 1.09 | 711 | 70 | . 675 | . 628 |  |  |  |  |  |  |  |  |  |  |  |  |

LEECRAFT LAMP SOCKETS
SERIES DESIGNS AND DIMENSIONS KEYED TO PGEFIX NUMBERS OF SERIES AS USTED


Sockets listed iNS are msulated by fibet tube ar molded plastic insulation over outside of socket sheif. NON insulatod have bare socket shells. Bracirets are insulated from electrical circuit except in
types which have the shell connected electrically to the bracket. Brachet configuration only should be considered in these figuses since they are part of the socket series as listad.

| Fig. | Stack No. | Series No. | Insulated | Lug or Wire | E-24 | $\begin{gathered} 25-99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100-249 \\ \text { Per C } \end{gathered}$ | $\begin{gathered} 250-499 \\ \text { Per C } \end{gathered}$ | $\begin{gathered} 500-999 \\ \text { Par C } \end{gathered}$ | $\begin{aligned} & 1000 \text { Up } \\ & \text { Per C } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 9 \\ & 10 \\ & 12 \\ & \hline \end{aligned}$ | $12 A 4320$ $12 A 4321$ <br> 1244322 | $\begin{aligned} & 1-08 \\ & 1.12 \\ & 1-30 \mathrm{~N} \end{aligned}$ | Ins. lis. Ins. | $\begin{aligned} & \underset{W}{W} \\ & \underset{W}{W} \end{aligned}$ | $\begin{array}{r} \$ 0.72 \\ .72 \\ .92 \end{array}$ | $\begin{array}{r} 50.47 \\ .47 \\ .72 \end{array}$ | $\begin{array}{r} 539.69 \\ 39.69 \\ 56.23 \end{array}$ | $\begin{array}{r} 527.29 \\ 27.29 \\ 34.57 \end{array}$ | $\begin{array}{r} 522.44 \\ 22.44 \\ 28.38 \end{array}$ | $\begin{array}{r} 51.29 \\ 21.29 \\ 26.39 \end{array}$ |
| 9 | 1244323 | 2.01 | Ins. | W | . 68 | 40 | 33.08 | 19.96 | 15.52 | 14.68 |
| 2 | 1244324 | 2.02 | Ins | W | . 68 | 40 | 33.00 | 19.96 | 15.52 | 14.68 |
| 4 | 12A4325 | 2.05 | Ins. | w | . 58 | . 40 | 33.08 | 19.96 | 15.52 | 14.68 |
| 5 | 12 A 4326 | 2 -06 | Ins. | w | . 68 | . 40 | 33.00 | 19.96 | 15.52 | 14.68 |
| 3 | 12A4327 | 2.07 | las. | W | . 68 | . 40 | 33.08 | 19.96 | 15.52 | 14.68 |
| 9 | 128703 | 2.08 | Ins. | w | . 68 | A 0 | 33.08 | 19.96 | 15.52 | 14.68 |
| 10 | 12A4328 | 2-12 | Ins. | W | . 68 | 40 | 33.08 | 19.96 | 15.52 | 14.68 |
| 13 | 12 A4333 | 2.15.1 | Non* | w | . 68 | . 41 | 33.08 | 14.86 | 12.37 | 11.47 |
|  | 12 A4329 | 2.30 N | Non. | W | . 86 | 63 | 48.51 | 27.29 | 21.41 | 19.77 |
| 14 | 12A4330 | 2-40 | Non ${ }^{\text {a }}$ | W | 68 | 40 | 33.88 | 19.96 | 15.52 | 14.58 |
| 2 | 1244335 | 3-02 | Ins. | W | 72 | 49 | 39.69 | 28.74 | 24.38 | 23.11 |
| 4 | 12 A4335 | 3-05 | lns | W | . 72 | . 49 | 39.69 | 28.74 | 24.38 | 23.11 |
| 9 | 128704 | 3-08 | Ins | w | . 72 | 49 | 39.69 | 28.74 | 24.38 | 23.11 |
| 12 | 1244337 | $3-30 \mathrm{~N}$ | ins. | W | . 92 | . 70 | 56.23 | 36.09 | 30.26 | 28.14 |
| 14 | 12 A4338 | 340 | Ins. | W | . 72 | 49 | 39.69 | 28.74 | 24.38 | 23.11 |
| 13 | 12A4339 | 3.82 | Ins. | W | . 72 | 49 | 39.69 | 2 B .74 | 24.38 | 23.11 |
| 2 | 12 A 4340 | 4-02 | Ins. | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 4 | 12 A4341 | 4.05 | ins. | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 5 | 12A4342 | 4-06 | Ins. | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 3 | 12 A4343 | 4-07 | Ins. | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 8 | 128708 | $4-08$ | Ins. | w | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 10 | 12A4344 | 4.12 | Ins. | w | . 72 | . 48 | 39.69 | 26.20 | 25.79 | 23.58 |
| 12 | 1244345 | 4.30 N | ins. | w | . 92 | 70 | 56.23 | 33.42 | 30.52 | 28.64 |
| 14 | 12 A4346 | 4.40 | Ins. | w | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 1 | 12 A4347 | 4-45 | lins | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 2 | 12A4348 | 4.46 | Ins. | W | . 72 | 49 | 39.69 | 26.20 | 25.79 | 23.58 |
| 1 | 12 A1142 | 5-01 | Non | L | 58 | . 39 | 28.35 | 13.65 | 12.08 | 9.87 |
| 2 | 1244349 | 5.02 | Non | L | . 58 | 39 | 28.35 | 13.65 | 12.08 | 9.87 |
| 4 | 12A1144 | 5-05 | Non | 1 | . 58 | . 39 | 23.36 | 13.65 | 12.08 | 9.87 |
| 5 | 12A1145 | 6.06 | Non | L | . 58 | . 39 | 28.35 | 13.65 | 12.08 | 9.87 |
| 3 | $12 A 1146$ | 5.07 | Non | 1 | . 58 | 39 | 28.35 | 13.65 | 12.08 | 9.87 |
| 9 | 12 A4350 | 5.08 | Non | L | . 58 | . 39 | 28.35 | 13.65 | 12.08 | 9.97 |
| 10 | 12A4351 | 5.12 | Non | 1 | . 68 | . 39 | 28.35 | 13.65 | 12.08 | 9.87 |
| 1 | 1244352 | 6-01 | Non | L | . 61 | . 42 | 29.93 | 15.03 | 13.45 | 12.47 |
| 2 | 12 A4353 | 6.02 | Non | L | 61 | . 42 | 29.93 | 15.03 | 13.46 | 12.47 |
| 5 | 12 A1154 | 8.05 | Non | L | . 61 | 42 | 29.93 | 15.03 | 13.45 | 12.47 |
| 5 | 12 A1155 | 6-06 | Non | 1 | . 61 | 42 | 29.93 | 15.03 | 13.45 | 12.47 |
| 3 | 12 A833 | 6-07 | Non | L | . 61 | 42 | 29.93 | 15.03 | 13.45 | 12.47 |
| 9 | 12A4354 | 6-08 | Non | L | . 61 | 42 | 29.93 | 15.03 | 13.45 | 12.47 |
| 10 | 12A4355 | 8-12 | Non | L | . 61 | 42 | 29.93 | 15.03 | 13.46 | 12.47 |
| 1 | 12 A1162 | 7.01 | Non | L | . 61 | 36 | 26.46 | 12.56 | 11.10 | 9.26 |
| 2 | 12 A1163 | 7-02 | Non | L | . 61 | . 36 | 26.45 | 12.68 | 11.10 | 9.26 |
| 4 | 12 A1150 | 7.05 | Non | 1 | . 61 | 36 | 26.45 | 12.56 | 11.10 | 9.26 |
|  | 12A1151 | $7-05$ | Non | L | . 61 | . 36 | 26.45 | 12.55 | 11.10 | 9.26 |
|  | 1284360 | 7-08 | Non | 1 | . 61 | . 36 | 26.45 | 12.56 | 11.10 | 926 |
|  | 12A4361 | 711 | Non | I | . 61 | . 36 | 26.46 | 12.56 | 11.10 | 9.26 |
| 10 | 12 A4362 | 7-12 | Non | L | 61 | . 36 | 26.46 | 12.56 | 11.10 | 9.26 |
| 15 | 12 A4363 | 7.13 | Non | L | 61 | 36 | 26.45 | 12.56 | 11.10 | 9.26 |
| 13 | 12A4364 | 7-15 | Non | L | 61 | 36 | 26.45 | 12.66 | 11.10 | 9.26 |
| 16 | 12A4365 | 7.19 | Non | L | . 1 | 36 | 26.46 | 12.65 | 11.10 | 9.25 |


| Fig. | Stock No. | Series No. | Jnsu. lated | Lug or Wirs | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100.249 \\ \text { Por C } \end{gathered}$ | $\begin{gathered} 250-489 \\ \text { Per }^{2} \end{gathered}$ | $\begin{gathered} 600.999 \\ \text { Pet C } \end{gathered}$ | $\begin{aligned} & 1000 \text { Up } \\ & \text { Per C } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 17 | 1244366 | 7-20 | Non | 5 | 50.61 | \$0.36 | \$26.A6 | \$12.65 | 511.10 | S 926 |
| 6 | 1244367 | 7-35 | Non* |  | . 75 | . 5.5 | 42.00 | 31.98 | 21.74 | 12.18 |
| 13 | 12A4370 | 7.82 | Non | L | 61 | . 36 | 28.46 | 12.56 | 11.10 | 9.26 |
| 18 | 1244382 | 8.81 | Non | L | 84 | . 53 | 44.10 | 31.50 | 22.05 | 21.00 |
| 3 | 12 A 4384 | 10-07 | Non | L | . 68 | . 41 | 33.08 | 19.96 | 16.56 | 16.35 |
| 9 | 1244383 | 10-08 | Non | L | . 68 | .41 | 33.08 | 19.69 | 16.56 | 15.35 |
| 3 | 12A4385 | 11.207 | Non | W | 88 | .49 | 39.69 | 24.38 | 21.66 | 20.01 |
| 8 | 12A4386 | 11-208 | Non* | W | 68 | .49 | 39.69 | 24.38 | 21.66 | 20.01 |
| 12 | 1244387 | $11-230-8 \mathrm{~N}$ | Non. | W | 92 | . 70 | 56.23 | 31.72 | 27.59 | 25.05 |
| 7 | 1244388 | 11.271 | Non. | W | . 68 | . 49 | 39.69 | 24.38 | 21.66 | 20.01 |
| 20 | 12A4389 | 11.272 | Nan ${ }^{\text {a }}$ | W | . 68 | . 49 | 39.69 | 24.38 | 21.66 | 20.01 |
| 3 | 12A4390 | 12-207 | Nan | W | . 84 | . 57 | 52.50 | 12.55 | 27.30 | 26.25 |
| 9 | 12A4391 | 12-208 | Non | W | 84 | 57 | 52.50 | 32.55 | 27.30 | 26.25 |
| 10 | 1244392 | 12-212 | Nor | W | . 84 | . 57 | 52.50 | 32.55 | 27.30 | 26.25 |
| 13 | 1244393 | 12-215 | Non | W | . 84 | . 57 | 5250 | 32.65 | 27.30 | 26.25 |
| 19 | 12A4394 | 12.225 | Nan | W | . 84 | . 57 | 52.50 | 32.65 | 27.30 | 26.25 |
| 12 | 1244395 | 12-230.8N | Non | W | . 98 | . 78 | 61.74 | 37.60 | 31.97 | 29.98 |
| 7 | 128705 | 12-271 | Non | W | . 84 | . 57 | 52.50 | 32.65 | 27.30 | 26.25 |
| 20 | 12A4398 | 12.272 | Nan | W | . 84 | . 57 | 52.50 | 32.55 | 27.30 | 26.25 |
| 3 | 12A4399 | 14.07 | ins. | W | 80 | 58 | 48.51 | 32.50 | 25.22 | 24.08 |
| 12 | 1244400 | $14-30 \mathrm{~N}$ | ins. | W | 98 | . 78 | 68.74 | 37.60 | 31.96 | 29.96 |
| 7 | 128700 | 14.71 | ins, | W | 80 | . 58 | 48.51 | 32.50 | 25.22 | 24.08 |
| 20 | 12A4401 | 14.72 | las | W | . 80 | . 58 | 48.51 | 32.50 | 25.22 | 24.08 |
| 3 | $12 A 4402$ | 16-07 | Nan | - | . 72 | . 49 | 39.69 | 24.38 | 2341 | 18.80 |
| 8 | 1244403 | 16-08 | Non | L | . 72 | 49 | 39.69 | 24.38 | 21.4 | 18.80 |
| 10 | 12A4404 | 16.12 | Non | 1 | . 72 | . 49 | 39.69 | 24.38 | 21.41 | 18.80 |
| 6 | $12 A 4405$ | 18.35 ${ }^{\circ}$ | Non | L | 97 | . 74 | 71.40 | 63.53 | 5463 | 47.01 |
| 9 | 12 A4407 | 16-208 | Non | 1 | . 80 | . 58 | 48.51 | 31.05 | 26.92 | 23.72 |
| 3 | 1244408 | 17-07 | Ins | W | 72 | . 49 | 39.69 | 25.83 | 2025 | 18.74 |
| 9 | 12 A4409 | 17-08 | Ins | W | .72 | . 49 | 39.69 | 25.03 | 20.25 | 18.74 |
| 17 | 12A4410 | 17.20 | Ins | W | .72 | 49 | 39.69 | 25.83 | 20.25 | 18.74 |
| 19 | 12 A4411 | 22-25 | Non | W | 1.68 | 126 | 99.75 | 95.00 | 86.89 | 78.23 |
| 18 | 12 A44 12 | 22-27A | Non | W | 1.50 | 126 | 89.75 | 95.00 | 86.89 | 78.23 |
| 1 | $12 A 4413$ | 23-01 | ins | N | . 61 | 42 | 33.08 | 18.50 | 12.32 | 9.98 |
| 2 | 1244418 | 23-202 | ins. | W | . 68 | . 49 | 39.69 | 24.44 | 18.92 | 14.68 |
| 22 | 1244419 | 23-207 | lns. | W | . 68 | . 49 | 39.69 | 24.44 | 18.92 | 14.68 |
| 11 | 128706 | 23-223 | ins. | W | . 68 | . 49 | 39.69 | 24.44 | 18.92 | 14.68 |
| 14 | 1244420 | 23-240 | Ins. | W | . 68 | 49 | 39.69 | 24.44 | 18.92 | 14.68 |
|  | $12 A 4421$ | 24-02 | Nom | L | 61 | 41 | 33.08 | 21.41 | 12.32 | 9.98 |
| 21 | 12 A4422 | 24-07 | Non |  | . 61 | 41 | 33.08 | 21.41 | 12.32 | 9.98 |
| 4 | 12A4424 | 25-0. | Nor | L | . 86 | . 63 | 56.23 | 44.27 | 29.54 | 25.83 |
| 5 | 12 A 4425 | 25-06 | Nont | 1 | . 86 | 63 | 56.23 | 44.27 | 29.54 | 25.83 |
| 6 | 12A4429 | 25-35** | Non* | I | 99 | 77 | 73.50 | 65.07 | 5717 | 49.20 |
| 3 | 12A4431 | 25-207 | Non | W | . 32 | 69 | 61.74 | 51.61 | 36.94 | 32.26 |
| 9 | $12 A 4432$ | 25-208 | Nos | W | . 92 | . 69 | 51.74 | 51.61 | 36.94 | 32.26 |
| 10 | 1244433 | 25-212 | Non | W | . 92 | . 69 | 61.74 | 51.61 | 36.94 | 32.26 |
| 12 | 12A4434 | 25-230N-1 | Non* | W | 1.11 | 91 | 76.07 | 58.94 | 42.76 | 37.35 |
| 23 | 12A4436 | 26-207 + | Non | W | 123 | 1.10 | 98.40 | 92.61 | 186.82 | 69.45 |
| 3 | 12A4439 | 57-207 | Ins | W | 80 | . 58 | 48.51 | 30.26 | 28.07 | 24.53 |
| 1 | 12 A4440 | 57.245 | ins, | W | 00 | 58 | 48.51 | 30.26 | 26.07 | 24.93 |
| 8 | 18C798 |  | Non | L | . 50 | . 29 | 22.00 | 10.35 | 9.15 | 7.64 |

-Shell connected olectrically to becket. "Prinied Circuit Mounting.

## Circif-stik

INSTANT CIRCUIT BOARDS ${ }^{\text {™ }}$ • FOR INDUSTRY

ADHESIVE BACKED COPPER PATTERNS
U.S. PATENT 3.538 .389 \& other Patents Pending


This aerospace proven concept in circuit packaging permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams.
Ali sub-element conductors are preplated and ready for soldering. Etched
copper sub-elements are supplied on thin substrates which have a high strength pressure sensitive adhesive backing. They are designed to withstand soldering temperatures, and offer exceptionally good adhesion strength, yet can be removed when changes require a Citcuit-Stik "instant" modification

THE "1000" SERIES (MFR'S. TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE PRE-DRILLED ON , 100-INCH GRID
TO MATCH PRE-PUNCHED BOARD MATERIAL - REQUIRES NO DRILLING AND NO TERMINALS

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Mhe's } \\ & \text { Type } \end{aligned}$ | Fig. | $\begin{aligned} & \text { Pcs } \\ & \text { Per } \\ & \text { Pkg. } \end{aligned}$ | Sub-Element Description | Price | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Mrr's } \\ & \text { Type } \end{aligned}$ | Fig. | Pes. Per Pkg. | Sub-Element Description | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T0.5 : 10.18 Sub-Elements |  |  |  |  |  | 1249952 | 1087.010 | R | 10 | Compact. Flat Pack, 24 Lead | \$ 8.00 |
| 1249713 | 1001.010 | ${ }^{\text {A }}$ | 10 | TO. 18 or TO-5 3 Lead | \$ 2.50 | 12 A 9953 | 1089-005 | R | 5 | Compact, Flat Pack, 28 Lead | 3.00 |
| 1229714 | 1001.030 | A | 30 | T0.18 or TO-5 3 Lead on 5 strips | 6.75 | 1249954 | 1093.005 | R | 5 | Compact. Flat Pack, 36 Lead | 4.00 |
| 12089717 | 1021.010 | c | 10 | T0.5 3 Lead | 2.30 | 1249955 | 1095-005 | R | 5 | Compact, Flat Pack, 40 Lead | 5.00 |
| 12a1719 | 1021-030 | C | 30 | T0.5 3 Lead on 5 strips | 6.75 | 1240956 | 1096.005 | 8 | 5 | Compact, Fist Pack, 42 Lead | 5.00 |
| 1249721 | 8023.010 | E | 10 | 10.5 6 Lead | 3.00 | Oual. in-Line Patkage Sub-Elemants |  |  |  |  |  |
| 1240722 | 1023.030 | E | 30 | T0.5 6 Lead on 5 strips | 8.10 | 1249733 | 1101-010 | S | 10 | Duali-In-Line 14 Lead | \$ 3.00 |
| 12 A9723 | 1024.010 | F | 10 | 10.58 Lead | 3.00 | 12 A9734 | 1101.030 | S | 30 | Duat-In-Line 14 Lead on 5 strips | 8.10 |
| $12 \mathrm{ASP724}$ | 1024-030 | F | 30 | TO-5 8 Lead on 5 strips | 8.10 | \$299735 | 1102.010 | $\dagger$ | 10 | Cual-In-Line 14 Lead | 3.00 |
| $12 \mathrm{~A}, 725$ | 1025.010 | G | 10 | T0.5 10 Lead | 3.00 |  |  |  |  |  |  |
| 12 A9 726 | 1025.030 | G | 30 | r0.5 10 Lead on 5 strips | 8.10 | 1249737 | 1202-005 | U | 5 | 6 DIP's/Strlp, 14/16 Lead, pwr. and gnd. avall. | 7.75 |
| 1249727 | 1026-0:0 | H | 10 | 10.5 12 Lead | 3.50 | 1249739 | 1204.005 | $v$ | 5 | 6 DIP's/Strip, 14 Lead, pwr. and gnd. pins 7/14 | 6.50 |
| 12A3728 | 3024.030 | H | 30 | 10.5 12 lead on 5 strips | 9.45 | 1249741 | 1206-005 | w | 5 | Universal, 30 DIP's on 5 strios | 7.75 |
| Compact TO-5 Sub-Elements |  |  |  |  |  | 12 A9743 | 1208.005 | x | 5 | 6 Oip's/5trip. 14 Lead | 6.50 |
| 1249933 | 1031-070 | 1 | 10 | Compact. TO.5 or T0-18 3 Lead | \$ 2.50 | Plug. In Connector Strips "Hard Gold aver Mickel Plate" |  |  |  |  |  |
| 1299934 | 1031.030 | 1 | 30 | Compact, 10.53 Lead on 5 strips | 6.75 | 1249751 | 1351-005 | Y | 5 | 15 Pin, $100^{\prime \prime}$ Spacing. Component Side | \$ 6.25 |
| 12a0935 | 1033.010 | 1 | 10 | Compact. TO-5, 6 Lead | 3.00 | $12 \mathrm{Ag752}$ | 1352.005 | Y | 5 | 15 Pin, . $100^{\prime \prime}$ Spacing, Circuit Side | 0.25 |
| 12A9936 | 1033.030 | J | 30 | Compact. TO 56 Lead on 5 strips | 8.10 | 1249753 | 1353.005 | Y | 5 | 15 Pin, .125" Spacing, Component Side | 6.25 |
| 1249937 | 1034.010 | K | 10 | Compatt. 10.58 Lead | 3.00 | 1249754 | 1354-005 | r | 5 | 15 Pin, .125" specing, Circuit Side | 6.25 |
| 12 A 9938 | 1034.030 | K | 30 | Compact, 70.58 lead on 5 strips | 8.10 | 1249755 | 1335-005 | Y | 5 | 15 Pin, . $1566^{\prime \prime}$ Spacing, Component side | 6.25 |
| 12As934 | 1035-010 | L | 10 | Compact, T0-5 10 Lead | 3.00 | 1249755 | 1356-005 | Y | 5 | 15 Pin, $156^{\prime \prime}$ Spacing, Circuit Side | 6.25 |
| 12Assato | 1035-030 | L | 30 | Compact. TO-5 10 Lead on 5 strips | 8.10 | 1249787 | 1361.005 | 2 | 5 | $22^{2} \mathrm{Pin}, .100^{*}$ Spacing, Component side | 7.50 |
| 12assal | 1036.010 | M | 10 | Compact. T0.5 12 Lead | 3.50 | 12A9758 | 1362.005 | 2 | 5 | 22 Pin, $100^{\prime \prime}$ Spacing, Cireuit side | 7.50 |
| 12 Ags 42 | 1036-030 | M | 30 | Compact 10.512 tead on 5 strips | 9.45 | 12A09759 | 1363.005 | 2 | 5 | 22 Pin, $\therefore 125^{\prime \prime}$ Spacing. Component Side | 7.30 |
| Flat Pack Sub-Elements. Spread Lead Configuration |  |  |  |  |  | 1249760 | 1364-005 | 2 | 5 | 22 Pin, .125" Spacing, Circuit Side | 7.50 |
| 12A9729 | 1061.010 | 0 | 10 | Flat Pack, 10 Lead | \$ 3.00 | 1249762 | 1366.005 | 2 | 5 | 22 Pin, .156" Spacing. Circuit Sido | 7.50 |
| 1248931 | 1062-010 | 0 | 12 | Flat Pach, 14 lead | 3.00 | Discrete Component Strips |  |  |  |  |  |
| 12 A'9943 | 1056.010 | 0 | 10 | Flat Pack, 22 Lead | 6.00 |  |  |  |  |  |  |
| 12A9944 | 1067-010 | 0 | 10 | Fiat Pack. 24 Lead | 6.00 | 1249745 | 1302-005 | AA | 10 | 16 Discrete, Component Strip, mounts 80 |  |
| 1219945 | 1059.005 | 0 | 5 | Flat Pack. 28 Lead | 4.25 | 1249746 | 1311-010 | BB | 10 | Universal Strip, mounts so discrete | 8.00 |
| 1249896 | 1073.005 | 0 | 5 | Flat Pack, 36 lead | 5.00 | 0istribution 5trips |  |  |  |  |  |
| 1249947 | 1075-005 | Q | 5 | Flat Pack. 40 Lead | 6.50 | 12A9747 | 1321.010 | CC | 10 | .100" wide | \$ 3.50 |
| 1249948 | 1076.005 | 0 | 5 | Flat Pack, 42 Lead | 6.50 | 12A9748 | 1322.010 | DO | 10 | . $063^{\prime \prime}$ wide | 4.10 |
| Compact Flat Pack Sub-Elements |  |  |  |  |  | 12A9749 | 1323 -010 | EE | 10 | 250" wide | 4.50 |
| 1249949 | 1081.010 | R | 10 | Compact, Fiat Pack, 10 Lead | \$ 3.00 | 12A9750 | 1324.010 | fF | 10 | 250" wide | 4.80 |
| 1249950 | 1002.010 | R | 10 | Compact, flat Pack. 14 Lead | 3.00 | 1249957 | 1325.010 | GC | 10 | Single Row $100^{\prime \prime}$ hole spacing | 4.00 |
| 12A9951 | 1096.010 | R | 10 | Compact, Flat Pack, 22 Lead | 5.00 | $12 \mathrm{Ca958}$ | 1326-010 | HM | 10 | Oouble Row 100" hole spacing | 4.50 |

ADHESIVE BACKED COPPER PATTERNS

- U.S. PATENT 3.538.389 \& other Patents Pending


THE " 2000 " SERIES (MFR'S TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE FOR COMPACTNESS - AND ARE NOT DRILLED".

| $\begin{aligned} & \text { stack } \\ & \mathrm{Nog} \end{aligned}$ | $\begin{aligned} & \text { Mfr's } \\ & \text { Typt } \end{aligned}$ | Fie | $\begin{array}{\|l\|} \hline \text { Per } \\ \text { Pas } \end{array}$ | sub-Element oescription | Prite | $\begin{aligned} & \text { stock } \\ & \text { No } \end{aligned}$ | $\begin{aligned} & \text { Mfr's } \\ & \text { Type } \end{aligned}$ | Fic | $\begin{array}{\|l\|l\|} \hline P \in \boldsymbol{R} \\ \text { PkI } \end{array}$ | Sub citemens Oescription | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1200764 | 2001.010 | 0 | 10 | T0.183 Lead | \$ 2.00 | Copper Tape, Pressure Sensitive Adhesiva |  |  |  |  |  |
| 12AB7es | 2001-030 | D | 30 | T0.183 Lead | 5.40 | 1249959 | 1105 | P | 1 | .031" wide $\times 9$ ft long |  |
| 12A97Es | 2021.010 | E | 10 | 10.5 3 Lead | 2.00 | 1249960 | 7106 | $p$ | 1 | . $040^{\prime \prime}$ wide $\times 9 \mathrm{ft}$. 10 ng | . 15 |
| 1240769 | 2021-030 | E | 30 | Y0.53 Lead | 5.40 | 1249961 | 7107 | P | 1 | .050" wide $\times 9 \mathrm{ft}$. long | . 75 |
| 12 A 0774 | 2024.010 | F | 10 | T0.5 8 lead | 2.50 | 1249788 | 7101 | P | 1 | 062" wide x 9 ft . Jong | . 75 |
| 12ap77s | 2024-030 | F | 30 | T0-5 8 lead | 6.75 | 1249789 | 7102 | P | 1 | 100 " wide $\times 9 \mathrm{ft}$. lang | . 90 |
| 124077 | 2025-010 | G | 10 | TO. 510 Lasd | 2.50 | 1249790 | 7103 | P | 1 | . $187^{\prime \prime}$ wide $\times 9 \mathrm{ff}$. long | 1.00 |
| 1240771 | 2025-030 | c | 30 | 70.510 Lead | 6.75 | 1249791 | 1104 | P | 1 | . 250 " wide a 9 ft . tong | 2.00 |
| 12A8779 | 2026-010 | H | 10 | TD. 512 Lead | 3.00 | Mylar Tape (1nsulative), Pressure Sensitive adhesive |  |  |  |  |  |
| 1243778 | 2025-030 | H | 30 | TO-5 12 Lead | 8. 10 |  |  |  |  |  |  |
| 12As701 | 2102.010 | 1 | 10 | MSI DIP 24 Lead | 6.00 | 1249792 | 7151 | P | 1 | $100^{\prime \prime}$ wide $\times 30$ fl. long | \$ 1.00 |
| 1249780 | 2101.010 | 1 | 10 | DIP 14 Lead | 3.00 | 1249793 | 7152 | P | 1 | $150^{\prime \prime}$ wride $\times 30$ tt long | 1.25 |
| 124975 | 2367.005 | 1 | 5 | 22 Pin Connector Strio. Gold Plated, 156 Spacing | 6.25 | $\begin{aligned} & 12 A 0794 \\ & 1249795 \end{aligned}$ | $\begin{aligned} & 7153 \\ & 7154 \end{aligned}$ | P | 1 | 200" wide $\times 30 \mathrm{ff}$. long $.300^{\prime \prime}$ wide 30 fl long | 1.50 <br> 2.00 |
| 12A9704 | 2368.00 | 1 | 5 | ${ }_{2}$ Component side | 8.25 | Materials (Pressure Sensitive Adhesive) |  |  |  |  |  |
|  |  |  |  | Gold Plated, 156 Spacing, |  | 1249796 | 7201 | T | 250 | . $100^{\prime \prime}$ dia. pads | 5 2.50 |
|  |  |  |  | Circuit Side |  | 1249797 | 1202 | R | 250 | .125" dia. pads | 2.50 |
| 12 A9702 | 2301-005 | 1 | 5 | Mounts 105 components | 5.50 | 1249798 | 7203 | 8 | 250 | 187" die. pads | 3.00 |
|  | 1404010 |  | 10 | T0.3 Subelement (Flange Mte.) |  | 1249799 | 7204 | R | 250 | . $2500^{\prime \prime}$ dis pads | 3.50 5.55 |
| 128970 | 1405-010 | N | 10 | SCR Stud Mit. | 3.00 | 1249800 | 1251 | 4 | 5 | Copper Sheet, 5" $\times 6^{\prime \prime}$ | 5.75 5.75 |
| 12A3707 | 1408-010 | 0 | in | SCR FIat Pkg Mig. | 3.00 | 1249962 | 7261 | U | 5 | Epoxy-Giass Insulative Sheel, 5" ${ }^{\prime \prime}$ " | 5.75 |


| $\begin{aligned} & \hline \text { Stock } \\ & \mathrm{No}_{0} \end{aligned}$ | $\begin{array}{\|l\|l\|} \hline \text { Mfr's } \\ \text { Type } \end{array}$ | Fig | $\left\lvert\, \begin{array}{l\|} \hline \text { Pet } \\ \text { Pikg } \end{array}\right.$ | Sub-Element Description | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Epoxy-Elass Boart Materlals (No adhesive) |  |  |  |  |  |
| 1249801 | 7308 | I | 1 | $\begin{aligned} & \text { Pre-punched } \\ & 811_{2 \prime \prime}^{\prime \prime} \times 1 \mathbf{1}^{\prime \prime} .100 \text { Soacing } \end{aligned}$ | \$ 8.00 |
| 1249802 | 1351 | $u$ | 1 | Plain $6^{\circ \prime}$ : 12" | 1.95 |
| 1249803 | 7352 | $u$ | 1 | Plain 12" $\mathrm{I}^{\text {1 }} 8^{\prime \prime}$ | 5.35 |
| Pre-Shaped Boards |  |  |  |  |  |
| 12A9805 | 1402 | $v$ | 1 | $\begin{aligned} & \text { Pre-Punched /"A"-4.5" } \\ & \because B^{\prime \prime}-6.5^{\prime \prime},{ }^{\prime \prime} C^{\prime} \cdot 22 \text { pins } \end{aligned}$ | \$ 5.25 |
| 1249963 | 7405 | $\checkmark$ | 1 | Pre-punched " $A$ " -4.0 ". "B"'4.5. 'C'. 15 pins' | 4.25 |
| 12 A 9807 | 1452 | v | 1 | Plain "A".4.5", "日".6.5", 'C'" 22 pins | 2.95 |
| 1249964 | 1455 | $\checkmark$ | 1 | Plain/ A". $4.0^{\prime \prime}, ~ " 6 "-4.5 "$. "C"' 15 pins | 2.35 |
| Connectors, . 156 Pin 5pacing |  |  |  |  |  |
| 1249808 | 7501 | W | 1 | 15 Pins | \$235 |
| 1249809 | 7502 | w | 1 | 30 Pins | 2.75 |
| 1249810 | 7503 | w | 1 | 22 Pins | 3.00 |
| 1248811 | 7504 | w | 1 | 44 Pins | 3.50 |
| 12 A 9 A 2 | 8951 | $\times$ | 1 | Prototype Kit ( 5110 value) | 99.50 |

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PRINTED CIRCUIT ARTWORK SYMBOLS FROM CENTRON ENGINEERING, INC.


PRINTED SYMBOLS

| Stock No. | $\underset{\text { Myps. }}{\text { Myp. }}$ | Description | symb. <br> Per Pkg. | Price |
| :---: | :---: | :---: | :---: | :---: |
| 1243819 | 2001 | ro.182: 3 Lead | 250 | \$ 6.50 |
| 1249825 | 2011 | T0.5 2x 3 Leat | 250 | 6.50 |
| 1248822 | 2007 | T0.5 2x $\mathrm{B}_{\text {Lead }}$ | 250 | B.50 |
| 1249825 | 2010 | T0.5 2a 10 Lead | 250 | 6.50 |
| 1249828 | 2020 | 14 leat oip 2 x | 250 | 7.50 |
| 1249830 | 2026 | 16 Lead DIP 2x | 250 | 7.50 |
| 1249831 | 2029 | 14 Lexd DIP 2x | 250 | 7.50 |
| 1249833 | 2034 | 16 Lesd DIP 2x | 250 | 1.50 |
| 1249832 | 2030 | 14 Lead DIP 2x | 250 | 7.50 |
| 12A8934 | 2035 | 16 Lead DIP 2x | 250 | 7.50 |
| 1249835 | 2080 | Connector strip . 125 spacing $2 x$ | 30 | 5.00 |
| 1249835 | 2081 | Connector Strips 156 spacing. 2x | 30 | 5.00 |
| 1249814 | 1003 | Reg. Tarset | 250 | 6.50 |
| 1249816 | 1007 | Reg. Target | 250 | 6.50 |
| 1249817 | 1009 | Reg. Target | 250 | 6.50 |


| $90^{\circ}$ ELBOWS (PACKAGED 250/ ROLL) |  |  |  |
| :---: | :---: | :---: | :---: |
| Stock Mo. | Mfr's Type | Line Width | Price/ Roll |
| 1249849 | $E 912$ | $052^{\prime \prime}$ | $\$ 2.00$ |
| 1249850 | $E 914$ | $080^{\prime \prime}$ | 2.00 |
| $124985 \%$ | $E 918$ | $093^{\prime \prime}$ | 2.00 |
| 1249852 | $E 920$ | $100^{\prime \prime}$ | 2.00 |
| 1249856 | $E 928$ | $187^{\prime \prime}$ | 2.50 |

$90^{\circ}$ NESTED ELBOWS (PACKAGED 250/ROLL)

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Mfr's Type | $\begin{aligned} & \text { Line } \\ & \text { Width } \end{aligned}$ | Smallest Radius | Me. Rinets in Nest | Price/ Roll |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1249142 | NEES2 | 062" | 062" | 4 | \$3.00 |
| 1249843 | NE 154 | 080" | 062" | 4 | 2.50 |
| 1249844 | HEs66 | 093" | 062" | 4 | 2.50 |
| 12A9845 | NEA70 | 100 " | 062" | 3 | 2.50 |
| 1249848 | NE A7 7 | 187" | 062" | 3 | 4.00 |

TEES (PACKAGED $250 /$ ROLL)

| Stock No. | Mrr's Yype | Llat width | Price/koll |
| :---: | :---: | :---: | :---: |
| $12 \mathrm{Ca857}$ | 1962 | 062" | \$2.00 |
| 1249858 | T964 | 080" | 2.00 |
| 1249859 | 7968 | 093" | 2.00 |
| 1249850 | 1970 | 100 " | 2.00 |
| 1249863 | 1970 | 187" | 2.50 |


| Stoct No. | $\begin{aligned} & \text { Mir's. } \\ & \text { Type } \end{aligned}$ | 0.0 | 1.0. | Pet. Mus. | Price/ fill |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1243899 | P7100 | . $100{ }^{\prime \prime}$ | . $031{ }^{* \prime}$ | 500 | \$ 2.50 |
| \$249901 | P7140 | .125* | .031" | 500 | 2.00 |
| 1249903 | P7190 | .156** | .0317 | 500 | 2.00 |
| 12A9904 | P7220 | .156" | .082" | 500 | 2.00 |
| 12 A 9905 | P7250 | .187 | .031" | 500 | 2.00 |
| 1249905 | P7260 | .187" | .040" | 500 | 2.00 |
| 1249907 | P7280 | .187" | .062" | 500 | 2.00 |
| 12A990* | P7290 | 200" | .031" | 500 | 2.00 |
| 1249909 | P7300 | .200" | .040" | 500 | 2.00 |
| 1249910 | P7320 | 200* | .062" | 500 | 2.00 |
| 1299911 | P7340 | .210* | .031" | 500 | 2.00 |
| \$249912 | P7360 | . $218^{\prime \prime}$ | .062" | 500 | 2.00 |
| 1249913 | P7390 | 250" | .031" | 500 | 2.00 |
| 1249914 | P7400 | 250" | .040" | 500 | 2.00 |
| $12 \mathrm{A9985}$ | P1420 | . 250 " | .062" | 500 | 200 |
| 1249817 | P7460 | . 300 " | .062" | 500 | 2.50 |
| 12 99919 | P7500 | . 312 " | .062 ${ }^{\prime \prime}$ | 500 | 2.50 |
| 12A9921 | P7540 | . $315{ }^{\prime \prime}$ | .062" | 500 | 2.50 |
| 1249923 | P7600 | . $400{ }^{\text {m }}$ | .062" | 500 | 3.25 |
| 1249925 | P1720 | . $500{ }^{\prime \prime}$ | . $052^{\prime \prime}$ | 500 | 3.75 |

UNIVERSAL CORNERS (PACKAGED 250/ ROLL)

| 5 tock No. | Mr's Type | $\underset{\text { Width }}{\text { Wime }}$ | $\begin{aligned} & 00 \text { of } \\ & \text { West } \end{aligned}$ | $\begin{aligned} & 18 \text { of } \\ & \text { Nest } \end{aligned}$ | M. Nings In Nest | Price holl |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1289837 | UC812 | .062" | 625" | 125" | 4 | 53.00 |
| 1249830 | UC814 | 080" | 890' | 250" | 4 | \$5.00 |
| 12A9839 | UC ${ }^{\text {P }} 5$ | 093" | $1.062^{\prime \prime}$ | .312" | 4 | 35.00 |
| 12A9840 | UC820 | $100^{\prime \prime}$ | $1.100^{\prime \prime}$ | .300" | 4 | \$5.00 |
| 1249841 | uceze | 187' | $2.000^{\prime \prime}$ | .500" | 4 | $\$ 8.00$ |

## CIRCUIT ARTWORK TAPE (BLACK) 20 YARD ROLLS

| Stock No. | Mfr's Type alk. Cripe | $\begin{aligned} & \text { Stock } \\ & \mathrm{No} \end{aligned}$ | Mit's Type Bla. Matte | size | Rolls | Price (ex.) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1249854 | CT 100.031 | 1249882 | MT 200-031 | . 031 " | 1 | \$ 75 |
| 1249865 | CT 100-040 | 1299883 | MT 200-040 | .040" | 1 | . 18 |
| 1249866 | CT 100.050 | 12A9884 | MT 200.050 | .050." | 1 | 7 |
| 1249867 | CT 100-062 | 1249865 | MT 200.062 | . $062^{\prime \prime}$ | 1 | 75 |
| 1249868 | CT 100.080 | 12490886 | mT 200-000 | 080" | 1 | . 75 |
| 12A9859 | CT 100.093 | 1249867 | MT 200-093 | 093* | 1 | . 75 |
| 12 A 9870 | CT 100.100 | 12A9838 | MT 200.100 | .100" | 1 | . 75 |
| \{2A3871 | CT 100.125 | 12a98E9 | MT 200-125 | .125" | 1 | .T5 |
| 12 A 5873 | CT 100.156 | 1249890 | MT 200-156 | . $156{ }^{\prime \prime}$ | 1 | . 75 |
| 1248974 | CT 100.107 | 1249891 | MT 200.19T | .187" | 1 | 75 |
| 1249875 | CT 100-200 | 12 A 9892 | MT 200-200 | 200" | 1 | 75 |
| 12A9875 | CT 100.250 | 1249894 | MT 200.250 | .250" | 1. | \% |

# PRINTED CIRCUIT COMPONENTS 

FOR HOBBYTSTS \& EXPERIMENTERS ADHE SIVE BACKED COPPER PATTERNS


Permits rapid PC. hoard assembly directly fram schematics of logic flow diagrams. Now the elec tronics hobbyisi, experimenter or tectinician can build professional qualisy PC boards without spe cial tools of experience. quickiy and economically. Sub-eiements are pre-drilied and ready for soidermig. Etched copper sub-aiements are on thin substrates with phessure senstive adhesive backing Withstand soiderng heat. offer exceptional adhesive strength, yet can be removed for cricuil changes. पuak-circuil sub-elements are pr-driliad on $\mathbf{1 0 0}$ grid to malch pre-punthed boarts. re quile no druiling and no terminals.

| Stock No. | $\begin{gathered} \hline \text { Mig } \\ \text { Type } \end{gathered}$ | Fig. | $\begin{gathered} \text { Pes. } \\ \text { Per Pkg } \end{gathered}$ | Description | Pat Phg. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12A100]3 | $3001-003$ | A | 3 | T0-18 of T0-5, 3 lead | S0.95 |
| 12A10039 | 3002.003 | 8 | 3 | T0-18 or T0-5. 4 lead | 95 |
| 12A10040 | 3021-003 | C | 3 | T0-5, 3 lead | 95 |
| 12A10041 | 3033-003 | 0 | 3 | T0-5.8 lead | 1.09 |
| 12 A 10042 | 3034-003 | E | 3 | TO-5. 8 lead | 1.19 |
| 12A10043 | 3035-003 | F | 3 | T0-5, 10 lead | 1.19 |
| 12A10044 | 3062.003 | G | J | Flat Pack. 14 lead | 149 |
| 12A10045 | 3101.003 | H | 3 | Oual-In-Line. 14 lead | 1.29 |
| 12A10046 | 3102.005 | 1 | 5 | Dual-In-Line, 14 lead | 1.95 |
| 12A10047 | 3404-002 | J | 2 | T0-3 Pkg. Flange Mig. | . 95 |
| 12A10048 | $3405 \cdot 004$ | $k$ | 4 | Rectifier, SCR, Triac | 1.59 |
| 12A10049 | 3406-005 | L | 5 | SCR \& Transistor fiat Plastic | 1.49 |
| $12 \mathrm{Al0050}$ | 3214-002 | M | 2 | Oual-In-Line Stup. 14 lead | 1.69 |
| $12 \mathrm{Al0051}$ | 3216-002 | N | 2 | Universal DIP Strip. 14 of 16 L | 1.89 |
| 12 A10052 | 3227.002 | 0 | 2 | Universal DIP Strip, 14 or $16 . \mathrm{L}$ | 1.69 |
| 12A10053 | 3302.002 | P | 2 | Oiscrete Component Strip | 1.29 |
| 12A10054 | 3312.002 | 0 | 2 | Universal Strip | 1.18 |
| 12A10055 | $3321-008$ | R | 6 | Distribution Strips. 7 pads | 1.49 |
| 12A10056 | 3325.006 | S | 6 | Distribution Strips. Single Row | 1.69 |
| 12410057 | 3326.004 | $T$ | 4 | Oouble Row. 100 sp . troles | 1.69 |
| 12 A 10058 | 3376.002 | U | 2 | 15 Pin Edge Coanectar | 2.19 |
| 12 A10059 | 3396-002 | $\checkmark$ | 2 | 22 Pin Edge Connector | 2.95 |
| PRESSURE SENSITIVE COPPER TAPE ROLLS |  |  |  |  |  |
| 12410060 | 9105 | W | , | . $031 \times 48^{-1}$ long | 95 |
| 12 A 10061 | 9106 | w | 1 | . $040 \times 48{ }^{\text {c }}$ long | . 95 |
| 12 A 10062 | 8101 | W | 1 | . $0652 \times 48$ tong | . 95 |
| 12 A 10063 | 9102 | w | 1 | 100 $\times 488^{\prime \prime}$ lang | 1.19 |
| 12A10064 | 9103 | w | 1 | . $125 \times 48^{\prime \prime}$ long | 1.29 |
| 12 A 10065 | 9104 | W | 1 | . $250 \times 48^{\prime \prime}$ long | 2.29 |
| PRESSURE SENSITIVE INSULATION TAPE ROLLS |  |  |  |  |  |
| $12 \mathrm{A10065}$ | 9151 | W | , | . $100 \times 10 \mathrm{ft}$. long | 95 |
| 12A10067 | 9153 | W | 1 | $200 \times 10 \mathrm{ft}$ long | 1.28 |
| PRESSURE SENSITIVE COPPER DONUT PADS |  |  |  |  |  |
| 12A10068 12 A 10069 | 9202 9203 | $y$ | 100 100 | . $25.00 \times 04010$ | 1.49 +1.69 |
| 12410070 | 9204 | Y | 100 | . $25000 \times .04010$ | 189 |
| 12 A 10071 | 9209 | Y | 100 | Assortment | 1.79 |
| 12 A10072 9252 PRESSURE SENSITIVE COPPER SHEETS ${ }^{2}$ |  |  |  |  |  |
|  |  |  |  |  |  |
| 12A10073 | 9251 | 2 | 2 | $5^{\prime \prime} \times 6^{-}$ | 2.59 |
| EPOXY-GLASS PRESSURE SE NSITIVE INSULATION SHEETS (MICRO-THIN) |  |  |  |  |  |
| 12A10074 12410075 | 9262 9261 | ${ }_{\text {AA }}{ }_{\text {A }}$ |  |  | 1.29 2.58 |
| PRE-PUNCHED EPOXY-GLASS BOARO MATERIAL |  |  |  |  |  |
| 12A10076 | 9301 | 8B |  | $8.5^{\prime \prime} \times 17^{\prime \prime} \times 062$ | 8.95 |
| 12 A 10077 | 9302 | 88 |  | $4.25 \times 8.5 \times .062$ | 3.29 |
| 12 A 10078 | 9303 | 8 B |  | $4.5^{\prime \prime} \times 5^{\prime \prime} \times .062$ | 2.29 |
| 12A10079 | 9304 | 88 | 1 | $2.5^{\prime \prime} \times 4.5{ }^{\prime \prime} \times .062$ | 1.49 |
| P PRE-PUNCHEO PHENOLIC |  |  |  |  |  |
| 12410080 | 9343 | 88 | 1 | $4.5{ }^{\circ} \times 5^{\prime \prime} \times .062$ | 1.19 |
| 12A1008? | 9345 | 88 |  | $45^{\prime \prime} \times 17^{\prime \prime} \times 0.062$ | 229 |
| 12 A10082 | 9346 | B8 | 1 | $6^{\prime \prime} \times 17^{\prime \prime} \times .082$ | 2.95 |
| PRE-PUNCHEO/PRE-SHAPED EPOXY-GLASS 80AROS |  |  |  |  |  |
| 12 A 10083 | 9402 | CC | 1 | "A"-4.5 "8"-6.5 ${ }^{\text {c }}$ - 22 pins | 5.29 |
| 12410084 | 9405 | CC | 1 | "A -4.0, $\mathrm{B}^{\prime \prime}-4.5, \mathrm{C}$ " 15 pins | 4.29 |
| $\begin{array}{llll}12410085 & 9452 & \text { PLAIN/PRE-SHAPEO EPOXY GLASS BOAROS } \\ \text { CC }\end{array}$ |  |  |  |  |  |
|  |  |  |  |  |  |
| 12A10086 | 9455 | CC | 1 |  | 2.39 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| - PROTO-TYPE KITS 3950 |  |  |  |  |  |
|  |  |  |  |  |  |
| 12A10094 | 9953 |  | 1 | Midi-Kit plass epoxy board. |  |
|  |  |  |  | mounts io transistors, 6 DiP's. 16 discrete components | 5.95 |
| 92A10095 | 9954 | 1 |  | Maxi-Kit, 3 PC boards, mounts |  |
|  |  |  |  | 10 transistors. 8 DIP's. |  |
| 12A10096 | 9955 |  |  | 16 distrete components | 12.95 |
|  |  | 1 |  | Super-Kit mounts over 60 components. Enough material tor |  |
|  |  |  |  | many projects. In carrying case. | 24.95 |



## FLEXIBLE CIRCUITRY LAMINATES

Musiar sheet $.004^{\prime \prime}$ thick, size $6^{\prime \prime} \times 18^{\prime \prime}$. copper clad on ane side Two ounce copper provides better heal sink protection of base film Shipg. wt. 1 oz. copper 14 oz. 2 oz. copper 1 th.


Precisian cuttung for clad at unclad plastic up to $1 / 16^{\prime \prime}$ threk or sheet metal up lo . $040^{\circ}$ thick. Will shear panels of XXXP phen. afic, FR-3 papti-thase epoxy. G10 giass bpory and mal polyesters in sizes thraugh $12^{\prime \prime}$ wide Supplied with squaring guage. length puape and shearing blades, front and back transparent blade guards $15^{\prime \prime}$ wide and $13^{\prime \prime}$ deep. Wt. 24 lbs. No. 37 A5585. MS-6 Each
$\$ 134.00$
acerssory atrachuents for keppo mutrig Shetr
Mo. 37A5586. Pilof Hola Punch Set. PH.6. Wh. 4 lbs. Each.

## …

No. 37A5587. Random 2-Hole Punch Set. PS-2. Wt. 2 Ibs. Each No. 37 a5588. Cornar Notching Attachmant. NA.1. Wt. 3 tbs. Ea
No. 37A5589. Press Brake Attachment. PB-1. Wit. 3 lbs. Each. $\qquad$ $\$ 142.00$
 $\begin{array}{r}48.00 \\ \hline 8.00\end{array}$

.Glass filled black phenolic with gold llashed contacis, spaced $.156^{\prime \prime}$. For" $1 / 16^{\prime \prime}$ boards. PC pins are .031 square. .406 long. Solder fugs are $.09^{\prime \prime}$ wide. $.19^{" ~ l a n g . ~}$

| Stock <br> No. | Contacts | Stack No. | Contacis | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25 \\ & 49 \\ & \hline \end{aligned}$ | $\begin{aligned} & 50 \\ & 99 \end{aligned}$ | $\begin{aligned} & 100 \\ & 249 \end{aligned}$ | $\begin{array}{r} 250 \\ 499 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12A5183 | 8 PC | 12A6184 | 8 Lugs | 51.08 | S0.96 | 50.84 | S0.77 | \$0.71 |
| 12A5185 | 10 PC | 12A5186 | 10 Lugs | 1.16 | 1.02 | . 90 | . 82 | . 76 |
| 12A5187 | 12 PC | 12A5188 | 12 lugs | 1.25 | 1.11 | . 98 | . 89 | . 82 |
| 12A5189 | 15 PC | 12A5190 | 15 Lugs | 1.36 | 1.19 | 1.05 | . 96 | . 88 |
| 12A5191 | 18 PC | 12A5182 | 18 Lugs | 1,41 | 1.24 | 1.09 | 1.00 | . 91 |
| 12A5\$93 | 22 PC | 12A 5194 | 22 Lugs | 1.60 | 1.41 | 1.24 | 1.13 | 1.04 |



KEYSTONE PRE-PUNCHED BOARDS
K $8^{\prime \prime}$ with $.062^{\prime \prime}$ holes spaced .187 x .187 center to center. unclao modp matural phenolic


## KEYSTONE PUSH-IN TERMINALS




## PHENOLIC UNPUNCHED PANELS

Laminated xxXp matural ysen thick
Keystone
No.
1973
1974
1976

100-240
$100-240$
Each
.40
.50

Professional Etching Kit P101A. An etched circuit kit utilizing photo engraving process for fine professiona the sensitized sheet of copper clad phenolic board is exposed through the prepared negative after which it is developed and etched. Contains three sensitized boards $(2-3 \times 6,1-3 \times 3), 3$ mechanical negatives o the same size, etch solution, wand developer,
No. 1249612.
PlolA Kit. Net Each
$\$ 5.85$
Same Kit with Class Material.................................. $\$ 7.40$

NP-3303A Enamel Nameplate \& Panel Kit. Produces professional high contrast blue and aluminum panels. Kit
supplies pressure sensitive opaque letters and numerals in three fonts which are arranged on a clear acetate sheet and used as a positive film to expose a photosensitized blue aluminum plare. in developmort. apeopaque areas letters on a blue background. A double-face pressure duces 160 sq. in of plate. No. $12 A 9688$ Wt. 1 lb. 1 oz. Each.............. 7.25
NAMEPLATE AND PANEL SUPPLIES
 NAMEPLATE AND PANEL SUPPLIES

| Stk. No. | Kepro No. | Description | Shpg. Wt. | Each |
| :---: | :---: | :---: | :---: | :---: |
| 1249689 | NP-EP810 | Sensitive Enamel Plate $8 \times 10^{\prime \prime}$ | Ozs. | \$1 |
| 12 A9690 | NP-EP1220 | Sensitive Enamel Plate $12 \times 20^{\prime \prime}$ | Lb. | 4.13 |
| 1249705 | NPD-IPT | Pint Developer | 23/4 Lbs. | 2.50 |
| 12 A9693 | NP-AS | $8 \times 10^{\prime \prime}$ Adhesive Sheet | Ozs. | 90 |
| 12A9694 | NP-ASI722 | $17 \times 22$ " Adhesive Sheet | b. |  |

FK-701 Photo Reversing Kit. Simple two-step process to prepare line negatives and positives from taped or ink artwork or to reverse existing negatives and positives. Needs no darkroom. 2-10x24 instructions included. Shpg. wi. 1 kh lbs.
No. 1249665 . Each
\$7.20

## MASTER PHOTO LAYOUT KIT PL-200A

Produce professional PC artwork accurately and rapidly without inking and lettering. Includes: $2-18 \times 24^{\prime \prime}$ Matte Surface Mylar; 2-18×24" Mechanical Negative; 4.17X
$21^{\prime \prime}$ Graph Paper; $1-18 \times 24^{\prime \prime}$ Master Mylar Crid Sheet;

 $1-8 \times 10^{\prime \prime}$ sheet of letters, Bow Compass, Blue Drawing Pencil, Pen Holder, Pen Point, Cutting Knife Set, Center Dot Cutter. Tweezers, Bottle Opaquing Fluid, Brush and Instructions. Shpg. wt. 4 lbs.
No. 1249687
Complete Kit Each.


Photo Layout Kit PL-2A. For preparing camera-ready artwork without inking and lettering. Reduced layout time by use of pressure-sensitive tapes, dats, letters and numerals. Contents: $96-1 / 4 / 1$ Tape Dot Terminations, $108^{n}-1 / 9^{\prime \prime}$ Tape
 $8 \times 10^{\prime \prime}$ sheets of Craph paper and instruction sheet. Wt. 1 lb . $\$ 3.95$
No. 12A9603. PL-2A. Each

Printed Circult Lab L505A. Meets all circult board development needs of the industrial, laboratory or serious experimenter. Contains 15 sensitized botrds. 3 copper clad unsensitized boards (1 perforated), trays for developing and etching, safelite, photoflood lamp, photo
layout kit PL 2 A, $4 \times 10$ mechanical negative. etch and layout kit PL2A, $4 \times 10$ mechanical negative. etch and
developer solutions with accessory items. With instrucdeveloper solutions
tions. Wt 21 lbs. tions. Wt. 21 libs. Boards. Each \$34.75
 12A9609. L505A-C Kit. With CiO Class Boards. $\$ 42.95$

Electroless PC Board Tin Plating Kit ITP-801. Simple immersian process deposits thin coating, of essentially pure tin to etched copper circuit to protec from oxidation and to provide exceptional solderability. A chemical process, requires no expensive electroplating equipment. Tin solution is heated to 160 degrees $F$. In high-temperature glass tray and circuit board is immersed for $\mathbf{3 - 5}$ minutes. Boord is removed from tray, rinsed 3 minutes under running hot water, then onother 3 minutes under running cold water. Includes glass tray, accommodating boord sizes up to $7 \times 10^{\prime \prime}$; board handling rack; thermometer; ${ }^{\text {I }}$ qt. immersion tin solution isufficient for plating potterns on approx. 25 sq. ft. of etched panels) and complete instructions.
No. 12 A9706. ITP 801 Kit. Shpg. wt. 10 lbs. Each .......................... $\$ 13.95$


## ETCHED CIRCUIT COPPER CLAD MATERIALS

Laminated 1 ounce (.00135) copper clad materials, one or two sides, both Materials supplied unsensitized lunsen.) for screen processed parts and photo-
 laminate. All copper clad materials meet standard NEMA grade tolerances. ready for exposure with no other sensitizing required. MATERIAL'5 PIECES PER PACKACE ARE BULK PACKED-NOT INDIVIDUALLY SEALED IN SINCLE PACKACES.

XXXP PAPER BASE PHENOLIC, 1 OZ. (.00135) COPPER CLAD

| MATERIAL INDIVIDUALLY PACKACED |  |  |  |  |  | 5tock No. | Kepro No. | MATERIAL 5 PIECES PER PACKACE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock No. | $\begin{aligned} & \text { Kepro } \\ & \text { No. } \end{aligned}$ | Description | Sise Inches | $\begin{aligned} & \text { Wt. } \\ & \mathbf{O r s} \end{aligned}$ | Net. Each |  |  | Description | 5ize <br> Inches | Weight Pk. of 5 | 1-4 Pks. Each | $\begin{aligned} & \text { 5-9 } \\ & \text { Pks. } \\ & \text { Each } \end{aligned}$ | $10-19$ <br> Pks. <br> Each | $\begin{gathered} \text { 20-49 } \\ \text { Paks. } \\ \text { Each } \end{gathered}$ |
| 12 A9555 | P1-33 | Unsen. 1 side | $3 \times 3$ | $13 / 4$ | \$0.40 | 1249579 | P1-335 | Unsen. 1 side | $3 \times 3$ | 12 Ozs . | \$ 1.45 | \$ 1.25 | \$ 1.15 | \$ 1.05 |
| 1249556 | P1-36 | Unsen. 1 side | ${ }^{3 \times 6}$ |  | . 54 | 1249580 | P1-365 | Unsen. 1 side |  | 12 Ozs . | 2.05 | 1.80 | 1.65 | 1.50 |
| 1249557 | P1-1212 | Unsen. 1 side | $12 \times 12$ | 11 | 2.48 | 1249581 | P1-12125 | Unsen. 1 side | $12 \times 12$ | $3{ }^{2}$ Lbs. | 11.15 | 9.45 | 7.35 | 7.00 |
| 1249558 | P2-33 | Unsen. 2 side | $3 \times 3$ | 1314 | . 44 | 1249582 | P2-335 | Unsen. 2 side | $3 \times 3$ | 12 Ozs . | 1.65 | 1.45 | 1.30 | 1.20 |
| 1249559 | P2-36 | Unsen. 2 side | $3 \times 6$ |  | . 64 | 1249583 | P2-365 | Unsen. 2 side | $3 \times 6$ | 1 lb | 2.55 | 2.25 | 2.05 | 1.85 |
| 1249560 | P2-1212 | Unsen. 2 side | $12 \times 12$ | $101 / 2$ | 3.22 | 1249584 | P2-12125 | Unsen. 2 side | $12 \times 12$ | 3 lbs | 14.85 | 12.60 | 9.80 | 9.35 |
| 1249561 | 51-33 | Sen. 1 side | $3 \times 3$ | $1^{1 / 4}$ | . 58 | 12A9585 | S1-335. | Sen. 1 side | $3 \times 3$ | $1208 s$. | 2.35 | 2.00 | 1.85 | 1.70 |
| 12 A9562 | $51-36$ | Sen. 1 side | $3 \times 6$ | 3 | . 90 | 12A9586 | 51-365* | Sen. 1 side | $3 \times 6$ | 1 Lb . | 3.85 | 3.30 | 3.00 | 2.80 |
| 1249563 | 51-66 | Sen. 1 side | $6 \times 6$ | 5 | 1.52 | 1249587 | S1-665 | Sen, 1 side | $6 \times 6$ | 1 Lb | 6.80 | 5.85 | 5.30 | 4.90 |
| 1249564 | \$1-1212 | Sen. 1 side | $12 \times 12$ | 11 | 5.36 | 1249588 | S1-12125 | Sen. 1 side | $12 \times 12$ | 3 lbs | 25.55 | 21.20 | 16.85 | 16.10 |
| 1249565 | S2-36 | Sen. 2 side | $3 \times 6$ |  | 1.22 | 1249589 | S2-365 | Sen. 2 side | $3 \times 6$ | 1 lb | 5.45 | 4.70 | 4.25 | 3.95 |
| 1249566 | \$2.66 | Sen. 2 side | 6x6 |  | 2.18 | 12A9590 | S2-665 | Sen. 2 side | $6 \times 6$ |  | 10.10 | 8.70 | 7.90 | 7.30 |
| 1249567 | \$2-710 | Sen. 2 side | 7x10 | $10^{1 / 8}$ | 3.86 | 1249591 | S2-7105 | Sen. 2 side | $7 \times 10$ | ${ }^{11 / 4}$ Lbs. | 18.25 | 15.70 | 14.25 | 13.15 |
| 12 A9568 | S2-1212 | Sen. 2 side | $12 \times 12$ | 10 | 7.62 | 12 A 9592 | \$2-12125 | Sen. 2 side | $12 \times 12$ | 3 Lbs. | 36.85 | 30.60 | 24.30 | 23.20 |
| C-10 GLASS EPOXY 1 OZ. 1.001351 COPPER CLAD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1249569 | P1 | Unsen. 1 side | $3 \times 6$ | $31 / 8$ | 1.08 | 1249593 | P1-365C | Unsen, I side | $3 \times 6$ |  |  | 4.20 |  |  |
| 1249570 | P1-1212C | Unsen. 1 side | $12 \times 12$ | 12 | 6.76 | 1249594 | P1-12125C | Unsen, I side | $12 \times 12$ | 3 Lbs | 32.55 | 27.65 | 21.50 | 20.50 |
| 1249571 | P2-36C | Unsen. 2 side | $13 \times 6$ | 31/8 | 1.12 | \$2A9595 | P2-365C | Unsen. 2 side | $3 \times 6$ | 1 lb . | 4.95 | 4.35 | 3.95 | 3.60 |
| 1249572 | P2-1212C | Unsen. 2 side | $12 \times 12$ | $111 / 2$ | 7.06 | 1249596 | P2-12125 | Unsen. 22 side | $12 \times 12$ | 3 lbs | 34.05 | 28.95 | 22.45 | 21.45 |
| 1249573 | S1-36C | Sen. 1 side | $3 \times 6$ | $31 / 8$ | 1.44 | 1249597 | S1-365 | Sen. 1 side | $3 \times 6$ | 1 tb . | 6.55 | 5.75 | 5.25 | 4.80 |
| 12 A9574 | \$1-66C | Sen. 1 side | $6 \times 6$ | $103 /$ | 2.58 | 12 A9598 | S1-665C | Sen. 1 side | $6 \times 6$ | 2 lbs | 12.10 | 10.65 | 9.70 | 8.85 |
| 1249575 | S1-1212C | Sen, 1 side | $12 \times 12$ | $103 / 4$ | 9.64 | 1249599 | S1-12125C | Sen. 1 Side | $12 \times 12$ | 3 lbs | 46.95 | 38.95 | 31.00 | 29.55 |
| 12 A2576 | S2-36C | Sen. 2 side | $3 \times 6$ | $31 / 8$ | 1.70 | 1249600 | 52-365C | Sen. 2 side | $3 \times 6$ | 1 Lb | 7.85 | 6.90 | 6.30 | 5.75 |
| 1249577 | S2-66C | Sen. 2 side | 6x |  | 3.16 | 1249601 | S2-665C | Sen. 12 side | $6 \times 6$ | 2 lbs | 15.00 | 13.20 | 12.00 | 10.95 |
| 12A9578 | $5 \mathrm{~S}-1212 \mathrm{C}$ | Sen. 2 side | $12 \times 12$ | $111 / 2$ | 11.72 | 1249602 | \$2-12125C | Sen. 2 side | $12 \times 12$ | 3 Lbs. | 57.35 | 47.60 | 37.85 | 36.10 |

Offers high impact strength at tow cost. Excellent physical and electrical stability.

| 12A9671 | P1-36M | Unsen. 1 Side | $3 \times 6$ | 31/8 | \$0.58 | 1249679 | P1-365M | Unsen. 1 Side | 3x6 | 16. | \$ 2.25 | \$ $2: 00$ | \$ 1.80 | \$ 1.65 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1249672 | Pi-1212M | Unsen. 1 Side | $12 \times 12$ | 12 | 2.84 | 1249680 | P1-12125M | Unsen. 1 Side | $12 \times 12$ | 2 lbs . | + 12.95 | 11.00 | -8.55 | +8.15 |
| 12 A9673 | P2-36M | Unsen. 2 Side | $3 \times 6$ | 4 | . 70 | 1249681 | P2-365M | Unsen. 2 Side | $3 \times 6$ | 1 lb ¢ | 2.85 | 2.50 | 2.30 | 2.10 |
| 1249674 | P2-1212M | Unsen. 2 Side | $12 \times 12$ | 111/2 | 3.82 | 1249682 | P2-12125M | Unsen. 2 Side | $12 \times 12$ | 3 lbs . | 17.85 | 15.15 | 11.75 | 11.25 |
| 12 A9675 | S1-36M | Sen. 1 Side | $3 \times 6$ | 31/8 | . 94 | 1249683 | S1-365M | Sen. 1 side | $3 \times 6$ | 1 lb . | 4.05 | 3.50 | 3.15 | 2.90 |
| 1249676 | St-1212M | Sen. 1 Side | $12 \times 12$ | 12 | 5.72 | 1249684 | S1-12125M | Sen. 1 Side | $12 \times 12$ | 3 lbs . | 27.35 | 22.70 | 18.05 | 17.20 |
| 12 A9677 | S2-36M | Sen. 2 Side | $3 \times 6$ | 4 | 1.28 | 12A9685 | \$2-365M | Sen. 2 Side | $3 \times 6$ | 1 lb . | 5.75 | 4.95 | 4.50 | 4.15 |
| 12 A9678 | S2-1212M | Sen. 2 Side | $12 \times 12$ | 14 | 8.42 | 1249686 | S2-12125M | Sen 2 side | $12 \times 12$ | 3 lbs . | 40.85 | 33.90 | 29.95 | 25.75 |

ETCHED CIRCUIT PROCESSING CHEMICALS AND PHOTO LAYOUT SUPPLIES

| Stock No. | Kepro |  | Description | Wt. Lbs. | Net Each | Stock No. | Kepro No. | Description | Wt. | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1249701 | R-1PT | Pr. | Paint Etch Resist | $21 / 4$ | $\$ 2.25$ |  |  |  |  |  |
| 1249702 1249616 | T-1PT D-1PT | ${ }_{1} \mathrm{Pt} \mathrm{Pt}$ | Paint Resist Thinner | 2 | $1.95$ | $\begin{aligned} & 1249709 \\ & 1249710 \end{aligned}$ | $\begin{aligned} & \text { PRS-1PT } \\ & \text { PRS-1G } \end{aligned}$ | I Pt. Photo Resist Stripper | 2 lbs. 10 Lbs. | 1.95 7.50 |
| 12A9616 | D-1PT D-1C | ${ }_{1}^{1 \mathrm{Pt}} \mathrm{Cal}$. | Developing Solution | 16 | 1.15 5.50 | 12 A9670 | AT-810 | Pressure Sensitive Letters and |  |  |
| 1249667 | D-5C | 5 Cal. |  | 75 | 25.00 |  |  |  |  |  |
| 1249618 | E-IPT | 1 Pt . | Etching Solution | 2 | $\begin{array}{r} 25.00 \\ .85 \end{array}$ | $1249669$ | $M N-1212$ | $12 \times 12^{\prime \prime}$ Mechanical Negative | ${ }_{8}^{4} \mathrm{Ozs}$. | 2.50 1.25 |
| -12A9619 12A9666 | E-1C | 1 Gal. | Etching Solution | $15$ |  | 12 A9668 | AS-3 | Acetate Layout Film . 005 Th. $18 \times 24^{\prime \prime}$ Sheet |  |  |
| 12A9666 | E-5C | $5 \mathrm{cal} .$ | Etching Solution | $70$ | 15.25 |  |  | Sheet | 8 Ozs . | 1.15 |

# Deector circuit boards and terminals 



VECTOR PLUGBOARDS AND RECEPTACLES
Ready to wire Plugbords for prototypes and short runs．All are furnished whth over－all grid of pre－punched $1 \mathrm{Kic}^{\prime \prime}$ die． holes located on alternate intersec tions of a $0.1^{\prime \prime}$ grid．Contacts along bottom edge of board mato with listed receptacles．Pro－drilled to sccept T－28 miniklips，standard turned terminals of Kol＇dia．eyelets．All are Kol＇thick epoxy paper per MiL－P－22324 of＂WE＇ types are epoxy glass per MIL－P． 18177

（1）PLUGBOROS WITH ATTACHED ELCO VARICON CONTACTS

| Stocl | vector No． |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \mathrm{No} 0 . \\ 12995 \end{gathered}$ | No. | ze | Contacts | 1.19 | $20.99$ | 100-199 | 200－999 |
| 12A9527 | 812WE | $41 / 2 \times 6{ }^{2} / 2$ | 16 | \＄2．98 | ＋2．68 | 2.50 | \＄2．00 |
| 12A9528 | 837 | $3 \times 41 / 2^{\prime \prime}$ | 12 | 2.33 | 2.10 | 1.96 | 2.37 1.56 |
| 1249529 | 837WE | $3 \times 41 / 2^{\prime \prime}$ | 12 | 2.58 | 2.32 | 2.17 | 1.73 |
| 12 A9530 | 848WE | 61／2x41／2＂ | 35 | B． 29 | 5.31 | 4.96 | 3.95 |

All are $62 / 2 \times 42 / 2^{\prime \prime}$ ．GN indicates nlckel piated gold flashed contacts．


VECTORBORD PREPUNCHED INSULATING BOARDS


Fattern A．M，F．M \＆


Convenient and economical method of assembling circult components．All boards accept zip push in terminals shown，turned terminals and eyelets may be used．All are unclad phenolic except those marked which are Epoxy paper；$\ddagger$ Epoxy glass； ＊＊ 2 oz．copper clad one side．
Pattern A－Dimensfon $1 \mathrm{ls} .265^{\prime \prime}$ between centers；Patterm B－Dimension 1 is .188 ＂ （K＂）between conters ${ }^{\prime \prime}$ Pittern $F$－Dimension 1 is.$^{\prime \prime}$ between centers；Patterm M centers；Pattern ${ }^{-}$Dimension 1 is $.2^{\prime \prime}$ botween centers．Dimension 2 is ． $1^{\prime \prime}$ between centers．

| centers． <br> Stock Ho． | Mfg．Pattern Mo． | Hole nia． | Size Inches | 1.19 | $\begin{aligned} & \text { Prices } \\ & 20.99 \end{aligned}$ | $\begin{aligned} & \text { Esch } \\ & 100-199 \end{aligned}$ | $10.999$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12A9505 | 18 A18 A | ． 093 | $4.8 \times 4.8 \times 1$ | \＄0．47 | \＄0．42 | 50.39 | \＄0．31 |
| 12A9506 | 32A9 A | ． 093 | $8.51 \times 2.41 \times 1 /$ | ． 54 | ． 4.49 | ． 46 | ＋ 36 |
| 12：9649 | 32 AAT 7 A | ． 093 | $8.51 \times 1.88 \times 7 / 8$ | ． 58 | ． 52 | ． 49 | 39 |
| 12A9507 | 64 A18 A | ． 093 | $16.99 \times 4.8 \times 1 / 4$ | 1.35 | 1.22 | 1.13 | 90 |
| 12as651 | 724.32 A | ． 093 | 19，11×8．51×\％ | 2.42 | 2.18 | 2.03 | 1.62 |
| 12 99508 | $64 \mathrm{AA18}$ A | ． 093 | $16.99 \times 4.8 \times 3 / 3$ | 1.73 | 1.56 | 1.45 | 1.16 |
| 12A9509 | 64 AA32 A | ． 093 | $16.99 \times 8.51 \times 3 / 9$ | 2.97 | 2.67 | 2.49 | 1.99 |
| 12A9650 | 64 AA132 A | ． 093 | $35.01 \times 16.99 \times 1 / 8$ | 0.87 | 9.78 | 9.13 | 7.28 |
| 12A9510 | －85F24EP F | ． 062 | $16.99 \times 4.8 \times{ }^{\text {K }}$ | 2.28 | 2.05 | 1.92 | 1.53 |
| 12A8511 | －85F42EP F | ． 062 | $16.99 \times 8.5 \times 1 /$ | 3.95 | 3.56 | 3.32 | 2.65 |
| 1249512 | － $3106-1 \times 0 \times P$ F | ． 062 | $4.5 \times 3 \times 1 /$ | 1.25 | 1.13 | 1.05 | ． 84 |
| 1249513 | ＊＊3070－1）00P F | ． 062 | $6.5 \times 4.5 \times 1 / 6$ | 1.49 | 1.34 | 1.25 | 1.00. |
| 12 A9514 | 85G24 G | ． 062 | $16.99 \times 4.8 \times \mathrm{K}$ | 1.60 | 1.44 | 1.34 | 1.07 |
| 12A9515 | －85G24EP G | ． 062 | $16.99 \times 4.8 \times 1 / 6$ | 2.28 | 2.05 | 1.92 | 1.53 |
| 12a9516 | $\dagger 42 \mathrm{G24WE}$ G | ． 062 | $8.51 \times 4.8 \times 1 / 6$ | 1.87 | 1.17 | 1.65 | 1.32 |
| 12 A 9517 | 45830 B | ． 062 | $8.51 \times 5.69 \times 1 / 6$ | ． 90 | ． 81 | ． 76 | ． 60 |
| 1249518 | ＋85G24WE G | ． 062 | $16.99 \times 4.8 \times{ }^{\text {k }}$ | 3.96 | 3.56 | 3.33 | 2.56 |
| 12A9519 | 90830 － | ． 062 | $18.97 \times 5.69 \times 1 / 0$ | 1.97 | 1.77 | 1.65 | 1.32 |
| NEW | MICRO－VECTORBORD＊ | FOR | MOUNTINE 0. | ． S | N0 | 1 | K |
| 12A9520 | ＊64P44－062EP P | ． 042 | $6.5 \times 4.5 \times 1 / 6$ | \＄1．68 | \＄1．52 | \＄1．42 | \＄1．13 |
| 12 A9521 | 126M76／032 M | ． 025 | $6.5 \times 4 \times 1 / 32$ | 2.29 | 2.06 | 1.92 | 1.53 |
| 12A9522 | 169P47－062EP P | ． 042 | $17 \times 4.8 \times 1 /$ | 3.88 | 3.58 | 3.34 | 2.67 |
| 12 A9523 | ＊$+169 \mathrm{P} 59 / 032 \mathrm{Cl}$ P | ． 042 | $17 \times 6 \times 1 / 49$ | 7.35 | 8.82 | 6.17 | 4.92 |
| 12 A9712 | 169P79／062 P | ． 042 | $17 \times 8 \times 1 /{ }^{\prime \prime}$ | 7.69 | 6.22 | 6.46 | 5.15 |
| 12A9652 | ＋169P84－062 P | ． 042 | 17x81／2x16 | 7.29 | 7.15 | 6.71 | 5.35 |
| 12A9525 | †336M76／032 M | ． 025 | $17 \times 4 \times 1 / 2$ | 5.49 | 4.94 | 4.61 | 3.68 |

## XXXP phenolic except WE types which are Epoxy glass．


$51 / 4$＂high $\times 9^{\prime \prime}$ deep $\times 19^{\prime \prime}$ wida sloffad for rack mounting with six heavy axtruded aluminum cross members，aluminum side walls Accommodate cards $3^{\prime \prime}$ to $4 \mathrm{~h}=$＂wide and up to $7-7 / 8^{\prime \prime}$ in length．Infi－ nitaly vamable connector mounting Parially assem－ bled lor quick selup．Supplied with discrete alumınum card guides to actommodate $\mathbf{2 0}$ cards at $\mathbf{\%}$ intervals Adjustable for other spacing in multiples of $\psi_{4}$
No．12A9969．CCK13． 1 to 9 Each
$\$ 29.50$
10 to 49 Each
S28．00

${ }^{3474}$ Rut．e．Plugbora
Stk．Mo．Mfg．No．Description
12星9500 $3474 \quad 4 \frac{1}{2} \times 61 / 2^{\prime \prime} 44$ etched contacts，
 12 A9502 3474.3 41／2×6 $1 / 22^{\prime \prime}, 22$ etched contacts，
$\begin{array}{ll}12 a 9859 & 3477-7 \\ 41 / 2 \times 61 / 2^{\prime \prime}, 72 & 72 \text { etched contacts，}\end{array}$
$\begin{array}{rl}12 A 9859 & 3477-7 \\ & 41 / 2 \times 6-12 \\ & X-Y \text { matrix }\end{array}$
2界9661 $3477-84 \frac{1}{2} \times 61 / 2^{\prime \prime}, 36$ etched contacts， $\gamma$ matrix back slde

## ＂D．I．P．＂VECTOR PLUQBORDS

## FOR DUAL－IN－LINE IC＇s

Plug－in mounting bgards for 14 or 16 lead dual－in－line integrated cir－ cuits Boards are $\$ / 16^{\circ}$ threk epory paper material measuring $4 y^{\prime 2} \mathbf{~} 8 y^{\prime \prime}$ overall wilh an aluminum trame on 3 sides which fits $1 / 16^{\prime \prime}$ card guides Boards have overall＂$P$＂pattern of ． $041^{\prime \prime}$ diameter hotes on D． $1^{\prime \prime}$ spaced grid and an X－Y matrix pattern ol $.070^{\circ}$ elched coppes linas running vertically on board from and horizonsally on board back．
Pad layouts for 12 D．I．P．s are provided on all listed types with matrix Copper lines may be byoken with listed line cutter chasel T42－1 Mi－ croklip push－in terminals shown on next page make possible speedy circuit construction．





| Stock No． | Mrg. | Con． tacts |  |  | 1－19 | 20.99 | 100－199 | 200.999 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 120．0971 |  | thets | Length | Width | Each | Each | Esa | Each |
| 12a9972 | 3682.2 | 44 | 6.5 | 4.5 | \＄9．49 | ＋6．64 | 7.58 | 5．69 |
| 12A9973 | 3682.4 | 44 | 6.5 | 4.5 | 9.25 | 8.33 | 7.77 | ． 6 |

12 28503 P． 139 Line Cutter Chise Each
12 年 9504 R644 Receptacle for $3474,3677,3682$ Serles．1－24 Es $\$ 2.9725$ Up．E $\$ 2.48$
12思9662 R636 Receptacle for $3477^{\prime}$ Series Ewch


## 3677 SERIES D．I．P．PLUGBOARDS

Mount I．C．sockets and components（up to 24 D．I．P．units with 14 leads or 21 with 16）．Supplied with overall punched grid of $042^{\circ}$ diameter holes spaced $1^{1}$ apart，atched and individual pad areas ground plus 3 hole pad groups ond MiP 13949 ． sides）Mate with 8644 Recen listed helew．contacts（

|  |  | 1.19 | 20.99 | 100.199 | 200.999 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Length | Width | Eich | EEch | Each | Each |
| 9.6 | 4.5 | $\$ 9.89$ | $\$ 8.90$ | $\$ 8.31$ | $\$ 6.63$ |
| 6.5 | 4.5 | 8.84 | 7.96 | 7.43 | 5.92 |

## 3682 TYPE D．I．P．PLUGBOARD

Will mount $u$ p to 54 D．I．P．sockots with 14 pin or 48 units with 16 pins．Overail grid of ．042＂diametor holes on 1＂centers specially for Wire．Wrape D．I．P．socket types and Vector T44 Miniwrap terminals listed below． 3682 －4 buses ons side for Vec end ground are tinned around each ground piane on back with etchad clearance per M1L－P－13949 Type FL．GF． 2 oz，copper etched gold plated contacts（2 sides）mates with R644 Recaptacia listed below－T．M Gardner Denver． low．T．M．Gard ner．Denver．

4.8 ＂$\times 8.5$＂Vectorbord（＂A＂Pattern）mounted on $2^{\prime \prime}$ aluminum rails，plus 75 push－in and 20 spring ip termina，s， 3 bus strips， 6 pate cords，terminal instating tool， 2 spools hook－up the，layout pash，ass．screws，nuts．spacers． thumb pins，washers and brackets．$\$ 12.50$
20A195．Each．．．．．．．．．．．．．．．．．．．．．．．

## 25X SOLDERLESS EXPERIMENTER＇S

## CHASSIS KIT

Big $8.5 \times 17 \times 3 / z^{\prime \prime}$ pre－punched phenolic Vector－ bord deck with frame Loc expandable aluminum chassis support． 6 transistor sockets， 3 each 7 and 9 pin miniature sockets， 2 octal sockets， 204 （total）solderable and solderless terminals， 10 patchcords， 2 spools hook－up wire and switch plus asst．nuts，screws，spacers，lugs． brackets，etc．
No．20A196．Each
$\$ 22.50$

## 31X EXPERIMENTERS KIT

## FOR IC CIRCUITS

4．5＂$\times 17^{\prime \prime}$ Vectorboard（P Pattern），frame toc aluminum side ralls， 3 bus strips， 100 micero $k l l p$ terminals，terminal instaliation tool， 50 terminals， 50 inbord pins， 50 ft ．\＃26 tinned wire， 20 ft ．\＃32 solder thru insulation wire， mounting tape，plus asst．mounting brackets． hardware，instructions，etc．
No．20A1271
Each
$\$ 17.50$


## VECTOR 27XA ETCHEB CIRCUIT KIT

Contains everything you need to make 2 etched circuit boards except hot water！Supplled complete with 2 phenolic one side 2 oz copper clad boards $41 / 2 \times 61 / 2 \times K_{0}{ }^{n}$（one punched with .062 holes on .2 centers and one unpunched）， $81 / 2 \times 111 / 2$ sheet multr－ purpose rub－on Vectoreslst sheet with assorted width lines，dots and 43 contact． 156 spaced connector pattern， 2 bags etching chemical with activator No．12A9648．
Each．
$\$ 6.95$

## SEMICONDUCTOR COMPONENTS



## H. H. SMITH PRINTED CIRCUIT CARD RACK

Adjusis for card widths $23 / 8$ to $43 / 4^{-}$. for card lengiths 3 多 to $74 \mathrm{~m}^{3}$, and for connectors with mounting centers $936^{\prime \prime}$ to $4.437^{\prime \prime}$. Card spacing is adjustable in $400^{* \prime}$ inciements mintmum spacing is $.400^{\prime \prime}$. Cart capacity up to 39 cards. Adjusiable locking bar holds cards secure ly aganst rear connettors. Card gurdes are prect sion molded plasic, four gurdes per card for location accuracy. Guides nest together in staggered holes for minimum card spacing Card guides and connector rails adjust smoothly on nylon bushings. index marks are stamped on end plates lor standard card sues Guides fin $1 / 16^{\prime \prime}$ thick cards Heavy gauge clear anodued atuminum, sue $19 " \mathrm{~L} \times 5 \mathrm{~K}$ "H $\times 8$ " D . Fils standard 19 inch equipment racks. Can be stacked in mulfiples of $5 \%{ }^{\prime \prime}$ ". Complete with all hardware, card gurdes and instructions. shipped knocked down
No. 12A10101 Smith No 30501 to 9 Each S27.95 25 to 99 Each
\$23.95 100 up Each
10 to 24 Each $\$ 25.95$

## VECTOR "ZIP" TERMINALS AND TOOLS



Bright tinned, serrated teeth grip several leads for good contact. T32 series provides rellable solderless contact for up to 6 leads and may be used over and over. Nickle plated.

| Fig. Stk. No. | Mfg. No. |  | Pkg. Quantity | Per Pkg. | 5 Pkgs. En. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12A2210 | T9-4 | Fits . 093 holes | 100 | S 1.49 |  |
| $12 \mathrm{A2211}$ | T9-4 | Fits 093 Holes | 1000 | 10.69 | S8.98/M |
| (3) 12A2212 | 128 | Miniklip Fits . 062 Holes | 100 | 1.61 |  |
| (3) 12A2213 | T28 | Miniklip Fits, 062 Holes | 1000 | 11.44 | 10.30/M |
| (2) 12A2214 | T42-1 | Microklip Fits .042 Holes | 100 | 1.82 |  |
| (3) 12A2215 | T42-1 | Microklip Fits . 042 Holes | 1000 | 11.70 | 10.50/M |
|  |  | SPRING CLIP PUSH-IN | ERMINALS |  |  |

Provides fast, reliable circult set-ups withotit soldering, bending or crimping com. ponent leads.




## I-C SOCKETS, AUGAT SOCKETS

AUGAT DUAL IN-LINE SOCKETS



(4) WuRE



## 5. cinctioit

## FOR TESTING AND PACKAGING INTEGRATED CIRCUITS

Sockets accept packages with flat or round leads. Printed clrcult terminals are same dimension as IC lead with direct interchangeability. Unique contact construction eliminates capiliary action of solder or flux. Wire Wrap terminal has sufficient length for 3 levels of 30 gauge wire. *has . $6^{\prime \prime}$ spacing on terminals. | Stack | Part | No. of | Body | Contact | Prices Each |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No. | No. | Flg. Contacts | Material | Plating | 1.99 | 100.499 | 1215169 314.AG5A.R 12 A5170 314-AG6A.R $12 A 5065$ 314-AGSD-2R

$12 A 5133314 A G 5 D \cdot R$ $\begin{array}{ll}12 A 5133 & 314 A G 5 D \cdot R \\ 12 A 5134 & 314 A G 5 D-3 R\end{array}$ $12 A 5134$ 314AG5D-3R
$12 A 5066$ 314-AG5F-2R 12A5067 314-AG6F-R
1245167 514AG1D
1245171 316-AG5A-R 14 DiallyiPhthalate Gold/Nickel 50 10.70 $\$ 0.61$ .71
.40
0.53
.62.
.35
.53
.46
1.04
1.04
.99
.71
.81
.41
.71
.54
1.23
1.07
1.45
1.90
1.74 $\begin{array}{ll}1245172 & 316-A G 6 A-R \\ 1245071 & 316-A G 5 D-2 R\end{array}$ 1245071 316-AG5D-2R
$12 A 5135$ 316AG5D-R $12 A 5136$ 316AG5D-3R 12 A5072 316-AG5F-2R 1245073 316.AG6F-R 12 A5168 516-AG1D $12 A 5137$ 324AG2D
$12 A 5138$ 324AG2F 12A5139 336AG2D

## AUGAT TRANSISTOR AND IC SOCKETS

## $[8], \square$ <br>  basic contact outlines



8058 requires $.367^{\prime \prime}$ chassis cutout, 8060 requires $.221^{\prime \prime}$ chassls cutout. 8070 requires . 437 " chassis cutout.
Materials (unless otherwise specified)-Insulator-Teflon; Contact-Beryllium copper per QQ-C-530; Terminal Sleeve-Brass per QQ-B-626; Contact and terminal sleeve are gold plated $.00040^{\prime \prime}$ thick per MIL-G-45204 over nickel plate $.00005 / .0000$ " $^{\prime \prime}$ thick.
pinsutator giass epoxy.
$\ddagger$ Contact/Terminal Bery'llum copper gold over nickel plated.
Ifnsulator black phepofic oer MIL-M-14. type CFG, contact beryllium copper, electro tin plated, mounting saddle and eyelet brass, electro tin plated, chassis insulatar mica.


8-A olfers complete availabllity of all Augat Camponents, breadboard and test panels, ic packaging panels and accessories The entire Augat line is listed in the current Augal Catalog. FREE with your order. Ask for No. 16A1110. Contact B-A Industrial Department for prices on Augat items not listed


VECTOR I.C. SOCKETS FOR DUAL-IN-LINE PACKAGES
Tabs fit "pi" pattern Micro-Vectorbord or "OIP" Plugbords. Tabs fit "p" pattern Micro-vectorbord or "Oip" Plugbords.
Castings are glass flled nylon with phosphor bronze nickei castings alated contacts on wire wrap type, and tin plated congold plated contacts on


## SOLOERLESS SOCKETS

Allow multiple connections to be made to any pin ty connecting wires to solderiess spring clip terminal which is permanently connacted to socket contact Tube socket types mount on Vectorboard with furmished hardwane; 5708 and 570 G press fit in . 093 holes spaced on .265 centers

| Steck | Mfg. | Description | 149 | 50-199 200-499 | 500 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. |  | Each | Each Each | UP |
| 12AB176 | 567-1C | Octal Socket | \$1.65 | \$1.49 \$1.16 | 51.11 |
| 1285177 | 568-1C | Noval (9-pin) Socket | 1.85 | $1.67 \quad 1.30$ | 1.24 |
| 1245178 | 569-1C | Miniature (7-pin) Socket | 1.49 | 1.341 .04 | 1.00 |
| 1245178 | 5708 | Unlversal Transistor Socket | 2.75 | $2.48 \quad 1.93$ | 184 |
| 1245180 | 570 F . | 12 Pin I.C. Breadboardlng 5ocket | 3.95 | $3.60 \quad 3.20$ | 2.98 |
| 12A5181 | 570G | 14 Pin D.i.P. Breadboard Socket | 3.95 | $3.60 \quad 3.20$ | 2.98 |
| $\mathbb{E}$ | 4 | MAN H. SMITM | 3 | SOCKET |  |
|  |  | Phenollc Dody. Electro plat | ated con | acts. |  |
|  | Stock | Smith | 1.24 | 25-99 | 100 |
|  | $\begin{gathered} \text { No. } \\ \text { 12A5157 } \end{gathered}$ | $\mathrm{No.}_{6252}$ Conts. | Each | Each | UP |
|  | 12A5157 | 6252 14 | 50 c | 43 c | 400 |
| $8$ | $12 \mathrm{A515}$ | 625316 | 50c | 43c | 40c |

## CINCH INTERRATED CIRCUIT SOCKETS

TO-5 case IC sockets. Molded dalilyf phthalate type SDG per MIL-M-14. Contacts are .00003 gold platea beryilium copper.

| 5tock | Cinch | Factory Part |  | 1.24 | 25 | $50-$ | $100-$ | $250-$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | No. | Cont. | Etch | 49 | 99 | 248 | 499 |
| 1245051 | 6 ICS | 1339692060 | 6 | $\$ 0.58$ | $\$ 0.46$ | $\$ 0.39$ | $\$ 0.32$ | $\$ 0.30$ |
| 1245052 | 8 ICS | 1339892061 | 8 | .69 | .56 | .47 | .37 | .36 |
| 1205025 | 10 ICS | 1339992054 | 10 | .77 | .67 | .51 | .42 | .39 |

 Steck No.
No. 12 a 5175

I R TO-5, 12 PIN I.C. SOCKET I.R. No.

148, - 100 $\begin{array}{lccc}14 \mathrm{Ea} & 5-8 \mathrm{Ea} & 10-99 \mathrm{Ea} . & 100 \mathrm{Up} \\ \$ 0.85 & \$ 0.85 & \$ 0.75 & \$ 0.66\end{array}$ DIP SOCKETS
Accept standard 14,16 or 24 lead DIP with round or flat leads. Socket leads on same centers as DIP Ireds. Solder in PC board or Use $4-40 x^{2} / 4$ Filister head screw for chassis mount. DiP-1 is
Diallyl Phthalate, DIP Is Black Phenolic body.


| Stock | Cinch | actory Part | No. of | Contert | 1 | 25- | 50- | 100. | 250. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - No. | No. | No. | Conts. | Plating | 24 | 49 | 99 | 249 | 498 |
| 12AB159 | 14DIP | 1335102003 | 14 | Electro Tin | \$0.82 | \$0.65 | . | . 4 | 414 |
| 1285160 | 14DIP.1 | 1335192005 | 14 | Gold | 1.07 | . 85 | . 71 | . 568 | . 540 |
| 12A5161 | 1601P | 1335102006 | 16 | Electro Tin | . 91 | . 73 | . 61 | . 4.84 | . 460 |
| 12a5162 | 1601P-1 | 133.5192008 | 16 | Gold | 1.17 | . 94 | . 78 | . 624 | 593 |
| $12 \mathrm{S163}$ | 24DIP | 1335902011 | 24 | Electro Tin | 1.36 | 1.09 | . 92 | . 738 | 703 |
| $12 \mathrm{AS164}$ | 24 DIP-1 | 1335992010 | 24 | Gold | 1.61 | 1.29 | 1.08 | . 87 | . 23 |


(1) RECTANGULAA TRANSISTOA SOCKETS. LOw loss phenolic with pushton mig. ring. Contacts are beryllum copper, silver plated.
$\begin{array}{llllllllll}\text { Sth. No. Cineh No. Pactory } & \text { Part No. Prongs } & 1.24 & 25-49 & 50-99 & 100-249 & 250-499\end{array}$

 (9) CINCH UNIVERSAL SOCKET. For use with all transistors with 3 or 4 leads. Gold plated copper contacts. Snap-in P.C. mount.
12 S122 7-UTS 1332712011 . 1.01 . 81 . 67 . 51 (8) CINCH ALL.MOLOED SOCKET. Fits triangular base $.2 \times .1 /$ centers, or 3 -contact



POWER TRANSISTOR SOCKETS FOR TO-3 CASE
(1) POWER TRANSISTOR SOCKETS. Wafer type for 2-prong transistors with. $7 /{ }^{\prime \prime}$ " spacings. Size 11/" $\times 1$. Cadmium piated brass contacts.


IR POWER TRANSISTOR SOCKETS


XP phenolic wafer with nylon top iplate. Supplled with mounting screws and template.


# avaldomimolex CONNECTORS, BINDING POSTS 

## NYLON CABLE CONNECTORS

Highly rellable, versatle connectors rated 250 volts per circult. For buslness machines, appliances, communica tons, instrumentation, and other de manding applications. All types (except single circult) are polarized. Both male and female pin terminals of the same mating diameters can be intermixed in the same housing. Terminals can be extracted and easily replaced, using
ejector tools. Housings are $U / L$ Recognized.


## MINIATURE NYLON PLUG HOUSINGS

| Stack No. | W/M <br> Number | Ilus. CIF. No. cuits | Amps | W | verall H. | $\begin{aligned} & 1.910-9 \\ & \text { Each Eac } \end{aligned}$ | $10$ | $\begin{aligned} & 00-499 \\ & \text { per } \mathrm{C} \end{aligned}$ | $\begin{aligned} & 500-999 \\ & \text { per C } \end{aligned}$ | $\begin{aligned} & 1000 \\ & \text { per C } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1202557 | 03-06-2011 | (1) 1 | 5 | 296" | dia. | \$0.17 \$0. | $0.10 \$$ | $\rightarrow$ | 4.55 \$ | 3.50 |
| 1212558 | 03-06-2031 | 3 | 5* | .281" | .578" | . 29 | . 17 | 11.05 | 8.15 | 5.85 |
| 12A2559 | 03-06-2041 | (2) 4 | 5 * | .296" | 734"' | . 63 | . 37 | 24.60 | 18.30 | 12.70 |
| 12 A 2560 | 03-06-2054 | (3) 5 | 5* | .296" | .875", | . 41 | . 24 | 18.30 | 12.10 | 8.75 |
| 1242561 | 03-06-2062 | (3) 6 | 5* | .578" | .453"' | . 39 | . 23 | 15.70 | 11.40 | 8.55 |
| $12 \times 2562$ | 03-06-2081 | (1) 8 | 5 | . $312^{\prime \prime}$ | $1.593^{\prime \prime}$ | . 32 | . 19 | 13.35 | 9.30 | 7.25 |
| 1242563 | 03-06-2091 | (8) 9 | 5* | . $5788^{\prime \prime}$ | . $578{ }^{\text {* }}$ | . 43 | . 25 | 16.90 | 12.10 | 8.20 |
| 12M2564 | 03-06-2121 | (8) 12 | $5 *$ | .578 ${ }^{\prime \prime}$ | .718" | . 44 | . 26 | 17.60 | 13.00 | 8.65 |
| 1242565 | 03-06-2151 | (3) 15 | 5 * | . $5933^{\prime \prime}$ | .859" | 71 | . 42 | 28.60 | 20.00 | 15.50 |
| 12A2566 | 03-06-2241 | (3) 24 | 5 | .750" | .930" | 1.05 | . 63 | 42.40 | 29.50 | 22.85 |
| 12.2857 | 03-06-2361 | (8) 36 | 4* | .812" | 1.040" | 1.21 | . 71 | 48.00 | 33.00 | 25.70 |

## With integrally molded mounting ears

## MINIATURE NYLON RECEPTACLE HOUSINGS

 Accept $.062^{\prime \prime}$ terminals. With holding tabs and mounting ears. Stock No W/M Ifus. Cir. Overall 1-9 10.99 100-499 500-999 10001242569 03-06-101 $2.2570 \quad 03-06-1041$ 1212571 03-06.1055 12.2572 03.06-1061 1212573 03-06-1081 1282574 03-06.1091 1242575 03-06-1121 212576 03-06-1151 1242577 03-06.1241 Holding tabs only

## STANOARD NYLON PLUG NOUSINGS

 Accept .093" terminals, listed at right.W/M Ilus. CIr. $\quad$ Overall 1.910 .99100499500 .9991000 StockNo. Number No. cuits Amps W. H. Each Each per C per C per C | 1242579 | $03-09-2011$ | (1) | 1 | 12 | $.358^{\prime \prime}$ | dis. | .17 | .10 | 6.45 | 4.48 | 3.45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1242580 | $03-09-2021$ | (3) | 2 | $12^{*}$ | $.352^{\prime \prime}$ | $.640^{\prime \prime}$ | .32 | .19 | 12.50 | 8.40 | 6.50 |
| 1242581 | $03-09.2031$ | (8) | 3 | $12^{\prime \prime}$ | $.338^{\prime \prime}$ | $.773^{\prime \prime}$ | .27 | .16 | 10.95 | 7.60 | 8.85 | 12A2551 03-09-2031 $\begin{array}{ll}12 A 2582 & 03.09-2041\end{array}$ 12A2583 03 -09-2052 12A2584 03-09-2061 1242585 03-09-2091 $\begin{array}{lllllllllll}122586 & 03-09-2122 & \text { (3) } & 12 & 7.5^{*} & .734^{\prime \prime} & .975^{\prime \prime} & .54 & .32 & 21.45 & 14.95 \\ 1242587 & 03-09.2152 & \text { (8) } & 15 & 7.5 \text { " }^{\prime \prime} .734^{\prime \prime} & 1.169^{\prime \prime} & .82 & .48 & 33.10 & 22.90 & 17.70\end{array}$ *With Integrally molded motnting ears.

## STANDARO NYLON RECEPTACLE HOUSINGS

Accept $093^{\prime \prime}$ terminals. With holding tabs and mounting ears.
Stock No. Number Ilus. Cir. Overalj $\quad$ T-9 10-99 100-495 500-999 1000 StockNo. Number No. cults Amps W. H. Each Each per C per C yer C 1242588 03-05-1011 (B) $112 \dagger$ 234" 1242589 03-09-1021 (3) $212 * 3.250^{\prime \prime}$ 1242590 03-09.1031 (3) 3 12**.234* $\begin{array}{lllll}12 A 2591 & 03-09-1041 & \text { (2) } 312^{* *} .234^{\prime \prime} & .531^{\prime \prime} \\ 121^{\prime \prime} & .671^{\prime \prime}\end{array}$ $\begin{array}{lllll}12 A 2592 & 03-09-1052 & \text { (3) } & 59^{\dagger} & .234^{\prime \prime} \\ 12 A 2593 & 03-09-1061 & \text { (3) } & 69^{\prime \prime} & .632^{\prime \prime}\end{array}$ $\begin{array}{lllll}12 A 2594 & 03-09-1091 & \text { (3) } & 69 & 9 \\ 9 & 9 & * .632^{\prime \prime} \\ 1242555 & 03-09-1121 & \text { (8) } & 12 & 7.55^{\prime \prime}\end{array}$
 †Holding tabs only. " Integral mounting ears


Waldon/Molex 1938-4 Soldercons give excelient electrical contact and slurdy mechanical support. $.010^{\prime \prime}$ thuck spring tempered tin plated brass, Assembled on break-off carter slips for easy, precise installation. Height above board. $18^{\mu}$ for board punched on $1^{\prime \prime}$ centers. Minimum row spacing is.$^{\prime \prime}$ Standard package is 50 stsips. Wt. 2 to 4 az per pkg.

| Stach Na. | $W / M$ No. | Terminats per strip | Each | $\begin{gathered} \text { Pkg } \\ 80^{\circ} \end{gathered}$ | 300 ap per pkg. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12 A 211 | 05-30-0007 | 7 | S0.10 | \$5.54 | S4. 11 |
| 12A2日12 | 05-30-0008 | 8 | . 11 | 5.87 | 6.10 |
| 12A2813 | 05-30-0010 | 10 | . 16 | 7.91 | 6.88 |
| 12A2814 | 05-30-0012 | 12 | . 18 | 8.49 | 8.25 |
| 12A2915 | 05.30.0014 | 14 | . 22 | 17.07 | 9.63 |

Ask for quotation on 1000 and largar quantity. Avarlable also on contintous length reels (minimum 2000 terminals) on spectal order. Ask for quotation.

CARRIER STAIP-BAEAK-DFF TOOLS
12A2816. HT-2369-1. 7-8 Terminals, Each
12A2817. KI-2369-2. 10-12 Terminals. Each $\$ 1.15$
12A2818. HT-2369-3. 14 Terminals Each.


PIN TERMINALS FOR NYLON HOUSINGS
Spring tempered tinplated brass. $093^{\prime \prime}$ dia. flt standard housings; .062" de. fit miniature housings. Std. pkg., 100 only.

|  |  |  |  |  | 100. | 1000. | 3000. | 6000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock | W/M | Config. | Mating | WIrs | 900 | 2,800 | 5,970 | 11,900 |
| No. | Number | uration | 0 La . | Sizo | per C | par ${ }^{\text {P }}$ | per M | per M |
| 12 A2597 | 02-06-2103 | Male | .062 ${ }^{\prime \prime}$ | 18-22 | \$4.40 | \$37.50 | \$26.20 | \$18.20 |
| 1242598 | 02-06-1103 | Female | .062" | 18.22 | 4.40 | 37.50 | 26.20 | 18.20 |
| 12.2599 | 02-06-2132 | Male | .062" | 22.30 | 4.40 | 37.50 | 26.20 | 18.20 |
| 12A2800 | 02-06-1132 | Female | .062" | 22-30 | 4.40 | 37.50 | 26.20 | 18.20 |
|  |  |  |  |  | 100. | 1000- | 4000. |  |
| Stack | W/M | Config. | Mating | Wire | 900 | 3,900 | 11,900 | 12,000 |
| No. | Number | uration | Dia. | Size | per C | per M | per M | up par m |
| 12.2603 | 02-09-1103 | Female | .093" | 14-18 | 4.00 | 25.30 | 18.75 | 14.65 |
| 12A2604 | 02-09-2103 | Male | .093" | 14-18 | 4.00 | 25.30 | 18.75 | 14.65 |
| 1212605 | 02-09-2118 | Male | . $093{ }^{\prime \prime}$ | 18-24 | 4.00 | 25.30 | 18.78 | 14.87 |
| 12 A 2606 | 02.09.1118 | Female | .093' | 18.24 | 4.00 | 25.30 | 18.75 | 14.65 |
| 12A2607 | 02-09-1143 | Female | .093" | 22.30 | 4.00 | 25.30 | 18.75 | 14.0 |
| 12A2608 | 02-09-2143 | Male | .093" | 22.30 | 4.00 | 25.30 | 18.75 | 14.65 |
| 1242609 | 02-09-8110 | - Male | .093" | 14.34 | 4.00 | 25.30 | 18.75 | 14.65 |
| 1242610 | 02-09-7110 | - Female | .093" | 14.34 | 4.00 | 25.30 | 18.75 | 14.65 |
| - Solder type, no crimp tool used. |  |  |  |  |  |  |  |  |
| WIRE WRAP PIN TERMINALS pushes through holes In P.C. board to secure connector |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| No. | Number | uration | D1a. | per |  |  | 1 ${ }^{\text {m }}$ | up per M |
| 12 A 2611 | 02-09-2133 | Male | .093* | \$3.1 |  |  | 6.50 | \$12.25 |
| 1242612 | 02-09-1133 | Female | .093 ${ }^{\prime \prime}$ | 3.1 |  |  | 6.50 | 13.25 |

## CRIMPING TOOLS

For easy contact insertion. Ejector tool included for pln removal and replacement. HT is hand tool, HFR is' production model.
No. 122.2615. W/M No. H7-1921 for 062 Pins. Each
No. 122616. W/M No. HT. 1919 for 093 Pins.
No. 12A2616. W/M No. HT. 1919 for .093 pins. Each $+4.95$
No. 12A2617. W/A No. MTR-2262 for .062 and $02-09-1143$ and 2143.093 Pins $~ \$ 75.00$ Each
No. 12A261B. W/M No. HTR-1031C for other . 093 Pins. Each........................ 55.00

## © DE LUXE EXTRACTOR TOOL

 $\$ 8.70$
$\$ 8.70$ No. 12A2620. W/M No. HT-2038 for . $093^{\prime \prime}$ Pins. Each


## DESIGNER KITS

Everything under one lid, all circuit capacities with male and female hous: ings, terminals, crimping tool and ex tracting tool, Lightwelght, unbreakable snap-lock case. Shpg. wt. 3 lbs.
WM-72 Kit (Pin Terminals. $.062^{\prime \prime}$ ) has parts for 56 connectors from 1 to 36 circuit designs.
No. 12A2613. Each $\qquad$ 529.85

WM.50 Kit (Pln terminals. .093") has parts for 45 connectors from 1 to 15 circuit designs.

## BINDING POSTS


(1) H. H. Smith No. 266. $1 / 2^{\prime \prime}$ dia. bakelite head. $8 / 32$ brass tnreaded insert. Red or Black. No. 266. 100 500, Per 1000 , Per No. 12 M619. Each._...30c For ...... $\$ 25.00$ 100...... $\$ 22.50$ 1000, Pe. $\$ 20.00$ (2) H. H, 5 mith No. 386. 5 -way connection insulated post of molded Butyrate. $1 / 2^{\prime \prime}$ dia. Mounts in $1 / 4^{\prime \prime}$ hole. 15 amp . 100 500, Per 1000, Per
$12872^{2}$ giack Cholce
 (a) Millen 37001 HV. Bakefite insulated bushing extends through chassis. Single conductor fully enclosed. $1 / 2^{\prime \prime}$ dia. mta, hole
No. 12 A 2334 B -Black. Each.-..-64c No. 12A2334R-Red. Each.............68c (9) 5-Way Combination Post. Smith No. 269 Dual. Molded black styrene. Mounts in two $1 / 2^{\prime \prime}$ hples, $3 / 4^{\prime \prime}$ centers. 15 amp. rating. 500 , Per
No. 128744 . 5000 . Per

(3) Eby Binding Post. Ensign No. 38. Non-removable top. $1 / 2$ " da, head $6-32 \mathrm{X} / 6^{\prime \prime} \mathrm{L}$. stem. $11 / 0^{\prime \prime} \mathrm{H}$. Insulated shoulder for centering. Mounts in $11 / z^{\prime \prime}$ hole. 12 A1030.
No.

100
$72 c$
$\begin{array}{ll} \\ \$ 61.20 & 500, \text { Per }\end{array}$
.
(1) Superior DF30 5-Way Binding Posts. Fiva ways to connect: (1) banana iack in top; (2) clip lead to shaft: (3) wire oround shaft and clamp; (4) wire to 12 gauge clamped through center hole: (5) clamped spade lug connection, plus new solder tip on bottom-nylon plastic Insulation, all brass parts COLD-plated. Rating 30 amps 1000 volts. Mounts in panels $1 /{ }^{\prime \prime}$ to $1 / 4^{\prime \prime}$
thick. Has $10-32$ threaded stem with 2 hex nuts. Overali length $11 / \mathbf{b}^{\prime \prime}, 5 / "^{\prime \prime}$
dia. Specify color: Red, Black. Green. Yellow, White, or Blue.
No. 12M600. Choice Each......... 50 e 100. Each.......
No. 12M600. Choice Each.......... 50e 100. Each...

# CINCH JONES BARRIER \& TERMINAL STRIPS 

*     - 



## JONES BARRIER STRIPS

PRICES BELOW ARE FOR ONE TYPE ONLY-NOT ASSORTED
(1) SERIES 140 . Base $7 / s^{\prime \prime}$ W. $x^{13 / 22^{\prime \prime}}$ H. overall, $1 / s^{\prime \prime}$ H. to terminal bottom. $3 / 6^{\prime \prime}$ centers. Uses $5.40 \times$ Kol $^{\prime \prime}$ binder head screws. Avg. shpg. wt. 3 oz .

(1) SERIES 140.7. Like above except with thru panel solder tugs.

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Terms. 4. Type |  | Fact. Part No. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25-49 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & \text { 50-99 } \\ & \text { Eseh } \end{aligned}$ | $\begin{gathered} 100.249 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Esch } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12.2264 | 2-140Y | 353 | 1802001 | \$0.30 | \$0.24 | \$0.21 | \$0,17 | \$0.16 |
| 1212265 | 3.140 Y | 353 | 1803001 | . 37 | . 30 | . 25 | 23 | . 21 |
| 12 A 266 | $4.140 Y$ |  | 1804001 | . 50 | . 41 | . 35 | . 27 | . 26 |
| $12 / 2267$ | 5 -140Y | 353 | 1805001 | . 63 | . 49 | . 42 | . 34 | . 33 |
| $12 \mathrm{A2268}$ | 6-140Y | 353 | 1805001 | . 77 | . 62 | . 50 | . 41 | . 37 |
| 1242269 | 7 -140Y | 353 | 1807001 | . 84 | . 68 | . 58 | . 44 | . 42 |
| 12.2270 | 8-140Y | 353 | 1808001 | . 97 | . 77 | . 65 | . 50 | . 48 |
| 1212271 | $9-140 Y$ | 353 | 1809001 | 1.08 | . 85 | . 72 | . 59 | 55 |
| $12 \mathrm{A2272}$ | 10-140Y | 353 | 1810001 | 1.19 | . 97 | . 80 | . 64 | . 61 |
| 120273 | 12-140Y |  | 1812001 | 1.42 | 1.12 | . 96 | . 76 | 1 |
| 12 A 2274 | 14.140Y | 353 | 1814001 | 1.65 | 1.32 | 1.10 | . 87 | . 83 |
| 12,2275 | 16.140Y | 353 | 1816001 | 1.86 | 1.49 | 1.24 | 1.00 | . 96 |
| 122276 | 18.140Y | 353 | 1818001 | 2.10 | 1.68 | 1.40 | 1.11 | 1.06 |
| 1212277 | 20-140Y |  | 1820001 | 2.30 | 1.85 | 1.53 | 1.22 | 1.17 |

(1) SERIES 141. Base $11 / \mathbf{b}^{\prime \prime}$ W. $\times 1 / 2^{\prime \prime}$ H. overall, $56_{0}^{\prime \prime}$ H. to terminal bottom. Kot centers. Uses $6.52 \times 1 / 4^{\prime \prime}$ binder head screws. Avg. shpg. wt. 502

| Stock No. | Terms \& Type |  | Fact. Port No. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25.49 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { 50-99 } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-249 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 A1550 | 2-141 | 354 | 1102001 | \$0.27 | \$0.21 | 50.18 | \$0.15 | \$0.14 |
| 12 A 1551 | 3-141 | 354 | 1103001 | . 36 | . 28 | . 24 | . 19 | . 18 |
| 12 A1552 | 4.141 | 354 | 1104001 | . 47 | . 38 | . 32 | . 26 | . 25 |
| 1211553 | 5.141 | 354 | 1105001 | . 60 | . 45 | . 39 | . 32 | . 29 |
| $12 \mathrm{Al554}$ | 6-141 | 354 | 1106001 | . 66 | . 51 | 18 | . 36 | . 34 |
| 12 A 1453 | 7-141 |  | 1107001 | . 78 | . 63 | . 51 | 41 | . 39 |
| 1211555 | 8.141 |  | 1108001 | . 86 | . 69 | . 59 | . 46 | . 44 |
| $12 \mathrm{Al45}$ | 9-141 |  | 1109001 | . 97 | . 77 | . 65 | . 50 | . 48 |
| $12 \mathrm{Al556}$ | 10-141 | 354 | 1110001 | 1.07 | ,85 | . 71 | . 58 | . 55 |
| 12 A1557 | 12-141 | 354 | 1112001 | 1.25 | 1.01 | . 83 | . 67 | . 64 |
| 12 A 1417 | 14.141 | 354 | 1114001 | 1.46 | 1.16 | . 98 | . 78 | . 74 |
| 12 A 1418 | 16.141 |  | 1116001 | 1.65 | 1.32 | 1.10 | 87 | . 83 |
| 1241419 | 18-141 | 354 | 1118001 | 1.85 | 1.48 | 1.23 | . 99 | 95 |
| 12 A1420 | 20.141 |  | 1120001 | 2.06 | 1.64 | 1.38 | 1.09 | 1.04 |

(1) SERIES 141.Y. Like above except with thru panel solder Jugs.

| Stock No. | Terms \& Typo | Fact. Part No. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 25.49 \\ \text { Eseh } \end{gathered}$ | $\begin{aligned} & \text { 50-99 } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-249 \\ \text { Esch } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1282250 | 2-141Y | 3541802001 | $\$ 0.37$ | $\$ 0.29$ | 50.24 | \$0.22 | \$0.21 |
| 1212251 | 3-141Y | 3541803001 | . 51 | . 41 | . 35 | . 27 | . 26 |
| 12 a 2252 | 4.141 Y | 3541804001 | . 68 | . 55 | . 45 | . 36 | . 35 |
| 1242253 | 5.141 Y | 3541805001 | . 82 | . 66 | . 55 | 43 | . 41 |
| 12 A2254 | 6 6-141Y | 3541806001 | . 96 | . 76 | . 64 | . 49 | .47 |
| 12 A 2255 | 7-141Y | 3541807001 | 1.11 | . 88 | . 75 | . 60 | . 58 |
| 1212256 | 8-141Y | 3541808001 | 1.24 | 1.00 | . 83 | . 67 | . 64 |
| 12.2257 | 9-141Y | 3541809001 | 1.39 | 1.10 | . 92 | . 74 | . 70 |
| 12 A 2258 | 10-141Y | 3541810001 | 1.53 | 1.22 | 1.03 | . 82 | . 78 |
| 1242259 | 12-141Y | 354.1812001 | 1.83 | 1.46 | 1.21 | . 98 | . 92 |
| 12 A2260 | $14.141 Y$ | $354 * 1814001$ | 2.13 | 1.71 | 1.43 | 1.13 | 1.08 |
| 12 A 261 | $16.141 Y^{*}$ | 3541816001 | 2.44 | 1.94 | 1.63 | 1.29 | 1.23 |
| $12 \mathrm{A2} 26$ | 18.141Y | 3541818001 | 2.73 | 2.18 | 1.83 | 1.46 | 1.39 |
| 12.2263 | 20-141Y | $35418 \quad 20.001$ | 3.03 | 2.44 | 2.03 | 1.63 | 1.53 |

(1) SERIES 142. Base $1 \%_{6}^{\prime \prime} \mathrm{W} . \mathrm{x} 5 \mathrm{~m}^{\prime \prime} \mathrm{H}$. overall, $3 \mathrm{~m}^{\prime \prime} \mathrm{H}$. to terminal bottom. Ko ${ }^{\prime \prime}$ centers. Has $8.32 \times{ }^{\prime \prime}{ }^{\prime \prime}$ binder head screws. Avg. shpg. wh. 6 oz .

| Stock No. | Terus ${ }^{2}$ Type |  | Fact. Part No. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25-49 \\ & \text { Esch } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Eseh } \end{aligned}$ | $\begin{gathered} 100.249 \\ \text { Eseh } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Ench } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12A1566 | 2.142 | 355 | 1102001 | \$0.32 | \$0.25 | \$0.21 | \$0.17 | 50.16 |
| $12 \mathrm{Al567}$ | 3-142 |  | 1103001 | . 43 | . 34 | . 28 | . 23 | . 22 |
| 12.1568 | 4.142 |  | 1104001 | . 58 | .45 | . 38 | . 30 | . 29 |
| 12A1569 | 5.142 | 355 | 1105001 | . 69 | . 55 | . 45 | . 37 | . 35 |
| 12A570 | 6.142 |  | 1106001 | . 81 | . 65 | . 55 | .43 | . 41 |
| 12A1439 | 7.142 |  | 1107001 | . 95 | . 75 | . 63 | . 49 | .47 |
| 12A571 | 8.142 |  | 1108001 | 1.06 | . 84 | . 70 | . 57 | . 53 |
| 1291442 | 9.142 | 355 | 1109001 | 1.17 | . 95 | . 78 | . 63 | . 60 |
| 12 1572 | 10.142 | 355 | 1110001 | 1.31 | 1.08 | . 86 | . 69 | . 66 |
| 12 A1573 | 12.142 |  | 1112001 | 1.54 | 1.23 | 1.04 | . 81 | . 78 |
| 12 A 1423 | 14-142 | 355 | 1114001 | 1.80 | 1.44 | 1.20 | . 97 | . 91 |
| 12 A 425 | 16.142 | 355 | 1116001 | 2.06 | 1.64 | 1.38 | 1.09 | 1.04 |

(3) MARKER BTRIPS

Used to number terminals for Identification. Mounts
TYPE MS $140 \%$ for either 140 or $140-Y$ barrier strips.

| Stock No. | $\begin{gathered} \text { Terms } \\ \text { Type } \end{gathered}$ | Fact. Part No. | $\begin{aligned} & 1-24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25.49 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 50.99 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 100.249 \\ & \text { Eseh } \end{aligned}$ | $\begin{gathered} 250.499 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $12 \mathrm{A292}$ | MS2-140Y | 3631202011 | \$0.15 | \$0.12 | \$0.10 | \$0.09 | \$0.08 |
| 12.2293 | MS3-140Y | 3631203011 | . 15 | . 12 | . 10 | . 09 | . 08 |
| 1242294 | MS4-140Y | 3631204011 | .15 | . 12 | . 10 | . 09 | . 08 |
| 1242295 | MS5-140Y | 3631205011 | . 17 | .13 | . 11 | . 10 | . 09 |
| 12A2296 | MS6-140Y | 3631206011 | . 17 | . 13 | . 11 | . 10 | . 09 |
| 12 A2297 | MS7-140Y | 3631207011 | . 17 | . 13 | . 11 | . 10 | . 09 |
| 12.2298 | MS8-140Y | 3631208011 | . 17 | . 13 | . 11 | . 10 | . 09 |
| 12.2299 | MSS-140Y | 3631209011 | . 17 | . 13 | . 11 | .10 | . 09 |
| 12.2300 | MS10.140Y | 3631210011 | . 19 | 15 | . 13 | . 11 | . 10 |
| 12.2301 | MS12-140Y | 3631212011 | .19 | . 15 | .13 | . 11 | . 10 |
| 12.2302 | MS14-140Y | 3631214011 | . 21 | . 17 | . 14 | . 12 | . 11 |
| 12.2303 | MS16-140Y | 3631216011 | . 23 | . 19 | .16 | . 13 | . 12 |
| 12 L 304 | MS18-140Y | $\begin{array}{lllll}363 & 1218 & 1811\end{array}$ | . 23 | . 19 | . 16 | . 13 | . 12 |
| 1212305 | MS20-140Y | 3631220011 | . 26 | . 20 | . 17 | . 14 | . 13 |
| TYPE NTS 141Y. For elther 141 or 141-Y barcier strips. |  |  |  |  |  |  |  |
| $12 \mathrm{L278}$ | MS2-141Y | 3641202011 | $\$ 0.15$ | \$0.12 | \$0.10 | \$0.09 | \$0.08 |
| 1212279 | MS3-141Y | 3641203011 | . 17 | . 13 | . 11 | . 10 | . 0.09 |
| 12 L 2280 | MS4-141Y | 3641204011 | . 17 | . 13 | . 11 | . 10 | . 09 |
| 12 A 2281 | MS5-141Y | 3641205011 | .17 | .13 | . 11 | . 10 | . 09 |
| 1212282 | MS6-141Y | 3641206011 | . 17 | . 13 | . 11 | . 10 | . 09 |
| 12 A 2283 | MS7-141Y | 3641207011 | . 19 | . 15 | . 13 | . 11 | . 10 |
| 12.2288 | MS8.141Y | 3641208011 | . 19 | . 15 | .13 | . 11 | . 10 |
| $12 \mathrm{Z2285}$ | MS9.141Y | 3641209011 | . 19 | . 15 | . 13 | . 11 | . 10 |
| $12 \mathrm{L2286}$ | MS10-141Y | 3641210011 | . 21 | . 17 | . 14 | . 12 | . 11 |
| $12 \mathrm{L2287}$ | MS12-141Y | 3641212011 | . 23 | . 19 | . 16 | . 13 | . 12 |
| 12.2288 | MS 14-141Y | 3641214011 | . 26 | . 20 | . 17 | . 14 | . 13 |
| 12:2289 | MS16.141Y | 3641216011 | . 27 | . 22 | . 18 | .15 | . 14 |
| 12.2290 | MS18-141Y | 3641218011 | . 27 | . 22 | . 20 | . 16 | +15 |
| 1202291 | MS20-141Y | 3641220011 | . 29 | 23 | . 20 | . 18 | . 15 |

(4) ADAPTER SOLDER TERMINALS FOR JONES BARRIER STRIPS
" $3 / 4$ W" lugs for wiring above the chassis. Avg. shpg. wt. 3 Oz. per 100. C-J Factory Part No. has 933 suffix on terminals.



| 1281331 | $Y$ | 142 | 4951211011 | 14 | .12 | 11 | .10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | ( $) ~ J O N E 8$ | $N O$ | 2000 | TERAINAL STRIPS |  |  |  |

Terminal $.019^{\prime \prime}$ brass, tin-plated-all ierminals insulated from mounting. insulation: phenolic, base and mounting brackets: steel, cadmium piated. Terminals spaced on $K_{1}{ }^{\prime \prime}$ centers.

| Stock Na. | Terms 8 Type |  | Fact. Part No. | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25.49 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100.249 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Eseh } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 A 1582 | 2.2002 | 326 | 2002001 | \$0.11 | \$0.10 | \$0.09 | \$0.08 | \$0.07 |
| 12 A 583 | 3-2003 | 326 | 2003001 | .13 | . 12 | . 10 | . 09 | . 08 |
| 12A1584 | 4-2004 | 326 | 2004001 | . 14 | .13 | . 11 | . 10 | . 09 |
| 12.1585 | 5-2005 | 326 | 2005001 | . 14 | . 13 | . 11 | . 10 | . 09 |
| 12A1586 | 6.2006 | 326 | 2006001 | . 16 | . 14 | . 12 | . 11 | . 10 |
| $12 \mathrm{Al460}$ | 7-2007 | 326 | 2007001 | . 16 | . 14 | . 12 | . 11 | .10 |
| 12.1587 | 8.2008 | 326 | 2008001 | . 19 | . 15 | . 13 | . 12 | . 11 |
| 12A1461 | 9.2009 | 326 | 2009001 | . 20 | . 16 | . 14 | . 13 | 12 |
| 12.1588 | 10-2010 | 326 | 2010001 | . 20 | . 16 | . 14 | .13 | . 12 |
| 12A1462 | 11-2011 | 326 | 2011001 | . 22 | . 18 | . 16 | . 14 | . 13 |
| 12A1589 | 12.2012 | 326 | $20 \quad 12001$ | . 22 | . 18 | . 16 | . 14 | . 13 |
| 12.4463 | 13-2013 | 326 | 2013001 | . 25 | . 21 | . 18 | .15 | . 14 |

## CINCH-JONES SOLDERING LUG STRIPS



Phenolic strips handy for all types of circuit wiring. Solder coated steel lugs are spaced on and cemers. Ius. 3 typo two mis. feet with no pround lugi type 5 mig. foot and no ground lug; typa 3 has two mig. feet with no ground lug; type 5 lugs. "No. of lugs" below refers to totai number of iugs on a strip. Including ground lugs. C.J Factory Part No. has 332 prefix on lug strips.

| Stock No. | Fig. | Cinch No. | fact. Part No. | No. of Hegs | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $25-49$ Each | $\begin{aligned} & 50-99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-249 \\ \text { Esch } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12A1256 | 1 | $51 F$ | 1102013 | 1 | \$0.07 | 50.06 | \$0.05 | \$0.035 | 50.023 |
| 12 A 1261 | 2 | 51 | 1102001 | 1 | . 07 | . 06 | . 05 | -. 035 | . 023 |
| 12 A 1267 | 2 | 52 | 1103028 | 2 | . 07 | . 06 | . 05 | . 035 | . 023 |
| 12A1264 | 2 | 53 E | 1104068 | 3 | . 08 | . 07 | . 06 | . 046 | . 035 |
| $12 \mathrm{Al265}$ | 2 | 548 | 1105092 | 4 | . 08 | . 07 | . 06 | . 046 | . 035 |
| 12A1266 | 3 | 53 | 1105057 | 3 | . 08 | . 07 | . 06 | . 046 | . 035 |
| 12A1269 | 3 | 54 | 1106088 | 4 | . 08 | . 07 | . 06 | . 046 | . 035 |
| 1241270 | 3 | 55 | 1107106 | 5 | . 09 | . 08 | . 07 | . 058 | . 046 |
| 12.1273 | 3 | 56 | 1108111 | 6 | . 09 | . 08 | . 07 | . 058 | . 046 |
| 12.1262 | 4 | 514 | 1402001 | 2 | . 07 | . 06 | . 05 | . 035 | . 023 |
| $12 \mathrm{Al268}$ | 4 | 52A | 1403010 | 3 | . 07 | . 06 | . 05 | . 035 | . 023 |
| 12.1275 | 4 | $53 F$ | 1404022 | 4 | . 08 | . 07 | . 06 | . 046 | . 035 |
| $12 \mathrm{Al282}$ | 4 | 54 C | 1405034 | 5 | . 08 | . 07 | . 06 | . 046 | . 035 |
| $12 \mathrm{Al274}$ | 5 | 53 A | 1405031 | 5 | . 08 | . 07 | . 06 | . 046 | . 035 |
| 12A1257 | 5 | 54 A | 1406032 | 6 | . 08 | . 07 | . 06 | . 046 | . 035 |
| 12A1283 | 5 | 55A | 1407039 | 7 | . 09 | . 08 | . 07 | . 058 | . 046 |
| 12 A 1259 | 5 | 56A | 1408045 | 8 | . 09 | . 08 | . 07 | . 058 | . 046 |

## CINCH JONES CONNECTORS

（1）
8 袁

## （2） <br> （3） <br> 

CINCH JONES SERIES 300 CONNECTORS
Small in size with good separation between contacts，black molded phenolic 24 to 33 contact connectors have special fong polarizing pin for correct insertion． insulation rated at 730 RMS volts． 302 numbers below have $2 / 2 a^{\prime \prime}$ dia．case，all

UL and CSA listed．Average shipping welght 4 ozs． others are rectangular．Plug prongs $\$ 又 ⿰ 氵 殳 ⿱ 一 𫝀 口_{\prime \prime}$ wide $x X^{\prime \prime}$ thick．

## WhEN OROERING SPECIFY BOTH B－A STOCK NUMBER AND JONES NUMBER

300 SERIES PLUGS \＆SOCKETS
CABLE TYPE WITH CLAMP


## TUBE SOCKETS, SHIELDS \& ACCESSORIES

AMPHENOL SOCKETS AND MOUNTS

(B)
Quality engineered sockets for every need. MIP, RS and $\$$ type are black phenolic, RSS is steatite. MIP type has molded-In steel mounting plate. Avg. shp. wi. 102

| Fig. | Stock No. | Amphenal Number | Plins | Mts. | 1.49 | 50.99 | $\begin{aligned} & \text { Prices } \\ & 100-249 \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 250.999 \end{aligned}$ | 1000 Up |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | 12A93 | 77M1P4 | 4 | 1\%* | 50.242 | \$0.203 | \$0.18 | \$0.14 | \$0.125 |
| (1) | 12494 | 77MIP5 | 5 | 1\%" | . 265 | . 222 | . 20 | . 154 | . 137 |
| (1) | 12495 | 77M1P6 | 6 | $17_{6}^{\prime \prime}$ | . 29 | . 243 | . 218 | . 169 | .151 |
| (1) | 12A96 | 77MIP7S | 7 S | 1\%" | . 314 | . 263 | . 234 | . 181 | . 162 |
| (1) | 12A98 | 77M1P8 | 8 | $13{ }^{\prime \prime}$ | . 262 | . 22 | . 196 | . 152 | . 136 |
| (1) | 12A1440 | 77M1P9 | 9 | $13^{\prime \prime}$ | . 302 | . 252 | . 226 | .175 | . 156 |
| (1) | 12A1441 | 77M1P11 | 11 | 130" | . 31 | . 28 | . 232 | . 18 | . 160 |
| (2) | 128166 | 77 MIP 12 | 12 | 1\%" | . 36 | . 30 | . 269 | . 208 | . 185 |
| (1) | 124100 | $88-8$ | 8 | 11/3" | . 292 | . 244 | . 22 | . 170 | . 150 |
| (1) | 12a101 | 88-8x | Loct. | 11/8" | . 438 | . 366 | . 33 | . 254 | . 226 |
| (2) | 12A110 | 78-RS8 | 8 | 11/4" | . 335 | . 28 | . 25 | . 194 | . 173 |
| (1) | 12A112 | $49-R S S 4$ | 4 | $11 / 4^{\prime \prime}$ | . 95 | 796 | . 713 | . 552 | . 493 |
| (3) | 12 A 116 | 49-RSS7L | 7 | 11/4" | 1.84 | 1.54 | 1.38 | 1.07 | . 956 |
| (3) | $12 \mathrm{Al17}$ | 49-RSS8 | 8 | $11 / 4^{\prime \prime}$ | 1.05 | . 874 | . 782 | . 605 | . 541 |
| (3) | 12.54 | 78-58 | 8 | 114" | . 25 | . 210 | . 188 | . 144 | . 130 |
| (3) | 12 A 57 | 78-\$11 | 11 | 1\%" | 327 | 274 | 235 | 19 | 169 |

" $\$$ " SOCKET MUUNTINGS. Fins " $\$$ " type sackels. CP Plugs and B1M and 61F AC connectors. Steel mitg. plate has slotied holes with $1-1 / 2^{\prime \prime} 101.7 / 8^{\prime \prime}$ centers Above surface mount Type 23-15 taises socket $13 / 16^{\circ}$ above surfact, $1 \cdot 3 / 4^{\prime \prime}$ dia, Below surface mount Type 61-61 extends $1-3 / 16^{\circ}$ below surface Mounts in $1-1 / 16^{\text {e }}$ hole on $1-3 / 4^{\prime \prime}$ centers


## AMPHENOL INDUSTRIAL SOCKETS


(1) 11-Contact Industrial Relay Sockat. High, trick Insulating barriers between contacts provide iong creepage paiths. Rated 600 volts RMS t 10 amps. reverslble screw terminals with 4 threaded brass insert tie points. Shpg. wt. 802
No. 12C152. Amphenol $146-817$
1.49 Each

## h

\$2.05 $\quad .53 .53$ 50-99 Each
22.95

100-249 Each ..... $\$ 2.65$ 250-999 Each ......... $\$ 2.051000$ Up Esch ............83 (2) Octal Industrial Socket for relays or high-power tubes. Molded melamine base, reversibie screw terminals. Rated 1250 RMS volts at 5 amp. Wt. 5025 .

 $100-249 \$ 1.27$; $250-999$ 94c; 1000 Up 86c $100-249 \$ 1.53 ; 250-999 \$ 1.18 ; 1000 \quad \$ 1.05$

## POMDNA ELECTRONICS SURFACE

## MOUNTED BREADBOARD SDCKETS

For experimental circult design. Insulated base prevents

$\begin{array}{llllll}\text { Octal } & 12 A 5041 & \times 5.8 & .95 & .86 & .81 \\ 9-\text { Min } & 12.05042 & \times 5-9 & .85 & .77 & .72\end{array}$

## Cाइए <br> Fits standard AC Plugs. UL listed. Rated 15 A. 110 V . Mounts   <br> AMPHENOL AC CONNECTORS <br> 

Molded of high dielectric bleck bakeling, Ul listed, ratau 15 amps at 110 volts, Fig. (9) mounts in 1 $3 / 16^{\prime \prime}$ hole on $1-1 / 2^{\prime \prime}$ mig. centers. Fig. (a) and (1) snap mount in $1-3 / 16^{\prime \prime}$ hole. Inchudes mounting ting Avg shipg. wt. 102
$\begin{array}{lllllllll}\text { Fig. Stk. No. Type } & 1-49 \text { Ea. } & 50.99 & 100.249 & 250-499 & 500.999 & 1000 & \text { UI }\end{array}$

| (8) | $12 A 354$ | $61-M 1 P-61 F$ | .45 | .39 | .34 | .30 | .27 | .25 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| ()) $12 A 121$ | $61-M$ | .46 | .39 | .34 | .30 | .27 | .26 |  |
| () | $12 A 122$ | $61-F$ | .42 | .36 | .31 | .27 | .25 | .23 |

## AMPHENOL PDLARIZED <br> CONNECTORS



UL listed tor nome appllances and power tools. Third prong grounded. Made of Type 6 Nylon, contacts and ground prong are copper alloy. Caps are cad, plated steel, mounting plate is nickel plated steel. Rated at $15 \mathrm{amp}, 125 \mathrm{~V}$. Type $150-2$ receptacle mounts in $1 / \%^{\prime \prime}$ hole, has $11 / 2^{\prime \prime}$ mtg. centers. Cable type are $15 / \mathbf{b}^{\prime \prime}$ tong with cable clamp, less prongs. Avg. shpg. wt. $20 z 5$.

Fig Stk. No.
(1) $12.2495 \quad 160-2$ Ty MIP Recept
$\begin{array}{ll}\text { (3) } & 12 \mathrm{L2496} \\ \text { (2) } & 160-3 \mathrm{~N} \text { MiP PiUg }\end{array}$
1242498 160-9N Plug
148

| 1.49 | $50-$ | $100-$ | $250-$ | $500-$ | 1000 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $E$. | 99 | 249 | 499 | 999 | $U 0$ |
| $\$ 1.02$ | $\$ 0.88$ | $\$ 0.76$ | $\$ 0.67$ | $\$ 0.61$ | $\$ 0.57$ |
| 1.41 | 1.21 | 1.06 | .92 | .84 | .79 |
| 1.43 | 1.22 | 1.06 | .93 | .84 | .80 |
| 1.14 | .98 | .86 | .75 | .68 | .64 |

(1)

(2)

(8)


## SHIELDS

T-PIN MIMIATURE SOCKETS
Unshialded types are bottom mount. Shielded types are top mount. Both mount in \% hole with $1 / 2$ " mig. center. Lefters in Type numbers indicate body material: "B" -Bakon
lite, "M"-Mica, "C"-Ceramic.
CINCH-JONES

## SOCKETS

 AND| stik |  |  | Fact No. |  | $1.24$ | $25.49$ | 50-99 | 100.249 | 250-499 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 120.5007 | $7 E 8$ | 111 | 1100 | 011 | \$0.13 | \$0.11 | \$0.10 | \$0.088 | \$0.078 |
| 12 A 5008 | 7 M | 111 | 1110 | 012 | . 15 | . 12 | . 11 | . 10 | 088 |
| 1295009 | $7 \times 81$ | 111 | 3100 | 012 | . 20 | . 15 | . 13 | . 12 | . 11 |
| 12 A 010 | $7 \mathrm{MM1}$ | 111 | 3110 | 012 | . 23 | . 19 | . 16 | . 14 | . 13 |
| 1285011 | $7 \times$ | 111 | 3020 | 012 | 48 | 39 | 34 | 25 | . 24 | (3) TUBE SHIELD FOR 7.PIN MJNIATURE SOCKETS Durable steel shields with "J.Slot" for locking on to base. Tube holding spring in top.


 9-PIN MINIATURE SOCXETS
Unshielded type are bottom mount. shielded type are top-mount. Mounts in $3 / 4$ " hole with $11 / \mathrm{mig}$. centar: " $B$ "-Bakelite, "M"—Mtca, "C'"-Ceramic.

| B | Sth. | туре |  | Fact. No. |  | 1.24 <br> Each | $\begin{gathered} 25-49 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 50.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 100-249 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 250.499 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | 12 A5012 | $9 E B$ | 121 | 1100 | 016 | \$0.15 | \$0.12 | \$0.11 | \$0.10 | \$0.088 |
| (1) | 12A5013 | 9EM | 121 | 1110 | 015 | . 19 | . 14 | . 13 | . 12 | . 11 |
| (2) | 12.5014 | $9 \times 8$ | 121 | 3100 | 015 | . 23 | . 19 | . 16 | . 14 | . 13 |
| (3) | 12A5015 | 9XM | 121 | 3110 | 012 | . 25 | . 21 | . 17 | . 15 | . 14 |
| (3) | 12.5016 | 9XC | 121 | 3120 | 018 | . 39 | . 30 | . 25 | . 21 | . 20 |

(3) TUBE SHIELD FOR 9-PIN MINIATURE SOCKETS

Durable steel shiol with "'j-Slot" for locking on to buse Tube holding spring in to



NUVISTOR. COMPACTRON SOCKETS

(3)

(4)
(1) 5.Pin Nuyister Socket with steel saddle mount. Top mounting.

No. 12A5010. Cinch Type $5 \mathrm{NS}-1$. Fact. No. 1336510003 .
Each .... 30c 25 Each...... 23 c 50 Each........ 19 c 100 Each.... $\$ 0.161250$ Each....... 15c (3) 5-Ptn Nuvistor Socket of low loss phenolic with crimp tab mount for snap-in PC mounting
No. 12月5017. Cinch Type 5NS. Fact. No, 1336510001.
Each .... 19c 25 Each ......15c 50 Each......13c 100 Each. $\$ 0.118 \quad 250$ Each. $\$ 0.107$ (3) 7-Pin Muvistor Socket of general purpose bakelite. Saddle mounting type. No. 12A5043. Eby TvDe NU-7.
$\qquad$ .99'

10 Each_on.............. 89
100 Each. $\qquad$ $\$ 0.792$ (3) S-PIn Nuvistor Socket. Phenolic with bottom mount sardle.

No. 12A5019. Eby Type 9369.
Each 10 Each
(4) 12.PIn Compactron Socket. Phenolic, bottom mount-saddie.

No. 12A5020. Eby Type 9371.

## CINCH

## WAFER TYPE SOCKETS

Laminated sockets made of high grade xp bakelite. Wafer is $5 /{ }^{\prime \prime}$ thick with 9 pin sockets have center shield.
(1) 7.pin mimiature socket

Sth. Fact. Metg. Mtg. $1.24 \quad 25-49 \quad 50-99 \quad 100.249$ 250-499



 CINCH PRINTED CIRCUIT

## slock $\quad 7$ Fact. 9 PIN BAKELITE SOCKETS



| $12 A 5034$ | 121 | 51 | 00 | 011 | 9PC.B | $\$ 0.13$ | $\$ 0.11$ | $\$ 0.10$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

JDHNSON TRANSMITTING TUBE SDCKETS

(8)


Bayonet types have porcelain bases, glazed top and sldes, cad. plated phosphor bronze contacts, nickel plated hardware, etched aluminum bayonet shells. Wafer types have glazed-steatife base and plated brass contacts with steel reinforeing springs.

|  | Johnson No | Description | cia | Fits Pube Types | Mot |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12R174 | 123-209-1 | 4 P. Med Bayonet | A4-10 |  | S2. |
| 12A175 | 123-211-1 | 4 P. Jumbo 8ayonet | A4. 29 | 203A, $810,872 \mathrm{~A}, 250 \mathrm{TH}$ | 3.30 |
| 12 A 71 | 122-275-1 | 5 P. Glant Wafer | A 5.19 | 4-125A. 4-250A, RK48 | 3.2 |
| 12 A 173 | 122-237-1 | 7 P . Glant Wafer | A. 17 | 4E27. 813, HK257 | 2.1 |
| 5044 | 124-109-1 | Kel-F Plastic |  | $4 \times 150 \mathrm{~A}, 4 \times 250$ | 6.5 |
| 1295045 | 124-111-1 | Steatite Air | 24 |  |  |

## PLUGS，JACKS AND CONNECTORS

AMPHENOL MICROPHONE AND SHIELDED CABLE CONNECTORS


## AMPHENOL MIKE SWITCH

8Male one end．female on olher，mates with all standard $5 / 8^{\prime \prime}-27$ single contact connectors．Push－to－rallk or slide switch tor positive contact．Shorts across circuit in OfFF＂nasition Wt 200 s No．12A316．Type 75 －MCIS Prices $\qquad$ $\begin{array}{ccccc}50.99 & 100-249 & 250-499 & 500-999 & 1000 \text { Up } \\ \$ 2.14 & \$ 1.87 & \$ 1.63 & \$ 1.43 & \$ 1.40\end{array}$ BANANA \＆PHONE TIP PLUGS \＆JACKS
 R． 80.1 MANUFACTURERS ABBREVIATIONS USEO BELOW：HS for Herman H．Smith，EJ for E．F．Johnson．Shipg．wt． 2 OZ DESCRIPTIVE ABBREVIATIONS：BP for banana plug，
 HS stocked in Red，Blach，Green and Yellow，EJ stocked in Red，Black，Green， Yellow and White．Please spectity both B．\＆Stock Number and Color．
Average shipping wt． 1202 ．per 100 ．

| illus． FIE． | Stock No． | Mig. Type | Motg． <br> Hole | Duerall Lgth． | Description | $\begin{aligned} & 1.99 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100.499 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 500.999 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | HS205 |  | 21／28 ${ }^{\prime \prime}$ | J，Insulate | 10．18 | \＄0．15 | \＄0．135 |
|  |  | EJ108 |  |  | BJ，I Nylon， 900 | ． 13 | ． 11 | ． 10 |
|  |  | HS109 | $1 / 4^{\prime \prime}$ | $5{ }^{\prime \prime}$ | BJ，Brass Nickel Plated．．．．．．．．． | ． 18 | ． 15 | ． 135 |
|  |  | HS100 |  | $1{ }^{\prime \prime}$ | 日P＇Bronze N．P．，6／32 screw | ． 30 | ． 25 | 225 |
|  |  | HS204 |  | 111／1＂ | BP，I Solderless screw | ． 30 | 25 | 225 |
|  |  | E108 |  | 13／4 | BP，I Nylon， 300 Series | ． 25 | ． 21 | ． 18 |
|  |  | HS103 |  | 1\％4＂ | BP．Brass N．P．6／32＂th | ． 30 | ． 25 | .225 |
|  |  | HS211 |  | 1\％\％ | BP，I solder or solderles | ． 30 | ． 25 | 225 |
|  |  | HS202 | ＊ | 114＂ | TJ，I Ph．Bronze contact | ． 18 | ． 15 | ． 135 |
|  |  | HS240 | 3／6 | 114＂ | TJ．I Nylon， 4000 V．AC | 24 | .20 | .180 |
|  |  | E1105 | $1 / 4{ }^{\prime \prime}$ | 1K＂ | TJ， 1 Nylon， 800 Serles．．．．．．．．．． | ． 14 | .12 | ． 104 |
|  |  | HS206 | $1 / 4{ }^{\prime \prime}$ | $1^{1} \mathrm{~K}^{\prime \prime}{ }^{\prime \prime}$ | If \＆BJ，Comb．Insulated．．．．． | 24 | ． 20 | ． 180 |
|  |  | HS107 |  | 194＂ | TJ，Brass Nickel Plated．．．．．．．．．． | 18 | ． 15 | ． 135 |
|  |  | HS200 |  | $21 / 4$ | TP，I Solderless Typs． | 20 | ． 17 | ． 153 |
|  |  | E1105 |  | 13＂ | TP，I Nylon， 300 Series | 20 | ． 16 | ． 16 |
|  |  | HS105 |  | 1＇H＂ | TP，Brass N．P．Solderles | ． 18 | 115 | ． 135 |
|  |  | HS235 |  | 11／4＂ | TP，B，Meter，Red or Black．．．．． | ． 36 | ． 30 | ． 270 |
|  |  | H\＄295 |  | $1{ }^{1} 0^{\prime \prime}$ | BP．Ins．Solderless．．．．．．．．．．．． | ． 36 | ． 30 | ． 270 |
|  |  | HS158 |  | $1 \%^{\circ}{ }^{\prime \prime}$ | Standard Phone TIp N．P．Brass | ． 04 | ． 03 | ． 025 |
|  |  | HS400 |  | $11 / 8 z^{\prime \prime}$ | Solder Type Red or Black | ． 16 | ． 13 | ． 117 |
|  |  | HS218 |  | $1{ }^{1 / 4}{ }^{\prime \prime}$ | Banana Plug．In Red or Black． | ． 17 | 14 | .13 |
|  |  | HS324 |  | $13 / 4^{\prime \prime}$ | BP，I Solderless，Stack，Red or Black（Half of HS210 Below） | ． 58 | ． 48 | .432 |
|  |  | HS210 |  | $13 / 4^{\prime \prime}$ | DbI．BP，Solderless，will Stack 日f＇s Red or Black CIPCUIT COMMECTORS | ． 86 | .72 | ． 648 |
|  |  | E105 |  | 4／10＇s | Hor．Jack 750 Series．．．．．．．．．．． | .10 | ． 08 | ． 068 |
|  |  | E105 | ．052， | K0＂ | Vert．Jack 850 Series．．．．．．．．．．．．．． | ． 15 | ． 12 | ． 109 |
|  |  | E105 |  | 7／8＂ | IP 770 Series．．．．．．．．．．．．．． | ． 23 | 20 | ． 176 |



Equipped with threaded coupling ring to prevent accidental disconnection．Brass chrome－plated． 2 and 3 contact cable connector has $x_{s}$＂spring cord prosector， 4 －contact has $3 \mathrm{y}^{\prime \prime}$ ．Type（1）chassis connector mounts in $\mathrm{H}^{\prime \prime}$ hole．Type（13）rounts in＂ $7 z^{\prime \prime}$ hole．Shpg．wt． 102.

Prices Each

Descirption
Male，Gable
Female，Cable
Female，Chassis
Male，Cable
Male，Cable
Female，Cable
Female．Cable
Female，Chassis
Female，Chassis

AMPHENOL MINIATURE CONNECTORS


Any plug in this group mates with any socket with same number of plas． 78 series mount in $5 / 3$＂hole with push on spring ring．Can be chassls mounted or wired to cable． 7 －pin sockets fit 7 －pin miniature tubes．Avg．shpg．wt． 5 ozs．par 20 ． Fig．（3）and（3）are $5 \mathrm{~F}^{\prime \prime}$ dia．， $1 \mathrm{~K}^{\prime \prime}$ long cadmium plated brass．Fig．（3）is shielded chassis socket．Avg．shpg．wh． $1 / 2$ o2s．

| Fig． | Stt．Ma． | Typ | P17s | 1－49 | 50－99 | $100 \cdot 24$ | 250.499 | 500－898 | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | 12\＄140 | 78．53S | 3 | \＄0．15 | \＄0．12 | \＄0．11 | \＄0．69 | \＄0．08 | \＄0．05 |
| （1） | 12．141 | 78－54S | 4 | ． 22 | ． 19 | .17 | ． 13 | .13 | .12 |
| （1） | 121125 | 78．55S | 5 | 23 | ． 20 | .10 | ． 14 | ． 14 | ． 12 |
| （ | $12 \mathrm{Al18}$ | 78－S6S | 6 | 24 | ． 20 | .18 | ． 14 | ． 14 | ． 12 |
| （3） | $12 \mathrm{A123}$ | $78.7 P$ | 7 | ． 42 | ． 35 | ． 32 | ． 25 | ． 25 | ． 22 |
| （3） | 120n138 | 86－CP3S | 3 | 22 | ． 18 | ． 16 | ． 13 | ． 13 | ． 11 |
| （1） |  | 86－CP4S | 4 | 28 | ． 19 | .17 | ． 13 | ． 13 | .11 |
| （9） | $12 \mathrm{B171}$ | 71－5S | 5 | ． 20 | ． 17 | ． 15 | .12 | ． 12 | .11 |
| （8） | $12 \mathrm{E172}$ | 71－6S | 6 | 24 | ． 20 | ． 18 | ． 14 | ． 14 | .12 |
| （8） | 12a148 | 91．MPF3L | 3 | ． 51 | ． 44 | ． 38 | ． 34 | ． 30 | ． 29 |
| （\％） | 12A149 | 91．MPF4L | 4 | ． 47 | ． 41 | ． 35 | ． 31 | 28 | ． 27 |
| （6） | 12.142 | 91．MPM3L | 3 | ． 42 | ． 36 | ． 32 | － 28 | ． 25 | ． 24 |
| （6） | 12A143 | 91．MPM4L | 4 | ． 47 | ． 41 | ． 35 | ． 31 | ． 28 | ． 27 |
| （4） | 12822 | 91．MPM5L | 5 | ． 49 | ． 42 | ． 36 | ． 32 | ． 29 | ． 27 |
| （6） | 12823 | 91－MPM6L | 6 | ． 48 | ． 41 | ． 36 | ． 31 | ． 28 | ． 27 |
| （1） | 12．150 | 78－PCG3 | 3 | ． 59 | ． 41 | ． 37 | ． 29 | 29 | ． 26 |
| （6） | 120151 | 78．PCG4 | 4 | ． 59 | ． 50 | ． 44 | ． 34 | ． 34 | ． 31 |
| （3） | 12824 | 78－PCG5 | 5 | ． 82 | ． 52 | .47 | ． 36 | ． 36 | ． 32 |
| （3） | 12825 | $78-\mathrm{PCG} 6$ | 6 | ． 63 | ． 53 | ． 47 | ． 37 | ． 37 | .33 |


＂CP＂plugs made of black bakelite for chassis mounting fits 1火＂mole．PM and PF connectors are molded black bakellte with steel shell．Rubber gromm and hole．Avr．shpg．wt． 1 oz ．Prices Each

| Fir． | Sth．No． | Type | Pins | 1－49 | $\begin{array}{r} \text { Pric } \\ 50-99 \end{array}$ | $\begin{aligned} & \text { ces Each } \\ & 100-249 \end{aligned}$ | 250.999 | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | 12458 | $86-\mathrm{CP} 4$ | 4 | \＄0．30 | \＄0．25 | \＄0．22 | \＄0．17 | \＄0．15 |
| （1） | 12 A59 | 96－CP5 | 5 | ． 30 | ． 25 | ． 22 | ． 17 | ． 15 |
| （1） | 12 A 63 | 86－CP8 | 8 | ． 22 | ． 27 | ． 24 | ． 19 | .17 |
| （1） | 12.2553 | $86 . \mathrm{CP9}$ | 9 | ． 33 | ． 28 | ． 25 | ． 193 | ． 17 |
| （1） | 12.2552 | 86－CP11 | 11 | ． 34 | ． 28 | ． 25 | ． 200 | .174 |
| （3） | 12 ABO | 78－PF4 | 4 | ． 50 | ． 43 | ． 38 | ． 30 | ． 26 |
| （3） | 12 A 1 | 78－PF5 | 5 | ． 51 | ． 45 | ． 39 | ． 31 | ． 27 |
| （3） | 12482 | 78．PF6 | 6 | ． 54 | ． 47 | ． 41 | ． 32 | ． 29 |
| （\％） | 12an | 78－PF7S | 75 | ． 56 | ． 49 | ． 43 | ． 33 | ． 30 |
| （0） | 12趗85 | 78－PF8 | 8 | ． 50 | ． 43 | ． 38 | ． 30 | ． 27 |
| （1） | 12解6 | 78－PF9 | 9 | ． 3 | ． 46 | ． 41 | ． 32 | ． 28 |
| （1） | 12.87 | 78－PF11 | 11 | ． 58 | ． 50 | ． 43 | ． 34 | ． 31 |
| （3） | 12.72 | 86－PM4 | 4 | ． 55 | ． 47 | ． 42 | ． 32 | ． 29 |
| （3） | 12.97 | 86－PM5 | 5 | ． 55 | ． 47 | ． 42 | ． 33 | ． 29 |
| （3） | 12 A 74 | 86－PM6 | 6 | ． 57 | ． 49 | ． 43 | ． 34 | ． 30 |
| （3） | 12 A75 | 86－PM7S | 75 | ． 58 | ． 50 | ． 44 | ． 34 | 20 |
| （3） | 12477 | 86－PN8 | 8 | ． 57 | ． 49 | ． 44 | ． 34 | ． 36 |
| （3） | 12：78 | 86．PM9 | 9 | ． 58 | ． 50 | ． 44 | ． 35 | ． 31 |
| （3） | 12 A 79 | 86－PM11 | 11 | ． 59 | ． 81 | ． 45 | ． 35 | ． 31 |
| No． | 191．79CC4 | Cable Cla | for Pf | ． 09 | ． 074 | ． 066 | ． 052 | ． 052 |

## NU－WAY SNAP CONNECTORS

## For Permanent or Temporary Cireuits

Permits quick simple connection of wires．Nickel positive contact．Any number of snaps can be pyramided toocther for multiple connections los shown at rightl． 5 hoo．wt 2 oz
（1）Snaps－Snabs topether or to sluds below．
With crime－on solaer fuc．
12A642．EO．． 15 C 100 For．$\$ 8.50$ IM For．$\$ 71.25$



Fits standard $y^{\prime \prime \prime}$ phone lack, except Nos. S-250, $\$-260$ and $\$-280$ which have a $206^{\prime \prime}$ dia, sleeve for 210 jacks. No's. C-240, C-245 and C-270 have cable clamp. Shiolded handes are nickel plated brass; others are molded plastlc; $13 / 8^{\prime \prime}$ long, 1/2" dia, "Screw terminals, others solder terminals. Shpg. wt. $202 s$.

2 CONOUCTOR TYPES

| Fig. | Sth. Mo. | Mfg. No | Handid | 1.9 | 10.24 | 25.49 | ices E | ach | 250.49 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | $12 \mathrm{B252}$ | $240{ }^{\circ}$ | Black | \$0.67 | \$0.57 | \$0.52 | \$0.48 | \$0.38 | \$0.361 | \$0.342 |
| ( | 128341 | C-240* | Black | 77 | . 66 | . 61 | . 55 | . 44 | . 418 | . 396 |
| (1) | $12 \mathrm{B253}$ | 245* | Red | . 67 | . 57 | . 52 | . 48 | . 38 | . 361 | . 342 |
| (1) | 128342 | C-245* | Red | . 77 | . 66 | . 61 | . 55 | . 44 | . 418 | . 396 |
| (1) | 12A440 | 250 | Black | . 63 | . 54 | . 50 | . 45 | . 36 | . 342 | . 324 |
| (3) | 128111 | S-250 | Black | . 67 | . 57 | . 52 | . 48 | . 38 | . 361 | . 342 |
| (1) | 12 A 418 | 255 | Red | . 63 | . 54 | . 50 | . 45 | . 36 | . 342 | . 324 |
|  | 128254 | 270* | Shield | . 98 | . 81 | . 74 | . 68 | . 54 | . 513 | . 486 |
| (3) | 128343 | $\mathrm{C}-270^{\circ}$ | Shleid | 1.05 | . 90 | . 83 | . 75 | . 60 | . 570 | . 540 |
| (2) | 12 A 442 | 280 | Shield | 91 | . 78 | . 72 | . 65 | . 52 | .494 | . 468 |
| (2) | 128114 | \$-280 | Shleld |  |  |  |  | ,52 | . 494 | . 468 |
|  |  |  |  | CONO | CTOR | YPES |  |  |  |  |
| (1) | $12 \mathrm{B3} 36$ | $260{ }^{*}$ | Black | 1.05 | . 90 | . 83 | . 75 | . 60 | . 570 | . 540 |
| (1) | 128337 | S-260* | Black | 1.44 | 1.23 | 1.13 | 1.03 | . 82 | . 779 | . 738 |
| (1) | 121447 | 267 | Black | . 98 | . 81 | . 74 | . 68 | . 54 | . 513 | . 486 |
| (1) | 12C169 | 269 | Red | 98 | 81 | . 74 | . 68 | . 54 | . 513 | . 486 |
| (2) | 128338 | 290* | Shield | 1.23 | 1.05 | . 96 | . 88 | . 70 | . 665 | . 630 |
|  | 12 ¢448 | 297 | Shield | 1.16 | . 99 | . 91 | . 83 | . 66 | . 627 | 59 |

## SWITCHCRAFT "FLAT PLUGS"

$1 / /^{\prime \prime}$ phone plugs except $\mathrm{S}-230$ is $.206^{\prime \prime}$ dia. featuring flat, space-saving handles for use where conventional plugs protrude too far. No. 220 has adaptor clips to clamp standard phone tips. Nos. 228 and 238 are shielded, others have plastic handles.

2 CONOUCTOR TYPES

| $\begin{aligned} & \text { FIg. } \\ & 8 \\ & 8 \\ & 8 \\ & \hline 6 \end{aligned}$ | $\begin{aligned} & \text { Stk. No. } \\ & 128203 \\ & 128236 \\ & 128108 \end{aligned}$ | $\begin{gathered} \text { Wy.No. } \\ 220^{\circ} \\ 227 \\ 228 \end{gathered}$ | Handle <br> Black <br> Shideld | $\begin{gathered} 1.9 \\ .98 \\ .77 \end{gathered}$ | $\begin{array}{r} 10.24 \\ .84 \\ . .66 \\ .75 \end{array}$ | $\begin{array}{r} 25-49 \\ .77 \\ . .61 \end{array}$ | $\begin{aligned} & \text { Pricas Each } \\ & 50.99 \text { 100-249 } \end{aligned}$ |  | $\begin{gathered} 250.499 \\ .532 \end{gathered}$ | $\begin{gathered} 500-999 \\ .504 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | . 55 | . 44 | . 418 | . 396 |
|  |  |  |  |  |  |  | . 63 | . 50 | . 475 | . 450 |
|  |  |  |  | CONO | CTOR | YPES |  |  |  |  |
| () | 128205 | 230* | Black | 1.19 | 1.02 | . 94 | . 85 | . 68 | . 646 | . 612 |
| (3) | 12.292 | S-230 ${ }^{\circ}$ | Black | 1.41 | 1.29 | 1.18 | 1.08 | . 86 | . 817 | . 774 |
| (8) | 12 C 209 | 237 | Black | 1.16 | . 99 | . 91 | . 83 | . 66 | . 627 | . 594 |
|  | 126207 | 238 | Shield | 1.26 | 1.08 | . 99 | . 90 | . 72 | . 684 | 648 |



## SWITCHCRAFT EXTENSION <br> JACKS

Rugged jacks feature cable anchor, ${ }^{1} 1 / 6^{\prime \prime} 0 . D ., 2{ }^{2}{ }^{\prime \prime}$ long: 121 and 131 are $1 / 2 x$ $21 / 2^{\prime \prime}$. All for $1 / 4^{\prime \prime}$ plugs except $S-128$, S-830 and $5-1230$ which are . $210^{\prime \prime}$. 'Screw terminals, all others are solder terminals. 2 CONOUCTOR TYPES

Prices Each
$\begin{array}{cccc}\text { Fl. } & \text { Stk. No. } & \text { His. No. Handle } \\ \text { (1) } & 12 \mathrm{C2} 29 & 80^{\circ} & \text { Black } \\ \text { (3) } & 12 \mathrm{C} 262 & 88 & \text { Black }\end{array}$
$\begin{array}{llllllllllll}1.9 & 10.24 & 25.49 & 50.99 & 100-249 & 250-499 & 500.999\end{array}$ $\$ 1.02 \quad \$ 0.87 \quad \$ 0.80 \quad \$ 0.73 \quad \$ 0.58 \quad \$ 0.551 \quad \$ 0.522$ $\begin{array}{lll}.91 & .78 & .72 \\ 1.33 & 1.14 & 1.05 \\ 1.40 & 1.20 & 1.10 \\ 1.23 & 1.05 & .96\end{array}$

## 3 CONDUCTOR TYPES

$\begin{array}{lrr}1.75 & 1.50 & 1.38\end{array}$
(1) $12 \mathrm{C2} 86$ 131 Shield
(1) 12C278 $830^{\circ}$ Black
(3) $12 \mathrm{C} 2795-830^{\circ}$ Black
$\begin{array}{llll}\text { (1) } & 120263 & 838 & \text { Black } \\ \text { (3) } & 12 \mathrm{C2} 80 & 1230 \text {, Shjeld }\end{array}$
$\begin{array}{rrrr}\text { (3) } & 12 \mathrm{C2} 80 & 1230^{\circ} \text {. Shield } \\ \text { (2) } & 12 \mathrm{C2} & \mathrm{~S} .1230^{\circ} \text { Shield }\end{array}$
(2) $12 \mathrm{C2}$ (81 $\mathrm{S}-1230^{*}$ Shjeld

## -

(4) THICK PANEL JACK

Standard $1 / 4^{\prime \prime}$ phone jack with extra long threaded bushing for panels up to $12 / 4^{\prime \prime}$ thick. Overall length $21 / 4^{\prime \prime} \times 5 / 8{ }^{\prime \prime}$ da. Mounts in $15 / a^{\prime \prime}$ hole. Open circuit type. Solder terminals.

Stk. No Mif. No. Ofa. Conductors 1.9 • $10-24 \quad 25.49 \quad 50.99 \quad 100-249 \quad 250-499500.999$ $\begin{array}{lllllllllll}12 \mathrm{~B} 201 & 151 & 1 / 4^{\prime \prime} & 2 & \$ 1.16 & \$ 0.99 & \$ 0.91 & \$ 0.83 & \$ 0.66 & \$ 0.627 & \$ 0.594 \\ 12 \mathrm{~B} 202 & 152 \mathrm{~B} & 1 / 4^{\prime \prime} & 3 & 1.26 & 1.08 & .99 & .90 & .72 & .684 & .648\end{array}$

## SHIELDED PHONO JACKS \& PLUGS



3501 FP chassis jack for front panel mount in $1 / 4^{\prime \prime}$ hole up to $1 / 9^{\prime \prime}$ thick. 3503 extension jack has shielded removable handle ' 1 I/ $1^{\prime \prime}$ O.O. wlth cable clamp. 3502 plug has cable cianp with " ${ }^{3} 1^{\prime \prime}$ O.D. shleided removable handle.

| Fig. |
| :---: |
| 15 |
| 18 |
| 8 |


"TINI PLUG" and "TINI JAX" MINIATURE PLUGS \& JaCKS
(1)

CA!


ONLY $1 / 3$ THE SIZE OF "LITTEL PLUGS" ANO "LITTEL AACKS"
"Tiny Pieg"" is $3 / 8^{\prime \prime}$ dia $X 15 / 8^{*}$ overall length, $8 / 64^{\prime \prime}$ dha. finger. "Screw terminal, others solder.
Prices Each


Fig. Sth. No. Mity. No. Handle
(1) 12B420 $740^{\circ}$ Black $\begin{array}{llll}\text { (1) } & 128421 & 745^{\circ} & \text { Red } \\ \text { (1) } & 128422 & 770^{\circ} & \text { Shield } \\ \text { (3) } & 128423 & 750 & \text { Black }\end{array}$
$\begin{array}{lllllllll}1.9 & 10-24 & 25.49 & 50.99 & 100-249 & 250.499 & 500.999\end{array}$ $\begin{array}{llll}\text { (1) } & 12 \text { B423 } & 750 & \text { Black } \\ \text { (1) } & 128425 & 780 & \text { stield }\end{array}$
"Tind Jax" mount in $1 / 4$ " hole in panels up to $1 / \mathbf{b}^{k \prime}$ thick.
$\begin{array}{lllllll}\text { (3) } & 128428 & 41 \text { Open Clrcult } & .39 & .33 & .30 & .28 \\ \text { (2) } & 128427 & 42 A \text { Closed Circult } & .42 & .36 & .33 & .30\end{array}$
"Fini-Extension Jax" cable jack Shielded metal housing. Solder lug iermina 216 (3) 12A6038 $125 \quad$ cable $\quad 1.05 \quad .90 \quad .83 \quad .75 \quad .60 \quad .57 \quad .54$ "Tini-0 fan." Blfurcated berylifum copper springs. Phenolic housing. Threaded bushing for conventional mig. Tip spting terminals snap in P.C. boards. Mount on 3. ${ }^{\prime \prime}$ centers, in $1 / /^{\prime \prime}$ dia. hole in panels up to $1 / 9^{\prime \prime}$ thick. Depth behind panel $k_{6}{ }^{\prime \prime}$.

Fig. Stk. No. Nis. No.


## "MICRO" PLUG AND JACK

Ultraminiaturized verslon of Tint-Plugs above. Plug is $1 \mathrm{~K}^{\prime \prime}$ long, $1 / 4^{\prime \prime}$ O.D. with $.097^{\prime \prime}$ dia. finger. Jack is $17 / 2^{\prime \prime}$ long mounts in $y^{\prime \prime}{ }^{\prime \prime}$ holo on panels up to "/18" thick. For 2 cond. cabie up to $\mathrm{K}^{\prime \prime}$ dia. Jack is closed circuit.
 $\left.\begin{array}{lllllllll}\text { (1) } & 12 A 287 & 850 \text { Plug-Black } & .60 & .51 & .47 & .43 & .34 & .323\end{array}\right) .306$

Small economical standard jacks. Mount in single $7 a^{\prime \prime}$ hole, panels to $5 / 5 z^{\prime \prime}$ thick. For $1 / 4^{\prime \prime}$ plugs except $5-11$ and $\$-128$ are $.210^{\prime \prime}$ dia.

# Stock Mf 

## Mfg.

 Mo. Sche11



Smaller, compact phone jacks, mate with standard $1 / 4^{\prime \prime}$ phone plugs. Molded body protects silver-plated springs. Mounts. in plugs. Molded body protects sitver-plated springs, Mounts, in $3 / 6^{\prime \prime}$ O.D, hole in panels up to $x_{12}^{\prime \prime}$ thick. Wt. I oz. 111
112 A are 2 conductor, 122 B and 113 B are 3 conductor.
5 toc

| Stock | Mlg. |  |  | Prices Each |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Schematic | 1.9 | 10.24 | 25.49 | $50-99$ | $100-249$ | 250.499 | 500.999 |
| 120296 | 111 | $A$ | .39 | .33 | .30 | .28 | .22 | .209 | .198 |
| 128352 | $112 A$ | $C$ | .42 | .36 | .33 | .30 | .24 | .228 | .216 |
| $12 B 353$ | $112 B$ | 0 | .46 | .39 | .36 | .33 | .26 | .247 | .234 |
| 128362 | $113 B$ | $E$ | .60 | .51 | .47 | .43 | .34 | .323 | .306 |

SWITCHCRAFT SHORT FRAME PHONE JACKS
Mate with standard $1 / 4^{\prime \prime}$ phone plug. Size: $3 / 4^{\prime \prime}$ high, $11 / 4^{\prime \prime \prime}$ wide. Mount in panels $1 / 4^{\prime \prime}$ thick. Require $3 / 9^{\prime \prime}$ hofe. Extends $11 / 4^{\prime \prime}$ back of panel. Wt. 1 oz.


ELECTRICAL SCHEMATICS FOR SWITCHCRAFT JACKS
 hande, with lug torminals attached Internally with brass screws. Wt. 202 s .
 (a) Military Type Jacks. Conform to MIL-J-641A specs. Brass nickel-plated frame, with springs of special alioy of tempered nickel silver. C-12A Closed circult others are Open Shpg. wt. 1 oz.

| Stock No. | Type | MIL No. | I.D. | No. Cond. |  | 10.24 | 25.49 | $\begin{array}{r} \mathrm{Pr} \\ 50-99 \end{array}$ | $\begin{aligned} & E 8 \\ & 00.2 \end{aligned}$ | 50.499 | 500.999 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 128345 | 6.11 | JJ-034 | $1 / 4$ " | 2 | . 56 | . 48 | . 44 | . 40 | . 32 | . 304 | . 288 |
| 128346 | C-12A | JJ-089 | $1 / 4^{\prime \prime}$ | 2 | . 67 | . 57 | . 52 | . 46 | . 38 | . 361 | . 342 |
| 12A431 | C-12B | JJ-033 | .210" | 3 | . 67 | . 57 | . 52 | . 46 | . 38 | . 361 | . 342 |

## SWITCHCRAFT CABLES, CONNECTORS AND ADAPTORS



## SWITCHCRAFT AUDIO CABLES

High quality for hi-fi equipment, recorders. speaker extensions, etc Connectors are molded in plastic difnethy to cable, with molded-in tinger grip for easy removal. Chomegray wire All shielded except - which are onshrelded and + which are clear vinyl

| Stock No. | Switcheraft | Terminations End 1 End 2 | L |
| :---: | :---: | :---: | :---: |
| 33A6514 | 25AC25 | 44 | 1 f 扎. |
| 33 A6515 | 25 AF25 | 44 | 3 ft . |
| 3346516 | 25AK25 | 44 | 6 ft. |
| 33A6517 | 25AN25 | 44 | 10 ft . |
| 33A6518 | 25AU25 | 44 | 25 ft. |
| 33A6519 | 25 AF82 | 45 | 3 ft . |
| 33 A6520 | 25AK82 | 45 | 6 ft . |
| 33A6521 | 25AN82 | 45 | 10 \%t. |
| 33A6522 | 25AU82 | 45 | 25 ft . |
| 33 A6523 | $25 A K 87$ | 48 | 6 ft . |
| 33 A6524 | 25AK30 | 43 | 6 ft. |
| 33 A6525 | 25 AN30 | 43 | 10 ft . |
| 33 A6526 | 25CK84* | 410 | 6 ft . |
| 35 A6527 | 25AC84 | 410 | $11 / 2 \mathrm{ft}$. |
| 3346528 | 25AF84 | 410 | 3 ft . |
| 33 A6529 | 25AK84 | 410 | 6 ft. |
| 33A6530 | 25AN84 | 410 | 10 ft . |
| 33A6531 | 25AU84 | 410 | 25 ft. |
| $33 \wedge 6532$ | 25CK86* | 49 | 6 ft . |
| 33 A6689 | 25WN25* | 44 | 10 ft . |
| 33 A6690 | 25WT25* + | 4 | 20 ft. |
| 33 A6691 | 25WN82* + | 45 | 10 ft. |
| 3346692 | 25WT82* + | 45 | 20 ft. |
| 33 A6693 | 25WN84* + | 410 | 10 ft |
| 33 A6694 | 25WT84* | 410 | 20 ft. |

## SWITCHCRAFT CONNECTORS AND TERMINALS

## 1 SWITCHCRAFT AUDIO CONNECTORS

Interchangeable with Canon XLR－3，XLR－4 and Amphenol $91-850$ series．Professional style audio connectors made for rugged service．Connectors are polarized with ex－ cluslve grounding lug on all units．Shells are made of die－cast zinc，satin nicke！ finish．Inserts are of high－impact plastic．Wall plates are brushed stainless steel and fit standard electrical outlet boxes．

| F1g． |  |  | Ca | CORD PL | 1－9 | 10－24 | 25．49 | 50－99 | 100－249 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | 12B348 | A3F | 3 | Female | \＄1．72 | \＄1．47 | \＄1．35 | \＄1．23 | \＄0．98 |
| （1） | 1246042 | A4F | 4 | Female | 2.14 | 1.83 | 1.68 | 1.53 | 1.22 |
| 0 | 12B349 | A3M | 3 | Male | 1.47 | 1.25 | 1.16 | 1.05 | ． 84 |
| （3） | 1296043 | A4M | 4 | Male | 1.58 | 1.35 | 1.24 | 1.13 | ． 90 |
|  |  |  | PanEl ano wall receptacles |  |  |  |  |  |  |
| （1） | 128350 | 83 M | 3 | Mate | 2.10 | 1.80 | 1.65 | 1.50 | 1.20 |
| （0） | 12A8044 | 84M | 4 | Male | 2.21 | 1.89 | 1.73 | 1.58 | 1.26 |
| （6） | 12 B 351 | C3M | 3 | Male | 1.12 | ． 96 | ． 88 | ． 80 | ． 64 |
| （4） | 12 A6045 | C4M | 4 | Male | 1.23 | 1.05 | ． 96 | ． 88 | ． 70 |
| （3） | 12.6002 | C3F | 3 | Female | 2.24 | 1.92 | 1.76 | 1.60 | 1.28 |
| （3） | 1246046 | C4F， | 4 | Female | 2.35 | 2.01 | 1.84 | 1.68 | 1.34 |
| （0） | 12AB003 | G3MS | 3 | Male | 3.64 | 3.12 | 2.86 | 2.60 | 2.08 |
| 0 | 1246048 | G4MS | 4 | Male | 3.85 | 3.30 | 3.03 | 2.75 | 2.20 |
| （7） | 12.6098 | H3MS | 3 | Oual Male | 5.11 | 4.38 | 4.02 | 3.65 | 2.92 |
| （7） | 1248104 | H4MS | 4 | Dual Male | 5.53 | 4.74 | 4.35 | 3.95 | 3.16 |
| （6） | 12A6004 | 33FS | 3 | Female | 3.78 | 3.24 | 2.97 | 2.70 | 2.16 |
| 0 | 1246051 | J4FS | 4 | Female | 3.99 | 3.42 | 3.14 | 2.85 | 2.28 |

## SWITCHCRAFT AUDIO CONNECTOR ADAPTORS

 standard $1 / 4^{\prime \prime}$ phone plugs and jacks or mike connectors．
standard $1 / 4^{\prime \prime}$ phone plugs a
Fls．Stk．No． 18．Stk．No．Mfg．No．Oescription
$\begin{array}{ccc}1-9 E 8 . & 10-24 \text { E2．} & 25.49 \text { E2．} \\ \$ 3.50 & \$ 3.00 & \$ 2.75 \\ 2.92 & 2.52 & 2.31 \\ 3.49 & 2.91 & 2.67 \\ 2.99 & 2.61 & 2.39 \\ 3.34 & 2.85 & 2.61 \\ 2.94 & 2.52 & 2.31 \\ 2.49 & 2.13 & 1.95 \\ 2.49 & 2.13 & 1.95\end{array}$ Q－G MICROPHONE CORD PLUG WITH SWITCH
Replaces Cannon XLR－3，Amphenol 91． 850 or Switchcraft mike connectors pro－
viding DPDT switching by sub－miniature viding DPDT switching by sub－miniature

MIKE STAND CONNECTOR
Simplify mounting of most mikes to gooseneck or stem． $5 / 8 \times 27$ female stand threads．

100
$1 p$
120

| No． | Number | 9 | $10-$ | 25 | 59 | 99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $12 A 6196$ | P3F， 3 contact | $\$ 1.92$ | $\$ 1.44$ | $\$ 1.32$ | $\$ 1.26$ | $\$ 1.20$ |
| 1286197 | P4F， 4 contact | $\$ 2.40$ | 1.80 | 1.85 | 1.58 | 1.50 |

WALDOM PHENOLIC WIRE NUTS
Solderless screw－on connectors for securely Joining
stripped ends of wire together．All are UL approved except（ ${ }^{*}$ ）．Rated 300 volts except（ $\dagger$ ） $300-600 \mathrm{~V}$ （ 1000 V ．Enclosed in fixtures）．

| stack | Wire Combinations |  | 25 | 100 | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Minimum | Maxjmum | For | For | For |
| 12A1853＊ | 2－\％24 | 2－\＃18 | 40c | \＄1．15 | \＄．9．65 |
| 12A1854 | 2－418 | 3－\＃16 | 70 c | 2.15 | 18.30 |
| 12：1859 ${ }^{\text {¢ }}$ | 1－\＃18 \＆1－\＃16 | 5－\＃16 | 70 c | 2.15 | 19.00 |
| 12 A 1856 | 1－\＃14 \％1－\％ 18 | 2－\％12 \＆1－\＃18 | 90 c | 2.75 | 23.50 |
| 12A1857 | 1－\＃ 14 \＆ $1-416$ | 3．\＃10 | 1.40 | 4.55 | 39.60 |

KIT OF 169 WIRE NUTS above in compartmented plastic box．
$\$ 3.20$

SOLDER TYPE TERMINAL LUGS

$$
0
$$．8

（o）（9）
Stk．Mo．Ty
12A1286 $86^{\text {Typ }}$ A
B

## SOLDERLESS CRIMP－ON TERMINALS

Choice of Flared vinyl Insulated for easy wire insertion and to accommodate wire insulation or non－insulated type．Electrolytically pure copper．Multiple barrel serra－ tions guarantee full contact with wire．Electro－annealed for extra fife．Average wh 8 ounces per 100 ．

| Wire Size | $\begin{aligned} & \text { Stud } \\ & \text { Size } \end{aligned}$ | Non． Insulated Stock No． | $\begin{aligned} & 20 \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { For } \end{aligned}$ | $\begin{gathered} 1000 \\ \text { For } \end{gathered}$ | Insulated Stack No． | $\begin{aligned} & 20 \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { Fer } \end{aligned}$ | $1000$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22－18 | 4 | 12.2312 | \＄0．63 | \＄2．50 | \＄17．80 | $12 \mathrm{L2316}$ | \＄1．29 | \＄5．15 | \＄38．00 |
| 22－18 | 6 | 12 A 1804 | ． 63 | 2.50 | 17.80 | 12A1811 | 1.29 | 5.15 | 38.00 |
| 22.18 | 8 | 12.2313 | ． 63 | 2.50 | 17.80 | 1242317 | 1.29 | 5.15 | 38.00 |
| 22.18 | 10 | 12A1805 | ． 63 | 2.50 | 17.80 | 12A1812 | 1.29 | 5.15 | 38.00 |
| 22－18 | $1 / 4$ | 12A1806 | ． 86 | 3.45 | 24.60 | 12 A 1813 | 1.68 | 6.70 | 49.20 |
| 22－18． | 76 | 12A1807 | ． 86 | 3.45 | 24.60 | 12A1814 | 1.68 | 6.70 | 49.20 |
| 16－14 | 6 | 12A1808 | ． 63 | 2.50 | 17.80 | 12a1815 | 1.29 | 5.15 | 38.00 |
| 16－14 | 8 | $12 \times 2314$ | ． 63 | 2.50 | 17.80 | 12.2318 | 1.29 | 5.15 | 38.00 |
| 16－14 | 10 | 12A1809 | ． 63 | 2.50 | 17.80 | 12 A 816 | 1.29 | 5.15 | 38.00 |
| 12－10 | 8 | 1282315 | ． 86 | 3.45 | 24.60 | 1242319 | 1.68 | 6.70 | 49.20 |
| 12－10 | 10 | 1281810 | ． 86 | 3.45 | 24.60 | 12月1817 | 1.68 | 6.70 | 49.20 |


| （8）SPAOE TONGUE TERMINALS |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $22-18$ | $4-6$ | $12 A 1818$ | .63 | 2.50 | 17.80 | $12 A 1823$ | 1.29 | 5.15 | 38.00 |
| $22-18$ | 8 | $12 A 2320$ | .63 | 2.50 | 17.80 | $12 A 2323$ | 1.29 | 5.15 | 38.00 |
| $22-18$ | 10 | $12 A 1819$ | .63 | 2.50 | 17.80 | $12 A 1824$ | 1.29 | 5.15 | 38.00 |
| 16.14 | 4.6 | $12 A 1820$ | .63 | 2.50 | 17.80 | $12 A 1825$ | 1.29 | 5.15 | 38.00 |
| $16-14$ | 8 | $12 A 2321$ | .63 | 2.50 | 17.80 | $12 A 2324$ | 1.29 | 5.15 | 38.00 |
| $16-14$ | 10 | $12 A 1821$ | .63 | 2.50 | 17.80 | $12 A 1826$ | 1.29 | 5.15 | 38.00 |
| $12-10$ | 8 | $12 A 2322$ | . .86 | .3 .45 | 24.60 | $12 A 2325$ | 1.68 | 6.70 | 49.20 |
| $12-10$ | 10 | $12 A 1822$ | .86 | 3.45 | 24.60 | $12 A 1827$ | 1.68 | 6.70 | 49.20 |


| （3）FLANGEO SPAOE TERMINALS |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22－18 | 4－6 | 12A1828 | ． 63 | 2.50 | 17.80 | 12 18832 | 1.29 | 5.15 | 38.00 |
| 22－18 | 8 | 12A2326 | ． 63 | 2.50 | 17.80 | 12A2328 | 1.29 | 5.15 | 38.00 |
| 22－18 | 10 | 12 A 1829 | ． 63 | 2.50 | 17.80 | $12 \mathrm{A1833}$ | 1.29 | 5.15 | 38.00 |
| 16－14 | 6 | 12月1830 | ． 63 | 2.50 | 17.80 | 12 1 1834 | 1.29 | 5.15 | 38.00 |
| 16.14 |  | 1242327 | ． 63 | 2.50 | 17.80 | 1242329 | 1.29 | 5.15 | 38.00 |
| 16－14 | 10 | 12A1831 | ． 63 | 2.50 | 17.80 | 12 18835 | 1.29 | 5.15 | 38.00 |
| （4）EUTT CONNECTORS |  |  |  |  |  |  |  |  |  |
| 22－18 |  | 12.1836 | ． 70 | 2.80 | 19.75 | 1241839 | 1.53 | 6.10 | 44.90 |
| 16.14 |  | 12A1837 | ． 70 | 2.80 | 19.75 | 12A1840 | 1.53 | 6.10 | 44.90 |
| 12－10 |  | 12A1838 | 1.23 | 4.90 | 35.10 | 12A1841 | 2.08 | 8.30 | 61，35 |
| （5）MALE QUICK OISCONNECTS－PUSH－ON TYPE |  |  |  |  |  |  |  |  |  |
| 18－14 | ． 187 | 12 A 1842 | ．63 | 2.50 | 17.65 | 12.1844 | 1.29 | 5.15 | 38.00 |
| $18 \cdot 14$ | ． 250 | 1201843 | ． 73 | 2.90 | 20.65 | 12A1845 | 1.33 | 5.30 | 39.05 |
| （0）FEMALE QUICK DISCONNECTS－PUSH－ON TYPE |  |  |  |  |  |  |  |  |  |
| 26－20 | ． 110 | 12A2514 | ． 73 | 2.90 | 20.65 | ．axmemem |  |  |  |
| 22.18 | －250 | 12A2515， | ． 73 | 2.90 | 20.65 | 120］2516 |  |  |  |
| 18－14 | .110 | 12A2513 | ． 73 | 2.90 | 20.65 | 12.2516 | 1.68 | 6.70 | － 349.20 |
| 18.14 | ． 187 | $12 \mathrm{A1846}$ | ． 73 | 2.90 | 20.65 | 12.1848 | 1.33 | 5.29 | 37.69 |
| 18－14 | ． 250 | $12 \mathrm{A1847}$ | ． 73 | 2.90 | 20.65 | 12月1849 | 1，33 | 5.29 | 37.69 |
| （7）NYLON INSULATEO CLOSEO－ENO CONNECTORS |  |  |  |  |  |  |  |  |  |
| 20－14 |  | －．tomum |  |  |  | 12A1850 | 1.08 | 4.30 | 30.75 |
| 16.10 |  | －mounome |  |  |  | 12A1851 | 1.58 | 6.30 | 45.00 |

## TAP－OFF TERMINAL

Pierces through insulation of 10 to 18 stranded wire for solid electrical contoct．Installs with pliers or crimp tool．Plug in terminal supplied to fit top－off terminal． simplest way to connect trailer lights to your outo，of use anywhere to make a connection to existing wiring Completely insulcted．Shpg．wt． 6 pcs．－1 oz． 99
No． 12 A1852．Package of 6 for．．．．．．．．．．．
 16 Pacicages for
.$\$ 9.90$

## AMP HAND TOOL DOES 5 JOBSI

## CRIMPS TERMINALS！

 SHEARS BOLTSI STRIPS， CUTS AND GAUGES WIRE！
## $\$ 5^{95}$



The ideal tool for TV，Radio end electrical work．Crimpa terminois to wire ends for clean and true connections no solder needed．Shears screws，bolts sizes $10-24,10-32,8-32,6-32,4-40$ to desired length without thread damage．Strips and cuts wire sizes 22 to 10 fast，clean． 5 tripper notches also serve as Wire gauge．Wt．I lb．
37A3028．Type 49835－1．For Non－insulated Terminaly．Each．．．．．$\$ 5.95$

## WALDOM CRIMP TOOL \＆ TERMINAL KITS

Non－Insulated Terminol Kit contains 214 assorted
terminals－flonged spode，ring tongue，hook ton－ gue，quick disconnects，spade tongue，butt con－
nectors．With crimp tool in compartmented plostic box．Wt． 3 lbs．
No． 37 A3030．Type K－170．Eoch．．．．．．．．$\$ 13.95$
Insuloted Terminal Kir． 138 assorted insulated ter－
minals－spode tongue，butt connectors，quick discon－
nects，ring toncule，flanged spade．With Crimp Tool in compartmented plastic bax． No． 37 A3031．Jype K－180．Shpg．wt． $21 / 2$ los．Each．．．．．．．．．．．．．．．．．$\$ 14.95$

# Mueller CLIPS，ELECTRONIC HARDWARE 

MUELLER CLIPS AND INSULATORS SCREW OR LUG CONNECTIONS－NO SOLDER NEEDED．TYPES MARKED WITH ASTERISKS（O）ARE COPPER．OTHERS ARE OF STEEL（Cadmium． Plated）．＂S＂AFTER TYPE NUMBER INDICATES SCREW CONNECTORS． tSOLDER TYPE．Shpg．wt． 2 oz.

（1）

（2）

（3）

（4）
（1） 34 SERIES MICRO－GATOR CLJPS


Has microscopic tip，no larger than a pin head．Makes firm connection on printed circuits，transistors and other tiny terminals，use No． 36 insulators，Jisted below．

（0）י＂
Utilizes cord strain rellef ears to prevent breakage of lead wire．

| No． |  |  |  |  | Pric | ach |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Type | Leth． | Open | 1.9 |  | 100－499 | 00 up |
| ${ }_{12 \mathrm{l}}^{12 \mathrm{~A} 923}$ | ＋709 | $111{ }^{1 / 1}$ | 尔＂， | \＄0．08 | S0．058 | S0．05 | 0.045 |
| 12 A925 | －7005 | 196＂ | \％＂ | 10 | ． 117 | ${ }_{069} 09$ | 0.95 |
|  |  |  | Roco |  |  |  |  |
| 12 A 1010 | 35 | $2{ }^{2} h^{\prime \prime}$ | \％${ }^{\prime \prime}$ | 13 | 094 | ． 081 | 074 |
| 121281011 | －855 | 254＂ | ${ }_{\text {\％}}{ }^{\prime \prime}{ }^{\prime \prime}$ | ${ }^{26}$ | 18 | ． 153 | 124 | Needle type makes a quick temporary contact through insulation．

 \＆Meshing Teeth on all 3 Sides of Jaws．＊Solid Copper （17）FLEXIBLE

| Sth．No． | Type | For Clip | 1.9 | $\uparrow 0.99$ | 100．499 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 M 674 | 23 | 21 A | 48 | 34 | 29 |  |
| 12 m 673 | 26 | 24A． 25 C | ． 31 | 22 | ． 187 | ．152 |
| $12 M 1016$ | 29 | 27，27C | ． 19 | ． 134 | 115 | 093 |
| 12 P 1037 | 32 | 30，30С | ． 05 | ． 033 | 029 | 02 |
| 12.11014 | ${ }^{36}$ | 34， 34 C | ． 05 | ． 033 | 029 | ． 023 |
| 12 m 1015 | 49 | 48 C ． $50 \mathrm{C}, 5$ | ． 14 | ． 0988 |  |  |
| 12M1064 | 62 | 605160 CS ， | 06 | ．044 | ． 037 | 028 |
|  |  | 70，70－5． 70 | ． 06 |  | ． 037 |  |
| 12M1017 | 87 | 85，85T， 85 C | ．08 | ． 052 | ． 045 | 03 |

## SAFE．T－KLIP

Nylon insulated．safe operation to 600 volis insulation cor els outside of clip thoroughly pretecting aganst accidental shorts or contacl with power leads For screw or solder connection．Strain relef built－in 2 13／16＂fong
Packed in Pairs－ 1 Red and 18 lack No． 35 A8003．Industral Oevices B1410A．Por Pair
 1．9
1.9
Each
0.05
.07
.12
.18
.28
.48
.72
1.00
1.90
POLYSTYREME CEMENT

 per－100．

Heavy gauge steal，mickel plated． $7 \mathrm{~s}^{\prime \prime}$
wide with No． 6 ，mounting hole．Fits

$\begin{array}{lllll}12 \mathrm{A1} 1303 & 1 / /^{\prime \prime} & \$ 0.24 & \$ 7.54 & \$ 12.26 \\ 12 A 1304 & 1 / 4^{\prime \prime} & .22 & 1.43 & 11.45\end{array}$

Hold their shape under severest stress． Stands temp．of -60 to 300 degrees $F$ ． do not support combustion．All are $7 / \mathrm{B}^{\prime \prime}$ wide except $\mathrm{K}_{4}^{\prime \prime \prime}$ and larger ars $1 / 2^{\prime \prime}$ wide －white color．
 12A1098 泊＂ $12 A 1081$
12 K1099
$1 / 2$
 $12 A 1$
$12 A_{1}$
12
12 12A1
12A1
12 A 1
1

POLYSTYRENE SHEETS， TUBING，RODS
Polystyrene is excellent for high frequency Insulation． it is an ideal material for coll forms and insulators be． cause of its very low loss factor．Does not deteriorate with age．Aside from radio applications many attrac
10．Up
E．E．4
$\$ 0.04$
.06
.10
.15
.21
.38
.58
.80
1.52

60
TUBING－ $12^{\prime \prime}$ LENGTH

|  |  |  |  |  |  | TUBING－ | LEN |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock | 0.0. | wt． | ${ }_{\text {Each }}^{1-9}$ | 10．Up | Stock | 0．0．1．0． | Wt． |  | $10 \mathrm{Up}_{\text {Exeh }}$ |
| 128300 | $1 / 8$＂ | 1／4． | \＄0．05 | \＄0，04 | 128212 | $1 / 4^{\prime \prime} 1 / 6^{\prime \prime}$ | 1／4． | \＄0．10 | \＄0．08 |
| 128301 | K0＂ | 1／4 | ． 07 | ． 06 | 128309 | \％＂${ }^{\prime \prime}$ | 1／4 | ． 14 | ． 11 |
| 128219 | $1 / 4^{\prime \prime}$ | 1／4 | ． 12 | ． 10 | 128213 | ＊＂ $1 / 4^{\prime \prime}$ | 1／4 | ． 11 | ． 14 |
| $12 \mathrm{B302}$ | $\mathrm{Kc}^{\prime \prime}$ | 1 | ． 18 | ． 15 | 128214 | 122＂${ }^{\prime \prime}{ }^{\prime \prime}$ | 1／4 | ． 26 | ． 21 |
| 128220 | 30＂ |  | ． 28 | ． 21 | 128310 | 5＂ $1 \mathbf{2}^{\prime \prime}$ | 1／2 | ． 32 | ． 26 |
| 128221 | 1／2＂ | 12／2 | ． 48 | ． 38 | 128215 | 3／4＂${ }^{\prime \prime}$＂ | 1／2 | ． 40 | ． 32 |
| 128304 | 5／8＂ | 2 | ． 72 | ． 58 | 128216 | ${ }^{\prime \prime}{ }^{\prime \prime}$ 7／8＂ | 11／2 | ． 56 | ． 45 |
| $12 \mathrm{B222}$ | 3／4＇ | 3 | 1.00 | ． 80 | 128218 | $2^{\prime \prime} 13 / 4{ }^{\prime \prime}$ | 51／2 | 2.20 | 1.76 |
| 128223 | $1^{\prime \prime}$ | 8 | 1.90 | 1.52 |  | $12^{\prime \prime} \times 12$ | SHEET |  |  |
| No 1741 | Palys | EME | OENT |  | 1242311 | Y ${ }^{\prime \prime \prime}$ |  |  | \＄3．74 |





## LEE BEE

FAHNESTOCK CLIPS
Positive contact clips．Bronze．All others are Brass．Avg．shpg．wt． 5 oz．

| Illus． Fig． | Stock No． | $\begin{aligned} & \text { Mfg. } \\ & \text { Type } \end{aligned}$ | Lng． | Wd． | Max． Whe | Mig． Hole | $\begin{aligned} & 10 \\ & \text { for } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 1000 \\ & \text { For } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | 12 A1089 | 2 | I＇ | 3／8＂ | \＃10 | \＃8 | \＄0．55 | \＄4．32 | \＄38．73 |
| （1） | 1241090 | 10 | 3／7＂ | 年＂ | \＃14 | \＃6 | ． 36 | 2.78 | 24.21 |
| （2） | 12 A1091 |  | 110＂ | 3\％＂ | 㳟10 | \＃ 4 | ． 60 | 4.70 | 41.00 |
| （2） | 12 A927 |  |  | \％2＂ | \＃16 | \＃4 | ． 33 | 2.52 | 21.90 |

## THE FINEST ELECTRONIC HARDWARE



Please indicate B-h Stock No. and Quantity desired when ordering.
Weights, average per $100: 4.36,4-40-3$ oz.; $6.32-4$ 02.if $8.32-6$ oz.; $10-32-$ $902 \mathrm{in}^{2} / 4^{\prime \prime}-2$ lbs.

## (1) BINDER HEAD



## (2) ROUND HEAD



| $\begin{aligned} & \text { Steal } \\ & \text { Stock } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Leth. } \\ & \text { inch. } \end{aligned}$ | $\begin{aligned} & 20 \\ & \text { for } \end{aligned}$ | $\begin{aligned} & 100 \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 500 \\ & \text { For } \end{aligned}$ | $\begin{gathered} 1000 \\ \text { Fer } \\ \hline \end{gathered}$ | $\begin{aligned} & 5000 \\ & \text { Per } \\ & \text { Per } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1242106 | \% | . 30 | . 66 | 2.89 | 5.01 | 4.36 |
| 1242107 | 1/4 | . 31 | . 67 | 3.02 | 5.26 | 4.47 |
| 12.2108 | \% $1 / 8$ | . 32 | . 70 | 3.16 | 5.49 | 4.67 |
| 4-40 ZINC PLATED STEEL |  |  |  |  |  |  |
| 1242109 | 1/4 | . 30 | . 66 | 2.89 | 5.01 | 4.35 |
| 12 L 2110 | \% | . 31 | . 69 | 3.01 | 5.24 | 4.54 |
| 1242111 | 1/2 | . 35 | . 77 | 3.40 | 5.91 | 5.14 |
| 12 A 2112 | 1 | . 41 | . 92 | 4.04 | 7.02 | 6.10 |
| 6.32 ZINC PLATED STEEL |  |  |  |  |  |  |
| 1241073 | $1 / 4$ | . 32 | . 71 | 3.20 | 5.55 | 4.72 |
| 121074 | 3 | . 33 | . 73 | 3.27 | 5.68 | 4.83 |
| 12A1875 | $1 / 2$ | . 36 | . 80 | 3.60 | 6.25 | 5.31 |
| 12 A 1877 | 1 | . 41 | . 91 | 4.11 | 7.14 | 6.07 |
| 12A1078 |  | . 94 | 2.09 | 9.29 | 5.16 | 3.90 |

e. 32 ZINC PLATED STEEL \begin{tabular}{llllll}
\hline Steel \& \& \& \& 5000 <br>
Stock \& Lgth. \& 20 \& 100 \& 500 \& 1000 <br>
No. \& Inch. For \& For For \& For

 

No. Inch. For For For For \& M <br>
\hline 1211879 \& $3 / 6$ \& 48 \& 1.07 \& 4.93 \& 8.38 <br>
\hline 1.12

 

\& 1241879 \& $7 / 6$ \& .48 \& 1.07 \& 4.93 \& 8.33 <br>
\hline 1241880 \& $1 / 2$ \& .55 \& 1.23 \& 5.54 \& 9.64 \& 8.20
\end{tabular} $\begin{array}{llllllll}12 A 1880 & 1 / 2 & .55 & 1.23 & 5.54 & 9.64 & 8.20 \\ 12 A 1881 & 1 & .66 & 1.46 & 6.60 & 1.47 & 9.75\end{array}$ $\begin{array}{lllllllllllll}1211882 & 11 / 2 & .93 & 2.07 & 9.02 & 15.47 & 13.80 \\ 12 A 1883 & 2 & 1.07 & 2.37 & 10.45 & 18.17 & 15 & 80\end{array}$

 10-32 ZINC PLATEO STEEL

| 122113 | $3 / 6$ | .50 | 1.10 | 4.98 | 8.66 | 7.36 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | $\begin{array}{lllllll}1242144 & 1 / 2 & .58 & 1.29 & 5.83 & 10.13 & 8.61 \\ 1242115 & 1 / 4 & .70 & 1.55 & 7.02 & 12.19 & 10.36\end{array}$ | 1222115 | $1 / 4$ | .70 | 1.55 | 7.02 | 12.19 | 10.36 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1242116 | $1^{4}$ | .78 | 1.74 | 7.67 | 13.38 | 11.62 |

4-20 ZINC PLATED STEEL

| 1242103 | 1 | 1.48 | 3.2814 .80 | 25.73 | $21.87 \mid$ | 1242117 | 2 | 1.71 | 3.80 | 17.16 | 29.23 | 25.36 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | (0) Oval Head (fack Sćrews) ZINC Stuel




| Binder Head Screw \$ |  |  |  |  | Hex Nuta |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stk. No. | Size | 20 | 100 | 1008 | Stk. No. | Slze | 20 | 100 | 1000 |
| 12A2819 | $6 / 32 \times 3 / 8$ | 1.70 | 3.79 | 34.60 | 12A2827 | $6 / 32 \times 5 / 16$ | 2.87 | 6.37 | 59.35 |
| 1242820 | $6 / 32 \times 1 / 2$ | 1.70 | 3.79 | 34.50 | 12A2828 | $8 / 32 \times 7 / 18$ | 2.92 | 6.49 | 60.38 |
| 12A2821 | $6 / 32 \times 3 / 4$ | 1.70 | 3.79 | 34.50 | 12A2829 | $10 / 32 \times 3 / 8$ | 2.96 | 6.57 | 61.32 |
| 1242822 | $8 / 32 \times 3 / 8$ | 1.74 | 3.86 | 35.30 |  | Flat Wa | hers |  |  |
| 1242823 | $8832 \times 1 / 2$ | 1.74 | 3.86 3.86 | 35.30 35 |  | $=6 \times 5 / 16$ |  |  |  |
| $\begin{aligned} & 12 A 2824 \\ & 12 A 2825 \end{aligned}$ | $8 / 32 \times 3 / 4$ $10 / 32 \times 1 / 2$ | 1.74 1.74 | 3.86 3.85 | 35.30 35.30 | 12A2831 | = $=8 \times 3 / 8$ | $.35$ | 1.04 | 6.13 9.45 |
| 12 A2826 | $10 / 32 \times 1$ | 1.81 | 4.02 | 37.30 | $\underline{12 A 2832}$ | +10 $\times 1 / 16$ | 52 | 1.20 | 11.03 |

## (1.…

gound (3) Hexaganal
Ideal for use in raising sub panels, trans formers, spacing switch deeks, mounting sockets and other components, etc. mon-threaoed
(1) $1 / 4^{\prime \prime} 0.0$. Hole for $\# 6$ serew sth. No. Leth. Each 10 For 100 For

| $12 A 1173$ | $1 / 4^{\prime \prime}$ | .08 | .46 | 4.20 |
| :--- | :--- | :--- | :--- | :--- |
| $12 A 1174$ | $7 h^{\prime \prime}$ | .09 | .54 | 4.90 |
| $12 A 1175$ | $1 / 2^{\prime \prime}$ | .11 | .63 | 5.70 |
| $12 A 1176$ | $3 / /^{\prime \prime}$ | .15 | .90 | 8.20 |
| $12 A 1177$ | $1^{\prime \prime}$ | .18 | 1.07 | 9.70 |

BRASS CADMIUM PLATED MOUNTING SPACERS

THREAOEO FOR 5.32 SCAEW
(1) ROUN $y / \omega^{w} 0.0$.
(1) Round $y / 400.0$.

| Sth. No. | Lety. | Each | 10 For | 100 For |
| :---: | :---: | :---: | :---: | :---: |
| 1241469 | $1 / 4^{\prime \prime}$ | . 09 | . 53 | 4.80 |
| 121470 | 76" | .10 | . 62 | 5.60 |
| 121479 | 1/2" | . 12 | . 74 | 6.70 |
| 1214472 | 3/4" | . 19 | 1.12 | 10.20 |
| 12 A 1473 | $1{ }^{\prime \prime}$ | . 21 | 1.25 | 11.40 |
| (3) $\mathrm{y}_{6 / \mathrm{ch}}$ Hexagonal |  |  |  |  |
| 1201386 | $1 / 4^{\prime \prime}$ | . 10 | . 58 | 5.30 |
| $12 \mathrm{Al387}$ | \% ${ }^{\text {" }}$ | . 12 | . 72 | 6.50 |
| 12a1386 | 1/2" | . 14 | . 1 | 7.40 |
| 12A1389 | $3 / 4{ }^{\prime \prime}$ | . 21 | 1.23 | 11.20 |
| 12A1390 | $1^{\prime \prime}$ | 24 | 1.33 | 12.10 |



0
(3)

()
(3)

5

## (1) HEXAGON NUT8

Rustproot. Brass zinc plateo 100, 602.

Wt. P

 | 1222027 | $2.56-3 / 4.64$ | 1.42 | 6.3911 .11 |
| :--- | :--- | :--- | :--- |
| 9.44 |  |  |  | $\begin{array}{llllll}1242028 & 4.36 .1 / 46 & 1.68 & 7.59 & 13 . \\ 1242029 & 6-32.34 & 16 & 1.68 & 75913\end{array}$

12 A 2029 6-32.74.76 1.68

| 1242032 | 8.32 .14 .76 | 1.68 | 7.59 | 13.20 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $1031 / 46$ | 11.27 |  |  |  |

## (2) MOUNTING NUTS zinc plated steel

## Alì are $9 / 18^{\prime \prime}$ wide.

| STEEL ZINC PLATEO <br> Rustproof-greater strength |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Stack Ho. | Size inches | $\begin{aligned} & 20100 \\ & \text { Far For } \end{aligned}$ | $\begin{aligned} & 5001000 \\ & \text { For For } \\ & \hline \end{aligned}$ | ${ }^{5000}$ |
| 1212049 | $2 \cdot 56$ | 42.94 | 4.237 .35 | 6.25 |
| 12A1884 | 4-40 | 42.94 | 4.237 .35 | 6.25 |
| 1241815 | 6.32-1/4 | . 42.94 | 4.237 .35 | 6.25 |
| 1241866 | 6.32.\% | 451.01 | 4.577 .94 | 6.75 |
| 12A1887 | 8-32.\%6 | 451.01 | 4.57 7.94 | 6.75 |
| 1242050 | 10.32-\% | . 591.31 | 5.9210 .30 | 8.76 |
| 12A2051 | 1/4.20.\%/6 | 741.65 | 7.4512 .95 | 1.01 |
| (3) KNURLED NUT |  |  |  |  |

## Stock $20 \quad 100 \quad 5001000$

No. Type Thrd. For for for for
 $12 A 1890$ PUL. K-27 1.89 4.2018 .4833 .59 12Af897 Tog.S. W-32 1.032 .2910 .0818 .33

KNURLED NUT

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Steck No. | Siz: | $\begin{aligned} & 20 \\ & \text { for } \end{aligned}$ | $\begin{gathered} 100 \\ \text { Fer } \end{gathered}$ | $\begin{aligned} & 500 \\ & \text { For } \end{aligned}$ | $\begin{gathered} 1000 \\ \text { for } \end{gathered}$ |

12 A 2209 TOg.S. H.32 1.984 .41 '20.29 35.27 (4) ACORN NUTS

BRASS NICKEL PLATED, WL 100, 1 lb . | 1242052 | 6.32 | 1.58 | 3.52 | 15,48 | 28.13 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $12 A 2053$ | 8.32 | 1.68 | 3.73 | 18.41 | 29.61 |



## SELF-TAPPING METAL SCXEWS

| STEEL Cadmium Plated. Average shpg. wt per $100,602$. <br> (1) Rotiod head simlet pojnt |  |  |  |  |  | (3) HEX HEAD (SLOTTE BLUNT PdINT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | $\begin{gathered} \text { Stock } \\ \mathrm{Ne} . \end{gathered}$ | $\begin{aligned} & 51 z e \\ & \text { Inches } \end{aligned}$ |  |  | $\begin{aligned} & 5001000 \$ 000 \\ & \text { For For Parm } \end{aligned}$ |  |  |
| ck | Sir | 20 | 100 | 500 | 10005 |  |  |  |  |  |  |  |
| No. | In | For | For | Far |  | 12.2054 | $6 \times 1 / 4 \mathrm{~L}$ |  |  |  |  |  |
| 124203 | 6x1/4 | . 36 | 81 | 3.5 | 6.225 .41 | $\begin{aligned} & 12420055 \\ & 12.2056 \end{aligned}$ |  |  | . 924.04 |  | . 047.0 |  |
| 12 A 203 | 6x1/2 | . 4 | . 92 | 4.04 | . 02 |  |  |  | 1.10 |  |  |  |
| 12035 |  | 50 | 10 |  | . 407. | $\begin{aligned} & 1222056 \\ & 122057 \\ & \hline \end{aligned}$ | $\begin{aligned} & 8 \times 2 / 4 \mathrm{~L} .50 \\ & 8 \times 3 / 6.57 \end{aligned}$ |  |  |  |  |  |
|  |  |  |  |  |  | (c) PhILLIPS ROUNO HEAD GIMLET POINT |  |  |  |  |  |  |
| (1) | ROUNO HEAD ELUNT POINT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2037 | 6x1/4 | 36 | 81 | 3.58 | 5.225 .41 | $\begin{aligned} & 12.2058 \\ & 1222059 \end{aligned}$ | 6x1/4 | . 31 |  |  |  | . 11 |
| 203 |  |  | 92 |  |  |  | $6 \times 3 / 4$ |  |  |  |  |  |
| 12A2039 | $8 \times 1 / 4$ | . 45 | . 01 |  | 716.70 | 1222060 |  |  |  |  |  |  |
| 242040 | 8x/2 | . 50 | 10 |  | 3.40 7.30 | 1242061 | $8 \times 1 / 2$ |  |  |  |  |  |
|  |  |  |  |  |  | 12 L 2062 | $8 \times 3 / 4$ | . 57 | 1.26 | 5.55 |  |  |

(5) WOOD SCREWS STEEL ZINC PLATED ROUND MEAD


METAL AND FIBRE WASHERS


## RADID HARDWARE ASSORTMENT

Nuts, washers, grommets, springs, clamps, eyelets, screws, etc. to till practicaly any need. Handy Mo. 12A2005. Shps. Wh. 2 lbs. Not Exch............... \$1.59
MINIATURE JAPANESE HARDWARE ASSORTMENTS Metric hardware for replacement in Japanese radios, recorders and other Imports. Each package cantains 50 assorted screws, nuts and washers. Made in Japan. Shpg. wt. 4 ozs.
No. 12A2487. $2 \times 4$ MM. 50 Assorted
No. $1242488.2 .6 \times 6 \mathrm{MM} .50$ Assorted.
No. $12 \mathrm{~A} 2459.3 \times \mathrm{MM} .50$ Assorted.
PER
PACKACE
youn choice

## KNOBS AND VARIABLE CAPACITORS



| 5 toch | aico |  |  |  | 1.99 | 100.249 | 250-499 | 500.999 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | 018. | High | Color | Each | Each | Each | Each |
| 1212363 | K500A | . 500 | . 625 | Natural | 50.50 | \$0.45 | \$0.43 | \$0.41 |
| 1242364 | K5008 | . 500 | . 625 | Black | . 50 | . 45 | . 43 | . 41 |
| 12 A 2365 | K700A | . 750 | . 625 | Natural | . 55 | . 50 | . 48 | . 46 |
| 1242366 | K7008 | . 750 | . 625 | Black | . 55 | . 50 | . 48 | . 46 |
| 1293387 | K900A | . 937 | . 625 | Natural | . 65 | . 59 | . 57 | . 55 |
| 1212368 | K9008 | . 937 | . 625 | Black | . 65 | . 59 | . 57 | . 55 |
| 1242369 | K1250A | 1.250 | . 750 | Natural | . 75 | 68 | . 66 | . 64 |
| 12 A 2370 | K12508 | 1.250 | . 750 | Blach | . 75 | . 68 | . 66 | 64 |

Solid machined aluminum with ffuted sides. Fit $y^{\prime \prime}$ shafts. ${ }^{2}$ Allen her screws. Matural thats 2 allen hex pointer line. Black anodized knobs $\begin{array}{cccc}1.99 & 100.249 & 250.499 & 500.999 \\ \text { Each } & \text { Each } & \begin{array}{c}\text { Each } \\ \text { Each }\end{array} \\ 50.50 & \$ 0.45 & \$ 0.43 & \$ 0.41 \\ .50 & .45 & .43 & .41 \\ .55 & .50 & .48 & .46 \\ .55 & .50 & .48 & .46 \\ .65 & .59 & .57 & .55 \\ .65 & .59 & .57 & .55 \\ .75 & .68 & .66 & .64 \\ .75 & .68 & .66 & .64\end{array}$


Solid machined aluminum with dis. mond shaped knurl on side. 2 Allen Knobs screws. Fit $1 / 4$ shath Natura anodized knobs have White pointer line.

| 1.99 | $100-249$ | $250-499$ | 500.999 |
| :---: | :---: | :---: | :---: |
| Each | Each | Each | Each |
| $\mathbf{0 . 6 0}$ | $\$ 0.54$ | $\$ 0.52$ | $\$ 0.50$ |
| .60 | .54 | .32 | .50 |
| .65 | .59 | .57 | .55 |
| .65 | .59 | .57 | .55 |
| .80 | .72 | .70 | .68 |
| .80 | .72 | .70 | .68 |
| .95 | .86 | .84 | .82 |
| .95 | .86 | .84 | .82 |
| .08 | .06 | .050 | .042 |



Oress up knabs fos panels and equipment. Precision molded of rough black plastic. gloss finished. All have $1 / 4$ " hole and sel screw, Figure 1 has spun silver inday. Figure 4 for dual shaft concentric controts Has white fifled pointer line.

| Fig | Stock No. | Type No. | Size | $\begin{aligned} & \text { l-99 } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 100-499 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 500-998 \\ \text { Each } \end{gathered}$ | $\begin{aligned} & 1000 \\ & \text { up Ea } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 12A1216 | 1913 | 1-1/8"0.5/8"H | 50.60 | S0.45 | SO 42 | S0.30 |
| 1 | 12 A 1217 | 1925 |  | . 50 | . 38 | . 35 | . 25 |
| 1 | 12A1218 | 1930 | 11/2 $0 \times 7 / 8^{\prime \prime} \mathrm{H}$ | . 64 | . 48 | . 45 | . 32 |
| 1 | 12A1229 | 1940 | 2"Da15/16'H | . 8 | 60 | . 56 | . 40 |
| 2 | 12A1222 | 1910 | $3760 \mathrm{O} / 12 \mathrm{H}$ | 26 | 20 | . 18 | . 12 |
| 2 | $12 \mathrm{B60}$ | 19130 | 1-1/8"0x5/8"H | . 36 | 29 | . 25 | . 18 |
| 2 | 12 A1224 | 1920 | $11 / 40 \times 3 / 4 \mathrm{H}$ | . 32 | . 24 | . 22 | . 16 |
| 3 | 12A1226 | 1930 | 1\% "Ox7/8" H | . 34 | . 26 | . 24 | . 17 |
| 3 | 12B61 | 19400 | 2"0x15/16"H | 54 | . 41 | 38 | 27 |
| 4 | 12A1228 | Oual | 早"x1界" | . 58 | . 44 | 41 | 29 |
| 5 | 12B62 | 1919 | 1\% ${ }^{\text {"Lg.x5/8"H }}$ | 34. | .26 | 24 | . 17 |



## MILLEN



VARIABLE CAPACITORS
Sieatite insulated double beasing midget capacitor, 4 - shaft extends $1 / 2$ " io the tront and it" Io the sear for easy ganging $6-32$ tapped front and rear brackets for base mounting or has 3/ $8^{\prime \prime} \times 32^{\prime \prime}$ threaded bushing $5 / 8^{\prime \prime}$ long for single hole panel mount, Air gap $022^{\prime \prime}$. semi-circulas plates for straight line capacity tuning Average shipping wt. 80 as.

| Sleck | Millen |
| :--- | :---: |
| No. | Na. |
| 12A2803 | 19050 |
| $12 A 2804$ | 19100 |
| $12 A 2805$ | 19140 |
| $12 A 2806$ | 19250 |
| $12 A 2807$ | 19335 |

Cap P
Max
58
107
148
272
339

| Min | Shatt <br> iength |
| :--- | :--- |
| 6.5 | $2.13 / 18^{\prime \prime}$ |
| 8.2 | $3^{\prime \prime}$ |
| 9.7 | $3-3 / 16^{\circ \prime}$ |
| 13.7 | 334 |
| 14.7 | $4.1 / 8^{\prime \prime}$ |

Net
Each S6.24 S. 24
6.99
7.47
8.55


## JOHNSON SUB-MIDGETS

Type M. Steatite end plate only $5 / / 2$ $3 / 4 "$ ". " dio. slotted shaft extending tole. Riaidly soldered rotor and stator ossemblies. Plate spocing .017 , roting 750 volt RMS. Avg. wt. 4 oz



## JOHNSON TYPE U CAPACITORS <br> Requires less than .2 square inch mounting area. Screwdriver adjustment. Air 9 gop .010 Voltage rating 650 except 19,3 ond higher are 500 . <br> Cop (1) PANEL MTG. <br> 

| Cop. | P.F. |
| :--- | :--- |
| Max. | Min. |
| 9.2 | 1.4 |
| 11.6 | 1.5 |
| 14.1 | 1.7 |
| 16.7 | 1.8 |
| 19.3 | 2.0 |
| 21.9 | 2.2 |
| 24.5 | 2.4 |


| Stk. No. | Mfo. Ne. | §ach |
| :---: | :---: | ---: |
| $12 A 2499$ | $189-563-1$ | 50.94 |
| $12 A 2500$ | $189-564-1$ | .95 |
| $12 A 2501$ | $189-565-1$ | .97 |
| $12 A 2502$ | $189-566-1$ | .99 |
| $12 A 2503$ | $189-567-1$ | 1.00 |
| $12 A 2504$ | $189-568-1$ | 1.02 |
| $12 A 2505$ | $189-569-1$ | 1.05 |


| Stk. No. | Mf. No. | Eoch |
| :---: | :---: | ---: |
| $12 A 2506$ | $189-503-5$ | $\$ 0.64$ |
| $12 A 2507$ | $189-504-5$ | .66 |
| $12 A 2508$ | $189-505-5$ | .68 |
| $12 A 2509$ | $189-506-5$ | .70 |
| $12 A 2510$ | $189-507-5$ | .72 |
| $12 A 2511$ | $189.508-5$ | .74 |
| $12 A 2512$ | $189.509-5$ | .76 |

CERAMIC TRIMMERS AND PADDERS
With low loss ceramic base and clear mica dielectric.


DIAL ACCESSORIES, $\iota^{\prime \prime}$ COUPLINGS, SHAFTS


High quality American made $1 / 4^{\prime \prime}$ shaft accessorles. " $\mathrm{M}^{\circ}$ items are Millen: "J" Johnson; "N" National.


Lustrous black molded bakelse with white filled pointer line + Excepl $12 A 44$ is Red For "whalt - Indicates brass bushing insert All are set screw fype.

| Fig. | Slock No. | Davies No. | Size | 1-93 <br> Each | $\begin{gathered} 100-499 \\ \text { Each } \end{gathered}$ | 500-999 Each | $\begin{aligned} & 1000 \\ & \text { up E. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 12A1203 | 1510 | \% | S0 24 | S0.18 | S0.17 | S0.12 |
| 1 | 12826 | 1500 | $1.1 / 8^{\prime \prime}$ | . 18 | . 14 | . 13 | . 09 |
| 2 | $12 \mathrm{B27}$ | 1600 | 11/2 | 24 | . 18 | . 17 | . 12 |
| 3 | 12A918 | 1610 | 29/32 | . 22 | . 17 | . 15 | . 11 |
| 4 | 12 as20 | 1550 | $1.3616^{\circ}$ | . 18 | . 14 | .13 | . 09 |
| 5 | 12 A692 | 1475 | 1 | 18 | 14 | . 13 | . 09 |
| 6 | 12A693 | 1470 | $1{ }^{\prime \prime}$ | 22 | .17 | . 15 | . 11 |
| 7 | 12A45 | 2300 | 11/4* | . 14 | . 11 | . 10 | . 07 |
| 7 | 12 A44 + | 2300 | 114. | . 16 | 192 | . 11 | . 08 |
| 7 | 1281033. | 23004 | 110* | 22 | . 17 | . 15 | . 11 |
| 8 | 12A43 | 2350 | $2^{-}$ | 24 | 18 | . 17 | . 12 |
| 8 | $1281034^{\circ}$ | 2350 A | 2 | . 32 | . 24 | . 22 | . 16 |

BLACK CONTROL KNOBS
WITH WHITE POINTER LIME PLASTIC HOLE WITN SET SCREW

| Stock |  | 1.9 | 10-49 | 50-249 |
| :---: | :---: | :---: | :---: | :---: |
| Mo. | Description | Esach | Each | Each |
| 12A2397 | 11/2" Dla. Black-1/4" Shaft. Ohmite 5150 | $33^{\prime \prime}$ | 28 | $21^{1}$ |
| 12/2398 | $1^{\prime \prime}$ Dia. Black-1/4"Shaft | $3{ }^{\circ}$ | 28. | $22^{\circ}$ |
| 1242399 | $3^{\prime \prime}$ " Dia. Black-1/8" Shaft. Ohmite 5151 | 33. | 28. | $21^{\prime}$ |




Burstein-Applebee Co., 3199 Mercier St., Kansas City, Mo. 64111
 and brass gears. Overall lengt $4 \%^{\prime \prime}$. $1 / 4^{\prime \prime}$ densers, etc. Wt. 6 oz . No. 12Aig19. Not Each $\qquad$ $\$ 4.80$

# ELECTRONIC HARDWARE-DATAK TRANSFERS 

PROFESSIONAL QUALITY PHENOLIC CASES AND PANELS

qu rea clip 2 (1) PRECISION MOLDED BLACK PHENOLIC CASES
Matching panels recess mount. Model 220 has 4 tapped 4.36 holes for panel screws. Others have 6.32 tapped brass Inserts. Davies except * which are Keystone.


## DATAK INSTANT LETTERING DRY TRANSFERS

Not a decal... goes on instantly
ooks like printing. Transfers dry to proc: tically any surface-metal, wood, glass, plastic, poper. Lettering is cleon crisp and opaque, with no bockground film. Applies to panels, chassis, meter faces, etc., by rubobing over lettering as it appears an see-thru bocking sheet, giving pofessional appeorance to equipment.

## ASTIGMATISM

SPECIFY COLOR.
No. 12M2471. Titias for Electionic EquipmanL Contains $223 \times .5^{\prime \prime}$ sheets with hundreds of Ittas plus one alphabet and one numeral sheet.
Specify Black or White


No. 12M2472. Refill Alphabet 12 . 55.95
$\qquad$ No. 12M2473. Refill Numerals. 12 sheets $3 \times 5^{\prime \prime}$. Specily Black or White $\qquad$ $\$ 3.00$ No. 12M2474. Terminal \& Chassis Marking Kit. Cantains $243 \times 5^{\prime \prime}$ sheets of letters retter combinations and numerals. Specify Black of White..................................... $\$ 5.95$ No. 12A2475. Meter g Ojal Marking Kit. Contains $1243 / 4 \times 71 / 4^{\prime \prime}$ sheets with patterns. arcs, graduation lines, letters and numerals. Asst"d. Black, White and Red....... $\$ 5.95$ No. 12a2476. Protective Coat, Wif not crack or chip, affords complete protection to $180^{\circ}$ F. 102 . Bottle with Brush.
No. 12A24i7. 16 Oz. Glossy Spray.
ELECTRONIC SYMBOL DRAFTING KIT
Precision drawn schematic symbols save time and effort. Line widths and symbol sizes fit in with stondard military and ASA standards. Contoin $405 \times 7^{\text {ts }}$ sheets of black dry transfer symbols, letters and No. fakidy Complate. \$19.15


Furnished with nickeled brass hardware for mounting in panels up to $1 / 2^{\prime \prime}$ thick. Average welght 12 ors steatite pancel Average welght 12
typa 45 , Porcelain. 5tk. Na. Typa fig. Top Howe. NET $\begin{array}{llllrl}12.262 & 40 & \text { (1) } & 11 / 4^{\prime \prime} & 10.32 & 50.75 \\ 12 A 266 & 44 & \text { (1) } & \text { /f" } & 6.32 & 45\end{array}$ $124267 \quad 45$

STEATITE FEEO-THRU BUSHINGS For $1 / 2^{\prime \prime}$ mtg. hole. 6.32 hdwe. 5th. Ho. Type Fig. Hgt. Dla

HIGH VOLTAGE GRID CAPS
For TV repiacement. With $10^{\prime s}$ wire leads.
No. $12 A 2352$ 3/1" Cop.
No. $12 A 23531 / 4^{\prime \prime}$ Cop.
Choice
No.
156
49 c

## SPIRAL CUT <br> CABLE WRAP

Natural polyethylene for cabling and harness wiring. Allows taps to be pulled at any point, retains orlginal form and may be re-used
sired. Temperature range: $-105^{\circ}$ to $+215^{\circ} \mathrm{F}$. Natural color.

| Stock No. | O.D. | Max Cable Dia. | Per foot | 100 Ft . | 1000 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 248038 | $1 / 8{ }^{\prime \prime}$ | 1/2" | \$ 05 | \$3.25 | \$ 27.00 |
| 248039 | $1 / 4$ | $2 "$ | . 07 | 5.40 | 45.00 |
| 248040 |  | 3"' | .11 | 8.30 | 75.00 |
| 2 A8041 | 1/2 | $4^{\prime \prime}$ | . 14 | 12.00 | 112.00 |



GROMMETS, PLUGS AND BUMPERS


| Stock | C-E | SNAP HOL Fits Hole | GS | EL PLA | 500 | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Ola. | Each | For | For | For |
| 12A1448 | 1711A | 1/4" | \$0.05 | \$2.84 | \$12.47 | \$22.67 |
| 12A1335 | 1711 | 36" | . 08 | 3.22 | 14.17 | 25.75 |
| 12A1336 | 1712 | 1/2" | . 07 | 3.91 | 17.17 | 31.21 |
| 12 A 1337 | 1713 | $5{ }^{\prime \prime}$ | . 08 | 4.20 | 18.47 | 33.59 |
| 12A1338 | 1714 | $1 / 4^{\prime \prime}$ | . 09 | 4.34 | 19.18 | 34.87 |
| $12 \mathrm{A1343}$ | 1714A | $7 / 6^{\prime \prime}$ | . 10 | 5.88 | 25.86 | 47.02 |
| 12 A 1344 | 1715A | 11 | . 10 | 5.68 | 25.03 | 45.50 |
| 12A1339 | 1715B | 118" | . 14 | 7.52 | 33.10 | 60.18 |
| 12A1340 | 1715 | 11/4" | . 15 | 8.20 | 36.10 | 65.64 |

 $\begin{array}{ccccccc}512 . N 0 . & \text { linch } & 1.24 & 25-49 & 50.99 & 100.249 & 250-49 \\ 12 \mathrm{~B} 200 & 41 \mathrm{~V} & 32 \mathrm{c} & 24 \mathrm{c} & 21 \mathrm{c} & 20 \mathrm{c} & 18 \mathrm{c}\end{array}$ Soft like rubber. Greater resistance to GINY GRDMMETS


## GRID \& PLATE CAPS

## $12 A 1349 \mathrm{3} / \mathrm{B}^{\prime \prime}$ Notional 10

12 A 1356 "O Ins. Mitlen 3 49c
$\begin{array}{llll}12 A 2354 & \text { 3/8" Ins. Millen } & 3 & 49 \\ 124357 & \text { Comb, } 3 / 8=1 / 4^{\prime \prime} & 4 & 25 c\end{array}$


## HEAT GUNS \& ALPHA TUBING



## MASTER MITE HEAT GUN

Compact. light weight $8-7 / 8^{\prime \prime}$ long in a tough. ultra high impret housing with indicator light for on-off indication. Stands vertical or at a $45^{\circ}$ angle on workbench if desited. 3 position switch. Hol-cool-afl, and 3 whe cord and plug Non-adjustabie, the Mite uses optional nozzies for ditterent heat ranges Surpplied with sllver nozzte rated $650^{\circ}$ F. 475 watts, recommended for PVC, FEP. Neoprene and other most comman shrink materials. Complete with deflector adaptor batfle. Shpg. w1 2 lbs

| Heating element nozles ant adaptor for Mite. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Stik. No. | Modal No. | Color | Temp. | Watt |
| 3749121 | 20012 | Blue | $500^{\circ} \mathrm{F}$ | 325 |
| 37 A9122 | 20013 | Silver | $650{ }^{\circ} \mathrm{f}$ | 475 |
| 37 A9123 | 20014 | Black | $800^{\circ} \mathrm{F}$ | 525 |
| 37 A9124 | 40061 | Piopoint | le A |  |


|  |  |  |
| :--- | ---: | ---: |
|  |  |  |
| For | Each | 3 Each |
| Mylar | $\$ 3.95$ | $\$ 3.55$ |
| PVC, FEP | 3.95 | 3.55 |
| TFE, Téllon | 3.95 | 3.55 |
|  | 2.50 | 2.25 |

## UNGAR PRINCESS HEAT GUN

Specially designed for electronics assembly. compiete with 4 baliles for all heal shrink materials. Air stream at nozte is only $3 / 8$ inch diameter. Case designed for gun to stand on warkbench if desured. Separate On -Off and Hot-Cold switches. Molded polyestet glass case, with 2 wire cord and plug Fated 250 watts, 120 VAC. $750^{\circ}$ to $800^{\circ}$ noule ar flow lemperature. Shpg. wi. 2 lbs.
No. 37A9115. Model 6955 Etech ................... S39.95 3 Each

## hEAT SHRINKABLE COVERS



Irsadiated Polyolefin covers and seals sprices, connectors, coax splice joints, wherever complete profection is needed Seal adheres 10 aluminum, copper, plasicc insulation etc., forming a waterprool. encapsulated, insulated and abrasion resistant joint. For underground or overhad outsida exposure as weil as for indoor use from ${ }^{\circ} 65^{\circ} \mathrm{C}$ to $+130^{\circ} \mathrm{C}$. Rated 600 volis, black color.

| Stock | Mig. | Drig. | After | Length | \$-100 | 101. | 250 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | ID | Shrink | Inches | Each | 249 | 4 D |
| 248043 | SPC400 | 4 | . 15 | 8 | S 66 | \$ .60 | \$. 54 |
| 248044 | SPC750 | $75^{\prime \prime}$ | .22" | $B$ | 75 | 68 | 63 |
| 249045 | SPC800 | $8{ }^{\prime \prime}$ | $25^{\prime \prime}$ | 12 | 1.27 | 1.15 | 1.04 |
| 248046 | SPC110 | $1.1{ }^{\prime \prime}$ | . $375{ }^{\circ}$ | $-12$ | 1.38 | 1.26 | 1.14 |
| 248047 | SPC130 | $1.3{ }^{\prime \prime}$ | . $65{ }^{\prime \prime}$ | 12 | 1.60 | 1.44 | 1.30 |
| 248048 | SPC150 | 1.5" | . $5^{\prime \prime}$ | 14 | 2.08 | 1.87 | 1.68 |
| 2A8049 | SPC180 | $1.8{ }^{* \prime}$ | . ${ }^{\prime \prime}$ | 14 | 2.31 | 2.07 | 1.86 |

2AB052 SK-1 Waterprooling and insulating kut includes $46^{\prime \prime}$ pcs. SPC750. $48^{\prime \prime}$ pcs. SPC110, 2 12** pes. SPC150, i 12" pc. SPC180, and I rall TYT100. Kit Each ................................ . $\$ 14.95$

## MEAT SMRINKABLE ELECTRICAL TAPE

Similar to covers above but in $7 / 4^{\prime \prime}$ wide tape. shrinks about 30\% in length. Seals. waterpoots, insulates, and cannot be peeled off. Mggr. No TYT100


## ALPHA PVC- 105 PLASTIC TUBING

For all electronic, electrical and aircraft applications. Conforms to MIL-1-6310. strength, non-flammable and resistant to oils and corrosion. Ftexible from - $20^{\circ} \mathrm{C}$ to $+105^{\circ} \mathrm{C}$. Stocked in clear only. Avallable on special order in Black, White, Yellow, Red, Green colors. Minimum special order amount $\$ 25.00$. Wt. of Size 1 is 1.2 lb .


| Stock No. | Slze | I.D. | $\begin{aligned} & \mathbf{2 5}^{\prime} \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 50^{\prime} \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 100^{\prime} \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 250 \\ & \text { For } \end{aligned}$ | $\begin{aligned} & 500 \\ & \text { For } \end{aligned}$ | $\begin{gathered} 1000^{\prime} \\ \mathrm{Fgr} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 AB002 | 24 | . 022 | \$0.81 |  | \$2.43 | ...*- | \$8.80 | \$13.00 |
| 288003 | 22 | . 027 | . 81 | ….... | 2.44 | .....- | 8.05 | 13.10 |
| 2A8004 | 20 | . 034 | . 83 | - | 2.49 | - | 8.05 | 13.50 |
| 2A.6005 | 19 | . 038 | . 85 |  | 2.55 | -...... | 8.30 | 13.50 |
| 2 AB006 | 18 | . 042 | . 86 | - | 2.58 | ...- | 9.40 | 13.80 |
| 2AB007 | 17 | . 047 | . 87 | $\xrightarrow{+}$ | 2.61 | -nom | 9.55 | 14.00 |
| 2A8008 | 16 | . 053 | . 81 | ....... | 2.72 | ........ | 10.00 | 14.60 |
| 248010 | 14 | . 066 | . 96 |  | 2.89 | ........ | 9.85 |  |
| 248011 | 13 | . 076 | . 98 | nememo | 2.94 | ...ome | 10.20 |  |
| 248012 | 12 | . 085 | 1.02 | \%acom | 3.07 | \%omen | 10.70 | - |
| $2 \mathrm{ABO13}$ | 11 | . 095 | 1.05 | $\cdots$ | 3.15 | - | 11.05 | - |
| 288014 | 10 | . 106 | 1.09 | ........ | 3.27 | - | 11.55 | - |
| 2 A 8015 | 9 | . 118 | 1.42 | ...- | 4.27 | - | 15.70 | - |
| 248016 | 8 | . 133 | 1.52 | ........ | 4.57 | +1,00* | 16.85 | - |
| 2A8017 | 7 | . 148 | 1.61 | ...-noso | 4.84 | ..... | 18.10 | - |
| 2 A 8018 | 6 | . 166 | 1.73 | -mon+. | 5.19 | .....os. | 19.55 | * |
| 2A8019 | 5 | . 186 | 1.86 | ........ | 5.58 |  | 21.15 | * |
| 248020 | 4 | . 208 | 2.00 | $\cdots$ | 6.00 | 13.75 |  | * |
| 2A8021 | 3 | . 234 | 2.13 | ..-- | 8.38 | 14.70 | * | * |
| 248022 | 2 | . 263 | 2.30 | .aren.. | 6.91 | 16.03 | - | - |
| 2A6023 | 1 | . 294 | 2.43 | - | 7.42 | 17.32 | - | * |
| 2A8024 | $K_{11}{ }^{\prime \prime}$ | . 312 | 2.48 |  | 9.42 | 22.30 | - | - |
| 2A8025 | 0 | . 330 | 2.66 | momeose | 7.98 | 18.70 | \% | - |
| 248026 | $3 / 8{ }^{\prime \prime}$ | . 375 | 2.83 | - | 10.81 | 25.78 | - | * |
| 288027 | 76" | . 438 | 3.15 |  | 11.58 | - | * | 1 |
| 2A8028 | $1 / 2^{\prime \prime}$ | . 500 | 3.44 |  | 12.77 | - | - |  |
| 248029 | K0" | . 562 | 4.50 |  | 17.00 | - | - | * |
| 248030 | 5\%" | . 625 | 4.85 |  | 18.38 | * | - | * |
| 248031 | $34^{\prime \prime}$ | . 750 | 6.95 | 12.67 | $\bullet$ | * | $\bullet$ | - |
| $2 \mathrm{AB032}$ | 7/8 ${ }^{\prime \prime}$ | . 875 | 7.37 | 14.25 | $\bullet$ | - | - | - |

## ALPHA HEAT SHRINK TUBING

 FIT-221 IRRADIATED POLYEFIN TUBINGApplication of $225^{\circ}$ to $255^{\circ} \mathrm{F}$, heat shrinks tubing $50 \%$ in diameter, only $5 \%$ in length within 7 secands. Use heal guns at lett for fastesi shrikage Insulates connectors, splices, terminal lugs, tool handles. Exceitent resistance to oid, solvent and flame. Stoeked in black color. Conforms to Mil-t$23053 / 5,4 \mathrm{Ft}$ standard factory length. We cul to 1 FL fength lor shipping untess you specify 4 FL

| Size | Original I.D. | I.D. After Heating | Walt Thickness | Per Foot | $\begin{gathered} \text { Net per } \\ 20 \mathrm{Ft} . \end{gathered}$ | 100 Pt. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * ${ }^{\prime \prime}$ | . 046 | . 023 | . 016 | \$0.19 | \$ 3.40 | \$15.45 |
| 10" | . 063 | . 031 | . 017 | . 20 | 3.60 | 16.35 |
| ${ }_{12}{ }^{\prime \prime}$ | . 093 | . 046 | . 020 | . 23 | 4.20 | 18.90 |
| 1\%" | . 125 | . 062 | . 020 | . 24 | 4.40 | 20.05 |
| 10" | . 187 | . 093 | . 020 | . 30 | 5.50 | 24.50 |
| $1 / 4 \prime \prime$ | . 250 | . 125 | . 025 | . 37 | 6.80 | 30.90 |
| 381 | . 375 | . 187 | . 025 | . 45 | 7.50 | 34.25 |
| $1 /{ }^{\prime \prime}$ | , 500 | . 250 | . 025 | . 51 | 7.75 | - |
| $3 / 4{ }^{\prime \prime}$ | . 750 | . 375 | . 030 | . 62 | 10.55 | - |
| $1^{\prime \prime}$ | 1.00 | . 500 | . 035 | 90 | 14.60 | - |

FIT-105 POLYVINYLCHLORIDE TUBING
Requires highet heat $\left(325^{\circ} \mathrm{F}\right)$ and shrinks up to $10 \%$ in length compared to FiT-221. Continuaus lengths allows uss for longer cable jackets, etc. Black color. Conforms to MIL 1-23053/2.

Specily Stack No. 2 M8042 and size when ordering.

| Size | $\begin{gathered} \text { Original } \\ 10 \end{gathered}$ | 10 After Heating | Walt Thickness | 25 Ft . | 100 FL | 200 ft . | 500 ft |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3/64' | . 046 | . 023 | . 020 | \$2.84 | \$11.34 | S-- | \$56.70 |
| 1/16" | . 062 | . 031 | . 020 | 3.05 | 12.08 |  | 60.38 |
| $3 / 32^{\prime \prime}$ | . 093 | . 046 | . 020 | 3.47 | 13.81 | 27.62 | , 3 |
| $1 / 8$ | . 125 | . 062 | . 025 | 3.68 | 14.60 | 29.19 | - |
| $3 / 16^{\prime \prime}$ | . 187 | . 093 | . 025 | 4.46 | 17.85 | 35.70 | -- |
| 1/4" | 250 | . 125 | . 025 | 5.87 | 22.58 | 45.15 | - |
| 3/8* | 375 | . 187 | . 030 | 6.25 | 24.87 | 49.77 | -- |
| 7/2 | 500 | . 250 | 030 | 7.09 | 28.30 |  | - |
| $3 / 4$ | 715 | . 375 | . 035 | 9.45 | 37.85 | - | - |
| $1{ }^{\prime \prime}$ | 1.000 | . 500 | . 040 | 13.65 | 54.50 | - |  |

## 6-INCH FIT-221 SHRINK TUBING ASSORTMENTS

Assorted colors, red, black, white, yellow, blue and clear of the same shrink tubing described above. Each length identified as to size.

| Stock No. | $\begin{aligned} & \text { Alpha } \\ & \text { No. } \end{aligned}$ | Tubing size Range | lengths in Package | $\begin{gathered} \text { Per } \\ \text { Package } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| $2 \mathrm{AB035}$ | FlT221 MS-1 | \%" thru \%or | 30 | \$4.84 |
| 248036 | FIT221 MS-2 | $1 / 4^{\prime \prime}$ thru $7 / 4^{\prime \prime \prime}$ | 16 | 9.67 |
| 2 28037 | FIT221 MS.3 | $1^{\prime \prime}$ thru $4^{\prime \prime}$ | 10 | 8.45 |

No. I6A1152 Catalog of Alpha Tubing and Accesseries FREE of Request.

- REQUEST QUANTITY PRICES FROM OUR INOUSTRIAL DEPARTMENT

PRESSURE SENSITIVE LABELS


## belden Wire and cable

VINYL AND TEFLON HOOK-UP WIRE MIL-W- 76 TYPE MW VINYL - 1000 V. $80^{\circ}$ C Yinned copper conductors. Spacity color: Brown, Red, Ora -Stocked in Red, Green, White and glack only

TYPE E-MIL-W-16878 TEFLON 600 V. $200^{\circ}$. C High temperature wire with superior long-lifs insulation Concentrically stranded silver coated copper conductor. In Yellow Trekness. 010 . Specity Color: Brown. Red, Orange Yellow, Green, Light Blue, Gray, White or Black

| Stock | Beldan | AWg | 0.0 . |  | 100 | 500 | 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | stranding | inch | 1000 Ft . | Ft. | Ft. | Ft. |
| 2M409 | -83000 | 30 (7x38) | . 033 | 1 | \$4.50 | \$13.43 | \$25.35 |
| 2M410 | 83001 | 28 (7x36) | . 036 | 2 | 4.75 | 14.10 | 26.70 |
| 2M411 | 83002 | 26 (7x34) | . 041 | 2 | 5.10 | 15.95 | 30.40 |
| 2 M 412 | 83003 | 24 (19836) | . 046 | 3 | 6.25 | 20.45 | 40.90 |
| 2M 413 | 83004 | 24 (7x32) | . 045 | 3 | 5.40 | 16.80 | 32.10 |
| 2 M 414 | 83005 | 22 (7x30) | . 051 | 4 | 6.25 | 20.48 | 39.45 |
| 2 m 415 | 83006 | 22 (19x34) | . 052 | 4 | 6.85 | 22.95 | 44.40 |
| 2M416 | 83007 | 20 (19x32) | . 060 | 6 | 7.90 | 27.30 | 53.10 |

PRIMARY WIRE - MARINE AND AUTO S.A.E. TYPE G.P.T.

For high current with minimum voltage drop for mobile electrical systems. vinyl iosulated to withstand heat, ofit, abrasion.

| Stock | Belden | AWG \% | 0.0. |  | Wt. | 25 | 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Strandin | Inch | Color | 100 Ft . | Ft. | Ft. |
| 28127 | 8685 | 16 (19x29) | . 102 | Black | 1 | \$0.93 | \$3.32 |
| $2 \mathrm{B126}$ | 8684 | 14 (19x27) | . 117 | Green | 2 | 1.23 | 4.38 |
| 28129 | 8683 | 12 (19x25) | . 142 | Red | 3 | 1.72 | 6.15 |
| 2C130 | 8682 | 10 (19x23) | . 175 | White | 4 | 2.44 | 8.70 |
| 2 C 332 | 8681 | 8 (19x21) | . 219 | Chrome | 7 | 4.96 | 17.70 |

## HI-FI CONNECTING CABLE



Belden 8421. Size
25 (7x33) 3 strands tinned copper and 4 tinned Copperweld, copper, black vineis ( $16 \times 30$ ) gayge tinned cellular polyethyiene insulated. tinned pep braid shield overall. Ideal for Jetodin copper spiral wrapped shileld, chrome or hookup. . $105^{\prime \prime} 0 . \mathrm{D}$. Wt. $100^{\prime} 2 \mathrm{lbs}$.
 $\$ 5.40 \quad 1000 \mathrm{Ft} \ldots \ldots .$.

## TEST PROD WIRE

Extremely flexible high voltage wire. Conductors are tinned copper stranded cotton wrap and nubber insulation overall. 8899 stocked in red, black. green and yellow, others stocked in red


## HIGH VOLTAGE CRT LEAD

Fot replacement anade lead and hugh voltage expenmental projects. Tinned copper. polyethylene insulated.
qed vinyi acket overall.

| Stock | Belden | AWG L <br> No. <br> No. <br> Stranding |
| :---: | :---: | :---: |
| $2 A 261$ | 8868 | $22(7 \times 30)$ |
| $2 A 9965$ | 8866 | $18(16 \times 30)$ |


| Warking | Breakdown | 25 | 100 |
| :--- | :---: | ---: | ---: |
| Voltage | Voltage | Ft. | Ft. |
| 25,000 | 50,000 | $\$ 1.44$ | $\$ 3.63$ |
| 40,000 | 110,000 | 2.31 | 6.53 |

## SOUND SYSTEM, ALARM OR SPEAKER EXTENSION

Solid conductor vinyl insulated 8492 is brown with 1 conductor tinned 8483 is coded gray, brown, tan

| Stock No. | Belden No. | Size | Cond. | 0.0. | $\begin{aligned} & \text { Wt. Per } \\ & 100^{\prime} \end{aligned}$ | $25$ | 100 | $1000$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 249889 | 8492 | 19 | 2 | . 17 | 11/2 Lbs | \$1.43 | \$3.24 | \$25.95 |
| 249890 | 8483 | 19 | 3 | . 132 | 2 Ltis. | 1.72 | 3.90 | 31.50 |
| INDOOR ANTENNA WIRE |  |  |  |  |  |  |  |  |
| Bel4en 8014. Size 25 ( $13 \times 36$ ) stranded tinned copper, 010 watl of chrome vinyl plastic insulation. O.D. .044". |  |  |  |  |  |  |  |  |
|  |  |  | 2 |  | 80 c |  | $500$ | \$4.50 |



MICROPHONE CABLES
Designed to withstand the flexing and normal abuse of studio. lab and home usage. Plastic jacket cables have polyethylene insulated conductors, rubber jacket cables have rubber in. sulated conductors.

| ME VINYL. PLASTIC JACKET OVERALL |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. No. | Cond. | 0.0. | Use | Strandiag | Per F i | $100^{\prime}$ | FL | Ft. | $1000$ |
| 2A9906 8401 | 1 | . 200 | Hi imp. | 25 (7x33) | 25 Pf . | 3 | \$1.92 | \$6.30 | \$52.80 |
| 2499078411 | 1 | . 144 | Lapel Mike | 25 (7x33) | 37 Pf . | 2 | 1.65 | 4.95 | 41.80 |
| 2 A9908 8422 | 2 | . 231 | Low Imp. | 22 (16x34) | 32 Pf . | 4 | 2.76 | 8.95 | 78.80 |
| 2A9935 8404 | 4 | . 255 | Low Imp. | 20 (26x34) | 40 Pf . | 6 | 4.48 | 13.65 | 124.60 |
| 2498948410 |  | . 245 | BLACK RU Hi imp. | BER JACKET $25(7 \times 33)$ | $1000$ |  | 3.60 | 11.90 |  |
| 2498958412 | 2 | . 268 | Low Imp. | 20 ( $26 \times 34$ ) | 68 Pf | 5 | 3.87 | 13.35 | 122.40 |
| 2 A9909 8423 | 3 | . 277 | Low Imp. | 20 (26x34 | 85 Pf . | 6 | 4.50 | 15.00 | 141.00 |
| 2A9910 8424 | 4 | . 295 | Low Imp. | 20 (26x34) | 95 Pf . | 7 | 5.01 | 16.70 | 157.50 |

## HEAVY DUTY HYPALON JACKET MIKE CABLES

Especially designed for studio applications. Highly esistant to heat, impact, abrasion. Extra resistance to sunlight, ozone, water, oll and chemicals, makes it suitable for outdoor applicatlons. Brown color Dupont Hypaton jacket biends readily with back prounds. Useful for shielded power cables up to groun
600 V .

| Stock | Bel | Mo. |  | AWG |  | Lbs. | Per | 100 |  | 250 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Con | 0.0 |  |  | $100^{\prime}$ | Ft. | Ft. |  |  |
| 249969 | 8402 | , | . 268 | 20 | 68 Pf , | 6 | \$0.17 | \$14.40 |  | \$34.3 |
|  |  |  |  |  |  |  |  |  |  |  |

## BELDEN RECTRACTILE (COILED) MIKE CORDS

bLACK NEOPRENE JACKET WITH RUBBER INSULATION


SINGLE CONDUCTOR with spiral timned coppar shield. Size 24. No. 8499 stranded ( $45 \times 40$ ). No. 8605 ( $18 \times 36$ ), Dis. $160^{*}$ Wt. K lb.
Each 29051 Belden 8605,12 f. retacts to $211 / \pi^{m} \$ 1.20$

3 CONDUCTOR with Eetafoil shield with draln wire on one conductor. Size $23(21 \times 36)$ stranded Dis. $250^{-1}$. Wt. $1 / 2 \mathrm{lb}$.
No. 298249 . Belden $8497^{2} .6 \mathrm{M}$. retracts to $111 / 2^{\prime \prime}$. Each $\$ 1.77 \quad 50 \mathrm{Ea}$. $\$ 1.50$ No. 29A3052. Belden 9417, 15 ft . retracts to $30^{\prime \prime 2}$. Eech $\$ 3.60$............... 15 4 CONDUCTOR unshlelded, Size $23\left(21 \times 36\right.$ ) stranded. Dia. $250^{\prime \prime}$. Wt. $1 / 2 \mathrm{tb}$. 50 . No. 298251 . Belden 8415 . 6 ft . retracts to $111 / 2^{\prime \prime}$. Each $\$ 1.64$. Belden $9415,15 \mathrm{ft}$. retracts to $30{ }^{\circ}$. Each $\$ 3.45$ Ea. $\$ 1.48$ beLDEN RETRACTILE (COILED) TELEPHONE CORDS
Spade terminals each end, strain rellef one end. Vinyl insuiated. Black vinyl Jacket. Size $23(21 \times 36)$ stranded. Unshielded. Length- $41 / 2 \mathrm{ft}$., retracts to 10 inches. Wt. $1 / 2 \mathrm{lb}$.
2A401. Beiden 8495. 3 Conductor. Each
. $\$ 1.99$

## BELDEN 2-WIRE SPEAKER \& INTERCOM CABLE

Stranded copper parallel conductor, coded, 1-tinned, 1-copper. Zip apart vinyl insulation.
No. 2M19. Belden 8782. Size 24 ( $7 \times 32$ ), $058 \times .115$ O.D. Wt. per $1000 \mathrm{ft}, 6$ fbs. stocked in Chrome, Sand White and Clear-Specity Choice.
 No. 2A16. Belden 8649. Size 20 ( $7 \times 28$ ) , $073 \times .146$ O.D. Wt. per 1000 ft . 11 lbe. Stocked in Chrome and Clear-Specify Choice. 25 Ft . For......... $\$ 1.30 \quad 100 \mathrm{Ft} \ldots \ldots .$.


2 CONDUCTOR UNSHIELDED

## AUDIO CABLE

Stranded, color coded and cabled. Ideal for most audio or speaker instaliations. Vinyl insulated with chrome vinyl jacket overall.
Sth. No. Beiden AWG \& Stranding O.D. Wt. $100^{\circ}$ Per Fi. 100 Ft . 1000 Ft . $\begin{array}{rrlrlrrr}249930 & 8205 & 20(10 \times 30) & .190 & 2 \mathrm{lbs} & \$ 0.05 & \$ 3.83 & \$ 28.20 \\ 2 A 9931 & 8461 & 18(726) & .226 & 3 \mathrm{lbs} & .05 & 5.07 & 41.70 \\ 2 A 9932 & 8471 & 16(19 \times 29) & .256 & 4 \mathrm{lbs} & .08 & 6.80 & 56.70\end{array}$

## BELDEN PARALLEL LAMP CORD

Two flexible stranded 18 (41×34) copper conductors, Brown color. U.L IIsted. WL. 3 los.



## HEAVY DUTY PORTABLE RUBEER CABLE



For extra hard use such as portible tools, battery chargers and heavy equipment when up to 300 volts are required.
Stranded copper conductors wrapped and color coded with rubber insulation. Black rubber jacket overall. UL listed.


Belden 8418. Conductors are size 20(26x34) tinned copper Selden 8418. Conductors are size 20(26x34) tinned copper coded. Rayon brald over conductors and flllers, with tinned copper shield, cotton serve and black rubber lacket overall. copper shield, cotton serve and black rubber lacket averall 2 A9934 Per Ft. per 100 ft .12 lbs. 100 Ft . for

## BELDFOIL $100 \%$ SHIELDED CABLES

Beidfoil shiaiding has superior fow noise characteristics at greatly reduced cost. Shielding is continuous sheath of Mylar backed aluminum foil with ground draln wire for each shield. Superior fiexibility and more continuous shielding when hoxed. Chrome viny jocke overall. No. 8417 has 3 strands inned copper and 4 tinned copperweld, double beldfoil shieit. Others. stranded copper cond.


| Stk. No. | Belden No. | No. Pr. | Size | 0.0. | $\begin{aligned} & \text { Wt. } \\ & 100^{\prime} \end{aligned}$ | Per <br> Ft. | $\begin{gathered} 100 \\ \text { Ft. } \end{gathered}$ | $\begin{aligned} & 500 \\ & F t . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 A9957 | - 8640 | 1 | 28 Solid | . 090 | 1 | . 04 | 3.11 | 14.40 |
| $2 A 253$ | *8642 | 3 | 28 Solld | .140 | 1 | . 10 | 8.72 | 40.70 |
| 2A9958 | 8767 | 3 | 22 Solid | . 279 | 5 | . 14 | 11.40 | 52.20 |
| 249959 | 8768 | 6 | 22 Solid | . 394 | 9 | . 27 | 23.25 | 109.10 |
| 249960 | 8764 | 9 | 22 Solid | .440 | 14 | . 37 | 31.80 | 154.50 |
| 2A996: | 8765 | 11 | 22 Solid | . 485 | 14 | . 45 | 38.25 | 184.50 |
| TWO CONDUCTOR MINIATURE AUDIO CABLE |  |  |  |  |  |  |  |  |
| 249962 | 8450 |  | 22 Solld | . 118 | 2 | . 08 | 4.50 | 16.70 |
| 249920 | 8451 |  | $22 .(7 \times 30)$ | . 135 | 2 | . 06 | 4.74 | 19.50 |

## DUAL CHANNEL AUDIO CABLE

Individual shiedded conductors for language Labs, etc. Slze 25
(7X33) stranded color coded vinyl insulated, with spira! wrapped tinned copper shields, chrome vinyl zip apart jacket .D. .106X. 213.
Na. 2838. Belden 8416. W. 100' 2 lbs.
25 Ft . $\$ .16100 \mathrm{Ft}$. $\$ 7.05250 \mathrm{Ft}$

## SHIELDED SOUND CABLES

2 Conductor, spiral ehield-Size 18 (7X26), tirned copper stranded copper spiral wrapped shield, chrome vinyl lacket. Recommended for long cable runs. . 231 0.0.
 249921 Belden 8790 . Wt. $100^{\circ} 4$ lbs.

## 1000 Ft....- $\$ 86.00$

Tinned copper size 22 (7x30) stranded conductors, vinyl plastic
insulated and color coded chrome vinyl jacket overall.
8734 (illus.) has tinned copper shield over one conductor only.
8735 has tinned copper brald shield over entire cable.
8737 has spiral wrapped shield over entire cable. 8737 has spiral wrapped shield over entire cable.
$\qquad$


| stock No, | $\begin{aligned} & \text { Belden } \\ & \text { No. } \end{aligned}$ | Color | Shield | 0.0. | $\begin{gathered} \mathrm{Wt} \\ 100 \mathrm{Ft} \end{gathered}$ | $\begin{aligned} & \text { Per } \\ & \text { Ft } \end{aligned}$ | $\begin{gathered} 100 \\ \text { Ft. } \end{gathered}$ | $\begin{aligned} & 1000 \\ & \text { Ft. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 249891 | *8437 | Black | Brald | . 200 | 3 lbs . | \$0.07 | \$6.58 | \$ 54.80 |
|  | 8739 | Chrome | Spiral Wrap | . 160 | 2 lbs . | . 06 | 4.58 | 38.7 |

## SMALL DIAMETER FLEXIBLE WIRES

FOR PHONO ARMS, PIGTAIL LEADS, ETC. WT. 100 ft .1 Lb
Shietded Singte Conductor \#24 (16X36). 0.D. 095", brown cotton braid overall
 Shieided 3-Conductor 32 ( $3 \times 40$ ). O.D. 067
No. 2A82. Betden 8419.10 Ft . $\$ 1.17$. $25 \mathrm{Ft} \quad-\quad \$ 2.07 \quad 100 \mathrm{Ft} . . . . .-\$ 7.13$ Shielded 4. Conductor $=32\{17 \times 401.0 .0 .072$
 Unshielded 2-Conductor $=32$ ( $7 \times 40$ ) oD 050
No. 2A9963. Belden 8430. 10 FL . $75 \times 25 \mathrm{FL} \ldots \ldots . . \mathrm{S} 1.05100 \mathrm{FL}$..... S 3.03
Unshielded 4 -Conductor $=32$ ( $7 \times 40$ ) 0.0 .065
No. 249972. Belden 9436 . 10 FL …....... $\$ 1.35 \quad 25 \mathrm{FL}$
. 51.85100 FL
\$4.50


FISH PAPER
Nigh grade fibre sheet paraffined for Insulation purposes. 240 square inches $.010^{\prime \prime}$ thick
No. 17 a7038 GC 560 Per Sheat

Prevents grounds and shorts on field coils. transtormers, resistors. condensers, wires, of our, yellow varnish

MULTIPLE CONDUCTOR UNSHIELDED CABLE
All conductors are size 22, ( $7 \times 30$ ) stranded tinned copper except $6,7,8$, and 9 conductor cables in which 2 of the conductors are size 18, (16x30) stranded tinned copper; all are color coded, vinyl plastic insulated, and cabled together with gray vinyi jacket overall.

| Stock No. | Belden No. | $\begin{gathered} \text { No. } \\ \text { Cond, } \end{gathered}$ | 0.0. | $\begin{aligned} & W L \\ & 100^{\prime} \end{aligned}$ | $\begin{gathered} \text { per } \\ \text { Ft. } \end{gathered}$ | $\begin{aligned} & 100 \\ & \mathrm{Ft.} \end{aligned}$ | $\begin{aligned} & 1000 \\ & \text { Ft. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2 A 9919$ | 8442 | 2 | . 165 | 11/2 | \$0.04 | \$2.96 | \$24.00 |
| 2 A9912 | 8443 |  | . 150 | 2 | . 07 | 3.66 | 29.30 |
| 2 A9913 | 8444 | 4 | . 168 | 2 | . 08 | 4.63 | 39.90 |
| 2 A9914 | 8445 | 5 | . 180 | 3 | . 09 | 5.58 | 47.70 |
| 249915 | 8446 | 6 | . 222 | 4 | . 13 | 8.30 | 73.20 |
| 2 A99916 | 8447 | 7 | . 246 | 5 | . 14 | 9.60 | 85.20 |
| 249917 | 8448 | 8 | . 250 | 5 | . 18 | 10.26 | 93.00 |
| 2 A9918 | 8449 | 9 | . 261 | 5 | . 18 | 10.85 | 100,50 |

UNSHIELDED PAIRED CABLE
Conductors are size 22 solid tinned copper, color coded-and cabled in pairs. Viny! plastic Insulation with chrome vinyl lacket over-all.

| Stock No. | $\begin{aligned} & \text { 8elden } \\ & \text { No. } \end{aligned}$ | Pairs | 0.0. | $\begin{aligned} & \text { Wt, } \\ & 100^{\prime} \end{aligned}$ | $\begin{gathered} \text { per } \\ \text { Ft } \end{gathered}$ | $\begin{gathered} 100 \\ \mathrm{FL} \end{gathered}$ | $1000$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 A9899 | 8740 | 1 | . 150 | 2 | \$0.04 | \$2.82 | \$20.10 |
| 249900 | 8741 | 2 | . 201 | 3 | . 06 | 4.88 | 37.70 |
| 249901 | 8742 | 3 | . 240 | 3 | . 08 | 6.12 | 52.50 |
| 2 A9902 | 8743 | 6 | . 305 | 6 | . 12 | 10.05 | 92.30 |
| 2 A9903 | 8744 | 9 | . 354 | 8 | . 18 | 14.85 | 138.00 |
| 249927 | 8753 | 11 | . 384 | 10 | . 22 | 18.75 | 178.60 |
| 249904 | 8745 | 15 | . 420 | 12 | . 30 | 25.80 | 238.60 |
| 2A9905 | 8746 | 27 | . 550 | 17 | . 5 | 49.50 | 412.50 |

Size 22 ( $7 \times 30$ ) more fiexible and easler to pult through conduit. color coded and cabled in pairs.

| Stock <br> No. | Belden <br> No. | Pairs | 0.D. | Wt. <br> 100 | Per <br> Ft. | Ft. | 1000 <br> Ft. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2 A 9974$ | 9744 | 2 | .230 | 3 | $\$ 0.06$ | $\$ 5.31$ | $\$ 44.25$ |
| $2 A 9975$ | 9745 | 3 | .280 | 4 | .08 | 7.88 | 65.70 |
| $2 A 9976$ | 9746 | 4 | .295 | 5 | .11 | 10.08 | 84.00 |
| 28182 | 8747 | 6 | .340 | 7 | .15 | 12.15 | 111.80 |
| $2 A 9928$ | 8748 | 9 | .389 | 9 | .22 | 18.15 | 173.30 |
| $2 A 9977$ | 9747 | 12 | .440 | 12 | .30 | 28.62 | 238.50 |
| $2 A 9929$ | 8749 | 15 | .455 | 14 | .36 | 30.75 | 291.00 |
| 28185 | 8750 | 27 | .595 | 21 | .69 | 67.68 | 564.00 |

UNSHIELDED CONTROL AND AUDIO CABLES
Vinyl plasite insulated. chroma vinyl jacket. Suggested working voitage 8466 and 8467400 V ., all others 600 V .

| Stock No. | Belden No. | No. Cond. | Stze |  | $\begin{gathered} \text { Wt } \\ 100^{\prime} \end{gathered}$ | $\begin{aligned} & \text { per } \\ & \text { Ft. } \end{aligned}$ | $100$ | $\begin{gathered} 500 \\ \text { Ft. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 A9948 | 8466 | 12 | 18 (16x30) | . 412 | 13 | \$0.31 | \$26.25 | 128.25 |
| 2 29978 | 8467 | 7 | 18 (16x30) | . 324 | 085 | . 18 | 14.35 | 85.60 |
| 2A9949 | 8620 | 4 | 16 (19x29) | . 375 | 8 | . 18 | 13.80 | 64.50 |
| 2A9950 | 8621 | 7 | 16 (19x29) | . 455 | 13 | . 30 | 25.35 | 114.00 |
| 249951 | 8622 | 12 | 16 (19x29) | . 600 | 21 | . 48 | 41.25 | 192.00 |
| 2 A9952 | 8623 | 15 | 16 19x29 | . 650 | 27 | . 68 | 57.75 | 276.00 |
| 2 A9953 | 8627 | 4 | 14 (19827) | . 495 | 14 | . 29 | 24.60 | 113.25 |

## TINNED COPPER SHIELDING

Electrostatic and interference shield for wires. Very flex-
ible. Expands to nearly double its original diameter, reducing length about $25 \%$. Extensively used in moblie radio installations for shielding and bonding

| Stock No. | Belden No. | I. $0^{\text {a }}$ | Wt. 100 | 10 Ft | 50 FL | 260 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24134 | 8660 | 1/8 | 1 lb . | \$0.96 | \$2.88 | \$13.05 |
| 28139, | 8668 | $16_{4}$ | 2 lb . | 1.34 | 3.96 | 17.25 |
| 22135 | 8661 | $3 / 8$ | 2 lb . | 1.32 | 4.56 | 21.45 |
| 28140 | 8669 | 1/2 | 3 lb . | 2.31 | 9.84 | 48.85 |
| 2 2136 | 8662 | ${ }^{24 / 32}$ | 8 lb . | 3.15 | 13.90 | 67.50 |

Litz Wire $5 \times 44$ stranded-enamel Nylon wrap. 0.D. . $008^{\prime \prime}$. For winding RF, if coils. No. 2A405. Belden 8817. 100 ft. Spool For

## BELDEN MAGNET WIRE

Tough dual-film insulated copper wire meets Mil W583-Beidsol fllm replaces all enameled magnet wire. Use Beldsol for applicatlons where easy insulation removal is desirable. Will solder at $750^{\circ} \mathrm{F}$. without stripping. TEEE thermal rating $130^{\circ} \mathrm{C}$. Use Poly-Thermaleze where tougher, higher temperature wire is needed. Replaces Belden Nytclad. For motors, solenoids, transformers rated $180^{\circ} \mathrm{C}$.


POLY-THERMALEZE-1 Lh. Spool
2

| Slae | Stock No. | Belden No. | Ft. per Spodi | Each |
| :---: | :---: | :---: | :---: | :---: |
| 14 | 246000 | 8073 | 80 | \$2.87 |
| 16 | 2A6001 | 8074 | 126 | 2.97 |
| 18 | 2A6002 | . 8075 | 199 | 3.12 |
| 20 | 2 A 6003 | 38076 | 315 | 3.12 |
| 22 | 2A6004 | 8077 | 501 | 3.12 |
| 24 | 248005 | 8078 | 793 | 3.21 |
| 25 | 2A6006 | 8079 | 1260 | 3.42 |
| 28 | 2A6007 | 8080 | 1990 | 3.72 |
| 30 | 246008 | 8081 | 3140 | 4.17 |
| 32 | 2A6002. | 8082 | 4880 | 4.59 |
| 34 | 246010 | 8083. | 7860 | 5.34 |
| 36. | 2a6011 | 8084 | 12400 | 6.48 |
| $38^{\circ}$ | 2A6024 | 8085 | 19400 | 7.77 |
| 40* | 2 A 6012 | 8086 | 32100 | 10.08 |

8ELDSOL-1/2 Lb. Spool
Except $t$ are $1 / 4 \mathrm{Lb}$.


## COAXIAL CABLE \＆CONNECTORS

## BELDEN COAX CABLE

Highest quality coax cable used for com． mercial，amateur，military or citizens ＂stray＂ftelds and confines signal within
cable．Vinyl jacket overall for temperatures from $-40^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ ，but remains fiexible and is impervlous to most acids，olls，alkalis and gasoline，polyethylene insulation over center conductor provides low loss and mechanical stablifty． Mig．to MIL E－17 Spec．
Stoch Belden Military 2A9994 9251 RGOA／U 2 A9984 8237 RGBU 2 A9985 8238 RG11U $\begin{array}{lll}2 A 9997 & 8240 & \text { RG58U } \\ 2 A 9988 & 8259 & \text { RG59N }\end{array}$ $2 A 9989$ 8252．RG58C／U $\begin{array}{llll}\text { 2A9990 } & 8241 & \text { RG59U } \\ \text { 2A } 9991 & 8263 & \text { RG59B／U }\end{array}$ 2 A9992 8254 RG62U $\begin{array}{llllllll}2 A 9993 & 8218 & \text { Sub Minax } & 75 & .150 & 20.5 & 7 \times 35 & 2\end{array}$ CELLULAR POLYETHYLENE INSULATION

| 2A9999 | 8214 | 8／U | － | 405 | 26.0 | $7 \times 19$ | 12 | 24 | 17.70 | 154.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 249996 | 8213 | 11／U | 75 | 405 | 17.3 | －14 | 9 | ． 11 | 20.37 | 141．90 |
| 2A9995 | 8221 | 59／U | 80 | ． 242 | 16.3 | $\pm 22$ | 4 | ． 09 | 7.80 | 52.00 |
| TFE TEFLON INSULATION |  |  |  |  |  |  |  |  |  |  |
| 244021 | 83265 | 178B／U | 50 | 070 | 29.0 | $7 \times 38$ | 1 | ． 16 | 13.90 | 120.00 |
| 244022 | 83265 | 1808／U | 95 | 140 | 15.0 | $7 \times 38$ | 2 | ． 37 | 31.50 | 291.00 |
| 244023 | 83269 | 188A／U | 50 | 102 | 29.0 | $7 \times .00$ | 1 | ． 26 | 22.50 | 204.00 |
| 2A4024 | 83270 | 196A／U | 50 | 076 | 29.0 | $7 \times 38$ | 1 | ． 20 | 16.80 | 142.50 |

## BELDEN 8228 DUOFOIL 82 －CHANNEL COAXIAL CABLE

$5 i g n a l$ attenuation is less than regular 59U，lighter weight and lower cost． 75 ohm impedance， $0.0 .242^{\prime \prime} 17.3 \mathrm{Pf} / \mathrm{Ft}$ ．cupacitance．Size 18 solidcopper conductor black PVC jacket．Wt． $100^{\prime} 21 / 2 \mathrm{lbs}$ ． No．2A9983 Per Ft．$\quad$ \＆c 100 Ft ．．．．．．．．．．．．．．． $56.75 \quad 1000 \mathrm{Ft}$ ．．．．．．．．．．．$\$ 44.80$


## AMPHENOL COAXIAL CABLE ASSEMBLIES

FOR CE－AMATEUR—MONITOR RECEIVER ANTENNA CIRCUITS Finest low－loss polyfoam coax af－ tached PL259 plugs．factory assem－ bled to save time and money

| Sth．No． | Migr．Ne． | Description | With PL－259 | WI． | Nat Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 244080 | 581－583 | 3 If．RG58／U． | Both Ends | 307 | \＄2．25 |
| 2A9986 | 581－5820－2 | 20 it RG58／U， | Both Ends | 1 lb | 3.25 |
| 2A4002 | 581－5820 | 20 ft RG58／U． | One End and |  |  |
|  |  | Spade Lugs on | Other End | 1 lb | 2.85 |
| 2A9979 | $581-850$ | 50 is RG8／U， | Bosh Ends | 6 lbs | 9.25 |
| 249980 | 581－8100 | 100 ft ．RG8／U． | Both Ends | 11 lbs | 15.90 |

## SOLDERLESS COAX CONNECTORS ANO SPLICERS

Manulactured to exact cable stzes and only about in the size of conventional fittings，for quick，efficient installation of RG58 or RG59 iype cables without soldering，crimping，or special tools．and without adaplors．Use connectors in stead of 83．1SP and adaptors．Makes a waterprool，positive connection to standard 83－1R receptacles．Splicers ate only $7 / 18^{\circ}$ dia． $1^{\prime \prime}$ ，long Insiructions supplied
No．12A2837．RG58／U Connector，pkg，of 2．．．．．．S1．49 10 pkg ．Ez．S 1.34 No．12A2838．RG59／U Connector，pkg．al 2 ．．．．．．Si． 4910 pkg．Ea．$\$ 1.34$ No．12A2839．RG58／U Splicer，Each No．12A2839．RG58／U Splicer，Each
No．12A284日．RG59／U Splicer，Each

## AMPHENOL UHF PANEL RECEPTACLE

Panel receptacle tequires only one $5 / 8^{\prime \prime}$ hole for mounting．Two hex nuts hold firmly to panel．Mates with 83－1SP type plug．Amphenol $83-878$ No．12A2833． 1 to 24 E
$93^{\circ}$ 25－99 Еョ． $76^{4} 100$ ир Еа． 64


## AMPHENOL UHF DOUBLE MALE CONNECTOR

Connects iwo 83－1R type receptacles together．Used for mounting SWR meter coax relay or coax switch directly to transmitter output．Amphenol 83－877

＂BLITZ BUG＂COAX CABLE LIGHTNING ARRESTOR Added lightning protection for receiving and transmitting equipment，ham gear，cilizens coaxial antenna lead．Shpg．wt． 1 lb ．

No． 104300 1．Cushcraft LAC．1．Threaded for stand ard PL259 connector one end，S0239 connector other end．Each
No．10A3038．Cushcraft LAC－2．Threaded for PL259 cornectors both ends．Each．$\$ 4.45$


STRAIN RELIEF BUSHINGS
Nylon，grips securely，relieving strain where cords of cables pass through chassis of other sheet meta

| Stock No． | Migr． No． | Chassis Hole | For Wires | Pkg． ol 5 | $\begin{aligned} & 100 . \\ & 999 \end{aligned}$ | $\begin{gathered} 1000 \\ \text { up } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 414443 | 6676 | 7／16＇ | ． $12 \times .22^{\prime \prime}$ ．SP．SPT． 1 | .49 | \＄4．87 | ． 38.95 |
| 414375 | 6677 | 1／2 | －15 or 18 \％ 28.2810 .30 |  |  |  |
|  |  |  | SP2．SPT－2．HPN 16－18 | .49 | 4.87 | 38.95 |
| 414442 | 939 | 1／2 ${ }^{-}$ | ． 235 to ．265＂Round | .45 | 4.50 | 40.50 |
| 160 |  |  |  | all | Writ | A for |

## AMPHENOL COAX CONNECTORS

（1）

（3）

（3）（1）（5）
（



Most popular screw－on coaxial connetior series．Used extensively for Rf power transmission lines in amateur，CB and commercial services．Items with afe female connectors mating with all pugs in the UHF series．Fig． 2 reducers are for use with Fig． 1 plug．Fig． 4 hoods provide futly shended fine connection to rear of Fig． 3 socket

| Fig． | $\begin{aligned} & \text { stock } \\ & \text { No. } \end{aligned}$ | Amphenol No． | $\begin{gathered} \text { Milltary } \\ \text { No. } \\ \hline \end{gathered}$ | Description | $\begin{gathered} \text { For } \\ \text { RG } \\ \text { Cable } \end{gathered}$ | $\begin{aligned} & 24 \\ & 24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25- \\ & 99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100 . \\ & 499 \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | 12A1914 | 83.15 P | PL－259 | Cable Plug | 8，11 | S0． 81 | \＄0．50 | \＄8．42 |
| （1） | 12 A1915 | 83.176 | UG－203U | Cable Plug |  | 1.84 | 1.51 | 1.27 |
| （1） | 12 22307 | 83.750 | UG111U | Cable Plug | 59， 62 | 1.18 | ． 96 | ． 81 |
| （6） | 1241916 | 83.168 | UG176U | ．257＂I．D．Reducer | 59， 62 | 22 | ． 18 | ． 15 |
| （2） | 12 A1917 | 83.185 | UG175U | ．207＂I．D．Reducer | 58 | ． 19 | 15 | 13 |
| （3） | 12A1918 | 83 －12 | \＄0－239＊ | Panel Receptacle |  | ． 58 | 48 | 40 |
| （a） | 12 A1957 | $83-14$ | UG105U | ．345＂I．D．Hood | 8，11 | ． 67 | 46 | 39 |
| © | 12A1958 | $83-765$ | UG17］ | 155＂1．D．Hood | 58 | 51 | 42 | 35 |
|  | 12A1959 | $83-1{ }^{\text {P }}$ | UG646U | Right Angle |  | 1.83 | ． 58 | 2 |
| © | 12 A1962 | 83－1］ | PL－258＊ | Oouble Female Adapt． |  | 1.21 | 99 | ． 83 |
| （ 7 | 12A1963 | $83 \cdot 15$ | UG363 | Feed Thru |  | 2.96 | 2.43 | 2.0 |
| © | 12A1964 | 83.15 | ＊ | Tee |  | 3.28 | 2.69 | 2.28 |


（9）
g
（ii）
（II）
E）
（12）
等

4
8
17
（11）
TYPE＂BNC＂CONNECTORS

Fast Bayonet style especially suited for smaller RG58 and RG59 coax cabies．Fig． 16 and 17 are ＂between series＂adaplers providing gratar convenience where small coax is used with equipment having UHF or N style receptacies I $^{\circ}$ ）Female connectors maling with all phugs in the BNC series．

| Fig． | Stock No． | Amphenot No． | $\begin{aligned} & \text { Milltary } \\ & \text { No. } \end{aligned}$ | Description | For RG Cable | $\begin{aligned} & \text { 1-24 } \\ & \text { Each } \end{aligned}$ | $25.99$ Each | 100. 499 <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （0） | 12A1965 | 31.002 | UG88U | Cable Plug | 58 | \＄0．74 | S0．61 | \＄0．51 |
| （1） | 12 A1966 | 31－018 | UG98B／U | Cable Plug | 58 | ． 97 | ． 80 | ． 67 |
| （1） | 12A1967 | 31－202 | UG88C／U | Cable Plug | 58 | 83 | ． 68 | ． 57 |
| （\％） | 12A1968 | 31－012 | UG260U | Cable Plog | 59， 62 | 86 | ． 70 | ． 59 |
| 0 | 12A1969 | 31－212 | UG260B／U | Cable Plug | 59，62 | ． 96 | ． 79 | 66 |
| （10） | 12A1970 | 31.005 | UG89 ${ }^{\circ}$ | Cable Receptacie | 58 | 1.34 | 1.10 | 92 |
| （1） | 12 A1971 | 31.015 | UG261U＊ | Cable Receptacle | 59， 62 | 1.55 | 1.27 | 1.07 |
| （11） | 12 A1972 | 31.003 | UG290U＊ | Panel Receptacie |  | ． 91 | ． 75 | 63 |
| （11） | 12.1973 | $31-203$ | UG290A／U＊ | Panel Receptacle |  | ． 96 | ． 79 | 66 |
| （11） | 12 A1874 | 31－102 | UG657U＊ | Recept．1－Hole Mtg． |  | 1.32 | 1.08 | ． 91 |
| $(14$ | 12At975 | 31.001 | UG291U＊ | Recept．Rear Clamp | 58 | 1.51 | 1.24 | 1.04 |
| （11） | 12A2308 | 31.011 | UG262U＊ | Recept．Rear Clamp | 59，62 | 1.70 | 1.39 | 1.17 |
| （1） | 1241976 | 31－219 | UG914U＊ | Dbl．Female Junct． |  | 1.42 | 1.17 | ． 98 |
| （1） | 12A1977 | 31.008 | UG274U＊ | Tee |  | 2.48 | 2.04 | 1.71 |
| （1） | 12 A1978 | 31.830 | UG201U | BNC Jack to N Plug |  | 3.14 | 2.57 | 2.16 |
| （1） | 12A1979 | 31.028 | UG273U | BNC Jack to UHF Plug |  | 1.64 | 1.35 | 1.13 |
| （11） | 12A1980 | 31.217 | UG349A／U | ENC Plug to N Jack |  | 3.15 | 2.58 | 2.17 |



Highest quality． 50 ohm conslant impedance style connectors Generally specilied for more critical applications because of lower SWR and weatherproof consiruction Recommended where coax ling will be supported by the connector．＇Fernale connectors mating with all others in the N series．

| Fig． | Stock No． | Amphenol No． | Military No． | Description | For RG Cable | $\begin{array}{r} 1.24 \\ \text { Each } \\ \hline \end{array}$ | $\begin{aligned} & 25.99 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 100 . \\ & 999 \\ & \text { Eacb } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （18） | 12A1981 | 82.61 | UG218／U | Male Cable Plug | 8 | \＄1．48 | 51.21 | \＄1．82 |
| （11） | 12 A 1982 | 82－63 | UG238／4＊ | Female Cable Jack | 8 | 1.86 | 1.52 | 1.28 |
| 9 | 12 A 9883 | 82.24 | UG58U＊＊ | Panel Recept． |  | 1.23 | 1.81 | 85 |
| （1） | 12A1984 | 82－101 | UG29B／U＊ | DSI．Recept，function |  | 2.11 | 1.73 | 1.4 |
| 震 | 12 A1985 | 82－100 | UG578／U | Dbl，Plug junction |  | 2.64 | 2.17 |  |
| （1） | 12 A 1986 | 82－213 | UG27C／U＊ | Right Angle |  | 3.56 | 2.92 | 2.4 |
| 2 | 12A1987 | 82.99 | UG28A／U＊ | Tee |  | 4.44 | 3.64 | 3.0 |



## ANTENNA SPECIALISTS

## COAX CABLE CONNECTOR ADAPTORS

For connecting PL－259， $\mathbf{S 0} \mathbf{- 2 3 9}$ plugs to Motorela pin plug and RCA phono plug type sockets and cabie plugs．Designed for RF transmitter－receiver cables，tes？ equipment for fast conversion without atiering orfginal connectors． M．41．Converts Motorola type pin plug on lead to $\$ 0.239$ on set． No．12A1988．Net Each
$\$ 1.35$
M－42．Converts phono plug on lead to $\$ 0-239$ on set．
M－43．Converts Motorola type pin plug on lead to phono Jack on set．
M．44．Converts PL． 259 on lead to phono Jack on set．
M－45．Converts phono plug on tead to Motorola type pin Jack on set．
M．46．Converts PL－259 on lead to Motorola type pin Jack on set． $\$ 1.65$

## MARK-T CABINETS



TILT-A-VIEW CABINET

## Slanted front face and vertical

 rear face, may be used with or without detachable legs tochange panel angle. Two plece 16 gauge permits easy access to interior. Top and bottom sec. tons interlock for strength and rigldity. No fasteners show on front or rear panels. Charcoal grey vinyl texture cabinet with ight sand panels.
Stack Bud Size inches Wt. $1.14 \quad$ t5.24 25.34 No. No. H. W. D. Lbs. Each Each Each $\begin{array}{llllllll}5 A 3029 & \text { TV } 2155 & 41 / 2 & 15 & 10 & 81 / 2 & \$ 10.25 & \$ 9.25 \\ 5 & \$ 8.20\end{array}$ $\begin{array}{llllllllll}5 A 3030 & \text { TV2156 } & 61 / 2 & 16 & 12 & 13 & 12.09 & 10.80 & 9.60 \\ 5 A 3031 & \text { TV2157 } & 81 / 2 & 17 & 14 & 17 & 17.45 & 15.70 & 13.95\end{array}$

## BUD PORTACAB

High styled housings for instrumentation or other equipment. Body Is one plece 050 ment. Body is one piece, is is .062. Flexible recessed handie, detachable rubber feet. Gray Hammertone finish only.
Stock Bud Size inches Use Wt. $\mathbf{1 - 2 4} \quad 25-49$ Ho. No. H. W. D. Chass. Lbs. Each Each ${ }_{543000}$ WA1540 $8 \quad 6 \dot{1 / 8} 8$ Chass. 21. 51325 Each

$\begin{array}{lllllllll}5 A 3002 & \text { WA1542 } & 8 & 101 / 8 & 8 & \text { AC406 } & 31 / 2 & 15.45 & 13.90 \\ 5 A 3001 & \text { WA1541 } & 9 & 81 / 2 & 12 & \text { AC407 } & 3 & 17.30 & 15.55\end{array}$
$\begin{array}{llllllll}5 A 3001 & \text { WA1541 } & 9 & 81 / 8 & 12 & A C 407 & 3 & 17.30 \\ 5 A 3003 & \text { WA1543 } & 11 & 111 / 5 & 18 & \text { AC416 } & 61 / 2 & 21.45 \\ 5 & 19.30\end{array}$


## GRAND PRIX CABINET

Unique styling accessibility. Top and bottom separate for complete access Made of 20 gauge steel. aluminum extrusions serve as han-
dies. Choice of light Hammertone
Grey with matching pancl or texlured dark grey with light greypanel. Add HG to stock num ber for Hammer lone Gray or GGY for Textured Grey. $\begin{array}{lllll}\text { Slock Bud Size Inches } & \text { Wt } & 1.14 & 15-24 & 25-49\end{array}$ No. No. N. W. O. Lbs Each Eacb Ethen


 | $5 M 50 ~ M O-2 ~$ | $7^{2}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

## CONVERTA BOXES

Consists of a welded base and two sided cover. 20 gauge steel assures rigidity and profection. Cadmium plated finish.

| Stock | Bud | Size Inches | W | 1.24 | 25 | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | H. W. D. | Lbs. | Each |  |  |
| 5A340 | CU341 | 11/2 4 | 1/2 | \$2.85 | \$2.55 | \$2.30 |
| 5A341 | CU452 | $2 \quad 54$ |  | 2.75 | 2.50 | 2.20 |
| 5A342 | CU482 | 281 | 11/4 | 2.90 | 2.68 | 2.30 |
| 54343 | CU592 | 21/2 91/2 | 13/4 | 3.10 | 2.88 | 2.50 |
| 5A344 | CU622 | $21 / 2126$ | 23/4 | 3.40 | 3.85 | 2.70 |
| 5A345 | CU712 | $21 / 215$ | $31 / 2$ | 4.60 | 4.15 | 3.78 |



Modern rectangulat modulat cabinets. One-piece top and sides remov able for easy access to interior. 20 gauge steel with 18 gauge hont panel heid in dace by body flanges eliminating panel mounding screws. Avalable with inclined (see illustration) of straght panel Choice of light grey Hammertane body with smooth light grey panel or textured datk blue body with smooth light blue panel.
Add HG to stock number for Hammertone Gray or BBy for Blue Textured.

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \\ & \text { NM32 } \\ & \text { SM37 } \\ & \text { GM42 } \end{aligned}$ | $\begin{gathered} \text { Bud } \\ \text { No. } \\ \text { MD1960 } \\ \text { M01961 } \\ \text { MD1962 } \end{gathered}$ | VERTICAL PAHEL |  |  |  |  | 25-49 | 50-39 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ize Jnche |  |  | WL. | 1.24 |  |  |
|  |  | H. | W. | 0. | Lbs. |  |  | Each |
|  |  | 7 | 13 | 8 | 63/4 | \$10.95 | \$9.85 | \$8.75 |
|  |  | 8 | 14 | 9 | 73/4 | 11.75 | 10.68 | 9.40 |
|  |  | 8 | 16 | 9 | 81/2 | 12.20 | 11.08 | 9.75 |
|  |  | inclineo Panel |  |  |  |  |  |  |
| 5M43 | M01963 | 7 | 13 | 8 | 7 | 12.85 | 11.35 | 18.30 |
| 5 M 44 | MD1964 | 8 | 14 | 9 |  | 13.70 | 12.35 | 10.95 |
| 5M45 | MD1965 | 8 | 16 | 9 | $83 / 4$ | 14.70 | 13.25 | 11.75 |

FOR OTHER BUD PROOUCTS SEE PAGES 162 AND 183.
Hundreds of other Bud stock items as well as special fabrications are avallable. Place your orders with B-A for prompt delivery.
Request Bud Catalog No. 16 A1150 For Compiete Information.........................................
LaRger quantity pqices available - Call or write for quotation

## COPPERWELD ANTENNA WIRE

Tensile strength 3 times that of ordinary copper. Minimum per at high frequencies. All are solld conductors.



## COPPER ANTENNA WIRE

Excellent for antenna requirements; as bus bar hookup wire; for winding coils, etc. Poly-thermaleze type is non-corrosive.
SOLID COPPER

Stock BeIden Sold eriant Tinned Stock selden WL $100 \quad 500$ No Beiden 100

 $\begin{array}{llllllllllllll}2 \mathrm{Al2} & 8008 & 12 & 2 & \text { lbs. } & \$ 5.97 & \$ 26.10 & 2 \mathrm{~A} 37 & 8012 & 14 & \mathbf{2} & 1.04 & \mathbf{3 . 3 6} & \$ 28.35 \\ \mathbf{2 A 4 2} & 8009 & 14 & 2 \mathrm{lbs} . & 3.78 & 15.45 & 2 \mathrm{~A} 39 & 8013 & 16 & 1 & .70 & 2.24 & 18.90\end{array}$

## STRANOEO BARE

No. 2A43. Belden 8002. Size 16 (7X24) $\begin{array}{llll}2853 & 8021\end{array}$ Stranded, Wt. $10 \mathrm{G}^{\prime} 1 \mathrm{ib}$. 100 Ft.

INSULATORS FOR LONG WIRE AND DOUBLET ANTENNAS

(2)


Fig. (1) and (8) are molded high strength Cycolac.
Fig. (8) and (7) are glazed porcelain. Fine for recelving antennas
(1) No. 9a173. HyGain C1 heavy duty center insulator. Each.
(8) No. 9A174. HyGain E1 heavy duty end insulator. Pair for $\$ 4.95$
(1) 9 93029. Birnbach $66841 / 2^{\prime \prime}$ porcelain end Insulator. Each.
(\%) 9^3030. Birnbach $46841 / 2^{\prime \prime}$ porcelain center insulator. Emeh.


## BUD SHADOW CABINET

Front panel bevelled and recessed $\mathbf{1}^{\prime \prime}$. Front and back panel as well as the bottom are removable. 18 gauge steel with 16 gauge panels. Rubber feat Light gray Hammertone.

| Stack | Bud |  | W |  | Use | WL. | 1.24 | 25-49 | 50-99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ho. | No. | H. | W. | D. | Chassis | Lhs. | Eack | Each | Each |
| 5A246 | SB2143 | 6 | 151/2 | 9 | AC409 | $91 / 2$ | 58.50 | \$7.65 | S6.89 |
| 5 S244 | S82141 | $71 / 2$ | 131/4 | 9 | AC407 | 91/4 | 8.08 | 8.10 | 7.20 |
| 5 A243 | S82140 | 8 | 141/4 | 10 | AC424 | 111/2 | 11.35 | 10.20 | 9.18 |
| 5 2245 | SB2142 | 91/2 | 17 | 11 | AC411 | 151/4 | 15.05 | 13.55 | 12.05 |

## SLOPING FRONT CABINETS

Provided with a hinged top for easy actess to tubes and other components mounted on the chassis without removing the front panel. The front panel, however, may be removed If -necessary. Stacked in light gray Hammertone finish.


Strikingly handsome uthity cabinets for housing miniafure or medium sized equipment such as intercoms. amplifiers. control systems, power supplies efc Have black wrinkle steel cover with ventifat. ing perforations at rear. The white Iront and raar panels are recessed slighty behind the cover edges. Panels and bolloms are one piece aluminum for easy drilling Assembled by lous screws at boltom of cover, the panels can be filted for easy viewing of contrals of desired. Cabineis have four rubber leet. semi-hidden by the cover which axtends sightily below the cabinet floor. A guality on port.


# sii．CHASSIS，MINIBOXES AND CABINETS 

One piece aluminum．Corners re－ inforced and spot welded． 4 sides folded in at bottom for added strength and attaching bottom plate（listed below）． 18 gauge，except＊which are 16 gauge，and $\dagger$ which are 14 pauge，Natural finish

| stock No． | $\begin{aligned} & \text { Bud } \\ & \text { No. } \end{aligned}$ | Size inches： | $\begin{aligned} & \text { Wt. } \\ & \text { LDs. } \end{aligned}$ | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | 25－49 Each | $\begin{aligned} & 56-89 \\ & \text { Eech } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 54347 | AC1401 | 21／2x41／2x1 | 1\％0 | \＄1．50 | \＄1．35 | \＄1．20 |
| 51348 | AC1402 | $31 / 2 \times 41 / 2 \times 1$ | 1 | 1.60 | 1.45 | 1.30 |
| 54349 | AC1403 | $31 / 2 \times 51 / 2 \times 1$ | $1 / 4$ | 1.60 | 1.45 | 1.30 |
| 54350 | AC1404 | $4 \times 5 \times 2$ | $1 / 4$ | 1.30 | 1.70 | 1.50 |
| 54351 | AC1405 | $4 \times 6 \times 11 / 2$ | $1 / 4$ | 1.65 | 1.50 | 1.30 |
| 58160 | AC431 | $4 \times 6 \times 2$ | 1／2 | 1.90 | 1.70 | 1.50 |
| 58154 | AC430 | $4 \times 6 \times 3$ | 1／2 | 2.10 | 1.90 | 1.70 |
| 51352 | AC1406 | $4 \times 8 \times 2$ | \％ | 2.15 | 1.95 | 1.70 |
| 58164 | AC432＊ | $4 \times 17 \times 3$ | 11／4 | 3.65 | 3.30 | 2.90 |
| 54353 | AC1407 | $41 / 2 \times 8 \times 11 / 2$ | 3／6 | 2.00 | 1.00 | 1.60 |
| 54313 | AC402 | $5 \times 7 \times 2$ | 1／2 | 2.00 | 1.80 | 1.60 |
| 58168 | AC429 | $5 \times 7 \times 3$ | $3 / 4$ | 2.25 | 2.05 | 1.80 |
| 54354 | AC1408 | 5×9×11／2 | \％／4 | 2.00 | 1.80 | 1.60 |
| 54355 | AC1409 | 5x91／2x11／4 | $3 / 4$ | 2.00 | 1.80 | 1.60 |

## BUD ALUMINUM CHASSIS BASES

| Stock No． | Eud No． | $\begin{gathered} \text { Size } \\ \text { Inches } \end{gathered}$ | $\begin{aligned} & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 25-49 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 56.98 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 54314 | AC403 | 5x91／2x2 | 1／2 | \＄2．15 | \＄1．95 | \＄1．70 |
| 54202 | AC421 | 5×91／2×3 | 3／4 | 2.60 | 2.35 | 2.10 |
| 58169 | ． $\mathrm{AC404}$ | $5 \times 10 \times 3$ | \％ | 2.60 | 235 | 2.10 |
| 54203 | AC422 | $5 \times 13 \times 3$ | $3 / 4$ | 3.00 | 2.70 | 2.40 |
| 54356 | AC1410 | $5 \times 131 / 2 \times 21 / 2$ | 7／4 | 2.65 | 2.40 | 2.10 |
| 54357 | AC1411 | $51 / 2 \times 51 / 2 \times 1$ | $1 / 4$ | 1.85 | 1.65 | 1.50 |
| 50358 | AC1412 | 51／2 $\times 91 / 2 \times 11 / 2$ | $1 / 2$ | 2.00 | 1.80 | 1.60 |
| 51359 | AC1413 | 6x8x2 | $1 / 2$ | 2.15 | 1.95 | 1.70 |
| 51360 | AC1414＊ | $6 \times 14 \times 3$ | 1 | 3.85 | 3.45 | 3.10 |
| 58170 | AC4 $33^{\circ}$ | $6 \times 17 \times 3$ | $11 / 4$ | 4.35 | 3.90 | 3.50 |
| 54204 | AC405 | $7 \times 7 \times 2$ | 1／2 | 2.15 | 1.95 | 1.70 |
| 54205 | AC406 | $7 \times 9 \times 2$ | 1／2 | 2.25 | 205 | 1.80 |
| 50315 | AC407 | 7×11×2 | 3／4 | 2.60 | 2.35 | 2.10 |
| $5{ }^{51206}$ | AC409 | $7 \times 12 \times 3$ | 1 | 3.15 | 285 | 2.50 |
| 54316 | AC409 | $7 \times 13 \times 2$ | 3／4 | 2.65 | 2.40 | 2.10 |
| 50361 | AC1415＊ | $7 \times 15 \times 2$ |  | 3.50 | 3.15 | 2.80 |
| 51207 | ACA11＊ | $7 \times 15 \times 3$ | $11 / 2$ | 4.35 | 3.90 | 3.50 |
| 54352 | AC1416＊ | $7 \times 17 \times 2$ | 1 | 3.90 | 3.56 | 3.10 |
| 51363 | AC1417＊ | $7 \times 17 \times 21 / 2$ | 112 | 4.10 | 3.70 | 3.30 |
| 54208 | AC423： | $7 \times 17 \times 3$ | $13 /$ | 4.35 | 3.90 | 3.50 |
| 54354 | AC1418 | $8 \times 10 \times 21 / 2$ | 1 | 3.25 | 2.95 | 2.60 |
| 51365 | AC1419＊ | $8 \times 12 \times 21 / 2$ | 11／2 | 3.85 | 3.45 | 3.10 |
| 54208 | AC424 ${ }^{\circ}$ | $8 \times 12 \times 3$ | 1122 | 4.60 | 4.15 | 3.70 |
| 54317 | AC425＊ | $8 \times 17 \times 2$ | 11／2 | 3.90 | 3.50 | 3.10 |


| Stack No． | Bud No． | $\begin{aligned} & \text { Slze } \\ & \text { inches } \end{aligned}$ | Wt． Lbs， | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 28-48 \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & 50.99 \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51219 | AC412＊ | $8 \times 17 \times 3$ | $13 / 4$ | S4．50 | \＄4．05 | \＄3．60 |
| 54366 | AC1420＊ | $81 / 2 \times 15 \times 3$ | 11／2 | 4.15 | 3.75 | 3.30 |
| 50367 | AC1421＊ | $9 \times 15 \times 3$ | 11／2 | 4.75 | 4.30 | 3.80 |
| 54210 | AC413＊ | $10 \times 12 \times 3$ | 11／2 | 4.50 | 4.05 | 3.60 |
| 51263 | ACA14＊ | $10 \times 14 \times 3$ | 13／4 | 4.50 | 4.05 | 3.60 |
| 54318 | AC415＊ | 10x17x2 | 11／4 | 4.35 | 3.90 | 3.50 |
| 50211 | AC416＊ | $10 \times 17 \times 3$ | 2 | 5.00 | 4.50 | 4.00 |
| 58172 | AC427＋ | 10x17×4 | 31／2 | 7.10 | 6.40 | 5.70 |
| 54368 | AC1422＋ | $10 \times 17 \times 5$ | 21／2 | 10.25 | 8.25 | 8.20 |
| 50369 | AC1423 $\dagger$ | $16 \times 23 \times 3$ |  | 7.50 | 6.75 | 6.00 |
| $5{ }^{\text {S }} 155$ | ${ }^{\text {AC4 }}$ A $6 \dagger$ | 11817x2 | 21／4 | 5.50 | 4.95 | 4.40 |
| 54318 | AC417 ${ }^{\text {d }}$ | 11817x3 | $27 / 4$ | 6.35 | 5.76 | 5.10 |
| 54370 | AC1424＊ | 12x12x | $13 / 4$ | 4.60 | 4.15 | 3.70 |
| St371 | AC1425＊ | 12×1712 | 11／2 | 5.75 | 5.20 | 4.60 |
| 51212 | AC418＊ | $12 \times 17 \times 3$ | $23 / 4$ | 6.50 | 5.85 | 5.20 |
| $8{ }^{5} 163$ | AC419 | $13 \times 17 \times 2$ | 21／2 | 6.65 | 5.10 | 4.50 |
| 54213 | AC420 | $13 \times 17 \times 3$ | $23 / 4$ | 6.75 | 6.10 | 5.40 |
| 58173 | AC428t | $13 \times 17 \times 4$ | $37 / 4$ | 825 | 7.45 | 6.60 |
| 54372 | AC1426 $\dagger$ | $13 \times 17 \times 5$ | $31 / 2$ | 11.30 | 10.16 | 9.05 |
| 50373 | AC1427 ${ }^{\text {A }}$ | $14 \times 17 \times 3$ |  | 8.00 | 7.20 | 6.40 |
| 54374 | AC1428 | $15 \times 17 \times 4$ | $31 / 2$ | 11.25 | 10.15 | 9.00 |
| 54375 | AC1429 ${ }^{\text {d }}$ | $15 \times 17 \times 6$ | 33／4 | 16.55 | 14.00 | 12.45 |
| 54376 | AC1430t | $17 \times 17 \mathrm{~m}$ | 31／4 | 9.50 | 8.65 | 7.60 |
| 54377 | AC1431\％ | $17 \times 17 \times 4$ |  | 13.45 |  |  |

## NATURAL ALUMINUM BOTTOM PLATES

| Stuck No． | $\begin{aligned} & 8 u{ }^{8} 6 \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Size } \\ & \text { Inches } \end{aligned}$ | Wt． Lbs． | $\begin{aligned} & 1.49 \\ & \text { Each } \end{aligned}$ | 50．99 | $\begin{gathered} \text { D0-149 } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 545509 | BPA1501 | $21 / 2 \times 41 / 2$ | \％ | 50.85 | S0．75 | \＄0．70 |
| 545510 | BPA1502 | $31 / 2 \times 41 / 2$ | \％ | 90 | ． 80 | ． 75 |
| 545511 | BPA1503 | 31／2 $\times 51 / 2$ | 1／4 | ． 90 | 80 | 75 |
| 5 AS512 | BPA1504 | $4 \times 5$ | 1／6 | ．90 | 80 | 75 |
| 545513 | BPA1505 | $4 \times 6$ | $1 / 1 /$ | 1.00 | 90 | 80 |
| 545514 | BPA1506 | $4 \times 8$ | $1 / 1$ | 1.15 | 1.05 | 90 |
| 545549 | BPA1532 | $4 \times 17$ | $1 /$ | 1.15 | 1.05 | ． 90 |
| 545515 | BPA1507 | $41 / 2 \times 8$ | $1 / 4$ | 1.25 | 1.15 | 1.10 |
| 545516 | PPA1589 | $5 \times 7$ | 1／8 | 1.10 | 1.00 | 90 |
| 545517 | BPA1508 | $5 \times 9$ | 316 | 1.10 | 1.00 | 90 |
| 545518 | BPA1590 | 5×91／2 | $1 / 4$ | 110 | 1.00 | 90 |
| 545519 | 8PA1591 | $5 \times 10$ | 1／4 | 1.10 | 1.00 | 90 |
| 545520 | BPA1509 | $5 \times 13$ | 1／4 | 1.75 | 1.60 | 1.40 |
| 545521 | BPA1510 | $5 \times 131 / 2$ | $1 / 4$ | 1.75 | 1.60 | 1.40 |


| Stock No， | $\begin{aligned} & \text { Bud } \\ & \text { No. } \end{aligned}$ | Siza Jnches | Wt． <br> Lbs． | $\begin{aligned} & 1.49 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 50.99 \\ \text { Each } \end{gathered}$ | $\begin{gathered} 00.149 \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 55522 | BPA1511 | 51／2×51／2 | 4 | \＄1．10 | \＄1．00 | 50．90 |
| 51.5523 | BPA1512 | 51／2×91／2 | $1 / 4$ | 8.15 | 1.05 | ． 90 |
| 545524 | BPA1513 | $5 \times 8$ | 大。 | 1.25 | 1.15 | 1.00 |
| 545525 | 日PA1514 | 6x14 | \％ | 1.75 | 1.60 | 1.40 |
| 585526 | 8PA1515 | $6 \times 17$ | $1 /$ | 2.10 | 1,90 | 1.70 |
| 5 A5527 | BPA1592 | 7x7 | 1 | 1.10 | 1.00 | 90 |
| 545528 | BPA1593 | 7x9 | 3 | 1.15 | 1.05 | 90 |
| 545529 | BPA1594 | 7x11 | 7 | 1.25 | 1.15 | 1.00 |
| 545530 | BPA1595 | 7x12 | $1 / 2$ | 1.50 | 1.35 | 1.20 |
| 545586 | BPA1596 | 7×13 | 1／2 | 1.75 | 1.60 | 1.40 |
| 545531 | BPA1516 | $7 \times 15$ | \％ | 1.90 | 1.70 | 1.50 |
| 5 A5532 | BPA1517 | $7 \times 17$ | \％ | 1.90 | 1.70 | 1.50 |
| 545533 | BPA1518 | $8 \times 10$ | 3\％ | 1.85 | 1.65 | 1.50 |
| 54534 | BPA1519 | $8 \times 12$ | \％ | 2.15 | 1.95 | 1.70 |

This Minibox has both snap－lock and screw－type fastening．The de－ sign permits the Instaltation of more components than is possi－
ble in other conventionally de－ signed boxes of the same slze． two－piece construction，each plece forming three sides．The two sec－ tions are held together by the engagement of four circular pro－
jections Into four matching holes．A unique mechan－ cal principle enabies these projections to be easily and quickly knocked out if screw type assembly is desired．Flange assures proper shielding．Four self－ tapping screws furnished．Made of .040 sluminum， except $7^{\prime \prime}$ and longer are $.050^{\prime \prime}$ ．Availabie in natural finish or Hght Eray Hammertone．Please specify when ordering．


## BUD ALUMINUM MINIBOXES




BUO MINBATURE UTILITY CABINETS

ALUMINUM TYPE
A highiy useful housing for all types of electronic equipment．Both front and back panels are removable for easy accessibility．Aluminum alloy $5005 \mathrm{H}-14$ and are avaliable with natural or light gray hammertone（ HG ）finish．

| $\begin{aligned} & \text { Sizt } \\ & \text { H. } \end{aligned}$ | $\begin{aligned} & \text { Inc } \\ & w . \end{aligned}$ | 0. | $\begin{aligned} & \text { Wh. } \\ & \text { ths. } \end{aligned}$ | Bud Mo． | Stk．No． | $\begin{aligned} & \text { Natural } \\ & \text { 1-49 Ea. } \end{aligned}$ | Finish 50-99 Ea. | 100．189 | Stk．No． | Grey Ham 1－49 Ea． | mertone $50.99 \mathrm{Ea} .$ | 100．149 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 4 | 2 | t／4 | AU1083 | 543015 | \＄2．15 | \＄1．95 | 51.70 | 543032 | \＄2．50 | 22.25 | 52.00 |
| 4 | 5 | 3 | 1／4 | AU1028 | 543016 | 2.25 | 2.05 | 1.80 | 543033 | 2.85 | 2.55 | 2.30 |
| 6 | 5 | 4 | 1／2 | AU1029 | 543017 | 2.50 | 2.25 | 2.20 | 343034 | 3.00 | 2.70 | 2.40 |
| 6 | 6 |  | 3／4 | AU1039 | 54264 | 3.65 | 3.30 | 2.90 | 5a266 | 4.00 | 3.60 | 3.20 |
| 9 | 6 | 5 | 1 | AU1040 | 54265 | 4.15 | 3.75 | 3.30 | 52267 | 5.00 | 4.50 | 4.00 |

## STEEL TYPE

Built－In chassis attached to front panel．Removable front and rear panels．Steel with black wrinkte finish．

| Stock | 8ud | 5ize Inches |  |  | Wt． Lbs． | 1－48 50－38 100－149 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mo． | No． | H． |  | D． |  | Each | Each | Each |
| 543035 | C1793 | 4 | 4 | 2 | 3／4 | \＄1．90 | \＄1．70 | \＄1．50 |
| 5 5 3036 | C1794 | 4 | 5 | 3 | 1 | 2.25 | 2.05 | 1.80 |
| 543037 | C1795 | 5 | 4 | 3 | 1 | 2.40 | 2.15 | 1.90 |
| 5 \＄3039 | C1797 | 5 | 6 | 4 | 13／4 | 2.75 | 2.50 | 2.20 |
| 543038 | C1796 | 6 | 5 | 4 | $13 /$ | 2.60 | 2.35 | 2.10 |
| $5 \mathbf{4} 88$ | C1798 | 6 | 6 | 6 | 23／4 | 3.60 | 3.25 | 2.90 |

## BUD ECONOBOXES

Die cast alumnum boxes with rounded corners and close fitung tlanged lids．lastened with screws．The thickness of the aluminum gives good strangth and excelient shasiding properties CU－124 and CU－ 234 have 4 serews for lid，oth ers have 6

UTILITY TYPE CABINETS
Sturdy spot welded steel．Removabla front and back cover for complete accessibility．Stocked In Hammertone gray only．

| Stock No． | Bud No． | Size inches l． | W． | H． | Wt Lbs． | $\begin{aligned} & 1.24 \\ & \text { Each } \end{aligned}$ | $25.49$ Each | $\begin{array}{r} 50.99 \\ \text { Each } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 A3089 | CU－124 | 4－3／8 | 2．3／8 | 1．7／32 | 1／2 | 5185 | 51.65 | \＄1．50 |
| 5 A3070 | CU． 234 | 4 11／16 | 3－11／16 | 2－7／32 | 3／4 | 2.90 | 2.60 | 2.30 |
| 543671 | CU－247 | 7－25／64 | $4.45 / 64$ | 2－7／32 | 1－1／4 | 4.85 | 4.35 | 3.90 |
| 543072 | CU－347 | 7－25／64 | 4－45／64 | 3－1／32 | $1-1 / 2$ | 5.15 | 4.65 | 4.10 |


| Stock | Bud |  | Iza In． |  | Wt． | 1.49 | 50.99 | 100－149 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | No． | H． | W． | D． | Lbs． | Each | Each | Each |
| 5478 | CU． 883 | 4 | 4 | 2 | 3／4 | \＄1．65 | \＄150 | \＄1．30 |
| 5179 | CU－728 | 4 | 5 | 3 | 7／4 | 2.00 | 1.80 | 1.60 |
| 5 A7 | CU－1098 | 5 | 6 | 6 | 21／2 | 3.40 | 3.05 | 2.70 |
| 548 | CU－1099 | 9 | 6 | 5 | 3 | 3.85 | 3.45 | 3.10 |
| 549 | CU． 879 | 10 | 8 | 7 | 5 | 5.25 | 4.75 | 4.20 |
| 5410 | CU． 880 | 10 | 10 | 8 | 51／2 | 6.15 | 5.65 | 4.90 |
| 5A11 | CU－881 | 12 | 11 | 8 | 6 | 6.75 | 6.10 | 5.40 |

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Call B－A＇s Industrial Department（816） $561-5460$

# RELAY RACKS, PANELS, CABINETS, BLOWERS <br>  <br> (1) BUD DELUXE RELAY RACKS <br> (6) BUD TRANS-AIRE BLOWERS 

Attractive rounded corner design with red filled chrome trim and recessed pane Drilled and tapped for 10.32 scraws spacing for all standard $19 y^{\prime}$ panels. Well ventl. lated, louvers side and rear. Hinged rear door with snap catches. All are $22^{\prime \prime}$ wide. $171 /{ }^{\prime \prime}$ deep. Supports for mounting free-rolling casters listed below. Shipped knocked down. Hammertore Gray finish.

| Stock | Bud | Hgt . | Panel | Wt. |  | Prices Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ho. | Ins. | Space | Lbs. | 1-9 | 10-14 | 1.19 |
| 547514 | CR1774 | 421/10 | $363 / 4{ }^{\prime \prime}$ | 82 | \$72.45 | \$65.20 | \$57.95 |
| 547500 | CR1711 | 47\% | $42^{\prime \prime}$ | 92 | 82.00 | 73.80 | 65.60 |
| $5 A 7515$ | CR1712 | 66\% | $611 / 4^{\prime \prime}$ | 115 | 102.60 | 92.35 | 82.10 |
| 547516 | CR1773 | 82\% | 77" | 135 | 189.16 | 106.35 | 94.50 |

BUD RC7756. $2 \%{ }^{\circ \prime}$ CASTERS FOR BUD DELUXE RELAY RACKS
No, 5a310. Wt 6 02s. (Requires 4)
h-24 Each.
(2) BUD TELEPHONE TYPE RELAY RACKS

Uprights $7 / 6^{\prime \prime}$ steel channeis, $3^{\prime \prime}$ deep. Chassis type base. Stocked in Hammertone Gray.

| Gray. <br> Stock | Bud | Hgt. | Pane! | Wt. |  | Prices Eacl |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Ins. | Space | Lis. | 1.9 | 10-14 | 15-19 |
| 517509 | RR1264 | 703\% | $661 / 2^{\prime \prime}$ | 46 | \$36.55 | \$32.90 | \$29.25 |
| 547510 | RR1364 | $755 \%$ | 713/4" | 48 | 38.40 | 34.55 | 30.70 |
| 547511 | RR1366 | 81\%/4 | $77 \%$ | 50 | 42.10 | 37.90 | 33.70 |

(3) TABLE MOUNT TELEPHONE RACKS

For desk or bench mig. of equipment, permitting easy access for building or operating. Panel supports are recessed for flush panel mounting. Hammertone gray. $\begin{array}{cccccccc} & \text { Bud } & \text { Hgt } & \text { Panel } & \text { Wt } & & \text { Prices Esch } & \\ \text { No. } & \text { Mo. } & \text { Ins. } & \text { Space } & \text { Lhs. } & 1.14 & 15.24 & 25.34 \\ 507519 & \text { RR1248 } & 24 & 21 \text { II } & 15 & \$ 14.70 & \$ 13.26 & \$ 11.75\end{array}$ $\begin{array}{llllllll}547519 & \text { RR1248 } & 24 & 21^{\prime \prime} & 15 & \$ 14.70 & \$ 13.26 & \$ 11.75 \\ 5.7520 & \text { RR1249 } & 31 & 28^{\prime \prime} & 18 & 17.35 & 15.50 & 13.90\end{array}$

## (4) BUD DELUXE CABINET RACKS

Professional quality and appearance for equipment builders. All have hinged top with recessed snap lock and the five larger sizes also have hinged year door. ${ }^{5}$ No with recessed sin fet embossed on bottom, Red lined chrome trim. For use with scrandard relay rack panels. Overall 0.0 . is $22^{\mathrm{N}}$ wide $1414^{\prime \prime}$ deep. Stocked in Hammertone Gray.

| Stock | 日ud | Het. | Panel <br> Space | Wt. Lbs |  | Prices Each 10-14 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{\text {H0, }}$ | Mo. | Ins. | Space | Lbs. | $1-9$ $\$ 24.30$ | $10-14$ | 15.18 $\$ 18.45$ |
| 547503 | CR1741 | 10\% | $8314{ }^{\prime \prime}$ | 28 | \$24.30 | \$21.85 | $\$ 18.45$ |
| 5.7501 | CR1740 | 12\% | 1012" | 31 | 28.45 | 26.60 | 22.75 |
| 507504 | CR1742 | 14\% | 121/4" | 32 | 29.30 | 26.35 | 23.45 |
| 517502 | CR1739 | 151\% | 14" | 35 | 39.75 | 35.80 | 31.80 |
| 547506 | CR1743 | $19 \%$ | $171 /{ }^{\prime \prime}$ | 40 | 38.90 | 35.00 | 31.10 |
| 547507 | CR1727 | $22^{1 \%}$ | $21^{\prime \prime}$ | 43 | 41.75 | 37.60 | 33.40 |
| 547512 | CR1744 | 281 | 261/4" | 51 | 44.90 | 40.48 | 35.90 |
| 587508 | CR1728 | 33\% | $311 / 2^{\prime \prime}$ | 58 | 47.75 | 43.00 | 38.20 |
| 3 \$7513 | CR1745 | 36\% | $35^{\prime \prime}$ | 63 | 50.25 | 45.25 | 4020 |

## (B) ALUMINUM RELAY RACK PANELS

All panels are $19^{\prime \prime}$ wide, $1 / 6^{\prime \prime}$ thick. Notched to RMA specification which fits all standard racks. Hammertone Gray finish.

| Stock No. | Bud Mo | Height Inches | Wht. |  | Prices Exeh |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5A5550 | PA1101 | inches | L1/4. | $\begin{aligned} & 1.49 \\ & \$ 1.85 \end{aligned}$ | $50-99$ $\$ 1.65$ | $100-149$ |
| 505551 | PA1102 | 31/2 | $3 / 4$ | 2.10 | 2.35 | 2.10 |
| 595552 | PA1103 | $51 / 4$ | 1 | 3.35 | 3.00 | 2.70 |
| 5 25553 | PA1104 | 7 | 13/4 | 4.25 | 3.85 | 3.40 |
| 515554 | PA1105 | 83/4 | 2 | 4.85 | 4.35 | 3.90 |
| 5 A5555 | PA1106 | 101/2 | 21/2 | 6.15 | 5.55 | 4.90 |
| 545556 | PA1107 | 121/4 | 21/4 | 720 | 6.50 | 5.75 |
| 515557 | PA1108 | 14 | 3 | 8.20 | 7.40 | 6.55 |
| 545558 | PA1109 | 151/4 | 31/2 | 9.10 | 8.20 | 7.30 |
| 54298 | PA1110 | 1712 | 4 | 8.95 | 8.95 | 7.95 |
| 51298 | Pallil | 191/4 | 41/2 | 10.85 | 9.75 | 8.70 |
| 5A300 | PA1112 | 21 | 5 | 12.00 | 18.80 | 9.60 |

(6) ALUMINUM SURFACE SHIELD RACK PANELS

Bright aluminum with blemish-free Mill finish. Covered both sides with prassure sensitive whlte paper for layout and drilling; paper is removed when ready to install. Standard notching, $19^{\prime \prime}$ width, $1 /{ }^{\mathrm{NN}}$ thick.

| Stock | Bud | Helght | Wt. |  | Prices Erch |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Inches | Lbs. | 1-24 | 25-49 | 50-99 |
| 545559 | \$FA1831 | 13/4 | $1 / 4$ | \$1.60 | \$1.45 | \$1.35 |
| \$A5560 | SFAI832 | $31 / 2$ | 3/4 | 2.65 | 2.40 | 2.10 |
|  |  |  |  | 1.49 | 50-99 | 100.149 |
| 548561 | SFA1833 | 51/4 | 1 | 340 | 3.05 | 2.70 |
| 5 A5562 | SFA1834 | 7 | 13/4 | 4.95 | 3.75 | 3.30 |
| 85553 | SFAIB35 | 83/4 | 2 | 4.90 | 4.40 | 3.90 |
| 545564 | SFA1836 | 101/2 | 21/2 | 6.35 | 5.70 | 5.10 |
| 515565 | SFA1837 | 121/4 | $23 / 4$ | 7.25 | 6.65 | 5.80 |
| 515568 | SFA1838 | 14 | 3 | 8.25 | 7.45 | 6.60 |

## O SUD PANEE CHASSIS

or vertical chassis installation on relay rack paneis where space in dapth is imited. Provides easy access to circuitry. Horizontal design permits easier access for testing and maintenance. All have $17{ }^{\prime \prime}$ chassis length and $5 \% / z^{\prime \prime}$ dapth. Notched for mounting with $19 /$ relay rack panels. Made of $.062^{\prime \prime}$ natural aiuminum


Features greater air displacement for glven area and panel space. Exhaust or intake operates in any positlon. 110 volt 2 speed motor, rubber mounted. Has ollite bearings. Has thermal overioad protection and automatic reset Mounted on 19 ack paneis with $18^{\prime \prime} 3$-wire cord. complete with disposable air filter and chrome grille. "Slagle spend

| Steck | Bud | Panel <br> Space | Depth Ins. | Air Disp High | acament Low | Wt. Lbs. | 1.9 | Prices Each 10-14 | 18-18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51200 | B23A | 312" | 12 | 200CF | 100CFM | 171/4 | 35 |  | 7 |
| 5/214 | B25A | 51/4" | 141/2 | 500 CFM | 250CFM | 33 | 104.38 | 93.95 | 33.45 |
| 5A215 | B27A | $7 \prime$ | 141/2 | 750CFM | 350CFM | $351 / 4$ | 117.20 | 105.50 | 93.75 |
| 513065 | 850 | 31/2" | 19 | 150CFM |  | 13 | 88.80 | 79.90 | 71.05 |
| 513068 | B52 | $51 / 4 \prime$ | 19 | 150CFM |  | 14 | 91.70 | 82.55 | 73.35 |
| 513087 | B54 | $7 \prime$ | 19 | 300CFM |  | 21 | 117.45 | 105.70 | 93.95 |
|  |  |  |  | AlR F | ERS FOR | ABOVE |  |  |  |
|  |  |  |  |  |  |  |  | rices E |  |
| St. No. |  | Mig. No |  | Descrl | ptions |  | 1.24 | 2548 | 50.99 |
| 54557 |  | BF24 |  | For 823 | A and B5 | Blower | \$1.70 | \$1.55 | \$1.35 |
| 5 E 5579 |  | BF26 |  | For B25 | Blower |  | 1.85 | 1.65 | 1.50 |
| 545500 |  | 8F28 |  | For 827 | Blower |  | 2.10 | 1.90 | 1.70 |
| 5 53068 |  | 8F5 3 |  | For 652 | Blower |  | 1.85 | 1.65 | 1.50 |
| 5 ${ }^{\text {a }} 3050$ |  | BF55 |  | For B54 | Blower |  | 2.00 | 1.80 | 1.60 |

(7) ADJUSTARLE BUD TEM-STAT
rem-stat thermostat mounted in an enclosure. Responds quickiy to gradual or sudden temperature changes. Actuates warning devices or turns Blowers on and off. Adjustable temp. range. $\mathbf{2}^{1} / 1 / x 1 \times 1 / 2_{2} 2^{\prime \prime}$. UL Histed.

| Stock | Bud | Adjustable |  | Prices Each |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No. | Mo. | Tomp. Range | $1-49$ | $50-99$ | 100.149 |
| 56148 | $T \$-15$ | 80 to 1700 F | $\$ 6.65$ | $\$ 6.00$ | $\$ 5.30$ |

## BUD QUALITY HANDLES WITH MOUNTING HARDWARE


(1) Made of $3^{\prime \prime}$ steel rod, chrome plated. (3) Tubular aluminum, otched finish.
Hand clearance "Ka".
 $5 A 5581$ H9116B $6^{\prime \prime} \quad 2.00$ © Sturdy drawer pull. silver anodized
 hand ciearance $1^{\prime \prime}$. (B) Convenient hinged type sifiver anodized $\begin{array}{lllll}5 A 5569 & \mathrm{H} 9166 \mathrm{~B} & 1^{29} 3^{\prime \prime} & 1.10 & \text { aluminum, hand clearance } 11 / 2^{\prime \prime} . \\ 50168 \mathrm{~B} & 3^{\prime \prime} & 1.10 & 51556 \text { H9122B }\end{array}$
( ( BUD CHASSIS BRACKETS
Essential for proper chassis support. Heavy gauge steel. black finish. Cut out to mount chassls flush against panel. M8450 and M8451 for 4 Jnch chassis, ajl others up to 3 inches high.

| Stock | Bud | Size | es | Wt. |  | Prices Per Palr |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ho. | Ho. | Depth | Het. | Lbs. | 1-49 | 50.98 | 100-149 |
| 5499 | M8458 | 8 | $61 / 2$ | 11/4 | \$2.00 | \$1.80 | \$1.60 |
| 51113 | MB448 | 10 | 61/2 | 11/4 | 2.09 | 1.80 | 1.60 |
| 5498 | MB459 | 11 | 61/2 | 2 | 2.35 | 2.10 | 1.90 |
| 5A156 | MB449 | 12 | 61/2 | 2 | 2.65 | 2.40 | 2.10 |
| 51284 | M8460 | 13 | 61/2 | $21 / 2$ | 2.50 | 2.25 | 2.00 |
| 5 A157 | MB450 | 10 | 81/2 | $21 / 4$ | 3.00 | 2.70 | 2.40 |
| 5A158 | MB451 | 13 | $81 / 2$ | 3 | 3.15 | 285 | 2.50 |



MIDGET SIZE CABINETS
(1) BUD SLOPING FRONY CABINETS for miniaturized equipment. Hammertone gray Size $41 / 2^{\prime \prime}$ deep $\times 4 \frac{1}{2} 2^{\prime \prime}$ high. One-plece detachable back and sides.


$$
\text { (3) BUD UNIVERSLL CASES FOR } 2 \text { AND } 3 \text { IHCH NETERS }
$$

Punched for $2^{n}$ meter with easily removabie knock-out ring to increas of holo size for $3^{\prime \prime}$ meter. One-plece removable sldes and bottom. Two $3 /{ }^{\prime \prime}$ " knock-outs in top for instaling insuiators, etc. Gray hemmertone. $4 \times 4 \times 41 / 4$ "

$\begin{array}{lllll}5 A 40 & \text { CMA1936 Aluminum } & 3 / 4 \mathrm{Lb} \text {. Aluminum } 2.40 & 2.15 & 1.90\end{array}$
Larger Size CASE. $41 / 4^{\prime \prime}$ H. x $6^{\prime \prime}$ W. x $4^{\prime \prime}$ D. Aluminum, Hammertone Gray.

# Shurite Tayfurep AND Simpson PANEL METERS 

## ＂G＂SERIES TRIPLETT PANEL METERS



Modern design that features a greater degree of flexibillty and interchange－
abilly．Two types of mountings are abillty．Two types of mountings are
avallabie－conventional flush type or availabie－conventional flush type or modern picture window appearance． Iripiett＇s famous self－shjelded BAR－ RING magnet and one－piece djecast and jewel 0＇Arsonval type movements．
Quantity Discounts for all Triplatt
Panal Aeters： 10 to 24 deduct
$10 \%$ ； 25 and over deduct $20 \%$
from each price．
$21 / 夕^{\prime \prime}$ DC Meters Are Model $220 \mathrm{E}, 212^{\prime \prime}$ AC Meters Are Model 230 G．Both are
$2.77 \times 2.39^{\prime \prime}$ high，mount in $2.2^{\prime \prime}$ dia．hole．DC scale length $2.48^{\prime \prime}$ ，AC scals length $2.77 \times 2.39^{\prime \prime}$ high，mount in $2.2^{\prime \prime}$ dia．hole．DC scale length $2.48^{\prime \prime}$ ，AC scals length $2.11^{\prime \prime}$
$312^{\prime \prime}$ DC Meters Ars Model $320 \mathrm{G}, 312^{\prime \prime}$ AC Meters Art Model 330 G．Both are $3.5^{\prime \prime \prime}$
$\times 3.00^{\prime \prime} \mathrm{h}$ ．Mount in $2.75^{\prime \prime}$ dia．hole．DC scale leneth $3.16^{\prime \prime}$ AC sCaie lenctr $3.16^{\prime \prime}$ ． 4－1／2＂DC Meters are Modit 420 G．4－1／2＂AC Meters ara Model 430 G．Borh are 4.55 X $4.07^{\prime \prime}$ H．．mount in $\mathbf{2 . 7 5}$ dia hole DC scale tength $4.03^{\circ}$ AC scale length 3.43

| Aange | 21／2＂METERS |  | 31／x＂METERS |  | 49／2＂METERS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Stock No． | Price Each | Stock No． | Price Each | Stock Ho． | Price Ench |
| 0－50 DC Volts | 3546181 | \＄19．90 | 3548142 | \＄21．00 | 3546057 | \＄22．10 |
| 0.300 DC Volts | 35A6192 | 19.90 | 35A6143 | 21.00 | 35A6058 | 22.10 |
| 0.50 DC MV | 3546190 | 18.80 | 35A5054 | 19.90 | 35A5059 | 21.00 |
| 0－1 DC MA | 35A61策 | 18.20 | 35A6144 | 19.30 | 3546080 | 20.40 |
| $0-10$ OC Ma | $35 A 6186$ | 18.20 | 35A6055 | 19.30 | 35A6061 | 20.40 |
| 0.50 DC MA | 3516187 | 18.20 | $35 A 6145$ | 19.30 | 3546062 | 20.40 |
| 0－100 DC MA | 3586188 | 18.20 | 3546146 | 19.30 | 35A6083 | 20.40 |
| 0－500 OC MA | 3546189 | 18.20 | 3548147 | 19.30 | 3546064 | 20.40 |
| 0.50 OC UA | 35A6193 | 23.70 | 3546148 | 27.60 | 35A5065 | 28.70 |
| 0.100 DC UA | $35 A 6199$ | 22.10 | $35 A 6149$ | 24.80 | 35AE068 | 25.90 |
| 0－150 AC Volts | 3546197 | 18.80 | 35A6150 | 19.90 | $35 A 6067$ | 21.00 |
| 0.300 ac voits | 3546198 | 18.80 | 3546151 | 19.90 | 3546068 | 21.00 |
| 0.5 AC Amp | 35A6194 | 17.60 | 35A8152 | 18.80 | 35 A6069 | 19.90 |
| 0.10 AC Amp | 35A6195 | 17.60 | 3516056 | 18.80 | 3516070 | 19.90 |
| 0.50 AC Amp | 3546196 | 17.60 | 35A6153 | 18.80 | 3546071 | 19.90 |

Bezels for＂gi＂Series Meters．Meter mounts back of panel．Overall size for $21 / 2$＂ meter， $3.09 \times 1.69^{\prime \prime} \mathrm{H}_{\mathrm{i}}$ ；for $31 / 2^{\prime \prime}$ meter， $3.83^{\prime \prime} \mathrm{W}$ ．X $2.27^{\prime \prime} \mathrm{H}$ ；for $4^{\prime \prime}$ meter， 4．92＂W．X $2.85^{\prime \prime} \mathrm{H}$ ．
No．35AB203．For 21／2＂Moters．134－233．Each No．35A6167．For $4 y z^{\prime \prime}$ Meters．134－234．Each 1.90
1.90

## TRPPLETT NULL METERS G SEREES

Sensitivity at Nuil Point is 0.3 ua per degree．End scale value is $\mathbf{4 0 - 0 - 4 0} \pm 20 \%$ ． Center spot mirrored for elfmination of parallax in reading．
uspension type movements．
$40-0-40320$ of $31 / 2^{\prime \prime}$ meter．With 1700 ohms resistance．Triplett 8069752.
No． $35 A 6200$ Each．
$40-0-40420 G 41 / 2^{\prime \prime}$ meter．With 1700 ohms resistance．Triplett 8069852. $\$ 43.10$ No．35A6201 Each $\$ 44.50$

## SHURITE PANEL METERS



MDDEL 850


MODEL 750

Calibrated for non－magnetsc panels Accur－宿位 within $5 \%$ ．White，metal scale．clear plastic faer．OC meters polarized－vane sole－ noud type；AC meters double vane repulsion the，jewetad bearings．$\$ \mathrm{hpg}$ ，wi． 80 O ， Model 850 ．Front $217 / 02^{\prime \prime}$ W $\times 25 / 16^{\prime \prime}$ H．Extends $17 / 16^{\prime \prime}$ behind panel， 2 5／32＂ dia hole．

| DC MICRDAMMETER |  |  |  | DC VOLTS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range | Stk．No． | Mig．No． | Emeh | Range | Stit．No． | Mg，No． | Each |
| 0－500 | 35A6000 | 8902 | S4．95 | 0－3 | 3516023 | 8102 | \＄3．30 |
|  | DC MILLIAMMETER |  |  | 0.5 | 3546024 | 8104 | 330 |
| 0.1 |  | 8336 | 54.50 | 0.10 | 3546025 | 8107 | 3.30 |
| 0－3 |  | 8301 | 3.75 | 0.15 | 3546028 | 8108 | 3.30 |
| $0-5$ | $\begin{aligned} & 3546166 \\ & 35 A 6003 \end{aligned}$ | 8302 | 3.45 | 0.25 | 3518027 | 8109 | 3.50 |
| 0.10 | $\begin{aligned} & 35 A 6003 \\ & 35 A 6004 \end{aligned}$ | 8303 | 3.30 | 0－50 | 35A6028 | 8122 | 3.40 |
| 0－15 | $\begin{aligned} & 35 A 8004 \\ & 35 A 6005 \end{aligned}$ | 8304 | 3.30 | 0－150 | 35A6029 | 8115 | 3.70 |
| 0.25 | 35 A8006 | 8305 | 3.30 |  |  | LS |  |
| 0.50 | 3546007 | 8306 | 3.30 | 0－10 | 35A6030 | 8403 | \＄4．75 |
| 0－100 | 35A6008 | 8307 | 3.30 | 0.25 | 35A6031 | 8412 | 4.75 4.75 |
| $0-150$ | 3516009 | 8308 | 3.30 | $0-150$ | 35A6033 | 8406 | 4.95 |
| $\begin{aligned} & 0.300 \\ & 0.500 \end{aligned}$ |  | 8309 | 3.30 | 0－300 | 35A6034 | 8407 | 5.20 |
|  |  | $\begin{aligned} & 8310 \\ & 8312 \end{aligned}$ | 3.30 | AC AMMETER |  |  |  |
|  | $\begin{aligned} & 35 \$ 8011 \\ & 35 \$ 6012 \end{aligned}$ |  | 3.30 |  |  |  |  |
|  | ${ }^{\text {D }}$ DC AMPS ${ }^{\text {a }}$ |  |  | $0-3$ $0-5$ | $3546035$ $35 A 6036$ | 8502 8503 | $\$ 4.65$ 4.65 |
| 0.3 |  |  | \＄3．30 | $0-5$ 0.10 | 35A6036 | 8503 8504 | 4.65 4.65 |
| 0.5 | $35 A 6014$ | 8203 | 3.30 | 0.10 0.15 | 35A6038 | 88508 | 4.65 4.65 |
| 0.10 0.15 | $35 A 6015$ 3546048 | 8205 | 3.30 3.30 | 0.30 | 35A6039 | 8505 | 4.75 |
| 0.25 | 35 A6017 | 8207 | 3.70 |  | OH | RR |  |
| 0.50 | 3546018 | 8208 | 3.70 | Measure | resistanc | －10K ohm |  |
| 10－0．10 | 3546021 | 8213 | 3.70 | Sth．No． |  |  | Net Ea． |
| 20－0－20 | 3588022 | 8214 | 3.70 | 35 A6020 | 8701 | Plastie | \＄3．70 |

NEW 3－1／2＂RECTANGULAR METERS
Model 750．Front $3 V{ }^{*} W \times 3^{* H} H$ ．Extends $113 / 32$ behind panei， $21 / 32$ dia hole

| Range | Stock | Mrg． | Each | Range | Stock | Mig． | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0－15 OC Volts | ${ }_{35}{ }^{\text {No．}}$ N204 | ${ }_{\text {Na，}}$ | 54.80 |  | H0． | ${ }^{\mathrm{Ho}} 73 \mathrm{~s}$ |  |
| 0－25 DC Voits | $35 A 6205$ | 7109 | 8.00 | 0－10 OC MA | 35 A6211 | 7303 | 5.40 |
| $0-500 \mathrm{C}$ Volts | 3546208 | 7122 | 4.90 | －150 AC Voits | 3546212 | 7408 | 6.00 |
| 0.150 DCVolts | $35 A 6207$ | 7115 | 5.25 | 0－15 AC Amps | 3546213 | 7508 | 5.70 |
| 0－10 DC Amps | 35 A6208 | 7205 | 4.80 | 0－50 AC Amps | 3546214 | 7506 | 6.00 |
| 0.50 DC Amps | 35 A6209 | 7208 | 5.25 | O－10 AC MA | 35 A6215 | 7607 | 6.00 |

（1）

（8）


SIMPSON
PANEL METERS
（3）MOOERN＂WIOE－VUE＂3－\＄／2＂METER MODELS 1327．1337．1347． 1357 with 3.14 ＂scaie length．One piece molded clear plastic wrap around cover．Black case $3 \mathrm{k} \times 3 \mathrm{k} \mathrm{K}$＂．All DC movements are self shielded core magnet movement eliminating calibration probiems in matal panets or in magnetic fields AC maters are moving vane type．Mount in 2 \％＊holg．Average shpg wt． 12 ors
（7） $41 / 2^{\prime \prime}$ RECTANGULAR MODEL 29 and 59．Large，accurate，open face instruments with long easy－to－read scale．Black baketlte case $4.66^{\prime \prime}$ W．， $4.20^{\prime \prime}$ H．Mount in $23 / 4^{\prime \prime}$ hole．Scale length $3.9^{\prime \prime}$ ．Calibrated $\pm 2 \%$ ．Average shpg．wt． 1 lb ．
QUANTITY PRICES： 10 to 24 deduct $10 \%$ from＂Each＂price： 25 up deduct $15 \%$ from＂Each＂price．

| Rangt MA | Model Ne． | Stack No． | Net Each | $\begin{aligned} & \text { Model } \\ & \text { No. } \end{aligned}$ | Stock No． | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.1 | 1327 | 3586072 | \＄20．55 | 29 | $35 A 6113$ | \＄21．90 |
| 0－5 | 1327 | $35 A 6073$ | 20.55 |  |  |  |
| 0－10 | 1327 | 3546074 | 20.55 | 29 | 3586114 | 21.90 |
| 0.15 | 1327 | 3546075 | 20.55 |  |  |  |
| 0－50 | 1327 | 3586076 | 21.15 | 29 | 35A6115 | 22.95 |
| 0－100 | 1327 | 3546077 | 21.15 | ．－m |  |  |
| 0－150 | 1327 | 3546078 | 21.15 | －－．－ | $\ldots$ |  |
| 0.300 | 1327 | 3546079 | 21.15 |  |  |  |
| 0.500 | 1327 | 35A6080 | 21.15 | 29 | 3506118 | 22.95 |
| DC MICROAMMETERS |  |  |  |  |  |  |
| UA | Model | Stk．No． | Each | Mode1 | Stk．No． | Each |
| 0.50 | 1327 | 3546082 | 26.10 | 29 | 35A61f8 | 28.20 |
| 0.100 | 1327 | 3546083 | 24.00 | 29 | $35 A 6119$ | 26.70 |
| 0.200 | 1327 | 3546084 | 21.90 | 29 | 35A6120 | 24.00 |
| 0.500 | 1327 | 3546085 | 21.60 | 29 | $35 A 6121$ | 23.40 |
| 500－0－500 | 1327 | 35A6088 | 20.85 | 29 | $35 A 6122$ | 28.35 |
| DC AMMETERS |  |  |  |  |  |  |
| Amps | Model | Sth，No． | Exch | Model | Štk．No． | Each |
| 0.1 | 1327 | 3546087 | \＄21．15 | 29 | $35 A 6123$ | \＄22．95 |
| 0－3 | 1327 | 3546088 | 21.15 |  |  |  |
| 0.5 | 1327 | 3546089 | 21.15 | 29 | 3546124 | 22.95 |
| 0－10 | 1327 | 3546090 | 21.15 |  | 35＾6124 | 22.55 |
| 0－25 | 1327 | 3546091 | 21.15 | 29 | $3546125$ | 22.95 |
| D． 50 | 1327 | 3586092 | 21.15 | 29 | $35 A 6126$ | 22.95 |

DC VOLTMETERS（ 1000 OPV； 500 VOLTS is 2000 DPV）

| Range Y． | Mode？ | Stik．No． | Each | Model | Stik．No． | Eact |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $0-5$ | 1327 | 3518093 | \＄21．90 |  |  |  |
| 0.10 | 1327 | 35 A6094 | 21.90 | 29 | 3516127 | \＄24．00 |
| 0.25 | 1327 | 35A6095 | 21.90 | 29 | 35A6128 | 24.00 |
| 0.50 | 1327 | 35A6096 | 21.90 | 29 | 3546129 | 24.00 |
| 0－100 | 1327 | 3546097 | 21.90 | 29 | $35 A 6130$ | 24.00 |
| $0 \cdot 150$ | 1327 | 3546098 | 21.90 | 29 | 3516131 | 24.00 |
| 0－300 | 1327 | 3546099 | 21.90 | 29 | 35 A6132 | 24.00 |
| $0 \cdot 500$ | 1327 | $35 A 6100$ | 22.95 | 29 | 3546133 | 24.75 |
| AC VOLTMETERS |  |  |  |  |  |  |
| 0.5 | 1357 | 3546101 | \＄20．10 | $\cdots$ | ＋mamemer | ＋um．．． |
| 0－10 | 1357 | $35 A 6102$ | ＋20．10 | ．．． | 35 Cb 134 | －22．00 |
| 0.15 | 1357 | $35 A 6103$ | 20.10 | 59 | 3546134 | \＄22．50 |
| 0.100 | 1357 | 3586104 | 20.85 |  |  |  |
| 0.150 | 1357 | 3586105 | 21.60 | 59 | $35 A 6138$ | $22.95$ |
| $0 \cdot 300$ | 1357 | 35A6106 | 21.60 | 59 | $35 A 6136$ | 22.95 |
| AC AMMETERS |  |  |  |  |  |  |
| Pange | Model | Sth．No． | Each | Model | Sth．No． | Each |
| 0－1 A． | 1357 | $35 A 6107$ | \＄19．20 | 59 | 35A6137 | \＄20．40 |
| 0.3 A ． | 1357 | 3586108 | 19.20 |  |  |  |
| 0.5 A ． | 1357 | 3546109 | 19.20 | 59 | 3548138 | 20.40 |
| 0－10 A． | 1357 | 3546110 | 19.20 | 59 | 3516139 | 20.40 |
| 0－25 A． | 1357 | $35 A 6111$ | 19.95 | 59 | 3546140 | 21.15 |
| 0.50 A ． | 1357 | 35 AB112 | 19.95 | 59 | 35 A6141 | 21.15 |

（1）Model 1357 AC MILLIAMMETERS（1）Modal 1337R．F．AMMETERS

| Stock Ho． | Range | Ohins | Ewch | Stack No． | Range | Tharmo | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3546218 | $0-10$ | 1650 | \＄19．20 | $35 A 6216$ | 0.1 .5 | Internal | \＄24．30 |
| 3546219 | 0－100 | 17.2 | 19.20 | 35 A6217 | 0.3 | Internal | 24.30 |

（1）SIMPSON TAUT BAND MRCROAMMETERS
Taut band movement offers increased reliability，higher sensitivity，lower resistance and greater ruggedness：
No．35A6178．Model 1327T．31／2 Inch 0－10 Microamp DC．Net Ea．．．．．．．．．．．．．．$\$ 42.75$ No．35A6081．Model 1327T．31／2 Inch 0－25 Microamp DC．Nat Eac．．．．．．．．．．．．．．． 37.05 No．35AE179．Model 1327T．31／2 inch 0．50 Microamp DC．Net Ea．．．．．．．．．．．．．．．． 28.35 No．35A6180．Model 1327．31／2 Inch 0－100 Microamp DC．Net Ean．．．．．．．．．．．．．．．． 26.10
（1）DC GALVANOMETERS－SELF SHIELDING $3 \frac{1}{2}$ IN．

|  |  |  |  | Sensltvity |  |
| :--- | :---: | :---: | :---: | :---: | ---: |
| Stik．No． | Mifg．No． | Size Ins． | Scale Range | Miscoamp | Net Each |
| $35 A 6181$ | 1327 | $31 / 2$ | $50-0.50$ | $500-0-500$ | $\$ 19.95$ |
| $35 A 6182$ | 1327 | $31 / 2$ | $50-0-50$ | $75-0.75$ | 23.40 |

## （1）SIMPSON VOLUME LEVEL INOICATORS

$11 / 2$ and $31 / 2^{\prime \prime}$ VU Meters．Self shlelding meter movement．reference level 1 mlil ． watt． 600 ohm line．Both have＂A＂scale for monitoring
Model 1214． $11 / 2^{\prime \prime}$ Sizo．Illus．above．Model 1347， $31 / 2^{\prime \prime}$ Size．Illus．above．


# UET METERS AND Amprobe TESTERS 

## NEW POMONA 30 KV TEST PROBE WITH

 BUILT-IN METER
## TESTS HI-VOLTACE ON ANY COLOR

 OR BLACK $\sigma$ WHITE TV SETEasy to operate, just ground cllp to chassis, contact test probe tip to high voltage being measured and read built-in meter. No warm-up or batteries required. Length $143 / 4$ "
Specifications: Range: 30,000 volts DC. Sensitivity: 20,000 ohms/volt 150 ua) movement. Accuracy: $\pm 3 \%$ full scale. Multiplier Resistance: 600 megohm $\pm 2 \%$. Material: Handle-high impact thermo plastic. Probe-high impact polystyrene. Shpg. wt. 8 ozs
No. 35A8013. Each

## JBT ELAPSED TJME METERS

Indicates accumulated operating time of AC electrical and electronic equipment. Registers $1 / 10$ hour steps. For $110-$ $125 \mathrm{VAC}, 60 \mathrm{~Hz}$. Shpg. wt. $11 / 4$ lbs
(1) Model $31 \mathrm{ECW}-5$. Rectangular modern design. Clear piastic front. 5 wide digits register to $9,999.9$ hours. Rehole. 3546158 \$22.60

Model 13A234. Malf Bezel Adaptor for mounting meter behind panel. Biack molded frame and hdwe. for picture window effect. Outlines $3.83 \times 2.27$ " dial area of $31 E G W$ 5 Meter.
No. 35A6155. Ench
$\$ 1.90$
(1) Model 31-EX. Registers to 9,999.9 hours total, then resefs (20ro antomatically in round $31 / 2^{\prime \prime}$ black molded case. Mounts in $23 / 4^{\prime \prime}$ hole.
No. 35A6161, Net Each
$\$ 19.10$

## WIDE-MUMERAL ELAPSED TIME METERS

(3) Model 3 t-EXW6 Digit. Easy to read wide numerals regisfer to $99,999.9$ hours. Tenths are red on white, units white on black. Resets to zero automatically. Black molded case $31 / 2^{\prime \prime}$. Mounts in $23 / 4^{\prime \prime}$ hole.
$\$ 19.50$

## IBT FREQUENCY METERS

(3) Model 34FC. 9 Reeds $56-64 \mathrm{~Hz} .100$ to 130 Volts, Accuracy $\pm .3 \%$. Rectangular modern design. Clear plastic front. Power Consumption .9 watts
Mounts in $23 / 4^{\prime \prime}$ Dia. hole $3^{\prime} 1 / 2^{\prime \prime} \times 3^{\prime \prime} \mathrm{H}$.
No, 35A3058. Each
$\$ 33.90$
Model 13A234. Half bezel adaptor for mounting meter behind panel. Black molded frame and hardware for pleture window effect. Outlines $3.83 \times 2.27^{\prime \prime}$ dial area of 34FG meter.
No. 35A6155. Each
$\$ 1.90$
(3) Model 34FX. 9 Reeds $56-64 \mathrm{~Hz}$. Accuracy $\pm .3 \% .100$ 130 volts. 140 ohms per tion. $31 / 2^{\prime \prime}$ molded case, mounts in $23 / 4^{\prime \prime}$ hole.
$\$ 31.60$ No. 35A6163. Ench
(3) Modet 31 FX . 5 Reeds $58-62 \mathrm{~Hz}$. 100-130 volts. Accuracy 2. $3 \%$ for measuring frequency of power source. Molded No. 35 A6164. Each. Mounts in 23/4" hole.
$\$ 27.40$

## SHURITE BATTERY TESTERS

No. 4128 BATTERY TESTER. Has two scales, $0-50$ volts and $0-2$ volts. $21 / 4^{\prime \prime}$ diameter, $5 / 8{ }^{\prime \prime}$ thick, bright. nickel
finished. Shpg. wt. 8 oz .
No. 35A3002. Net Each.
$\$$
No. 4123 FOR ALL RADIO AND HEARINC AID BATTERIES from 1.5 to 45 volts. Scale has green zones to indicate atisfactory condifion of batteries in these voltages 1.5. 15. $22.5,30,33.45$. Tests are made under normal operating oad for each batfery assuring a true indication of battery condition. Shpg. wt. 8 oz
$\$ 5.10$

$\$ 19.95$


No. 4152 TRANSISTOR BATTERY TESTER. $0-\overline{2}-10$ voltage scale. For the new Mercury cells and fransistor batterles. Indicates battery strength with a minimum consumption of power. Shpg. wt. 8 oz . No. 3543004 . Net Each.
 - S406LT AC LINE TESTER. Consists of $0-150$ volf AC Meter with combination plug and receptacle connected to meter permanently by a cord, Reading may be taken with and without appliance plugged in. Wt. $1 / 2 \mathrm{ib}$. \$5. 20

## LIGHTING LEVEL INDICATOR

A handy pocket-size meter $\left(31 / 4^{\prime \prime} \times 21 / s^{\prime \prime} \times \mid 1 / 6^{\prime \prime}\right)$ for checking the lighting level of various working areos. Simply ploce the meter on bench, desk, or other working surfoce, and ti quickly shows wheth or the light level is odequote for efficient operation, or whether eye strain or fatigue may result because the level is too high or too low. Shielded to minimize the effect of externol mognetic influences. No. 35 A6202. Shurite 7902 FC. Each

## TRIPLETT TESTERS AND KURZ-KASCH LOGIC PROBES



Easy operation - single polarized plug for test leods eliminates switching leads when changing functions. Low power consumption - less internal heafing far greater stability and reliability. Low circuit loading - greater measurement accuracy with 10 megohm input resistance for all $A C$ and $D C$ voltage ranges. 199.9 mv max, voltoge to resistor under test on any ohmmeter range. Out of range indication. Polarity indication. High input resistance to make it nearly foolproof. With 26 ranges, the Model 8035 boasts occuracies from $\pm 0.1 \%$ to $\pm 0.5 \%$ of reading $\pm 1$ digit. Bright, reflection-free readability. Size 8.1/8 x $10 \times 3^{1 / 2 "}$. Shpg. wt. $4^{1 / 2} \mathrm{lbs}$. No. 35 A3113. Model 8035. Ea.
\$385.00
TRIPLETT FET VOM'S


## 801 V-O-M WITH LOW POWER OHMS

Offers 73 measurement ranges including 8 low-power resistonce ranges that apply only 35 mV to the device under test. The full scale ranges are: 10 from .05 to 1500 VCD, 11 from .005 to 1500 VAC, 12 AC and 12 DC ranges from 5 UA to $1.5 \mathrm{~A}, 7$ resistance ranges from 1000 ohms to 1000 megohms at 1.5 $V$ and 8 low-power ranges from 100 ohms to 1000 megohms of 35 mV , and 12 ranges of output measurement from 70 to 66 db . Offers 11 megohm DC and 10 megohm $A C$ input resistances, $2 \% D C$ and $3 \% A C$ vohage occuracy and o 25 UA suspension-type meter with a nearly $7 \mathbf{k}^{\prime \prime}$ scale length. Designed with features to protect its highly sensitive meter. One probe is used for all functions, $O C, A C, M A$ and $O$ hms.
functionss $O C, A C, M A$ and Ohms.
Black molded cose with aluminum panel. $8 \times 7 \times 5^{\prime \prime}$. With shielded probe, thput cable, ground lead, 2 olligator clips, batteries and manual. 5hpg. wt. 8 lbs.
$\$ 210.00$
No. 3543086. Model 801. Esch. $\$ 32.60$
$\$ 26.50$
No. 35A8040. 10-2467. Carrying Case
No. 35A8041. 79-292. High Voltage Probe $\$ 10.00$
$\$ 10.50$ No. 35A8042. 79-289. RF Detector Pr
No. 35 A8043. $91-620$. Shunt Adaptor

## 601 V-O-M WITH LOW POWER OHMS

11 megohm input on all DC and 10 megohm input an $A C$. low power ohms feature to prevent damage to integrated circuits. In-circuit resistance measurements can be mode withaut usual diode or transistar loading. Push-buttan switches select; $D C$ volts ( + ) ohms; $D C$ volts ( - ) ohms; $A C$ volts and low power ohms.
53 Test Ranges Include: DC Volts: 0-.1-.3-1-3-10-30-100-300. 1000.

AC Volis: $0-.01-.03-.1-.3-1-3-10-30-100-300-1000$.
Ohms: $0-1 \mathrm{~K} \cdot 10 \mathrm{~K}, 100 \mathrm{~K}, 1 \mathrm{meg}, 10 \mathrm{meg}, 100 \mathrm{meg}, 1000 \mathrm{meg}, 10$ ohm center scale on low range. Both conventional ( 1.5 V ) and low power.
AC.OC Current Ranges: $01.1: 1.10 \mathrm{~mA}$.
11 DB Ranges: -60 db . $10+62 \mathrm{db}$ in 10 db . steps.
Off and battery check. Accuracy $\pm 2 \%$ full scale on OC Volts and $\pm 3 \%$ on AC volts $5^{\prime \prime}$ meter. Uses 10 AA penlight cells (included). With slim shielded probe and instructions. Size $3.3 / 16 \times 5-1 / 8 \times 6 \mathrm{~h}^{\prime \prime}$. Shpg. wt. 5 libs.
$\$ 166.00$
No. 35A3011 601 Solid State VOM. Net Each..
$\$ 27.80$
No. 35A8026 T 79-270. Hi-Voltage Probe. Each $\$ 27.80$
$\$ 10.00$
 $\$ 16.20$
$\$ 16.20$

## 603 VOM WITH MICRO POWER, <br> LOW POWER OHMS AND AUTO POLARITY

Triplett Micro Power psovides bottery life in excess of o year for carbon batteries. Auto Polarity always reads up scale. 11.12 Megohm OC input, 10 megohm $A C$ input. Full scale ronges are 7 from . 3 to 1000 DC Volts and AC volts, 6 from 1000 ohm to 1000 meg , Low power ohms and conventional ohms, 4 from 1 to 1000 AC and $O C$ mithomperes, decibels from -30 to +62 . $\pm 3 \%$ accuracy all voltage and ohms ranges, $\pm 4 \%$ occuracy all current ranges. Diode overload protected suspension movement. Size $5.1 / 8^{\prime \prime} \times 3.3 / 16^{\prime \prime} \times 6.1 / 2$. With 29 Volt and 1 " $D$ " cell, leads and manual. 5 hpg . wt. 3 lbs.
No. 35A3133. Model 603. Each
$\$ 150.00$
602 VOM Same ranges, accuracy, and features except does nat include law power ohms.
No. 35A3087. Model 602. Each . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 105.00$
No. 35A8044. 101-793. Carrying Case. Each
$\$ 16.20$
No. 35A8026. 79.270. High Voltage Probe
$\$ 27.80$
No. 35A8029. 79-264. RF Probe
166

## TRIPLETT MODEL 6028 DIGITAL VOM

$21 / 4$ Digits Migh accuracy, resolution to 500 uV .7 ohms ranges with zero adjust to null leod resistonce. I volt max. across resistor under test except 10 ohms range is 100 mV .27 total ranges. Low circuit loading - greater accuracy with 10 meg input resistance for $A C$ and $O C$ volts ranges. $23 / 4$ digit readout lets you read to the nearest " 0 " or " 5 ", one decimal place beyond 2 k digit instruments. Accuracies of $\pm 0.35 \%$ of reading $\pm 1 / 2$ digit on $O C$ volhs ( $\pm 0.50 \%$ of reading $\pm 1 / 2$ digit, $O C$ cur. rent), $A C$ volts $\pm 0.50 \%$ (current $1.0 \%$ ) of reading $\pm$ $1 / 2$ digit, and resistance to $\pm 0.5 \%$ of reading $\pm \frac{1}{2}$ digit. $100 \%$ overrange capability, out-of-range and reverse polarity indication. Size $5.1 / 8 \times 3.3 / 16 \times 61 / 2^{\prime \prime}$. 5 hpg. wt. 4 lbs
No. 35A3112. Model 6028. Each ...... \$275.00


310 FET ALL SOLID STATE FET VOM
Field-effect-transistorized circuitry, 10 megohm input on all DC voltage ronges, sensitivity ten times greater than many conventional VTVM's and ohms reading to 5000 meg. Taut suspension movement, Accuracy $\pm 3 \%$ of fuli scale on DC, and $\pm 4 \%$ on $A C$. Battery check position. High sensitivity ( 300 mV fs) allows transistor bias measurements. Zero center for null measurements. Six DC volt ranges: $0.3,1.2,6,30,120,600$ at 10 megohms. Five $A C$ volt ranges: $0-3$. $12,60,300,600$ of 5,000 ohms per volt. Four resistance ranges: $0-5 \mathrm{~K}, 500 \mathrm{~K}$, 50 Megohms, 5,000 Megohms at 50 ohms center scale. Two $0 C$ current ranges: $0-.12$, 1.2 mitliamperes at $300 \mathrm{mV} .24 / 4 \times 41 / 4 \times 11 / \mathrm{s}$. With $42^{\prime \prime}$ leads and bat. teries.
No. 35 A3057. Wi. 14 oz. Each
$\$ 78.00$

## MODEL 310 POCKET SIZE V.O.M.

Only $23 / 4^{\prime \prime} \times 41 / 4^{\prime \prime} \times 1 t^{\prime \prime}$. Plastic face meter fits in shint pocket or in leather case with belt clip (listed below). Complete minlature 20,000 ohm per volt meter, 5 DC volt ranges $0-1200$. AC - 5 ranges $0-1200$ volts at 5 K ohms per volt. Mieroamperes $0-600$. DC mils 3 ranges $0-600$, ohms $\begin{array}{ll}0 \text { to } 20 \mathrm{~K},-200 \mathrm{~K} \text {. Megohms } 0-2 \text { and } 0-20 \text {. Accuracy } 3 \% ~ D C, ~ & \% \\ \text { Has } 24^{\prime \prime} \text { AC. } \\ \text { test leads and removable negative or common test prod at mater }\end{array}$ end Complete with test leads and battery. Wi 14 oz .est prod at meres No. 35A352. Net Each...
$\$ 46.00$
No. 35A353. Model 369 Carrying Case for 310 Mater. Each ACCESSORIES FOR 310 FET AND 310
Model 10 Clamp-on Adsptor. Adapts Model 310 or 310 FET for checking AC tine loads up to 300 amps without breaking circuit or interrupting work. No. 35A100. Complete ready to use. Each. No. 35A101. Model 101 provides line separation and increnses ammeter sensitivity X10 and X20. Camplete with instructlons. Each ........................ $\$ 8.40$ No. 35A8045. Replacement Leads for 310 Meter. Each . $\$ 3.60$


TRIPLETT MODEL 630 MULTIMETER Proven dependability over a long period of time 20,000 ohm per volt sensitlvity DC and 5000 ohms AC. Accuracy $2 \%$ DC and $3 \%$ AC.Voltage ranges
 0,60 . DC milliamps $0,1.2-12-120$ at 250 milli. volts. DC amperes 0.12 . DG -20 to +77 . Output volts $0 \cdot 3 \cdot 12 \cdot 60 \cdot 300-1200$. Size $3 / 22 \times 5 \frac{1}{2} \times$ No. $35 A 170$. Model 630.
$\$ 67.00$ No. 35B68. 639-05. Black Leather Carrying Case for ofl 630 and 631 . Permits use of instrument in case. Has built-in stand. Each .............. \$16.20 No. 35A8010. T79.127. Replocement Leads for all 630 series. Each $\$ 3.60$

## KURZ-KASCH <br> LOGIC PROBES

Fast, accurate testing of logic levels in all types of IC systems. Hi input impedance at the logic "i"s level prevents loading of circuit. Power is derived from equipment being tested. Readout light red = Logic " 1 ", Readout light white $=$ Logic " $O$ ", no Readout = "infinity", Reodout light blue = "pulse". Overload protection - continuous plus 50 VDC, intermittent minus 20 VDC . Size: $9 / 16^{\prime \prime}$ dio., $6^{\prime \prime}$ long. $26 \frac{1}{4}$ " leads with pin terminals.
LP-5' 10 for $4.75-5.5$ VDC Logic Systems. No pulse reodout. No. 35 A8063. Each
$\$ 44.95$
LP-520 for 4.75-5.5 VDC Logic Systems. Puise detection response of 50 . Nano-seconds or greater. Pulse stretcher remains on for 200 millisecands.
No. 35A8065. Each
$\$ 69.95$

## LP-5 20 PROBES WITH ADDITIONAL FEATURES

No. 35A8068. LP-520M Memory Mode latches blue readout on until reset. Push-pull switch selects memory or stretch mode. Each ................ $\$ 79.95$ No. 35A8069. LP-520G 3 Chonnel Input simulating a 3 input oscilloscope. Each
No. $3 \dot{5}$ ABOB4. LP- $\mathbf{5} 205$ S Nanosecond Pulse Detecting Copabillty.
Each . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 79.95$
NOTE: $M, G$ or $S$ features available on special order in any combination on LP-520 Probes. Add $\$ 10.00$ to LP- 520 price of each feature wanted.
No. 35 AB066. LP-530 for 12-15 VDC Logic Systems. No pulse readout. Ea. $\qquad$
No. 35A8067. LP-540 for 12-15 VOC Logic Systems. Pulse detection response of 50 Nanoseconds or greater. Pulse stretcher remains on for approx. 200 Millisecands. Each

## SIMPSON 313 SOLIO STATE VOM


batfery. Battery condition checked instantly. load protected. All voltage range inputs and overprotected, too. Even AC line voltage are fully applied on ohms ranges without damage to the Fieid Effect Transistor input. 7" Scale.
Voltage Ranges: DC: $0.0 .3,1,3,10,30,100,300$, 1000 volts ( 11 meg input impedance); AC: 0-0.3, 1, $3,10,30,100,300,1000$ volts ( 10 meg input impedance); Current ranges: $D C: 0-0.1,1,10,100$, 1000 milliamperes; Resistance ranges: RXI ( 10 ohm center), RX10, RX100, RXIK, RX10K, RX100K, RXIM. Frequency response: $\pm 0.5 \mathrm{db}$ from 20 Hz to 100 K Hz on $0-0.3,1,3$ volt ranges; $上 0.5 \mathrm{db}$ from 20 Hz to 20 K Hz on $0-10,30,100$ volt ranges. Accuracy: $D C \quad 3 \%$ of fult scale: $A C \pm 3 \%$ of full scale Resistance: $\pm 3^{\circ}$ of arc. Size: $7 \frac{1}{4} / 1$ W. X $6 \not / /^{\prime \prime} \mathrm{H} . \times 3 \not / 4$ "D. Shpg. wt. 6 lbs.
Complete with batreries, isolating probe and oper-
No. 35A3020. Model 313. Eoch

$\$ 130.00$

No. 35A3021. 00577Carrying Case for above. Vinyl with lead storage space. No. 35A8024. 00191 RF PROBE No. 35A8025. 00192 MI Voltage Probe.................................................. $\$ 19.00$ STHE SIMPSON 160 HANOI-VOM FULL FEATURED . . . YET PALM SIZED!
All the time soving conveniences and the sensitivity of a full-sized VOM, yef only $49 / 16 \times 35 / 16 \times 13 / 4^{\prime \prime}$ and weighs only 12 oz . Features self-shielding taut band movement, diode overlaod protection to prevent burnout Accuracy $\pm 2 \%$ FS DC, $\pm 3 \%$ FS AC. Ronges DC volts; 0 . $0.25,1.0,2.5,10,50,250,500,1000$ at 20,000 ohms per volt. AC volts $0-2.5,10,50,250,500,1000$ ot 5000 ohms per volt, DC microamps 0.50, DC MA $0-1,10,100,250$, 500 . Resistance RX1, RX10, RX100, RX1000, RX10K 30 ohm center scole. $D 8$ - 20 to +50 in 4 ranges. Shpg. wt. 1 ib. With batteries, leads and instructions. No. 35 A664. Model 160. Net Each
$\$ 57.50$
No, 35A665. 2225 Leather Carrying Cose Shpg. wt. I lb. Each .. $\$ 11.00$ SIMPSON 885 SOUND LEVEL METER


Quickly and accurately measures noise and sound levels anywhere in occordonce with government requirements. Poim-sized easy to operate, professional solid state device gives full coverage 40 to 140 db sound meosurement. Push-buttons select A, B, or $C$ weightings plus fost/stow meter respanse and battery check. Rugged colibrated ceramic microphone built into high. impact polycarbonate cose. Output jock permits use with recorders and analyzers. 12 Vims output, 620 ohms. Adjustable calibration. Can be mounted on tripod. Requires two 9 V . batteries (below) Size (opprox.) $33 / 4 \mathrm{~W} \times 53 / 8 \mathrm{H} \times 23 / 32^{\prime \prime} \mathrm{D}$.
Shpg. wt. I/2 ibs.
No. 35 A3128. Each
$\$ 250.00$
No. 2lal41.9. V. Battery (requires two) Each
$\$ 2.50$
No. 35A3130. Wrist Strap Each
$\$ 2.50$
$\$ 9.50$
No. 35A3 129. Carrying Case Each

## MERCURY MOOEL 990 TUBE TESTER - ONE YEAR GUARANTEE

Full Cathode Conductonce Test on oll rubes: Magnoval, Novar, Decol, Compactron, Nuvistor, Octal, 9.10 pin, 7 pin.
Complete and comprechensive test instructions included. Importont Cathode to G1 and Cothode to filament leokage ond/or shorts is quickly indicated. Complete element-to-all other-elements short tests can be quickly and easily accomplished on all tubes by 12 circuit slide-button Master switching system. $115 \mathrm{~V} .50 / 60 \mathrm{~Hz}$. Molded case, $6 / 2 \times 7 / 2 \times 3 / 2^{\prime \prime}$. Weight $4 / / 2 \mathrm{lbs}$.
No. 35 A70S. Model 990
Kit With Complete Instructions
$\$ 27.95$
No. 35 A3029. Model 990 Factory Wired
$\$ 34.95$


## MERCURY <br> MUTUAL CONOUCTANCE TUBE TESTER

ENGINEERED TO TEST ALL THE LATEST TUBE TYPES . . . PLUS TRANSISTORS

## -ONE YEAR GUARANTEE

Tests all tube types, old and new, including the new Magnovals, new 7 -pin Nuvistors, new 10 -pin Decals, Compactrons, Novars. 10 -pin types, forelgn and hi-fi tubes, voltage reguistors, thyrstrons and industrial tube types. Tests transistors. Tests tubes for true dynamic mutual conductance ( Cm ). Tests for shorts. leakage and gas. Lever switch test principle overcomes obsolescence. Automatic line voltage regulation. Long lasting phosphor bronze tube sockets. Two tone aluminum panel. Size: $181 / 4^{\prime \prime} \times 103 / /^{\prime \prime} \times 43 / 4^{\prime \prime}$.
Shipping Wt. $121 / 2$ ibs.
No. $35 A 3027$. Model 2000, Wired. Each............................... $\$ 129.95$ No 35 A3027. Model 2000
No. 35AB015. MH3A Mulfi-Mead CRT Adaptor for Testing Color and Black and White Picture Tubes. Each.

##  <br> QUALITY INSTRUMENTS TAUT BAND MOVEMENT WORLO FAMOUS 260, 261, 270 AC/OC MULTIMETERS

RUGGED AND DEPENDABLE MODEL 260-6 High sensitivity ( 20,000 o.p.y. DC Volts; 5000 o.p.v. AC Volts)
Varistor protects the movement from even $200,000 \%$ overiaads. Self shjelding and shockproof 50 microampere movement. OC volts ranges $0.25,1.2 .5,10,50$,
 -20 to +50 db Resistance readings $1 / \mathrm{mhm}^{2}$ to 20 meg . $5^{\prime \prime}$ metar. 1 mfd capacitor in series with all AC voltage ranges trrough 250 volts. Accuracy $2 \%$ full scale DC ranges; $3 \%$ full scale AC. With combination alligator clip and probe
 No. 35ago. Simpson Model 260-6. Net Each $\qquad$
No. 35661. Model 260.6 M . With Mirrored Scale, knife edag pointer Net $\$ 71.50$ No. 35B51. Model 260-6RT. In Protective Roll Top case. Wt. 9 lbs.......Net $\$ 74.50$

## "COOF-PROOF" PROTECTED MODEL 260-6P

All of the features of the $\mathbf{2 6 0 . 6}$ plus built-in circuit protection mokes this VOM "goot-proof." Ideal for students, apprentices, for expioring unfamiliar equip ment. Combined protection includes: reset button pops out to indicote overload, cannot reset circuits while overlood is present. Protective circuit does not require massive overloads, all ranges protected except 1000 volts DC and AC, 10 amps DC.
No. 35 C 24 .
Model 260-6P. Net Eoch
$\$ 99.50$
HIGH ACCURACY MODEL 261-2
All of the features of the $260-6 \mathrm{M}$ plus special calibration circuits and components for outstanding accuracy. Accuracy $1.5 \%$ full scale most DC ranges, $3 \%$ full scale AC. Wt. 5 lbs.
No. 35B50. Model 261-2. Net Eoch
$\$ 76.50$

## MODEL 270-4 MULTIMETER

HAS TAUT BAND SELF SHIELDING ANNULAR MOVEMENT
The Extra Quality Leboratory Instrmment featuring: - Greater accuracy. - special calibration circuit for greater accuracy, overload protected ${ }^{\circ}$ DC accuracy $11 / 4 \%$ full scale 20,000 ohms per volt. - AC accuracy $2 \%$ full cale 100 ohms per volt.
MV trored scale. Knife-edge pointer. Ranges: 7 DC volts from 250 MV to 1,000 volts. 6 AC volts from 2.5 to 5000 voits. AC volts loutput) 4 ranges 2.5 to 250 volts. © Decibels -20 to +50 in 4 ranges. - DC current 50 ua to 10 amps in 6 ranges. DC resistance from $0-2000$ (12 ohms center) to 20 megohms in 3 ranges.
Black molded case $51 / 4 \times 7 \times 31 / 8^{\prime \prime}$. Wt. $51 / 2 \mathrm{lbs}$.
$\$ 81.50$
No. 35 A41. Model 270.4 Net Each
CARRYINC CASE FOR 260-270
No. 35A165. Model 0805. Ever-redy vinyl. Wt. I lb. Net Eacho.......... \$15.50 5KV HICH VOLTAGE PROBE
5000 volt $A C$ or $D C$ safety probe for use with 260, 261, and 270 Multimeters. No. 35A8057. 00505 AC 5KV Safety Probe. Each

## AMP-CLAMP PLUG-IN AOAPTER

## FOR AC AMPERE MEASUREMENTS

Allows measurement to be made without breaking circuit belng tested. Simply plugs into 260,261 , 270,250 or 255 VOM. Ranges: $0-5$, 10,25 . 50 ,
100 , 250 AC Amperes. Readout is on VOM's $0-2.5$ VAC scale. May be used with any VOM having $0-2.5$, or $0-3$ VAC range. (When used with 0.3 VAC adapter ranges are from $0-6$ to $0-300$ AC amperesl. Rugged construction, and easy to use. Wt. 1 lb .
No. 35A3019. Modet 150. Net Each \$30.00
Carrying Case for amp. clamp.
$\$ 8.00$


## SIMPSON 460 PORTABLE DIGITAL VOM



High accuracy, multipie range testing with non-blinking $32 / 2$ digit display. Front panel analog meter readout shows peaks or nulls at a glance. self con tained battery or 117 Volt line operation. Operates up to 8 hours on 4 nicke cadmium rechargable D cells (not supplied), recharge automatically when using on $A C$ line, Instant readout-no warm-up required. Automatic + or - and 25 switeh selected
28 Swlteh-Selected Ranges. 5AC and DC voltages. 5 AC and DC currents
and 6 resistances. . with accuracy from $\pm 0.1 \%$ of reading 4 . and 6 resistances... with accuracy from $\pm 0.1 \%$ of reading, $\pm 1$ digit Die-cant aluminum case. Sizes 4 ato $\times 82 / 2 \times 77 / \mathbf{s}^{\prime \prime}$. Shipping welght 6 lb .8 oz . With Datteries 9 lbs.
No. 21A234. CH4. \& Amp Hour Nickel Camium Rechareable Battery

$\$ 400.00$

## साज TE TET INSTRUMENTS WIRED OR KITS

EICO 460 WIDEBAND DIRECT-COUPLED 5" SCOPE


For cotor and BEW TV servicing and production line testing, excellent for audio and industrial work. Push-pull ( 3 stages) and direct-coupled vertical amplifier. Internal calibration voltage and frequency - compensated decade attenuator, $D C$ or peak-to-peak $A C$ measurements from 25 MV to 500 V .
Drift-free positioning centers any part of an expanded trace. 60 Hz output jack, sawtooth (sweep) output jack. intensity modulation ( $Z$ axis) input jack, and external capacitor jack for very law frequency sweeps on the front panel. Automatic sync limiter and amplifier eliminates sync voltage adjustment. Full retrace blanklng. Edge-lit calibration grid.
Specifications: Vertical Amplifjer: Frequency response: $D C$ to 4.5 MHz (useful to 10 MHz ; sensifivity 5 MV ; input impedance 3 M ohm 35 pf . Horizontal Amplifier: Frequency response 1 Hz to 400 KHz , sensitivity 0.24 V $\mathrm{rms} / \mathrm{cm}$ : Input impedance 5 M ohm $/ 35 \mathrm{pf}$. Sweep Ranges: $10-100 \mathrm{p} 100-1 \mathrm{~K}$ $1 \mathrm{~K}=10 \mathrm{~K}$, $10 \mathrm{~K}-100 \mathrm{~K}$ Hz plus EXT-CAP position for very low frequency sweeps with external capacitor TV-V posifion 130 Hz ) and TV-H position Requirements: 117 VAC , approx, 95 watts. Size: $13^{\prime \prime} \times 81 / 2^{\prime \prime} \times 16^{\prime \prime}$. Weight: 25 lbs.
No. 35A335. Model 460K Build-li-Yourself Kit.
\$109.95
No. 35 A336. Model 460
$\$ 159.95$
Factory Wired and Tested. Net Each

## 

## SCOPE PROBE KITS

35A119. PSDK Demodulator probe use for signal tracing. Range: $250 \mathrm{MHz} \$ 4.95$ 35A287. PDK Direct tracing in low $Z$ circuits eiiminates stray pickup $\$ 3.95$ 35A288. PLCK Lo eaaacity for waveform tracing in wide-band circuits $\$ 4.95$


DELUXE SIGNAL TRACER - Has both visual and aural signal monitors.

- RF channel gain permits tracing ${ }^{4}{ }^{\text {Heto }}{ }^{\text {to }}$ receiver input.
For RF-1F and audio signal tracing in TV, RF and AM receivers. Visual (tuning eye tube), and aural (speaker), indication of the signal. High RF sensitivity. Noise locator detects nolsy resistors, condensers, cold solder jolnts. Two probes and ground leads with individual panel receptacles for easy change-over from RF to audio. Size

Complete Kit
\$39.95
No. 35A276. Model 147.
\$59.95 Factory Wired.


MODEL 324 RF

## SIGNAL GENERATOR

A low priced, high quality generator, with frequency range for servicing color and BGW TV. FM and AM radio. Covers 150 KHz to 435 MHz in 7 bands. to 145 MHz on fundamentals. with $\pm 1.5 \%$ accuracy. Has 400 Hz internal modulation; 6 to 1 vernier dial; coarse and fine RF attenuators; external modulator amplifier; Gray wrinkle finished cabinet. $8 \times 10 \times$

$35 A 331$.
Model $324 K, K i t$.
\$39.95
Model 324. factory wired ready to use.
$35 A 330$.
Net Each
$\$ 54.95$


## MODEL 377 AUOIO

 GENERATORFor servicing, testing and designing momplifiers, speakers, etc., used in HIFi and public address systems. Uses Wien Bridge oscillator circuit. Ranges; sine wave $20-200.000 \mathrm{~Hz}$, square wave 60.50 .000 Hz . Accuracy $3 \%$ or 1 Hz , output 10 valts across 1000 ohms. constant output over wide fre quency range. For use on 117 V . AC $50-60 \mathrm{~Hz}$. Cray wrinkle steel case $71 / 8 \times 111 /{ }^{2} \times 758^{\prime \prime}$. Wt. 14 lbs. 35A586. Model 377 Kif. $\$ 49.95$
No. 35A587. Model 377. \$64.95
Factory Wired. Not Each...\$ $\$ 64.95$


950 R-C BRIOGE \& R-C-L COMPARATOR
A professional quality instrument for all resistance 0.5 ohms to 500 meg. and all types of condensers from 10 p. to 5000 uf. Bullt-in variable DC voltage source of 0.500 volts tests condensers for leaks, power factor polarity. All resistance-capacity ranges calibrated on panel! Precision comparator range-Bridge type circuit! Magic eye indicator tube. Size $10 \times 8 \times 43 / 4^{\prime \prime}$ Wt. 8 lbs
35A142. Model 950K.
Party Kir. Net
Model 950 . Fac
Model 950 . Factory Wired.
35 A144.
Net Each
$\$ 34.95$
$\$ 49.95$


EICO 667 DYNAMIC CONDUCTANCE TUBE \& TRANSISTOR TESTER
Tests: 5 G 7 -pin nuvistor, 7 pin miniature, 8 -pin subminiafure, octal, loctal, 9 and 10 -pir miniature, novar and compactron. Tests many smail transtubes and transistors. Twostep test for both npn and pnd signal transistors.
Dynamic conductance tube test is a composite Indication. of mutual conductance, plate conductance, and peak emission capability.

Leakage short test is direct-reading of inter-element leakage up to 20 N ohm. DC leakage test voltage is always applifed in correct polarity to ellminate emission effects from readings. Multi-section tubes have each section Individually tested by rapid selection from 12 push button transfer switches while all sections are simultaneously drawing full rated current. Lino-adjust rheostat. Geardriven roll chat mechanism. 105.135 volts AC. Provided with pilot lamp and fuse. $12^{\prime \prime} \times 15^{\prime \prime} \times 41 / 2^{\prime \prime}$. Weight: 22 lbs.
$\$ 99.95$
No. 358381. Modal 667.
$\$ 149.95$
Factory Wired Ready to Use
CRU ADAPTOR far testing colar and B \& W picture tubes with Model 667 Tube tester.
No. 35B389. GRU Adapler
$\$ 9.95$


## EICO 635 DELUXE

 PORTABLE TUBE TESTERFast check all standard tubes including the new decals, magnovals, 7 pin nuvistors and popular picture fubes. grid leakage. gas and shorts. $31 / 2$ D'Arsonval meter protected against accidental overload or burnout. Longlasting anti-corrosion phosphor bronze sockets, transformer isolation power supply. Pin stralghteners on front panel. With tube manual.
Luggage carrying case, $4 \times 121 / 2 \times 9^{\prime \prime}$.
$\mathrm{W}+.41 / 2 \mathrm{lbs}$.
No. 35A703. 635K Kit
$\$ 49.95$
No. 35A3055. 635
Wired Ready to Use.
Each
$\$ 79.95$


## IN-CIRCUIT CAPACITOR TESTER

Eico 955. Accurate bridge type $\ln$-circuit or out-circult capactior tester. Function: tests capacitors for shorts or opens and measures capacity from 1 to 50 uf. I $10 \%$. Has a two range RC balance dial range from . 6 to 9.57 to Infinity, 60 Hz test voltage maximum 6.3 V . AC. Bar Indicator provides sharp accurate readIngs. Operation 117 voit AC. Has line adjustment, Complete with leads, instructions. $81 / 2 \times 53 / 4 \times 6^{\prime \prime}$. Wt 6 lbs.
$\$ 34.95$
No. 358324. Model 955 K Kit. Net.
No. 35B323. Model 955 Wired. Net....
1140 RC NETWORK BOX

## EICO 1140 RC NETWORK BOX

Switches permit selection of any resistance alone, sny capacitance alone, or any combination of resistance and capachance in series or parallet (1350 combinations). Open and short circuit posifions are
provided. provided.
Provides a rapid selection of resistance values in decade multiples of $15,22,33,47,68$ and 100 providing 15 ohms to 10 meg . varlation with standard 1 watt $10 \%$ resistors. 18 capacitors from .0001 to 22 uf rated at 400 volts
35A582. Model 1140K.
Complete Kit. Net Each
$\$ 19.95$
35A583. Model 1140 . $\$ 29.95$

## EICO 443 TRANSISTOR- <br> DIODE CURVE TRACER

Makes it posslble for any general purpose oscilloscope to display di. rect readouts of most meanlngfui data.
Solid state printed circuitry with dual transformers for isolation and safety, flashing light indlcates high voltage at diode test terminais. Matching switch for comparing and rectifier characteristics that can be tested include forward voltage (V), forwart current (1), reverse current (Ir), and peak inverse voltage (PIV).
The PIV test voltage is variable
from $0-1400 \mathrm{v}$. Transistor tests include standard transistor parameters

No. 35 A 712 . Model $443 \times$ Complete Kit
$\$ 99.95$
No. 35A3109. Model 443 Factory Wired...
$\$ 149.95$

## सान् TEST INSTRUMENTS, WIRED OR KITS

EICO 240 SOLIO STATE FET-TVM
The low volf scale allows you to read accurately to as low as 0.05 volts while giving good indications down to 0.01 volt. Direct readings may be made to 1000 volts. Single all-purpose DC/AC-ohms Uni-probe. Extremely high impedance FET amplifier. Peak-to-peak $A C$ measurements. AC line or battery operated.
Specifications: AC RMS Sine Wave and DC voltage ranges: $0-1,3,10,100,300,1000$ volts and milliamperes. peak-to-peak $A C$ voltage range: $0-2.8,8.5,28,85,280.850$, 2800 volts; input impedance: $D C-11$ megohms, $A C$ - 1 megohm; Freq. resp.: 25 Hz to 2 MHz tup to 250 MHz with PRF probe - be-
low right: Ohmmeter: 0.2 ohms to 1000 low right: Ohmmeter: 0.2 ohms to 1000
megohms in 7 ranges. Meter movemant: $41 / 2^{\prime \prime} \quad 200$ in 7 ranges. Meter movement: $41 / 2^{\prime \prime} 200$ UA movement. Power requirements: $105-132 \vee A C$ or 3 -volt batteries and 11.5 volt size $D$ cell: 1.4 VA Size: $81 / 2^{\prime \prime} \times 53 / /^{\prime \prime} \times 5^{\prime \prime}$. Wt. 6 lbs. No. 35A3082. Model 240 Factory Wired

$\$ 59.95$
. $\$ 79.95$

## EICO 150 SOLID STATE SIGNAL TRACER



Convenient and rapid servicing of both solid state and vacuum tube equipment. Indispensable in troubleshooting AM. FM and TV receivers as well as HI Fi and PA audio equipment. Two shielded probes-a high frequency $R F$ point contact crystal demodulator probe and a direct audio probe are provided. Independent RF and Audio inputs. Speaker and calibrated meter output indicators. An output transformer is provided to permit the checking of a suspected defective component by substitution. The speaker mounted on the front panel may be used as a substitute. Specifications: Output: 400 mw ; Input for rated output: RF-i mv, audio -63 mv ; Hum: better Than 60 db below 400 MV . Meter: 200 mi
ments: $105-132$ volts $\mathrm{AC}, 50 / 60 \mathrm{~Hz}, 5 \mathrm{VA}$ ments $105-132$ volts $\mathrm{AC}, 50 / 60 \mathrm{~Hz}, 5 \mathrm{VA}$ Size. $1 / 2 \times 81 / 2 \times \mathrm{S}^{2} \mathrm{WH}^{2} 6 \mathrm{lbs}$.
"
microa roamp movement. P' wer requireNo. 35 A 788 , Model 150 K . Kit. Wi......
$\$ 49.95$
EICO 330 SOLID STATE RF SIGNAL GENERATOR Indispensable for aligning all types of TV sets. Excellent source of madulated or Unmodion gear. RF and audio signals. A low distortion 400 Hz audio signal is avaliable at the front oanel Output level adjustable. Set frequencies easily and accurately with vernler control. Calibrated front panel modulation adiustment control Provision for modulating RF with internal or external signal source.
Specifications: RF fundamental frequencies: 100 KHz ta 54 MHz in 5 bands: Output: more than 300,000 microvolts on any band into 50 ohm load, RF coarse attenuation: three steps: RF fine attenuation: 0 to $100 \%$; Internal modulation; approximately 400 Hz from 0 to $100 \%$. Power requirements: 105 to $132 \mathrm{v} ., 50 / 60 \mathrm{~Hz} \mathrm{AC} .1 .7 \mathrm{VA}$ Size: $71 / 2^{\prime \prime} H$. X $81 / 2^{\prime \prime} W$. X $5^{\prime \prime} \mathrm{D}$. Wt. 5 Ibs.
No. 35 A 10 . Model 330 K . Kit. Each. No. $35 A 710$. Model 330 K . Kit. Each
\$62.95 No. 35A3083. Model 330 Factory Wired. Each


## SOLID STATE SINE/SQUARE WAVE GENERATOR

Designed as an ascillator capable of generating the frequencies required in the test of all audio and supersonic equipment. Simultaneous sine and square wave outputs. Covers 20 Hz to 2 MHz in five bands. Low distortion feed back circuit Using FET.
Specifications: Frequency range: sime wave20 Hz to 2 MHz , square wave 20 Hz to 200 KHz ; Output voltage: sine wave- $0-7.5$ volts rms into high impedance output, $0-6.5$ volts Into 600 ohms; square wave- $0-10$ volts peak-to-peak into high impedance, positive direction with zero ground Calibration Ac
curacy:
$30 \%$ except curacy: $3 \%$ except - $5 \% 20 \mathrm{~Hz}$ to 100 Hz and 1 MHz to 2 MHz . Maximum distortion across audia range: $0.25 \%$; Rise time ot 20 KHz ; less than




EICO 379 No. $35 A 707$. Model $3797 \%$ Factory Wired
$\$ 07.95$

## EICO MODEL $100 A 4$ MULTIMETER

LABORATORY ACCURACY ANO PROFESSIONAL VERSATILITY AT LOWEST COST.
DC sensitivity of 100,000 ohms/volt and AC sensitivlity of 12,500 ohms/volt. Combines minimal cir-battery-operated. portable volt-ohm-milflammeter. 2\% D'Arsonval meter movement: 4 -inch mirrorback two-color scale. Matched pair of silicon diodes prevents overload of meter movement. Highimpact, custom-molded case; integral handle for convenient positioning and portabllity. Highest Quality Import.
OC Voltage: $0-500 \mathrm{mv} .2 .5,10.50,250,500$ and 1000 . AC Voltage: $0-2.5 .10,50,250$ and 1000 . and 10 amp Resistance: $0-20,000 \quad 200 \mathrm{~K}, \mathrm{meg}$ 20 meg. DB: -20 to +62 in 5 ranges. Size: $71 / 2$, H. X $51 / 4$ " W. X $31 / 4^{4} \mathrm{O}$. Complete with batteries and test leads. Facfory Wired and Tested $\$ 39.95$
$\$ 39.95$
$\$ 5.95$

## EICO 685 TRANSISTOR ANALYZER <br> IN AND OUT OF CIRCUIT DYNAMIC SEMICONDUCTOR AND CIRCUIT AC ANALYZER

EICO MODEL 232 PEAK-TO-PEAK VTVM
for all TV/FM/AM electronic servicing with highest accuracy, High impedance $41 / 2^{\prime \prime}$ meter can't burn out-bultt-in protective circuit. Zero center for TV-FM discriminator alignment, one zero adjustment for all functions and ranges. I per cent precision ceramic multiplier resistors, uniform 3 to 1 range ratio for extreme wide range accuracy and a transformer for isolation and safety.
Peak-To-Peak AC Ranges: $0-4,14,42$, Voifage Ranges: $0-1.5,5$ volts, 15 MS Sine 500,1500 volis. OC' Voltage Ranges: $0-1.5,5,15,50,150,500,1500$ volts. Frequency Response: 30 Hz to 3 MHz
(up to 250 MHz with PRF probe) Mmz meter: 0.2 ohms to 1000 megs in 7 ranges Tube Complement: 12AU, 6AL5. selenium rectifler. Baftery: 1.5 v . Power requirements: 117 VAC, 5 watts. Input $\times 5^{\circ}$. Wt. 5 lbs.
No. 35A281. Model 232K, Build It Yourself Kit...
No. 35A282. Model 232.
Factory Wired and Tested
\$34.95

## ACCESSORY PROBES FOR EICO

Amphenol 75-MCIF Connector. Probes supplied less connector
No. 12A311. Each.
PRFIIK RF Probe for 11 meg. input.
No. 358111 . Kit. Accurate to 250 MHz . Kit Each
UP Uni-Probe. Selector type replacement probe for AC or DC function. Same as used on alf Eico 232, 249, etc. VNM testers No. 35 C49. Kit. Esch.
HVP. 2 High Voltage Probe with 1090 meg. resistor. Use with all input testers. Extends range to 30,000 volts. Wt. 1 lb
No. 35A329. Factory Wired, ready to use. Each
EICO MODEL 565 MULTIMETER
Specifications: OC Voltage: Ranges $0-2.5,10,50$ 250,1000 . 5000 volts. Sensitivity 20,000 ohms volt. AC/Oupput Voltage: Ranges $0-2.5$. 10. 50 $250,1000,5000$ volts. Sensitivity 1000 ohms/volt OC Current: $0-100 \mathrm{ua}, 10 \mathrm{ma}, 100 \mathrm{ma}, 500 \mathrm{ma}$ 10 amp. Oeclbels: -12 to +55 db in 5 ranges Resistance: Ranges: $0-2000$ ohms, 0.2 megohms 20 megohms 1.2 ohms to 20 megohms). Meter: $41 / 2^{\prime \prime}$ size. 50 ua movement. Size: $63 / 4^{\prime \prime} \times 51 / 4^{\prime \prime}$ x $3^{\prime \prime}$. Wt. 4 lbs.
No. 35A203. Model 565K.
Complete Kit
\$25.95
No. 35 A204. Model 565.
\$39.95
Factory Wired

## sENCORE ELECTRONIC TEST EQUIPMENT

SENCORE SM152 SWEEP AND MARKER GENERATOR All solid state. The SM152 can completely sweep align the UHF tuner, the complete VHF funer, the IF, and the chroma bandpass. Each stage can be altgned individually or the entire signal system can be aligned for a correct overall response. Sound, video, color, and all trap markers "pop" singly or simultaneously on the response waveform. Only 3 hook-uD cables are required; one for RF signal in one for detected signal out, and one for the scope.
Unit is complete with all leads, matching pad and detector probes. $135 / 8 \times 91 / 2 \times$
$53 / 4$. Wh. 15 lbs.
W.
No. 35A3035. Each
$\$ 450.00$

## SS137 COMPLETE SWEEP CIRCUIT ANALYZER

Everything you need to isolate ANY sweep circuit trouble in seconds. Universal horizontal and vertical oscillator signals for flyback checker Direct horizontal yoke substitution for B/W and color. Vertical yoke and vertical output transformer test drive signals. Morizontal stabilization and sync test provisions. External checks with built-in VTVM: DC voits from 0 to $1000, \mathrm{AC}$ volts peak-to-peak from 0 to 2800 , and 2 nd anode voltage measurements of Current scale of 300 MA . Special 3 MA . current scale of 300 MA . Special 3 MA range for high quality plate glass mirrar in mounted high quality plate glass mirrar in

N 9 . 35A3032. SS137. Esch..


FS134 UHF-VHF-FM SOLID STATE FIELD STRENGTH METER
Built-in attenuators of 0,20 , and 40 db (X1, XiO, and Xiool enałle you to measure signal Xtrength from the amplifier to the last tap-off strength from the amplifier to the last tap-ord. Heghly sensitive: 30 Microvolts $\pm 3 \mathrm{db}$ on VHF-FM and 30 Microvolts $\pm 6$ 9 lbs. $10 \times 9 \times 5$ No. 35A3013. FS134. Each
$\$ 229.50$ No. 21 A2 "C" Battery ( 9 required) Each.......... 20 e


SENCORE PS163 DUAL TRACE TRIGGERED SWEEP OSCILLOSCOPE Extremely stable triggered sweep with full band width capability in both outo matic and triggered modes PLUS free running capability for use as a sync sweep service scope. Complete dual troce capability with selection. Input sensitivity of 5 mv cm direct probe, 50 mv cm with low cap probe. Bandwidth of DC to $8 \mathrm{MHz} \pm 3 \mathrm{db}$, useoble to 20 MHz . Calibrated time base speeds from .1 microsecond to 10 second in 19 positions PLUS TVV, TVH, 60 Hz and ext. positions. Fron: panel correlation between sweep speed and frequency for ease of operation. Push-button selection of trigger sources. High input impedance of 10 megohms shunted by 11 pf using low cap probe. Fully protected field effect transistor input. Full size illuminated $10 \times 10 \mathrm{~cm}$ grid plus illuminoted vector grid at the flip of a switch. All solid state for dependable accuracy and relia bility. Built-in 1 KHz calibration signal. Frant tilt stand. Vertical A and B-BNC input connectors. All others binding posts. 105 to $125 \mathrm{VAC}, 50.60 \mathrm{~Hz}, 60$ watts. Size: $12 \times 10 \times 15 \mathrm{t} \mathbf{m}^{\prime \prime}$. Shpg. wf. 30 lbs . Complete with two low cap probes
No. 35 A3107. PS163. Each
$\$ 595.00$
PS148 DELUXE WIDE BAND SCOPE AND VECTORSCDPE
View vector patterns as recommended by Zenith of " 5 " pattern as recommended by RCA. Switch on rear converts from a wide band scope to a 5 -inch vector scope. Vectorscope, connections and controls are located on rear. Vectorgraph screen shows degree of chroma demodulation. Vertical amplifier response 10 Hz to $5.2 \mathrm{MHz} . . \pm 1 \mathrm{db}$. Vertical sensitivity: $.017 \mathrm{~V} \mathrm{rms} / \mathrm{inch}$. Horizontal sweep 5 Hz to 500 KHz in five ranges. Stablity is due to precise control over sync signals. Minimum circuit loading with input $Z$ of 27 megs. Low $C$ probe to view wave forms in TV horizontal and vertical circuits. Horizontal freq. response $13 \mathrm{db}, 10 \mathrm{~Hz}$ to 650 KHz ) guarantees linear sweep and positive sync. Inputs for horizontal sweep and external sync on front. Provisions for intensity modulation on rear. Horizontal retrace is builtin on all horizantal sweep ranges. All steel case with brushed chrome front panel. $11^{\prime \prime} \times 9^{\prime \prime} \times 151 / 2 "$. Wt. 22 lbs, 100 watts. 60 Hz . AC. 47 watts on standby.
$\$ 269.50$

## SG 165 AM-FM

## STEREO ANALYZER

A complete AM-FM and stereo test instrument. Covers full AM and FM RF bands on one dial. Provides overy If frequency and every form of modulation needed for AM.FM if trouble shooting. If sweep and marker gener ator permit exact alignment with 10.7 MHz crystal oscillator (provided) and Post injection 100 KHz markers show on scope screen for bandwidth checking. Generates 400 Hz sine and square waves with or without modula tion plus MPX produced in new IMF form. Has speaker leads or 4-8 - 16 32 ohm loads. Separation on $D^{\prime}$. Arsonval meters calibrated to 40 db . Size $10 \mathrm{~W} \times 131 / 2 \mathrm{H} \times 91 / 2{ }^{\circ} \mathrm{D}, 105-125$ VAC. Shpg. wt. 19 lbs. $\$ 400.00$
No. $35 A 3131$. Each . $\$ \mathbf{4}$


## TF166 AUTOMATIC

 TRANSISTOR ANALYZER - TRANSISTOR TESTER- fet TESTER
- CURVE TRACER

Speedy solid state trouble shooter and fransistor analyzer in one unit. Simple push button operation sets up tester. All tests can be made right in circuit without disconnecting o single component. AC signals are used to protect the components and tester. Polarity $N$ and $P$ buttons can be pushed at will without domage. No reterence book needed for general troubleshooting, however reference data on over 14,000 transistors and FETS is in reference book included. $100 \%$ accuracy on DC out of circuit test. Size (opprox.) ${ }^{\prime \prime} \mathrm{H}$. $\times 8^{\prime \prime} \mathrm{W}$. $\times 6^{\prime \prime} \mathrm{D}$. 105.125 VAC. Shpg. 11 lbs.
No. 3 SA3132. Each
$\$ 190.00$

(1) MU150 THE CONTINENTAL TUBE CHECKER

A "must" for modern servicing. . . production line testing. . quality cantrol
and laboratory. The Continental checks tubes accurately and from every possible angle. Tubes that don't perform are found fast. Full rated cathode current drawn from every tube. 100 Megohm grid leakage test to find the tough grid contamination defects that other testers miss. Stethoscopic shorts test that checks each element against all others for shorts. True Cm using 5000 Hertz square wave. Life test to find intermittents and temperature senslitive failures.
plastic coated tube chart. New setups can be made from tube manual. Laboratory accuracy: meter readings for Cm are in actual micromhos. Checks over 3000 foreign and domestic fubes. Vinyl clad steel attache case with all-chrome front panet. $17 \times 11 \times 4^{\prime \prime}$. Wt. 18 lbs.
$\$ 269.50$
No. 35 A3038. MUI50. Each

## TC162 SOLID STATE TUBE TESTER

Solid state circuitry with FET bridge circuit for greater rellability, stability and instant-on action.
Solld State - no more walting for your tube tester to warm up, the TC-154 is instant-on. Reliability-Accurately checks each tube at full rated cathode current for emission. Extra Sensitivity - Measures grid leakage with 100 megohm sensitivity. Push-Button Operation - With the push of a button you can check for emission, shorts and grid leakage. Checks tatest tubes. Vinyl clad steel case with chrome panel. Removable lid. 10 Wt. 9 lbs.
$\$ 110.00$


## PM 157 POWER MONITOR

It's a zero to 1150 watt wattmeter to determine if the appliance you are repairlng is dissipating too much power. It's an AC line volitage monitor to determine if line voltage is excesslve or too low. It's an $A C$ ammeter to determine how much $A C$ line current is being drawn. It's a DC ammeter to chieck horizontal output fuses, horizontal output tube current. or any other check between zero and 10 amperes. It's a combination $A C$ and $D C$ ammeter to check power dissipation in fuse resistors. Protected by a 10 ampere circult breaker. Compartment in rear houses test leads and line cord. 41 Tilt handle. Wt. 5 Ibs. No, 35A3074. PM157. Each
$\$ 69.50$

## SENCORE



## LITTLE HENRY＇ FIELD EFFECT MULTIMETER

Handy size instrument hos tough，grained cose with slide door to protect meter．Lead compart－ ment has snap oction door to keep leads in place．Easy one－hand operation with oll push． button contrals．Ranges：0－3，30，300，1K and OK DC Volts full scale plus $0.3,30,300$ ，and IK AC Volts．Ohms ranges $0-1 \mathrm{~K}, 10 \mathrm{~K}$ ， 1 Meg and 1000 Meg ．DC current 0.1 Amp full scale with separote current jack． $31 /{ }^{1 / 2}$ meter input isolated and diode protected． $1 / 2 \%$ precision． type multiplier resistors．Uses one 9 V ．and 2 1.5 V batteries．Size $61 / 2^{" H}$ H．$\times 41 / /^{\prime \prime}$ W．$\times 21 / 4^{\prime \prime}$ O．Shpg．wt． 3 lbs ．
No，35A3127．Model FE23．Each $\$ 75.00$ No．21A198．9 V．Battery

## （requires one）Each

No．21A313．AA Battery
（requires two）Each

COLOR BAR


## GENERATORS



CC 22
MODEL CC－159．Solld state circultry．Temperature controlled circults－abso－ lute paftern stabllity in any weather with Sencore＇s exclusive＇Temp－Con－ trol＂．Has all five standard patterns plus two movable patterns．A single dot and a single cross can be moved to any spot on the screen，simplifying both static and dynamic convergence．Interlace control to stop dot bounce found on some sets．Snap tune channels 2 through 6 ．Eliminates troublesome tuning ontween channels．Works like funing on your TV．Crystal controlled circults－ color bars， 4.5 megahertz modulated sound carrier and timers all crystal color oars， 4.5 meganertz modulated sound ca
Vinyl covered steel case with plate glass mirror in lid．Operates on 115 V ．
 No．35A3102．Each
MODEL CC22．Compactness－its palm size makes the CC22 an ideal service companion on every color TV call．Pushbutton selection of 10 colar bars， vertical lines，horizontal lines，crosshatch and dots．Perma－Lock circuits lock patterns on TV screen．Built In pre－heater for fast warmup in cold weather． Battery operated with automatic shut off after 15 minutes operation pre－ vents accidental battery discharge．Size $4 \frac{1}{8} 8^{\prime \prime} \times 6^{\prime \prime} \times 2^{\prime \prime}$ ．
No．35A3101．

$\$ 89.00$
$\$ 2.13$

## NOW－COMPARE CRT COLOR

NOW－COMPARE ．．AUTOMATICALEY


## CR161 AUTO TRACKER CRT TESTER

Test CRT calor guns far color track－ ing automatically．No more time－can－ suming logging of each color gun reading at every setting of the C2 control like other testers．Color track－ ing scale right on the meter．Impor－ tant when claiming credit for a de－ fective color CRT．
Has short fest，emission test and life test．Easy to use．Rejuvenation and shorts removal is accomplished with the exclusive Automatic Controlled Rejuvenatton circuit．Equlpped with plug－in sockets for fast testing and easy updating．Controls calibrated in actual DC volts．Chrome panel and steel vinyl case with lead compart－ ment， $10 \times{ }^{1} \times{ }^{2} \times 31 / 2$
No． $35 A 3104$ ．CRr 61. Wi． 10 los．Each．
$\$ 140.00$
BE156 7．IN－1 DC BIAS SUPPLY
Align any TV set．Hack and white，tube or solld state．Provides the bias that you need for any set in any stage． negative of positive．Three separate and independent 25 volt supplies offer a carefully callbrated output and a posi－ tive and negative polarity switch：the last supply on the right has an addi－ tlonal position on the switch that in－ creases the output ta a negative 75 volts． $7 \times 4 \times 2^{\prime \prime}$ ．Wt． 2 ibs． 110 VAC ． No． 35 A3068
Each



## SENの○円た MODEL FE160 SENIOR HI LO MULTIMETER 112 RANGES

A NEW STANDARD OF THE INDUSTRY FAR SUPERIOR TO ANY VTVM OR VOM
Just push 2 buttons for any tast －Hop row selects function，bot－ fom row selects range．Action is instant and automatic．

## \＄190．00

Faster，more accurate，mare complete circuit testing with simplffied push button operaflon．Large 7 inch mirror scale meter for easy to read accuracy． FET circuitry minimizes circuit loading： 15 megohm input resistance on DC voltage ranges，$\$ 2$ megohms on AC volts．Accuracy $1.5 \%$ on DC and $2.5 \%$ on AC ranges．Fully protected to 1000 times overload prevents damage from improper use．Fully AC operated．
112 ranges．DC volts： 10 positive ranges 1 to 3000 volts， 10 negative ranges．I to 3000 volts， 10 zero center ranges ， 05 to 1500 voits．AC volts： 9 RMS ranges． 1 to 1000 volts．9－peak－to－peak ranges 28 ta 2800 V ．DC current： 10 positive ranges 30 microamps to 3 amps， 10 negative ranges 30 microamps to 3 amps． 10 zero center ranges 15 microamps to 1.5 amps． AC current： 10 RMS ranges 30 microamps to 3 amps．Ohmmeter： 8 high power ranges（ 1.5 V ） 600 ohms to $6000 \mathrm{Meg}, 7$ low power ranges $(.08 \mathrm{~V})$ 600 ohms to 600 Meg ．Db： 9 ranges -20 db to +60 db．Feafures 500 microamp $2 \%$ mefer， $1 / 2 \%$ multiplier resistors，fully electronic ohmmefer
power，For $100-130 \vee \mathrm{VAC}^{\prime \prime} 50-60 \mathrm{~Hz}$ ．Stze $9^{\prime \prime} \times 71 / 2^{\prime \prime} \times$ weight 6 los． No． 35 A 100.
$\$ 190.00$
FE 160．Each
HICH VOLTACE PROBE extends ranges to $5 \mathrm{KV}, 15 \mathrm{KV}$ and 50 KV ，Increases
DC input impedance to 1500 megohms．$\$ \mathbf{2 0} 00$
$\$ 12.00$
SENCORE FIELD EFFECT MULTIMETER


Has all the advantages of a VTVM with instont warm－up and stability．is megohm DC input， 10 megohm AC input．Loads circuit less than a VTVM， superior for checking low voltage ranges．Less than 2 MA battery drain with buitt－in battery check pro－ fection．DC Valtage Ranges： 0 to $1,3,10,30,100$ ， 300 and 1000 full scale．土 ．5，1．5，5，15， 50,150 and 500 zero center scates．AC Voltoge Ronges （Rms）： 0 to $1,3,10,30,100,300$ ond 1000 full scale．（Peok to Peak） $0-2.8,8.4,28,84,280,840$ and 2800 full scale，frequency compensoted．Fre－ quency response： 10 Hz to $10 . \mathrm{MHz}$ ．Ranges： 0 to $1000,10 \mathrm{~K}, 100 \mathrm{~K}$ ohms， 100 megohms．DC current Ranges： 0 to 100 microomps，1．MA， $10 \mathrm{MA}, 100$ MA．and 1 ampere．Accuracy：DC $1.5 \%$ ，AC $3 \%$ ． $5^{\prime \prime} \mathrm{W} . \times 7.3 / 16^{\prime \prime} \mathrm{H} . \times 3.1 / 16^{\prime \prime} \mathrm{D}$ ．Wf． 4 lbs
Uses I＂C＂cell and I 9 V ．battery．
No． 35 A3049．FE16．Each
$\$ 90.00$
No．35A8008．39A19 High Voltage Probe．Ex－ tends 300 V ．range to 30 KV ．Each．
$\$ 9.95$ No．21A2， 1.5 Volt＂C＂Cell．（uses i）．Ea．．． $20^{\circ}$
FE20 HI－LO FIELD EFFECT MULTIMETER


A must for accurate resistance measurements in salid state circuits．Expands resistance meo－ surability with low power（． 08 volts）for in－cirevit accurocy，also has high power ohms．AC and DC volts sensitive to $1 / 10$ volt full scale．Complete battery rest for all batteries in the instrument． Burnout proof with resistors pro－ tected by fuse．Cover shuts off the FE20 to prevent battery run－ down if switch is laft on．Tilt handle．Ronges： 9 each 0.1 to 1000 VOC； .05 to 500 VOC 2 ero center； 1 to 1000 VAC RMS； 28 to 2800 VaC Peak to peak； 100 UA to IA DC．plus．3，10 and 30 KV using Hi voltoge probe provided； 7 Hi power ohms ranges fram 1000 to 1000 meg ．and 6 to power ohms from 1000 to 100 meg．Accuracy of $1.5 \%$ on DC， $3 \%$ on $A C$ ． 6 inch meter． $9^{\prime \prime} W_{1} \times 7^{\prime \prime} H . \times 4^{\prime \prime} D$ ．Wt．less botteries 5 lbs．
No． 35 A3105．FE 20．Each
$\$ 140.00$
No．21A2．1．5V．＂C＂Cell Battery．（requires 7）Each

## FE21 FIELD EFFECT MULTIMETER

Similar in oppearonce to FE16 illustrated above．Features same as FE20．Size $5^{\prime \prime} \mathrm{W} \times 7^{\prime \prime} \mathrm{H}, \times 3^{\prime \prime} \mathrm{D}$ ．We． 4 lbs．
No， 35 A 3073 ．Eoch
No， 35 A3073．Each
$\$ 110.00$
No． 21 A 2 ．C Baffery luses i）Eo．

## sEncofe And reme TEST INSTRUMENTS



## B-A's MOST POPULAR TRANSISTOR AND FET TESTER SENCORE TF 151 SAVE $\$ \mathbf{5 0 . 0 0}$

TESTS ALL TRANSISTORS AND FET'S IN OR OUT OF CIRCUIT

AVAILABLE EXCLUSIVELY AT B-AI REG. PRICE $\$ 7050$
WAS $\$ 129.50$ LIMITED QUANTITY AVAILABLE,
The TF151 checks them alll Just filp the large control knob to the right side of the unit and tester is ready to test FET's. Checks transistors in or out of circult for AC Beta and out of circuit for ICBO leakage. Increased current check for trapower transistors makes test more accurare. Special True $\mathrm{Cm}_{\mathrm{m}}$ mutual conductance test made on all fleld effect transistors; in or out of circuit. Truly revolutionary. ICSS leakage checked out of circuit or out of circuit. Truly revolutionary. IDSS (Zero bias) current checks provided for matching FET's or for industriai "culling." Special reference book clearly shows all information necessary triai "culling." Specral reference book clearly shows all information necessary
for testing a transistor or FET, if it is a transistor or FET, and results to expect. Vinyl covered steel case, $91 / 2 \times 71 / 2 \times 6^{\prime \prime}$. $6^{\prime \prime}$ meter. and
No, 35A3036. Sencor TF151. Shpg. wt. 9 lbs. Each.
$\$ 79.50$

## RC146 HANDY "75" SUBSTITUTOR

 Provides 75 frequently used values of carbon resistors, capacitors, electrolytics, and silicon rectifiers. Twelve 1 -watt resistors from 10 to 5.6 K ohms. Twelve $1 / 2$-watt resistors from 10 K to 5.6 megohms. Ten 600 -volt capacitors from 100 mfd . to 0.5 mfd . Ten electrolytics to form up to 25 different values. 2 mfd. to 250 mfd . at 450 volts. Power resistors of 20 watts from 2.5 to 15.000 ohms, and or universol 0.5 amp siticonand selenium rectifier. $101 / 4 \times 43 / 4 \times 2$. $43 / 4 \mathrm{~m} . \mathrm{W}_{\mathrm{t}} .31 / 2 \mathrm{lbs}$. $\$ 69.95$

## RC144 HANDY "36" SUBSTITUTOR

36 different, most often needed resistors and capacitors for experimenting. substituting and testing - $24.1 / 2$ and megohms, 10 copacitors from 100 mmfd to 5 mfd at 600 volts 2 electrolvtics at 10 mfd . and 40 mfd . at 450 volts DC. $4 \times 3 \times 2^{\prime \prime}$. Wt. 2 lbs. $\$ 19.95$


EICO MODEL S4O READI-TESTER


Designed expressly for "do-it-yourself" home appliance $G$ auto repair easily finds defects in irons, fans, heaters. TV G radlo tubes, batteries, ignition colls, etc. It is an all-in-one Multi-Range AC/OC age checker.
Provides "Cood-Bad", readings on 6 V and 12 V automobile storage batteries, and permits checking of individual cells.
Specifications: Voltage Ranges: $0-7.5,15,150$ 300 volts ( $\mathrm{AC} / \mathrm{DC}$ ). Current Range: $0-15$ amps Resistance Range: $0-1000$ ohms (direct reading). Leakage Test: Neon lamp circuit. Wt. 3 lbs. $61 / 2^{\prime \prime}$ $\times 33 / 8^{\prime \prime} \times 31 / 2^{\prime \prime}$. Includes leads.
No. 35A386. Model 540K.
Complete Kit
\$19.95
No. 35 A387, Model $540 . \quad \$ 29.95$
Factory Wired. Net

## EMC 116 SOLID STATE VOLT-OHMMETER

Portable, battery operated, no warm up. With the features of a VTVM. Instant, accurate readings with up to 500 times the sensitivity of a 20,000 ohm per volt VOM. $41 / 2{ }^{\prime \prime} 200$ microamp meter. Zero center position. Meter and transistors protected against burnout, FET fransistor, 4 silicon transistors and 2 diodes.
DC Voltage: 0 to $1.2,12,120,1200$ volts. Input resistance 11 megohms. AC voltage: 0 to 1.2 12, 120, 1200 volts. Input resistance 1 megohm. Peak-to-peak AC Voltages: 0 to 3.3. 33,330 , 1200 volts. Resistance: $0-1 \mathrm{~K}, 0-100 \mathrm{~K} .0-10 \mathrm{meg}$ $0-1000$ meg. 4 DB ranges: -24 to +56 DB With batteries and leads. Bakelite case with handle. Shpg. Wt. 3 lbs.
No. 35 A704. Model 116
No. 354704 . Model 116
Easy To Build Kit.
$\$ 30.90$
Easy To Build Kit...........................................

## BKT TEST EQUIPMENT

## NEW MODEL 281 DIGITAL MULTIMETER

Easy to read, accurare, stable. Digital readout display for errortree readings. Gives measurements instantly and accurately. Low test current on resistonce ranges eliminates danger of harming components on low-resistance ranges. Has $100 \%$ overrange capability and a fool-proof system of overrange and voltage polarity indication. Polarity reversing function switch. Decimal point is outomatically positioned on clear non-blinking dispiay. Overload protected by diode and series limiting resistance on $A C / D C$ valts; fused ohms ranges. Ranges: $D C$ volis $0-0.1,1,10,100,1000 ; A C$ Vrms $0-0.1,1,10,100,1000 ; D C$ Current 0 $100 \mathrm{uA}, \mathrm{I} .10,100,1000 \mathrm{~mA}$; AC Current Q-100 UA, 1, $100,1000 \mathrm{~mA}$, Ohms $0.10,100,1 \mathrm{~K}, 10 \mathrm{~K}, 100 \mathrm{~K}, 1 \mathrm{M}, 10 \mathrm{M}$. 10 Megohm input impedance. 105.125 VAC, $50-60 \mathrm{~Hz}, 3$ wire cord. Complete with 5 -position stand/handle, leads and low circuit-loading prabe. Size $31 / 2 \mathrm{H} \times 7 \mathrm{~W} \times 9^{\prime \prime} \mathrm{D}$. Shpg. wt. 5 lbs No. 35A3138. Each
$\$ 169.95$

## B\&K 415 SOLID STATE SWEEP/MARKER ALIGNMENT GENERATOR



Markers are clearly indicated by lights on the panel and by tilting markers on the serviceman's scope. The unit is so complete-all that is needed to complete the alignment job is a scope and an alignment tool. Even the complete the alignment job is a scope and an alignment tool. Even the ta instruction book is TV receivers
Specifications: Completely solld state (with field effect transistors), ${ }^{3}$ Bias supplies (low impedance). 2 ADJ to $\pm 25$ VDC. and 1 ADJ to $\pm 50$ VDC. Xtal controlled RF output on Channel $\frac{4}{4}$ and 10. Xtal controlted IF markers. Sweep width up to 12 MHz . As many Xtal markers may be used together as needed. Post injection marker i Xtal controlled). as needed. Post injection marke ( 115 Hz . (with 3 wire cord). No. 35 A 3050 . Shpg. Wt. 20 Ibs. Each.
\$399.95

## B\&K MODEL 1077B TELEVISION ANALYST

Service BGW and color, VHF and UHF, tube type and transistorized TV receivers. Supplles test signal for each separate stage, you watch results on T.V. set itself. No osctlloscope needed. By test pattern signal injection you can signal trace each stage from the antenna input to the last video amplifier grid. Also provides audio tone generator, sync and sweep circuit pulses. yoke and flyback tests. Supplied with standard test pattern. white dot and white line crosshatch and color bar pattern silide transparencles. Operates on $105-125$ VAC. Size $17^{\prime \prime} \times 101 / 4^{\prime \prime} \times 10^{\prime \prime}$. W + 29 lbs.
\$399.95

## E \& K MODEL 465 CRT REJUVENATOR \& CHECKER

 TESTS AND REPAIRS COLOR AND BLACK G WHITE PICTURERecognized standard of the Industryl Checks for loakage, shorts, open circuits Checks for leakage, shorts, open circuits and emission. Removes inter-element Shorts and leakage with adjustable voltage and cantrolled time. Con-
tinuously variable element voltages tinuously variable element voitages provide obsolescence protection. Repairs open circults. Restores emission and
brightness. Life test checks condition of cathode emissive coating and predicts remaining useful life of picture tube.
Neon bulb indicators and a large $41 / 2^{\prime \prime}$ meter provide quick. easy reading, $\mathrm{O}_{\mathrm{o}}^{2}$ carrying case. Size: $101 / \mathbf{n}^{\prime \prime} \mathrm{H} \times 111 / \mathrm{H}^{\prime \prime}$
 No. 35A229. Model 465. Net Eact


## MODEL 466 CRT TESTER AND REJUVENATOR

Has all of the features of the famous 465 above plus: Separate C-2 contro for each color gun. Sufficient C-2 voltage range to check color CRT guns to cut-off with recommended $C$ - 1 voltaste setting. Accelerates tracking tests. "Super-Rejuvenate" feature permits rejuvenation of many otherwise worthiess tubes. Checks warm-up performance. makes relative useful life test. With 3 multi-socket adapters provided, tests new CRTs such as Trinitrons, and the CE $115 P 22$ and IIWP22. Continuously variable and metered heater. $\mathrm{C}-1$ and C-2 voltages effectively protect the 466 from being obsoleted by new CRT's with new heater voltages; permits checking CRT's under actual operating condltions for reliable test results. "Reserve Power" rejuvenation restores low-emission CRT's; repairs shorted or leaky tubes. Size, $131 / 4 \times$ $91 / 2 \times 51 / 4^{\prime \prime}$ deep. Complete with 3 multi-socket adapters. Operates from $105-125$ volts $\mathrm{AC}, 60 \mathrm{~Hz}$. Shpg. wt. 8 lbs .
No. 35 AB114.
Model 466 CRT Tester/Rejuvenator. Each

$\qquad$
$\qquad$ $\$ 129.95$

## NEW MODEL T470 PRECISION



An extremely versatile scope with 10 MHz bandwidth 10 mV sensitivity ond automotic triggered sweep. Replaces all single trace scopes. Use where inputs and outputs are compared or outputs of stages triggered by the same pulse are compared. Permits dual display of waveforms. compares the waveforms for shape and time duration. Quickly checks inputs and outputs of video amplifiers, etc., also checks the burst into ond out of gote omplifiers. Has 6 operating modes: Channel 1, Channel 2, Chopped, Alternate, Add and Channel 2 invert. Chop mode for low frequency eliminates flickers. Add mode- Ch. 1 plus 2. Both Add and Ch. 2 invert modes give Ch. 1 minus $\mathrm{Ch} .210 \mathrm{mV} / \mathrm{cm}$ sensitivity. Max. sweep speed $0.2 v 5 E C / \mathrm{cm}$. Colibrated voltgge and time base scales. $5^{\prime \prime}$ screen with illuminated scale. TV syncseparator tor TV.H and TV-V. 105-125 VAC, $50-60 \mathrm{~Hz}^{2} 3$ wire cord. Size $9 \mathrm{H} \times 10 \mathrm{~W} \times 17^{\prime \prime} \mathrm{D}$. Shpg. wt. 28 lbs. Complete with tilt stand and vector averlay. Supplied less probes (listed below). No. 35A3137. Each
$\$ 499.95$
Model 1460 Single Trace Triggered Sweep Scope. Sync seporator for jitterfree waveform. High sensitivity $10 \mathrm{mV} / \mathrm{cm}$. DC amplifier, $D C$ to 10 MHz bandwidth. 1, 285 steps on the colibrated vertical attenuotor. 105-125 VAC 50-60 $\mathrm{Hz}_{\text {; }} 3$ wire cord. Size $9 \times 10 \times 17^{\prime \prime}$. Shpg. wt. 27 lbs .
No. 35A3119. (less Probe) Each
$\$ 399.95$

## PROBES FOR 1470 AND 1460 SCOPES

No. 35 A8072. Model PR-20. Combination 10:1 or direct probe with spring loaded clip-on tip, Low capacity 101.10 megohms, 18 pf. Direct: 1 megohm, 120 pf. Shpg. wt. 1 Y/ lbs. Each . . .................................... . $\$ 19.95$ No. 35A8073. Model PR-16. Same os above less clip-on tip. Each. . $\$ 14.95$


## 1 MODEL 747 100\% DYNAMIC Gm TUBE TESTER

Dynamic mutual conductance tube tester. Set anly two controls; push button to read Gm . Switch section provides obsolescence protection. Tests all TV and radio tubes, nuvistors, new 10 -pin tubes, 12 -pin compactrons, European Hi-fi fubes, voltage regulators ond many industriol tube types. It's fast, with professional occuracy. Tests each section for shorts, grid emission and gos. Makes iife lest. Six pin straighteners provided. Black molded attache type cose. 105-125 volts $60 \mathrm{~Hz} A C$. Size $5-5 / 16 \mathrm{H} \times 20 \mathrm{~V} \mathrm{WW} \times 11 \mathrm{l} /{ }^{\prime \prime} \mathrm{D}$. Shpg. wf. 12 lbs . No. 35 A31 39.
Net Each
\$249.95

## MODEL 606 TUBE TESTER

Compact, portable, low cost tester. Fast-only 4 settings required. Tests the newest miniature and color T.V. tube types as well as the older types. Tests Nuvistors, 10 and 12 pin Compactrons, Novars, voltage regulators, European hi-fi and many industrial types.
Checks for all shorts, grid emission, leakage and gas. Highly dependable results obtained bv testing tubes under actual operating canditions. For 105125 volts $50-60 \mathrm{~Hz}$. AC. Tube reference charts clip in cover. Leatherette case $81 / 2 \times 11 \times 41 / 2^{\prime \prime}$. Wz. ${ }^{2}$, $8^{\text {ibs. }}$
\$89.95
No. 3543120 Not Each.

## DYNA-FLEX ADUSTABLE 3-POINT PROBE

Easy one hand way to check transistors. diodes. and other components in printed circuir boards. Spring loaded needie-point tips tilt or swivel to any spacing from s2 to s/s. Use with v-circuit rransistor resters, VNM's, VOM's, and TVOM's. Three color coded leads with alligator clips.
$B$ B X FP-3 Dyna-Flex Probe
No. 35 A8022.
Each
$\$ 9.95$


## R(PITEST EQUIPMENT



## RCA SOLID STATE VOLTOHMYST

Model WV5008. Seven overlapping resistance ranges measure from 0.2 ohms to 1,000 megohms. Eight overlapping DC current ranges measure from 0.1 milliampere to 1.5 amperes. Elight overlapping $D C$ voltage ranges measure from 0.2 voit to 1500 volts tincluding special 0.5 DC volt range), peak-to-peak voltages of complex waveforms from 0.5 volts to 4200 volts, and $A C$ (RMS), voltages from 0.1 to 1500 volts. Input impedance of ail DC ranges is 11 megohms. Voltage and resistance measurements are made with a sturdy, wired-in probe with fully shielded input cable.
Size: $67 / 8 \times 51 / 4 \times 31 / 8 \mathrm{w}$. Wt. $31 / 2$ lbs. Uses $1{ }^{\text {"Cl' }} \mathrm{C}$ battery and 39 -volt batteries, supplied with leads.
No. 35A3006, Model WV500B. Each
$\$ 97.00$
No. 35 A3007 Each

## RCA IN-CIRCUIT/OUT-OF-CIRCUIT

 TRANSISTOR TESTERModel WT501A. Tests out-ot-circuit transistors for DC beta from ito 1000, collector-to-base leakage as low as 2 microampere, and collector-to-emitter leakage from 20 mlcroamperes to 1 ampere.
Collector current is adjustable from 20 microamperes to 1 ampere in four Collecror current is adjustable from 20 microamperes to $\begin{aligned} & \text { ampere in four }\end{aligned}$ ranges permitting most transistors to be tested at rated current level. A complete DC forward current transter "atio curve can be plot

Nize: $61 / 8 \times 51 / 4 \times 31 / 8 \times$. Wt. $23 / 4$ lbs.
No. 3543008 . Model WT501A. Each.
$\$ 68.00$

## RCA WVSIOA SOLID STATE MASTER VOLTOHMY\$T

 Solid state designed for stable, drift-free operation. Battery or AC operation. Measures DC voltage from 0.01 to 1500 volts, direct current from 0.01 milliamperes to 1.5 amperes, $A C$ voltage from 0.2 to 1500 volts, AC peak-to-peak voitage of complex waveforms from 0.5 to 4200 volts, and resistance values from 0.2 ohms to 1000 megohms. Seven overlapping ranges are provided for $A C$, resistance, and current measurements, and eight ranges are provided for DC voltage measurement. Accuracy for all voltage and current functions is $\pm 3 \%$ of full-scale readings. Convenient battery test.An input resistance of 21 megohms on all
$D C$ ranges permits accurate test results


OC ranges permits accurate test results on even the most critical low impedance circults. Large, easy-to-read, two-color meter, mirror scale. With BC/AC ohms probe. Size: $67 / 8 \times 51 / 4 \times 31 / 8^{\prime \prime}$. Wt. $31 / 2 \mathrm{lbs}$. $\$ 128.00$
No. 35A3071. Model WV510A. Each
(4 required) Each.
No. 2141 V $5036^{\text {" }}$ "" Bettory (1 required) Each.
No. 35AB032. WC401A Replacement AC-DC Probe. Each
No. 35A8046. WC411A. Hi-Voltage Probe with WC436A Noultiplier Resistor. Each..
$\qquad$ $20 c$
$+\quad \$ 00$
$\$ 9.00$ $\$ 19.25$


IC circuity throughout. Supplies output for all test signals not only at RF (Ch. 3) but also at If ond video frequencies. Gives color bors, dots, crosshatch, horiz. lines, vert. lines, blonk raster ond exclusive superpulse-o white rectangle centered on screen. Provides pulse-type woveforms for troubleshooting. Also gives brightness line on leading edge of 3 rd , 6 th, and 9 th color bors. Power source $120 \mathrm{~V}, 60 \mathrm{~Hz}$. Comes with shielded cable (BNC connectors), direct adapler. 300 ohm transformer, cable for gun killer and application booklets. Size $4^{\prime \prime} \mathrm{H} . \times$ $10^{\prime \prime} \mathrm{W} \times 8^{\circ 0} \mathrm{D}$. Shpg. wt. 7 lbs.
No. 35A3136. Model WR-515A Each
$\$ 179.00$

## RCA WR-508B MINI CHRO-BAR

 SOLID-STATE COLOR-BAR GENERATOR

Provides colorbar, dof. crosshatch, and blank raster potterns. All solid-state circuitry, including IC's. Pottern signals, RF output frequency, and color subcarrier all crystal-controlled. Compact size-lightweight. Interchangeable slide out compartment for battery of AC module. Solid pat-terns-no flicker. Three special pottern adjust controls on reor panel for easy reset, if required. Battery included. Size $6^{1 / 2 \prime} 2^{\prime \prime} \times 3^{\prime \prime} \times 4^{\prime \prime}$. Wt. $11 / 2^{\prime} \mathrm{lbs}$.

# RCA WO505A 5" SOLID-STATE OSCILLOSCOPE 



Use with any general purpose oscilloscope to moke rapid point-to-point checks of transistors (excluding fET'S), Zener diodes and other diodes, capacitors, and resistors. Distinctive quicktrace woveforms indicote at a glance whether the component under test is functioning properly. Hos power-limiting circuit to prevent damage to semiconductors under test. Complete with special applications manual containing extensive quicktroce testing information and numerous wave form illustrations. Shpg. wt. I lb.
No. 35A3135. Each
$\$ 14.75$

## NEW RCA WE-130A SOUND LEVEL METER



Portable, low-cost enviranmentol sound measurement device. Simple to operate. Easy to read $70-$ 110 dBA scole is color coded for safe, questionable and unsafe sound levels. Tells you instantly if sound levels are loud enough to cosue loss of "hearing over prolonged exposure or are in violation of federol, state, or local laws. Also handy to check effectiveness of tiles, pods, batfles, ond walls. frequency response is " $A$ " weighted to closely correspond to humon hearing. Ceramic omnidirectionol microphone element. Slow meter response time; occuracy 1 d 8 ( 50.90 deg . f.) Complete with leatherette carrying case, belt loop, shoulder strap, lanyard, 4 AA batteries and
 $15 / 16^{\prime \prime} 0 . W+1 \% / \mathrm{lbs}$.
No. 35A3i34. Each
$\$ 75.00$


## RCA WC-506A TRANSISTOR <br> DIODE CMECKER

Fast relative gain and leakage measurements of NPN and Fast relative gain and leakage measurements of NPN and Panel socket and test leads for out-ot-circuit measurements. Panel switch for high-and-low leakage transistors. QuickPanel switch for high-and-low leakage transist connect compe test terminals. Batrery operated. Weighs just 14 ozs. Bakelite case.
$61 / 2 \times 2^{\prime \prime}$ No. 35A3054. Each
$\$ 18.00$ No. 21A3. Penlight Battery (Requires 2) Each

## RCA WV-120A POWER LINE MONITOR



Provides a continuous, accurate indication of AC line voltage. Expanded 2 -color scale-from 100 to 140 volts for easy reading. Input 100 to 140 volts @ 25 to 400 cps. High accuracy $\pm 2 \%$ at center scale, $\pm 3 \%$ at scale ends. Moving vane metor gives accurate RMS readings. Fast meter action reveals "bounces" and fluc. tuations in line voltage. Large numerals, large pointer, arge scale for easy reading. With AC outlet. Holes for wall mtg . $3^{1 \%} \mathrm{~K}^{\prime \prime}$ High, $5^{\prime \prime}$ wide, $3 K^{\circ \prime}$ deep. No. 35A 3051 . Shpg. Wt. $11 / 2$ lbs.
Each
\$20.75
RCA WV-503A POWER LINE MONITOR Nout voltage
No. 35A3118.
Each

## SPECTACULAR TEST INSTRUMENT VALUES

FACTORY WIRED, CALIBRATED... READY TO USE


## 100,000 OHMS PER VOLT MIRRORED SCALE MULTIMETER

Low current and voltage ranges necessary for solid state servicing.
Overload protected by dual silicon diodes. Double ewelled 2\% meter $1 \%$ temperature-stabilized resistors. Easy to read mirrored scale, single control ange selection. Twenty seven ranges for current voltage and resistance at your fingertips. Full meter protection includes diode profection for meter movements
DC volt sensitivity 100,000 ohms per volt. $A C$ volt sensitivity 12,500 ohms per volt. DC volts: 5. 2.5. $10,50,250,500,1000, ~ A C$ volts: 2.5. 2.5 MA . $25^{\prime} \mathrm{MA}$, 250 MA . and 10 Amp . Resis2.5 MA. $25 \mathrm{MA}, 250 \mathrm{MA}$. and 10 Amp . Resistance: $0-20 \mathrm{~K}, 200 \mathrm{~K}, 2$ meg, 20 meg. Mid-Ranges resistance reading at mid-scale: $160,1600,16,000$, 160,000 . Decibels -20 to +62 in 5 ranges. With instructions. Quality crafted import
No. 35A3059
Each


## MURA DELUXE MODEL 80-M

 20,000 OHMS VOLTLESS THAN Y THE COST OF COMPARABLE AMERICAN MADE TESTERS!

- Mirrored scale.
- Ulira-sensitive. 44 microamp D'Arsonval movement.
- $1 \%$ matched precision resistors throughout.
- Diode overload prevention device.
- 26 ranges, on "Easy-Read" 2-color scale.
- Accuracy $\pm \mathbf{2 \%}$ full scale.

Test instrument of unusual quality, designed and built to precision standards. "Easy-read" multi-
colored mirrored scale permits readings with hairline accuracy. A network of safety diodes blocks off excess current, protects the movement from off excess
Specifications: Sensitivity: 20,000 ahms/volt DC; DC volts: $.25,2.5,10,50,250,1000,5000$ volts; AC volts: $2.5,10,50,250,1000,5000$ volts $(8000$ ohms/volt); DC current: 50 va, 2.5-25-250 MA, 10 amps; Ohms; 0 to 10, Rx10, Rx100, Rx 1000 (10 megohm moximum . $D 8 ;-20$ to +62 in 5 ranges. Dimensions: $7 \times 51 / 4 \times 31 / 22^{\prime \prime}$. Instructions ond schematic included. Shipping wt. 5 lbs.
No. 35A3026. Model $80-\mathrm{M}$. Each .. \$32.95
No. 35A3065. Carrying Case, Each.

(1) POCKET-SIZE VOM TESTER

1,000 ohms per Voit - 12 Ranges. Outstanding features include precision ieweled movement, wide-view 2 -color scale, and 11 -position range selector for easy operation. High impact plastic case in textured "surc grip" finish. DC: 0-10-50-250-1.000 11,000 ohms/val) AC Vatage: 0-10-50-250-1.000 (11.000 ohms/volt) DC Current: $0-1-100$ Milliamps. Resistance: 0.150 K ohms. Declbels: -10 to +22 . Ultra-compaet size ...measures just $31 / 2^{\prime \prime}$ to $21 / 4^{\prime \prime}$ $x$ I'" Includes battery, test leads, and instructions.
No. 35 A3 106.
Quality Import
$\$ 7.95$

## (3) POCKET-SIZE MULTIMETERS

 WITH LONG SCALE20,000 Ohms Per Voit DC Sensitivlty. Exceptionally fine meter featuring a $31 / 2^{\prime \prime}$ easy reading scale. DC volts ranges $0-10-50-250-1000$. AC yoits ranges $0-10-50-250-1000$. DC current $0-50$ ua, $0-250$ MA. Resistance $0-60,000$ and $0-6$ meg. Decibel - 20 to +22 . Features 50 microamp recessed range selector switch D'Arsonval meter movement and precision resistors throughout. Readability is superior on all low ranges making this an excellent instrument for servicing transisfor equipment.

Molded black case $41 / 2^{\prime \prime} H_{1} \times 31 / 4^{\prime \prime} \mathrm{W} . \times 1^{\prime \prime}$ deep. With test leads, instructions and battery. Shpg, wt. 2 lbs. No. 35A618. Special Each

## (3) POCKET-SIZE MULTIMETER <br> Built-in overload protection circuit-Burnout Proof?

$\mathbf{2 0 , 0 0 0}$ ohms per volt DC. Pocket multimeter designed for accuracy in the field or on the technicion's bench. Eosy-to-reod heovy black numbers corefully scaled for quick, exact reading. Crystol clear high impact plastle front tokes rough treatment and gives full scale view. Populor swinging-iever ronge-seiector allows easy selection of ronges. $D C$ voits ronges: 0-5-25-100-500-1000 AC volts ranges: $0-5-25-100-500-1000$. DC current ranges: $0.50 \mathrm{ua}_{3} 5 \mathrm{MA}, 50 \mathrm{MA}, 500 \mathrm{MA}$. Ohms: $0.6,000,600,000 ; 6 \mathrm{Meg}, 60 \mathrm{Meg}$. Exponded low end scale. Decibels: 20 do to $+62 \mathrm{db}\left(5\right.$ ronges). Size, $43 / 4^{\prime \prime} H . \times 3^{\prime \prime} \mathrm{W}$. $\times 11 / 4^{\prime \prime} \mathrm{D}$. Heavy duty bokelite case, precision 250 uo D'Arsonvol movement, Din jocks. With botteries, test leads, leather case, instruction manuol. No. 35B569. Shpg. wt. 2 lbs. Giont Import Sovings. Each
$\$ 19.95$

## (4) SUPER SENSITIVE MULTIMETER

New eye-appealing design, compact size, full view type meter, clear uncomplicated scales, easy to read for greater accuracy. Campares with meters selling for more than double our low price.
30,000 ohm per volt model. 22 Ranges: $D C$ volts 0 to $3,12,60,300,600$. 1200: AC valts 0 to $6,30,120,1200, D C$ current $0-30$ ua, 3 MA and 300 MA. Ohms up to 16 meg. In 4 ranges with expanded low end scale, 100 ohms at center. Decibels -20 db to +63 db in 5 ranges. Has knife-edge pointer, clear uncluttered scales, recessed flush type range selector, ohms adjust and four meter lacks. Overall size. $51 / 2^{*}$. H. x $31 / 2^{\prime \prime}$ maximum width and $13 / 4^{\prime \prime} \mathrm{D}$.
 No.A's E-Z Pay Revolving Charge Plan

## TIME SAVING TEST EQUIPMENT

## LEADER MODEL LBO-501 5-INCH TRIGCERED OSCILLOSCOPE



An improved esclilloscope with one shot sweep circuit. Electron beam remains in stationary by an input waveform or transient When on beam sweeps aross CRT rasplayin. When on beam sweeps across CRT displaying incoming ing pulse. ing pulse causes beam to deflect again giving effect of a repetitive waveform. Triggered sweep makes possible to observe non re-occurring transients. Horizontal deflection makes it possible to measure frequency or duration of waveforms and pulses. Can be operated in automatic or conventional free running state.
Specifications: Vertical amp. sensitivity: 20 mVpp $/ \mathrm{cm}$ tol0 $\mathrm{Vpp} / \mathrm{cm}$, 9 steps in 2-5-10 sequence and uncalibrated continuous adjuster. Bandwidth. -3 db DC or 2 Hz to 10 MHz . Rise time 35 nanoseconds. Input imp: negohm, shunted by 33 pf. Calibration: square wave $0.05,0.5$ and 5 VPP IK Hz approx. Horizontal amp. sensitivity: $200 \mathrm{mVpp} / \mathrm{cm}$ or better. Band width. $-3 \mathrm{db}, 2 \mathrm{~Hz}$ to 200 K Hz . Input imp: 1 megohm. shunted by 40 pf Time base sweep speeds: Lus/cm to $0.2 \mathrm{~s} / \mathrm{cm}, 17 \mathrm{steps}$ in $1-2-5$ sequence and
 12). Magnification: $\times 5$ (max speed 0.2 us/cm). Trigger slope: $\pm$. Sync: INT and EXT: $\pm$. Edge lighted graticule. Vectorscope input. Size: $8^{\prime \prime} \mathrm{W} . \times 161 / 2^{\prime \prime} \mathrm{D}$. Wr. 20 lbs.
No. 35A3094. Model 180-501. Each
\$389.95
No. 35A8054. LPBIOY. Low Capacitance Probe. Each $\qquad$
.$\$ 17.50$


LEADER MODEL LCG-388 COLOR BAR GENERATOR 15 PATTERNS PERFECTLY STABLE THE INSTANT YOU TURN THE POWER ON!

Flip the switch and you can select from 15 pafterns including the single dot single cross. single horizontal and single vertical. The magic is in Leader's binary counters and gates not avallable in any ather generator. Only one ining applied to horizontal and vertical signals. Chroma level control.
Gun kilters for convergance adjustments. Composite video signal for video circuit testing. Regulated DC supply. Operates on 105 to 125 volts, $50 / 60 \mathrm{~Hz}$. $31 / 8 \times 73 / 4 \times 73 / 4^{\prime \prime} \mathrm{D}$. Wt. $41 / 2 \mathrm{lbs}$. Enginecred to the nighest spandards of performance. From Japan No. 35A3061. Model LCC-388
$\$ 174.95$


## MURA MODEL 325-M IN/OUT CIRCUIT TRANSISTOR TESTER

This is a compact, highly accurate instrument designed to test transistors both in and out of circuit. It tests beta mea surements, leakage on transistors. Tests diodes for gain short or open - while still in circuit. Accuracy is $\pm 5 \%$ Beto Measurements (DC). 20 to 100 on XI ronge, 20 to 1000 on $\times 10$ range. Out-of circuit accuracy: $\pm 5 \%$, in-circuit: Indicates good or bad.
Leakage Measurements. Collector-to-Emitter Leakoge ICEO: 0.5 ma , Collector-to-base Leakage, ICBO: 0.5 ma . Diode Tests. In-eircuit and out-of-circuit; meter indication showing diode goin, short or open. Power requirements, One $1 / / 2$ volt " C " battery.
Dimensions: $67 / 8^{\prime \prime} \times 51^{\prime \prime} \times 3^{\prime \prime}$. Wt. 1 lb . (with battery)
No, 35A3140. Each
$\$ 45.00$
No. 21A2. "C" Battery. Each

## TRANSISTOR TESTER

Checks transistors in circuit or out of circuit under operating conditions. Plug transistor into front panel socket or connect with alligator clip test leads provided, Safely identifles low, medium and high power PNP and NPN transistors. Checks clectrode open circuits, short circults and current gain Makes it simple to match transistors for critical circuits. Neon indicator gives a visual indication of circuit output. Output jacks for use with an AC voltmeter or oscilloscope to measure signal output as low as 5 MA. make sensitive noise tests studying dynamic leakage distribution and wave form inspection.
Black plastic case with aluminum panel. Size $61 / 4$ $\times 2 \times 33 / /^{\prime \prime}$ W. Full instructions supplied. Shpg wt. 2 ibs. imported at Big Savings!
No. 35 A667
Special Each
$\$ 12.95$

## SIGNAL TRACER

Makes service problems easy to locate. Permits audible signal tracing of RF. IF and audio circuits. Easy to operate stage-by-stage tracing of signal from antenna through audio. Has solid state circuit with 4 transistors. Bulit-In $2^{\text {ut }}$ speaker with volume control. Comes with 9 V battery, test leads
and instructions.
$25 / 8 \times 11 / 2^{\prime \prime} \mathrm{D}$. Shpg. wt 1 lb $25 / 8 \times 11 / 2^{\prime \prime}$ D. Shpg. wt 1b. $\$ 12.95$


## CLAMP-ON TYPE AMPERAGE TESTER

8 ig, easy-to-read 3 -color scole. Mcosures $A C$ amperage, voltage, and resistance with $3 \%$ accuracy. 5pecial meter stopbutton locks meter pointer so readings can be mode when darkness or location prevent visual observation of meter face. Thumbwheel range selector, recessed thumbwheel zeroohms contral. Probe input jacks for voltage and ohms. Fuse type overload protection. Moving-coil meter movement. AC amperage, 5 -Ranges $\cdot 6.15 \cdot 60-150.300 \mathrm{~A}$. AC valtage, 3 . Ranges - $150.300-600 \mathrm{~V}$. Resistance, 1 K ohms ( 30 ohms cen. ter scale). Face measuring $2 \cdot 3 / 16^{\prime \prime} \times 2-3 / 8^{\prime \prime}$. Size $7-3 / 4^{\prime \prime}$ long x $3-3 / 8^{\prime \prime} \mathrm{W} \times 1-1 / 2^{\prime \prime} \mathrm{D}$. Unit weighs 13 oz. With block leather carry case, shoulder strap, two fuses, color-coded probes, ond instructions.
No. 35A3141. Quality Import. Each
$\$ 44.95$


## MIDLAND POCKET SIZE BATTERY TESTER

4 Ranges. Checks all popular flashlight, transistor radio
and hearing aid batteries. Four ranges: $1.5,4.5,6$ and 9 volts. 2" meter scale with colored battery condition indleators. Places a minimum load of 50 Ma . for accu: rate readings. Compact high impact case measures $21 / 4^{\prime \prime}$ $\times 33 / 8{ }^{\prime \prime} \times 11 / 8^{\prime \prime}$. Includes test leads.
Model 23-154 Eech

## 'IN-CIRCUIT" TRANSISTOR TESTER

Places transistor into actuol operotion. Operates upan contact. Clear speaker tone-no visuat observations to make. Tests transistors in or out of the circuit. Maximum voltage applied to the base-emitter junction by tester is 0.8 volts.

To Operate-Set the selector switch to NPN or PNP.
Place the contacts of the tester in the correct position on the printed circuit boord. The tester will emit a tone indi-
 cation that the transistor under test is a functioning unit
The absence of a tone indicotes a shorted or open trans
cation that the transistor under test is a functioning unit. tor switch to the wrong position will cause no harm to your circuit. Plug-in extender cable included. 9 volt battery included.
No. 35A3142. Production Devices Model 85. Each
$\$ 17.45$
No. 35A3144. Continuity and diode Testing
Adaptor Model 86. Each
$\$ 3.75$
DIGITAL LOGIC TESTER
Hi tone-indicotes Hi logic " 1 l ". Lo tone-indicates to logic " 0 ". No visual observations to make. A complete electronic tester compotable with D T \& \& T L. Ideal for trouble shooting logic circuits, including computers, tele phone systems, digital test equipment and desk colcula tors. A feather weight retractible cord permits easy handling of the probe.
TO OPERATE - Connect power leads to +5 V.D.C. in equipment being tested. Logic " 1 " or " 0 " may b
Power leads are reverse polarity protected. Input impedence-greater than 150 K ohms. Prevents loading of circuit under test. Overload Input Protection: +50 VDC continuous (input is reverse polarity protected.) Logic voltage levels: 0.8 VDC-Low tone, 8 -2.2 VDC-Nane, 2.2 VDC 8 up-high tone. Size $7 / 8^{\prime \prime} \mathrm{D} \times 6^{\prime \prime}$ L. Wt. 2.5 oz.
No. 35A3143. Production Devices Model 95. Each
(1) BUZIT TRANSISTORIZED SIGNAL TRACER No clips or wires. Used for trouble-shooting AF circulits, IF circuits, RF circuits, continuity checks, socakers, etc. Excellent for transistor radios because Buzit uses only a 3 volt power supply. With 2 Size N batteries. Shpg. wt. 8 ozs. $\$ 9.72$

## CHEK-IT ELECTRICAL CIRCUIT TESTER

Battery operated. Tests with power off. Tests conti nuity, fuses, switches, buzzers, push-buttons, chimes lators, etc. Less baitery. Wr. 8 ozs.
$\$ 1.89$
No. 35A 3031 . Workman BZ5. Each

$$
\ldots \ldots . . . . \$ 19.95
$$

## EICO PST-2 SIGNAL TRACER PRORE

 Versatile Stgnal Tracer is a $63 / /^{\prime \prime} \times 5 /{ }^{\prime \prime}$ probecontaining a high gain amplifier with wide containing $s$ high gain amplifler with wide audio bandwidth. Demodulator probe tip traces signals to 200 Mhz. Sensitive plug earphone
compares signal levels. checks distortion and compares signal levels, checks disfortion and signal quality. Self powered, uses one AA battery (not included). Complete with 3 probe tips and pouch. Shipoing wt. 8 oz
No. 35 A 8058 .
No. 35 A8058.
Eico PST-2K Kit. Each \$19.95
No. 35 A80S9.
Eico PST-2 Factory Wirce. Each $\$ 29.95$
Elico PST-2 Factory Wired. Each .... 29.95
No. 21A3. Battery for above. Esch
EICO PSI-1 SOLID-STATE SIGNAL INJECTOR PROBE
Just press the button, the PSI-I's transistor
oscillator emits a strong harmonics rich 1 Khz .
signal to check audio IF snd RF circults.
Pocket size, powered by two AAA batteries
tnot included) Shipping wt. 8 oz. $\$ 5.95$
No. 35 A8060. Eico PSi-1k Kit. Each $\$ 5.95$
No. 35A8061.
$\$ 9.95$
Eico PSI-1 Factory Wired. Each ....... $\$ .$.

## PAINTS, CLEANERS AND SILICONES!


(1) Krylon Clear Plastic Spray. Seals corrosion trans arent plestic protective coprote chists rust and surface seats out pir pater promicals coaning adcheres to procalsy any surface, Seals out air, water, chemicals, oil, grease and acids. Protects automotive chrome goif clubs, fishing rods, tools. leather goods, photos, biueprints, etc. Seals $1 V$ antennas against corrosion. Fast drying. Shpg, Wi. No. 17 A1316. \#1302-For Radio ETV 13 Oz. Can
No. 17A1317. \#1303-For Craphic Arts Choice 1-11 Each... $\$ 1.35$ Ejech... $\$ 1.22$ (3) Electric Motor Cleaner. Just spray on cleans without washing or wiping. Instantly penetrates, dissolves, cleans and removes grease, oll, dirt from motors electrical-electronic equipment, etc. Evaporates completely — leaves no residue. Safe to use on insulation and painted surfaces.
No. 17 Al318. 16 Oz. Spray Can $\qquad$ .51 .24
(3) Chalk Board Spray. Just spray it on fumber, glass, hardboard, wallboard virtually any smooth surface and it becomes a convenient useful chalk board. Also refinlshes factory made boards. Dark Green.
No. 17 Al319. 15 Oz. Can.
.$\$ 1.65$
(i) Class Frosting Spray. Insures privacy, when applied to windows, efc. Obscures vision, yet allows light to enter. Diffuses and eliminates glare from lamp reflectors, bulbs, shades and outside Iights. Ideal for decorating glass lamp reffectors, bulbs shades and outside ights. Ideal for decorating glass scraped of with razor blade to return glass to original condition
No, 17 Al 320 . 15 Oz . Spray Can $\$ 1.47$ No. 17 Al 356.6 Oz . Sprav Can...89e
(B) Crystal Clear Claze. New triple thick, glossy, glass-like coating for hundreds of surfaces. Sprays instantly, evenly. Durable, never cracks or yellows, No. 17A1380. 16 Oz . Spray Can


## GENERAL ELECTRIC <br> SILICONE LUBRICANT

Based on a new chemistry which makes it superior to any lubricating jobs such as aluminum storm windows, stiding doors bathtub enclosures, etc. Lubricates almost any material. Won't melt. run or "gum up" from - $70^{\circ}$ to $400^{\circ} \mathrm{F}$. Highly effective rust and corrosion preventative. Pair'sole! Unlike most silicone sprays, if does not contaminate surfaces to be painted. 6 cz . Aerosol can
No. 17 Al 402.
$\$ 1.39$
GENERAL ELECTRIC SILICONE SEAL
Super Clue. $100 \%$ rubber. Bonds securely to glass, ceramics, metal, wood, fabrics, masonry, painted surfaces, most plastics, and rubber. Permanent Culk. Will not shrink, crack or dry out. Remains flexible and elastic and can stretch over $100 \%$. Originally developed for sealing space vehicles. Cuaranteed 10 years to perform as described on tube. Return tube to Ceneral Electric Co. for refund or replacement if not satisfied.

| Stock No, | O Ounce Tubes | Each | 5 Each |
| :--- | :--- | ---: | ---: |
| $17 A 1345$ | WhiteSeal | $\$ 1.59$ | $\$ 1.49$ |
| $17 A 1342$ | Transparent Seal | 1.59 | 1.49 |
| $17 A 1344$ | Black Seal | 1.59 | 1.49 |
| $17 A 1341$ | Aluminum Seal | 1.59 | 1.49 |
| 12 ounce cartridges for use | with standard |  |  |
| caulking gun. |  |  |  |
| $17 A 1378$ | White Seal | $\$ 3.59$ | $\$ 3.29$ |
| $17 A 1379$ | Transparent Seal | 3.59 | 3.29 |



## G.E. SILICONE COMPOUNDS

Room temperature vulcanizing compounds for sealing, potting and encapsulating provide the superiority of silicones, resisting femperatures of $-65^{\circ} \mathrm{F}$ to $+400^{\circ} \mathrm{F}$. Unaffected by ozone, sunlight and weathering, dialectric breakdown better than 400 VAC per mil.
GP-1 odhesive sealant is ready to use liquid rubber, cures to o tough, resilient adhesive. never hardens, drys out, of crocks. GP. 1 repairs glass crocks, rubber, plastics, seals metal joints. Use for coulking, to secure vibrating parts, etc. Bonds without primer
GP. 2 is a two port base compound and curing agent for mixing when used. Cures in 24 hours af room temperature. Designed for conformal coatings, encapsulating and pot ting. Gray color is for motor windings and electrical insulation.
GP-2X hos double the strength of GP-2 and is suited to casting special parts and molds for epoxies and plastics, or for extra tough aaskets and seals. GP.9 primer prepores nor-silicone moterials for bonding to GP. 2 and GP:2X May be sprayed, dipped or brushed and dries in obout one hour.

Stock G.E.
Color and Pkg. 7A1409 GP.1W02 White 2 oz. tube 17A1410 GP.IW05 White Soz.tube 17A1411 GP.IW12 $17 A 1412$ GP-IC02 17A1413 GP-IC05 17A1414 GP-1C12 17A1415 GP.2701. $17 A 1416$ GP-2T13 17A1417 GP-2RO1. 7A1418 GP-2R13 7A1419 GP-2GOI $7 A 1420$ GP-2G13 7A1420 GP-2G13 $17 A 1421$ GP-2B01X B $7 A 1422$ GP-2B10X Black 1 lb. Kit 7 A1423 GP-9U16P Black 101b. Kit 7 A 1424 GP-9U00P Blue Primer

| Description | Each |
| :--- | ---: |
| Soff poste | $\$ 1.35$ |
| Soft paste | 2.55 |
| Soft paste | 4.00 |
| Soft poste | 1.35 |
| Soft paste | 2.55 |
| Soft paste | 4.00 |
| Low Viscosity Liquid | 8.15 |
| Low Viscosity Liquid | 97.00 |
| Medium Viscosity Liquid | 8.15 |
| Medium Viscosity Liquid | 97.00 |
| Spreadable Poste | 88.15 |
| Spreadable Paste | 97.00 |
| Medium Viscosity Liquid | 10.00 |
| Medium Viscosity Liquid | 85.00 |
| Pint Liquid | 5.40 |
| Gollon Liquid | 40.00 |

- Recommended for potting and encapsulating. GP- 2 is availoblé in 55 lb . drums, GP- 2 X in 44 lb . drums. Ask for quotation.



## ENCAPSULATION HOUSINdS

Made of high strength epoxy, blue color. Use with G-E Silicone Compounds above or any other encopsulating compound.

## KEYSTONE SQUARE CASES

| Siock <br> No. | Mfgr. No. | $L^{\prime \prime} \mathbf{W e r}^{\prime \prime}$ | Wall Thickness | $\begin{aligned} & 1-19 \\ & \text { Each } \end{aligned}$ | $\stackrel{20 .}{99 \text { Eo. }}$ | $\begin{array}{r} 100 \\ \text { upEa. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12A10102 | 4416 | . $5 \times .5 \times .75$ | . $04{ }^{\prime \prime}$ | . 55 | . 49 | 42 |
| 12A10103 | 4417 | . $75 \times .75 \times 1$. | . $04^{\prime \prime}$ | . 62 | . 53 | . 47 |
| 12 al0104 | 4418 | 1.x1.x1.5 | .05" | . 97 | . 83 | 73 |
| 12A10105 | 4419 | $1.25 \times 1.25 \times 1.75$ | . $05^{\prime \prime}$ | 1.57 | 1.34 | 1.18 |
| 12A10106 | 4420 | $1.5 \times 1.5 \times 2$. | .05" | 1.64 | 1.39 | 1.23 |
|  |  | KEYSTONE CYIINDRICAL CASES |  |  |  |  |
| 12A10107 | 4421 | . $500 \times .875$ | .032 ${ }^{\prime \prime}$ | . 42 | . 38 | . 33 |
| 12A10108 | 4422 | . $62500 \times .875$ | .036" | . 45 | . 39 | . 34 |
| 12A10109 | 4423 | . $7500 \times 1$. | .036" | . 55 | . 49 | . 42 |
| 12A10110 | 4424 | . $87500 \times 1$. | .036" | . 58 | . 51 | . 44 |
| i2al0111 | 4425 | $1.00 \times 1.25$ | .036" | . 70 | . 60 | . 53 |
| 12A10112 | 4426 | $1.2500 \times 1.25$ | . 0364 | . 74 | . 63 | . 56 |
| 12A10113 | 4427 | $1.500 \times 1.5$ | . 036 " | . 97 | . 83 | . 73 |
| 12A10114 | 4428 | $1.7500 \times 1.7$ | .036" | 1.09 | .93 | . 82 |

## ELECTRONIC CHEMICALS AND LUBRICANTS


(1) C-C Confact Burnishing Kif. For servicing relays, switches, etc. Removes oxide and corrosion from contact points without removing precious metal. Contains 202 . bottle contact cleaner and burnishing tool. No. 17A1324. C-C 9339. Each
(2) CC-Relay-Kieen Excellent Does not have oily deposit Non-flammable. Does not have oily deposit. Non-flammable.
tacts No. 17A1312. CC8682, 6 Oz. Spray Can.................................... $\$ 1.89$ O Insl-X Red Insulating Toot-Dip. Used by major utillty companies for insulating power linemen's tools. Cives more than adequate protection against 110 to 220 volts exposure. Dielectric strength $1500 \mathrm{v} / \mathrm{m}$. Resists acids, alkalies, and petroleum derivatives
No. 17A1368, I pint can. Each.
$\qquad$
$\qquad$ \$2.00 (1) Insl-X E-26 Clear Insulating Spray. Quick dry-3 to 5 minutes. Insulate everything in TV except moving parts and tubes. Prevents corona, arcing - keeps out molsture No. 1741327. 12 Oz. Can.

## PRINTED CIRCUIT SERVICE AIDS

Silver Print-Contains pure silver powder as pigment. Use for making or repairing printed circuits. Ideal for applying conductive coating to nonconductive materials. Brush applicator attached to cap. $1 / 2$ Troy oz.
No. 17A1348. CC 2i-1. Copper Print-A highiy conductive, fast drying compound for repair and touch.up of printed circuits. Complete with brush-cap bottle. 2 oz.
No. 17A1349. CC 20-2.
$\$ 2.25$
Print-Kote Solvent. Dissolves, removes silicon resin from printed circuits. No. 17 A1372. CC 13-2. Each.

55
Print-Kote Soldering Flux. Non-corrostve liquid flux for easy soldering and repairing of printed circuits. Brush applicator on cap
No. JIAAB73. CC-12-2. Each-...
Transistor 25 Silicone Compound. Maintains efficient heat transfer from transistor to chassis.
No. 17 Al 308.
No. 17A1308. CC 8101. 1 Oz. Tube.

## E.I.A. COLOR CODING KIT

Kit contains jar each of red, grey, white, black, brown, orange, purple, blue, green and yellow high quality fast drying lacquer enamel, Complete with brush and color code chart.
No. 17A1347. Per Kit.an
$\$ 3.00$


## KNOB-PLASTIC REPAIR KIT SETS ROCK-HARD IN 7 MINUTES

New fast-setting material repairs anything of plastic. Ideal for joining broken or new parts, creating new plastic to match or fill repairs, as needed. Completely moldable in setting stage, conforms to any shape. Once set, it may be sanded sawed, drilled, fapped or polset, it may be sanded, sawed, drilted, tapped or polShpg. wt. $1 / 2 \mathrm{lb}$. $\$ 1.75$

## No. 17A1346. Each



## $\$ 1.75$ <br> GENERAL CEMENT "EPOX" CEMENT KIT

Bond anything to anything. Provides super
strengith. Bonds to metal, ceramics, etc. Resis-
tant to water, solvent, heat, cold and fungus. Has very good dielectric propertics.
mixing ingredients in $11 / 2$ oz. tubes.
mixing ingred
No. 17 Al 343
No. 17 Al 343
CC346. Kit


## SAVE ON CEMENTS AND CHEMICALS

## $\$ 1.95$

SERVICE SOLVENT-Loosens ofd cement. Also thinner for cement. CC31

17 A 1328 -2 oz. 17A1328-2 oz. | 17 A1329-8 808 |
| :--- |
| $17 A 1330-1$ |
| 1 Pt. | $\qquad$

LUCITE CEMENT-For fucite and other acrylic materials. CC40-2
17A1331-2 ox. Jar. Each.......-.....60c
RUBBER TO METAL CEMENT, CC35-2 17A1332-2 ox. Jar. Each.............. 65 Q-DOPE (COIL DOPE) - Coats and seals coil windings, etc. Low RF loss. Ideal for Hi-Freq. use. CC37-2 No. 17 Al30\%-2 oz. Bothle. Each. 60 PLI-O-BOND CEMENT-It bonds anything to anything-iron. steel, plastic, glass. aluminum, etc. A truly universal cement.

## 17A1333. C-C 43-2, 202 . bottle

Whal334. $C-C$ 43-8, 8 ox............. $\$ 1.50$
ANTI-CORONA LACQUER - Has high dielectric strength to prevent corona in TV high voltage. CC 47-2.
17A1336-2 ox. Boftle. Each....... $85^{\circ}$ (2) CEMENT LAB KIT

SERVICE CEMENT-For replacing and repairing speaker cones; sealing adjustments cementing loose tube bases, etc. Fast drying
17A1337-2 ox. Bottic . $\mathbf{~} 0.65$
17A1338-2 ox. Tube. . 65 17A1339-8 ox.
17A1340-1 Pt.
14 different ${ }^{2} \mathrm{O}^{02}$, bottles cement.
No. 17A1335. CC 345 . Per Kit

## SERVICE CHEMICALS AND ACCESSORIES



1-Remove control knob. 2-Thread Cozinta on shaft bushing. 3-Connect spray can to Cozinta and sprav

No. 17A1398
$\$ 2.19$


## STOPS <br> STATIC <br> electricity

$\$ 5^{00}$

Aerosol spray eliminates static electricity in home, office, or factory. Use on computer cards, film porcessing, to prevent damage to FET's, on carpets, car seats, etc. Will not stain. Non-tox. ic, non-flammable.
No. 1741407.
16 Oz . Can, Each
$\$ 5.00$

## WALSCO OILETTE



Filled with high grade lubricating ail. Telescoping spout permits accessibility to difficult places requiring lubrication. Releases one drop at a time. Does not
No. 17A1354. Each
No. 17A1355. Oil Refill Cartridge
$\$ 1.13$
MIRA KLEER ALL PURPOSE CLEANER

## 12 OZ. SPRAY CONTAINER

Greatest Cleaner And Protective Treatment For All Hard, Smooth Surfaees We'vo Ever Scenl
No common detergents can remove Mira- I Kleer. ideal for cleaning radio and TV chassis. Also tends to reduce dust icchassis. Also tends to reduce dust acbuild up. Blg 12 oz. spray container. Shpg. wt. 1 ib.
No. 17Al359. Each
$\$ 1.49$


## SPRAY ADHESIVE

Pressure sensitive for permanent or temporary bonding of paper, glass, cardboard, fabrics, styrofoam, plastic films, and metal. Precise pin-point gluing with snorkel attachment. Clear and colorless. Clog proof formula.
No. 17 Al381. 16 ox. can. Each

## NAVAL JELITY



Naval jelly eliminates the time and drudgery of rust removal and does the job far more effectively than old hard chemical and mechanical methods. Easy-to-use tacky gel adheres even to ceillings. Just brush it on, let stand a few minutes or several hours depending upon the depth of the rust. Hose off with fresh water and rust is gone, the dry surface will contain a rust Inhibitor, a thin clean film. This will prevent further rusting and may be painted over.
Use on TV towers, plpes, fences, tools, tanks, cranes, trucks, all machinery Removes gun blue and is ideal for rust removal from all weapons. Coverage Naval elly will remove rust at the rate of 80 to 200 square feet per gallon, depending upon thickness and condition of the rust.
No. 17A1384. 8 os. introductory Bottle. Each
$\$ 1.49$
No. 17A1385. 2 lbs. Net Each.
No. 17A1386. 4 Tbs. Net Each..
No. 17A1389. 55 gal . drum. Net

B-A's TV SERVICE CHEMICALS

FANTASTIC SAVINGS!

TOP QUALITY
(1) B-A Tuncr $G$ Control Cleaner $G$ Lubricant. Just spray tuner or control, leaves long-lasting protectlve coating against noise and oxidation. High quality Ingredients will not harm plastic. An easy way to cure most funer problems. Aerosol can.
 (2) B-A Color Cleaner 6 Lubricant. Non-drift tuner cleaner developed for sensitive color tuners. Cleans and lubricates. Will not detune tuner-will not harm plasties.
No. 17A1302, 8 Oz. Spray Can.......-...................................................... 29 (3) B-A Super Freeze Aid. For Thermal Intermittent Components. Just spray on circuit, to locate intermittent component while circuit is in operatton Freezes immediately and leaves no liquid resldue. Saves valuable time.
No. 17Al303. 6 Oz. Spray Can.
.$\$ 1.29$

## TECH <br> BPRAY TELEVISION SERVICE CHEMICALS


(1) Blue Stuff for Tuners. Cleans continuously. Thick concentrated foam clings to contacts and cannot run off. Harmless to base metal contacts. For color, B G W Hi-gain Nuvistors.
No. 17 A1390. 8 Oz. Spray Can
. $\$ 1.99$
(3) Blue Shower for Tuners. Powerful spray washes and degreases all tuners safely and quickly. Floods away dirt that causes tuner to drift. Harmless to plastics, non-toxic, can't detune. No residue.
No. 17A1391. 24 Oz. Spray Cin
.33 .25
(0) Blue Frost. Instant winter in a can, Colder and has a longer effect than other chilling sprays. Ultimate for froubleshooting intermittents.
No. 17A1392 No. 17 A1393
8 Oz. Spray Can.......................... 51.99 20 Oz. Spray Can.......................3.2. 24 (4) Color Rid Ox Tuner Cleaner. Highest purity. Non-flammable. Wilf not harm plastics. Cleans and lubricates.
No. 17al394. 8 Oz. Spray Con
(B) Rid Arc. Finest red insulating spray, Provides protection against arcing and corona discharge. Dries rapidly to tough permanent film. No. 17 A1395 8 Oz. Spray Con $\qquad$ $\$ 1.59$ No. 17 A1396

(1) C-C Spra-Kleen. Just spray it on to clean and lubricate all electrical contacts, relay switches, controls and other moving parts.
No. 17A1321. © Oz. Spray Can...99c No. 17A1323. 16 Oz. Spray Can $\$ 1.95$ (3) C-C Zero Mist. Locates trouble instantly. Spray electronic components in operation, cools instantly pin-pointhg faulty components, cold solder and oxidized junctions due to temperature variances. Saves valuable time.
No. 17A1322. CC 8667 . 16 Oz . Can.
(1) Audio-Video Magnetic Tape Hean Cleaner ".Safefor all types of Re $\$ 2.42$ (3) Audio-Video Magnetic Tape Head Cleaner, "Safe for all types of Recordang heads." Quickly removes dirt and axide build-up; won't harm tape, tape on running tape. $6^{\prime \prime}$ spray extension is furnished with each can for pinpoint spray
0. 17A1363. CC10-620. 16 Oz . Aerosol Can. $\quad \$ 2.35$
() "Quietrole". Stops nolsy operation of switches. volume and tone controls without removal from chassis. Makes all moving parts quiet.
No. 17A1353. 2 Oxs -.......................................................................... $\$ 1.69$ 3) Sllp-Stop. For Record Changers and Tape Recorder drives. Will restore the gripping surface of old and hardened phono drives and belis. Prevents slippage to insure uniform speed. Fast drying. will not harm rubber. 2 oz, bottle No 17 A1304 Ench

## SOLDER AND SOLDERING ACCESSORIES



## KESTER "44" RESIN CORE SOLDER

Fast acting, instant wetting flux makes soldering faster and provides a stronger longer-lasting bond. 100\% non-corrosive and electrically non-conductive. immune to fungus growth and resists oxidation or osganic decomposition.
Small Box for the occasional user. $40 \%$ Tin- $60 \%$ Lead. Kot dia
No. 17A7009. 1 Or. Not Wt. Enelt.........................39c
40\% TIN-60\% LEAD, PRICES PER SPOOL

| Stock No. | $\begin{aligned} & \text { Spool } \\ & \text { Size } \end{aligned}$ | Diameter | $\begin{aligned} & 1.9 \\ & \text { Each } \end{aligned}$ | $\begin{gathered} 10 \\ \text { Ep. } \end{gathered}$ | Each | 2 or more Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1747045 | $\begin{aligned} & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \end{aligned}$ |  | \$2.07 | \$1.83 | \$10.10 | \$8.95 |
| 1747046 |  |  |  |  |  |  |
| 1747047 |  |  | 2.16 | 1.91 |  |  |
| 1747048 |  |  |  |  | 10.55 | 9.30 |
| 1747049 |  |  | 2.89 | 2.55 |  |  |
| 17A7050 |  |  |  |  | 12.75 | 11.25 |
| 50\% |  | TIN. $50 \%$ LEAD, PRICES PER SPOOL |  |  |  |  |
| $\begin{aligned} & 17 A 7051 \\ & 17 A 7052 \\ & 17 A 7053 \\ & 17 A 7054 \\ & 17 A 7055 \\ & 17 A 7056 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \mathrm{lb} . \\ & 5 \mathrm{fb} . \\ & 1 \mathrm{tb} . \\ & 5 \mathrm{fb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \end{aligned}$ |  | 2.47 | 2.18 | 12.05 | 10.65 |
|  |  |  |  |  |  |  |
|  |  |  | 2.55 | 2.25 |  |  |
|  |  |  | 3.23 | 28 | 12.50 | 11.05 |
|  |  |  | 3.23 | 2.85 | 14.45 | 12.75 |
|  | 60\% | TIN-40\% LEAD, PRICES PER SPOOL |  |  |  |  |
| $\begin{aligned} & 17 A 7057 \\ & 17 A 7058 \\ & 17 A 7059 \\ & 17 A 7060 \\ & 17 A 7061 \\ & 17 A 7062 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{tb} . \\ & 5 \mathrm{lb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} \\ & 1 \mathrm{lb} \\ & 5 \mathrm{lb} . \end{aligned}$ |  | 2.79 | 2.46 |  |  |
|  |  |  |  |  | 13.50 | 11.95 |
|  |  |  | 2.87 | 2.54 |  |  |
|  |  |  |  |  | 13.95 | 12.30 |
|  |  |  | 3.55 | 3.14 | 16.05 | 14.20 |
|  | 63\% | TiN-37\% | LEAD, PRICES PER SPOOL |  |  |  |
| $\begin{aligned} & 17 A 7071 \\ & 17 A 7072 \\ & 17 A 7073 \\ & 17 A 7074 \\ & 17 A 7075 \\ & 17 A 7076 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \\ & 1 \mathrm{lb} . \\ & 5 \mathrm{lb} . \end{aligned}$ |  | 2.91 | 2.57 |  |  |
|  |  |  |  |  | 14.10 | 12.45 |
|  |  |  | 2.99 | 2.64 |  |  |
|  |  |  | 3.67 | 3.24 | 14.55 | 12.85 |
|  |  |  |  |  | 16.65 | 14.70 |
| No. 1747 | . Kester | Soldering | Eac | 29c | 10 Esc | 2 c |

Contains 3\% s
No. 17A7023. 1 Lb. Spool. Net Each.


## ERSIN MULTICORE SOLDER

Exira active non-comosive, 5 core construction assures flux continuity prevents "dry" joints. Conforms to Govt specs. DOS-571

60\% TIN-40\% LEAD
KIT-PAK. Two solder gaugas tor the occasionat user

17a7027 C.C. 21 ft at 22 Gve ........................... $69^{\circ}$


50\% TIM-40\%LEAD DNE POUND SPDOLS

"SAVBIT" CDPPER-IDADED ALLOY SOLDER
Does not absorb metal from copper tips, reduces wear and prolongs tip life ten-fold. 1747030. 16 6a. 1 Lb Spool

28 Lbs. Ea.
.-2.-....................... $\quad \$ 3.00$ 17A7031. 18 Ga. 1 Lb. Spool...........3. 3.74

28 Lis. Ea,
28 Es.

## SODER-MASK

Soldar Resist And Coating Mask. Protects contacts, hotes and areas that must be kept lree of solder during sodder operation. Easy to apply with brush. applicator ot syringe. Cures in 10 minutes at toom tempera. ture. Withstands temperatures of 500 to $550^{\circ} \mathrm{F}$. Can be used on gote nickel. silver, copper and tin nickel đuickity removed by peeling or rubbing 4 ar botte with applicator nozle
Na. 17A7080. No. 84-4. Each
$\$ 2.49$
10 Each
$\$ 1.99 \quad 50$ ир
$\$ 1.49$
Watar Soluble Soder-Mash. Eassly and completely removed by washing with hol ( $\left.140^{\circ} \cdot 150^{\circ} \mathrm{F}\right)$ water 4 or bottle
 Chlorinated Solvent Soluble Soder-Mask. Apply by brush or dauber. Feadily removed in normal degreasing operations


HEAT SINK \& SOLDER AID
The perfect heat sink-"clamps on and holds wires in position while soldering. Retrieves small itcms in
hard to reach places. Lightweigh! hard to reach places. No. 3743005 long.
$\$ 1.50$


Perfect alds in repairing printed circuit boards, holding leads while soldering. stringing dial cords, remaving parts from inaccessible places- 1000 uses from one tool. Hardened steel scriber point for marking chassis. panels, etc. () $37 A 3008$. Comblnation Scriber and Hook- $81 / 2^{* \prime}$, long. Net Each........ $\$ 1.10$ (1) 37 A3008. Combination Scriber and Hook- $81 / 2$, long. Net Each......... $\$ 1.10$ Get Immediate Shipment From B-A's Large Stocks

## WELLER TEMPMATIC TEMPERATURE CONTROLLED SOLDERING TOOL

Fast heating trigger control. The powerhead contains Weller's own proven temperature control system to protect dellcate components. Stainless steel long reach barrel. Convenient ejector makes switching powerheads easy. Weighs only 7 bzs. 150 watt AC. 2 wire cord.
CT-7A Controlled Temperature Solder Tool with $3 / 16^{\circ \prime}$ chisel point $700^{\circ} \mathrm{F}$ powerhead.
No. 37 A3288. Each $\$ 12.30$ Each 3 Lots.... \$11.05 12 Lots $\$ 9.85$ CT-6B Controlied Temperature Solder Tool with $1 / /^{\prime \prime}$ conical point $600^{\circ} \mathrm{F}$ powerhead. Each. $\$ 12.30$ Eots \$11.05 12 Lots $\$ 9.05$
 No. 37A3291. $6 B$ Powerhead, $1 / 8^{\prime \prime}$ conical point $600^{\circ}$ F. Each.................. $\$ 8.55$

## ${ }^{5} 2^{30}$

MODEL CT-7A


The hottest solder gun volue ever offered! Here is true Weller protessional performance and quolity construction in a small, lightweight, exceptionally easy to hondle solder gun. Perfect for hobbyist or serviceman-does a real man-sized soldering job. New improved gun, rated 100/140 wotts furnishes soldering heot in pust 5 seconds by a trigger control. Prefocused spotlight illuminates work as you solder. Dual heot feature provides reserve power for heavier soldering needs. Uses high efficiency long life tip. 120 volts 60 Hz AC . Fully guaranteed. Wr. 3 lbs
\$10.95
37C257. 8200 PK . Each
$\$ 8.9512$ Lots Each
$\$ 7.95$
No. 37 A62. 8200 Cun Oniv. Each
$\$ 8.30$

## WEN <br> SOLDERING GUNS AND KITS

Alt have Wen's exclusive thermal reguiation for efficient range of heat power. Instant heat. Change tips to change heat ranges. Beautifully balanced. Pre-focused spotight. UL \& CSA listed. All for $110-120 \mathrm{VAC}$.
450 k 4 . 25 to 450 watt soldering kit. Fult range of heat power. Includes
$25-100$ watt fine tip. $100-200$ watt medium tip, $200-450$ heavy duty tip $25-100$ watt fine tip. $100-200$ watt medium tip, 200-450 heavy duty tip and roll af solder. Shpt. Wt. 3 lbs.
\$12.95 No 37A3312. 450 k 4 Kit. Each... .1510 .99 No. 37 A3313. 450 Cun only with 200 to 450 watt tip. Each. 222k5. 25 to 200 watt soldering kit. Includes $25-100$ watt fine tip, 100-200 watt medium tip plus cutting tip. smoothing tips, and roll of solder. All in
an attractlve molded case. Shpg. wt. 3 lbs.
$\$ \mathbf{9 . 9 5}$
No. 37A3314. 222k5. Solder Kit. Each.
\$9.95 No. 37 A3315. 222 Cun only with $100-200$ medium tip. Each. $\$ 6.99$ 75 Soldering Pistol. Space age metal makes 50 watts do the work of 100 watt units. Does work normally done by soldering pencils, long reach tip. Shpg. Wt. 3 lbs.
No. 378214. 75 Pistol with standard tip. Each.
$\$ 4.95$


## WELLER HEAVY-DUTY DUAL HEAT SOLDERING GUN KIT

FOR SERVICEMAN. HOMECRAFTER HOBBYIST, EVERYONEI OW-A PRICE


SOLDERS! - MENDS! - SEALS!

CUTSI
Accomplishes scores of money-soving jobs. Hondy to hove for ready use in the shop, at home, out on the job, anywhere.
Comes complete with the very popular Weiler heavy-duty dual heat 240/325 watt soldering gun that has such desirable features as: Instant heatingtakes only 5 seconds to obtain solder heat; Extra long reach to get into the deep inaccessible places; Dual spotlights to focus on work; Rugged housing that stays cool Dual heat feapure provides reserve power for extra heavy that stays cool. Dincludes 3 handy tips: Long-life soldering tip; 5moothing tip for heatsealing, and mending plastic articles. Cutting tip for cutting plastic tiles
 removing hard putty from broken windows. etc-. tip changing wrench and various lobs. Unbreakable plastic case is convenient for storage and has handle for easy carrying. Shpg. wt. $61 / 2$ lbs. 37C256. D-550PK. Net Each.
$\$ 15.95$
3 Lots Each.,............................ $\$ 13.4512$ Lots Each............................ $\$ 11.95$
WELLER DUAL HEAT RUNS

| No. | Model | Watts | Shps. Wt. | Each | 3 Loft. Each | 12 Lots Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3784 | D. 550 | 240/325 | 4 1bs. | \$12.30 | \$11.05 | 59.85 |
| 374237 | D-440 | 145/210 | 3 Lbs, | 11.45 | 10.30 | 9.15 |

REPLACEMENT SWITCH for all Weller Dual Heat Solder Guns
No. $37 A 3286$. TYDE 7324 Net Each. 20
SOLDERINC CUN HOLSTER for all Weller Guns
No. 37A3347. Type AC!100. Net Each.......................................
WELLER SOLDERING TIPS



## WEN 199

 SOLDERING GUN 130 WATTSBurstein Applebee Co. 3199 Mercier, Kansa

## WEN REPLACEMENT TIPS

| Description | Tip No. | For Cun Model | Each |
| :---: | :---: | :---: | :---: |
| Standard | 75A7 | 75 | \$1.10 |
| Fine Point | 7587 | 75 | 1.10 |
| Light Duty | $45 F 7$ | 222,450 | 1.40 |
| Medium Duty | 45M7 | 222, 450 | 1.40 |
| Heavy Duty | 4547 | 450 | 1.40 |
| Smoothing | 45P57 | 222.450 | . 70 |
| Cutting | 4557 | 222.450 | . 70 |
| Long Reach | 1984 | 199.100 | . 60 |
| Standard | 2544 | 250 | . 35 |
| Lang Life | $25 \times 20$ | 250 | . 60 |
| Plastic Tlie Cutting | 19 Cl | 199.100 | . 70 |
| Standard | 28 C 4 | 288 | . 70 |
| Fiat Iron Tip | 19 F 33 | 288, 199. | . 70 |

Each
$\$ 1.10$

Stk. No. $37 A 3174$ 37 A3175 37 A3316 3743317 3743318 37 A3319 37 A3 320 37 A3168 37 A3169 37 A3170 $37 A 3170$
$37 A 3171$ $37 A 3171$
$37 A 3172$
$37 A 3173$ $37 A 3172$
$37 A 3173$


## Ungar PRECISION SOLDERING IRONS


ess steel det ruggedized for production line soldering. Features stainfor longer life, tough phenolic for added durability and axtra heans ilation flexible 6 ft . i8 gauge polyvinyl cord. Cork finger-grip, red colored handle. Accommodates all elements and tips below.
37A3066. Tyo 776 (Less Element and Tip)
Each.... $\$ 2.07 \quad 10$ Lots, Each and $\$ 1.70 \quad 50$ Lots, Each.......... $\$ 1.55$ flow "Now "Clean Room" Handle. Hear stabilized polypropylene grip with air-non-slip poly keeps hant collect dust or deteriorate Effictent Ocragon shaped non-sip poly-grip wort collect dust or deteriorate. Efficlent, perfectly bal-
anced, Supplicd in attractive easy-on-the-eye blue pastel color. Other features same as Type 776 above.
No. 37 A 3067 . Type 777 (Less Element and Tip)
Each .......... $\$ 2.0710$ Lots, Each......... $\$ 1.70^{\circ} \quad 50$ Lots, $\varepsilon$ ach ........ $\$ 1.55$

## TIPS WITH SELF.CONTAINED ELEMENTS

 500 STANDARD SERIES- $231 / 2$ WATTSFor instrument repair and general use. Tellurium Copper Tip,

For general service and light to medium production Ifne service. Telturium


 *Solid tron silver plated for heavy duty production line use.
For all operations formerly requiring a 150 watt iron. Tellurium Copper Tip, $\begin{array}{llllll}\text { iron diad, stlver plated. } \\ 37 \mathrm{~A} 3074 \text { ( } 13 \text { ) } & 4033\end{array}$

 | $37 A 3076$ | $(5)$ | 4039 | Hvy.Chl. $1 / 8^{\prime \prime} L \times 18^{\prime \prime} W$ | $W$ | 1000 | 3.75 | 3.08 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## HEATING UNITS ONLY

 $\begin{array}{lllllll}37 A 3078 & \text { (14) } & 1237 & 42 & 750^{\circ} & 2.58 & 2.12\end{array} \quad 1.94$ Use with Seri THREAD-IN HEATINC UNITS


Specially shaped tips makes easy removal of parts from P.C. boards. Fits 4045 heating unit only

| Flg. | Stk. No. |
| :--- | :--- |
| (1) | $37 A 3060$ |
| (2) | 3743061 |
| (3) | $37 A 3062$ |


| Description | Each | 10 Each | 50 Each |
| :---: | ---: | ---: | ---: |
| $5 / 8^{\prime \prime}$ Cup | $\$ 1.00$ | $\$ 0.82$ | $\$ 0.75$ |
| $1^{\prime \prime} x^{\prime \prime}$ Slotted Tip | 1.00 | .82 | .75 |
| Bar $11 / 2^{\prime \prime} \times 3 / /^{\prime \prime}$ | 1.00 | .82 | .75 |

## \#400 KLEEN-TIP

Doubles llfe of soldering tips with new tip cleaner Phenolic tray, specially processed sponge and bottom
 No. 37 A 3102 . Ea.... $\$ 1.35 \mathrm{E} \quad 10 \mathrm{Ea}$.
No. 455 Refill Sponge for above. No. 455 Refill Sponge for above.
No. 37 A3103. Ea......53c 10 Ea...... $44 \mathrm{c} \quad 50$ Ea...... 40 c

## UNGAR "PRINCESS" MINIATURE SOLDERING PENCIL \& TIPS



Designed to meet the newest, most exacting requirements for preciston hand soldering in Microelectronic circuitry, high density packaging and assembly. Comblnes sophistlcated miniaturization with a thermo efficiency and work tapacity never before achieved in small, high-heat, feather-weight irons.

## (1) PRINCESS FEATHERWEIGHT HANDLE

Molded of heat resistant A.B.S. Has midget thread-in socket to accept heat capsules below. Weight without cord .05 oz, with $^{\text {th }}$ cord $3 \mathrm{oz}, 5^{\prime \prime}$ long $x \mathrm{r}^{2 \prime \prime}$ dia. at front. Turquoise color. 120 V . AC/DC.
No. 37A3104. Type 6902. 2-Wire Cord. Ea.. \$4. 1810 عa... $\$ 3.63 \quad 50$ عa... $\$ 3.21$ No. 37A3105. Type 6903. 3-Wire Cord. Ea.. $\$ 5.6810$ Ea... $\$ 5.0150$ Ean... $\$ 4.37$
(1) INTERCHANGEARLE HEAT CARTRIDGES

Thread into Princess handles with fingertip ease. Heating section is threaded o accept nibs below. You can also use Series 300 Tips on opposite page. $\begin{array}{lllllll}\text { Stk. No. } & \text { Type } & \text { Wattage } & \text { Temp. to Tip } & \text { Each } & 10 \text { Each } & 50 \text { Each } \\ 37 A 3107 & 6910 & 10 & 550^{\circ} \text { to } 650 & \$ 5.11 & \$ 4.44 & \$ 393 \\ 37 A 3108 & 6915 & 15 & 700^{\circ} \text { to } 800^{\circ} & 5.11 & 4.44 & 3.93 \\ 37 A 3109 & 6918 & 18 & 900^{\circ} \text { to } 1000^{\circ} & 5.11 & 4.44 & 3.93\end{array}$

## INTERCHANGEABLE THREAD-IN NIBS (TIPS)

All are cadmium copper except those marked * which are iron clad, 24 K
gold plated. All are $1 / 8^{\prime \prime}$ dia. threads.


## PRINCESS 10 WATT SOLDERING IRON KIT

Complete 10 watt kit in handy attractive package. Consists of \#6902 Handie and Cord, 6910 Heat Capsule and three tiplets, 6950 Pencil, 6951 Screwdrlver, and 6952 Spade. Ideal tool for P.C. boards and micro-circuits.
No. 37A3065. Model 6975.
$\$ 10.2110$ Each
$\$ 8.88$
PRINCESS SOLDERING IRON HOLDER
Equipped with speclally processed slit sponge for
ip cleaning. Plastic base with swivel mounted No. 37A3118. Type 6990 . Each .............. $\$ 4.03$



## PRINCESS DE-SOLDERING TIPS



Fig. Stk. No.

> Stk. No.
$37 A 3307$
$37 A 3308$
$37 A 3339$
$37 A 3310$
$37 A 3306$
$37 A 3303$
$37 A 3311$
$37 A 3304$


Description Flat Pack 1C-Hook Flat Pack IC-Bar DIP IC TO Package $.600^{\prime \prime}$ Dia. TO Package . $500^{\circ}$ Dia. TO Package .375"" Dia. TO Package. $280^{\prime \prime}$ Dia. | Slotted Lead Straightener | 2.4 |
| :--- | :--- |

Each 10, \&a. 50. عa.
$\$ 2.55 \$ 2.21$
$\$ 1.96$ $\begin{array}{lll}\text { Each } & 10, \text { Ea. } & 50 . \text { Ea. } \\ \$ 2.55 & \text { S2.21 } & \$ 1.96 \\ 2.37 & 2.06 & 1.82\end{array}$ 1.82
2.12

PRINCESS 6939 DE-SOLDER KIT
Contains Princess handle, 3 wire cord, 15 watt heat capsule and 6945, 6947 and 6948 tips. Ideally suited for PC boards $1 / 20$ and under.
No. 37A3309. \$16.50 4 \$14.34 12
${ }_{\text {Each }}^{12} \$ 12.69$

## UNGAR 3-WIRE SOLDERING IRONS

For use on Mosfet and IC Devices-meets all military and NASA standards light weight with coal phenolic handle, flexible card and NEMA plug. Element and cords field replaceable. Standard 100 series tips shown above left thread directly on the iron. $1 / 8 \& 3 / 16^{\prime \prime}$ odaptors supplied to use any standard 300 or 800 series or Princess tip shown above. Operates on 110 VAC. Tip Not In. cluded. Stock
No. TypeWattage Tip Temperature Each 49 Ea, up Ea
No.
 $\begin{array}{lllllll}37 A 3369 & 135 & 35 & 750^{\circ} \mathrm{F} \text { to } 850^{\circ} \mathrm{F} & 5.59 & 4.95 & 4.44\end{array}$
 $\begin{array}{ll}\text { No. } 37 \mathrm{~A} 3371 \text {. No. } 7825 \text { De-soldering Unit. Used with }=145 \text { iron. } 057 \text { orlf- } \\ \text { ice de-soldering tip included. } & 9.95 \quad 8.50 \quad 7.75\end{array}$ $\begin{array}{lllllll}37 \text { A3300 } & 7812 & .033 & \text { Orifice De-Soldering Tip } & 1.30 & 1.06 & .96\end{array}$ $\begin{array}{lllllll}37 A 3122 & 7806 & \text {. } 057 \text { Orifice De-Soldering Tip } & .92 & .75 & .70\end{array}$

## PRECISION SOLDERING IRONS

UNGAR IMPERIAL SOLDERING PENCIL
 AND TIPS

i)



COMPLETELY INTERCHANGEABLE HEAT CARTRIDCES E TIPS TO FIT ANY SOLDERING JOB
Satisfies every demand for a cool, Mightweight, easy-handling soldering izon. Engineared to get jobs done faster, better, more economically. Built to provide years of dependable operation. Complete unit weighs less than 5 ounces.
(1) IMPERIAL "PPERMA-COOL" HANDLE

Introduces a completely new heat. sink principle ., doubte cushion of air, combined with five heat transition surfaces evenly dissipates heat. keeps handle coot and comfortable all day long. Ourably built of Lexan high strength polycarbonate resin with bullt-in dieceast aluminum heat sink. Length $4.7^{\prime \prime}$. Turquolse color. (Handle only, less Cord).
No, 37A3131. Type 6100 . Ea_ $\quad \$ 1.90 \quad 10 @$ Ea....... $\$ 1.54$ 100@ Ea.... $\$ 1.42$

## INTERCHANGEABLE PLUG \& CORD SETS

Select the cord that fits your needs, plug on to Perma.Cool Handle. $41 / 2 \mathrm{ft}$. 18 gauge fiexible stranded wire, polywinyi chioride insulation on both wire and female connector. Turquoise color.

| Stk. No. | Type | Description | Each | 10. Ea. | 100 Ea. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $37 A 3132$ | 6102 | 2.Wire Cord W/Plug | $\$ 2.76$ | $\$ 2.24$ | $\$ 2.07$ |
| $37 A 3133$ | 6103 | 3-WIre Nema CordW/Plug | 4.06 | 3.29 | 3.05 |

## (2) INTERCHANGEABLE HEAT CARTRIDGES

New element winding principle provides reduced watt density, insures longer life. Heating element at tip and of cartridge results in less heat to handle, more heat to tip. Stainless steel, completely sealed-eliminates costly breakage. The eaded-end is engineered to resist oxidation, reduce heat waste, providing maximum heat transfer. Slim, tubular design offers easy access to hard-to-reach areas. Extends $2.5^{\prime \prime}$ beyond handle. $110-120$ volts. AC.DC. Each cartridge (except $15 \cdot$ watt) has color-keyed band for Instant wattage indentification. 6200 has red band, 6201 blue band, 6202 green band, 6203 yellow band.

| Stk. No. | Type | Wattage | Temp. To Tip | Each | 10 Ea. | 100 Ea, |
| :--- | :---: | :---: | :---: | ---: | ---: | ---: |
| 37A3134 | F6203 | 55 | $1150^{\circ}$ | $\$ 6.03$ | $\$ 4.89$ | $\$ 4.52$ |
| 3743135 | 6200 | 45 | $950^{\circ}$ | 5.11 | 4.13 | 3.83 |
| $37 A 3136$ | 6201 | 35 | $850^{\circ}$ | 5.11 | 4.13 | 3.83 |
| $37 A 3137$ | 6202 | 25 | $800^{\circ}$ | 5.11 | 413 | 3.83 |

+Use only tron clad tips.

## INTERCHANGEABLE THREAD-ON "MINI-TIPS"

All are of Tellurium Copper except those marked * which are iron clad, $24 \mathrm{~K}_{\mathrm{u}}$ gold plated. For use with 25,3545 and 65 watt heat cartridges.

| Stk. No. | Fis. | туpe | Descriptlon | Each | 10 Ea. | 100 Ea . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3743143 | (3) | 6312 | $3 / 4^{\prime \prime}$ long, $1 / 8^{\prime \prime}$ pencll | \$0.58 | \$0.47 | \$0.44 |
| 3713144 | (3) | 6313* | $3 / 4{ }^{\text {" }}$ long, 1/8" penct | 1.33 | 1.08 | 1.00 |
| 3743145 | (1) | 6318 | $3 / 44^{\prime \prime}$ long, $1 / 8^{\prime \prime}$ taper-chisel | . 58 | . 47 | . 44 |
| 37 A3146 | (4) | 6319** | 1/4/ ${ }^{\prime \prime}$ long, $1 /$ / $^{\prime \prime}$ taper chisel | 1.33 | 1.08 | 1.00 |
| 37A3147 | (3) | 6324 | $3 / 4$ " long, 1/8" taper pyramid | 58 | . 47 | . 44 |
| 3743148 | ( 5 | 6333* | $3 / 4{ }^{\prime \prime}$ long, $1 / 8^{\prime \prime}$ needle | 1.33 | 1.08 | 1.00 |
| 37 A3149 | (\%) | 6304* | y/ ${ }^{\prime \prime}$ long, \%/4 $^{\prime \prime}$ micro-chisel | 1.33 | 1.08 | 1.00 |
| 3743150 | 0 | 6305 * | 1/2" long, \%/4" micro-spade | 1.33 | 1.08 | 1.00 |
| 37 A3151 | (3) | 6325** | 1/4" long, 1/a" taper pyramid | 1.33 | 1.08 | 1.00 |
| 37A3152 | (7) | 6331 * | 3/4" 10 ng , $1 / 8$ " screwdriver | 1.33 | 1.08 | 1.00 |
| 37 A3153 | (7) | 6481* | $3 / 4{ }^{\prime \prime}$ long, $3_{12}{ }^{\prime \prime}$ taper screwdriver | 1.33 | 1.08 | 1.00 |

## UNGAR SOLDERING IRON HOLDER

Safety guard design protects operator from accidental. burns. protects iron against breakage. Keeps iron use. Angle of cradte adjustable for operator's convenience. Attaches to top. side. or underside of venience. Attaches to top.
workbench. Shpg. wt. 1 lb . No. 37A3101. 8000 For Standard Ungar
Each $\$ 2.35 \quad 10$ Ea $\$ 1.90 \quad 50$ Ean...... $\$ 1.76$


UNGAR 6760 SOLID STATE SOLDER GUN

Dual heat. Hi-Lo switch in handle selects $500^{\circ} \mathrm{F}$ or $900^{\circ} \mathrm{F}$ Temperature. Lightweight. . less than 5 oz , without cord set. Solid state components replace heavy transformer. Electrically Isolated tip safe for soldering IC's and FET's. Solders in seconds. Complete with short chisel tip.

| Stik. No. | Mfe. No. | scription | 1-3 Ea. | 4-11 Ea. | 12 UpEa. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3743292 | 6760 | Cun Complete | \$10.95 | \$9.95 | \$8.95 |
| 37 A3293 | 6763 | Handle and Cord Set | 7.12 | 6.26 | 5.73 |
| 3743294 | 675! | Heat Cartridge | 5.61 | 5.02 | 4.49 |
| 3743295 | 6755 | Long Chisel Tip | . 43 | . 39 | 37 |
| 3743296 |  |  |  |  |  |
| 37A3297 | 6754 | Pyramid Tip | 4 | . 39 | . 37 |

## n

## "AMERICAN BEAUTY" IRONS

Exceptionally dependable irons widely used by industrial and servicemen for continuous duty work with copper tips. All are supplled with 6 it. cord. Wet Each

| Stk. No. | Model | Hea | Leth. | Tip | Wt. | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) 3743123 | 3118SCP | 30-Watt | $8^{\prime \prime}$ | 1/8" | 6 Oz . | \$8.32 |
| (2) 3743124 | 3128 | 60-Watt | 121/4" | 1/4" | $71 / 202$. | 9.28 |
| 37 A3125 | 3138 | 100-Watt | 127/8" | 1/8" | 16 Oz . | 13.12 |
| (8) 3743126 | 3158 | 200-Watt | 13518 | 5/4" | 28 Oz . | 16.24 | REPLACEMENT NICKEL PLATEO TIPS FOR ABOVE

37a3127. For 3118SCP. Each $\quad 44$ 37A3129. For 3138. Each 37A3128. For 3128. Each.................60. 37A3130. For 3158. Each............... $\$ 2.80$


## POCKET BLOW TORCH

## \& SOLDERING KIT

Provides high heat 13500 degrees) pin point flame sufficient for soldering, brazing, softening paint and putty, fixing leaks plus numerous other uses. Uses Butane "throw-away"
tridges similar to those used in cigarette lighters. Kit includes compac size $7^{\prime \prime}$ torch with soldering tip, all purpose solder and three butane gas cartridges. Soldering tip slips over torch head to provide portable tron for those outdoor or away from bench soldering jobs. In handy plastic carrying case. 5 hpg . wt. 1 ib .
No. 37A3233. Kit Each.
$\$ 3.95$
No. 37A3234. Extra Cartridge. Box of 4.

## UNIQUE "SOLDER SIPPER"

REMOVES SOLDER FROM ELECTRICAL TERMINALS
For Safe, Easy Removal of Components. Just heat soldered connection and amazing solder sipper "sucks-up" molfen solder. Heat can be pin-polnted and solder removed one terminal at a time. Prevents overheating and subsequent damage to transistors, dlodes and other heat sensitive components, Ideat for working with printed circuit boards. glass epoxy resin boards. any material that becomes soft and weak when heated. Rubber pressure
bulb with Teflon Tube Tube cieaning wire included Wi Bulb with Teflon Tube. Tube cleaning wire included. Wi. ${ }^{8} \mathrm{oz}$.
No. 37 A 3006 . $\$ 1.49$ Lots
Each
$\$ 1.49$
Each
$\$ 1.39$

## UNGAR No. 270 DE-SOLDERING KIT

Tedious printed circult repairs now made easily and safely. Includes Ungar handie, and rectangular de-soldefing tiplet $11 / 2 \times$ $3 /{ }^{\circ}$ " for removing resistors and capacitors, soldering tiplets $1^{\prime \prime}, 3 / 4^{\prime \prime}$ and $7 / /^{\text {s }}$ siameter for removing 9, 7, and 5 pin tube socket.
Ald in metal case. Wt. I lb. $\$ 9.50$ 6-11 Ea........ $\$ 7.80 \quad 12 \mathrm{U}_{\mathrm{D}}$ E2....... $\$ 7.12$

## "HOT-VAC" PRINTED CIRCUIT

DE-SOLDERING \& CLEANING TOOL

## Provides fast, safe de-soldering for easy removal of com-

 ponents and parts. fust place heating tip to soldered connection, press-release bulb. and Hot-Vac "sucks-up" molten solder. Heat can be pin-pointed and solder removed one terminal at a time. Prevents overheating of transistors, diodes, etc. Special coating prevents solder from adhering to fip, or clogging orifice. Utillzesnew $\# 777$ "Clean Room" handle. Shog Wt. new \#777 "Clean Room" handle. Shpg. Wt. i tb. No. 37A3121. Type 7800 .
$12 U_{p}$ Each

|  | REPLACEMENT TIPS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Stk. No. | Type | Hole Dia. | $1-9$ Ea. | $10-49$ Ea. | 50 Up |
| 37 H 3122 | 7806 | .057 | 50.92 | 50.75 | $\$ 0.79$ |
| 37 A 3300 | 7812 | .033 | 1.30 | 1.06 | .98 |
| 37 A 3301 | 7813 | .069 | .90 | .74 | .69 |

## PRINCESS SOLDERING CUP

Specifically designed for tinning micro-miniature leads and components . . ideal for de-soldering too! Adjustable, thermostaticatly controlled temperatures $400^{\circ}$ to $750^{\circ}$ F. Uses standard Ungar No. 4037 long life heating unit. Corrosion-proof bronze melt cup. Built-in dross pingmachine finish. Minimal external heat radiation. Rugged die-cas construction. Solder capacity I oz. Cup depth $3 / 8 * 3-$ wire cord. 120 volts AC-DC. W\$. $11 / 4$ lbs. No. 37 A3298.
7000. 1. 5 Each
$6-11$
$\$ 9.65$
12
$\$ 11.25$
$\underset{\substack{\text { cold } \\ \text { Each }}}{\substack{\text { and }}}$
UNGAR EXTRACTORS
Instant release. . . prevents board damage. Eliminates damaged leads, circuit destruction, burned fingers. Pushbutton simplicity that works rellably... time after time. No. 37 A3299. 6982. DIP IC Exiractor. 1-9 Each.... $\$ 2.21$ 10-49 Each $\$ 1.92$ up Each io.......... $\$ 1.70$
No. 37 A 3345.6983 TO.5 Transister and ic Extractior 1-9 Each $\$ 2.55 \quad 10-49$ Each $\$ 2.29 \quad 50$ up Each $\$ 1.98$


## UNGAR 8001 ANTI-SEIZE

Reduces tip thread seizure. Improves heat transfer
No. 17 A7040

## ELECTRIC POWER TOOLS AND ACCESSORIES



There's no end to the things you can fix and do. The glue sets by coolinginstead of drying-in about 20 seconds. With a firm bond in just 30 sec. onds. Just draw a bead of hot glue, and press together. Repair jobs, "fixit" jobs, even caulking jobs. Features rapid heat up, indicator and wire light, automatic glue feed, drip proof with automatic flow control. The more you use it. the more uses you'll find. It gives a fast, strong, flexible, waterproof bond on wood, glass, plastics, porcelaln, pottery, ivory, Ilnoleum, fibergtass, even concrete.
Model 2400K Includes Glue Gun, 7 Weller Glue Sticks. Reversible storage tray, 7 WelJer Caulk Stlcks, Carrying case, Portable Bench Stand and instruction booklet. Shp. Wt. 3 lbs.
No. 37A5582. 2400K Ewch.
\$10.95
No. 37A5583. AC400. Pkg. of 20 Glue Sticks
$\$ 120$
Na. 37A5592. AC401. Pkg al 60 Glue Sticks
$\$ 2.59$
$\$ 120$
No. 37A5584. AC402, Phg of 20 Caulking Sticks
$\$ 120$
$\$ 259$


## PORTABLE <br> VACUUM VISE

HANDY ADDITION TO ANY WORKSHOP!


Vacuum Power will hold vise firmly on any non-porous surface. Tum handle o hold vise, furn handle to release, $360^{\circ}$ swivel head with both $11 / 2^{\circ}$ and $21 / 2 \mathrm{~N}$ jaws. Handy for holding material for shaping or sharpening. Precision cratred in Japan. Wt. 5 Ibs.
No. 37A5549, Each
\$6.95



EASY, NEW WAY TO WELD!

SOLIDOX WILL PAY FOR ITSELF IN SAVINGS REPAIR BROKEN ITEMS YOURSELF

## $\$ 39^{95}$

TAKES ONLY MINUTES TO LEARNI
$5000^{\circ}$ flame cuts $1 / 2^{\prime \prime}$ rods, welds, brazes, silver solders with professional results. Torch weighs only 7 pounds, easy to use in hard-to-reach corners Burns amazing Solidox oxygen pellets, and uses standard 14 oz . propane cylinder. Ideal for auto, shop. farm and garden tool maintenance. Simple, safe.
Kit contains torch, propane and valve, 2 tips with Solidox peltets for approx. 75 minutes burning time, assorted brazing rods, spark lighter, protective glasses. With full instructions and welding techniques booklet. Shpg. wt 11 lbs.
No. 37A9118. Kit Each
$\$ 39.95$
No. 37A9593. Al09 Solidox pellets for large tip, approximately 75 minutes burning time. Wt. 2 Ibs. Pkg. Each
No. 37 A9594. All solidox Pellets for small tip approximatety 00 minutes burning ifme. Wt. 2 lbs. Pkg. Each


Small and easy to handle, powered by a 25.000 RPM, 115 volt, .75 amp universal motor. The Mini-Shop is ideal for handyman, hobbyist and professionsis ... perfect for deficate work and hard-to-reach places. MiniShop grinds, shapes, sharpens, drills, polishes, routs, cleans, saws, sands and cuts. 38 piece kit contains power unit, 32 bits, polishing compounds. instruction book and accessory caddy in a handy flip-top case. Shpg. No, 37A9117. Model 600K. Eaeh.
$\$ 29.95$

## WELLER GRINDER ACCESSORIES

| Stack No. | Weller No. | Description | Esch | tock | Weller |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3749600 | GM67 | Mandrel | \$0.89 |  | No. | Description | Each |
| 3749601 | GB149 |  | 89 | 3749616 | G8152 | Abrasive Band | \$0.89 |
| 3749602 | GW116 | Sione Orum | . 89 | 3749617 | G8153 | Abrasive Band | . 89 |
| 3749603 | GP87 | Mounied Point | 89 | 3749518 | G8154 | Abrasive Band | 89 |
| 3749604 | GP84 | Stone Nose | 89 | 3749619 | 6012 | Drill | 89 |
| 3749605 | GW112 | Stone Drum | 89 | 3749520 | GW115 | Stone Cylinder | 89 |
| 3749605 | G8151 | Brush | 89 | 3749521 | GP66 | Disc | 89 |
| 3749507 | GP65 | Stone Cone | . 89 | 37A9522 | GW117 | Wrench | . 89 |
| 3749508 | G8148 | Brush | 89 | 3749623 | G09 | Sanding Disc | 89 |
| 3749509 | G8150 | Wire Arush | 89 | 3749624 | GD10 | Sanding Disc | 89 |
| 3749610 | GW113 | Stone Dist | 89 | 3749625 | GW106 | Cut Olf Wheel | 89 |
| 37 A9611 | GW109 | Fell Wheel | 89 | 3749626 | GC239 | Saw | r. 79 |
| 37 A9612 | GW107 | Rubber Wheel | 89 | 3749627 | GC238 | Cutter Cyinder | 1.79 |
| 3749613 | GW108 | Cotton Wheel | 89 | 3749628 | GC245 | Cutier Ball | 179 |
| 3749614 | G\$248 | Dressing Stone | 89 | 3749529 | GC247 | Cutier Cone | 1.79 |
| 3749615 | G013 | Orum | . 89 | 37 A9630 | GW118 | Metal Saw | 1.79 |



Electric tool operations are faster, surer, more precise with this amazing new device. Just "dial" the proper speed for the Job, from 0 RPM to full speed. Allows slow speed to start holes when drllling or sawing. Easily saves its cost in drill bits and saw blades alone.
For use on Universal $A C-D C$ or series DC motors. Unbreakable all metal housing slze $21 / 4^{\prime \prime} \mathrm{D} . \times 25 / \mathrm{m}^{\prime \prime} \mathrm{W} . \times 37 / \mathrm{M}^{\prime \prime} \mathrm{H}$. Clip on back for use on belt or hanging on wall. On-off switch. 6 \%t. 3-cond. cord. Operates from 120 volts AC. Shpg. wt. 2 lbs.
No. 37828 . For Up TO 5 Amp Loads. Each.....
$\$ 12.95$
No. 37A9098. For Up Yo 10 Amp Loads. Eath

## NEW BVI ELECTRIC PAINT SPRAYER $\$ 16^{95}$

A totally new airless paint sprayer to take the drudgery out of home painting jobs. Paints faster and easier than brush or roller. Will spray just about all types of paint, oil or latex. Also may be used to spray garden Insecticides. Heavy 6 ft . cord, 24 oz . jar. 115 V. AC. Shpg. wh. 4 lbs. No. 37A9096. Model 860 \$ 16.95

# (10im) MO <br> "MICROFLAME" GAS WELDING TORCH 

## $\$ 17.95$

WELDS, BRAZIS, SOLDERS WITH SOOO PRECISION FLAME

## USES MICRONOX AND BUTANE

 THROW-AWAY CARTRIOGES

A completely self-contained gas welding torch that fits in the palm of your hand and produces $5000^{\circ} \mathrm{F}$. pin-point occurate flame. Welds, brazes, sol-ders-hundreds of uses in the shop, jewelry repoir, dental labs, tool and model making ... ideal for silver soldering and printed circuit repair-onywhere precision high heat is required. Easy to operate. Complete with torch, 2 tip sizes, 1 compressed butane and 2 micronox cartridges. Shpg. wt. 1 lb .
No. 37B25. Each
$\$ 17.95$
37833. Butane Cortridge. Ea. . s7̈ $\mathbf{3 7 B 2 6 .}$. Micronox Cartridge. Ea. $70^{\circ}$

BURGESS VIBROCRAFTER MARKING AND ENGRAVING TOOLS


Heavy duty for continuous operation. Comfortable hand-rest design. Delivers 7200 strokes per minute for fast, clean work. Controt wheel adjusts "impact" for fine, medium or coarse stroke. Unbreakable polypropylene hous. Ing. With hard Tungsten Carbide polnt.
Model V-73B. Wt. $1 \$ 12.95$
37A9016. 98003 Tungsten Point Ench ...................... $\$ 1.49$ 37A9017. 98080 Oiamond Point Each $\$ 7.90$


Marks and engraves on wood plastic. metal. leather. . fast .. easy. Pick it up and it furns on-put if down and it furns off automatically. Control wheel adjusts point impact. Durable red plastic housing. With hard steel point. Net wt. 10 ozs. Model V-69
$\$ 6.95$
37A9018. Each $\qquad$
37A9019. 12325 Steel Polnt Each ..................................... $\$ 1.49$ 3749020. 12340 Carbide Point Each ............................... $\$ 2.99$

For cleaning and pofishing silverware, jewelry and metal surfaces. Ideat fo hard to reach places. $1 / 8^{"}$ shanks

| Fig. | Stock No. | Type |
| :---: | :---: | :---: |
| (1) | $37 A 9587$ | 403 |
| () | $37 A 9588$ | 404 |
| () | $37 A 9589$ | 405 |

## Each $60 c$

## WIRE BRUSHES

Handy steel brushes for removing rus and corrosion. Dolishing metal.
1/8 shanks.
$\begin{array}{cccc}\text { Fis. } & \text { Stk. No. } & \text { Type } & \text { Net Each } \\ \text { (2) } & 37 A 9065 & 428 & \$ 0.60 \\ \text { (3) } & 37 A 9066 & 442 & 60 \\ \text { (3) } & 37 A 9067 & 443 & .60\end{array}$
(1) $1 /$ MANDRELS FOR ABOVE wheels, sanding discs.
No. 37 A9080. Type 402. Each........ 60 (3) Threaded stud type for polishing wheeis
No. 37A9081. Type 424, Each.......60c (O. Screw type for polishing felts. 80 (©) DRUM SANDER
For smoothing, polishing. $1 / 8^{\prime \prime}$ shank. Replaceable bands.
Stk. No. Type Ota. Net Each
$\begin{array}{llll}\text { Stk. No. } & \text { Type } & \text { Ota. NetEsch } \\ 37 A 9068 & 407 & 1 / 2 \mathrm{~N}^{2} & \$ 1.10\end{array}$


REPLACEMENT 日ANDS 112 Per Pack) | Stk. No. Type Sixe |
| :--- | :---: | :---: | :---: | :---: |
| $37 A 9070 \quad 408 \quad 1 / 2^{*}$ Coarse $60 c$ | $\begin{array}{llll}3749070 & 408 & 1 / 2 * \text { Coarse } & 60 c \\ 37 A 9071 & 432 & 1 / 2 * F i n e & 60 c\end{array}$

0 ройним wnetes
Used for polishing metals and plasties.
Fits 402 Mandrel below
$\begin{array}{lll}\text { Stk. No. Type Dla. Net } \\ 37 \mathrm{~A} 9077 & 1 / 2^{\prime \prime} \text { Felt Pke. } 1260 \mathrm{c}\end{array}$ $\begin{array}{lll}3749078 & 429 & \text { Felt Eke Felt } 1260 c \\ 30 c\end{array}$ $\begin{array}{llll}37 \text { a9079 } & 423 & \mathrm{I} \mathrm{\prime} \mathrm{\prime} \text { Cloth Each } 60 \mathrm{c}\end{array}$

For Moto-Tools 280 series $55-3$ and 270, 280 series 66 -2.
37 A9590 $480 \quad 18-3 / 32^{\prime \prime} 60^{\circ}$ $\begin{array}{lll}37 A 9591 & 481 & 3 / 32.1 / 16^{\prime \prime} 60 \\ 37 A 9592 & 482 & 1 / 161 / 30^{\prime \prime}\end{array}$

## SANDING DISCS

3749084. Type 411. Coarse Sandine Oiscs. Box 36 . 60 c 3749085 . Type 412. Medlum Sanding Discs. Box 36 -60c
37 . 49086 . Type 413. Fine Sanding Disce. Box 36

## DREMEL MOTO-TOOLS <br> SUPER POWERED COMPACT GRINDERS

Exciting now concept in space-age electronics. Rugged new industrial type grinder has permanent magnet motor with unique full wave rectifier circult, produces 30,000 RPM. Has more than twice the power of previous models. will not sfall under normal load. Elecrrically weided armature is dynamically balanced for vibration-free operation Ali models use $1 /{ }^{\text {N }}$ " collett. Modats 261 and 271 are complete with 34 piece accessory kit. including brushes wheels, cutters, 4 collets and case
Model 260 . Tool Only with $1 / 8$ " colist Size $6 \times 11 / 2^{\prime \prime}$. Nef wt. 9 ozs. Shpg wt. 1 lb .


Model 261. Complete Kit. 260 Toot
and 34 plece accensory kit,
No. 37 C159. Wt. 2 Ibs. Net Each.
Model 270. Tool Only. More powerful industrial unit with $1 / 8$ " collet. Size
$31 / 4 \times 111^{*}$. Tool wt. 11 ozs. Shpg. wt. 1 lb. \$27.95
Model 271 . Complete KH, 270 Tool and 34 piece accessory kit.
$\$ 35.95$
No. 37 C357. Shpg. wt. 2 lbs. Net Each
heavy duty. Tool wt il ozs. Shpg. wt. 1 lb $\$ 35.95$
Model 281, Complete Kif. 280 Toot and 34 piece accessory kit.
No. 37 A9127. Shpg. wt. 2 lbs. Net Each
$\$ 43.95$

(1) ROUTER ATTACHMENT

Attaches to 260, 210, 280 Moto-Tools. Produces smooth surfaces that need no sanding. Shape edges, cut rabbets, dadoes, mortices, tongues. and chamfers. steel and delin construction.
No. 37 A9537. Dremel 229.
Each
$\$ 9.95$

| Stock No. | Dremel No. | Description | Each |
| :---: | :---: | :---: | :---: |
| 37A9538 | 650 | $1 / 8{ }^{\prime \prime}$ Straight Cutter Bit | \$3.10 |
| 3749539 | 652 | 16" Straight Cutter Bit | 3.10 |
| 3749540 | 654 | $1 / 4$ " Straight Cutter Btt | 3.10 |
| 3749541 | 610 | Convex Edgep for Beading | 3.10 |
| 3749542 | 632 | Veining Bif for Line Work | 3.10 |
| 3749543 | 640 | "V" Crooving Bit for |  |

Description

Each

## (3) UNIVERSAL STAND

Leaves both hands free, adiustable to any angle. Has quick action clamp Heavy cast iron base. Shpg wt 3 lbs.
Heavy cast iron base. 37 A9087. Model 223.
$\$ 7.65$
No. Each
(3) DREMEL DRILL PRESS STAND

Fits 260 . 270 and 280 models Moto-tools. Drill press height $12^{\prime \prime}$. Bose is $7^{\prime \prime} \mathrm{X}$ $5^{\prime \prime}$. Table can be raised or lowered, locks in any position for accurete depth adjustment. Shpg. wit. 3 lbs.
No. 37 A9597. Model 210. Each
$\$ 17.95$
Solid State Speed Control. Dial the right speed tor the job
No. 37 A9598. Model 219. Wt. 2 lbs. Each
$\$ 15.95$
EMERY WHEEL POINTS STEELCARVINGCUTTERS
(1)
(1) (1) If (1) (1) Jo $\|$ (1)

All hove $Y^{\prime \prime}$ " shank.
Fif. Sth. No. Type Dia. Lyth. Enech

8
8
8
8
$\begin{array}{lll}37 A 9025 & 997 \\ 37 & 0.4 \\ 37 A 9026 & 91 \\ 932\end{array}$

| Fie. | Stk. No. | Type | + |
| :---: | :---: | :---: | :---: |
| , | $37 A 9028$ 374029 | 124 <br> 134 | 1. |
| 8 | 37 A9030 | 194 | 1.3 |
| 8 | 374031 | 116 | 1.3 |
| 8 | $37 A 9032$ 374033 | 178 |  |

(1) (3) (1) (C) (6)

CARBIDE CUTTERS
silicon for working on hard steet,
writing on glass and other hard meerials. $1 / \mathrm{a}^{\prime \prime}$ shank

| Fig. | Stik. No. | Type | Net Each |
| :---: | :---: | :---: | :---: |
| 8 | 3749037 <br> 3749038 | 83322 |  |
| \% | 37 A9039 | 84382 | . 60 |
| 8 | 3749040 | 84642 | . 60 |
| ( | 37 399042 | 85562 85622 | 60 |

For working tool steel. Outlasts steel cutters many times. $1 / 8^{\prime \prime}$ shank

| Fi | Stk. No | Type |  |
| :---: | :---: | :---: | :---: |
| ( 3 | 3749057 | 9904 | \$3.90 |
| (8) | 37 A9058 | 9903 | 3.90 |
| (1) | 3749059 | 9906 | 3.90 |
| (6) | 37 A9060 | 9907 | 3.90 |
| (6) | 3749061 | 9908 | 3.90 |

## WEn DOUBLE INSULATED TOOLS



## SHOCKPROOF

Red housings, double insuloted against shock hazards. 2 wire cords plug in onywhere. No grounding or 3 prong odoptors required.
(1) PRO MODEL 801-\%" VARIABLE SPEED ORILL

Powerful 2.6 amp . $1 / 3$ H.P. motor. D-1200 RPM with adjustable speed lock. Ball thrust and needle bearings. Double reduction gears. Jacobs chuck. The uitimate in performance, balance, and ease of handiling. Pre select any quirement. $120 \mathrm{~V} . \mathrm{AC} .83 / /^{\prime \prime} \mathrm{L} . \times 2 \mathrm{~s} / \mathrm{m}^{\prime \prime} \mathrm{W} . \times 67 / \mathrm{m}^{\prime \prime} \mathrm{H}$.
$\$ 19.95$
No. 37 A9584. Shpg. wt. $31 / 2$ lbs. Special Each $\qquad$
PRO MODEL 802-3/3" VARIABLE SPEED REVERSIBLE DRILL
Just flip tever to reverse rotation. Other features same as 801 above.
No. 37 A9114. Special Each
[2] PRO MODEL 300-DUAL ACTION SANDER
Powerful 2.6 amp. $1 / 2$ H.P. motor. 4000 orbits or 4000 straight line strokes per minute. Enclosed handle with bulit-in front guide grip. Instant push-pull
switch from orbital to straight line action. 120 V . AC. $9 \times \mathrm{L} \times 33 / \mathrm{w} . \mathrm{x}$ 5 witch from orbital to straight line action. 120 V . AC. $\mathrm{L} \times 3 / 40 \mathrm{~W} . \mathrm{x}^{\mathrm{x}}$
No. 37A9585, Shpg. wt. $33 / 4$ lbs. Special Each.
$\$ 19.95$
3 PRO MODEL 400 13" DOUBLE EDGED HEDGE TRIMMER
Poweriul 2.6 amp . $1 / 2$ H.P. motor. Heavy steel double cutting bar- 1200 strokes per minute. Enclosed handle with built-in front guide grip for added safety and control. $120 \vee A C .3^{23^{\circ}}$ long $X 33 / 4^{-2}$ wide $\times 6 \%{ }^{\circ}$ high. Heavy steel double edge cutter bar $13^{\prime \prime}$ long. Shpg. Wt. $53 / 4 \mathrm{lbs}$.
\$19.95 No. 37 A5581. Each

## 14 PRO MODEL 501 DELUXE 2-5PEED JIG SAW

Powerful $2.6 \mathrm{amp} .1 / 2$ H.P. motor, 2 speeds- 3000 and $24003 / 4$ " strokes per minute. Husky shoe plate adjusts forward for plunge cuts, backward for close-to-wall cuts. Shoe tilts right or left $45^{\circ}$. The fully enclosed handle, design and balance offer ease of control for fast or precision cuts in wood or metal. Rip gulde and three blades included. 120 V . AC. $73 / \mathrm{m}^{4} \mathrm{~L}$. $\times 23 / 4^{\prime \prime}$ W. $x 61 / 2^{\prime \prime}{ }^{\prime}$
$\$ 19.95$
No. 37A9599. 50A34-1. Blades for 501 Saw. 3 blade assorimenf: 1-7 100 th, $1-10$ tooth, 1.18 tooth. Wt. 4 oz. Asst. Each .......................... $\$ 1.50$

## MODEL 9426 INCH SANDER/POLISHER

Handles hundreds of sonding and polishing jobs. $1 / 2$ horse power 2.6 amp mator. Double reduction gears. Ball thrust and permanently lubricoted sledve bearings. Trigger lock switch with instant release. 1200 RPM speed. Includes polishing bonnet and 3 sanding discs. Double insulated. 2 , wire cords, plug in anywhere.


No. 37A9131. Each
$\$ 14.95$
No. 37A9136. 942A7, Polishing Bonnets Each
$\$ 1.20$
No. 3749137.942 A8-1. Coarse Sandpaper. Per Sheel $20^{\circ}$
No. 37 A9138. 942 AB-2, Medium Sandpaper. Per Sheet $20^{\circ}$


## 71⁄4 INCH CIRCULAR 2 HP MOTOR POWER SAW

## $\$ 1^{95}$

## SHOCKPROOF

Red housings, double insulated against shock hazards. 2 wire cords plug in anywhere. No grounding or 3 prang adoptors required.
Pro-power Model 961 with 11 amp. 2 HP motor 5100 RPM. Rigid shoe plate and fine balance with rugged, powerful performance yet only 8 lbs. net weight. Maximum depth of cut af $90^{\circ} 23 / \mathrm{s}^{\prime \prime}$ at $45^{\circ} 17 / 8^{\prime \prime}$. Safety-sure shockproof high impact cyclolac housing. extra heavy duty precision gears, permanent lubricated bearings, with extra safe slip clutch. Calibrated rip fence included. With 71/4" combination blade. for 120 VAC .60 Hz . Shpg. wh. 11 lbs.
\$29.95
No. 37A9116. Model 961 . Each


Orop handle design for perfect baiance and control. New, efficient unitized construction for more reliability and increased performance. Powerful 2.6 amp. $1 / 2$ H.P. motor. 2000 R.P.M. Ball thrust bearings. Jacobs chuck. 120 V A.C. Universal motor-Red housing. $83 / 4^{\prime \prime}$ lon $\times 25 / 8^{\prime \prime}$ wide $\times 67 / 8^{\prime \prime}$ high. Shpg. Wt. $31 / 2$ lbs.
\$9.95
No. 37A9i13. Wen Pro Model 700. Each.


## 186

## EXCEPTIONAL POWER TOOL VALUES!

## WEN

## HEAVY DUTY PROFE55IONAL TOOL5

Feature double-insulation - plus unitized construction! Unbreakable housings ars guaronteed for lifel Shockproot, safer! Two-wite plugs, plug in anywhere!

## DOUBLE-INSULATED VARIABLE-SPEED SCROLL SABER SAW

Simple turn of the blade-guide knob lets you cut in ony direction without furning sow! locks in four positions: $0^{\circ}, 90^{\circ}, 180^{\circ}, 270^{\circ}$, Vorioble speed switch varies torque and speed as you cut-from 0 to 2800 powerful one-inch strokes per minute. Extra-large shoe-plate adjusts for left or right angle cuts. Shoe moves forward for plunge cuts-backward for flush cuts. Welded burn-out-proof motar, 120 Valt AC, 4 amps. Ideal for intricate scroll work. Powerful enough to zip through $2 \times 4^{\prime}$ 's or $4 \times 4^{\prime \prime}$ at $45^{\circ}$ - or to cut six-inch logs! Cuts twoinch pipe, half-inch steel, all metals-even linoleum, leather, rubber, cardboard! Includas seven assorted blades for every type cut, plus rip-guide. Lightweightonly 5 lbs., 2 ozs.
No. 37 A9129. Model 531. Each
\$39.95

EXTRA BLADES for 531, 521,511,510,9200, 920,9090 and 909
37A9555. No. 91. Wood, 3 Teeth Per Inch. Packsge of 3
37A9556. No. 92. Wood, 5 Teeth Per Inch. Packige of 3.........
37A9557. No. 93. Woad, Aluminum, 8 Tecth Per Inch. Packige of
37A9557. No. 93. Wood, Aluminum, 8 Teeth Per Inch. Packlage of 3....
37 A9558. No. 94. Wood, 14 Teeth Per Inch. Package of $3 \ldots$
$37 A 9559$. No. 95. Cardboard, Leather, Rubber. 4 " Knife Blade. Pkg. of 3 37 A9 560. No. 96. Steel. 14 Teeth Per Inch. Packnge of $3 . .$. 37A9561. No. 97. Sheet Metal, Bakelite, Formica, Tile. atc.

24 Teeth Per Inch. Packnge of 3 .
37A9522. No. 900. Package containing 1 Each of above. Packege

## MODEL 919 DOUBLE-INSULATED 3 INCH BELT SANDER

Professional quality three-inch, continuousduty belt sander handles the toughest sanding jobs with ease- 1000 SFPM. Unique tension design lets you change belts in seconds. Single control trocking odjustment. Lock "ON", quick-release safety trigger. Heavy-duty gears, oversized needle and bronze bearings. Three belts included, one each fine, medium. coarse. Lightweight, only 7 lbs. Convenient contour handle and auxiliary grip 120 Volt AC, 4 amps.
No. 3749130 . Model 919. Each
$\$ 34.95$
Sonding belts tor Model 919 . $3^{\prime \prime} \times 18^{\prime \prime}$ aluminum oxide cloth back.
No, 37A9133.91A96. 50 Grin - 3 Belts per pkg. Eo.
No. 37 A 9134 . 91A97. 80 Grit - 3 Belts per pkg. Eo.
$\$ 2.20$
No. 37A9135. 91A98. 120 Grit - 3 Belts per pkg. Ea.
$\$ 2.20$

## MODEL 953 DOUBLE-INSULATED $1 / 2$ INCH VARIABLE \& REVERSIBLE HEAVY DUTY DRILL

Handles the big, fough drilling jobs jet weighs only 5 lbs. $1 / 2$ " geared Jacobs chuck with $1 / 2^{\prime \prime}$ capacity in steel, $1 / 4$ " copacity in hardwood. Variable speed control from 0 to 600 RPM. adjustable speed-lock switch (forword to reverse), quick sotety-release, drap handle-design for perfect balance, auxiliary $/ 2$ "pipe handle. Welded. burn-out-proof motor, heavy-duty gears, ball thrust and bronze bear. ings. Value-rated and value-pricedwith power to spore. 120 Volt AC, 4 with p
No. 37 A9132. Model 953.

$\$ 34.95$
WEN

MODEL 1030 ELECTRIC GRINDER
$\$ 39{ }^{95}$
A quiet $1 / 3$ K.P. 8.5 AMP shoded pole motor running at 3450 RPM. Heavy duty precision ball bearings. Dynamically balanced wheels, $6^{\prime \prime}$ diameter, $3 / 4^{\prime \prime}$ thickness with $1_{2}^{\prime \prime}$ arbor. 36 grit coorse and 60 grit fine Burnished Wheels. Adjustabie and tilting calibrated tool rests. Sharpening groove in tool rest to put the right edge on drill bits. Adjustoble Eye Shields and spark arrestors. Predrilled bench mountings with rubber grommets. Enclosed wheel end-guards. Cast oluminum housing with Ball-Brite tinish. 6 toot, 3 wire cord and adaptor Size $15 \times 9 \times 8^{\circ \prime}$. Wt. 19 lbs .
No, 37 A9128. Each
\$39.95

UGHTEST, TOUGHEST. MOST POWERFUL DRILL EXER OFPEREDI

## NEW THOR FAST-BACKS 3/8-INCH DRILLS

50\% IIghter $\qquad$ 30\% more horsepower than conventional drills! Poly. carbonate housing - virtually inde-
structible Vousins - virrually ince-
structible. Variabie speed; all double-
fectly balanced engineered per
comfort in usel for never before
get-at cormers no other drill canl
Solid state magnetic motor: diode circuitry. Life-time lubricated spherical bearings. Double-reduction gears-like industrlal drills. $77 / 8{ }^{*}$ long. Wt. $11 /$ lbs. Variable speed 0-1200 RPM. Thor D1-112-VSC.
No. 37A9103. Each.
$\$ 32.95$
Reversible Varioble Speed $0-1200$ RPM. Thor $D 1-112 R-V S C$.
No. 37A9104. Each.
$\$ 36.95$


## PROFESSIONAL QUALITY

THOR DRILL PRESS STAND $19{ }^{5}$
Converts all $1 / 4^{\prime \prime}$ and $3 / 6^{\prime \prime}$ drilis-Spade of pistol grip-to drifl press. Do tough and accuracy requiring jobs with ease. Ideal when using aftachments. Indispensable for tapping and precision drilling. Drill securely locks into eradle mitg. moves up. down or rotates on supporting column. Has professional rods and pinion gear feed with heavy duty clock spring return mechanism. Easy o read depth scale with threaded lock nut stop for repeated drilling ta predetermined depth. Depth of throat $4^{\circ}$. Sturdy $1^{\prime \prime}$ dia. column and heavy cast base with slots for bench mto. We 8 bs.
No. 378347 . Ench
$\$ 19.95$

## SHOPCRAFT ELECTRIC SCREWDRIVER

SPECIAL VALUE! COMPARE AT $\$ 29.95$
One of the handlest tools you can own! ideal for assembly work, buildng and repairing cabinets, furniture. coats and countless iobs around the tom and shes high torque Positive lutch sution Eall thrust and sive cutch action: sall thrust and selflubricating bronze bearings. No load sped 325 RPM. Instant release on-oti switch. and reverse switch. Overall ength $81 / 2^{\prime \prime} .6 \mathrm{ft}$. 3 -wire cord. 115 V . Shog. wt. $31 / 2$ lbs. $\quad \$ 25.99$ No. $37 B 5$ Each


[^9]
## METAL-WORKING SHOP TOOLS

## UNIMAT 5-IN-1 PRECISION TOOL SHOP

A lathe, drill press, tool grinder, milling machine and polisher all in one precision piece of equipment. Converts quickly from one operation to another. Headstock has ball bearing spindle with tolerance of $.0005^{\prime \prime}$. Headstock rotates $360^{\circ}$ on lathe bed or vertical column. $3^{\prime \prime}$ horizontal swing over bed, $69 / 10^{\prime \prime}$ between centers. Vertical nose to cross slide $61 / 4^{\prime \prime}$, drills to center of $61 / \mathrm{a}^{\prime \prime}$ circle. Tool post centers standard $/ 4$ " bits. Ball bearing il speed belt driven spindle provides speeds from 900 to 7200 rpm . 1/10 HP vibration free motor operates on 110 V AC/DC. With grinding wheel arbor, 40 page instruction book and wood storage chest. From Austrio. Overall Size $14^{1 / 2} \times 4 \times 5^{\prime \prime}$, Shpg No, 37 A9101. Unimat 1000. Each


POPULAR UNIMAT ACCESSORIES (3) 1001. 3 Jaw Universal Lathe Chuck, $21 / 4$ " capacity. No. 37 A9550. Shpg. Wt. 1 lb. Each. $\$ 29.95$ 1002. 4 Jaw Independent Lathe Chuck. $21 / 4$ " capacity. Each jaw adjusts individually
No. 37 A9553, Shpg. Wt. 1 lb . Each (3) 1010. Machine vise mounts onto cross slide of milling table below No. 37 A9553. Shpg. Wt. 13 oz, Each
ss slide of milling table below. $\$ 32.95$ No 37 mining Tabie. $5 \times 3$. Mounts on cross slide in 8 different positions. (c) 2820 S52. Shpg. Wt. 2 ibs, Each......................................... $\$ 17.95$ ing, right-hand turning, left-hand turning, cut-off, boring and inside threading tools.
No. 37 A9554. Shpg. Wt. $1 / 4 \mathrm{lb}$. Each.
No. 37A9595-7. 1005. 1/4" Drill Chuck. 8 or. Each No. 37A9596-5. 2820/01, Roughing Tool. 3 oz. Each

## 4-IN-1 TOOL

- FORMS - RIVETS


BUY ON B-A'z E-Z CREDIT PLAN


## - SHEARS

## - PUNCHES

## Many uses in plant or shop will save

 times over. Forms smooth, sharp bends up to $90^{\circ}$ in rod or flat stock up to up to $90^{\circ}$ in rod or flat stock up to Rivets easily with hauge thickness. Rivets easily with hollow or solid rivets up to 1 from edge and combined thickness of $3 / 9 / 6$. Shears metal up to $1^{\prime \prime \prime}$ wide and 16 gauge thickness. Punches clean, sharp, burf free 3 "f rom edge of stock. No. 37A3278. Each... ADDITIONAL PUNCHESNo. 37A3280. 1/8" Hex Punch No. 37 A3281. 1/4"Hex Punch Punch
No. 37A3372. $1 / 6^{n}$ Round Punch
No. 37A3373. 1/4" Round Punch
Your Choice Ecach the cost of the 4-in-! Tools many holes in metals up to 16 gauge and A"' round punch furmished, Made in U.S.A. Shpg. wt. 6 lbs. \$12.95 No, 37A3282. $1 / 8 \times 1 / 4^{\prime \prime}$ Rectangular
$\$ 1.00$

BENDING AND FORMING BRAKE

## $\$ 12^{95}$

Makes clean smooth bends and forms up to $90^{*}$ In metals up to 16 gauge thickness, up to $18^{\prime \prime}$ wide Provides tlanged edges up to $1^{\prime \prime}$ in height. Adjusts easily for stock thickness and sharpness of bends. Made in U.S.A. Shpg. wt. 9 lbs.
No. 37A3279. Esch
\$12.95

No. 37 A3279. Each


## PROFESSIONAL ARC WELDER

## WITH HEAVY DUTY INDUSTRIAL TRANSFORMER <br> ${ }^{8599^{5}}$

Features a heavy-duty industrial type transformer os used in machines selfing for severat times the price Anyone can weld, braze, cut, solder on the first try Does both carbon arc and metallic ore weiding with heat settings.. $20 \mathrm{omp}, 40 \mathrm{omp}, 60 \mathrm{omp}$ and 80 omp. Operates from ony properly wired 110 V . AC 50 . 60 cycle line. 28 amps input. 5 -year guarantee 1 factory repair or replocement if unit becomes inoperotive due to defective materials of workmanshipl. Complete with heod shield, electrode holder, welding cobles, ground cables and clamp. power cable, osst. welding and brozing rods, solder, flux and complete instructions. Shpg. wt. 34 lbs.
No. 37 A 9021 . Ea
$\$ 59.95$

WELDING RODS AND ACCESSORIES

1 LB. K INCH MILD STEEL ROD
No. 37 A9007....
2 LB, $\mathcal{K}_{2}$ INCH MILD STEEL ROD No. 3749119
No. $3749 n 09.10$ CARBON RODS

1 LB. K. ${ }^{\circ}$ " POWDERED IRON ROD
$\$ 1.88$
No. 37 A9011
1 LB. KI" POWDERED IRON ROD
No. 37 A9010

- WELD
- BRAZE
- CUT

IRON, STEEL, BRASS, BRONZE COPPER, CAST IRON \& OTHER METALS!

## POWER TOOL ACCESSORIES, GREENLEE PUNCHES

## HANSON HIGH SPEED DRILL BITS

## INDIVIDUAL BITS

High speed steel. 沼" and larger have turned down shanks for $1 / 4^{\prime \prime}$ chucks. STANDARD SIZES


## 13 PIECE DRILL SET

Contains 13 full fobbers length finest quality high speed drills in sizes $Y_{0}$ to $1 / 4^{\prime \prime}$ by 64 ths in unbreakable plastic case. Most popular sizes for general use in metal or wood.
No. 3749567.
Hanson S-113. Each....
\$6.95

HANSON QUALITY

(1) NO. 21 TAP $G$ DIE SET

Popular set for the radioman or hobbyist. Consists of excellent quality high carbon ralloy steel taps and solid diles, sizes 6-32, 8-32, 10-24. 12-24 and $1 / 4$-20 plus Tap and Reamer Wrench with hardened jaws, and ruggedly constructed die stock. Comes in hinged wood box. Wt. 3 lbs.
$\$ 12.95$

No. 37A3213. Each 37 No 215 $7 A 3216$ 3743217 3743218 $37 A 3219$ 1743220 37 A3221
(3) TAP WRENCH Sliding handle type Knuried chuck
hodds No . 0 to No . 22 taps. holds No. 0 to No. 12 taps. 99c (ㄷ) TAPS
Made of high carbon. alloy steel. 1 O. O.D solid dies. Made of high car-
(1) DIE STOCK

Holds 1" O.D. dies for accurate cutting, Rugged construction for long service lite No. 37A3214.

Each.
$\$ 1.49$ DIES
1"O.D, solid dies. Made of high car-

| Size | 0.0 | Each |
| :---: | :---: | ---: |
| $2-56$ | .086 | $\$ 1.19$ |
| $4-36$ | .112 | .64 |
| $6-32$ | .138 | .64 |
| $8-32$ | .164 | .69 |
| $10-24$ | .190 | .74 |
| $10-32$ | .190 | .74 |
| $1 / 4-20$ | .250 | .84 |

## TRIPLE-TAP TOOL

Designed to re-thread stripped holes or to tab new holes. Taps 6-32, 8-32, 10-32 holes. No. 374866
Vaco TT-31. Each.
$\$ 2.60$

HI-SPEED COPE-SAW DRILL BIT
WORKS WITH ANY ELECTRIC DRILL
Drill, Saw, Ream metol, wood, plastic, etc. Dritls own $\$$ tarting hole. Abrosive resistont, high speed steel. Withstands severe continuous use. $1 / 4$ dio. Overali length $31 / 7^{\circ}$. Wt. $30 z$. No. 37 A9051 Alt Purpose Bht. Net Eoch.
$\$ 1.95$


## ZIPPIDI-DD ALL PURPOSE CUTTING AND SANDING DISC



A fantastic tool every electric drill owner will want! Fabricated of silicon carbide grains embedded in nylon mesh. Use to cut, sand, shape all metals, carbide grains embedded in nylon mesh, Use to cut, sand
glass tile, paint must, etc. Wears and wears, never clogs. shaping. $1 / 4^{\prime \prime}$ arbor, 2 steel flanges. Shpg. wt. 1 lb . No. 37A9546. Each

GREENLEE CHASSIS PUNCHES

clean. $^{\text {che }}$


Quickly cuts clean, accurate holes in chassis of panel to accommodate sockets, switches, controls, meters, etc. Cutting is done by 2 -point punch driven by
$3 / 8^{\prime \prime}$ dia. square head cap screw. Operates simply with an ordinary wrench.

(2) No. 732 "KEYWAY PUNCH" Makes $1 H^{\prime \prime}$ hole with keyway for Amphenol "S" and similar sockets. 37A3259. Each............................ $\$ 8.50$
(4) No. 731 SQUARE HOLE

For HF and miniature tube sockets (3) NO. 731R RELAY SOCKET PUNCH. Makes clean. accurate finished holes for Potter $G$ Brumfield Type KHP relay sockets. $1.018^{\prime \prime} \times .861^{\prime \prime} \mathrm{Wt} .10 \mathrm{oz}$ 37A3267. Each …........ S16.25 (5) Same as above for PGB type KU and KUP, REM type 93Q. Cuts hole No. 3743245. 731R. Net Each

## Extro Drive Screws for Above No.  $\begin{array}{lll}37 A 3257 & \text { li" thru } 7 / 8{ }^{\prime \prime} & 30 \mathrm{c} \\ 3743258 & \text { 年" thru } 1 / 2^{\prime \prime} & 35 \mathrm{c}\end{array}$

$$
\text { ONA } 134 \text { HOH HOLF }
$$ such as Amphenol's of tube sockets such as Amphenol's of a D shape.

No. Size

## (1) BALL BEARING REPLACEMENT DRIVE SCREWS

Greenlee punches cut casier and faster than ever regardless of toughness of metal. Specially designed bearing assembly replaces present drive screw. Bai bearing saaks up friction allowing screw to be turned with ease.


HAND OPERATED NIBBLING TOOL CUTS ANY SHAPE OPENING IN SHEET METAL, COPPER, ALUMINUM, PLASTIC, ETC.
Cut those odd shope holes without distortion or strain in steel, aluminum, copper or plastic. Hondles easity and for cutting transformer holes, for culting iransiormer holes, socket holes, etc., in chassis. Copocity: steel, 18 gouge; otuminum, copper, plastic it". No. 37 A 3004 Shpg. wt. 8 oz.
$\$ 4.50$
No. 3743007 Replocement Punch. Net
$\$ 2.50$


## CIRCLE CUTTER

For cutting round holes in metals, wood, plastics, etc. Round shonk for slow speed drill press or square shonk for hond broce. Cutting bits ore of high speed steel. Shipg. wt. $1 / 2 \mathrm{lb}$.
Stk. No.
37 A 3049 Squore-Round Comb.
$37 A 3049$ Squore-Round
37 A31050 Round
$37 A 3051$ Square
$\begin{array}{ll}37 A 3051 & \text { square } \\ 37 \text { A3052 } & 1 / 2 \text { Round }\end{array}$



## DRIVER ATTACHMENT KITS



6 PIECE SCREWDRIVER BIT SET, Includes 3 slotted, bits with finders for screws 6-8, 8-10 and $10-12$ and 3 Phillips bits No's. 1, 2 and 3. Have $1 / 4^{\text {" }}$ hex shanks. Shpg. wt. 5 ozs
$\$ 3.99$

# VERSATILE HAND TOOLS 

POPULAR WIRE STRIPPERS

(1) UTICA "STRIPWRIGHT" WIRE STRIPPER

Slim nose design. reaches into the most closely confined oreas. Just insert wire in end lows ond squeeze hondle-strips fast and cleon. Colibrated com action diol odjusts to strip from \#12 to \#26 wire gouge size. Handies Teflon as well as other insulations. Gripping jaws hold wires firmly, keeps insulation marking of an obsolute minimum. Comfortable cushion-orip handles. $\$ 21.20$
No. 37 A827. Shpg. wt. 1 lb . Each No. 374827 . Shpg. wt. I Ib. Each
(3) G.C. SPEEDEX AUTOMATIC WIRE STRIPPERS

Strips insulation outomaticolly from wire eosily and cleanly without crushing it. Just squeeze the handles ond the job is done. Fulty outomatic with deloyed return action-prevents crushing of tine stranded wire. Jows remain open untif wire is removed. Shpg. wt. $11 / 4$ llbs.
37A828. Type 766. For 12 to 20 wire.
37A829. Type 166A. For 14 to 30 wire. CHOICE EACH.
$\$ 7.53$
SPEEDEX WIRE STRIPPER KIT. Deluxe type wire stripper and 7 different size blodes in a special steel box. Strips solld or stranded wire $\# 8$ to \#30, 18 POSI, and 300 ohm twin lead. Shpg. wt. $21 / 4 \mathrm{lbs}$. No. 37 A830. Type 766K Complete.
$\$ 14.70$
O G.C. STRIP-ER-CLIP
Precision tool for stripping and clipping wires 12 to 26 gouge. 8 -stop gouge



Strip or cut wire up to size 8 solid or stranded. Spring opens blades for (1) Model 101-5. Screw adjusts fo

No 77 aise
(1) Model 100. Without spring, otherwise same as $101-\mathrm{s}$.

No. 374889 . Each
$\$ 1.49$
xtruded cam stop makes adjustment im
$\$ 1.19$
No. 374890.
Each
$\$ 1.69$
(3) Model 102. Without spring, otherwise same as 103-s.
$\$ 1.49$
No. 37A891. Each

## BURRING REAMERS

High grade chrome vansdium burring reamers rapidly remove burrs from chassis cutouts. antenna mast cutoffs, (1) T-Handle Type. Tapers $1 / 8^{\prime \prime}$ to $1 / 2^{\prime \prime}$. No. 37 A821. $\$ 2.54$
Each Bit-Shank Type. Tapers $1 / 4$
No. 37 A822.
Each

$\$ 3.49$


## REMINGTON GRIT EDGE TUNGSTEN CARBIDE SAW BLADES



Remington's exclusive "GRIT-EDGE" process permanently bands thousands of Tungsten Carbide particles (one of the hardest materials known) to alloy steel forming a cutting edge that will eut extremely hard and obrasive materials! You can rip thru the hardest piece of metal (such os a file!). Cuts materials formerly considered to be unsawable! You can cut glass, glazed tile, bricks, toal steel, morble, and with very little effort.

Rod Saw. Cuts angles, curves, works in tight spaces. Cuts on forward and reverse strokes. $10^{\prime \prime}$ blode fits any hacksow.
No. 37 A898. Remington No. RS IOC Each ...... $\$ 1.9510$ Each . $\$ 1.50$ Hacksaw Blode. Straight cutting and virtually unbreakable. Cuts on forward and reverse strakes. $10^{\prime \prime}$ blade fits any hacksow.
No. 37 A984 Remington No. HS10C Eoch ...... $\$ 2.29 \quad 10$ Eoch . $\$ 1.89$
Saber Saw Blades. $1 / 4$ " shank. Fit pratically all popular make saws. Make smooth cuts in counter top, paneling, tile, fibergloss, etc.

| Stock No. | Remington No. | Best For | Length | Grit | Each | ch |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3749631 | SS2-1FH | Tile | 2-7/8" | Fine | \$1.99 | \$1.60 |
| 37 A9632 | SS2.1MH | Plywood | 2-7/8 | Medium | 1.99 | 1.60 |
| 3749635 | S52.1CH | Fiberglass | 2-7/8" | Course | 1.99 | 1.60 |
| 37 A9633 | S52-2MH | Fiush Cutting | $4{ }^{\prime \prime}$ | Medium | 2.29 | 1.8 |



GENUINE VISE-GRIP HAND TOOLS
(1) VISE GRIP WIRE CUTTERS. Tong-grip remoins locked to work with hands removed. Adjusts to super-plier oction, hos powerful wire cutter. Model 5WR-5". "is" thick jows odjust to $11 / 4^{\prime \prime}$. Wt. 5 oz .
No. 37A757. Net Each.
\$2.20
Model 7WR-7" $1 / 4^{\prime \prime}$ thick jows adjust to $158^{\prime \prime}$. Wt. 10 oz . \$2.48
No. 37A758. Net Eoch. \$2.88
Model 10WR-10 ${ }^{\prime \prime}$ //" thick jows odjust to $17 / \mathrm{B}^{\prime \prime}$. Wt. $11 / 2 \mathrm{lbs}$.
No. 37a759. Net Eech
(3) SHEET METAL' TOOL. Hondy for forming chossis, making onole brockets, bending metal edges. etc. $8^{\prime \prime}$ long. $31 / 8$ jow width, $1 \frac{1}{4} 4^{\prime \prime}$ throat depth. No. 37 A760. Type 8 . Net Eoch.
\$3.48
(3) C-CLAMP. "Ice-Tong" jows reach around any shape object. Adjust 0 to 33/4. Overall length $1 \mathrm{H}^{\prime \prime}$. Wr. 28 oz . \$3.48 No. 37A761. Type 11 R. Net Eoch.
3) VISE-GRIP CHAIN CLAMP \& PIPE WRENCH. Adjusts to ony size work up to 19 inches in perimeter. Has tremendous gripping power. .holds and locks around anything, any size, any shape, onywhere that the $19^{\prime \prime}$ chain can be wrapped around, Shpg. wt. 2 lbs.
No. 37A762. Model 2OR. Eoch
\$5.20
(1) USEFUL MEASURING TOOLS

(1) $6^{\prime \prime}$ Rule \& Wire Gauge Stoinless steel with shan" and bx "groduations. Hos American wire gauge and decimal equivalents. Shpg. wt. 2 oz . NO, 37 A3236.
NET EACH
$90^{\circ}$
(2) Vaco 10 Ff. Steel Tape Chrome case. White coated blade with two color printing. Craduated in Wths except first foot is in 32 nds. No. 37 A887. Each

## (3) Vernier Caliper

Groduotions deeply etched of the and 3". Inside jows offset ond may be used
scribing circles or dividers. $5^{\prime \prime}$ copacity. Shpg. wt. 8 oz. $\$ 2.75$ (4) Pocket Rule \& Depth Ga. Tempered steel $6^{\prime \prime}$ rule with pocket clip. Quick reading 64th groduotion. No. 37 A 3239 Shpg. wt. 2 oz. Eoch.
$26^{\circ}$

## (B) Jobbers Drill Gauge

 Gouges drills ts" to $1 / 2^{\prime \prime}$. Gives decimal equivalent. Heavy gouge. Shpg. wt. 5 No. 37A3240 Each.$\$ 2.30$
10t'z INCH MACNETIC PICK-UP TOOL
Reaches what your hands can't grasp. Use for picking up smali parts from hard to reach places. With permanent Alinico magnet.
No. 3743202.
Wt. 4 oz. Each
$1 / 8^{\prime \prime}$ Romon race chorocters far marking chossis, parts, etc. Simply hommer to produce cleor shorp impresslons. 5 hpg. wt. 2 lbs.
Letter Sef-Consists of 28 choracters. (A to $Z$. " $G$ " and "Period"). No. 37 A846. No. 37 A
\$6.95
Figure Sef-Consists of 9 choracters. 10 to 8 with " 6 " being used olso os "9").

49c

## Millers-Fails STEEL

 TOOL MARKING SETS(b) Multi-Use Rule \& Gauge $4^{\text {"I }}$ rule with 32 nd and metric scole, a drill point gouge; square, bevel protractor, circle divider, center finder and top drill table. Stainless steel. With vinyl case.
No. 3743241 . Eoch
\$2.30
(7) Handy Wire Gauge

Americon Stondard. Gauges wire and non-ferrous metals sizes 0 to 36 with decimo equivalent of each on reNo. 37 A3242 Shpg. wt. 7 oz . $\$ 6.30$ Each.

## - 12" Steel Rule

Stainless steel rule. $7 / 8^{\prime \prime}$ wide graduated in 8 ths, 16 ths, 32 nds , 64 ths one side. $32 \mathrm{nds}, 64 \mathrm{ths}, 16$ ths, mm and $1 / 2 \mathrm{~mm}$ an the ather. Shpg. Wt. 5 oz
$\$ 1.60$

## (©) Drill \& Tap Gauge

Made of heovy gouge tempered steel. Gouges and gives decimal equivalent of numbered drills, sizes 1 to 60 . Also handy drilli index for machine screw tops. Shpg. wr. 5 oz.
$\$ 2.30$

## KCIITB PROFESSIONAL HAND TOOLS

## XCELITE COMPACT NUTDRIVER AND SCREWDRIVER SETS <br>  <br>  <br> WITH UNIQUE SLIP-ON TORQUE HANDLES

Handiest, most often needed precision tools. "Piggyback" torque handle slips on over regular handles for tough jobs-Provides the grip, reach and power of standard size drivers, Each set is in a see-thns plastic pocket size case with a flat base for use as bench stand.

## (1) MINIATURE NUTDRIVER SET

A complete set of ten precision miniature size nutdrivers with shockproof, breakproof plastic handles-color coded for instant identification. Sizes
 No. 37 A701
$\$ 6.15$

## (2) PRECISION SCREWDRIVER SET

All the screwdrivers needed for all servicing lobs in one compact see-thru plastic case. Includes 8 drivers-five standard slotted sizes $\frac{1}{2} / 3$, $\frac{5}{2}$, $1 / /^{\prime \prime}$ : \#O, \#1, and \#2 Phillips. Shockproof, breakproof plastic handles Overall length of each $31 / 2^{\prime \prime}$. Complete with torque handle.
$\$ 4.47$

## (3) NUTDRIVER AND SCREWDRIVER SET

Includes the most popular slized tools from above kits. 2 nutdrivers $1 / 4^{\prime \prime}$.
 \#1. With torque handle. Shpg wt. 1 ib.
$\$ 4.28$

## (3) NUT DRIVER AND SCREWDRIVER SET

includes 5 nutdrivers $3 / 16,1 / 4,5 / 16,11 / 32$, and $3 / \mathrm{B}^{\prime \prime}, 3$ standard stotted screwdrivers $1 / 8,3 / 16$, and $1 / 4^{\prime \prime}$, and 2 Phillips screwdrivers $=1$ and $=2$. With rorque handle. Shpg. wi. 1 lb .
No. 37A992, PS 130 Each
$\$ 5.85$

## (4) ALLEN HEX TYPE SCREWDRIVERS

Contains 8 midget Ailen Hex type screwdrivers in slzes .028, 035, 05, $1 / 10$. With torque handie and see-through plastic case. No. 37A861. Type P5-89. Each


(5) XCELITE ALLEN HEX SCREWDRIVER SET

Long alloy steel blades provide $4^{\text {n }}$, working length. Contains: 9 interchangeable
 amber colored handle. In pocket-size, see-through plastic case. Shpg, wt. 1 lb . No. 374767.
$\$ 7.43$

## (6) HOLLOW SHAFT NUTDRIVER SET

## With Thru-Drilled Handle

Eight interchangeable hollow shafts permit installation and removal of nuts over protruding bolts. Drilled handle permits passing a screwdriver through handie and nurdiver shaft, for Combination locknut and slotted screw ad


hrough case. Ench
$\$ 8.85$

## (3) SCREWDRIVER NUTDRIVER SET

Contains $K_{6}, 7 / 5,1 / 4$. $K_{4}$, K6, $1 / / 4,3 / 8$ mutdriver blades, $K_{6}$ and $1 / 4$ " screwdriver Contains No. 1 and No. 2 Phillips, extension blade, handle, and see-thrcugh plastic case.
No. 37A863. Type 99P5-50. Ench $\qquad$ $\$ 9.15$
(B) METRIC NUTDRIVER SET

Contains 4, 4.5, 5, 5.5, 6, 7, 8, 9. 10. 11 millimeter nutdriver shafts, $4^{\prime \prime}$ extension and handle. Shafts snap in and out of handle easily and are held Mo. 37 in plastic see-through case,
No. 37A865. Type 99P551 MM. Each.

## MINI-DRIVER KIT

${ }^{5} 2^{10}$

6 piece miniature slotted and Phillips screwdriver kit in see-thru plastic case. With torque handle, $=00$ Phitlips and $.040, .055, .070, .080$, and 1 slotted screwdrivers. Shpg. wt. $1 / 2 \mathrm{lb}$.
No. 37 A985. M60. Each $\$ 2.10$


XCELITE SCREWDRIVERS
Forged from tough Chrome Vanadium Electric Furnace Steel. Xcelite Screwdriver blades withstand heaviest usage. Shock. proof, breakproof amber plastic (UL) handies are shaped for perfect grip and balance. Blades are securely embedded in handles.
(1) POCKET CLIP STYLE SCREWDRIVER


# 374864 

374798
$37 A 995$

| R182 | $1 /{ }^{\times 2} 2^{\prime \prime}$ | 45/1' | \$0.47 | \$0.42 |
| :---: | :---: | :---: | :---: | :---: |
| R183 | 2/8 $\times 3^{\prime \prime}$ | 51/4" | . 44 | . 39 |
| R184 | 1/0 $\times 4^{\prime \prime}$ | 65\%81 | . 54 | . 48 |
| R186 | $1 / 3 \times 6{ }^{\prime \prime}$ | 85\% ${ }^{\prime \prime}$ | . 61 | . 54 |
| R5324 | $5 / 32 \times 4{ }^{-1}$ | 6-5/8" | . 61 | . 54 |
| R3163 | 奖 $\times 1{ }^{\prime \prime \prime}$ | 65/8" | .78 | . 69 |
| R3164 | K64 $\times 1$ " | 75\%" | . 84 | . 75 |
| R3166 | ${ }^{3} 6 \times{ }^{\prime \prime}$ | 9\%" | . 95 | . 84 |
| R3168 | \%608 ${ }^{\prime \prime \prime}$ | 115\%" | 1.05 | . 93 |
| R144 | $1 / 4 \times 4$ " | 7\%" | 1.11 | . 99 |
| R146 | 19 $\times 1{ }^{1 \prime \prime}$ | 11\%"' | 1.22 | 1.08 |
| R5165 | $5 / 16 \times 6^{\prime \prime}$ | 10-1/2* | 1.35 | 1.20 |
| (3) STUBBY SRUARE BLade SCREWDRIVER |  |  |  |  |
| \$. 141 | $1 / 4 \times 11 /{ }^{\prime \prime}$ | $31 / 4{ }^{\prime \prime}$ | . 71 | ,83 |
| (4) PHILLIPS TYPE SCREWDRIVER |  |  |  |  |
| X-100 | $0-1 /{ }^{1} 2^{\prime \prime}$ | $41 /{ }^{\prime \prime}$ | . 61 | . 54 |
| X-101 | $1.96 \times 3^{\prime \prime}$ | 65" | . 91 | . 81 |
| X-102 | $2-1 / 4 \times 4^{\prime \prime}$ | 77" | 1.11 | . 98 |
| X-103 | $3.71{ }^{1} \times 6^{\prime \prime}$ | 101/ ${ }^{\prime \prime}$ | 1.62 | 1.44 |
| X-104 | $4.318 \times 8^{\prime \prime}$ | $121 / 2^{\prime \prime}$ | 2.03 | 1.80 |

SCREWDRIVER SETS
5 Screwdrivers for slotted screws. Contains 1 each R182, R5324, R3166. R144 and R5166 in handy storage pauch.
No. 374993 . SDR-11 Each
$\$ 4.26$
6 Screwdrivers. 4 for slotted screws, 2 for Phillips. Contains 1 each: R184. R3166. R144, R5166, X101 and X102.
No. 37 A994. SRX-33 Each
\$5.52


TOOL POUCH
Fits belt. 5 Compartments for pliers, screwdrivers, etc., snop
for knife. $8 \times 9^{\prime \prime}$. Finest plioble teother, Stitched and riveted. Wt. 1 lb. Xcelite 150. 378174. \$5.64 XCELITE 4-WAY TOOL

## $\square=10 \rightarrow-$ <br> Includes: $1 / 4$ " ond ${ }^{\text {P }}{ }^{\text {" }}$ " nut drivers, No. - Philbips screwdriver, 1a slotied screw No. 37A707, Eoch <br> 10 Each <br> $\$ 1.92$

## XCELITE NUTDRIVER SETS



No. 127TB. The 7 most popular size No. 147 TB. The 7 most popular hollow nutdrivers. Shockproof, breakproof plas- shoft nutdrivers. Shockproof, breokproaf tic handles ore color coded for easier plastic handles are color coded for easier selection of sizes. Fully polished $3^{\prime \prime}$ blodes. Conslsts of sizes: ${ }^{3} 6$ ing $^{7} 9$, $1 / 4$, i" "f. fi and $3 / 8$ ". Molded plastic troy 2 lbs 2 lbs. $\mathbf{N o}$ 37A744. Per Set. . . . . \$ $\$ .75$ selection of sizes. Contoins $1 / 4$, 33 , th, sy, $3 / 8$, 2 8 , and $1 / 2{ }^{21}$ sizes. In malded plostic troy for bench, tool caddy or wall mitg. Shpg. wt. 2 tbs.
$\$ 8.94$

## XCELITE MAGNETIC NUTDRIVERS



Alnico magnet holds fasteners firmly for easy one hand driving. Comfort contour handle

| Stock No. | Xeelite No. | Nut Size | Length | Each | 10 Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 374986 | 8M | 1/4 | $7{ }^{7}$ | \$1.55 | \$1.38 |
| 37 A987 | 10 M | $5 / 16$ | 7 | 1.55 | 1.38 |
| 37 A988 | A8M | 1/4 | 10 | 1.96 | 1.74 |
| 374989 | A1OM | 5/16 | 10 | 1.96 | 1.74 |
|  |  |  |  | Each | 5 Each |
| 37 A990 | AA8M | 1/4 | 20等 | 54.59 | \$4.08 |
| 37 A991 | AAIOM | $5 / 16$ | $201 / 4$ | 4.59 | 4.08 |

## XCELITE NUTDRIVER AND



## SCREWDRIVER SETS

No．99PR－Conshsts of amber plastic hondle with 9 snap－in nutdrivers，sizes ＂＇＂to $1 / 2^{\prime \prime}$＂snop－in serewdriver bits with ${ }^{3} 3^{\prime \prime}$ ond ${ }^{n}$＂blodes；and snap－in screwdrivers with Philips No． 1 and 2 blades．Tools fosten simply－ore heic securely in handle．Piastic roll case W． 1 tb
No．37A754．Complete．
$\$ 9.60$

## XCELITE SERVICE MASTER KIT



Versotile set of high－quality tools meets olmost any rodio－TV servicing need．
Set includes： $5^{\prime \prime}$ long nose pliers； $5^{\prime \prime}$ diagonal cutters； $6^{\prime \prime}$ odjustoble wrench； 9 regular nutdrivers，the＂through $1 /$ ºn $^{\prime \prime \prime} ;$ 3 stubby nutdrivers $1 / 4^{\prime \prime}$＂${ }^{\prime \prime}$ ond ${ }^{\prime \prime}$＂$^{\prime \prime}$ hillips screwdriver； $1 / 8^{\prime \prime}-3 / 8^{\prime \prime}$ reomer； $1 / 4{ }^{-1}-12^{\prime \prime}$ reamer； 7 extension；regular hondle and stubby handle．All tools tough olloy steel with highly polished nickel chrome finish．In roll－up kit with seporate compartment for each tool．Shog．wt． 3 lbs．
37A756．Type 995 M ．Eech $\$ 29.03$

## XCELITE SEIZER TOOLS

Especially designed for working with miniature components．Clamps on to work and will outhoid needle nose pllers．Ideal for use as a heat sink．
holding leads while soldering．restring－ holding leads while soldering，restring－ ing dial cords．etc．All stainless sfeet with precise box joints．Length $6^{\prime \prime}$ ． （1）No． 374811 ．Model 42 H ．$\$ 4.65$ Straight Nose． （3）No． 374812 ．Model 43H．Curved Nose．Not Each $\qquad$ $\$ 4.80$
.$\$ 4.27$


## VACO

## SCIEW／GATIILIMEF SCREWDRIVERS

（1）Fast positive gripping power．Set or remove screws in tight quarters．Will not slip out．Tough durable spring steel siades．Large comfortable handles．

| th． | CO | slade | Overa | Each |
| :---: | :---: | :---: | :---: | :---: |
| 374877 | K－23 | 1／0x3 | 51／4 | \＄1． 22 |
| 374878 | K－28 | 1／2x8 | 10\％／4 | 1.4 |
| 374879 | K－34 | $\%_{6} \times 4$ | 71／2 | 1.71 |
| 374880 | K－36 | $\chi_{1} \times 6$ | 91／2 | 1.8 |
| 37as81 | K－38 | K，$\times 8$ | 111／2 | 1.85 |
| 37 ABA 2 | K－44 | $1 / 4 \times 4$ | 7\％ | ． |
| 37 A日83 | K－46 | 1／4x6 | 9\％1／ | ． 9 |
| 37 A | K－48 |  |  |  |

（3）Grips and starts any cross slot screw． lideal for hard－to－reach places．Not for tightening screws all the way in．


## VACO

POW－RIVET TOOL


A simple squeeze will fasten onything up to $1 / 2$＂thick，from one side．Sets 4 ， 5,32 ，and $3 / 16^{\prime \prime}$ sizes of rivets．Provides the fastest．most convenient means ever for fastening jobs in almost every type of work！Ideal for＂blind＂holes． Use Rivets in place of nuts and bolts，in place of ordinary rivets，in place of soldering，brozing，or adhesives．You＇ll do a neater，stronger job．．．mony times faster．Ruggedly constructed with easy grip insulated handles．Shpg．wt． 1 lb ．
No． 37 A5518．Vaco 495 Tool
Complete with Asst．of Rivets．Each
$\$ 4.95$


## MOODY PRECISION TOOL SETS DESIGNED FOR MINIATURE WORK

Each kit is in plastic stand with clear plastic cover． Shpg．wt． 8 ozs per kit．

## SC－5 SCREWDRIVER KIT

Contoins 4 hordened steel nickel ploted blades，sizes：．100＂，080＂ $070^{\prime \prime}$ ，055＂，plus handy owl；23／4＂knurled steel handle with plosić swivel top
No． 374708 Per Set
$\$ 2.00$
SH－2 SCREW HOLDING SCREWDRIVER SET
Interchangeable spring steel chip fits either the $13 / 4^{\prime \prime}$ or $21 / 2^{\prime \prime}$ blode supplied－ holds finy screws with ofirm grip for driving or removing from hard－io－get－a places
No， 37 A8 23．Per Set．
$\$ 2.00$
BW－ 5 MAGNETIC SOCKET WRENCH SET
Contains 5 sizes：is．部， $\mathrm{A}_{3}, 1 / 8$ and $n^{\prime \prime}$ ．Mognefized to simplify the hondling of finy hex nuts．
$\$ 4.40$
OE－5 OFFSET OPEN END WRENCH SET
Contans five heot treated steel interchangeable wrenches，sizes：\＆．ain a， $1 / e$ ${ }_{3}^{3}=$＂． $25 /{ }^{\prime \prime}$＂knurled steel handle with chuck ond swivel toD．
$\$ 3.50$
TS． 5 HOBBYIST TAP SET
Contoins 5 toos $0.80,1-72,2-56,3-48$ ond 4.40 plus tap wench．For topping plostic，metol，etc．
No． 37 AB26．
$\$ 8.00$
\＃ 71 PRECISION DIE SET
Hexagon threading dies．Use with any＂祭＂wrench．Contains $0-80,1-72$ 2－56，3－48 and 4－40．In plastle box．
$\$ 21.99$

## JEWELERS SCREWDRIVER SET

Perfect for working with jewelry，instruments，small electronic devices，hobbies，etc．Six hordened stee！ reploce able blades，slzes； $100^{\prime \prime} .080^{\prime \prime}, .070^{\prime \prime} .055^{\prime \prime}$ with inum．Each unit has hexagon swivel head Whuck firmly $3 y / 4^{\prime \prime}$ Shpo．wt $1 / 2$ blade in position．Overali length $31 / 4^{\prime \prime}$ ．Shpo．wt． $1 / 2 \mathrm{lb}$ ．

## VACO RATCHET HANDEE



Contains most popular hollow shaft nutdriver blades sizes $1 / 4$ ．K． $1 / 1 / 2,3 / 8$ ． nutdriver blades sizes． $1 / 4 \mathrm{i}$ Ko． $1 / 2$ ． $1 / 8$ ． Super hard Molded plastic box for super hard．Molded plastic box for No．37A870．VACO 516103 ．\＄9，44

## Each

REVERSIBLE SCRIBER


Knurled steel handle with chuck that holds needle point and retracts into handle vihen not in use． $\mathbf{3 7 A 8 4 1 \text { ．Complete，Each．．．．．．} \$ 1 . 2 0}$ 37 A841．Complere，Esch 37A842．Extra Points
（1）

## （B）AUTOMATIC CENTER PUNCN

 For simple and occurote punch mark－ ing before drilling．Just push ond oufometic infernal spring looded mechonism does the rest．$\$ 5.30$No．37A769．Eoch．．．．．．．．$\$ 5.30$
（1）CAN＇T－ROL CENTER PUNCN
No． $37 A 770$ ．EOCh CENTER PUNCN 69 c

# $\$ 4.40$ 



## NUTDRIVER Kit <br> －




## TOOLS FOR THE SERVICE SHOP

## QUICK-PICK TOOLS



REMOVE TRANSISTORS
EASILYI

## $\$ \longdiv { 9 5 }$

Set of 7 Tools. Removes tansistors and capacitors easily from complicated, crowded circults. Tools clamp over transistor or part acting as a heat sink, leaving both hands free for soldering or de-soldering. A slight pull on the quick pick will remove the part when the leads are free. Plastlc case for bench or tool box.
No. 37A3366. G.C. 9216 . Per Set
$\$ 6.95$


## POPULAR SERVICE SHOP TOOLS

(1) Tube and Parts Extractor. Spring steet rubber cushioned prong. 98c (3) C-C Illuminated Inspection Mirror. Gets into dark, hard-to-get-at places. Insulated. $\mathrm{m}^{7 / 9}$ dia.
adjustable mirror, lucite rod. Lgth, $121 / 4^{\prime \prime}$. With
 C-C 8725. Each
No. 21A3. Batteries for above. Each................... $17^{\circ}$ (3) Bulb Remover. Removes pilot bulbs easily from Nowkard places
No. 37A3199. Dialco L-73. Wt, 3 oz. Each.... 39C (3) Folding Pocket Magnifier. $13 / 44^{\prime \prime}$ diameter lens, 21/2 Power. Stiff leather case.
$\$ 1.30$
(3) Flexible Screwholding and pickup tool. Handy flexible tool made of spring coiled wire with retractable spring steel laws. Ideal for starting screws or nuts, and retrieving small parts in inaccessible places. $24^{\prime \prime}$ long. No. 37A3201. C-C 5089. Wt. 5 oz.
$\$ 1.50$
Ne Universal Fuse Puller. Accommodates all kinds and types of fuses including household screw-in plug types and cartridge fuses up to $3 / 4^{\prime \prime}$ or 100 amps. Mate of molded nylon. . mon-conductive. non-inNo. 37 A 3203 . C-C 9356 . Each................ $\$ 1.00$ (3) Ne-O-Lite Electric Trouble Shooter. Handy for polarity of $A C$ or $D C$. for blown fuses, tracing ground line in AC circuits. as an RF indicator, spark plug and cable tester, etc. Can be used on voltages
of 50 AC to 550 volts AC or $\mathrm{DC}, \mathrm{Wt} 3025$. No. $37 A 3020$. CC 5100. Each
$60^{\circ}$
(1) 4 Law Voltage Test Light. Tests any source from increases. No 35A8011. CC 5105 With Tip Prods \$1.25 No. 3SABO12. CC 5i10. With Alligator Cilpsis 1.40
 $12 \times 10^{\prime \prime}$ selass mirror does not distort image. Telescoping stond adjusts to image. Telescoping stond adjusts to the necessory height-collapses for easy corrying when making service No. 37 A 3195 Wr. No. 37 A3195 NET EACH....
$\$ 7.50$
MIRROR ONLY FOR BENCH USE

- $12 \times 10^{\prime \prime}$ glass mirror in chrome frame and with upriaht bracket. $\$ 3.75$ No. $3743196 \mathrm{G}-\mathrm{C} 8391$. Eoch.
$\$ 3.75$
Eliminates fuzzy, unwanted stray colors ... in just minutes, An obsolute necessity for the serviceman. lows set owner to save many dollars by demagnetizing his own colot TV. High-impact plastic, with momentory push button switch. Convenient storage clip for back of set. With illustrated instructions.
Na. 37 A3001 G-C 2592 . $\$ 7.95$


HANDY TV ARIGNMENT KITS
Low Cost Kit. Contains all the necessary tools for doing a complete TV servicing job, 9 tools for doing a complete TV servicing lob, 9 tools in all-in a co
ette roll case.
ette roll case. Mada tolute must for every service shop. Includes K-tran tool, channel tools, fool for RF and IF. core aligner, oscillator tool, long reach aligner, universal ligner, duplex aligner and flexible tuning wand. $W \mathrm{f}, 1 / 2 \mathrm{lb}$. \$6.95 No. 37A3021. CC8455. Each.
Deluxe Kit. Similar to above but with 16 tools in roll case. Handles alignment of most TV sets. All tools are of best quality available. Designed to give long service. Wt. I lb
No. 37A3022. CC8280. Ench.
$\$ 10.30$

## "LUCKY 13" ALIGNMENT KIT

Ceneral purpose kit for AM-FM, TV. CB equipment. 13 plece set contains screwdriver, solder-aid, pocket oilette and most needed alignment tools. CC 582 . $\mathbf{N o .}$. $\mathbf{N} 9.95$


## CC ALICNMENT TOOLS FOR ELECTRONIC SERVICINC


(1) Narrow Blade "Fibreglas" screw- (3) Molded Oouble Ender. Del rin plasdriver completely insulated. Type tic molded for Zenith TV's etc. Hex
 (1) Long Reach Alignment Screwdrivers. Made of "Fibreglas", extra thin $1 / 8$ ", dia, blades, Screwdriver tips both ends -can be re-ground.
3743013. Type 9293.
$12^{\prime \prime} \mathrm{L} \times \mathrm{x}^{\prime \prime}$ dia. Each $\qquad$

##  <br> L. $x$ 1/8 dia. Each................. $80^{\circ}$

screwdriver tip other end.
Type 8282 .
Type 8282.

37A3015. Net Each.
(1) Low Loss Plastic Tool. $5^{\prime \prime}$ L. $\times 3 / 9^{\prime \prime}$ dia. Recessed blade one end, extended blade other.
Type 8609

(b)TV Duplex Aligner. One end has (7)Trimmer and Tuner Adjusting Toot projected tip, other hos recessed tip. on hex one end and screwdriver tip
$6 \%$ on tong. $51 / \mathrm{g}^{\prime \prime}$ long. $61 /{ }^{\prime \prime}$ long.
No. 37 A983. Type 8276 Each $65^{c}$
No. 37A983. Type 8276 Each 65
(B)Delrin Plastic Hex Wrench, 100". (B)Transistor If Core Aligner. Reoches Hex wrenches both ends, one end bottom slugs in iron cores. $5^{\prime \prime}$ long. undercut to reach bottorn slugs in iron Delrin, one end .06" square, other



2 NON-MAGNETIC ALIGNING TOOL
For hard turning slugs and long reach TV tuners. Made of heat treated Beryllium copper. Blade is $1 / 8 \times 10^{\text {¹ }}$ long. No. 37 A3211. Xeellte BR1810.
$\$ 1.22$

1) BASIC TV ALIGNMENT TOOL KIT A handy all purpose TV kit. Contains four essential tools that will service the majority of radio and TV sets. Fits in shirt pocket. No. 37 A971. GC8457

HEX \& SPLINE WRENCH KIT Handy pocket size kit contoins complete range
of wrench sizes used in efectronics. Includes Hex (Allen) wrenches that fit No. 2 to $5 / 16^{\prime \prime}$ set screws and Spline (Bristol) wrenches for set screws up to No. 10 In durable vinyl case. screws up to
Shog. wi. 8 ozs. Shpg, wt. 8 ozs.
No. 37 A766. Per Set
$\$ 1.79$
10 Sets, Each
$\$ 1.59$


## TOOLS FOR SERVICE SHOP

## BENDS LIGHT, TWISTS LIGHT, PUTS IT WHERE IT'S NEEDEDI

## AMAZING NEW <br> SPECK-O-LITE INSPECTION LIGHT

The Speck-O-Lite utilizes a 12 inch slender, flexible fiber-optic Hight guide to bend light around corners where no ordinary lighting can be placed. The Speck-O-Lite can go through holes as small as $1 / 8$ th inch, be twisted into a knot. and still deliver the ight where it's needed.
No. 37 A5542. Kurz-Kash Model SL-11.
Complete with Batteries Each
$\$ 3.29$
No. 37A5543. Adoptor, fiber-optic tube and bulb. Use with any penlite, Kurz-Kash SLA-10 Each . . . . . . . . . . . . . . . . . . . $\$ 1.49$ No, 37A5544. Replacement Bulb. Kurz-Hosh RBA-B. Type 222 bulb with adoptor head far attachment of fiber optic guide. Each
Other fiber optic light guides ar listed on Poge 242.


All sizes over $1 / 4$ " have $1 / 4$ " shank. Chrome vanadium. With drill index. Wht ${ }^{10} 3^{1 / 2} 2^{\prime \prime}$ by 64 th . Quality Import. Wt. $33 / 4$ lbs.
No. 37 A 9005 . Each
$\$ 10.95$

## X-ACTO SWISS NEEDLE FILES


$\substack{\text { sit } \\ \text { siticis } \\ \text { Mits }} 8^{75}$

- Extremaly handy for hobby and shop work.

Same as used by jewelers, wotchIncludes round holf-round flat, oval. knife, etc. filies-one for every need. In comportmented storage stand. Quality mode by Swiss croftsmen. No. 37A703. Type 605-ST Each
\$8.75

## PIN PUNCH SET

Handy kit of 8 high qualty forged steel pin punches in mosi populor sizes to "t". In canvenient wooden cose for bench or tool box. Wr. 3 lbs.
No. 37 AB 20 . Ea. $\$ 8.45$

## MINI-VOLT VOLTMETER

Checks voltage $A C$ or DC from 65 to 660 volts. Will Indicate 2 or 3 voit drop on 110 volt line. Use to identify $A C$ or $D C$ lines, check fuses, circuits. grounds. identity AC or DC lines, check fuses, circuits. grounds. etc. Impedance $1 / 2$ megohm draws negligible current. Glow lamp guaranteed 25.000 hours. Withstands tough No. 35 A8000.
Industrial Devices 4008. Each.
\$2.98

## SAFE-T-KORD FOR FUSED POWER PROTECTION

Eliminates shorts and shocks-dangerous bare leads Pristect equipment from burnout. Apply line voltage to components not having line cords. Thread-on clear Lexan housing for visual inspection and quick replacement of fuse. Supplled complete with two 5 amp fuses (1/4" dia. x 1 " long )
No. 35A8007. Industrial Devices 1480
$\$ 2.39$

Standard jobber lengths: $1 /$ to $^{1 / 4^{\prime \prime}}$ by 64th. Plastic index. Quality import. Wt. $1 / 2 \mathrm{lb}$.
No. 37 A9004
\$3.95

CHASSIS PUNCH SET 5 PUNCHES PLUS BURRINC REAMER AT PRICE YOU NORMALIY PAY FOR 2 OR 3 PUNCHES ALONEI Five most often needed round hole punches. Cuts clean accurate holes in chassis or panel to accammodate sockets, switches, controls, etc. Does the job quickly and easily-drive with any wrench or with $T$-handle included. Punch sizes are $5 / 6^{\prime \prime}$, $1^{\prime \prime \prime}$. $3 / 4^{\circ}$ $i^{\prime \prime}$ and $1 / \mathrm{r}^{2}$. Complete with puricies ${ }^{3}$ dies $T$-hande, $1 / \mathrm{s}^{\prime \prime}$ to $1 / 2^{\prime \prime}$ puncered burring reamer, and handsome case. Quality import. Shpg. wt. 3 tbs, No. 37 A3204.
No. 37 a3204.
$\$ 12.95$



POMONA SOCKET SAVERS
Miniaturized, only $.336^{\circ} 17 \mathrm{G} 9$ ) and $.68^{\prime \prime}$ (octal) high Protects tube tester sockets froin wear caused by repeated use. Assures positive contact to tube pins. Simple plug-in installation, no wiring. Shpg. wt. 3 oz .
No. 12A5024. 1751. For 9 -pin Novar. Each
$\$ 2.50$
No. 12A5021. 1847. For 7-pin. Eoch
No. 12A5022. 1848. For 8 -pin. Eoch
No. 12A5023. 1849. For 9 -pin. Each
$\$ 1.95$
$\$ 2.95$
2.95
$\$ 1.95$

VOLTAGE TEST ADAPTERS
Handy for checking circult voltages, etc. withouf removing chassis. All socket connections are topside.. within easy reach of a test prod. No. 12A5118. 7 -Pin Ministure.
CC 9247.4 Oz . Each
No. 12AS119. B-PIn Octal.
CC 9248.40 Oz . Each
No. 12A5120. 9 -Pin Miniature
$\$ 1.75$
$\$ 1.85$
$\$ 1.95$
No. 12A5121. Kit of 3 \{abovel
in convanient container. GC 9290. Kit
\$4.95


## STORAGE CABINETS FOR EVERY NEED


(1) CARRY-ALL TUBE CADDY. Most popular Tube Caddy ever made. Break away design gives quick access to all sections. Holds up to 262 tubes less with tools and meters. New "stop hinges" give fold out sections greater strength when apen. New metai corners and knees. Iurabie. new grey
covering. Stze: $21^{\prime \prime} \mathrm{W} . \times 15^{n}$ H. $\times 8^{\circ} \mathrm{D}$. Shpg. Wt. 11 lbs . $\$ 23.95$ No. 37 TUSO47. Model TC-400. Esch.
\$23.95 (3) TUBE CADDY JUNIOR. Smaller, easy-to-carry size, Hodds up to 143 tubes
less with tools and meter. Durable, new, grey vinyt covering. Size. $15^{3} 3 / 4^{\prime \prime}$ W. $\times 121 / 2^{\prime \prime} \mathrm{H}, \times 8^{\prime \prime} \mathrm{D}$. Shpg. W\%. $71 / 4 \mathrm{lbs}$.
No. 37 A8046. Model TC-200. Each.
$\$ 15.95$

## PROFESSIONAL QUALITY TOOL BOXES

## TWO DRAWER TOOL CHEST

5176

Spillproot satety stops on drowers, Heavy gauge cold ralled steel. Electronically welded seams. Full weatherprotection. Nickel-ploted hardware, drowbolt con be padiocked. Ful length welded hinge. Drawers automatically lock when cover is closed. Charcoal anamal, red drawers


Size Overall: 201/2" long $83 / 4^{\prime \prime}$ wide, $101 / 4^{\prime \prime}$ high; Till, 201/2" L ; $\times 83 / 4^{\prime \prime} \mathrm{W}^{\prime \prime}$. ${ }^{x} 31 / 8^{\circ}$ deep, exclustive D. Shipg. wt. 16 lbs

No. 37A9568. Union Steel MT-2. Each
$\$ 17.45$

## TOOL BOX WITH REMOVABLE TRAY

Finest quallity steel with two bolt
catches: builtin padlock eye; rustproof handle. Full lock-seamed canstruction, rounded reinforced corners Continuous welded hinge with lid opening entirely back. Charcoal grey
 $\times 81 / 2 \times 11 / 2^{\prime \prime}$. Overall size $22 \times 9 \times 8^{\prime \prime}$. Wt. 12 lbs. Union Steel 6122. \$11.95

## UTILITY BOX

Handy for carrying tools on the job Automatic retracting tray. Seamies waterpropf construction with rounded corners, embossed reinforcement on boith cover and bottom, Hard baked enamel flnish. Size $141 / 2^{\prime \prime} \mathrm{L}, 71 / /^{\prime \prime} \mathrm{W}$ Union. stog. wt. 4 lbs. 5314

## $\$ 4.45$

CLEAR POLY JARS WITH LINED METAL LIDS
Heavy gouge shomerproof polystyrene offording years of rewseable service. Ideal for storage of miscelloneous hardware and parts.

| Sth. No. | Size | Wh. | Eash | 10 For | 50 For |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 37 A8032 | 2.2 Oz Jar | $1 \mathrm{oz}$. | 15 C | \$0.99 | \$4.4s |
| 37 A8033 | 4.6 Oz. Jar | $11 / 2 \mathrm{oz}$. | 18 c | 1.38 | 6.12 |
| 37 A8034 | 8 Oz . Jar | 2 oz . | 2 Sc | 1.83 | 8.15 |

Mosf convenient, versatile vise ever madel It's like having a third hand anywhere . on the 10b, right where you need it. Just a finger-tip turn of the Vacu-Lever holds vise firm and fast to workbench. table top - even vertically on the wall. Simply turn lever to rewase,
ldeal for hobby work. shop, home, school. etc. Large $21 / 2$ jaws of hardened steel have work holding "V" grooves, open to $21 / 2$ ". Rubber faws insert befween steel laws for holding delicate work without marring. Shpg. wt. 3 lbs.
No. 378375 . Each.
$\$ 9.95$
raaco
SMALL PARTS STORAGE CABINETS
(1)

(3)

(5)

(6)

Quality Construction. Arrange exactly where you need them singularly or built together. Place on o toble, wall mount, or stock. Everything is within reach, easy to get to. Crystol" clear see-thru unbreakable drowers, with backstops and slots for labels. Sub-divide with dividers. Frames, heovy gauge, welded and primed against rust. Double coot baked-on enamel. Sheives have glides. Dividers and index cards ore included. Drawer size: $1.3 / 8^{\prime \prime} \mathrm{H} . \times 21 /{ }^{\prime \prime}$ W. x 5.5/16 ${ }^{\prime \prime}$ D.

## Stock RAACO No. of

No. No. Drawers Cabinet Size (1) $37 A 9569030.01 \quad 125 / 1^{\prime \prime} \times 12^{\prime \prime} \times 51 / 4^{\prime \prime}$ (1) $37 A 8060040.01 \quad 16 \quad 71_{2}{ }^{\prime \prime} \times 12^{\prime \prime} \times 5 \frac{1 / 4 \prime \prime}{\prime \prime}$ $\begin{array}{llll}\text { (8) } 37 A 8061 & 060.01 & 24 & 11^{\prime \prime} \times 12^{\prime \prime} \times 5 \not 4^{\prime \prime} \\ \text { (3) } 37 A 8062090.01 & 36 & 16 k^{\prime \prime} \times 12^{\prime \prime} \times 5 \% 4^{\prime \prime}\end{array}$ (4) 37 A $8063120.01 \quad 48 \quad 22^{\prime \prime} \times 12^{\prime \prime} \times 55^{\prime \prime \prime}$

## CABINETS WITH A COMBINATION OF

LARGE AND SMALL DRAWERS
Stond or nang in any combination with above.
(B) 15 Drawer Cobinet. Sizet $11^{\prime \prime} \mathrm{H} \times 12^{\prime \prime} \mathrm{W} \times 53 / 4$ " Deep. Has 12 drawers $1.3 / 8^{\prime \prime} \mathrm{H} \times 21^{\prime \prime} \mathrm{W} \times 5.5 / 10^{\prime \prime} \mathrm{D}$; 2 arawers $214^{\prime \prime} \mathrm{H} \times 5-5 / 16^{\prime \prime} \mathrm{W} \times 5-5 / 16^{\prime \prime} \mathrm{D}$ and!

No. 37A8064. RAACO No. 060.19 .7 lbs. Eo. $\$ 7.00$ (6) 30 Drawer Cobinet. Size: $22^{\prime \prime} \mathrm{H} \times 12^{\prime \prime} \mathrm{W} \times 53 / 4^{\prime \prime}$ D. Has 24 drowars $1-3 / 8^{\prime \prime} \mathrm{H}^{\prime 2} 22^{\prime \prime} \mathrm{W} \times 5.5 / 16^{\prime \prime}$ D.; 4 drawers $21 / 1^{\prime \prime} \mathrm{H} \times 5.5 / 16^{\prime \prime} \mathrm{W} \times 5-5 / 16^{\prime \prime} \mathrm{D}$.; and 2 drawers $214^{\prime \prime} \mathrm{H} \times 11^{\prime \prime} \mathrm{W} \times 5.5 / 16^{\prime \prime} \mathrm{D}$. Shpg. wt. 13 lbs.
No. 37 A8065. RAACO No. 120.20. Each . $\$ 13.00$
CABINETS WITH DEEP DRAWERS
(7) 16 Drawer Cabinet. Size $22^{\prime \prime} \mathrm{H} \times 12^{\prime \prime} \mathrm{W} \times 11^{\prime \prime}$ D. Drawer size $2 \mathrm{y} \mathrm{m}^{\prime \prime} \mathrm{H} \times 5-5 / 16^{\prime \prime} \mathrm{W} \times 11^{\prime \prime} \mathrm{D}$. Shpg. wt. 18 lbs.
No. 37A8066. RAACO No. 240.09. Each $\$ 25.00$ (7) 12 Drawer Cabinet. Size: $22^{\prime \prime} \mathrm{H} \times 12^{\prime \prime} \mathrm{W} \times 11^{\prime \prime}$ D. Drawer size: $3 \cdot 3 / 8^{\prime \prime} \mathrm{H} \times 5-5 / 16^{\prime \prime} \mathrm{W} \times 11^{\prime \prime} \mathrm{D}$. Shpg. wt. 20 lbs.

(7)

No. 37 A8067. RAACO No. 240.10. Each . $\$ 25.00$

| Wi. | Each |
| ---: | ---: |
| $4 \mathrm{ls}$. | $\$ 4.00$ |
| 5 lbs | 5.00 |
| 88 lss | 7.00 |
| 10 lbs | 10.00 |
| 13 lbs | 13.00 |

## EXTRA DRAWER DIVIDERS

## Stock RAACO Package <br> No. No. Quantity

3748068 37 A8069 $37 A 8069$ 3748070 3748069 37 A8070 37 A8071 37 A8072 37 A8073 $37 A 8073$ $37 A 807$ CHOICE PER 275/79 $\quad 4$

Full widh for $1-3 / 8 \times 21 / 2 \times 5.5 / 16^{\prime \prime}$ Drawer Full width for $21 / 4 \times 5.5 / 16 \times 5-5 / 16^{\prime \prime}$ Drower 1/2 width for $21 / 4 \times 5.5 / 16 \times 5-5 / 16^{\prime \prime}$ Drawer Full width for $21 / 4 \times 11 \times 5-5 / 16^{\prime \prime}$ Drower $1 / 2$ width for $24 \times 11 \times 5.5 / 16^{\prime \prime}$ Drawer Lengthwise for $2 \frac{1}{4} \times 11 \times 5.5 / 16^{\prime \prime}$ Drawer Full width for $3.3 / 8 \times 5.5 / 16 \times 11^{\prime \prime}$ Drower $1 / 2$ width for $3-3 / 8 \times 5-5 / 16 \times 11^{\prime \prime}$ Drower Lengthwise for $3.3 / 8 \times 5.5 / 16 \times 11^{\prime \prime}$ Drawer

# HIGH QUALITY, LOW COST TOOLS 


djustable Clicie Cuttar. Adjusts from $7 / \mathrm{E}^{n}$ to $4 n$. For cutting round holes in metal, wood, plastic. Import. 99C


Miniature Scrawdriver Mit. 6 sizes from $1 / 32^{\prime \prime}$ to $3 / 16^{\prime \prime}$ blade. Swivel tops. WL. 8 ozs. Finest
import. Esch $\$ 1.14$

\%y Long Nose Pliers. With side cutters. Pol. lshed head, milled jaws. import. Stipg. wt. 5 ozs. 378338. $\$ 1.59$ Each


2 Pioce Magelfying classes. Fine quality lenses. Blach plastic handles. 2 sizes. import. 3713332. 99 C
rubing cutter. For cut ting copper brass afy minum tubing up to $1^{\prime \prime}$ dia. Quallity Import. We. 1 ib 990


WIre Banding Ile. Forms wire sizes to $1 / 4^{\prime \prime}$ dia. Instructions and project diagrams included. We
37/45840. Each .......996


5" Dlasonal Cutiors.
Tempered and hardened. Polished and ground heads, Import. Wt. 7 ozs.
37A839.
Each
$\$ 1.59$


Olsc-Rasp. Fits olectric drill. $5^{\prime \prime}$ bottom sur. face. Never clogs or needs sharpening. Wt. 6 ozs.
37 A9524. Each $\mathbf{1 . 1 9}$


Flaring Tool. Flares copper, brass and alumin. um tubing from $k_{1}$, to
$11 / 2 \mathrm{lbs}$.
$\$ 1.89$


Scraw Extractor Set. Easy removal of broken screws. Tempered steal. 5 sizes: $1 / 3$ to $7 / a^{\prime \prime}$ dla. Wt. 6 ors. Import. 99C
37h3232. Each ......99

© Ft. Siphon Pump. Check valves give smooth pumping action. Poly. thylene. Import. Wt. $1 / 2$ lb. 37A5541.
Each


Wood Chlsel set. In. Cludes $1 / 2^{\prime \prime}, 3 / 4^{\prime \prime}$ and $1^{\prime \prime}$, Hardened and tempered steel. Made in U.S.A. 3713329. Pot Set $\qquad$


Tap SOL Contains 6-32. 8-32. 10.32. $K_{4}-24$. and $1 / 120$ taps and tap 3712335
Per Set
996


Drill Stend. Holds elec. tric drill securely. Fits $1 / 4$ and $3{ }^{\prime \prime}$ dritls. We. 4015 . 37 A9529. $\qquad$ Each

1/4" Wheel arbor: $1 / 2^{\prime \prime}$ threaded shaft holds bufling wheels. wire Wt. 602 s .

596 37ag528. Each


Lawnmower Sharpener. Fits any $1 / 4^{\prime \prime}$ drill. Wili sharpen any rotary lawn. mower blade. Wh. 8028. 3749014.

996
$\qquad$

Safoty Eye Shield. LightWeight, clear plastic. Ventilated. Fit over glasses. Wt. $1 / 2 \mathrm{lb}$.
37 A 3003 . 3743003 Each 996


18 Piece Hox Kay Set. Cadmlum płated harden. ed steel. 18 wrenches $.050^{10} \mathrm{~K}^{\prime \prime}$.
No. 37a97
Per set $\qquad$ 990 -

Revolving Hole Punch. Tampered steet. Six punching sizes. Qualify import.
2713330.
$\$ 1.39$


4 Inch Wire Wheets. $1 / 2^{\prime \prime}$ center hole.
37A9532-Cearse.
37a9533-Fine.
Chaice $\qquad$ $\$ 1.09$


Each



Drum Rasp. Hardened and tempered steel. Won't clog. remains sharp. $11 / /^{\prime \prime}$ shaft, $3 / 4^{\prime \prime}$ dis. $x 11 / 2^{\prime \prime}$ lang. 990
$379547^{\prime}$ Each

en silp Jalit Combinstion pllers. Hot drop forged, heavily chrome olated, mirror polished. Qually import. 990
37RE50. Each
$\qquad$

## Ed E S

"c" Clamp Set. Contains one $21 / 2^{\prime \prime}$ and two $1^{\prime \prime}$ clamps. High quality malleable steel. Import. 27a3228.

99C


Contour Gauga. Outlines any shape. measures, duplicates and checks. 6" long.
37A9549. Each
3


6 Pc. Screwdriver Set 4 slotted, stubby slotted and \#1 phillips. Vinyl grip. Made In Ho. 37ae97
$\$ 1.19$


3 Piece Mounted Stone Assortment. Top quallty industrial quality stones. with $1 / 4^{\prime \prime}$ shanks.
$37 a 9540$ S1. 29


Nutdriver Set. SIzes: Kutiriver Sel Sizes
 racket. Wt. 1
374704.

Set
I .-.............. $\$ 3.59$

## How

Drill and Countersink Sel Suzes 4.5. 6.7. shar 8-9 long $8-9$. 10-12.

3749582
Sot of 5 ....... \$1.99


Button Type Magast. Small but powerful. Ap proximate holding power 4 lbs. 372-8 994 37A3349. Es.


36 Inch Flextble Shaft. Operates off motor or electrtc drill. Quallty import. We $11 / 2 \mathrm{Jbs}$ 37 9500 . Each $\$ 2.69$


Power Eye Loupas Jewelers type. Wanderful for any miniature work.

37A5507
87


Efactranic Drafting Template. Symbols of ell kinds of components. $91 / 2 \times 51 / 2^{\prime \prime}$. $\quad \$ 2.95$ 3745508. Ea. $\$ 2.95$

6-Piece Power It Sot. Contains 6 sizes: $1 /$ 1/2, 5/6, 3/4, 7/6 and 10 . Round $1 / 4^{\prime \prime}$ ' shanks. 37 as525. Se?


7 Blade Holesaw. Blades made of tempered and hardened steel. Fits electric drill. Import. 3740544.

996


100 Pc. Spring Assort mant. Compression, ten. sion and torque types. Many sizes.
1241013.

100 Asst.
89c


Hacksam Mstol erif. AdJustrabie frame. With 10 inch blade. From Japan.
37A3336. 99c


- Piece Screwdrivar Sel. Contalns: Philijps, slotted, an awl, screw punch master handie, viny ctse.
37ab93. Each S1.....94


Knifo and Sefesors sharpener. Use with any electric drfll or bench motor. $1 / 4^{\prime \prime}$ shank. 374.9530.
$\$ 1.19$


Twist orill and Teal Sharpener. Fits any elec. tric drill. Sharpens bits. scissors, knives. $\$ 2.99$
37agoo2. Each

## TOOL SPECIALTIES

## ASTRO 3/8 INÇH LABEL MAKER

MAKES
PROFESSIONAL SELF-ADHESIVE LABELS

Simple to use and butit to last. A single lever prints, spoces and cuts labels. Last letter printed appears instontly, reduces mistakes. Prints 12 symbols (period, commo, etc.) in addition to alphobet ond numbers. Cuts tab for removing label bocking. Order easy looding cartridge below. Shpg. wt. 1 lb .
No. 37 A7509. Label Maker. Each
$\$ 3.99$
No. $37 M 7708$. Tape for above. $3 / 8^{\prime \prime} \times 12 \mathrm{ft}$. Specify Color: Black, Red Blue, Green or Gold. Per Roll



## PRECISION SPLIT IMAGE TRANSIT

One man can do leveling and incline measuring accurate to a fraction of an inch. Prism-like optical system. Simplified calibration system for patio and terracing, foundation work. irrigation. drainage masonry, antenna installation, etc Wt. 2 lbs.
No. 37 AS519. Each $\$ 7.95$ No. 37A5520. Carrying Case... $\$ 3.95$

## HELIX WRENCH

Newest concept in open end adjust able wrench. Precision made. Instantly adjustoble. Self Locking. Solid stainless steel body \& jaw. Stronger thon the ordinary type adjustable wrench and much simpler to use. $8^{\prime \prime}$ long. Shpg. wt. 2 lbs. No. 37 A998. Each ...... \$9.95

## ENGINEERED FOR

THE REAL MECHANIC

## 10 PIECE

3/8 INCH DRIVE SOCKET SET

## $\$ 70^{48}$



Deluxe quality heavily chrome plated. Heavy duty drop forged ratchet Contains 7-12 point sockets: 3/4, $/ 14,1 / 2, ~ K 1.1 / 4,1 / 4,1 / 4,1-11 / 2^{\prime \prime}$ reversible atchet handle, 1-3" extension bar and ${ }^{\prime \prime}$. spark plug socket. Convenient molded plastic case. High quality import from Japan. No. 374892 . Each

## ELECTRIC GLUE GUN

ONE MINUTE FIXING
AND FASTENING TOOL

## $\$ 4^{99}$ <br> MAKES SUPER-STRENGTH WATERPROOF BONDS IN ALMOST ANY MATERIAL



Permanently bonds in just 60 seconds: wood, plastic. fabric, leather. metal and many other materials. Uses unique hot-melt solld glue and sealer sticks-never drys out. no bottles or tubes to leak. White sealer sticks provide instant-set. water-proof caulking around bathtubs. shower stalls. etc. With 4 glue sticks, 3 sealer stjcks. Operates on 115 V. AC. Shpg. wt. $11 / 2 \mathrm{lbs}$.
No. 37A5521. Each
$\$ 4.99$
No. 37A555s. Thermognp Clue Sticks. Package of 14 ...nact.................... . 65 c
 No. 37A5554. Thermogrip White Seater Sticks, Package of $14 . .$.


## (1) ADJUSTABLE ILLUMINATED MAGNIFIER

Ideal for laboratories, inctustry. schools or hobby use. A must for repairing printed circults or wiring punch boards. $2^{\prime \prime} \times 4^{\prime \prime}$ rectangular magnifier ad|usts from $1^{\prime \prime}$ to $6^{\prime \prime}$ high. 7 watt 110 V lamp puts plenty of light right on the work. Lightweight aluminum stand folds compactly for easy storage. Both work. and lamp can be adjusted separately to proper height and visual
No. 66 A9009. Net Each

## (2) BAUSCH \& LOMB POCKET MAGNIFIER

1001 uses in the home, office, school. shop, lab, service bench. Lens made of same fine qualify as above. Crystal clear, no distortion or aberration olds down into its own plastic case when not in use. Shpg. wt. 4 oz . No. 66A9007.
$\$ 1.95$
$\$ 8.95$

(3) BAUSCH \& LOMB ILLUMINATED RECTANGULAR READER This crystal clear reader utlizes BGL's unlque opthalmic glass, ground and polished with the same care as a prescription eyeglass lens. Light weight. balanced design for long, tireless use. Miniature 10 Volt bulb floods the reading area with light. Can be used for circuit inspection of P.C. boards under chassis. Also for reading schematic diagrams and parts list. Lens size is $37 / 8^{\prime \prime} \times 2^{\prime \prime}$. With $9^{\prime \prime}$ focus. Ebony color.
$\$ 11.95$ No. 66A9005. Wi. I lb, Net Each.
$\$ 5.95$
(1) FULLY ADJUSTABLE 4-INCH INSPECTION MAGNIFIER

A powerful ground and pollshed lens $4^{\circ \prime}$ dia. mounted on a chrome plated goose neck arm. Ball joint swivel permits easy positioning. Sturdy cast iron base for table or bench use, Shpg. wt. $31 / 2 \mathrm{lbs}$.
No. 66A9010. Net Each
$\$ 8.69$

Unclogs sinks the fast, easy way . . . without hormful chemicals. Also handy for wash tubs, laundry tubs, bath tubs . . . plus many, many other uses. New, modern hydraulic Sinkmaster gives instant up to 70 pound pressure with each stroke ...greater pressure than out-moded hand plunger. Sinkmaster will last a lifetime and out-do 1000 plungers! Specially treated to eliminate rusting and carrosion.
No. 37 AS564. Shpg. wt. 1 lb. Each
\$4.98


## SCOTCH VINYL PLASTIC

 ELECTRICAL TAPEsuper-taugh and stretchy - this famous Minncseta-Mining Product carries full UL approval.
Scotch No. 33, Black viny! plastic molds to any surface, remains flexgrease, acids emperature, Resistant to grease, acids, alcohols, water, gaso-
line, etc. Non-corrosive. Has hlgh tensic strencth 10000 v thick. Dielec No. 17A7000. 66 Ftrength breakdown Roll $\$ 1.40{ }_{\text {Each }}^{10 \text { Rolls }} \$ 1.16$ Each 1747001.20 Ft. $\times 3 / 4 *$ Wide Roll.... 53 c 17A7002. $20 \mathrm{Ft} . x$ H" Wide Rolla... 33 c
Scotch All-Weather Plastic Electrical Tape No. 88. Makes splice wrapping in cold westher easy, yet retains its excellent body for smooth and easy application at normal temperatures. 8.5 mils thickness, super-tough-abrasion. oil, actd and fiame resistant. Remains pliable at temperatures down to $0^{\circ}$ F. 9350 volts electric strength. No. 17 A 0003.66 Ft ., $\mathrm{x} / \mathrm{m}^{\prime \prime}$ Wide Roll $\begin{aligned} & \text { Each } \$ 1.71 \text { Rolls } \$ 1.42\end{aligned}$ No. 17A7004. 20 Ft. $3 / 4$. Wid Roil, Each........ese 10 (ac........ 53 c

## NICKEL CADMIUM BATTERIES AND RECHARGER RAYOVAC



Recharge up to 1000 times to last 3 years or more under normal use when recharged regularly, Replaces all regular batteries in 1.5 volt applications Use Model CH666 listed below to recharge batteries.
21A5076. Size "D" 1.0 Amp. Hr. Sattery. Wt. 6 ozs. Pkg. of 2, Ea. $\$ 5.98$ 21AS077. Size "C" 1.0 Amp. Hr. Battery. Wt. 5 ozs. Pkg. of 2 ', Ea. $\$ 5.98$
21 ASO78. Size "AA" Pencefl 5 Amp. Hp, Battery. We. 21ASO78. Size "AA" Pencefl .5 Amp. Hr. Battery. We. 2 ozs
Pkg. of 2, Each..................................................... $\$ 58$ Recharge two, four, or six batteries at the same time. Insert pairs of same
size, close cover and recharge batteries in $12-16$ hours. Gatteries size, close cover and recharge batteries in $12-16$ hours. Batteries can be charged for long periods of time without damage. Recommended for use oniy with nickel cadmium batteries. Size: $91 / 2^{\prime \prime} \times 41 / 2^{\prime \prime} \times 21 / 2^{\prime \prime}$. Wt. 2 lbs .
For $110 / 120$ VAC For $110 / 120$ VAC.
liaso46. Model CH666 Charger. Each.

## HAND TALLY COUNTER

## Dial advances one

 digit when actuated. Counts to 9 . 999. Knob resets to zero. Chrome case $13 /{ }^{\prime \prime}$ dio. X $11 / 8 "$ No. 37 A5567 Eoch ... \$3.25


## MaLIORY



Designed specifically for charging Duracell Rechargeable Alkaline Battertes. Charges 2 or 4 batteries in any, pair ( 2 of same size) cambination. indicator light shows batteries are charging. Recharges overn No. I3A8022. Each.
$\$ 8.95$
MALLORY RECHARGEABLE ALKALINE BATTERIES
$21 A 230$ SA130 Redaces D Gell.
$21 A 231$ SAl4C Replaces C Cell.
Each..... $\$ 1.49$
6 Ea...... $\$ 1.17$ $21 A 231$
$21 A 232$ SA14C Replaces C Cell.
SAI5AA Replaces AA Cell. Each.....- 1.28

SAVE ON BATTERY COSTS!

## PREMIUM PANASONIC HI-TOP BATTERIES

GIVE UP TO 4 TIMES THE LIFE OF AMERICAN MADE NAME BRAND BATTERIES


An Independent testing company report shows they last up to 4 times longer than American made name brand batteries. Three year shelf life. Absolutely the finest zinc carbon battery we have offered.

| StockNo. | Panasonic No. | Description | Each |
| :---: | :---: | :---: | :---: |
| $21 A 333$ | UMID | Cell | $29 c$ |
| $21 A 334$ | UM2D | C Cell | $29 c$ |
| $21 A 335$ | UM3D | AA Pencell | $25 c$ |
| $21 A 336$ | OO6PD | OVolt Transistor | $65 c$ |

## RECHARGEABLE FLASHLIGHT <br> $\$ 5^{50}$

Powered by Nickel Cadmium battery pack. Never needs replacing. Burns brightly for hours. recharges again and again by removing cap and plug-
ging into any 110 X AC Outlet.
Magging into any 110 V . AC outlet. Magnifying lens provides a brilliant light. Handsome, contoured shock resistant plantic case, small size fits in pocket or
Wt . 8 orse.
ozs.
2-year written guarantee. Wt. 8 ozs.
$\$ 5.50$


## EVEREADY RECHARGEABLE FLASHLIGHT

## ${ }^{5} 2^{25}$



Mont Powerful Lisht of Its size. Twice the jight of a ntandard 2-cell flashlight. Sleek black case.
Never needs batteries. contains powerful, long, lasting rechargeable nickel cadmium batteries. Holds a charge (when not in use) for over a year. Provides over an hour af continuous. strong, bright light per charge. Can

No. 37A3277. Eveready 3300. Special Each


SPORTSMAN FLUORSCENT LANTERN

360 Illuminoted. Wide even light. Safe to use ond operate. Solid state circuitry gives long lasting operation with 4 easy to obtain 6 volt lantern batteries. 4 bulb settingst both high, both low, I high, or 1 low for extended battery life. Uses standard F6T5 CW bulb. Shpg. wt 10 lbs. No. 41 A8066. Model 360.5 with batteries Eoch
$\$ 29.95$
No. 21 A345.944 Meavy Duty Iantern Battery Each

## ELECTRICAL SPECIALTIES



## FULL RANGE DIMMER CONTROL.

## JUST TURN DIAL FOR DESIRED LIGHT LEVEL BETWEEN FULL BRIGHTNESS TWEEN FULL BRIGHTNESS <br> ${ }^{\$} 6^{95}$

Hove subdued lighting for glamour. TV, during sleepeng or convenience in any room. Dependable
solid state diodes smoothly control flow of power solid state diodes smoothly control flow of power
to incandescent light fixtures. Permits full brightness or dim as desired. Simple to install. Wired in
existing switch in standard wall box. For 115 V . existing switch in standard wall box. For 115 V .
60 Hz . 600 W . capacity. Wt. $11 / 216$. No. 41 A4020. Each
$\$ 6.95$


## (9) LEVITON fULL RANCE DIMMER

Add full-range varlable light control to your lamps. An exciting way to Light-Condition-create a mood for any room. Eliminates expensive 3 -way components Rated. 200 W - 120 VAC . incandescent. No. 41 A431, Leviton 6250-3. Brown. No. 41A431. Leviton 6250-3. Brown. Ench
$\$ 4.99$

## (3) LEVITON HI-LO DIMMER

Low cost light control-two lighting moods from an ordinary bulb. Fullbright for reading and writing, low-bright for relaxing and TV viewing. Kwik-Wire contact pins offer fast. low cost assembly without stripping. U.L. Listed at $300 \mathrm{~W}-120 \mathrm{VAC}$.

No. 41 A430. Leviton 419 . Brown. Choice
No. 1144335 . Leviton 419 . Brown. Ivory.
Each
$\$ 1.39$
(OLEVITON MINIATURE CORD SWITCH
Smart styling, Kwik-Wire contact pins for fast connections without stripping. U.L. Listed at 3 A 125V.
No. 41 A434. Leviton 4131 . IVory.
No. 41 A429. Leviton 413 . Brown.
Choice
39c

## gel/(CBill



## (1) GEL/CELL RECHARGEABLE BATTERIES

Combine the power and rechargeability of wet batteries with the handling ease of dry batteries. Gelled electrolyte will nat ooze out. Never add water or electrolyte. 200 to 500 complete chorge/discharge cycles. Lose very little copacity in storage. Use in any position. Operating temperature range $-76^{\circ} \mathrm{F}$ to $+140^{\circ} \mathrm{F}$. Rated (a) $68^{\circ} \mathrm{F}$. Migh impact polystyrene case. Combination solder lug/quick disconnect tab terminals. B series batteries listed ore for general service. For cantinuous charge float service the same type batteries of the same prices are ovailable with suffix A. A types give somewhat longer life on float service but ore not recommended for general service. Specify $A$ instead of $B$ for float service types and allow 2 extra weeks for delivery.


## (2) GEL/CELL RECHARGEABLE POWER PACKS

Consist of battery carrying case witn shoulder strad and battery charger with cigarette lighter plugg. 7.5 A.H. 20 hr . rate at 12 volts. Size:

No. 2125075.
\$37.46
Other Cel/Cell batteries and power packs avallable on special order. For complete specifications and recharge information order No. 16A1212. Each


## LEVITON BULB-LIFE SAVER

## SOCKET ADAPTER

Fits any medium base lampholder. Reduces IIght output by approx. $50 \%$, but wattage can be restored as needed by substituting a larger bulb. Electricity consumed is reduced proportionately. Increases bulb life more than 30 times. Cuts bulbs changing $95 \%$. Saves money where bulbs burn continuously. All brass components for corrosion resistance. WIII extend lamp brass components for corrosion resistance. Whe extend iamp
only $1 r^{1}$ from original position. Rated $150 \mathrm{~W}-120 \mathrm{~V}$ AC Inonly lre from original p No. 41A432. Leviton 6154.
$\$ 1.49$
LEVITON 3-WAY TO HIGH-LOW SOCKET ADAPTER Screw into any 3 -way lamp socket. Screw tamp bulb into the high-low adapter. You get hightow light control with stand ard bulbs-up to 200 watts in any 3 -way lamp socket. Eliminotes the need for expensive 3 -way bulbs Extends bulb life-saves electricity. Extends lamps only ${ }^{1,\}^{\prime} \mathbf{z}^{\prime \prime}}$ from original
position. Rated $200 \mathrm{~W}-120 \mathrm{~V}$ AC Incandescent only. UL Listed. position. Rated 200W-120V AC. Incandescent only. UL Listed. No. 41A433. Leviton 6153.
$\$ 1.49$
Each

## COOL FLUORESCENT LIGHTING

FOR BROAD AREAS
$\mathrm{U} / \mathrm{L}$ approved components throughout, heavy steel bodies finished in baked white enamel and removable covers to permit easy installation. 40 watt is rap. id start, others require starter switches. With Lamp-Spectly Daylight, Cool White or Warm White.

| Stk. No. | For Lomp | Chonnel Size | Weight | Net Ec, | 3 Ea, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $41 \mathrm{M8O17}$ | 15.Wort, 18" | 2x2\% ${ }^{\text {a }}$ W. | 4 lbs | \$3.95 | \$3,53 |
| $41 \mathrm{MsO18}$ | 20.Watt, 24" | 2x2\%"w。 | 5 tbs. | 4.40 | 3.93 |
| $41 \mathrm{M8O} 05$ | 40-Watt, $48^{\prime \prime}$ | 2.2\% ${ }^{\text {/ }}$ "W. | 10 tbs . | 8.75 | 7.85 |



## RAPID START <br> DOUBLE-40

PLUG-IN UNIT
Top efficiency, partable illumination-quickly insfalled or moved. Two 40-waft lamps spaced $5^{\prime \prime}$ opart in full $13^{\prime \prime}$ wide reflector. U/L approved components. Hanging brackets on eoch end. Super-white reflecting surfoce. $481 / 2^{\circ}$ L. $X$ $131 / 9^{" W}$ W. $\times 6^{\prime \prime}$ D. Wt. 21 lbs. $6^{\prime}$ cord and plug. Complete with your choice of 40-watt lamps.
$\$ 14.95 \underset{\text { Each }}{3}$
$\$ 13.50$


## FLUORESCENT LAMPS



CIRCLINE LAMP Regular start (for fixtures with starters)

M WHITE.


## SYLVANIA FLUORESCENT STARTER SWITCHFS

| +1A353 | Type | 14, for lamp |  | $10 @ E$ $\$ 0.29$ | 5013 Ea $\$ 0.26$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 414354 | FS-2 | 13, 30, 40-watt | + 32 | + 29 | . 26 |
| 414355 | FS-5 | 4,6,8,22.25-watt | . 48 | . 43 | . 39 |
| 414356 | FS- 12 | 32-Watt Circline | . 35 | . 31 | . 28 |



## OUTDOOR REFLECTOR LAMPS

Sytvania PAR-38. Weatherproof spot or floodlamp. Built-in silvered reflector, skirted standord screw base. 120 volt. Wt. 2 lbs
 No. 41 A6007. 150 W . Flood Each.... $\$ 2.21{ }^{12}$ Each $\$ 2.45$

(1)

(3)

(3)

REPLACEMENT APPLIANCE ELEMENTS
(1) 115 VOLT COILED NICHROME WIRE ELEMENTS

Finest quality, for repair of Hot Plates. Toasters, Heaters. Shog wt. 2 oz.


## () NICHROME COILED ELEMENT WIRE

Wattage length rafing on each spool. Use $\# 2$ for repalr of light duty appliances. \#3 for hot plates. \#4 for 1000 W . appliances. Shpg. wt. 6 oz .

41 A34 4
10 Ft. \#3-size 22, 猚". dia. coil.
$\begin{array}{lr}\text { Net Ear. } & 3 \text { (a) En. } \\ \$ 3.90 & \$ 3.32 \\ \$ 5.20 & \$ 4.42\end{array}$

No. 41 A346. Standard 115 V . screw base. Nof Each.. $\$ 1.5610$ @ach.. $\$ 1.40$

## ELECTRICAL WIRING DEVICES \& CORDS

U/L ATTACHMENT PLUGS AND CURRENT TAPS



2 $\frac{(10)}{(0)}$


First quality U/L approved devices for home, shop or commerciol use. Bakelite items are furnished in brown only. When ordering other shipg. wt. 2 oz . (Fig. Tis Recpt. 8 oz. )
stk. No
Stk. No Description (1) 41M300 Black, Brown or tvory Vinyl Cop

Sta-tite brass blades screw ferms.
(1) 41 M 301 Black, Brown of Ivory Vinyl Cord Receptacle Mates with Fig. (1) or other std. AC plugs
$\$ 0.25$ (3) 41 A 302 Bakelite Flot Handle Cap
(4) 41A303 Rubber Handle Cop-. $375^{\prime \prime}$ cord hole
(3) 41 A304 Rubber Heavy Duty Power Tool Cap$.531^{\prime \prime}$ cord hole
(8) 41 A305 Heavy Duty Armored Cap- T." cord clamp (5) 41 A306 Heavy Duty Armored Receptocle. Mates with (5) 7) 41 A307 Bakelite Extension Cord Trio-Tap
(9) 41 A308 Bakelite Duplex Top. Cord or surface mount
() 41 A309 Bakelite In-Line Cord Switch
(1) 41 A310 Porcelain Pull Chain Receptacle, $31 / 4$ or $4^{\prime \prime}$
(14) 41 A312 Bakelite Cleat Receptacle. Std. screw bas 41A313 Vinyl Plug-In Trio-Tap. Sta-fite blades
11) 41 A383. Fused Plug. U.L, approved. Use with $1 / 4^{\prime \prime} \times 11 / 4^{\prime \prime}$ fuses to 20 amp. Fuses can be replaced without opening plug. Less fuses,
3-WIRE PARALLEL BLADE - U GROUND DEVICES

(1) 41A315 Vinyl 3-Prong Grounded Adaptor for single
receptacle. Parallel Blades, $U$ ground
41A317 Armored 3-Prong Grnded. Cap. Mates 41A318 Armored 3-Prong Grounded Cord Receptacle
.48 (31) 41M319 Brown or Ivory 15A. Receptocle

## MODERN U/L APPROVED

ELECTRICAL SWITCHES

- far more convenient than USUAL TYPES
- fit standard outlet boxes AND SWITCH PLATES Shpg. wt. 6 oz. each


## (1) handy delayed action light switch



Brand new solution to an old problem! Turns off lights 35 to 60 seconds after switch is flipped to the "off"" position. Allows you to reach your destination without groping in the dark. Fine for bedroom, hallway, etc. around home, form. business. U/L rated, 10 A .125 V .5 A .250 V .
No. 41 im323. Specify. Ivory or Brown
Single Pole. Net Eoch................ $\$ 2.95{ }_{\text {For }}{ }^{3}$.
$\$ 7.88$

## (2) MODERN "TOUCH" WALL SWITCH

Converts "old-fashioned" noisy toggle switch installations to quiet pushbutton control with no wiring changes! "ust a touch or nudge and lights go "on"; onother touch and they're "off"' Very convenient especially when orms are loaded, U/L rated, 15A. 120-240 VAC. Specify Ivory or Brown.
No. 41 m 324 . Single Pole No. 41 M324. Single Pole Net Each
$\$ 1.13 \begin{aligned} & \text { lotarss } \\ & \text { toch } \\ & \text { ooch }\end{aligned}$
$\$ 1.02$
Makes ${ }^{3}$ SILENT MERCURY SWITCH WITH ILLUMINATED HANDLE Makes no sound when switching lights on ond off. Ivory switch handle glows gently in the dark, guides you directly to the switch. Giow ight will last a itetsme! calinum contacts in pools of mercury inside hermeticolly
 No. 41A325. Single Pole. Net E
No. 41A326. 3 -Way. Net Each

## $\$ 2.99$ 10 Lots, Each

## ELECTRONIC CONTROL CENTER

6 AC OUTLETS-PILOT-

## on-off SWITCH

Handles up to 1600 W . 120 VAC power for shop, lab, kitichen, etc switch controls all outlets. Equipped with 8 ft . Hine cord and plug. Designed for bench top or wall mounting. Exceptionally well made. Ivory molded plastic. Size $63 / 4 \times 31 / 2 \times 11 / 2^{\prime \prime}$. Shpg. wt. $11 / 2 \mathrm{lbs}$.
Tod Value import.
No. 41A350. Special
$\$ 4.95$

\$2.55

## I

BELDEN TWO CONDUCTOR AC REPAIR CORDS

Finest quality. U/L listed. For famps, radios, clocks, appliances, tools. At fached molded AC plugs stripped ends. Avg. wt. 8 oz. 6 Ft. $18-2$ Parallel No. 41 M 332 Sell Vinyi, Specify Color: Brnwn, Grey or ivory 100 Ea No. 41 M 332 . Beaden 18 -2 Parallel Lamp Cord. SPT-l Vinyl. Brown only. 10 E. 100 Ea........29c No. 41A333. Belden 17109. Each 50 c 10 Ea_......38c 100 Ea.........34c

## FLEXIBLE ASBESTOS $\mathbf{1 6 - 2}$ HEATER-IRON REPAIR CORD

## 

Abrasion resistant asbestos cotton braid covered. Use where flexibility of cord is extremely important. 7 Ft . with molded vinyl plug. cord holder and ring terms, for \#8 screw.

## COILED 18.2 HEATER CORD FOR APPLIANCES, SOLDERING IRONS

可U/L listed, HPN Neoprene. Extends to 6 Ft . Plug and ring terms, $\$ 1.12$ Each $\$ 1.00$ aloen Thret Conouctor ac copos


BELDEN THREE.CONDUCTOR COILED CORDS

## 

U/L listed. Ends dangling cord nuisance, allows free movement of appliance or tool. Black $S J O$ neoprene. Attached parallel prong $U$-ground plug. Stripped ends.


APPLIANCE CORD SETS-PLUGS BOTH ENDS

Standard miniature appliance plug has $1 / 2$ " pin spacing. Fits coffee makers. No. 41A327. 6 Ft . 18-2. Leviton 2814-6. Each........98e 10 Each........96e 6 FT. COILED APPLIANCE CORD SETS- 18.2 HPN NEOPRENE

No. 41A329. Belden 17886. With 1/2" spaced plug. Ea..... $\$ 1.28$ 10 Ea.. $\$ 1.14$
 BELDEN THREE.CONDUCTOR YELLOW EXTENSIONS


## 3 WIRE PROJECTOR CORD

Belden 8 ft . gray SVT vinyl cord has No. 18 Conductors. Has 3 contact molded fermale connector for Revere and Kodak proiectors, Friden, Victor. HewlettPackard. Marchant Business Machines. Hos 3 prong plug for safety graunding. No. 41 A444. Belden 17258 . Shpg. Wo. 1 lb .
(1) SYLVANIA 250-WATT Infra-red HEAT LAMP Instant penetrating heat for treatment of aches and pains. drying paint, hawing, etc.


# LIGHTING SPECIALTIES 



## FLUORESCENT DESK LAMPS

Feather-touch control allows adjustment of arms to ANY position. smoothly noiselessly and without effort: $36^{\prime \prime}$ total length of, arms with "universal joints" at base, center and shade. Shade with "on-off" switch on top is $188^{\prime \prime}$ long, $41 / 2^{\prime \prime}$ wide, has high light output reflector. Smooth baked enamel finish.
UL approved. With cord less lamps UL approved. With cord. less lamps.
(3) DESK MODEL H8-604

Has heavy po-tip casf base with rubber bumpers on bottom. Wt. 20 tbs. Less Lamps.

Essily (3) CLAMP-ON MODEL 604C
Easily clamped to edge of any desk or table up to $21 / 4$ " thick. Wt. 10 lbs. Less Lamps.
No. 41A8037-Royal Cray
No. 41A8038-Walnut Brown $\begin{aligned} & \text { Your Choice } \\ & \text { Each }\end{aligned} \mathbf{2 3 . 9 9} \begin{aligned} & \text { E } \\ & \text { Each }\end{aligned} \$ 21.59$ PARALLEL ARM ACTION GIVES PERFECT CONTROL
Most convenient secing aids made! Lamp head can be rotated and tilted to any position. Arm extends up to $45^{\prime \prime}$ in any direction. Unbreakable all-steel base has extra stable double clamps for edge of desk or bench.
(3) FOR TWO 15 WATT LAMPS MODEL SF- 215

Finest light for close work of amy kind, used by draftsmen, machine operators, offices, homes. Wt. 10 lbs. Less Lamps.
No. 11 As000.-Gray
No. 1 A8000-Cray
No. 1 A8001-Brown
Yach Choice $\$ 29.603$
$\$ 28.42$
© INSPECTION LAMP-MAGNIFIER MODEL BBM-9
Both hands free to manipulate work. Furnishes glare-free light from 22 watt circline lamp around $5^{*}$ distortion free lens. Wt. 10 lbs. Less Lamp.
No. 4148039 -Gray
$\$ 31.65$ Net Each
\$28.48


## Swing. O. . Vie <br> CLAMP.ON INCANDESCENT LIGETT ${ }^{5} 15^{75}$

Has balanced parallel acting support arms. Moves with a "flick of the finger' and stays put! Clide arms extend $45^{\circ}$ in any direction from base. Clamp fits edge of table or other flat surface. Shpg, wt, 7 lbs. Less bulb. No. 41A8034-Cray. Model BB4SC Net $\$ 15.75$ Each.... $\$ 14.19$

## INCANDESCENT DESK LAMP

A lamp of a thousand uses! Fine for every room of the home, office, shop, tab. Fully odjustoble to ony Eosition. Brass socket with push-button switch and 5 -inch parabola shode toke any size lamp to 75 watts. Shade removoble for "poking" into smalt oreas or for heat lomps. Hos weiahted bose, 6 ft . card and plug. Wt. 4 lbs. Less Lemp. No. 41A801 Net fach.

HEAVY DUTY MULTIPLE OUTLET BOXES FOR 115 VOLT AC POWER DISTRIBUTION FOR SHOP, BUSINESS, HOME


Will safely and convenlently distribute power for appliances, test equipment, shop machinery, office and factory equipment, etc. . . Jiterally hundreds of uses around the home, office, farm and business. Heavy duty construction, all components U/L approved. Fused for 15 amps. 115 V. AC. Average shtpping weight 3 lbs.
(1) 6 Standard Outlets with Pilot Light and Master Switch.

No. 41 A4000. Net Each.
$\$ 6.88$
(3) 4 Stonderd Outlets with 4 Seporate Switches.
58.88

No. 6 "U-Ground"r Outiets with Pllot Light ond Moster Switch. .... . . $\$ 8.90$
No. 41A4001. Net Each .................................. . . . . $\$ 8$.

## DECORATOR STYLED "SWING-O- HIGH INTENSITY LAMPS

Parallel arm action with steel springs provides fastest possible odjustment for best light angle. Arm length $24^{\prime \prime}$. Bright reflecting surface and 115 volt 405.11 bulb are equal to 200 watts illumination. Bulb life up to 500 hours. Use optional bracket for wall mounting. Avoilabie from stock in brush silver; available on factary order (ollow 2 weeks) in gold, red, black, or blue sotin. Specify color when ordering. Shpg. wt. 5 lbs.
No. 41 M8030. 900 . With weizhted base. Ea.. $\$ 16.75$ No. 41 M8031. 900 C . With C-Clamp. Each...... $\$ 15.66$
No. 41 A80332. Accessory Mounting Bracket. $\$ 2.57$ No. 41A8033. Replacement 40S-11 Bulb............ $\$ 1.25$


## HI-INTENSITY LAMP

Brighter, glare-iree light. Deluxe Hi-Lo-Otf switch. Balanced base with genuine walnut veneer inlaid. Double insulated shade. $12^{\prime \prime}$ brass plated steel gooseneck directs light where you want it. UL approved. For 115 v. AC. Beautiful beige and walnut finish. Top quality import, at a low price! Wt. $2 \frac{1 / 2}{}$ lbs. $\$ 7.85$ No. 12A4494, 93 Replacement Lamp Each

43*

## PICTURE LAMPS

Beautiful brass plated lights to display all your prized pictures and portralts. Recommended by interior decorators. Use for maps, sheives, displays too. Adjustable brackets. Prefocused reflectors with switch. Made in U.S.A. Complete with bulb. U.L. approved. For 115 V. AC. Wt. U.L. 16.

No. 41 A6002. 7-Inch
No. ${ }^{\text {Brass Finished Light }}$
$\$ 4.69$
No. 41 A6003. $141 / 2$-inch
$\$ 6.95$


## SIMULATED GAS LIGHT KIT GIVES ANY ELECTRIC LAMP AUTHENTIC GAS LIGHT CHARM Long life replacement for regular light <br> ${ }^{5} 2^{49}$ bulb... with convenience of electricity!

Simple to instail in outdoor lanterns, ornamental fixtures hurricane lamps etc. . . .just screw into regular lamp socket and forget itl
Operates cheaply, for less than $1 / 10$ the cost of gas. Fibreglass mantic is burnout proof, never needs replacement. Proglass mantic is burnout proof, never needs replacement. Pro-
duces light a-plenty for normal "gas light' installations. Complete with 3000 hour long the CE buib No. 41A349. Net Each \$2.49

## ELECTRICAL LAMPS-TIMERS-SWITCHES

## ADJUSTABLE DESK LAMP



Flexible chrome goose neck allows wide adjustment of lamp angle. 14 watt fluorescent gives plenty of light for study or writing. Has on and off push buttons on top of $41 / 4$ " $\times 5 \frac{1 / 2, "}{}$ base. Helght is about $11^{\prime \prime}$, shade is $15 \frac{3}{4}$ " long, $31 / 2$ inches wide. Smooth enamel finish on base and shade. Complete with 5 ft . card and fluorescent lomp. Shpg. wt. 5 lbs . A quolity import.
No. 41A8064. Each
$\$ 9.95$
No. 41A8067. Replocement 14 W. Ooylight Flu-
orescent Lamp.
Eoch .
$\$ 1.65$ Eoch
$\$ 1.57$
24 Each
$\$ 1.40$

## UNDER THE CABINET FLUORESCENT LIGHT



Only $1 / 1 /{ }^{\prime \prime}$ high, this convenient light fits even in crowded space. Fingertip con trol, only one button for turning on or off. Uses 15 watt fluorscent bulb. Easy to install with only 2 screws without disassembling the lamp. Has convenience outlet. Smooth enamel finish with translucent shield over lamp bulb. Complete with fluorscent buib and cord. Plugs into 115 VAC outlet. Mounting areo $181 / 4{ }^{\text {" }}$ $\times 4$ 1/a". Shpg. wt. 4 lbs. Imported.
No. 41 A8065. Each
$\$ 5.95$

## INTERMATIC MODEL T-101 UTILITY TIMER

Handles every time need around home or business. Dependobie, outomatic on-off electric control of oppliances, lights, fons, etc. Repeats timing cycle each 24 hours-up to 12 on-off operations per day spaced minimum I hour. Monual when desired. Comes with I set of adjustoble on-aff trippers: others easily odded without removing diol. Heavy duty 40 amp switch. Groy stee! cobinet with hinged door and wiring knockouts. $73 / /^{\prime \prime} \mathrm{H}^{\prime \prime} 5^{\prime \prime} \mathrm{W}^{3 \prime 4} \mathrm{D}$. For 115 $V .60 \mathrm{~Hz}, A C$. Wr. 3 lbs.
$\$ 13.96$ No. 41A4009. As sbove with OPST switch. Each $\$ 14.99$ 41A4010. Set of On-Off Trippers 50 c


WIRELESS REMOTE CONTROL SWITCH
Turns "On or Off" Across The Room Turns on and off up to 100 ft . sway. Like having magic wand! Modern up-to-the-minute device adds exceptional convenience around the home, bedroom, sick room, etc. wherever across the room cantrol of light radios. TV, fans, etc. is desirable. plugs into any AC ouflet. Wireless Telewand control unit can be hand held or placed wherever convenlent. Telewand operates on 9 V . battery. Handles up to 850 watts. W.t. 4 lbs. No. 41 A4019.
Complete
$\$ 20.65$



## MALIORY

1 SOD WATT AUTOMATIC TIMER automatically controls electric devices


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No. 9A477. Model TME-8LMH 33.47 MHz Each
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YOU'LL NEED AN ANTENNA FOR BEST PERFORMANCE FROM YOUR MONITOR OR 2 METER EQUIPMENT

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hallicraffers

## MODEL SX- 133 <br> GENERAL COVERAGE RECEIVER

$535 \mathrm{KHz}^{\text {to }} \mathbf{3 1 . 5} \mathbf{M H z}$-AM-SSB-CW. Precision 7 tube receiver with erystal filter, $S$ meter, bandspread tuning. Slide rule dial is calibroted in megacycles and has $0-100$ logging scale. Bandspread dial at left includes amateur and CB coverage. Crystal filter for pin-paint selectivity. Has RF amplifier, 2.IF stages, outomatic naise limiter, product detector for upper and lower side band reception. 2 watts output for external 3.4 ohm speaker. Front panel phone jack. Professional gray steel cabinet. Size $18-7 / 8 \times 93 / 6 \times 8^{\prime \prime}$ High. For 115 V . 60 Hz AC. Wt. 25 lbs.
No. 9 A450. Less Speaker. Net Each
$\$ 350.00$
No. 9 A413. R-50 Matching Speaker. Wt. 4 ibs. Each ................. $\$ 39.95$ No. 9 A3155. HA19. 100 KHz Plug-In Crystal Calibrator. Net Each . $\$ 39.95$

hallicraffiers
MODEL SX-122A DUAL CONVERSION RECEIVER
.538-34 MHz Electrical Bandspread 80 thru 10 meters. 538 to $1580 \mathrm{KHz}^{2}$ broadcast. 1720 KHz to 34 MHz . Continuous in 3 bands features. If system with 3 selectivity ranges $0.5,2.5$ and 5 KHz at 6 db down, series noise limiter and AVC, product detector for upper and lower SSB/CW, antenna trimmer, S meter and dual conversion an all bonds. Output, 3.2 ohms for external speakor. Professionol gray metal cabinet. Size $18-3 / 4 \times 8 \times 9-3 / 4^{\prime \prime}$ deep. For $110 / 220 \mathrm{~V}, 50 / 60 \mathrm{~Hz}$ AC. Wt. 29 lbs .
No. 9A436. Less Speaker. Net Each
$\$ 550.00$
No. 9A3155. HA19. 100KHz Plug-In Črystal Calibrator. Net Each . \$39.95 No. 9 A413. R-50 Matching Speaker. Net Each
$\$ 39.95$

## DRAKE SW-4 SW

BROADCAST RECEIVER for the shortwave listener

- Uitra precision tuning dial accuracy.
- Crystal lattice filter.
- Dual conversion.


## \$335 ${ }^{00}$

Features direct frequency dialing with calibration accuracy $\pm \mathbf{~ K H z}$. Tunes longwave, standard broadcast and shortwave broadeast $49 \mathrm{M}, 41 \mathrm{M}, 31 \mathrm{M}$. 25M, 19M, 16M, 13M, 11M, with exceptional sensitivity, selectivity, and stability needed for finest shortwave listening. Has. solid state VFO. Crystal
oscillator and AVC, solid state audio system, 2 watts output to 4 or 8 ohm speaker. 6 tubes plus 15 solid state devices. size $51 / 2^{\prime \prime} \mathrm{H}$., $103 / 4^{\prime \prime} \mathrm{W}$.. $115 / 8^{\prime \prime}$ D. For i20/240 VAC, $50 / 60 \mathrm{~Hz}$. Wt. 16 lbs.
$\$ 335.00$
No. 9A415. Net Each
No. 9 A3til. MS-4 Matching Speaker, Wt. 6 lbs. Net Each.
. $\$ 22.00$


## S二E SB- 144 VHF/FM MOBILE TRANSCEIVER

A top performing transceiver for 2 meter VHF operation. 12 channel switching with 3 channel crystals supplied, transmitter has 10 watts output power, phase mod. with $\pm 15 \mathrm{KHz}$ max. freq. deviation. Receiver is double conversion with sensitivity of .5 uV for $10 \mathrm{db} \mathrm{S} / \mathrm{N}$. Ceramic filter. Operates on 12 VDC negative ground systems. Crystols furnished for Ch. 1 T 146.34, R $146.94 \mathrm{MHz}, \mathrm{CH} .2$ 146.94 T and R, Ch. 3 T 146.16 R 146.76 MHz . For 50 ohm antennas. Size 6 $11 / 16^{\prime \prime} \mathrm{W} \times 2.3 / 8^{\prime \prime} \mathrm{H} \times 9.1 / 16^{\prime \prime} \mathrm{D}$. Shpg. wt. 7 lbs . No. 9A500. Model SB-144. Each
\$239.95

## SEE SB-450 UHF/FM MOBILE TRANSCEIVER

420 to 455 MHz FM with the same easy operation the 144 MHz band offers The SB-450 is a 12 channel transceiver with 5 watts output, the receiver sensitivity is 5 JV for 20 db quieting and has a crystal lattice filter in the IF. Single conversion 10.7 IF . Antenno inpedance is 50 ohms. Supplied camplete with dynamic PTT mike and erystals for Ch. 1 T449.5, R444.5 Mhz, and Ch. 2446 Mhz T\&R. Has 24 diodes, I SCR, 4 IC's and 29 transistors. Size: $6 \% /{ }^{\prime \prime} \mathrm{W} x$ $21 / 4^{\prime \prime} \mathrm{H} \times 8 \frac{1 / 4 " \mathrm{D}}{}$. Shpg. wt. 7 lbs . No. 9A507. Model 56-450. Each

## SBE

## SB-36SSB/CW TRANSCEIVER

- Nixie Digiral Frequency Readout to 100 Mz
- Full coverage 10 to 80 meter phone and CW Ham Bands
- 500 watts PEP input

The SB-36...the Ham "Dream" Recelver...is here! Advanced technology allows you to tune with a free-spinning counterweighted knob and read the frequency accurate to 100 Hz on the 6 diglt nixie readout. Receiver incremental Juning. by push-button, allows receiver to be funed to an off frequency, and the RIT lamp tells you when RIT is in use. Deluxe sideband-generating system uses two 9 MHz crystal lattice filters for solid output frequency when changing side bands. ALC permits high power levels, a blower cools interior circuit elements. Transmitter input is 500 wotts PEP, 400 watts CW . Receiver sensitivity .5 JV for $10 \mathrm{db} \mathrm{S}-\mathrm{N} / \mathrm{N}$, selectivity 2.4 KHz at 6 db . Stability is 100 Hz or better in $1 / 2$ hour. Hos sidetone CW monitor and highly effective noise blanker. Speaker and $115 / 220 \vee 50 / 60 \mathrm{~Hz} \mathrm{AC}$ power supply are in separate cabinet. Transceiver size $6.5 / 8^{\prime \prime} \times 13 / 4^{\prime \prime} \mathrm{W} \times 14^{1 / 2 "} \mathrm{D}$, power supply is $6-5 / 8^{\prime \prime} \mathrm{H} \times 6^{\prime \prime} \mathrm{W} \times$ 12 k " D . Shpg. wts., transceiver 22 lbs ., power supply 24 lbs No. 9 A7035. Model SB-36 with speoker/power supply. Each $\$ 895.90$ No. 29A691. Model SB-3. Dynamic hand mike with coiled cord and plug for SB-36. Each


## SSB-CW-RTTY AT ITS BEST!

KWM-2 TRANSCEIVER (illus.) 175 W. PEP SSB 160 W. CW, 80 thru 10 meters. selectable stdeband $51 / 2 \times 143 / 4 \times 13^{\prime \prime}$ deep. W. 18 lbs.

9A449. Nef Each $\$ 1446.00$ KWM-2 ACCESSORIES
No. 9A3166. 516F-2 AC Supply. 28 lbs, Net Each................. No. 9 A3168. MP. 12 V. DC Supply. 13 tbs. Net Each No. 9A3168. 351-D-2 Mobil Mount. Wt. 18 lbs. Net Each $\$ 187.00$ No. 9A3169, 351-D.2 Mobile Mount W4, 18 lbs Net Each $\quad 393700$ $75 S-38$ RECEIVER. Tunes amateur bands 3.5 MHz to 29.7 MHz with coverage of any frequency in the 3.5 to 30 MHz range (except 5.0 to 6.5 MHz by substituting crystals. Operates on 117 V .60 Hz AC. Size $6 \%{ }^{\prime \prime} \mathrm{H}$., $141 / 2^{\prime \prime} \mathrm{W}$. $115 / \mathrm{s}^{\prime \prime} \mathrm{D}$. Wt 20 lbs.
No. 9 A446. With 2.1 KHz Mechanical Flifer. Nef Each...................... $\$ 1101.00$ OPTIONAL ACCESSORIES FOR 75S-3B
No. 9A3170. X455KO-200. 200 Hz . Mechanical Filter. Each ......... $\$ 107.00$ No. $9 \mathrm{M} 3171.500,800$ or 1500 Hz . Mechanical Filter. Specify, Ea.... $\$ 68.00$ No. $9 \mathrm{NB} 172.3 .1,4$ or 6 KHz Mechanical Filter. Specify. Each........... $\$ 57.00$ No. 9A3173. 3128-3 Maching Speraker. Console, power meter, patch. Net Each $\$ 260.00$ 32S-3 TRANSMITTER. The finest transmitter of its kind 175 W . PEP input on $\$ 5 \mathrm{~B}, 160 \mathrm{~W}$. CW . Range $3.5-29.7 \mathrm{MHz}$ except 5.0 to 6.5 MHz . Mechanical filter sideband generation, permeablity-tuned VFO automatic load control for higher average falk power. Internal switehing permits matic load control for higher average talk power. Internal switching permits receiver. Requires $516-F 2$ AC power supply above. Wt. 16 ibs. $\$ 1330.00$ No. 9A447. Net Each 30L-1 LINEAR AMPLIFIER. 1000 W. PEP. 38 lbs. Same size as KWM-2 Cavers 80 through 10 meters. $115 / 230 \mathrm{~V} . \mathrm{AC}$.
No. 9A448. Net Each

# AMATEUR STATION EQUIPMENT 



## TR-22 2-METER FM TRANSCEIVER

Works on its integral Ni-Cad battery with 115 VAC recharging circuits or 12 VDC. Has telescoping ontenno or use any 50 ohm antenno. Over 1 watt RF output. Six channel copacity ( 3 supplied R $146.94 / \mathrm{T} 146.34, \mathrm{R} / \mathrm{T}$ 146. 94, R146. 76 TI 46.34 ). Complete with PTT mike, batteries, and carrying case. Size: 5 $3 / 8^{\prime \prime} \times 2.3 / 8^{\prime \prime} \times 7 /^{\prime \prime}$. W W. 4 lbs
No. 94470 . Each
$\$ 199.95$
AA. 92470 . Each
RF with $1 / 2$ to AA-22. Amplifier-A receiver preamp
3 wolt drive on transmit. For $\{2 V D C$.
3 watt drive on tro
No. 9 A471. Eoch
$\$ 149.95$
No. 9A3195. MMK.22. Mobile Mount for TR22. Each

## SPR-4 ALL SOLID STATE COMMUNICATIONS RECEIVER

Receives SSB (upper and lower), AM, and CW. Covers (with supplied crystals): $150 \mathrm{KHz}=1.6 \mathrm{MHz}, 6.0-6.5 \mathrm{MHz}, 7.0-7.5 \mathrm{MHz}, 9.5-10 \mathrm{MHz}, 11.5-12 \mathrm{MHz}, 15-$ $15.5 \mathrm{MHz}, \quad 17.5-18.0 \mathrm{MHz}, 21.5-22 \mathrm{MHz}$. Selectivity. $A M-4.8 \mathrm{KHz}$ @ 6 db ., SSB-2.4 KHz @ $6 \mathrm{db}, \mathrm{CW} .4 \mathrm{KHz}$ @ 6 dbz Ist IF 5645 KHz crystal lattice filter, 2nd if 50 KHz LC filter. Frequency Stability: better than $\pm 100 \mathrm{~Hz}$. Sensitivity: SSB and CW-. 25 UV , AM- 5 JV . Input Impedance: 50 ohms. Output: 3 W . at 4
 No. 9 A469.
Less speakers, Each
No. 9A3119. MS-4. Matching Speaker. Each


## C-4 STATION CONTROL CONSOLE

Digital 24 hr . clock, front panel contralled power master cantactor, remote anfenno selector, phone patch, transmit tope mode, timer reminder, forward and reflected power watmmeter, operator progrommed equipment contral and rotor control for the HAM-M rotor. The power moster switches 6120 VAC and 2240 VAC outlets, has 2 unswitched 120 VAC outlets. Selection of up to 5 antennos. Phone patch has compression amplifier for constant drive. Easy to read rotor direction scale. $5 / / 2 \mathrm{H} \times 10 \frac{1 / 7}{} \mathrm{~W} \times 11-5 / 8^{\prime \prime} \mathrm{D}$. No. 9A3203. Model C-4. Shpg. wt. 17 lbs. Each
$\$ 305.00$

## MH ANTENMA MATCHING METWORKS WITH WATTMETER

Motch 52 ohm coax with VSWR of $5: 1$ or less, 75 ohm of lower VSWR. Front panel switching to network, direct to coax or to dummy lood. Reads power output on VSWR. Has $50-239$ coox connectors
Model MN-4 for up to 200 watts continuous $51 / 2 \mathrm{H} \times 10$ \% $\mathrm{h} \mathrm{W} \times 8$ 有" D . No. 9A3207. Model MN-4. Each
\$99.00

No. 9A3208. Model MN-2000. Eoch
$\$ 195.00$

R. L. DRAKE

AMATEUR \& GENERAL COVERAGE RECEIVER
${ }^{\mathrm{s}} 255^{00}$

## MODEL 2-C AMATEUR \& GENERAL COVERAGE RECEIVER

Receives SSB, AM, CW and RTTY. Covers 80, 40, 20, 15 meters and 28.5 to 29.0 MHz with crystals furnished, or tunes any 500 KHz ronge between 3.0 and 30 MHz with on accessory crystal. Bondspread dial. Sensitivity less than . 5 microvolt for 10 db . $\mathrm{S} / \mathrm{N}$ selectivify. $4 \mathrm{KHz}, 2.4 \mathrm{KHz}$ and 4.8 KHz . Hos product defector solid state AVC and oudio, 1.8 w . output. Requires 4 ohm speaker. Hos internal sockets for crystal colibrator and noise blanker. 120 VAC 50/60 Hz . Size 11-5/16x6-9/32x9-3/32' deep. Wt. $131 / 2 \mathrm{lbs}$.
No. 9A428. Model 2-C. Nel Each
$\$ 255.00$
No. 9A3116. 2 AC Crystal Calibrator. Not Eoch
No. 9A3114. 2CS Matching Speaker. Net Each
$\$ 18.75$
No. 9A3115. 2CQ Q-Multiplier Speaker. Net Each

## MODEL 2-NT NOVICE CW TRANSMITTER

Ideal companion trgnsmitter for the $2 . \mathrm{C}$ receiver above. Frequency coverage 3.5 to $3.8 \mathrm{MHz}, 7$ to $7.2 \mathrm{MHz}, 14$ to $14.25 \mathrm{MHz}, 21$ to 21.25 MHz and 28 to 28.5 MHz . Front panel sockets for 2 crystals. Provisions for external VFO. Input power variable to 100 watts. Plate meter red-lined for novice power. Simplified fune up, automatic transmit by closing key, ontenno change over relay, automatic receiver mute, built -in CW sidetone, low pass filter for reducing harmonics and TVI. 120 VAC. Size $9-7 / 8 \times 6.9 / 32 \times 9.9 / 32^{\prime \prime}$ deep. No. 9 A44 II. Less Crystals. Wt. 13 lbs. Net Each
$\$ 175.00$


## R. L. DRAKE

TR-4 TRANSCEIVER (illus,), 300 W . PEP SSB, $260 \mathrm{~W} . \mathrm{CW} .260 \mathrm{~W}$. PEP 150 W . out) AM, 80 through 10 meters in seven 600 KC ranges. Solid state VFO . Selectable sideband. $51 / 2 \times 103 / 4 \times 143 / 8^{\prime \prime}$ deep. Wt. 16 loc
No. 9433 . Net Each............... 3599.95

TR-4 ACCESSORIES
No. 9 A3196. 34 NB Noise Btanker. Wt. 2 lbs. Net Each
ch.
100.00
99.95 No. 9A3117. AC-4 AC Supply. Wt. 19 lbs. Net Each
No. 9A3118. RV-4. Console VFO/Speaker. Wt. 7 lbs. Net Eech
No. 9A3119. MS-4 Matching Speaker. Wi. 6 Jbs. Not Each
No. 9 A3120. DC-4 12 V. DC Supply. Wi. IO lbs. Net Each........
No. 9 A3121. MMK-3 Mobile Mounting Kit. Wt. 3 los. Net Each
R. 46 RECEIVER. SSB, AM, CW, RTTY. Covers ham bands 80, 40, 2015 me-
 KHz ranges with accessory crystals. VFO has i KHz calibration. Size $5 \mathrm{~K} \times 10^{3 / 2} \times 11.5 / 8^{\prime \prime \prime}$ deep. W k . 16 lbs.
No. 9A429. Net tach
$\$ 475.00$
T-4XB TRANSMITTER. Will transcelve with R-4B receiver. Has its own VFO
T-4XB TRANSMITTER. Will transcelve with R-4B receiver. Has its own VFO
$200 \mathrm{~W} . \operatorname{PEP}$ SSB and AM, 200 W . CW. Requires $A C-4$ power supply above. 200 W. PEP SSB and AM. 200 W. CW.
Size $51 / 2 \times 103 / 4 \times 115 / 8^{\prime \prime}$ deep. W +14 lbs.


DRAKE W-4 DIRECTIONAL RF WATTMETER
Monitors forward and reflected RF power on 52 ohm, coax line. Two scales $0-200$ and $0-2000 \mathrm{~W}$. $\pm 5 \%$ accuracy. $1.8-54 \mathrm{MHz} .6^{\prime \prime} \mathrm{H}, 3^{11} \mathrm{~K} . \mathrm{W} .4$ " deep No. 9A3091. Wt. 4 lbs. With Remnvible Coupler. Net Each Wo $\$ 61.95$ No. 9A3113. Model WV-4 as above, for $\mathbf{2 0 - 2 0 0} \mathrm{MHz}$. Net Each........... $\$ 73.50$

(1) The Galaxy GT-550A Tronsceiver, with the highest power output ovailable now, delivers 300 watts PEP on SSB. 180 wotts on CW and RTTY. Power input is 550 watts PEP on SSB, 360 watts on CW and RTTY ( $50 \%$ duty cycle). Power requirements ore 800 VDC at $700 \mathrm{~mA}, 350$ VDC at $400 \mathrm{~mA},-100 \mathrm{VDC}$ of $45 \mathrm{~mA}, 12.6 \mathrm{VAC} / D C$ at $6 \mathrm{~A}, 12.6 \mathrm{VDC}$ of 1.5 A . Crystols are supplied for 3.5 to 4,7 to $7.5,14$ to $14.5,21$ to $21.5,28$ to $29 \mathrm{MHz}^{2}$. Optional crystals may be instalied for other 10 meter frequencies. Features frequency stability, calibration occuracy to 2 KHz , clean CW keying with 1000 Hz side tone for monitoring, selectable sidebond without frequency jump on SS8. Receiver has better than .5 JV sensitivity, with selectivity of 2.1 KHz on SS8. Output is 4 watts to speaker. Size $6^{\prime \prime} \mathrm{H} \times 1 \mathrm{I}^{1 / 4} \mathrm{~W} \times 121 / 2^{\prime \prime} \mathrm{D}$.
No. 9 A3224. GT-550A. Mfg. 855. Shpg. wt. 19 lbs . Each ... $\$ 595.00$ (2) The Galaxy RV-550A Remote solid state VFO, gives flexibility of a seporate transmitter and receiver when used with the GT-550A. Function switch selects the remote unit to control receive-transceive-Transmit independently. Complete with plug-in cables. Size approx. $7^{\prime \prime} \mathrm{H} \times 71 / 4{ }^{\prime \prime} \mathrm{W} \times 61 / 2 "$ No. 9A3223. RV-550A. Mfq. 856. Shpg. wt. 6 lbs. Each ...... \$95.00 (3)The Galoxy RF-550A RF Console is o precision warmeter in the 3.5-30 MHz range. 400 and 4000 watts full scale, switches tor forward or reflected power. Also hos selector switch for 5 antennas plus dummy load (not supplied) unused connections are grounded. $50-239$ coax connectors. Size apprax. $7^{\prime \prime} \mathrm{H}$ $\times 71 / 4 " \mathrm{~W} \times 6$ // 1 D . Shpg. W . 7 lbs .
$\times$
No. 9 A 3222 . RF-550A. Mfg. 857 . Each
$\$ 75.00$
(4) The Galaxy SC-550A Speaker Console has phane jack and cable. Has space for AC 400 power supply to mount inside, Size apprax. $6^{\prime \prime} \mathrm{H} \times 10^{\prime \prime} \mathrm{W} \times$ ot/2" D. Shpg. wt. 8 lbs.
No. 9A3220. SC-550A. Mfgr. 858. Eoch
$\$ 29.95$
Galoxy AC-400 AC. Power Supply (not shown) is a solid state supply for $185 / 130$ VAC, $50 / 60 \mathrm{Mz}$. with cable and plug for the GT550A. Shpg. wt. 22 lbs.
No. 9A3219. AC-400. Mfgr. 801.
Each
$\$ 99.95$
Galaxy G-1000 DC Mobile Power Supply (not shown) for 12 volt negative ground. Solid state, it provides full power for the GT-550A. Complete with primory and secondary cables. Size $6^{\prime \prime} \times 8^{\prime \prime} \times 3^{3 / 4} 4^{\prime \prime} \mathrm{H}$. No. 9 A3218. G-1000 DC. Mfgr. 302. Shpg. wt. 9 lbs. Each
$\$ 129.95$
Gataxy VOX-35C 5olid State Circult (not shown) plugs in internally on the GT-550A. 3 controls for VOX gain, anti-VOX gain, time delay. May be adjusted from outside cabinet. Shpg. wt. $1 / 2 \mathrm{lb}$.
No. 9 A3214. VOX-35C. Mfgr. 807. Each
$\$ 29.95$
Galoxy CAL-250, 25 KHz Calibrator (not shown) plugs in internainy ana operates from panel switch. Ideal for new sub-bands. 5 hpg . wt. 1 lb . No. 9A3217. CAL-250. Mfgr. 806. Each
$\$ 25.00$
Galaxy Mobite Mounting Brackets (not shown).
Galaxy Mobite Mounting Brackets (not shown).
No. 9 A 3215 . GTM-809 Universal Dosh Mounting of GT-550A. Each $\$ 8.95$
No. 9A3216. Z2M-810. Floor Boord Adapter for G\$M-809. Each 5600
Jurn to page 213 for Hy-Gain Roto-Brake Retator

# AMATEUR RADIO EQUIPMENT 



Rotates lorge, stacked beams easily with over $4000 \mathrm{in} /$ /bs. rotating torque and clutch brake to prevent gear domage. Gear troin is protected by a husky cast aluminum housing. Handsome control unit has sweep pointer over composs rose. Select desired antenna direction and the powerful motor furns rotator to that position. Rotates $380^{\circ}$ at 1 rpm , uses 5 conductor cable, $2 \overline{4} 18$ and $3=16$. Mast clamp accepts up to $3^{\prime \prime}$ dia. mast, ratator mounts on standard plate in towers with leg spacing of $10^{\prime \prime}$ or more. Broke is adjusted to slip at 5000 in/lbs. stress
No. 9 A3212. Model 400 . Shpg. wt. 29 lbs. Each
\$229.95 No. 2A515. Mfgr. 412.5 wire cable. Per Ft.

## 24-MOUR WORLD CLOCK

## WITH UNIQUE SOUTH POLAR PROJECTION MAP

- 8" Diameter-Self Starting Electric - Mighometer-Self Stating Euality-UL. Approved - Highest Quality-UL Approved world Reliable split second, round the world time at o glance. For Hams, Shortwave listeners, commercial radia stations, home or office. Beautifully chrome plated all metal construction with controsting black foce and white numerals. Has sweep second hond. Unique feoture is inner dial with south polar propection map to show world time. Quiet operating selt-starting synchronous motor. For 115 V .
AC. UL approved. Wt, $11 / 2 \mathrm{lb}$. AC. UL app No. 9 Each
$\$ 9.99$



## 24 HOUR NUMECHRON OESK CLOCK

 DIRECT READINGExact split second time, con be read of a glance. Hos separate $1 / 4^{\prime \prime}$ number wheels for ideal for radio stations. Quiet operating Ebony plastic case $73 / 4 \times 4 \times 4$, Self-starting $15 \mathrm{~V} .60 \mathrm{~Hz} \mathrm{AC} . \mathrm{Wt}$. 4 lbs . $\$ 16.00$
No. 9 A 3035 . Net Each............... $\$ 16.00$


## OMEGA-T

## ANTENNA BRIOGE

Instrument checks both resonant frequency and impedance of antenno systems, beams, whips, dipoles, eic. Frequency range 5 to 100 MHz , useful to 150 MHz . Internal 9 volt transistar battery powered noise diode with 3 transistors furnishes test signal. Use with any cali= brated receiver. $W t$. 1 lb . No, 9A3033.
Model TE7-01. Each . .... \$29.95


EICO GRID DIP METERS

K
Model 710. Compact, versatile and rugged. Easy to hald and thumb-tune with one hand. Covers 400 KHz to 250 MHz in 7 overlapping ranges. Plug-in coils have protected "internal" windings. Exceptionally stable, pre-calibrated for accuracy. Has sensitivity control, 500 microamp meter, built-in absorption wave meter circuits 'and 110 VAC transformer power supply. $21 / 4 \times 2$. $9 / 16 \times 6.7 / 8^{\prime \prime}$. Wt. 31 lbs .
No.9A3041. Kit with Tubes and Insiructions Each
No. 9 A 3042 . Factory-wired and tested. Each
$\$ 59.95$
SHORTWAVE LISTENER ANTENNAS

## Long Wire Inverted "L"

DX recelving ability of any receiver depends on ontenna efficiency. These antennas are designed for all SWL type receivers, matching high fmpedance input. Especially easy to install
WIndow Mount Vertical. Especially for limited space installation. Works at home, in apartments, or on vacations. Simple to install. Includes 12 ft. alumínum element, 30 ft . lead-in, universal bracket, 20 ft . grounding kit and instructions. Wt. 4 lbs.
No. 9A198, HyGain SW-9. Net Ebch.................................................... 9.95 Long. Wire Inverted "l". 50 ft . ontenno flat-top, 50 ft . lead-in, 25 ft . poly plastic rope, molded insulotors and instructions. Wt. 4 lbs.
No. 9A197. HyGain SW-6 Kit. Net Each
$\$ 6.95$

HIOM-POWERED C-D-R HAM-M ROTATOR

## Hondles Full Size

Amoteur Antennas

- Heavy Duty Brake Euilt-in $\$ 129^{95}$ $\qquad$
Clamps take up to $2^{\prime \prime}$ diameter masts. Lower clamp removable for flat bolt-on mounting. Housing dia. 8" moximum. Delivers approx. 360 inch pounds torque. Gear troin is mode of precision machined stainless steel. Rototes $360^{\circ}$ at 1 RPM Lower portion of unit contains the outomatic solenoid operated brake capable of withstonding 3600 in . lbs. torque.
Metar Type Direction Indicator is continuous indicating type. Gives accurate headings. Requires 8 wire cable $12 \# 18,6$ \# 22 , Belden type 8448 listed page 159). Wt. 20 lbs. No 943031


METER TYPE

## $\$ 129.95$

## MODEL TR4AA ROTATOR

## USES SAME ACCURATE

## INDICATOR AS THE HAM-M

Designed specifically for intermediate loods, CB antennos, large VhF arroys and small HF on-rennas-hor quite as rugged as the HAM-M bull wily hand mechanical broke. Requires 7 wic all releosed mechanical broke. Requires 70 wire Beiden 8467 \#18 cable. Shpg. wt. 20 lbs.
No. 9 A 3032.
Net Each Net Each
No. 2A9978.Belden 8467 \# 18 7-Wire Cable.
Per Ft............ $\$ 14.95$ Ft.


## LOW PASS TRANSMITTER TVI FILTERS

(1)

(3)


All ore rated 1 KW RF power, have very low insertion loss and provide excellent attenuation of transmitter harmonics failing in IV bands. All have 50.239 fittings. Factory odjusted for maximum attenuation. Average shpg. wf. 2 lbs.
(1) 9A3043. Borker-Williomson Mode! 425. For 52 Ohm Coax. Eo.... $\$ 24.95$ 3 9A3044. Johnson Model 250-20. For 52 Ohm Coox. Eoch......... $\$ 14.95$ 9. DRAKE $52^{\circ}$ OHM FILTERS. Cut off between 6 meters and chonnel 2 Each 9A3045. Model TV-1000-LP. 1000 Watts except 6 meters, 200 ......... $\$ 18.75$


B \& W COAX SWITCHES. I KW, 52.75 ohms, to 50 MHz . For receiver/transmitter switching to antennas. Dio. $4 \times 2 / 4^{\prime \prime} .1^{\prime \prime} \times 1^{\prime \prime}$ shaft. Wt. 2 lbs All hove 50.239 coaxial connectors.

| Stk. No. | Type | Description |  |
| :--- | :--- | :--- | :--- |
| (1) $9 A 3047$. | S50A | S.P. 5 -Position, Radial Connectors | Net.E.ch |
| (1) 9A3048. | S50A2 | S.P. 2-Position, Radial Connectors | $\$ 7.93$ |
| (2) 9 A3049. | S90 | S.P. 5-Position, Axial Connectors | $\$ 14.95$ |

DOW IKW 52 OHM COAX RELAY5, With 50239 connectors and internal re ceive shorting device.
(3) 9 A3 3050 . Type DK $60-C .115 \mathrm{~V} .60 \mathrm{~Hz} \mathrm{AC} .\mathrm{Net} \mathrm{Each}$.
$\$ 38.15$
(3) As above with extra DPDT external contacts.
$\$ 41.85$

PETERSEN ELECTRONICS HIGH QUALITY CRYSTALS


supplied within the following bands, calibroted integral kilocycles only af oscit-保 -9 .093" Z-6A and Z-9A.050". Orders must be paid in full and ore nonFreq. Range
1,750 to to 2,000

| 1,750 |  |
| :--- | :--- |
| 3,500 | to 2,000 |
| KH |  |

3,500 ta $4,000 \mathrm{KHz}$
7,000 to $7,425 \mathrm{KHz}$ 8,000 to $8,222 \mathrm{KHz}$ 8,334 to $9,000 \mathrm{KHz}$ 24,000 to $24,666 \mathrm{KHz}$ 25,000 to $27,000 \mathrm{KHz}$ 50,000 to $54,000 \mathrm{KHz}$ for factory processing.
2.9C fundomentol 0,000 1054

2-9C Fundomentol 2-9 F Fundomental 2-9C Fundomental 2.9 C Findomental -9C Fundomental 2-9A 3rd Overtone -9A Brd Overtone 2-9A 3rd Overtone
Colibration 250 Cycles 250 Cycles
500 Cycies 500 Cycles 500 Cycles
500 Cycles 500 Cycle $\pm 3 K C$
$\pm$
$\pm$
$\ddagger 3 \mathrm{KC}$
$\pm 15 \mathrm{KC}$

No. 9A3100. Z-6A 100 KHz Freq. Standord. Net Eoch
CRYSTAL SOCKETS
 () 12 A5123

12A5124

Millen 33302
Millen 33102
Cinch 2KM

05": D. Plins, $1 / 2^{\prime \prime}$ Spacing, Ceramic $.095^{\prime \prime}$ D. Pins, $487^{\prime \prime}$ Space, Bokelite

48 c
69 c

# AMATEUR RADIO BOOKS AND ACCESSORIES 



## NEW AMECO CODE LESSONS

NOVICE TO EXTRA CLASS ON $12^{\prime \prime} 331 / 3$ RPM LP RECORDS All iessons on both sides of 1 recora, except Ceneral Class on 2 records.
No. $9 A 3175$. Up to
No. 9 A3175. UD to 8 WPM
 Through Ceneral Class. Net Each. No. 9 A3177. 12 to 15 WPM Conerat Class Supplement. Net Each No. 9 A3178. 13 to 22 WPM

Each..
Extra Class. Net Each W. No. 9 A3179. 19 to 24 WPM
Extra Class Suodement. Net Each $\$ 3.95$ $\$ 7.50$ \$3.95 \$3.95
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## AMECO TECHNICAL BOOKS

COMMERCIAL RADIO THEORY COURSE. Gives sufficient information to poss FCC exominotion for First and Second Rodiotelephone licenses. Wriften in a simple, easy-to-understand manner. Starts of the very beginning with bosic electricity, and continues through radio transmission and recep tion. All information required by the FCC Study Guides is covered in this course. There are 18 lessons, of the conclusion of eoch lesson there are questions presented in exactly the same manner as on the FCC examination. By going through this book carefully, a prospective operator should ochieve the same results if he had taken a home study course of residence course costing hundreds of dollars. 448 poge $\$ 5.95$
No. $1641236.15-01$. Each ............... COMMERCIAL RADIO FCC STUDY CUIDES. Brand new UP-to-date study guides containing FCC questions and easy-tounderstand answers, plus FCC-type multiple choice practice exams
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## RF INTERFERENCE FILTERS

 TWO-TERMINAL SERIES FEED THRU-CASE CROUNDED Popular for quieting ignition, generator and regulator noises in mobilie racio installations and for by-passing AC innut to transmitt ing equioment. Type NFF-315D hos flanged bulkhead mits. illustrated at far left; NFF-055B-1has bracket mit. Average wt. 2 oz.

| Stk. No. | Typo | Mfd. | Amps. | Voltage | Dia. | Lensth | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| 158988 158987 <br> 158987 | $\begin{aligned} & \text { NFF-0558-1 } \\ & \text { NFF-315D } \end{aligned}$ | $\begin{aligned} & .5 \\ & 1 \\ & 1 \mathbf{R} \end{aligned}$ | $R_{8}^{20}$ | $\begin{aligned} & 50 \mathrm{~V} .0 \mathrm{DC} \\ & 600 \mathrm{~V} \\ & \text { WBLLIA } \end{aligned}$ |  |  | $\begin{array}{r} \$ 3.03 \\ 2.16 \end{array}$ |

## \& $\boldsymbol{E}$ W FILAMENT CHOKES for Crounded Crid Amplifiers.

 8 roadband characteristics from 80 through 10 meters, no tuning. Use with regular filament transformers. Sturdy steel Case with mounting brackets.No. FC-15A for total of 15 amp current to one or two

No. 9A3026. Net Each.
$\$ 19.95$
No. FC-30A improved model for one or two tubes requiring total of 30 amps filament current. $51 \mathrm{ze} 2 \times 21 / 2 \times 5$ ". Wt. 2 lbs.
No. 9A3027. Net Each
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No. 800 B E W RF Plate Choke. Ideal for transmitter $^{2}$
 mum rating
core, threaded
250 V . DC
at
500
milliamps. $6 \times 3 / 4$ "
steatite



## NEW TAPE

CASSETTE CODE COURSE \$495
Study code the modern way with your cossette recarder Same proven learning techniques bosed on military "Eye and Ear" Methads like used on long playing records.
Smith 2443 Basic Course. 10 Lessons. Teaches up to 15 words per minute. Complete on one cassette, both sides. Includes 20 page code course instruction book for combined eye and ear study. No. 9A3181. Each.
No. 9A3181. Each
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$\$ 4.95$


Novice Code Course. 12-inch record, recorded on both sides. Progresses in ten lessons from 1 to 15 words per minute. With 20 page instruction booklet. International Morse Code printed on record jacket.
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54.81 Sove on Complete Novice ond Advanced Code Course.
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SAMS INTERNATIONAL CODE

## TRAINING SYSTEM

Specially programmed charts and recordings teach receiving and sending speeds up to 22 WPM. Enables transcribing code messages at 2-3 without memorizing code wharacters. 96 pages ${ }^{\text {code }}$ characters. 96 pages, plus recording. Wt. 1 lb,
No. 943090 . With 331 No. 9A3090. With $3331 / 3$ No. 9A3199. With Tape $\$ 7.50$ No. 9A3199. With Tape Cas-
settes

AUTO RADIO NOISE SUPPRESSORS


## 4


(1) Master Distributor Suppressor. Sure cure for most all ignition noises. For
 No, 38A8009. Net Each.

95 c 10 Lots, Each.
(2) High Efficiency Spark Plug Supdressor.

No. 38A8010. Pkg. of 2 For
 (3) Alternator Noise Filter. Cures interference in your CB or ham receiver or stereo player caused by the alternator. Encapsulated, long life design. Easy to install. Size $21 / 2 \times 11^{16}{ }^{\prime \prime}$. Shpg. wh. $1 / 4 \mathrm{lb}$. No. 38A8000. Imported. Nef Each (1) Cenerator Filter 5 uf. IT 250 Volts for auto radios. Metal encased with insulated lead. Wt. 2 oz.
No. 15A5165. Spec. Ench......................29c 10 Loft, Ench.
AUTO RADIO ICNITION NOISE ELIMINATOR KITS
In handy kits, the needed suppressors, condensers, etc., for a complete installation. Easy to install by anyone


## B \& W MINIDUCTORS

"Air-Wound" construction for very efficient operation as tank coils, RF chokes, etc. Easily cut to required


| Stock No. | Mfg. No. | Turns Per Inch | Coll Dia. | Price | Stock No. | Mfg. No. | Turns Per Inch | Coil Dia. | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 943004 | 3001 | Perlinch | Dia. | $\$ 1.20$ | 9 N3015 | 3014 | $8$ |  | $\$ 1.46$ |
| 943005 | 3002 | 8 |  | 1.26 | 943016 | 3015 | 16 | \% | 1.59 |
| 9 943006 | 3003 | 16 |  | 1.38 | 9 93017 | 3016 | 32 | $1 "$ | 1.71 |
| 9 933007 | 3004 | 32 |  | 1.43 | 9 93018 | 3017 | 4 | $1 / 4 "$ | 1.38 |
| 943008 | 3006 | 8 |  | 1.26 | 943019 | 3018 | 8 | $1 / 4$ | 1.64 |
| 9 93009 | 3007 | 16 |  | 1.38 | 9 93020 | 3019 | 16 | 11/4" | 1.95 |
| 9 933010 | 3008 | 32 | 58 | 1.43 | 943021 | 3020 | 32 | $11 / 4$ | 2.07 |
| 943011 | 3010 | 8 | 3 | 1.50 | 9 93022 | 3021 | 4 | $13 / 4{ }^{\prime \prime}$ | 1.64 |
| 943012 | 3011 | 16 |  | 1.56 | 9A3023 | 3022 | 8 | 13/4" | 1.70 |
| 9 93013 | 3012 | 32 | $3 / 4 "$ | 1.76 | 9 93024 | 3023 | 16 | $13 / 4^{\sim}$ | 2.00 |
| 9 93014 | 3013 | 4 | " | 1.34 | 943025 | 3024 | 32 | $13 / 4{ }^{\prime \prime}$ | 2.13 |

# AMATEUR ANTENNAS AND ACCESSORIES 

 18V 14AVE 18AVT/WB

10-15-20

## MULTI-BAND VERTICALS- 52 OHM COAX FEED Stk. No. Model Description Wt. Lbs. Net Eect 

## TRI-BAND HY-QUAD ANTENNA

10-15-20 Moters, 2 Elements. One feed tine handles maximum legal power. Gain 8.5 db . Front to back ratio $25-35 \mathrm{db}$. Extra heavy duty design-wind survival 100 MPH
All the parts are included, boom, wire, hardware. Spreaders are aluminum broken at strategic electrical points by cycolac insulators. Individually tuned Gamma match on each band, VSWR $1.2: 1$ or better at resonance, with 52 ohm coaxial feed line. Boom, 8 ft . $\times 2^{\prime \prime}$ dia; has boom-to-mast bracket that tilits and mounts on any mast $11 / 4$ to $21 / 2^{\prime \prime}$ dia. Length of spreaders $305^{\prime \prime}$ Turning radfus $13^{\prime} 6^{\prime \prime}$. Wt. 42 lbs.
No. 9A7002. Net Each.
\$129.95

## MONOBAND VHF BEAMS

New Total Performance Beoms. Seomless oluminum tubing, mochine formed heovy brockets MIL spec. iridited. F/B rotio $20-30 \mathrm{db}$. VSWR $1.5: 1$ of resonance. Max. wind survival 100 MPH
Stk. Ma, Modal Description - Gain Elgment Lqth. Boan Wt Each
 $9 \mathrm{Al70} 64 \mathrm{~B} \quad 6 \mathrm{M} .4 \mathrm{El}$. $12.7 \mathrm{db} .9 \mathrm{Ft} .-11 \mathrm{ln} .12 \mathrm{Ft}$. 10 Lbs .26 .50

## THUNDEREIRD 10, 15, 20 METER BEAMS

Feature the new frequency stabilized $\mathrm{Hy}-\mathrm{Q}$ Trops, offering better performance and mechonical reliability. Beta matched 52 ohm coox feed. Handles moximum legal power. F/B rotio 20-25 db.
Stk. No. Madel Description Galn Lgth. Boom Wf. Net Eech
 FERRITE BALUN MATCH for $10-80$ Meters.
No. 9A23. Model BN86. Wt. I lb. Net Each
$\$ 14.95$
INSULATORS FOR LONG WIRE AND


DOUBLET ANTENNAS

Fig. (1) and (3) are molded high stcength Cycolac
Fig. (1) and (9) are glazed porcelain. Fine for recelving antennas.

(1) No. 9A173. HyGain Cl heavy duty center insulator. Each.
54.95
2.95
$\ldots \quad 1.00$
(9) 943029 . Birnbach $66841 /{ }^{\circ}$ ", porcelain end insulafor. Each... $\qquad$ 1.00


## AMPHENOL COAXIAL CABEE ASSEMBLIES

FOR CB-AMATEUR-MONITOR RECEIVER ANTENNA CIRCUITS Finest low-loss polyfoam coax. attached PL259 plugs. factory assembled to save time and money.


Description
Wt. Net Each Added lightning protection for recelving and transmitting equipment, ham geor. citizens tand transceivers etc. using 52 ohm or 72 ohm coaxial antenna lead. shpo. wt. 1 lb .
No. 10a3001. Cusheraft LAC-1. Threaded for standard PL259 connector one end, SO239 connector other end. Each No. 10A3038. Cushcraft LAC-2. Threaded for PL259
connectors Both ends. Each.
(hily fisen mobile ham antennas
Power Rating To Handle All Poputar Amoteur Transceivers
-52 Ohm Feod - Any Length Line
 (1) FOLD OVER MASTS ONLY

Oesigned for rapid coil changing or garaging. For use with resonators above. Tempered $1 / 2{ }^{\prime \prime}$ aluminum, $3 / 8-24^{\prime \prime}$ base. Use MO-1 for rear deck or fender mounting, MO-2 for bumper mount. Wt. 4 lbs.
No. 9A103. MO-1, Length $54^{\prime \prime}$, folds $15^{\prime \prime}$ from base. Net Each............ $\$ 11.95$ No. 9AlO4. MO-2, Length 54", folds $27^{\prime \prime}$ from base. Net Each............. $\$ 12.25$

## RESONATOR SPRING

Model RSS-2. Stainless steel spring designed for use between resonator and Hustler antenns mast. Has $3 / 8 "-24$ thread female on one end and male on the other. Shpg. wt. $1 / 2 \mathrm{lb}$. $\qquad$ $\$ 4.75$


Turn-over mast is hefty $5 / 8^{\prime \prime}$ solid heat-treated alumInum. Folds. swivels, mounts on trunk or deck. Shakeprcof. sleeve clutch releases fold-over hinge. Stainfess steel swivel base. $3 / 8-24$ thread. Wt. 6 lbs.
No. 947003 . HyGain 257. Takes colls above $36-24$ base. Ench …es........................................ $\$ 16.95$ No. 9 A27. Type 492 Sprlng. Mounts below coll.



MO:312 anima MOUNTS

## BODY MOUNTS $3 / 8^{\prime \prime}-24$

(1) 9A29. Chrome swivel body mount. Hy Gain BDYF. Not Eam........
(3) 9A38, Jiffy Mount. Fits under deck lid. Hy Cain JMS. Net Each.
(1) 9 A237. Deluxe Swivel Body Mount. Chrome Plated. Coax adaptor.

Ant. Spec. M13. Net Each
(1) 9A238. Aluminum Swivel Body Mount. Ant. Spec. M3, Net Each...... 3.95
(1) 9 A3095. Insulated gutter cllp. Hy Gain GCP. Net Each.......................
(0) 9A64. Stainless Steel Strap Bumper Mount. Hy Gain BPR. Net Each
(1) 9A161. Double Chain Bumper Mount. Ant. Spec. AM191. Net Each. $\$ 10.45$
(8) 9A239.Cadmium Plated Spring. Will support 102" whip.

Ant. Spec. M3A. Net Each.
53.95

Ant. Spec. M3AD. Net Each.anow Gin SPC. Nes Ench ....................... 55.9
84.95

| (8) 9A26. Heavy Duty Chrome Spring. Hy Cain SPCH. Net Each. |
| :--- |
| (n) $9 \mathrm{A27}$. Minlature Stalnless Steel Soring. Hy Gain SPCM. Net Each -58.95 |
| 2.98 | Amateur and Commercial Whips, $3 / 8^{\prime \prime}-24$ Mounting

Mighest quality stainless taper ground, cutable to freg.:
(7) 9At01. Commercial $60^{\prime \prime}$ Stcel. 48 MC or higher. Each
$\$ 5.75$
(7) 9A48. Commercial $96^{\prime \prime}$ Steet. 29 MC or higher. Each................ $\$ 7.50$

# AMATEUR AND CITIZENS BAND ANTENNAS 



DX-120 2 METER AMATEUR 20 ELEMENT ARRAY
Combines best yagl and colinear features for 14.2 db forward gain. 20 db F/B rafio. low radiation angle, optimum front lobe, broadband coverage,
greater capture area and direct 52 ohm feed. Size installed $118{ }^{\circ} \mathrm{H}$. $75^{\circ}$ greater capture area
W. $30^{\prime \prime}$ D. Wt. 8 lbs.
Ne. 9A7011. Model DX-120. Net Each
$\$ 29.50$

## TS-1 "TRIK STIK" ALL-PURPOSE ANTENNA

The answer to literally hundreds of antenno problems. Adjustable length elements tune to CB, Hi-Lo Bond Potice, Aircraft, Business Radio, SWL, Amateur, TV or FM. Comes with dimension chart for each service 27 to 150 MHz . Use either 52 or 72 ohm feed line. Wt. 2 lbs .
No. 10A7036. Model TS-1. Net Each
$\$ 8.95$

## A147-11 11-ELEMENT YAGIS

The standard of comparison in VHF beams! Frequency cut for 'FM operation and vertical polarization. Forward gain 13.2 db . Has 52 ohm coax feed and takes PL259 connector. Boom length $144^{\circ}$. Turning radius $7^{\circ}$. Shpg. wt. 7 lbs. No. 9A7044. Model A147-11.
Each
$\$ 17.95$
Rear bracket for mast or tower side mount. Forward gain 9 db Boom length $44^{\prime \prime}$. Has 52 owm Reddi match and takes PL259 connectar. 146 148 MHz . Shpg. wt. $31 / 2 \mathrm{lbs}$.
No. 9A7045. Model A144-4. Each
$\$ 9.95$

## AFM-4D 4-POLE 2-METER FM ANTENNA

Up 109 db galn over a $1 / 2$ wave dipole. Overall antenna length $23^{\prime}$, pattern $360^{\circ}{ }^{6} \mathrm{db}$ gain, $180^{\circ} 9 \mathrm{db}$ gain, 52 ohm direct feed. Takes PL- 259 connector. Package includes 4 complete dipole assemblies on $10^{\prime \prime}$ mounting booms. Complete harness and all hardware. Vertical support mast not supplied. Will take up to a $2^{\prime \prime} 0.0$. mast.
No. 9A7025. Model AFM-4D. Net Each
$\$ 42.50$
AR-2 RINCO 2-METER FM ANTENNA
3.75 db gain: (reference $1 / 4$ wave ground plane). Full half wavelength. Overall antenna length at $147 \mathrm{MHz}^{2} 42^{\prime \prime}$, ring dia. $5^{\prime \prime}$ direct $D C$ ground, 52 ohm direct feed. Takes PL-259 fitting. Low angle of radiation, factory pre-
assembled and ready to install. Takes up to a $11 / 4$ " 0.0 . mast, $1-1$ SWR. assembled and ready to install. Takes up to a $11 / 4$ " O.D. mast, $1-1$ SWR. No. 9A7024.
Model AR-2. Net Each
$\$ 12.50$
CR-1 "RINCO" CITIZENS BAND BASE ANTENNA
Highly acclatmed by users because of outstanding performance. Requires no radials. Full length capture area gives amazing 3.75 do sain. full circle, with low angle radiation. Power ring gives perfect 52 ohm feed line match. Height $17 \mathrm{ft} .10 \mathrm{in}$. Ring dia. $10^{\prime \prime}$. Wi. 2 lbs.
$\$ 21.50$
No. loA703S. Model CR-1. Net Ejch


MONITOR STIK
$\$ 16^{95}$

Use with any coax-input - single, dual, or three band receiver. It automatically scans the $30.50,135.175$ and $450-470 \mathrm{MHz}$. bands. Can greatly increase the range of your receiver. Buill-in coax fitting takes a PL259 connector. Complete instructions supplied so even the non-technical person can assemble and install monitor stick in a minimum of time.
No. 9A7043. Model MS-2. Each
$\$ 16.95$

## (8) ANTENNA SPECIALISTS MONITOR ANTENMA

Mobile Model MON-16 Antenna 118 -174 MHz 3 db gain on "Quick.Grip" trunk mount. Installs quickly 3 easily. Includes $17^{\prime} 50$ ohm coax cable and PL259 connector. Stainless steel whip and spring. No. 9A7026. Each
$\$ 21.95$
(9) Model MON-17 Antenna $118-174 \mathrm{MMz} 3$ db galn. Mounts on $11 / 2^{\prime \prime}$ (or less) pipe. Stainless steel radiatorf radials. $38^{\prime \prime}$ radiator- $24^{\prime \prime}$ radials. Order cable below. No. 9A7027. Each
. .521 .95
(0) Model MON-1 Mobile Anfenna, Universal-location mobile antenna covering the entire $118-174 \mathrm{MHz}$ plus the $450-470 \mathrm{MHz}$ range when cut to approximately $6^{\prime \prime}$ Cutting chart included. Mounts on roof top or any flat deck location. excelient reception. Pin plug connection plus adaptor for SO-239 connections. Complete with $-15^{\prime}$ RC-58/U cable.
No. 9A7019. Each
(c) Model MON-3 Bare Station Antenna, Universal antenna for any base application where professional monitoring capability is a must on Aircraft, Business and public safety bands from $118-470 \mathrm{MHz}(450-470 \mathrm{MHz}$ when eut to approx. $6^{\prime \prime}$. Cutting chart included. 5 stainless steel radials, rugged construction. Mounts on any pole or mast top to $11 / 4$ diameter-cable not supplled. Termination for PL-259. Order cable below. No. 9A7020. Each........................................................ 58.95 (3) Model MON-13 Antenna. "Quick-Crip" ali-band mobile monitor antenna. Features A/S exciusive "Quick Grip" moynt for trunk lip Installation. No holes to drill, instalis in minutes. Adjusts to specific frequency or covers entire business and public safety bands from $25-174 \mathrm{MHz}$. Includes $16^{\prime}$ lead and pin plug connection plus adaptor for SO-239 connections.
No. 9A7028. Enchowmmornasonme............................. $\$ 16.95$
OModel MON-8 Combination Base Stotion Antenno. Multiple loading cail design for 25.50 MHz and 118 ${ }_{7} 174 \mathrm{MHz}$. No tuning necessary. Designed for extended omni-directional reception. SO-239 connection. Order amni-directional reception. se coble below. Mounts on $1 \mathrm{k} \mathrm{K}^{\prime \prime}$ (ar less) pipe.
No. 9 A 7046 . Each
$\$ 19.95$
(7) Model MON- 12 Gutter Clamp Antenna. Covers $25-174 \mathrm{MHz}, 10 \mathrm{ft}$. leod with pin jack plus adaptor for SO-239 connections.
No. 9A7047. Each
$\$ 12.95$
(3) Model MONR-10 Replaces Stendard AM Anienna. Recoive AM and 25.174 MHz simultaneously. Adjustable whip. With coupling harness and with pin jacks and adaptor for SO. 239 connections.
No. 9 A7048. Each
$\$ 26.95$
No. 9A3191. MM56. 100 RC58/U Coble with PL-259 connector each end. Each

## HYGAIN 2 METER UHF ANTENNAS

() Colinear Gain Ground Plane. Single element omnidirectional goin antenna. Vertically polarized, it delivers true all directional gain of 3.4 db in measurad field strength intensity, Vertical radiator of seamless aluminum tubing. Radials ore $1 / 4 / 4$ " solid aluminum rod. VSWR less than 1.5:1. Radiator length 4 H . Radial lengths $19^{\prime \prime} \mathrm{Ra}$ diafor dio. 7 16" Radial dio. $1 / 4^{\prime \prime}$. Mast 1 " to $1.5 / 8^{\prime \prime}$ OD.SO-239 connector on antenna. Shpe. wt. 2.4 lbs. No. 9A7038. Hy-Gain No. 338. Each W... \$14.95 (10) Standard Ground Plane for 108 thru 470 MHz . Ruggedly constructed unity gain $1 / 4$ wavelength ground plone supplied complete with cutting chort for tuning to any discrete frequency in the 108 thru 470 MHz frequency range. Heavy gauge seamless aluminum canstruction with rugged machine formed mast bracket insures lasting durability. Takes maximum legal power. Mast ${ }^{\prime \prime}$ ta 1 . $5 / 8^{\prime \prime}$ OD. SO-239 connector on antenna. Wt. $11 / 4 \mathrm{lb}$. No. 947039. Hy-Gain No. 267. Each
58.95 (11) Magnetic Mount 148-174 MHz. 3 db gain magnetically mounted antenne with pertormance equal to permanent mounts. Stores easily for emergency use, holds secure at $90 \mathrm{mph}+$. Stainless steel whip. Alnico magnet. 12 ' of RG.58U caox and PL259 cannector. Shpg. wt. 2.4 lbs.
No. 947040 . Hy-Gain No. 265. Each
$\$ 22.95$
(11) Magnet Mount High Band UHF Mobile. Magnetic mount holds ontenno in place at speeds of up to 100 mph . Covers the $108-450 \mathrm{MHz}$ range. Installs instantly, removes instontly. Aluminum flange on bose is capacitively grounded so there's no need to remove paint. Comes with 18' of RG-58U and PL259 connector. Shpg. wt. 1.9 lbs.
No. 9A7016. Hy-Gain No. 262. Earh ...... \$16.00 (13) No-Hole Trunk Lip Mount $130-1 / 4$ MHz. $5 / 8$ wave 3 db goin high band ontenna, plus a trunk lip adaptor and $16^{\prime}$ of RC. 58 coax and PL259 connector. Ready to install. No holes to drill, attaches with two set screws. Polypropylene skit shopes to surfoce irregularities for a professional looking job. Shpg. wt. 1.4 lbs
No. 9A7041. Hy-Gain No. 263. Each
$\$ 19.95$ (8) is Wavelength Root Mount Whip for 108 thru 470 MHz . Tunable to any discrefe frequency in the 108 thru 470 MHz . frequency range using cutting chart supplied with the antenno. Leakproof installation is easily accomplished from exterior surface of any vehicle using revolutionary claw mounting. Furnished with coax and

## ANTENNA SPECIALISTS ANTENNAS

## ANTENNA SPECIALISTS WHITE FIBERGLASS <br> CB MOBILE ANTENNAS

## BIG MOMMA MOBILE ANTENNA

If she burns out, we'll give you a new one. Bliggest, toughest cail in the business. Stainless steel whip coated with copper and nickel for supercanductivity. Radiator length $39-3 / \mathbf{4}^{\prime \prime}$, Loading coil 1$7 / 8^{\prime \prime}$. Factory connected. 17 feet of RG: 58 gablé. No. 10A7074. Model M410. Quick Grip Truck Lip Mount No. 10A7081. Model M411. 3/4" hole mount stiffer spring and smaller diometer coil. YOUR CHOLCE EACH
\$29.95

## "BIG DADDY" THE BEAM

Dual poiarity for best signal selection. Long $22^{\prime}$ boom - optimum spocing for maximum gain. $2^{\prime \prime}$ diameter boom. tapers to ands for reduced wind loading. Verticalhorizontal control box included. Tunable gamma match on each polarity . no power limitations. Forward gain equal to or better than any available. Wind rated in excess of 100 mph . Super ruggedized for long life. Shpg. wt. 42 lbs. No. 10A7080. M-216.
$\$ 159.95$
Each


Boss 404. Hottest CB Antenna in the air! Pure yagi design to focus beamwidth to a narrow $52^{\circ}$ with 100 watts effective radiated power from a 5 watt CB set. Precision gammamatch feeds provide an SWR of less than 1.5 to 1 with no adjustment: 1.1 to 1 if you fine tune. Optimum spacing maximizes front-to-back ratios. Boom length-17 ft, Mounting clamps accept ${ }^{\prime \prime}$ pipe. Full $1 / 2$ wavelength elements. Wi, only 17 lbs.
$\$ 99.95$
New! Mighty Magnum III Model M-227. Heighf 16 ft .7 in . Electrically shortened radials only $60^{\prime \prime}$ long permit easy installation and lower wind loading Omnidirectional gain 4 db . Half-wave height provides low angle of radiation. Wt. 10 lbs .
No. 10A7034. Model M-227. Net Each
\$36.95
Model M-117 Super Marnum Omni-Gain Ground Plane. Gives 3.75 db gain. Features low angle of radiation. Has rigid aluminum radiator, $41 / 4$ wavelength radials. Exceptional mechanical strength. Shpg. wt. 10 lbs. $\$ 32.95$
No. 10A7008. Model M-117. Each No. 10A7008. Model M-117. Each

Model MS-119. Super Scanner Omni or Directional Antenna. Rotates signal - NOT THE ANTENNAI 5.75 db omni gain. 8.75 directional gain. Vertical elements are $17 y_{2}^{\prime}$ long mounted at $120^{\circ}$ points oin $3^{\prime}$ radius circle. Requires 4 wire TV rotor type cable for scan control and 52 ohm coax leod for antennas. Shpg. wt. 17 lbs .
No 10A7078. Model MS-119. Each
$\$ 99.95$

## MARINI ANTINNAS

Sparkling marine white fiberglass. Center looded. No ground plate needed.
Tuneable tip allows instant peaking (nat shown)
No. 10 A7075. Model A5M94. 4 foot Non fold-down Each ... \$28.95 No. 10A7077. Model MR221. 6 foot fold over bose. Eoch
$\$ 39.50$

# HY-GAIN CB ANTENNAS AND ACCESSORIES 

HYGAIN CB POWER METER
Provides oll functions necessary to analyze your tronsmitted signal and antenna performance high or low power. Features wotl meter with three scales ... 10 W., 100 W., 500 W . forward. SWR scale, percentage of modulation. Clossic wood gain panel and professional look enhance every CB station. Interconnection cables included. Size: $3 \% / 4 \mathrm{~L} \times 4^{\prime \prime} \mathrm{W} . \mathrm{X} 4 / 4^{\prime \prime} \mathrm{H}$. Shpg. wf. 4 lbs. No. 10A3045. Model 421 . Each
\$39.95


## RECEIVER PRE-AMP



Provides a tunable receiver preamplifier capable of up to 20 db gain on all 23 channels. On-the-oir-symbol. Automatic protection switching. Operates on 12 volts DC and 110 Volts AC. Shpg, wt. 2 lbs.
No. 9 A3228
HyGain No. 422. Net Each
$\$ 59.95$

## ANTENNA MATCHER

Minimize your power loss. Lower your SWR. Maximize your effeciency. Will match ony antenno, regardless of SWR. Hondles up to 500 watts. Shipg. wt. 12 oz .
No. 9 A3229.
HyGain No. 477. Net Each
$\$ 9.95$

## TV INTERFERENCE FILTER



Low pass television interference filter for all $C B$ rigs: Reduces most harmonious and spurious signals. Handles up to 300 watts.
No. 9 A3230.
HyGain No. 476. Nef Each
$\$ 9.95$

LINEAR AMPLIFIERS FOR $25-50 \mathrm{MHZ}$
LINEAR AMPLIFIERS FOR 25-50 MHZ
USINESS AND AMATEUR 10 METER BAND


## ILLEGAL FOR USE ON 11 METER CB BAND

Now, you can get maximum signal COMINC and COINCI The Bi-Linear amplifies weak signals 20 db to receive PLUS tnsurpassed power boost on transmit.
The Bi-Linear goes to work the instant you key yaur microphone, giving your communications system 220 watts PEP of real "talk power." Will multiply the range of any tow power transceiver or transmitter (1-is watt output) in the $25-54 \mathrm{MHZ}$ business band and may also be used in the Amateur 6 or 10 mefer bands on FM. AM. SSB, DSB. or CW. Bullt-in tuning meter included, Separate switches for: AM-FM or SSB-DSE/Pre-Amp On: Off/Transmit Standby/Power On-Off. Easy to hook up with no internal connections required.
F.C.C. type accepted under parts 89,91 and 93 over the frequency range $25-40 \mathrm{MHz}$.
Size: $41 / \mathrm{g}^{\prime \prime} \times 71 / 8^{\prime \prime} \times 10 \mathrm{Z} / \mathrm{c}^{\prime \prime}$. Wt. 12 lbs .
No. 10A64. 115 VAC Base Unit - Model 482. Net Each
$\$ 139.95$
12 VDC Mobile Unir with mounting bracket. Wt. 9 lbs.
No. IOA65, Model 483. Nat Each
.$\$ 159.95$

## - fyquin

## BI-LINEAR 600 WATTS P.EP. RF DECKS

 ${ }^{5} 159^{\text {ss }}$Grid driven for optimum linearity and low distortion. Dust free covered relays built in receiver preamplifier. For extra high power, will operate over the frequency range 26.35 MHz , is FCC Type accepted under parts 89,91 , and
93 over the entire frequency range. Size: $71 / 3^{\prime \prime} \times 12^{\prime \prime}$. W. $51 / 2 \mathrm{lbs}$.
 No. 10A3072. Model 600. Each..
120 VAC Base Power Supply. Size: $9^{\prime \prime} \times 6^{\prime \prime} \times 6^{\prime \prime}$. Wt. 25 lbs.
No, 10A3074. Model 601. Each
12 VDC Mobile Power Supply. Size: $6^{\prime \prime} \times 8^{\prime \prime} \times 3 \frac{3}{4} 4^{\prime \prime}$. Wt. 8 lbs. No. 10A3073. Model 602. Each


## rhygain

CB BASE STATION ANTENNAS

CLR-2
NEW! SUPER CLR THE PENETRATOR. The only antenna you can buy that'll outperform the HyGoin CLR2. Full $5 . / 8$ wave ( $22^{\prime} 9 \%^{\prime \prime}$ ) radiator concentrotes your power even closer to the ground ... where you want it. The Penetrator is capable of pumping out up to 1,500 wotts. Advanced double-matching-funing and linear phasing for low SWR give you a new standard of electrical performance. Four full length radials far more radiated energy ... boost your talk power. Perfect 52 ohm to match your transceiver. High strength aircraft type aluminum. Specifically designed to accept AM-FM-SSB-DSB signals low loss. New top discharges more static. Recessed coax connectors. Double.matching and linear phasing eliminate contained transformers and frequency drift due to heat. Shpg. wt. 10 lbs.
No. 9A 7037. HyGain No. 500. Each
$\$ 39.95$
CLR-2 COLINEAR. Embodies every significant electrical and mechanical innovation. Radiator height of $19 \mathrm{H}, 10 \mathrm{in}$. lowers the angle of radiation directing a maximum distance-reoching signal along the harizon. Radiator and 9 ft . radials are all high strength seomless oluminum. Has tough styron insulators and iridated weatherproof double grip mast support. DC grounded for lower noise, from 4 db gain in improved signol-to-noise ratio. Wind survival 100 mph. No. 10A7003. Model CLR-2. Wt. 7 lbs. less coax and mast. Eo. . \$32.95

## 4, Myain

LONG JOHN 5-ELEMENT
ROTATABLE BEAM

## - 12.3 DB FORWARD GAIN

## - 24 FT. BOOM LENGTH

## - TREMENDOUS, RANGE

Bose station to mobile, or point-to-point, the Long John will multiply your power 18.4 times. If's by far the mosi powerful single beam antenna commercially monufactured for Citizens Band.
Feotures heavy-wall aluminum elements and super strength toper swaged tubing. Elements are optimum spaced on the 2 O.D boom to insure maximum theoretical gain. The driven element is at DC ground for improved signal-to-nolse ratio and lightning protection. Power multiplication, 18.4 gain 12.3; front-to-back ratio 25 db , SWR 1.05 : 1. Boom length 24 ft . Shpg. wt. 24 lbs. No. 10A7072. Model 410. Net Each
$\$ 59.95$
CB3 . . . 3 ELEMENT BEAM
An outstanding performer ... delivers 8.2 forward gain; 20 db overage $\mathrm{F} / \mathrm{B}$ ratios and, $40 \mathrm{db} F / \mathrm{S}$ ratio. Will mulfiply your tronsceiver's output power by 6.6 times. Features exclusive Hy Gain Beta Match. Feeds with 52 ohm coax. Full sized $/ 2$ wove-length elements. Rotates with stondard TV ratator. Boom length 8 ft ., longest element 18 ft ., furning radius 4 ft ., and maximum wind survival 80 mph . Weight 9.8 lbs
No. 9 A7036.
Hy-Goin No. 533. Net Each
\$34.95

## + 14 gain

GOLDENROD

A ruggedly constructed low-cost high performance vertically polarized, omnidirectional base station antenna, Develeps transmitting gain of 3.8 db . Shart arcuate radials for easy installation anywhere. Overall height $212^{\prime \prime}$. Shpg. wt. 5 H lbs No. 1047069. Model 579. Each
$\$ 21.95$


## [3] DUMMY LOAD/MODULATION INDICATOR

Light indicates amount of modulation-serves as dummy load for testing. nector. Shps. wt. $1 / 2 \mathrm{ib}$. $\$ 2.49$ No. IOA3041. wt. $1 / 2 \mathrm{lo}$.
No. 10A3041. Each


## SUPERCONSOLE 23 CHANNEL SSB/AM BASE STATION With 8 Channel,

## VHF/FM Hi-Lo "Scanner"

 The most of the best-offering every feature for highest reliability in routine REACT and emergency CB operation plus simultaneous VHF, Hi-Lo monitoringt The basic radio, contained in a fine looking, grained.wood housing, is the superative performing Sidebander for full 15 watts p.e.p. input on SSB, 5 wotts AM. Set hos 23 channels, synthesized-no crystals to buy. Feoturest Built-in 117 VAC supply. Unit will swith to external 12 V battery if power fais. Electric clock w/timer. Meter shows output power NSWR also signol strength. Squelch. Noise limiter. Separate Hi-Lo receiver sequentially scans any of 8 pre. selected channels, looks on first chonnel in which signal appears, resumes scanning when signal goes off. Any channel can be locked out. With suitable crrvstals, Lo ( 30 50 MHz ) or $\mathrm{Hi}(150.170 \mathrm{MHz}$ ) channels can be scanned in any combination.Telescoping antennas ond dynamic microphone are supplied. Size $: 61 / 2^{\prime \prime} H \times 19^{1 / 2} 2^{\prime \prime} W \times 10^{\prime \prime} \mathrm{D}$. Shpg. Wt . 181 lbs . No. 10A99. Model SBE-14CB. Each ... \$589.95 No. 9 A3211. Crystals (specify frequency) Each $\$ 4.95$


100X, SSB/AM, DESK DYNAMIC MICROPHONE


Exclusive desk top design has dynamic element for crisp. distinctive speech, both SSB and AM. Solid-staie amplifier in heavy bose has 40 db ad. justable gain, matches SBE, other mokes of CB equipment. PTT/Lock-in switch has split-iab action. Coil card and plug are provided. Re quires 9 volt battery listed quires
Nolow. 1043080.
Each
$\$ 39.95$

## SPECIAL OFFER

When purchased with $5 B E$
$8,11,12$, or 14
Only
No. 2iB141. 9 volt battery
Ea. ................. 54
No. $21 B 141.9$ volt battery
Eo. .................. 54


## CONSOLE, 23 CHANNEL, SSB/AM CB BASE STATION

The SBE "Sidebander" with exclusive "power pump". is the surging communications force in a handsome, highstyle CONSOLE with cabinet finished in rich, natural. wood-grain pattern. Sidebander control arrangement is retained. An electric clock with settable alorm is integrated into the panel design. Switches are rocker-arm typeRF attenuator is vertical. Indicator lamps add important color coding, show power ON, modulation intensity on AM. VOX (voice operated relay) is available accessory. Set is all solid state.
features: Buihtin AC supply. Set will switch automaticalby to external 12 V bottery if power foils. 23 channels. synthesized. 15 W p.e.p. w/both USB and ISB. 5 W input on AM. Panel meter reads SSB or AM output power on transmit, relative signal strength on receive, also VSWR. Built-in speaker. PA provisions w/external accessory spooker. Dynamic microphone supplied.
No. 10A81. Model SBE-8CB. Each
$\$ 429.95$
No. 10482 . Voice. Operated Relay Model 8CB-VOX Each

## CORONADO II, 'TWINTHESIZER'



## TRINDAD, SYNTHESIZED 23 CHANNEL AM, CB BASE STATION

A complete, full featured base station at an aftordoble price is housed in a luxurious wood grain cabinet with attractive low silhouette and shape found usually only in expensive Hi-Fi and similar equipment. Panel is dull block highlighted by brightly plated knobs, accented by colorful lighted meter scote and channel dial. An outstanding performer, Trinidad has 23 channels, synthesized so no crystals needed. Set delivers full output, hos high modulotion copability. 117 VAC power supply is built-in.
Features: Sensitive receiver has low noise level. Delfo Tune control "zeros in" off-frequency signals for maximum clarity. Meter reads output power, VSWR, " $S$ " units on receive. Squelch and noise limiter included. Set has earphone jack, PA provisions. Dynamic microphane $w / p-t-t$ switch and coil cord is provided. Size: $53^{3 / 4} H \times 17^{\prime \prime \prime}{ }^{\prime \prime} W \times 83 / 4^{\prime \prime} \mathrm{D}$.
No. 10A100. Model SBE-11CB. Shpg. wt. 14 lbs, Each.
$\$ 179.95$


> CATALINA, AM MOBILE 23 CHANNEL

CB superstar! Distinctive styling-standout performance-unequalled value 23 channels, all crystals supplied. 5 wotrs. High-level AM modulation. Speech clipper and filter for higher overage talk power. Exclusive SBE dynamic microphone w/coil cord. Unique back-lighted diof gives lorgest channel readout ever. Channel 9 identified in green. "Feel right" military style knobs. Mirror chrome tinish. Tilf/lock universol mounting bracket. Speaker on bottom. External speaker jack. Super receiver sensitivity. Series gate noise limiter. Adjustable squelch. High reliability silican semiconductors throughout.
Operates on 12 VDC . Size: $11^{\prime \prime} \times 6 / /^{\prime \prime} \times 7 / h^{\prime \prime} . W_{\mathrm{t}}$. 4 lbs .
No. 10A79. Model SBE-9CB. Each
$\$ 99.95$

$\$ 31.95$

## WITH TWIN, 23 CHANNEL DIALS FOR MANUAL OR ELECTRONIC "SCANNING"

## Synthesized

all crystals supplied.
dials allow tast check of all CB channels for best contacts, leost interference. Any two channels can also be "scanned" continuously. Strong signal on channel "locks in", scan continues when channel clears. lights show octive chonnel, Ideal for monitoring REACT, HEIP, Channel 9 and any other regularly used channel. Perfect tor mobile channel-check without toking eyes off road. Almost like hoving two receivers in a single cabinet!
feafures: Handsome, cotoriul styling. All solid stote. 5 wotts input, deep modulation. Sensitive superhet receiver w/very low noise level. Noise limiter. Adjustoble squaich. Speaker built-in. PA provisions. I2VDC operation. Dynomic microphone and mobile mounting bracket supplied. Size: $21 /{ }^{\prime \prime} \mathrm{H} \times 8-3 / 8^{\prime \prime} \mathrm{W} \times$ $9-3 / 8^{\prime \prime} \mathrm{D}$. Shpg. wt. 8 lbs .
No. 10A102. Model SBE.10CB. Each
$\$ 229.95$
No. IOAB3. Model SBE-3AC.
No.
$\$ 42.50$

> SIDEBANDER II, 23 CHANNEL, SSB/AM, CB MOBILE


Now even better with "power pump" for thumping 15 wott p.e.pi S58 input on upper or lower sideband and exclusive, speech operated "logo gradient" load control for greater overage power, lower battery drain. Set also provides well moduloted 5 wotts on AM.
Other features: All solid state. Positive, ultro-fast solid state antenna changeover. No relay. Sensitive receiver with excellent signal/noise ratio has RF gain control, both SSB and AM and a SBE Super Shape crystal lattice filter in 1-f. Clorifier for speech clority, both AM, SSB. Panel meter shows autput power AM, SSB, also signal strength on receive. Super gating type noise limiter. Adjustable squelch. Built-in speaker. PA/Poging with big audio "belt" uses external speaker. Synthesized, 23 channal operation-no crystals needed ( 46 channel potentiol with USB and (SB). 12VDC operation. Supplied w/dynamic microphane and mobile mounting bracket. Size: $21 / 4^{\prime \prime} H \times 71 / z^{\prime \prime} W \times 91 / 2^{\prime \prime} \mathrm{D}$. crophane ${ }^{\text {and }} \mathrm{lbs}$. wf. 9 lbs .
No, IOA101. Model SBE-12CB. Each
$\$ 307.95$
Pedestal Power Supply for 117 VAC operation.
No. 10A83. Model SBE-3AC. Each
$\$ 42.50$

# thu-gain PROFESSIONAL CB TRANSCEIVERS 

HY-GAINER 23M 5 WATT 23 CHANNEL MOBILE TRANSCEIVER


If you reolly wont to get out ond be heard-IOUD AND CLEARI-the HyGainer 23 M is the mobile transceiver for youl Big power boost on selected fransistors meons that you get lop output on modulation. Compare the HyGainer 23M with any competitive unit... for price, power and total performance features. Dual conversion superheterodyne: Crystal synthesizer provides 23 crystal controlled transmit and receive channeis. Delto tuning of +1.5 KHz on each channel. Mechanical filter. Sensitivity 0.5 mV . Autamatic noise limiter, variable squelch. PA switch. Operates on 12 volts positive or negative ground. Complete with rotary mounting bracket, push-to-tolk mic and instructions. Size $6^{1 / 4 " W} W \times 2^{\prime \prime} H \times 7 y / 4$ D. Shpg. wt. 6 lbs.
No. 10A104. Hy-Gainer 23 M . Each
$\$ 149.95$

4
TWENTY-THREE PLUS
23 Chanmel base OR MOBILE TUBE TRAMSCEIVER
$\$ 18995$


The Twenty-Three Plus is rugged and ready for hard wark. Designed for the mon who expects top performance. Check out the Twenty. Three Plus and you'll know what we mean. Crystols supplied for all 23 channels. Tough tubes for maximum performance. Operates on 115 VAC or 12 VDC . Illuminated S/RF meter. Fingerotip immediate PA facility. Built-in ronge extender cuts through skip and hash. 2.5 KHz band spread for top selectivity and unwanted signal rejection. Modulation indicator. Built-in TVI filter. Autamatic antenna match and .8 uV sensitivity. Complete with mounting bracket/desk pedestal, pushototalk ceramic mic. AC and DC power cables, and instructions. Size $12^{\prime \prime} w \times$ $8 \mathrm{k} \mathrm{k}^{\prime \prime} \mathrm{d} \times 5^{\prime \prime} \mathrm{h}$. Shpg. wt. 16 lbs.
No. 10A103. Model 23 Plus. Each
$\$ 189.95$

MIDLAND SSB-AM BASE/MOBILE 23-CHANNEL CB HAS 15 WATTS POWER ON SIDEBAND


## 15 WATTS PEP ON SIOEBANO. 5 WATTS ON AM

All crystols supplied for tronsmit and receive on 3 modes ... AM, upper and lower sidebond... AC powered clock ideal for logging calls, Switchable F.E.J. noise blonker. Dual conversion superheterodyne receiver hos crystal lattice filter, AGC circuit, slide-type RF gain control, and fully variablo squelch. Public Address CB Switch. Illuminated meter indicates " 5 ", RF output, and forward/reverse SWR. Panel indicator lights for power and transmit. Metal cabinet with die-cast control panel, chrome trim. Camplate with mike and coiled cord, $A C$ and DC power cobles. Size: $13 \times 5 \times 9-5 / 8^{\prime \prime} \mathrm{W}$, Shpg. wt. 17 lbs.
No. 10A77. Model 13-885.
Each
$\$ 359.95$


15-WATT SSB,
23 CHANNEL MOBILE

## $\$ 329^{95}$

Dual transmitter circuitry allows 5 watts pawer on AM, 15 watts P.E.P. on SSB. Sensitive superhet receiver system hos tuned RF, crystal lattice filter for maximum selectivity, AGC circuit. F.E.T. noise blanker reduces or removes electrical interference during receive. Full varioble squelch allows quiet standby between calts. Dual purpose meter acts as visual monitor of incoming signal, converts to power output monitor during transmit. PA switch. SSB clarifier picks up stations broadcasting off center frequency.
Complete with push-to-tolk microphone, mike hoider, mounting brocket and 12 volt DC cable. Sizer $81 / 2 \times 2.5 / 8 \times 11 / 4 / \mathrm{l}$. Shpg. wt. 10 lbs .
No. 10A78. Model 13-878. Each
$\$ 329.95$


NEW JOHNSON MESSENGER 123 A
SOLID STATE 23 CHANNEL TRANSCEIVER

${ }^{5} 149^{95}$

All of the features of the famous 123 plus a new ceramic selectivity filter, now "Voice Tailored" oudio and a new "Acoustically Isolated" spooker. Full 23 chonnel operation. No additional crystals to buyt
Equipped with a compression circuit that puts maximum voice intelitgence into the radiated signal. The super sensitive receiver has 0.5 microvolt sensitivity with sharp filfered 7 KHz selectivity to pull in distant stations while rejecting interference from adjacent channel users. A high efficiency noise limiter effectively reduces ignition and other forms of radiated noise inter-
ference. Solid-state circuitry has low current drain and is fully temperature compensated to operate from $-22^{\circ} \mathrm{F}$. to $+140^{\circ} \mathrm{F}$. Easy-to-read meter monitors both incoming signal strength and transmitter
output power. For 12 V . DC operation. $21 / \mathrm{H}^{*} \mathrm{H} . \times 6 \%_{0} \mathrm{~W} . \times 83 / 4 \mathrm{D}$. Shpg. wt. 5 lbs.
No. 10A97. Model 123A. Each
$\$ 149.95$
No. 10A3007. 111 V. AC Power Supply tor Messenger above. Wt. 3 Ibs.
Johnson 239-125-1. Net Each.....

## $\begin{array}{r}4 \\ 4 \\ 4 \\ 4 \\ \hline\end{array}$ <br> FOR DEPENDABLE HAND-HELD COMMUNICATIONSI MESSENGER 109 CB TRANSCEIVER

## Lightweight and rugged. Utilizes 13 transistors, 7

 diodes and a thermistor to give excellent performance in both transmit and receive modes.Receiver sensitivity 0.5 microvolts. $\delta K \mathrm{HZ}$ bandwidth at -6 db . Squelch is highty immune to im . pulse type noise. Noise limiting is series type with automatic threshold adjustment and If clipping.
Comes with nickel codmium bottery pock ond buittin charger. Gives 8 hours service on a single chorge. Squetch control silences receiver on "standby", prolongs battery life.
Transmitter RF power output 1.7 watts ot 12.6 VDC. High level closs 8 modulation with speech compression, clipping and audio filtering. With chonnel 11 crystals.
Size $8 \%^{\prime \prime} \mathbf{H}^{\prime} \times 3-3 / 8^{\prime \prime \prime}$ W. $\times 1.13 / 16^{\prime \prime}$ D. Shpg. wt. 2 lbs.
No. 10 A 19 . Messenger 109. Eoch $\$ 159.95$ No. 10A3009. Extra Crystals for Messenger above.
Poir
No. 1043075 . Leather Belt Holster. Each . $\$ 8,95$
$\$ 8.50$

3 WATTS -
2-CHANNEL


# Midland <br> INTERNATIONAL CORPORATION <br> BASE \& MOBILE CB TRANSCEIVERS 

## 56995

## Aidland compact 5 Watt 6 CHANNEL MOBILE TRANSCEIVER

An exceptional value at 8 -A's. low price. This compact unit offers a full 5 -watts power, with 6-chonnel versatility. Supplied with transmit and receive erystals for channel $9(27.065 \mathrm{MHz})$. Five channets open for any other of the 23 CB channels. Sensifive superhet receiver features a funed RF stage. Sensitivity 0.5 uv 0 . AGC circuit prevents overdriving and fading, variable squeich control silences receiver between calis. Controls also include volume, PA switch, and channel selectors. Accessories included are push-to-talk mike with $4 . \mathrm{ft}$. coiled cord, mobile mounting bracket and 12 -volt $D C$ auto coble. Dark gray metal cabinet with chrome trim. Size 5 1/2 $\times 61 / 2 \times 2^{\prime \prime}$. Shpg. wt. 3 ibs.
No. 10A105. Model 13-856. Each
$\$ 69.95$
No. 10A3033. 18-805. Base Power Supply. Converts above unit for 117
VAC operation. Each
No. 10 A3020. Crystals per channel. Each
$\$ 21.95$
$\$ 4.95$

## $\$ 99^{95}$



## MIDLAND COMPACT 5 WATT 23 CHANNEL MOBILE TRANSCEIVER

Larger transceiver in a smalt, versatile cabinet-total weight just $31 / \mathrm{llos}$. Synthesized circuits Pre-equipped and ready to operato on all 23 citizens band channels without purchasing odditional crystals. Dual conversion superheterodyne receiver hos tuned RF, active AGC that reduces fading or distortion. Full variable squelch and switchable ANL cantrals noise, static, and in terference for sharp reception. PA CB swith converts Model $13-869$ into mobile PA amplifier. Sensitivity is 0.5 . Combinotion $5 / R F$ output meter has buit-in transmit indicator light. Contrals inelude on/off/volume; variable squelch; channel selector, automatic noise limiter, PA/CB switch. Push-to-talk dynamic microphone. barge 2 k " dynamic speaker. Dark gray metal cabinet with chrome trim. 12 VDC auto power cord. Size: $5 \mathrm{t} / 2 \times 2 \times 6 / 2{ }^{\prime \prime}$. Shpg. wt. $3 \mathrm{k} / \mathrm{h}$ los.
No. 10A96. Model 13-869. Net Each
$\$ 99.95$

## Aidland



5-WATT, 23-CHANNEL MOBILE WITH AUTOMATIC 2-CHANNEL H.E.L.P. SCANNER

Locks in transmitter and receiver an Channel 9 to instantly answer any emer. gency call. Dual conversion superhet receiver has 455 KHz ceramic filter to assure high selectivity, superior odjacent channel rejection. Active AGC prevents fading or blasting. Variable squelch control and switch-type noise limiter permit manual adjustment of noise and static. S/RFO meter reads relative output power or incoming signal strength. Delto funing odjusts receiver frequency $\pm 3$ KHz. Public address switch. Vinyl-clad coiled cord, mounting bracket, magnetic mike holder, 12 -volt fused DC coble. Size $7.7 / 8^{\prime \prime} \times 2 \frac{1 / s^{\prime \prime} \times 8-7 / 8^{\prime \prime}}{}$ No. 10A84. Model 13-871.
Shpg. wi. 5 tbs. Eoch
$\$ 169.95$


Q fransistors superheterodyne transceiver. Call signal increases range over ordinary voice calling, is more easily identified on crawded channels. 3-channel capability, channel 11 plug-in crystals factory installed. Gray case with chrome trim. Vinyl carrying case, eorphone, and 9 volt battery supplied. Jock provided

for optional AC odaptor.
No. 1044 . Model 13-428 Each
$\$ 21.95$
No. 10A3030. 18-109B. 9 V. AC Adaptor $\$ 4.98$
No. 10M3020. Crystals Per Channel. Pair

# MIDLAND CITIZENS BAND WALKIE-TALKIES 



> 3-CHANNEL. 100 MW WITH CALL SIGNAL

- Separate Speaker/Mike - No License required.

Exceptional value! Tremendous talk power and sensitivity. Separate speaker and mike for topquality vorce response. Sensitive supernererodyne for long range aleft. 3 -channel capability, channel 7 crysfals factory installed. Ruggedly handsome metal cabinet with die-cast chrome grille. Comemete with 6 pen light cells and carrying strap. plete with 6 pen light cells and carrying strap.
Size: $95 / 8 \times 31 / 8 \times 23 / 8 \%$. Shpg. wt. 3 lbs. No. 10455. Model 13-121. Each.
$\$ 26.50$
No. 10A3030. i8-109B. 9 V. AC Adaptor... $\$ 4.95$ No. 10M3020. Crystals Per Channel. Pair..... $\$ 4.95$


## 100 MW WITH CALL SIGNAL AND VARIABLE SQUELCH

Midland's finest 100 MW transceivert Popular feafures include separate speaker and microphone for better voice response, fully wariable squeich, call signal alert tone. 3-channel capability with channel 11 crystals instalied.
All metal cabinet has accessory jacks for $A C$ adaptor and earphone. Sensitive superheterodyne receiver with tuned RF for greater receiving range. High-level Class B audio modulation.
Complete with leather carrying case and strap. Operates on 8 penlight cells. Size: $71 / 2 \times 23 / 4 \times$ $1 / 8^{\prime \prime}$ D. Shpg. wt. 1 lb .
No. $10 A 87$. Model 13.124
\$31.95
No. 10A87. Model $13 \cdot 124 \mathrm{C}$. Each.
No. 10A3021. $18-112 \mathrm{~B}$. 12 V. AC Adaptor... $\$ 4.95$
No. 10M3020. Crystais Per Channel. Pair.. $\$ 4.95$ No. 10M3020. Crystais Per Channel. Pair............ 17.
No. 21A3. Penlight Cell. Each.....................


## 1-WATT, 2-CHANNEL CALL SIGNAL TRANSCEIVER

A high quality CB transceiver with 2 -channel copability. Chonnel 11 plug-in crystals installed. Sensitive superheterodyne receiver has tuned RF and 3 If stages for better reception. Crystal-controlled transmitter. High-levet Class B modulation. Variable squelch and AGC circuit reduce distartion. Operates from 8 pencells, botfery pack or AC power supply tisted. Charcaal gray metal cabinet woodtone inset. Includes earphone and carrying strap. Size $7.1 / 16 \times 2.5 / 8 \times 21 / /^{\prime \prime}$. Shpg. wt. $11 / 4 \mathrm{lbs}$. No. 10A90. Model 13-700. Each
\$31.95
No. 10A3034. 18.140 AC power supply .an... $\$ 18.95$ No. 10A3022. 20-112 Nickel cadmium rechargeable battary pack. Each.......................... $\$ 17.70$ No. 10A3023. 20-212. Charger for above-... $\$ 6.50$ No. 10id 3020 . Crystals per channel. Pair... $\$ 4.95$ No. 21A3. Pencell, Each


2-WATT, 3-CHANNEL CALL SIGNAL TRANSCEIVER HOLSTER-TYPE CARRYING CASE, TOP-MOUNTED VOLUME, SQUELCH
Fully variable volume and squelch contrals are top mounted for easier access. Jacks for in-unit batterycharger, AC odaptor, earphone, external anfenna. tong range Cail Signai alert tone. Built-in battery condition meter. 3.channel versatility channel if crystals instolled. Superheterodyne receiver has tuned RF. AGC circuit, and variable squelch. Operates on 8 pencells, Ni-Cad bottery pack. or AC power supply listed. Accessories include Texon hols-ter-type cose, eorphone, shoulder strap, chonnel 11 crystals. Size $9 \times 31 / \% \times 1 \%$. Shpg. wt. $2^{1 / 2} \mathrm{lbs}$.

## No. 10488.

$\$ 49.95$
Model 13-725. Each...
 No. 10A3022. 20-112 Nickel cadmium rechargeNo. battery, pack. Ench....................... $\$ 17.70$ No. 10A3023. 20-212. Charger for above... $\$ 6.50$ No. 10w3020. Crystals per channel. Pair


NEW! 5-WATT, 3 CHANNEL
This good-looking unit operates on any 3 of the 23 CB channels. Channel if crystals installed. Receiver has funed RF with less than 1.5 uv sensitivity. Full varlable squelch, channel selector. comblnation external power and battery recharge switch, hi-lo baltery saver switch, jacks and connections for earphone, extension speaker, external antenna, $A C$ adaptor. Operates on $B$ pencells.
Tough all-metal cabinet. With Texon carry case, earphone, shoulder strop. Sizez $91 / 2^{\prime \prime} \times 31 / 4 \times 22^{\prime \prime}$. Wt. 3 l/2 lbs
No. 10489. Model 13-762. Each.
\$62.95
No. 10A3027. 18-143C. AC Base
station Power
Supply, Each............................ $\$ 23.98$
No. 21 A3. Pencell. Each $\because$ Cigarete $117^{\circ}$ No. 10A3062. 18-141, 12 V DC Cigaretfe Lighter No. 1OA3022. 20-112. Ni-Cad battery pack. 1.95 No 10A3023.20-212. Charger for above $\$ 17.70$ No. 10A3023. 20-212. Charger for above. 56.50 No. 1 OM3020. Crystals Per Channel. Pair...... $\$ 4.95$


POPULAR 5-WATT, 6-CHANNEL Performance features of a more expensive unitl Big 5-watt transmitter. Superhet receiver has RF stage 4 IF stoges with sensitivity less thon 1 uv, AGC. Variable squelch, PA switch, battery level meter. Botfery saver switch. Baftery pack charger switch. Versotile accessory jacks. 12 section $64^{\prime \prime}$ Anfenna. Requires 8 penceifs or other power supplies listed. With carrying case, strap, earphone and pouch With Ch. 11 Crystals. Size $9 / 4 \times 31 / 8 \times 2-3 / 16$. Wi. $33 / 4$ ibs.
No. 10A30. Model 13-775B.
Eoch
$\$ 89.95$
No. 2143 . Pencell. Eoch No. 10A3027. 18-143C. AC Base statlon, Power No. 10 a 3062 . $18-141,12 \mathrm{~V}$. DC Cigarette lizhter No. 10A3062. 18-141. 12 V. DC Cigarefte lighter No. ioash 22 20-112. Ni-Cad battery pack. Each No. 10A3023. 21-212. Charger for above. $\$ 17.70$ No. 10a3023. 21-212. Charger for above.
No. Ioms 020. Crystals Per Channel. Pair....... $\$ 4.95$

# improve your image 

WITH THE LATEST ADVANCE IN
MODEL 4BG69
${ }^{\$} 99^{99}$

## TV Antennas

 nen
## Permacolor

RCA presents an entirely new concept In TV antennas with the introduction of Parmacolor-the first antenna with solid. permanent connections from elements to feed line the first antenna with pivoting, polypropylene insulators the first antenna wish a weatherproo blue and gold vinyl manutactured by the company that pioneered Color TV. UHF.VHF FFM combinations featuring an exclusive corner reflector-bow tie UHF section. Each one easy to install, reflector-bow tie color reception. Get the "image improver"
For sherp, clear 'UHF-VHF/FM reception in remote, ulfra-fringe arees. Fully balanced dipoles In every position. No hof booms. Belanced and mate in tain and directivity. Helght of $86^{\circ \prime}$ provides half wave stacking for minimum vertical tesponse. Shipped preassembled for eaty insfalle. fion. Mast clamps at belance point for kesy handiling. Use with $11 / 2^{\prime \prime} 16$ tase mast inot ineluded).

MODEL 4BG36
${ }^{9} 58^{52}$
7A6567
A powerful, all-channel, deep-fringe area Permacolor Antenna featuring a high gain, combination bow tie and corner reflecto Heavy square double boom construction provldes great strength white requiring less than ten inches of mast space.

Despite its impressive, signal pulling
size, the 4 BG 36 is easy to install. The two-section main boom and the one plece support boom go together quickiy, with
Modis $3 B 609$, 3BGO9K, 4BE13, 4B613K, Mallable to 2nd 3 rd class or RFO. otiners only.

MODE1 4BG23
${ }^{5} 35^{59}$
7A6568


| Stock <br> No. | Modal <br> No. | No. of <br> Permatuned <br> Circuits | Overall <br> Boom <br> Length | Range in Miles <br> VHF | FM | UHF | Lbs. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | ---: |

VHF/FM ANTENNA

| 746572 | 3 BC 27 | 27 | 164" | 320 | 320 | $\cdots$ | 15 | 55.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 746573 | 3 BCl 7 | 17 | 97" | 200 | 200 | \%omb | 8 | 29.70 |
| 746594 | 3 BCl 3 | 13 | 77" | 150 | 200 | ...... | 6 | 21.95 |
| 746574 | $38 C 09$ | 9 | 56" | 125 | 200 | ....-- | 5 | 14.85 |
| 746575 | \$3BCO9K | 9 | $56^{\prime \prime}$ | 125 | 200 |  | 7 | 21.45 |



Unique polypropylene
insulators support vinyl clad
blue elements over $51 / 2$ in
span. Enture insulator
pivots. not just element.
Electrical connections from
elements to rlgid, balanced elements to rlgid, balanced feed line made through
flexible, permanently riveted hexibie, permane
Insulators lock together to form extra-strong, truss-1/ke form extra-strong, truss-1ike assembly, securely locked
to heavy square boom. All Permacolor Antennas feature V-shaped mast clamps that have a double set of teeth to bite into mast, to prevent slippage surrounds completely surrounds boom. no rivets.

#  

Molded of high IMPAC plastic and provide for convenient plug in connections of a TV or FM set to an antenna system downlead. Flush mount. Mounting hardware, plugs, and instructions included. For surface mount use outlet box below.

| Stock No. | RCA | Designed for | Input Ohms | Output Ohms | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 742609 | 106301 | One TV-FM set | 300 lead | 300 lead | \$1.98 |
| 7 72610 | 106302 | One TV-FM set | 75 cable | 300 lead | 2.75 |
| 7A2611 | 106303 | One TV-FM set | 75 cable | 75 cable | 2.86 |
| 7A2612 | 10.304 | One TV-FM \& 5 wire rotor | 300 lead | 300 lead | 2.75 |
| 742613 | 100305 | One TV-FM E 5 wire rotor | 75 cable | 300 lead | 3.52 |
| 742614 | 10c306 | One TV-FM \& 5 wire rotor | 75 cable | 75 cable | 3.85 |
| 74272 | 106325 | Surface mount outlet box |  |  | .70 |
|  |  | ADDITIONA | PLUGS |  |  |
| 7 1268 | 106321 | TV/FM outlet plug | 300 ohm |  | .97 |
| 74269 | 106322 | Rotator outlet plug | 4 or 5 wire |  | 1.06 |



Used to combine the signals of two or more antennas and feed the combined signals to a single downlead. Includes mounting hardware and instructions.
Stock

| Stock | RCA | , | Ohms |  | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Application | Input | Output | Eech |
| (2) 7 A 2625 | 106216 | Two identical TV/FM | 300 | 300 | \$3.81 |
| (3) 7A2626 | 106222 | One VHF-FM and one UHF | 300 | 300 | 4.62 |
| (1) 7A2627 | 10c223 | One VHF-FM and one UHF | 300 | 75 | 6.38 |
| (3) 7 A2628 | 106224 | One VHF, one UHF, one FM | 300 | 300 | 6.27 |
| (8) 7A2629 | $10 ¢ 225$ | One VHF, one UHF, one FM | 300 | 75 | 7.85 |
| (3) 7 A 2630 | 100226 | One VHF Hi-band, one VHF Lo-band | 300 | 300 | 4.18 |
| (3)7A2631 | 106227 | One VHF Hi-band, one VHF Lo-band | 300 | 75 | 6.60 |

(1) RCA BAND SEPARATORS


|  |  | Matches 300 ohm-TV-FM antennas or TV set to a 75 ohm coaxial cable downlead. Weatherproof housing. Includes in stallarlon hardware. <br> $\begin{array}{ccc}\text { Stock RCA } & & \text { Not } \\ \text { No. } & \text { No. } & \text { Application } \\ 7 \text { Pach } \\ 7 & 106214 \text { for mounting on mast } & \$ 4.07\end{array}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

(3) RCA FM BAND TRAP

Reduces interference on a TV set caused by strong local FM stations. 300 ohm Input and output. 7A2624. 10C230. Net Each.
$\$ 5.39$

## (3) RCA INTERFERENCE FILTER

Reduces interference on a TV set caused by amateur radio, neon lights, and other adjacent sources. Traps out signals below 50 MHz and from 110 to 170 MHz . 300 ohm input and
output. Includes mounting hardware and instructions.

.54 .95

## R $\mathrm{P} \boldsymbol{J}$

PREAMPLIFIERS
Preamplifiers are designed far use in VHF/UHF/FM sigmal areas. Amplifler unit is mounted on the antenna mast to overcome inherent lead-in losses, The indoor mounted power supply untt (operates on 120 VAC provides strong signal to receiver. 300 ohm input to the oreamp.
Preamp
Mast mounted Power supply set mounted

## RCA DISTRIBUTION AMPLIFIER

Designed to provide strong VHF/UHF/FM signals to rereivers. Mounted indoors, amplifior overcomes distrihution losses. 300 ohm input and two 300 ohm outputs in housing similar to power supply above.
No. 7A2636. 1OG212. Net Eoch
$\$ 17.27$


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 2BC04 | Broad band, reflector 'fype antennas, in which most of the tuned circuits operate on the entire UHF band with performance exceeding conventional antennas. Models 2BCO9 and 28C17 feature built in couplers allowing connection to a VHF antenna. Easy installation. Mailable 2nd, 3 rd class and RFD only. Mast not included. |  |  |  |  |
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|  |  |  |  |  |  |
| $A S L O W A S$ | Stock |  |  |  |  |
|  |  |  | Boom Leneth | Shpe. | Net |
|  | 746581 2BC04 | 4 | 19\% | 2 lbs. | \$4.29 |
|  | 7 A 6582 2BC09 |  | 22" | 4 lbs . |  |
|  | 7 A 65832 BCl 7 | 17 | $38^{\prime \prime}$ | 6 lbs |  |

## KR/ Rotators



Aim your Permacolor antenna with an RCA Rotator, for precise. ghost-free reception. RCA Rotators feature exclusive dynamic furning power - super-strong aluminum drive units pictured color Antenna - a great combination for great reception!
Push-Button Controt
No. 742599 , low505, ech. \$31.95
Na 2820. 4-Conauctor Cable for above

Automatic Sifent Electronic Control.
No. 7A2600. 10W707. Each.


No.2A9940.5-Conductor Coble for above. Por Pf...


MOBILE HOME 82 CHANNEL. ANTENNA OUTFIT
$\$ 14^{95}$
Includes the popular city-suburban antenna below with special installation hardware and 6 ft . mast for wall mount. Easily oriented for strongest signal. Designed to be lowered for traveling without folding. Kit includes 25 ft . 300 ohm lead, wall-thru bushing and back of set VHF-UHF band separator. Shpg. wt. 6 lbs. Not mallable. 7 a6564. Model No. Aabs54. Model


## UNBEATABLE VALUE! TOTAL RECEPTION ALL 82 CHANNELS - COLOR / B\&W /

FM / STEREO

## B-A DELUXE CITY SUBURBAN ANTENNA OUTFIT

## $\$ 10^{88}$

Includes 4 ft. tripod mount, $50^{\circ}$ lead-in, stand-ofts and all necessary hardware for a tine root too instaliation. Range VFF 50 miles. UHF 40 miles. FM 50 miles. O tinest materials, riveted and reinforced, and dessigned
for quick instalation. Gieaming gold vinyl clad for for quick installation. Gieaming gotd vinyl clad for
permanent high performance. Shps. $w$. 5 IDs. Mallable.
No. 7A6563. Net Complete.

INCLUDES TRIPOD MOUNT, $50^{\circ}$ LEAD-IN AND ACCESSORIES

## POWERFUL WINEGARD TV ANTENNAS

# SUPER FRINGE VHF-UHF-FM "COLOR-WEDGE" 

## CHANNELS 2-83... PLUS FM MOST POWERFUL ALL-CHANNEL antenna you can buy!

## MODEL "CW-1001"

## UP TO 150 MILES UP TO 325 MILES UHF <br> VHF \& FM Revolutionary "wedge" design provides by far the highest

 gain of any combination VHF-UHF-FM antenna. 54 working elements provide unprecedented long distance reception, yet antenna is surprisingly compact. Vertlcal beam phasing and extra sharp directivity on all channels prevents interference and ghosting. Much iarger signal capture area and exclusive electronic design features produce more signal gathering power per inch of antenna. Bultt-in weather-proof housing for protecting downlead connections and optional amplifier. RRE

| Stock No. | Model No. | No. Elements | Boom Lgth. | Range VHF | $\ln$ | iles UHF | W. Lbs. | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 746550 | CW-1001 | 56 | 104 | 325 | 325 | 150 | 28 | 577.60 |
| 746551 | CW-980 | 38 | 114 | 275 | 250 | 135 | 19 | 58.25 |
| 746552 | CW. 960 | 27 | 77 | 225 | 175 | 125 | 15 | 45.75 |
| 746507 | SC. 810 | 23 | 81 | 175 | 125 | 80 | 9 | 33.65 |
| 746553 | W. 940 | 19 | 51 | 150 | 125 | 80 | 9 | 35.60 |
| 746554 | SC-800U | 22 | 69 | 125 | 100 | 100 | 9 | 29.55 |
| 746509 | SC-790 | 13 | 44 | 100 | 75 | 50 | 6 | 22.60 |



## WINEGAFD VHF-FM ANTENNAS

SUPER-POWER FOR VHF
CH. 2-13 AND FM

Oesigned like the fomous CW-1001 above, except that All the performance is concentrated on channels 2.13 VHF and FM. This antenna does not recelve UHF - but what it does for long range VHF is next to unbelievabie. Under Winegard's new Total Performance Rating systems - which takes into consideration such foctors os voltoge gain, horizontal directivity, vertical directivity, front to back ratio, front-to-side ratio and impedance match - this antenno is at the very top with a rating of " 300 ". There is none better. FM rating is 265 , making it an extreme distance performer on FM, too.
Winegord unique wedge design provides increased signal capture orea in a much shorter and more compact antenno. Has VHF vertical beam phasing elements to help reject interference such as auto ignition noise. Has built-in ferrite im-pedance stobilizer for up to $10 \%$ increase in gain as well as automatic 200 ahm match to lead-in. Elimination of insulators makes the wedge stronger and automatically grounds static charge build up for lightning protection. Not moilable.

CHOOSE FROM 7 POWERFUL MODELS

| stock No. | Model No. | No. Elements | Boom lgth. | Range in VHF | Miles FM | Wt. <br> Lbs. | Ner <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7 A 6555 | CW-2002 | 244 | 130 | 350 | 350 | 30 | \$75.90 |
| 746556 | CW-480 | 25 | 115 | 250 | 250 | 16 | 51.40 |
| 746557 | CW. 460 | 17 | 78 | 225 | 225 | 14 | 41.35 |
| 746558 | CW-440 | 13 | 52 | 200 | 200 | 10 | 32.85 |
| 746503 | SC. 520 | 15 | 71 | 175 | 175 | 8 | 28.60 |
| 746504 | SC. 510 | 12 | 54 | 150 | 150 | 7 | 22.60 |
| 746559 | SC-500 | 10 | 44 | 125 | 125 | 7 | 19.00 |



## IT'S EASY TO INSTALL A WINEGARD ANTENNA SYSTEM

## $0[7$ <br> WINEGARD

## SUPER COLORTRON 82-CHANNEL ANTENNA MOUNTED AMPLIFIERS

## BOOST UHF-VHF OR FM ACCORDING TO YOUR LOCAL

 NEED-UP TO 7 TIMES MORE SIGNAL POWERNEW SOLID STATE SIGNAL BOOSTERS EXTEND RECEPTION RANGE . STRENGTHEN WEAK CHANNELS and let you operate severral, sets at same TIME


There's a high gain, transistorized amplifier for every reception area. Precision printed circuitry with long-life silicon overlay transistors boost TV signals on antenna right at point of interception. Perfect for color and black and white. Amplifier boards slide easily into the built-in housing on all Winegard Super Colortron antennas shown on Page 224. (For other antenna models. order housing Madel ACH-1B shown below.) Includes connector and power supply. 117 V. AC. Shpg. wt. 2 lbs.

## RECOMMENDATIONS . . . IF YOU HAVE:

Weak VHF and UHF, use models Weak UHF, Sirong VHF, use models below. No. 7A2559. Model AC. below. No. 7A2563. Model AC. 8238.
(for 300 ohm line). Each $\$ 36.75$
No. 7A2560. Model AC895B. 423B.
(for 75 ohm coble). Each ... $\$ 38.40$ (for 75 ohm cable). Each ... \$30.30 Weak VHF, Strong UHF, use models Weak FM (Fm antenna only) use below. No. 7A2561. Model models below.
AC223B.
(for 300 ohm line). Each ... \$28.55
No. 7A2562. Model AC295B.
$\$ 28.55$
(for 75 ohm cable). Each ... $\$ 29.75$
No. 7A2565. Model AC623B.
(for 300 ohm line). Each ... $\$ 30.30$ No. 7A2566. Model AC6958. (for 75 ohm cable). Each ... $\$ 34.55$

HIGH GAIN LOW-NOISE AMPLIFIERS for fringe area reception. Helps insure snow-free reception. 75 ohm only, connector for RGIIU furnished. For weak VHF, strong UHF. 24 db . VHF gain.
No. 7 A2606.
Model AC. 913
For weak UHF and VHF. 24 db . VHF gain, 9.3 db . UHF gain.
No. 7 A2607.
Model AC-982
\$41.75
$\$ 50.10$
UNIV ERSAL AMPLIFIER HOUSING attaches to any TV or FM ontenno with U.
bolt provided. Accepts any of solid state amplifiers listed here. Shpg. wt. 1 lb .
No. 7 A 2567.
Model ACH-1B. Each
$\$ 4.70$

## WINEGARD MULTIPLE SET COUPLERS

## FOR UHF-VHF TV AND FM COLOR OR BLACK \& WHITE

 Used in home TV-FM systems. Divides signal from antenna or booster 300 ohm lead for 2 or more set is for wiring 2 or more ourlets where one set is to be moved about. Prevents ghosts caused vents interaction Use with regular 300 sets prelead for VHF UHF or FM regular 300 ohm twin well as black and white TV Exceltent for color as Outputs. 5 -way brackets for indoor or outdon mounting shoe brackers for indoor or outdoor mounting. Shpg. wt. 1 Ib .Model CC. 282 B for 2 sets No. 7A2519. Each
Model CC-482B for 3-4 Sets No. 7A2520. Each. \$5.15 Model CC- 787 one 75 ohm input, two 75 ohm outputs. No. 7A2637. Each_m....................... $\$ 8.90$

SOLID STATE 82 CHANNEL TV-FM BOOSTER/COUPLER

- 4 oupputs.
- Perfect Ch. 2-83 and FM system.
- Excellent for color-uniform gain.
- Fine commercial quality.

Highly efficient TV-FM signal amplifier with newest overiay silicon transistors and printed circuitry. Delivers full gain on all 82 chancircuitry. Delivers ful gain on all 82 chan-
nels, enough to operate $1,2,3$ or 4 directly. nels, enough to operate ${ }^{\text {Hith}} 2,3$ or 4 directly. action. Baked enamel steel cabinet. $1: 17 \mathrm{~V}$. AC. Shps. wt. 3 lbs.
BC-382 1300 Ohm in and out). No strip screw type connections. \$35.00 BC-782 (75 Ohm in and out). Includes 5 "F" connectors.
No. 7A2527. Net each
$\$ 38.20$

## SOLID STATE VHF-FM 4-SET COUPLER BOOSTER/AMPLIFIER



Makes a sensational (ch. 2-13 and FMI home TV system amplifier or a great amplifled 4-set coupler with +10 db gain to each output or a high output distribution amp with 17 db gain. Produces up to 3 -milfion microvaits, of signal output. takes up to 300,000 microvolts input. Uses temperature stable overlay siticon transistors ... Iong life, low cost operation. Flat response makes it perfect for color. No interaction between sets. Ait metal housing and $1-75$ ohm output. Two F-59 connectors supplied. 117 V . AC. shpg. wt. 3 lbs.
No. 7A2533. Model BC-234. Each
\$32.95
Modet BC-274. Similar to BC-234 above except output is thru four 75 ohm, F-jacks. Amplifies VHF-FM signal and provides +6.2 db gain to each out-F-jacks. Amplifies VHF-FM
put. Five f-59 connectors.
put. Five f-59 connectors.
No. 1A2534. Model BC.274. Each
$\$ 33.95$

## SOME POPULAR

 HOME TV SYSTEMS USINGWINEGARD EQUIPMENT

It is quite eosy to instoll o convenient home TV ontenno system thot will provide equolly fine reception on two, three or four TV sets.
Select compotible equipment, moking sure you ore providing plenty of cleon signol to eoch set or outlet.
NOTE: For VHF-UHF systems, be sure to select equipment designoted os " 82 Chonnel" or VHF-UHF". A VHF-UHF System requires o 8ock-of-set 8ond Seporotor for
 eoch TV Set - Model CS-380 or CS-387.

# IT'S EASY TO INSTALL A WINEGARD ANTENNA SYSTEM 

## WINEGARD MULTIPLE ANTENNA COUPLERS MOUNTS ON ANTENNA JOINS 2 ANTENNAS TO SINGLE 300 OHM LEAD



IGNAL DOUBLER. Combines signals of any two identical antennas pointed in the same direction and doubles the power output. Also couples any two Provides to single downlead regardless of direction antennas are pointed. combined use CS-285 band separator shown below.) 300 ohm input and output. Weatherproof housing with mast clamp. Wt. I lb. No, 7 A2503. Model SD-33.
$\$ 4.95$
Each
$\$ 6.35$
TV-FM ANTENNA COUPLER. Couples the signals from one TV ar.ienna and one FM antenna together into a single 300 ohm downiead. Same unit is used inside to divide TV and FM signals into separate lines for connection to receivers. 300 ohms in or out. Weatherproof housing with universal mounting bracket. AC passive.
No. 7A2518. Model CA-FMB. Each....................... $\$ 6.75$ No. 7A2573. Model CA7-FMB 175 Ohm in and out, connectors included).


## 75 OHM COAXIAL LINE SPLITTERS

2 WAY SPLITTER. Divides signols from a single 75 ohm line into 2 separate lines. Avg. insertion loss 3.8 db . AC-DC passive to all outputs. Includes 3 F59 connectors. No. 7A2641. Model L5-275C. Each $\qquad$ $\$ 7.95$ 4 WAY SPLITTER. Divides signals from a single 75 ohm line into 4 separate lines. Arg. insertion loss 7.60 db . AC.DC passive to all outputs. Includes $5 \mathrm{~F}-59$ connectors. No. 7A2642. Model LS-475C. Each
$\$ 14.75$ 75 ONM - 82 CHANMEL TV SET COROS
Five ff. cord of RG. 59 / U coax with "F" connector ond molded 75 to 300 ohm matching transformer for use with VHF or UHF line tops. No. 7A2644. Model MTJ-5. Eoch
$\$ 4.15$
Five ft . cord of RG-59/U coox with "F" connector and 82 channel band separator for connecting line taps to separate 300 ohm VHF and UHF antenna connections to TV set.
No. 7A2643. Model MSJ-5. Each
WINEGARD 300 OHM VHF-UHF BAND SEPARATOR Use with any antenna downlead carrying both VHF and UHF signds to divide signals to separate input terminals on TV set. 300 ohm input and outputs.
No. 7A2504. Model CS-285. Each.
$\$ 2.40$
No. 7A2508. Model CS-175 $\mathbf{\theta} .\{75$ ohm in, 300 ohm out). Each
No. 7 A 2574 . Model CS-775 (Separate 75 ohm inputz No. 7 FA 574 . Model CS-775 iSeparate 75 ohm inputs
for VHF and UHF antennas and single 75 ohm outDut). Each .........................................................
No. 7A2639. Model CS-380. Connects single 300 ohm downlead to separote VHF-UHF and FM terminals on TV and FM receivers. Net Each ... $\$ 2.95$ No. 7 A2640. Model C5-387. Connects single 75 ohm downlead to seporate VHF-UHF and FM terminals on TV and FM receivers. Net Each ... \$4.70 SOLIO STATE ANTENNA AMPLIFIERS

## con usi on amy antenma that doesmt have a euiltim captride a amplifier housimg. <br> - Beastit sigmeta har Sharper, Clearer Color ond Eleak and White. <br> - Supplies enough signal to operate 2 or mere sels in Weait Signal <br> Model RD- 300 for VHF-FM Antennas in fringe signal areas. High gain low noise. Lightning protected. 300 ohm input and output. Shpg. wt. 2 lbs. <br> $\$ 18.30$ Model RD-830 for VHF-UHF Antenna. High garn, low noise. Twin transistors. Built-in fixed FM trap. Lightning protected. 300 ohm input and output. Shipg. wt. 2 lbs No. 7 A2588. <br> Each <br> \$26.75 <br> Model RD-870 for VHF-UHF Anten-

 na. Same as above but has 75 ohm output for coaxial cable downlead Connector includeo Shpg. wt. 2 lbs. No. 7 A2 589$\$ 27.30$
Model RD-2-83 Twin Transiator Premplifler. High gain, low noise. Separate 300 ohm inputs for a VHF and a UHF antenna. Single 300 ohm output. Built-in FM trap. Lightning protected Shpg. wt. 2 bss.
No. 7A25.90
\$29.70
Model RD-2-87. Same as above, but has two 300 ohm inputs and one 75 ohm output for coaxial cable. Shpg. wt .2 lbs .
$\qquad$ $\$ 29.70$ No. 7A2591. Each....... $\$ 29.7$ Model FM340 FM Single Sel Booster.
Solid-state 300 ohm FM booster Solid-state 300 ohm FM booster
increases signals 8 times $1+18 \mathrm{db}$ increases signals 8 times it 18 Ab
gain) Mount anywhere close to AC receptacle.
$\$ 16.10$

SOLID STATE, 82 CHANNEL 2-SET BOOSTER/COUPLER
Divides and amplifies signals from a single antenna installation to operate two TV sets or wall outlets. Perfect for color or black and white on VHF. UHF and FM. High isolation between sets to prevent interaction. High impact polystyrene cabinet. 17 VAC. Includes connectors. Shpg. wt. $1 / 2$ lbs
No. 7A2571. Model BC-830 1300 ohm in
and outl. Each.......................... \$ 16.55
No. 7A2572. Model BC. 870 ( 75 ohm in and outl. 3 F-59 connectors supplied.
Each …………
25 DB 82-CHANNEL COLOR SYSTEM
AMPLIFIER
$\$ 55^{20}$

- Solid state, printed circuits. - Separate 75 ohm inputs for VHF and UHF antennas.
- 75 ohm output
- 'Power for VHF and UHF pre-amslifiers.

Extremely flat +25 db gain on aff channels $2-83$. System can't become obsolete when new channels come on the alr. Ultra-low nose figure insures clear, snow-free color and black and white. Can be used with 82 channel antenna or separate VHF and UHF antennas. Long life, Jow cost operation. 117 V . AC. IVTF-73A line tapoffs recommendedl. 3 F-59 connectors supplied. Shpge wt. 3 lbs.
No. 7A2528. Model DA-825A. Each
\$55.20
Model DA-815. Similar to DA-825A but has +15 db gain. Has single 75 ohm input for 82 channel antenna and does not have preamplifier power lack. Shps. wt. 3 lbs. 2 F-59 connectors supplied
No. 742570.
Each
$\$ 37.75$

## WINEGARD 30 DB. 82 CHANNEL LARGE

## SYSTEM AMPLIFIER

- All Solid Stote Printed Circuits
- 2 Valts Output per VHF lo, hi, UHF bonds
- 30 db gai
channels
- Separat
trols far eoch band
- Switch selectable

FM trop

- Separote VHF, UHF inputs
Highest quality MASTER ANTENNA TELEVISION AMPLIFIER will operate large number of TV.FM sets from single antenna installation. Amplifier features over two volts output on the VHF low band, VHF high band and UHF band at 0.5 db sync compression and separate 15 db gain controls on each band. Rugged commercial extruded aluminum housing. Complete with mounting bracket and 3 F-59 connectors. Shpg. wt. 6 lbs.
No. 7 A2645. Model DA-830. Net Each
$\$ 125.90$
INTERFERENCE REJECTION FILTER
(1). Back-Of-Set $\mathbf{3 0 0}$ Ohm Imput for VHF. Eliminates FM interference and citizens band and amateur radio transmissions.
No. 7A2583. Model T-223F. Net Each
$\$ 5.45$ FM SIGNAL TRAPS
(2) Back-Of-Set FM Trap and matching transtormer. 300 ohm input to VHF-TV terminals is combined. Attenuates FM band -20 db . 75 Ohm input, 300 Ohm output.
$\$ 5.45$
No. 742584 Model T-283FM. Eoch.... $\$ 5.45$ (3) Indoor FM Trap with 75 otm input and out put. Attenuates FM band -25 db . Includes 2 F59 connectors
No. 7A2585. Model T-FM7.
Net Each
$\$ 6.70$
(4) Antenna Mounted FM Trap with 300 onm input and output. Attenuates FM band -25 db . No. 7A2586. Model T-FM3.
Net Each
$\$ 5.95$


## WINEGARD 75 OHM COAXIAL LINE TRANSFORMERS

## Antenna Mounted or Bock-of-Set Tronstormer

For attaching 75 ohm coaxial cable to 300 ohm antenna or to 300 ohm input to set. 82 chennels, UHF/VHF. Weatherproof. With coox connector.

No. 7 A2598. Model T-28 Nat Eoch



82-CHANNEL TV/FM FLUSH WALL OUTLETS Matenes perfecily the oesign, appearance and color of AC outlets and switches being installed in modern homes. All flush wall plates can be instaned All types are complete with elecrica "oxes. All types are complete with matching no-strip molded plugs. ohms for all types. Necessary matching elrcuits
are built into each outlet. Average shpg. wt. 5 ozs
 lead from a multiple set coupler. Outlet to set is 300 ohms, Ivory color. \$tk. No. Winegard No. Dasigned For EInput Wiring Each
 $\begin{array}{llll}7 A 2522 & \text { TR-35 One TV-FM E5 5-Wlre Rotor } 300 \text { ohm Lead } \\ 7.25\end{array}$ 72530 TR-7 One TV-FM \& 5-Wire Rotor 75 Ohm Cable 4.60

No. 7A2575. T-77. One TV-FM Set. 175 ohm in and out). Each.......... 53,40 No. 7A2576. TP-10. Replacement Plug. (300 ohm lead) Each

## 82-CHANNEL COAX LINE TAPOFFS WITH VARIABLE ISOLATION

"Feed thru" type 75 ohm coaxial cable runs from tap-off to tap-off. A "wiper" arm adjustment at front of tap-off allows isolation to be varied from 10 to 25 db to balance amount of signal received at each set. No interaction between sets. Terminator should be used on last tapooff on feeder line. Outlet to set is 300 ohms, plug provided, Ivory color. Shpg. wt. 8 ozs.
With P-59 push-on connectors.
\$tk. No. Winegard No. Desienned for 72524 VTF-73A One TV-FM Set. Flush Mt


SM-1 VTF.73 $7 A 2597$ SM-1 Surface Mig. Box for any wall TV Plote Imput Wiring Net
Each 75 Ohm 54.65
$\square$ ADD POWERFUL UHF TO ANY TV ANTENNA!

## VINEGARD

UHF "COLOR TRACKER" MIT



WINEGARD
FOR POWERFUL

## FM \& FM STEREO

Enioy the ultimate in FM sound by using one of these high galn, highly directional Super Colortrons. Rejects unwanted signals from back and sides. Near perfect 300 ohm impedance match. Includes built-in weatherproof downiead end amplifier housing. Not mallable.

## SUPER TOUGH GOLD VINYL FINISH



HERE'S HOW IT WORKS
At color TV sets are sensitive to signaf overload and produce pictures of poor quality often full of ghosts and other problems. REDUCINC the signal is the cure! Color ghost eltminator has knob to adjust antenna input for best possible resulis. Every set needs one! Slze $3 / 8^{\prime \prime} \times 2 \frac{5}{8 "} \times 13 / 4^{\prime \prime} \mathrm{H}$. Shpg. wt 802
No. 7 A2592. Special Each.
$\$ 4.99$


HIDEAWAY TRAVEL TV ANTENNA

IOEAL FOR TRAILERS, CAMPERS, BOATS
AND MOBIL HOMES

- PICKS UP STATIONS IN ALL DIRECTIONS
- OPENS AND CLOSES UKE AN UMBRELLA


## ${ }^{\text {s }} \mathbf{2 8}^{15}$

Completely weatherproof. Shielded cooxial cable helps eliminate ghost images Compact, neat oppearance. Anyone can install it casily. For black and white or color or alf channels $2-83$ plus FM. Complete outtit includes antenna in weatherproof housing with rain cap, shiefded antemno cable with connectors back-of-set VHF/UHF band separotor and mounting hardware. No. 7A6588. Each

## ANTENNA INSTALLATION ACCESSORIES

LEAD-IN INSULATORS

## (1) WOOD SCREW TYPE

## Stk. No.

 $7 A 214$$7 A 215$ Type Insert Length
For Fiot Line
$31 / 2^{\prime \prime}$ Flat or Tubular

## (8) STRAP-ON MAST TYPE

Stk. No. $7 A 216$
$7 A 217$
$\begin{array}{llll}\text { Type Insert Length Eoch } 5 \text { For } & 100 \text { For }\end{array}$

SOLID POIVETHYIENE INBUIATORS

Made specially for Belden 8290 shielded Permohn lead and other heovy duty oval or tubular types; works with any type flot, oval or roisnd leod. Insulator locks on.
1 WOOD SCREW TYPE Stk. No. Loth. Eoch 5 For Stik. No. Lgth, Each 5 For $\begin{array}{llllllll}7 A 218 & 31 / 2^{\prime \prime} & 10 c & 39 c & 7 A 235 & 31 / 2^{\prime \prime} & 19 \mathrm{c} & 72 \mathrm{c} \\ 74219 & 71 / 2^{\prime \prime} & 18 c & 70 \mathrm{c} & 7 A 236 & 71 / 2^{\prime \prime} & 23 \mathrm{c} & 85 \mathrm{c}\end{array}$

SPRING TYPE ROTATOR STANDOFF INSULATOR Prevents premature line failure. Pipe
strap mounting. Overall No. 7A220. Net Each. . . . . . . $\$ 1.29$

## MOSLEY TV LEAD-IN INSULATORS


(1) UNIVERSAL ROOF-THRU/WALL-THRU. Versatile antenna and rotor leadin entrance accepts all types of cable; coax, shielded, heavy and regular 300 ohm line. Absolutely weatherproof when properly installed on sloped roof or wal1 of any structure. Molded polystyrene with gasket and hardware.
No. 7A230. Type M-60. Net Each................................................
$\$ 1.70$ ( 1 WEATHER-PROOF "WALL-FEED" LEAD ENTRANCE. For entrance into attic. trafler wall, etc. Has molded weather hood and $2^{\prime \prime}$ polystyrene tube adaptable to thickness of most types of exterior wall. Ivory color. No. 7A231. Type 626. For all types of lead. Net Each.
$\$ 1.20$ (3) WEATHER-PROOF "WALL.THRU" BUSHINC. For all types TV transmission line and small coax cables. Has anchor points for open wire line. Instalis through la' $^{\prime \prime}$ dia, round hole in walls up to $13^{\prime \prime}$ thick. End plates are No. 7A232. Type 625. Ivory color. Net Each

## FLAT 300 OHM LINE CONNECTORS



3-WAY ANTENNA OR SPEAKER SWITCH Double pole, 3 positions. For 300 ohm ontenna leads, speokers, etc. Screw terminals.
No. 7 A2549. Masley F-20. Net Each $\$ 4.35$

## HANDY TV ANTENNA CONNECTORS

Mighty handy, Makes connecting and set quick and easy. Snops onto antenna terminals of set. Shpg. wt. 1 oz Ao. 7A242. 185 Eoch... 15 Lets, 15 Each....

## STRANDED GALVANIZED STEEL GUY WIRE



15 c
Each, 10 Lots

Highest quality, full gouge steel wire, heavily galvanized to prevent rust and corrosion. Specially coiled to minimize kinking and tangling. Approximote 240 breaking strength: 4 strond No. 20 , 240 Ibs.; 6 strand No. 20, 350 lbs.; 6 strand No. 18,640 lbs. Approx. shpg. wis. from 13 to 33 lbs. per 1000 ft 50-FT. CONNECTED COILS
CUY WIRE ON SPOOLS
Stk. No. Description Length spool stk. No. Descriptian Coll 10 Coils

 GALVANIZED HEAVY DUTY GUY CABLE
Ket $^{\prime \prime}$ high strength 7 wire pre-formed steanded steel. Rated 2,850 tbs. breaking.
$\$ 5.991000$ Ft. For.
$\$ 45.99$

> No. 28603 t . 100 Ft . For

## SCREW-IN EARTH ANCHOR FOR GUYS

Very easy to install. Literally screws into ground at an angle to conform with pull of the guy. pounds of stk. Mo. WIthstands Pull Description $\begin{array}{lll}7 \text { Ag515 } & 2500 \mathrm{lbs} . & \mathbf{6}^{\prime \prime} \text { Plate, }{ }^{2} 4_{4}^{\prime \prime} \text { Dia. Rod }\end{array}$

HIGHEST QUALITY ANTENNA MOUNTS

(1) ROHN 256 GALVANIZEO $121 / 2^{\prime \prime}$ TRIANGULAR TOWER SECTIONS

Will stand 35 feet above house bracket without guys, 200 tt. max. when guyed. Hot-dipped galvanized seamless $11 / 4^{\prime \prime}$ heavy walf uprights, 8 precision weided zog-zag braces per 10 ft . section, double oolted section joints.
(1)................ $\$ 24.10$ No. 7A8513. 8 F No. 7a8513. 8 Ft. Amateur Top Section. 11 " dia, flat top plate, 21/4" center hole.
749500. Ground Base \& 3.4 Ft . Orive Rods. 18 lbs. Per Set.

7A9501. HInged Base. BPH-25G, 21 libs. Nel Each
7A9502. House Bracket, $15^{\prime \prime}$ to 24". Rohn HB25BG. 12 lbs Nel Each
7A9503. Guy Bracket with 3 Torque Bars. 9 lbs. Set,
7a9504. Rotor Post. Mounts inside tower, 3 lbs. Net Each. $\$ 11.00$ 7A9505. Rotpr Plate. AS-25G. For Ham "M" inside tower. 5 Ibs. Ea........... Sio. 3b Heavy 17 gauge. Has mast brake for simpler installations. Sections 10 long hotdipped galvanized inside and out. With guy rings.

| Stk. No. | Height | Tubing Size | Wt. Lbs. | Net Es. | 8 Lots, Es. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 748501 | 20 ft . | $11 / 2$ " to $11 / 4^{\prime \prime}$ | 15 | \$10.60 | S10.07 |
| 788502 | 30 Ft . | $13 / 4$ " to $11 / 4^{\prime \prime}$ | 24 | 17.08 | 16.16 |
| 748503 | 40 Ft . | $2^{\prime \prime}$ to $11 / 4^{\prime \prime}$ | 34 | 24.20 | 22.99 |
| 748504 | 50 Ft . | 21/4" to 11/4" | 48 | 32.75 | 31.11 | (7) 7a203. Universal Base. All-angle, rotatable. For masts to $24 / 4$ dia. 2 lbs . Each $\$ 1.56$ $@$ 74204. Ground Mount. Handy drive-In type. $1 / 4$ dia, $31 / 2$ bs. Esch

(iv) 7A205. Sidn Mount Clamp $11 / 4^{\prime \prime}$ thru $21 / 2^{\prime \prime}$ D.D. Net Each
() 7as520. $5 \mathrm{Ft}, \times 1 \mathrm{y}^{\prime \prime} 16$ Gauge galvanized steel coupling, stacking.

7as20. 5 Ft, $x$ 114 16 Gauge galvanized steel. 4 lbs. Ez.... $\$ 1.69$ Ea.... $\$ 1.85$ (9) 74.521. 10 Ft . $\mathrm{X} 1 \mathrm{M}^{n}$, 16 Gauge galvanized steel. 8 tbs. Ex.... $\$ 3.29$ Ea.... $\$ 2.99$

 (17) NO-GUY ROOF MOUNT. With 4 Ft. Galvanized Steel $11 / 4^{\prime \prime}$ Mast Hot-dip gatvanized steel. Wt. 3 lbs. ELa........................... ${ }^{\prime \prime}$ dia.
 7a226. Zinc plated steel. 4 lbs. Per Pr. long. For masts to $13 / 4^{\prime \prime}$ dia. 10 . Ea....... $\$ 4.38$ RATCHET CHIMNEY MOUNT
No. 7a276. With 12 long galvanized sifaps. Per Pf.
\$5.20 10 Psir
7a227. 4 ibs. Per Pr
Hot dipped galvanized tubular steel Riangular roof mounts
No. 789506 . 3 Ft. Type TRT36. Wt. 8 lbs. Met to $11 / 4$
No. 7A9507. 5 Ft. Type TfiT60. Wt. il lbs. Net Each
Mo 799510 Two ${ }^{\prime \prime}$ STAINLESS STEEL STRAPPING

© $\$ 3.29$ FS

(1) (8)
(3)
(1)
(B) 8
(6) (7)

(9) No. 7A211. $51 / 2^{\prime \prime} x^{1 / 4} 4^{\prime \prime}$ TURNBUCKLE. Each
(9) No. 7A239. $712^{\prime \prime \prime} x^{3} / 4^{\prime \prime}$ TURNBUCKLE. Each

No. 7A208. GUY WIRE THIMBLE. Each,
No. 7a2a. buy WIre Anchor Bracket les
No. 7a273. Guy WIre Anchor Bracket Ies
() No. 7A213. Screw Eye Guy Anchor. Each.
(1) No. 7 A2209. $11 / 2^{\prime \prime}$ Strain Insulator. Each......
(i)
(1) No. 71274. Hex Head Lag Screws. $1 / 4 \times 112^{\prime \prime}$. Each
(1) No. 7A275. Hex Head Lag Screws $3 / 8 \times 3^{\prime \prime}$, Each
.29

10 For 2.49 10 For
10 For 8910 For 10 For 7.90 10 10 For .69 4510 For 4.00 3510 For $\$ 3.06$ 1010 For
310 For 10 Far 69 c

## TV.FM COUPLERS WALL PLATES AND NOISE FILTERS

## DON T MISS THESE FINE IMPORT SAVINGS!



UHF-VHF Anfema Coupler Joins sepa Coupler. Joins sepasingle 300 ohm lead single 300 ohm lead Weather $7 A 2546$.
Each Orly


VNF-TV-FM 2-Set Coupler. For 300 ohm lead. Efficient balun coil type. Very easy to connect.
102502.
Soeclat E.
E. $\$ 1.69$


VHF-FM 75/300 Ohm Ouflet. lvory plate and coupling transformer in single unit. Surface or recessed mig.


## 

TV Wall Plates. Ivory. Has 2-300 ohm outlets, with plugs.
742556.

99 ${ }^{\circ}$
Ea.
For 2-Anis. ond 5
wire rator, with plugs
7A2557. Ea 31.15


UHF-VHF TV splitter. Divides TV slgnal from single 300 ohm ead. Cannects to UHF and VHF set erminals.
42547.

Special Ea. \$1.59


UNF-VHF TV-FM 4set Coupler. For color or black and white. all 82 channels. Selfplercing terms. For 300 ahm lead. Special En.
SA2548. $\$ 2.49$

## $x=\sqrt{2}$

300 Ohm Line Connectors. With set screws for securing tlat line. Plugs to-
gether, easy to disconnect 74229.
2 Sets For........ 99e


AC Line Nolse Filter Plug-in. Nossily in-stug-in. easily installed. Stops static trical devices. 742594.

7A2594. ${ }_{\text {Spacial Each .... } 996}$


TV Cheater Cord. UL approved $6^{\prime}$ cord. Enabples plugging in set ables plugging in set detached or chassis out of cebinet $\mathbf{W}$. 40zs. 35 c

## 414371

r

## But

## H6 mes

VHF-FM 75/300 Ohm Trans. Couples coaxial lead to 300 ohm. For use at input of set. 7A2553.
Special Ea. $\$ 1.99$


2-Cond. Socket and Plug. Handy for 300 ohm lead, speakers. intercom, etc. Mounts on surface with 7A2555. TA2555. $\qquad$ 99c

## ANTENNA GROUNDINQ ACCESSORIES



TV Interference FIIper. Ellminates of reduces Interference from ignition, radio transmitters, etc. induced through antenna lead. 7A2593.Ea. \$1.69


## (1) UNIVERSAL UHF-VHF LIGHTNING ARRESTOR

## Will handle all TV or FM Arrestor probiems.

Works with open, flat, or tubulor lead-in on both UHF and VHF. Toothed washers pierce lead insulation-requires no lead stripping. Installs easily inside or out. Made of sturdy, molded plastic with bross weather-resistant hordware. Shipg. wt. 12 oz .
No. 7AZ24. Net Each.
B8c 10 Lots, Each.
690

## (3) NO. 8 ALUMINUM GROUND WIRE

Soft drawn. Recommended by National Electrical Code. Wt. 2 lbs. 100 ft. No. 2829. 50 Ft . Colt.

## $\$ 1.49 \quad 100 \mathrm{Ft}$.

$\$ 2.80$

## (3) GROUND CLAMP

For otfaching ground wire to masts, pipes, etc., up to $13 / 3^{\prime \prime}$ dio. Rigid channeled construction gives five point contact. Cose hardened screw. No. 7A225. Mueller Type 58. Each...... 40c ; 10 Lots, Each

## (5) GROUND ROD

Efficient, easy-to-instail, capper plated steel. One and pointed for driving. Other end hos screw-clomp to hold No. 4 to No. 14 gouge wire. Shpg. wt. 3 lbs. No. 7 A8509. $3 / 8^{\prime \prime} \times 4 \mathrm{Ft}$. Each


BELDEN COPPER 300 OHM TWIN LEAD. 8225. Highest quality brown polyethylene insulated. Wt. 17 lbs. per M .
$\begin{array}{llll}\text { Stk. No. } 25 \mathrm{Ft} & 50 \mathrm{Ft} & 100 \mathrm{Ft} . & 1000 \mathrm{Ft} .\end{array}$
 the strength of pure copper, yet retoins all the electrical characteristics. 72 mil brown poly, 20 gauge copper coated steel wire. 18 lbs . per M .

(3) BELDEN CELLULINE 300 ONM LEAD, 8275. Ideal for calor or black and white. Highly efficient, VHF or UHF. Absolutely water-proof celluler foom canstruction. Brown poly. jacket. 356 O.D., 7/28 copper over steel conductars. 36 lbs. per 1000 ft

| Stock No. Per Ft. | 100 Ft | 500 Ft | 1000 Ft |  |
| :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2 A} 9924$ | $7 c$ | $\$ 4.86$ | $\$ 23.10$ | $\$ 45.30$ |

3) HEW BELDEN "PERMONM" 300 OHM LINE, 8285. Ideal for color or black ond white. Lower lass, more constant impedance, compared to regular line. Not affected by extremes of salt spray, industrial contamination roin or snow. Encapsulated in low-loss cellular polyethylene. Copperweid $7 \times 30$ conductors. Oval $.255^{\prime \prime} \times .468^{\prime \prime}$. Wt. 16 lbs. per 1000 ff . For VHF or UHF.
$\begin{array}{llllll}\$ 1 k . & \text { Ho. } & 50 \mathrm{Ft} & 75 \mathrm{Ft} & 100 \mathrm{Ft} & 500 \mathrm{Ft} \\ \mathbf{2 M 9 9 2 2} & \$ 3.08 & \$ 4.08 & \$ 5.25 & \$ 23.65 & \$ 47.30\end{array}$
(7) BELDEN 8290 SHIELDED PERMONM The $\$ 3.08$ \$ $\$ 23.65$ olt 82 channels color or black and white. Eliminates interference caused by line pick-up. Eosy to install...no standoffs, tape it to the mast, run through outters, conduit, even underground. No matching tronsformer needed. Stronded copperweld, 2 conductors, cellulor polyethylene oval insulation, Beldfoil shield, polyethyiene $1 / 2 \times 5 / 16^{\prime \prime}$ oval acket overall. In cails as priced.
No. 2 Mg 926 FF Ft . $100 \mathrm{Ft} . \quad 500 \mathrm{Ft}$.
50 Ff. For... $\$ 6.10$ For $\quad \$ 8.25$ For...........$\$ 10.40$ For Ft. ........ $\$ 49.10$ BELDEN 9085 LEAD-IN WIRE. Designed for reception in low interterence suburban areas.
Stock No.
25 Ft.
50 Ft
.75 Ft
$\mathbf{\$ 2 . 5 8}$
100 Ft .

No. $2 \mathrm{M} 493 \ldots \ldots . . . . . . . . \quad \$ 1.48 \quad \$ 1.97 \quad \$ 2.58 \quad \$ 3.24$
BELDEN 9090 LEAD-IN WIRE. Shjelded to provide cleaner, stronger signals In high interference metropolitan areas.
Stock No.
No. 2 M494
25 Ft.
S 3.29
50 Ft.
$\$ 4.56$
75 Ft.
$\$ 5.78$
100 Ft.
$\$ 7.13$

## (3) I-INCN LOW LOSS OPEN LEAD- 450 OHMS

Size 18 solid conductor copperweld with $1 / 4^{\prime \prime}$ polystyrene insulators spaced every $6^{\prime \prime}$. Recommended for wak signol areas of where extremely long lines are needed. Matches 300 ohm antennas and receivers. Wt. $21 / 2 \mathrm{lbs} .100 \mathrm{ft}$. No. 249967100 Ft. Coll. .84. 48 No. 2A9968. 500 Ft. Reel. . $\$ 19.95$

75 OHM COAXIAL TV ANTENNA CABLE
 Protessional antenna installers have learned that 75. ohm coaxial is well worth the small additional cost over flat 300 -ohm antenna wire. It is shielded to effectively block out interfering signal(s) which cause ghost images in metro and suburban areas. It can be run next to metal or through conduit without degrading TV signals. It has much longèr life and will rarely require replacement. ( 300 -ohm antenna wire is still considered satisfactory for deep fringe area use.)
FOR UHF-VHF, COLOR OR BLACK AND WHITE
Made of highest quality, lowdoss coax hoving 82 channal color copability Strong ond flexible. Has copperweld center conductor, polyethylene foam die lectric, two-layer aluminum foil plus polyester film for $100 \%$ shielding and block PVC weather abrasion resistant jacket. Can be taped to masts, run close to metal without offecting signol.

BELDEN 822875 OHM 82-CHANNEL DUOFOIL COAX
Lawest loss of any $\mathbf{2 4 2 ^ { * }}$ O.D. 75 ohm coox. $100 \%$ polyester film with aluminum lamination shield. Wt. 3 k libs. per 100 ft . Use F-56 connectors. No. 2A9983. 100 Ft . 1000 Ft .
Per Ft. . . . . . . . . . 8r For . . . . . . . . $\$ 6.75$ For . . . . . . . . . . $\$ 44.80$

## CABLES WITH F-59 CONNECTORS BOTH ENDS

No. 2 A428, 100 Ft. Black Color. wt. 2 lbs . Net Each
$\$ 10.15$
No. 24427.75 Ft . Black Color, wt. 1.5 lb . Net Each
$\$ 8.35$
No. 24426.50 Ft . Black color wt. 1 lb . Net Each.
$\$ 6.55$
No. 2 A4025. 25 Ft. Block Color, wt. 10 oz. Nel Each
No. 2A425. 15 Ft. Block Color, wt. 8 oz . Net Eoch
No. $249887,12 \mathrm{Ft}$. White Color. wt. 8 oz . Net Each
$\$ 4.85$

No. 2 A 9886.6 FH . White Color. w. 602 . Net Each
$\$ 2.59$
No. 249885 . 3 Ft. White Coldr WLE $4 C^{2}$ NNE Eqch
$\$ 2.29$
(1) 7A267. F-56. Fits Belden 8228 cable.Ferrule supplied.
(1) 7A262. F-59. Fits RCS9/U Coaxial cable, solid or foam dialectric type. Ferrule attached. Es..........45c $12 \mathrm{Es} . . . . . . . .35 \mathrm{c}$
(2) 7A263. FP-59. Fits RG59/U type cable. Mates with any standard F-type panel connector by simply pushing over threaded
(3) 7A264. p-59TB. DC blocking terminator for P. 59 connecfors. Use on last tap of each trunk line.
Each ... $\$ 1.20 \quad 6$ Each lectric type. Ench. Fits RG11/U coaxial cable solid or foam dia(5) 7A266. F-81M. Cable to cable adaptor connects two F-59 or F-11 connectors together. Es........... $\$$ T. 25 E......... $\$ 1.18$ FERRULE CRIMPING TOOL
Ferrule crimping tool assures tight, neat crimp every time. Hos forming slots for both RG-59/U and RG: $11 / \mathrm{U}$ coaxial cable. Shpg. wt. 1 lb .
No. 37A999. Model CR-1. Net Each
$\$ 7.95$

## a lot more TV |FM enjoyment for a lot less money

# 1. 1 Indoor Antennas 



Selectacolor Rotating Antennas

FOR COLOR, BLACK AND WHITE TV UHF/VHF/FM

MODEL
$10 \times 800$
$\$ 19^{95}$

Combines revolutionary performance features with decorator-inspired styling to set a new standard for indoor antenna performance and design. Exclusive UHF director/reflector loop for directional UHF reception. it gives the user greater control and more accurate tuning for sharper, clearer reception.
Unique dual antenna rotation By controlling a single knob, the user sets UHF and VHF elements for maximum pickup. Dipoles rotate in opposite direction to UHF receptor to minimize coupling between UHF G VHF sections.

12-position selector for precise fine tuning. Push button controls for widening the range of funing combinations. The selectacolor not only works great. if looks great. Beige and brown cabinet. Shpg. wt. 5 lbs.
No. 744525. Model 10x808. Each.
$\$ 24.95$
$10 \times 280 \mathrm{VHF} /$ UHF/FM. $45^{\circ}$ telescoping dipole elements, full swivel ball sockets. 12 position selector switch. Special color circuitry. Rotating double UHF loop Beige finish with walnut inlay. Wt. 3 lbs.
No. 7A4517. Each.
$\$ 15.95$


One of RCA's newest achievements in indoor antenna englneering and design. Selectacolor $10 \times 800$ is an exciting combination of revolutionary performance feafures and decorator-inspired styling.
Selectacolor pulls color and black and white images with more precise control than ever before possibie. Its unique dual antenna rotation. controlled by a single knob, permits user to set UHF and VHF elements without actually touching them. Dipoles rotate in opposite direction to UHF loop to minimize coupling between UHF and VHF sections. 12 position fine tuning knob.
Selectacolor, with its handsomely styled beige and brown eabinet with walnut finish inlay, looks great with any decor. You'll have to see it to believe it. Shpg. wt. 5 lbs.

No. 7A4524. Model $10 \times 800$. Each
\$19.95
$10 \times 250 \mathrm{VHF} / \mathrm{UHF} /$ FM. $45^{\prime \prime}$ telescoping dipole elements, full swivel ball sockets, 12 position seiector switch. Double UHF loop. Brown finish. Wt.
$21 / 2$ lbs.
No. 744518 . Each.
$10 \times 203$ UHF/VHF/FM. 38" telescoping dipole elements, 12 position selector switch. Single UHF loop. Brown finish. Wt. 2 lbs.
\$5.95

## Winegard $\$ 17^{95}$

THE ANTENNA THAT
DOESN'T BELIEVE IN GHOSTSI COLOR-CEPTOR CR-300 BEST FOR COLOR AS WELL AS BLACK AND WHITE
FOR ALL-CHANNEL RECEPTION 2 TO 83 VHF AND UHF


At last an indoor antenna that "shuts out" ghosts, eliminates interference from cars, planes, appliances broadcasts. Has exclusive signal filter and signal splitter for back of set. Uses coaxial cable instead of usual 300 ohm line to shield out ghost pickup Fine tuning control touches up performance on all channels.
Made of finest materials throughout, with 4 -section elements that tele. scope smoothly from 45 to 12 and $61 / 2^{\prime \prime}$ base that won't tip or mar fur$61 / 2$ base that won't tip or mar fur-
niture. Shpg. wt. 3 lbs. No. 7 A4514.
$\$ 17.95$

REI
PACESETTER III INDOOR ANTENNA $\$ 3_{\text {еасн }}^{95}$

All channe! UHF/VHF/FM antenna for sharper, elearer pletures in color or black and white. It's easy to see the difference with an RCA indoor antenna. Handsome brown finish, Shpg. wt. No. 7 1/24526. Model $10 \times 218$. Each.
\$3.95

## ANTENNA ROTORS FOR IMPROVED TV RECEPTION

## CDECORNELL- <br> DUBILIER

FOR TV AND AMATEUR BEAMS


HEAVY DUTY ROTOR UNIT. First choice of thousands! Rotates at approximotely 1 RPM with positive, automatic stop in either direction. Instant reversing. Built-in $6 / 2^{\prime \prime}$ diameter ball thrust bearing will handle heavy antenna no additional bearing support needed. Clamps take $78^{\prime \prime}$ to $2^{\prime \prime}$ dia. Mounts also on flat surface when lower mast support is removed. Mechanism has oilite and ball bearings, lifetime tubrication. Shpg. wt. 15 ibs
With Automatic Control AR-22R. Antenno turns and stops os dialed. Use 4. wire cable. Mig. List $\$ 59.95$.
No. 7A2538. Net Eoch
$\$ 44.95$

## PUSH-BUTTON AUTOROTOR MODEL AR33

Brand new! Onty push-bufton controlled rotor made. Set antenna direction once for each of 5 channels, then refurn to that direction automatically by push-button selector. Also has dial controlled selector for any compass point. Completely silent, all solid state. Use standard 5 -wire cable. With same heavy duty rotor unit, as other models above. Wt. 15 lbs Mfg. List $\$ 79.95$.
No. 7A2545. Model AR33. Push-Button Rotor. Esch.
$\$ 59.95$

## H BELDEN ANTENNA ROTOR CABLE

## Vinyl plastic weatherproof insulation. Flexible stranded <br> Vinyl plastic weatherproof insulotion. Flexible stranded Stk. No, Eclden Type Descrtption

 Stik. No, 8elden Type$\begin{array}{ll}249940 & 8463 \\ 2495\end{array}$
2821
8485
8488
$\qquad$
5-Cond. \# 20 Flat
5-Cond. \#20 Round
8 -Cond. \# 22 Round
$6 e$
$7 c$
$7 e$
$8 c$
$\$ 4.50$
5.49
5.85


RMS ALL TRANSISTOR UHF CONVERTER

> DELIVERS UHF PICTURES WITH EXTRA BRILLIANCE

Adds Channel 14 to 83 Color or B \& W to your TV Set. Size only $93 / 8 \times 41$ $\times 21 / 2^{\prime \prime} \mathrm{H}$. Fully transistorized, gives tremendous performance and rethabitity Features continuous channel tuning. Converts UHF stations to channet 5 or 6. Switches in and out of use instantly. Powered from 115 V .60 Hz . AC. Shpg. wt. 2 lbs. Mfg. List $\$ 39.95$.
No. 7A2544. Modelo CR-300 Net Each
$\$ 19.95$


SOLID-STATE DELUXE UHF CONVERTER
RMS MODEL CR-880 WITH POWERFUL AMPLIFIER Advanced circuit provides 30 db gain for clearest possible UHF reception. Even out-performs "front-end" of TV sets already equipped for UHF, bringing in clear, sharp pictures. Push-button controls for OFF.ON and UHF/VHF selection add extra convenience. Attractive charcoal gray decorator-styled cabinet $10^{\prime \prime} \times 41 / 2^{\prime \prime} \times 21 / 2^{\prime \prime} \mathrm{H}$. Shpg. wt. 2 los. For $115 \mathrm{~V}, \mathrm{AC}$. No. 7A2558. Modet CR-880. Mfg. List $\$ 49.95$. Net Each.
$\$ 29.95$

## CDE CORNEL <br> DUBILIER



Silent quiet operation. Eliminates the switching noise found in most control box es. Decorator styled control compliments any decor. On Off light. Full $360^{\circ}$ turn. Gold finish an rotor matches antennas. Weatherproof, heavy duty die-dast zinc housing. Easily assembled to mast. Requires 45 seconds for full turn. Positive broking system. Use 5 wire coble. Operotes on IlOVAC. Shpg. wt. 12 lbs. Mfg . List $\$ 59.95$.
No. 7 A95 12. Model AR30. Each
$\$ 44.95$
Automatic control. Will stop outomaticalty. at position dialed. Same rotor unit
as above.
No. 7A9513. Model AR20. Each
$\$ 36.95$


## (1) STANDARD 4-SECTION RABBIT EARS

VHF Channels 2 to 13. Only $13^{\prime \prime}$ high ... but extends to fult $38^{\prime \prime}$ to capture maximum signal. Ratchet-swivel design permits quick, easy and positive positioning af dipoles. Decor-styled mahogany base has fine appearance, Weighted to prevent accidental tipping. Complete with 300 ohm lead. Wt. 2 lbs. Standard Channel 2-13 "Rabbit Ear". 10 Lots
No. 7A4501. Net Each
$\$ 1.49 \quad 10$ Lols
$\$ 1.25$

## (8) BEHIND THE SET ANTENNA

Fits most portables other sets too! Installs easily on back of set Tele scoping 5 -section 38 dipoles pivot on ball socket in all directions, disapsear into antenna housing when not in use. Lenpth closed $73 / 4$ ". No. 7A4503. Wt. 2 Ibs. Each.
$\$ 3.46$

## (3) UHF LOOP ANTENNA

Adjustable swivel brackets. Attaches to TV easily. Adjusts to any angle up
No. 7A4513. Each.

## (4) FM INDOOR ANTENNA

Concealable Jocal, FM antenna that can be tacked to the back of furniture. layed aiong carpet. cte. Picks up FM stignals far better than most built-ins. Wi. 4 ars. Net Each

## HIGH PERFORMANCE AUTO ACCESSORIES



Increases acceleration and general pefformance. Incorporates advantages of capacitive discharge with those of solld state electronics. Spark plugs last 3 to 10 times longer. Instant starts in all weather. Instalis in less than 10 minutes directly to a standard ignition system with no rewiring. Shpg. Wi. 4 ibs.
No. 47 A55 11. Mark 10 Kit Each ................................................ 95
No. 47A55 12.' Mark 10 Factory Assembled Each ........ ........................ $\$ 39.95$


Completely new trigger circult provides variable pulse duration. Highly recommended for newer model cars that utilize clean air packages. Buits-in swifch for using either conventlonal ignition or Mark 108 after the Mark 108 is Installed. Completely closed housing. Rubber gaskets on end plates. With heat radiating plastic end plates. Shpg. we. 4 tbs.
$\$ 49.95$

## QUARTZ-IODINE FOG AND DRIVING LAMP - 260,000 CANDLE POWER

High power, long life lamp. Fog lamp beam penetrates the heaviest fog. Driving lamp reaches far ahead at normal high beam. Has chrome plated, die-cast slim line body. For
12 volt system. size: $53 / 4{ }^{\prime \prime}$ dia. $21 / 2^{\prime \prime}$ deep. WY. $21 / 4$ Jbs. No. 4745578.
Driving Lamp Clear. Each \$13.75 No. 47A5579. Fog Lamp. Amber lens.
Each No. 47A5580. Replacement Bulb. Each $4 7 \longdiv { 5 6 3 6 }$. Blue lens for above Each


REVOLVING SAFETY LICHT


WO LENS-Red and Amber For Maximum Versatility Operates from lighter outtet of 12 V . auto. Rubber suction cup adheres to ony smooth surface, $5^{\prime \prime}$ high, 15 ft . cord. W8. 2 lbs. No. 47A5520 Import Value

## CIGARETTE LIGHTER PLUG

Fits 6 or 12 V , auto tighter. 32 inch leads and lugs.
Use for emergency Use for emergency lights, CB equipuses.
Quses
Quality Import. Wt. 2 ozs.
$\$ 1.19$

TIGER SST CAPACITIVE DISCHARGE IGNITION


KIT

- INSTANT STARTINC
- betTER CAS MILEACE

Increases spark plug and point life by amplifying the energy of a conventional ignition system. Instant starting in any weather, winter or summer, more complete combustion. increased gas mileage, improved engine performance and elimination of many costly fune-ups. Extruded aluminum housing is dust and weatherproof. Installs quickly and easily without wiring changes. immune to damage by improper instailation.
\$28.95
No. 47A5561. Easy to build kif. Each
$\$ 39.95$
No. 47ASS62. Factory Wired. Each
JUDSON ELECTRONIC

## MAGNETO

\$3988

- Doubles plug and point life.
- Instant starting every time.
- Like a permanent tune-up.
- Higher fop speeds.
- Provides positive Ignition under
- Reduces fuel consumption two six more miles per gation.


## 3-YEAR WARRANTY

In the ereat of eletrieal failure just return to factory for peompt no-charge toplacement

Obsoletes every conventional ignition system on the mapket. For car, truck, bus, boat, tractors and industrial engines. The Judson electronic magneto is a complete and integrated system that assures dependable and positive ignition on any engine under all conditions. The Judson ignition system gives increased output as engine speed increases, produces fire-power at the plug to match the ignition requirements of the engine. Because the transistor takes load off of the points. It makes the engine easier to start even in sub zero weather. Essy to instali, transter three wires from the present ignition coil to Judson Electronic Magneto and connect one additional wire to ground. Size $71 / 2 \times 31 / \mathrm{m}$ completely seated. waterproof. corrosion-proof. Provides maximum of 30,000 volts with .5 microsecond rise time. For 6 or 12 volt systems negative grolund.
No. 47A5510. Shpg, wt. $31 / 2$ lbs. Net Eech.........


The SSP Stage II Solld State electronic ignition system maintains that "uust tuned-up" engine performance and efficiency for up to 50,000 miles and more. Increases gas mileage up to $20 \%$. Delivers longer spark duration for complete combustion. Eliminates 3 out of 4 engine tune ups. Prevents breaker point erosion. Ends spark plug fouling. Delivers fast cold weather starts. Its design simpacity makes it easy to install while assuring tens of thousands of miles of trou-ble-free performance. Shpg. wt. 4 lbs .
Ni. 47A5632. Each
$\$ 59.95$

## AUTOMOBILE TUNE-UP TESTERS



- Large $5 \frac{1}{2 \prime \prime}$ dial has 10 easy-fo-read color-accented scales. - For 4,6 , or 8 -cylinder engines with 6 or 12 -volt electrical systems, positive or negative ground
A must for fune-ups and accurate electrical system adjustments. 8 ig calar-accented scoles; high ( 0.6000 ) and low ( 0.1200 ) RPM, $0.45^{\circ}$ and $0.60^{\circ}$ dwell angle, 0.3 .2 and $0-16$ volts $\mathrm{DC}, 0-80$ omps, $0-20 \mathrm{~K}$ ohms resistance, plus high/low spork oufput ond diode leokage scales. Built-in substitute condenser for distributor tests. Rotary function selectior ond zero-ohms contral. "Off" position on function selector prevents occidental meter domoge. Color coded test leads and slips, externol shunt bar with leods, pentight bottery, detailed test instructions. $11^{3} 4^{\prime \prime} \times 6{ }^{4 \prime \prime} 4^{\prime \prime} \times 5^{\prime \prime}$
No. 47A5642. Wi. 7 \%/2 lbs. Each
$\$ 49.95$


HAND-HELD AUTOMOTIVE TESTERS
Complete selection of precision test equipment for proper engine tune-ups. Each tester has large $3^{\prime \prime}$ color-accented dial. High impact case is shaped to fit the hand. Fold. down metal hanger for extra convenience. Complete with color-coded $54^{\prime \prime}$ test leads and detailed rest instructions. For 4,6 , and 8 -cyclinder engines with any type electrical system.
DELUXE DWELL TACH AND IGNITION POINTS TESTER. Professional quality instrument for performance conscious car owners. Combines three festers in one. 5 scales: high ( 0.5000 ) and low $\{0.1000$ ) RPM plus dwell ongle and points resistance ranges. Rotary function selecior

Colsswitch. No internol botteries needed, No colibration ree quired.
No. 47 A5637. Eoch
$\$ 17.95$
DWELL TACH. One tester does two jobs. Accurately measures cam dwell angle and low-level engine RPM. No batteries or calibration required.
No. 47A5638. Each
$\$ 14.95$
IDLE IACH. Handy sune-up rester for proper idle, carburetor adjustments. Measures low-level RPM. No botteries necessary, no calibrotion iequired.
No. 47 A5640. Eech
$\$ 11.95$
AMP-VOLT TESTER. Essential for testing, proper setting ot outo electrical system. Measures $0.30^{\circ}$ amps, 0.16 volts DC. With external shunt bar.
No. 47 AS639. Eoch
$\$ 11.95$
CIRCUIT TESTER. Chocks oll circuits, tests bulbs and fuses, measures resistonce. $0-20 \mathrm{~K}$ ohms range with high/low scale. With penlight bottery.
$\$ 11.95$

## 4-PIECE TUNE-UP KIT

Do-it-yourself engine tune-ups with prafessional accuracy. Contains 4 importont items for proper engine maintenance: compression gouge, remote starter switch, vacuum gauge, timing light. Complete with detailed
insiructions.
No. 47 A5 645 . Each $\ldots \$ 10.95$

12 VOLT BATTERY CHARCER
Quick starts in any weather. Charges 12 volt batteries at 1 amp. Complete with insulated cables, sure grip elamps and fused AC cord. $41 / 2 \times 21 / 2 \times 2$. W t. $11 / 4 \mathrm{ibs}$. No. 47 A5552. Quality Import. Each $\$ 3.95$

## POPULAR 3-GAUCE SET

60-0.60 ammeter, 0-80 lb. oil gauge, and $100^{\circ}$ $220^{\circ}$ water temp. gauge. For 6 or iz volt systrim inserts, instructions. Size: $71 / 2^{\prime \prime} \times 3^{\prime \prime} \times 2^{\prime \prime}$ $W \mathrm{~F}$. I th.
No. 47A5559. Competition Priced. $\$ 10.95$
Each


## SIREN BURGLAR ALARM KIT FOR AUTOS

 FOR CARS，WAGONS，TRAILERS，TRUCKS \＆VANS Loud，plercing siren Instantly blasts when door is opened，hood lifted，or trunk door raised．Siren can be wired even to go off when emergency brake


STOP THIEF！
 is released！ 5 tays on till reset by the switch of the pick－proof lock．Siren is made of highly polished dic－cast metal and spun aluminum．Size $6 \% / 4 \mathrm{hlgh}$ ， $5^{\prime \prime}$ dia．Comes with relay switch unit，six alarm switches，flat key switch wire，fuse．Full instructlons for do－lt－yourself installation．For $12 . V . D C$ only
\＄29．95
No．47A5518．Shpg，wt． 6 lbs．Not Each．．．．．．．．．．．．．．．．．．．．．．．．99c
No．47A5567．Additional Pin Switeh for Hood E Trunk．Each ．．．．．．．．．．．． No．47A5568．Additional Pin Switch for Doors．Each．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．99c 9

## ELECTRICAL

## SWITCH LOCK

Provides maximum security．Ace round switch lock．Mounts in panels up to $11 / 8$＂ thick．Chrome plated，Key removable in either posilion．With 2 keys．$\$ 4.95$
No．47A5545．Each


# DRIVER ALERT MINIATURE ELECTRONIC DETECTOR WARNS OF RADAR TRAFFIC ZONES， PROMOTES SAFE DRIVINGI <br>  



Gives advance warning of radar controlled speed and danger zones．Dual Band circult monitors＂ S ＂and＂X＂microwave bands．Instantly slerts motor－ ist to check speed before entering a radar timed speed zone．Transistorized requires no wires or antennas．Size $35 / \mathrm{m}^{\prime \prime} \times 21 / 4^{\prime \prime} \times 31 / 4^{\prime \prime}$ ．Wi． 1.2 lbs Use may be controlled by local or state law， Complete with batteries．
No．47A5566．Easy to build kit．Each．
$\$ 24.95$
No．47A5565，Factory wired．Each．
.$\$ 34.95$

## AUTOMATIC HEADLIGHT SHUTOFF

A thoughtful crime prevention device．
Keeps your lights on for 30 －seconds after you turn off the ignition Pro－ vides reassuring illumination for safer trips to your front doar．Lights go off． after you＇re safely inside．No more
dead battenes Shpg．wt．i ib． No．47A5627．
Each ．．．．．．．．．．．．．．．．S15．95
AUTOMATIC WINDSHIELD
WIPER DELAY Programmed wiper regulates the sweops at pre－set intervals of 3 to 40 seconds Particularly useful in light rain．snow．fog．and splatter from passing cars An important accident prevention device for foul weather driving．When installed，only control knob is visible．Shpg，we． 1 fb． No． 4745628
Each
$\$ 15.95$
DUAL－BATTERY ISOLATOR FOR CAMPERS．
MOTOR HOMES，BOATS
Conserves one battery，while the other one is in use．Insures ignition power after prolonged use of battery－ connected appliances Charges both batteries while you drive．Shp wt． 2 lbs．
No．47A5629
$\$ 15.95$
$\$$
Each



## INDOOR-OUTDOOR THERMOMETER

Read the outdoor temperature from inside your hame plus indoor temperature tool Handsome styron case with metal scale and two heavy magnifying thermometer tubes for easy reading. 4' of capillary tubing Size: $9^{\prime \prime}$ iall, $2^{\prime \prime}$ wide. Wt. 2 lbs. No. 4712004.
Each \$4.95
$\$ 9^{95}$

## INDOOR-OUTDOOR

 THERMOMETER AND HUMIDITY METERThree precise instruments accurately report outdoor as wel as indoor weather conditions. Richly wood grained frame enhanced by beautiful, deep ustre of hand-rubbed finish. Metal scale and dial are executed with micrometer prechsion. $14^{\prime \prime}$ L. with $48^{\prime \prime}$ cable for outdoor temperature. Wt. 3 lbs No 47A2001. Each
$\$ 9.95$

## $\$ 12^{95}$

WEATHER STATION TRIO

Fine quality American made Thermometer, Garometer, and Humidity Meter on new decorator walnutgrained panel in an ebony-grained and gold accented frame with a brass antiqued metal finish. Adjustable for vertical or horizontal hanging. $7^{\prime \prime} X$ 17". Wt. 4 lbs.
No. 47 M 2005.
Each

WEATHER STATION DECORATOR STYLED

Three fine instruments...Tinermometer, Barometer and Humidity Meter constructed with the sikill of experienced craftsmen. Instruments have the warm glow of polished brass Richly wood grained panel is enhanced by hand-rubbed finish. Mount vertically or hori. zontally. $20^{\prime \prime}$ long. Wt 6 lbs No 47 A2000.
Each
$\$ 17.95$

## NEW IMPROVED

 ILLUMINATED 5X MAGNIFIERMagnifies work 5 times giving clear, fully Illuminated view. Field of vision $2^{\prime \prime}$ at $11 / \mathrm{s}^{\prime \prime}$ working distance with mask igauge) orf. Mask snaps-on giving ind gracuated in fractions and metric. ideal for inspection work. miniature work uses! for hobbyists and countless other uses I Uses 2 size "C" batteries. $7^{\prime \prime}$ long. Quality import. Less batieries. No. 37 A5504. Wt. 1 lb. Ea. $\$ 1.95$ $21 A 2$ " C " Cell (requires 2) Es. - 20 c

## B-A's ROLLAMATIC MEMO PAD

Best home and office memo pad ever devised! Molded white plastic frame holds 3 K" wide $\times 75 \mathrm{ft}$. long memo holl Provides flat smooth writing roll, Provides hendy, ever-present ball point pen for iottin' down important point pen for jotting down importan messages. Baiting pelement Has letter placeable writing element. Has letter opener edge and inch/milll meter marking. 50 . With
No. 47A7507. With 3-In-One Pen, Letter Opener/Ruler and 75 f. Paper Roll. \$1.98
No. 47 A7508. Rollsmatic Paper Re-



MEASURE MILES YOU WALK WITH THIS PEDOMETER
Golfers, Jogren, Mikess . . . Here's - preciston Cerman made instrument that records every step you take and registers the accumulated distance in miles. Small pocket-watch size in mies. Smail pocket-watch size case is suspended from the belf or side pocket near the hip. Adjustable for steps of 1 to 3 feet length. Dial is calibrated in $1 / 4$ mile divisions up to 25 miles. Can be reset to zero anytime. Bright nickel plated brass case $17 / \mathrm{s}$ dia. Wt. 4 ozs. $\$ 8.50$
No. 4743500.
Each $\$ 8.50$


## SEVEN JEWEL 1/10 SECOND STOP WATCI

Best stopwatch buy we've seen yetl Has hundreds of uses. Provides measurements to $1 / 10$ second accuracy. Small hand registers up to 15 min utes. Push-buttion reset. Crown stoo/ start. Provides years of service with 7 jewel Swiss movement and unbreakable mainspring.
No. 474315.
Each.
\$18.95

$\$ 6^{95}$

## ARGUIDE "SERRING" ILLUMINATED AUTO COMPASS

Precision compass movement. Pushbutton self-contained lighting. Powerful Alnico V . directional magnefs with aircratt type cunlfe compensators. Versatile quick-sticking self-adhesive
 8 oz. Mfe List $\$ 0.00$. No. 47A5530. Model 1601.
Each
\$6.95

$\$ 9^{50}$

## AIRGUIDE "SERRING" VERSATILE ALTIMETER

Fast accurate readings of height above sea level to 15.000 feet. Versatile quick sticking self-acthesive bracket, remove bracket for hiking. Cray plasIIc case. black dial, with white detail. Case diameter $33 / \mathrm{g}^{\prime \prime} . \mathrm{Wt}_{\mathrm{t}} .12 \mathrm{oz}$. Mfg. ist $\$ 13.50$. No. 4745531.
Model 1608 . Each
$\$ 9.50$

$88^{\text {c }}$
SUCTION-CUP MINIATURE COMPASS
Small, compact compass gives accurote direction readings.
Eosily mounted with attached suction cup on any flat, smooth surface. Sealed liquid movement. Only $1 / 2$ inches long, I inch diameter.
No. 47A5634. Each
$88^{c}$


## 99 ${ }^{\circ}$

## UNIVERSAL

 CIRCULAR
## THERMOMETER

Mounts with pressure-sensitive stick-on plate on any flat surfoce. Round, black-foce design to match auto instruments. Also ideol for home, boat, camper. Wafer-thin metal cose, chrome trim.
No. 47 A5635. Éach
99

# B-A INTRODUCES THE LATEST AND GREATEST IN HI-FI COMPONENT KITS! 



Just for you, the "do-it-yourselfer". BA offers the finest AM/FM/FM sterea funer kit avallable at low money-saving prices. Yef has features like noise-free advanced design FET circuitry for non-drift, high-sensitivity, optimum stability and super selectivity. Interference is reduced to a minimum before it reaches the audio section of your recelver. The multiplex section displays 33 dB separation. Has stereo indicator Hght, blackout dial, tuning meter, stereo/mono switch, AFC to lock-in stations, and power switch. Speci-

EICD cortina?
AM-FM STEREO TUNER KIT

## $\$ 6995$

- Preassembled Front end, Multiplex, IF's.
- Comes with vinyl clad metal cabinet.
- Advanced FET wideband circuitry.
fications: 3.5 uV usable $F M$ sensitivity ( 30 dB quieting) ; harmonic distortion $1.75 \%$; capture rafio $4 \%$ : $S / N$ ratio 60 dB; fuli limiting 100 UV; $A M$ suppression 40 dB : MPX separation 33 dB (1 KHz : AM sensitlvity 200 uV/meter: $S / N \mathrm{~N} 45^{\circ} \mathrm{dB}$; harm. dis. $2 \%$. Size fapprox.J: $4^{\prime \prime} \mathrm{H} . \times 16^{\prime \prime} \mathrm{W} . x$ $9^{* \prime} \mathrm{D}$. Shpg. wt. 15 lbs.
No. 33 A 46 . Kif Model $3300, \mathrm{~K}$ Each
$\$ 69.95$
No. 33 45. Factory Wired. Eseh....
$\$ 109.95$


## EICD COrtina2 22 WATT (RMS) AM/FM STEREO RECEIVER



## $\$ 10 \bigcirc 95$

- All Silicon Circuitry for Temperoture Spability
- Reliable Transformer Power Supply
- Advanced FET Circuitry

Identical funer specs as model 3300 listed above plus 22 watt (RMS) Pre-amp section. Handles all program sources with full range, full fidelity stereo sound. Audio Section: Freq. response $20 \mathrm{~Hz} \cdot 20 \mathrm{kHz}$ Harmonic Distortion: $.75 \%$ ( 1 KHz at 8 watts), hum and noise .70 db. Inputs: Mag. Phono, Tape, Aux., AC Rept., Outputs: $4-16$ ohm speakers, headphone jock mounted on front panel. Controls include mode selector, bass, treble, balance, volume. Push-button control for tape monitor, mono-stereo mode, AFC. power on/aff. Size: $4^{\prime \prime} x$ $16{ }^{1 / 2 \prime \prime} \times 9.1 / 8^{\prime \prime}$. Shpg. wt. 10 lbs .
No. 33A750. Kit Model 3780 K . Each
No. 33A751. Factory Wired. Each
$\$ 109.95$

## LATEST DELUXE 4-SPEED VM RECORD CHANGER <br> FEATURES TUBULAR TONE ARM WITH DIAMOND NEEDLE



$$
\$ 24^{95}
$$

plays all records MONAURAL AND STEREO

- Completely Solid-State-No Tubes To Replace
- Cool Operation. Build It In Anywhere.
- Plays Instantly No Filaments To Warm-Up
- Separate Bass And Treble Controls
- Separate Volume Control For Each Channel

Now, you can have the superiority of solid state circuitry at less than $1 / 2$ the price of comparable tube models. The buy of a lifetime! B-A's sweet deol with a foctory, producing highest quality imported amplifiers, mokes possible this money-saving offer. Identical to omplifiers used in stereo high fidelity phonographs ... its specifications and pertormonce are the finest we have ever seen at this low, low price.
Extremely versotile ... permitting use in stereo high fidelity system or may be used monaurally for a musical instrument amplifier, PA, phono, etc. Two inputs for funer, ceramic or crystal phono-musical instrument pick-ups, etc. Completely encased ideally suited for bookshelf use ar may be custom installed anywhere. Ulitro-compact size only $8^{\prime \prime}$ W $\times 2-1 / 16^{\prime \prime}$ H. x $4-3 / 8^{\prime \prime} \mathrm{D}$. Has brushed ofuminum panel and knobs. Front switch controls auxiliary, phono, power on-off. Has auxiliary 115 V , autlet on rear. Operates on 115 V .60 Hz . Shog. wt. 4 lbs .
No. 33A748. Model AM-51A. Eoch

## Midland stereo specials!



COMPLETE
$\Delta$ IDLAND STEREO SYSTEM ONA ROLL-ABOUT CART

## ${ }^{5} 179{ }^{95}$

FEATURES:

- AM-FM Receiver W/8 Track Tope Player
- 4 Speed Changer
- 2 way speaker systems
- Stereo Headser
- Rallabout Cart

A complete system at a price everyone can afford. Receiver has inputs for ce ramic phono/AUX. AC outlet and a full array of modern slide audio controls. BSR 4 speed mini-changer complete with dust cover and stylus pressure adjustment. 8-trock player features continuous entertainment from pre-recorded tapes. Each speaker system contains a $8^{\prime \prime}$ woofer and $2^{\prime \prime}$ whizzer in a fiber.
glass lined acoustic chamber. Deluxe rollabout stand has metat rack for tape and record storage. System size $16^{\prime \prime} \times 18^{\prime \prime} \times 50^{\circ}$. Shpg. wt. 54 lbs .

No. 33A749.
Model 19.806. Each
$\$ 179.95$

## ENJOY YOUR 8 TRACK TAPES AT HOME!!!



## Midland deluxe 8 track stereo TAPE CARTRIDGE SYSTEM

## $\$ 8995$

Just slip in a cartridge and enjoy continuous music. Cartridge repeats os offen as desired. Automatically switches program at end af tapes until each of the four stereo programs have played; unit then returns to the first program. With the push-button selector you can easily change programs. Pilot light indicates track being played. Both speaker cabinets as well os the , player are fine furni-fure-styled walnut-finished wood. The balanced capstan drive gives constant
iape speed and the matched dynamic heavy duty speakers allow true stereo reproduction. Features slide lever volume, balance and tone controls. Size: main unit - $14 \times 3.7 / 8 \times 8^{\prime \prime}{ }_{5}$ speaker cobinets ${ }^{15} 15 \times 10 \times 6^{\prime \prime}$ (each). Shpg. wt. 22 lbs.
No. 31A7598. Model 12-605. Each
$\$ 89.95$

## POPULAR B-A SPECIALTIES

## NEW TREASURE HUNTER

- FIND BURIED COINS AND METAL.
- Locates pipes in. SIDE BUILDINGS.
- FIND UNDER . GROUND PIPES.

Heterodyne type metal detector. Detecis coins buried a few inches in the ground and larger objects up to two feet deep. Nine inch pancake search head accommodates both large and small coins. Speaker and earphone in dicators included. Five transistor circuit. Low drift components for stablity. Standard 9 volt transistor radio batery included. Comfortable hand grlp. Comprehensive instructions contain step-by-step procedures which enable even the beginner to successfulty assemble. Wt. 10 tbs.
$\$ 30.95$
No, 20A1272. TH-30 Kir EACh .earaty to Use

## B-A HOBBYIST'S

 ROCK TUMBLER SETSMOOTHES ANO POLISHES: ROCks, Class $G$ Stones. Coins, Shell Casings, Fishing Spoons $G$ Many Other Items

DOES THE WORK OF HIGH COST MACHINES

## ONLY ${ }^{5} 22^{95}$



B-A has sold thousands of rock tumblere to collectors all over the U.S.A. Now, we have the finest unip at the lowest possible costl Powered by an Indusirial quality continuous duty motor, which readily handles 6 lb . capacity. Tumbler barrels are easy to replace paint cans. Unit accommodates 2 quaft or gallon size paint can Heavy duty nylon bearings have lifetime guarantee, all other oarts except belts nd cans, have 1 Year Guarantee. Requires no skill and minimum of attention Uses oz. grit for each can.
BECINNERS CRIT PACK. Contains 1 can liner. $1-4$ oz. coarse grlt, $1-4 \mathrm{oz}$.
fine grit, $1-4 \mathrm{oz}$. prepolish. $1-2 \mathrm{oz}$. polish.
No. 47A8503. Net Esch............... Cives all necessary information
No. 47A8504, Tumbling Manul.
$\$ 2.59$ on polishing all types of materiat. Each.
$\$ 2.00$
No. 47 A8505. 1 Lb : Crushed Polishing Rock. Fach. . $\$ 1.29$
No. 47 A8506. I Lb. Oregon Beach Agate and Jasper, Each .............................. $\$ 2.59$
No. 47 AB508. is Og. Brass Polishing Medie. Enough for 1 quart can. This madia is No. 47 AsS08. 15 Of. Brass Polishing Medie. Enough for 1 quart can. This media is No. 4748509.2 Oz. Brass Polishing Reativating Cream. To renew dife of brass


## ACCESSORIES E EXTRA ABRASIVES FOR ABOVE

No. 47 A8510. 1 lb . Coarte Grit..... $\$ 1.75$ No. 47 A 514 . Extra Ouart Cans .n.... $49^{\circ}$ 1b. Fine Grit....... $\$ 1.75$ No $47 A 8515$. Entra Belis No. 47A8512. i/a Proporish Grit $\$ 1.75$ No.47A8516. Rubber Can Liners, Pr $\$ 1.25$


Economical, all-purpose walkie-talkies Ideat for hours of fun on hikes, camping. at the beach. or In neighborhood games. Advanced 3 -transistor solid state circultry. Sensitive super-regenerative receiver. Channel if $(27.125 \mathrm{MHz})$ transmit crystal installed.
Pocket-size, high fmpact red and white polystyrene cabinet with pertorated black speaker grille. 9 -section $36^{\text {n }}$ telescoping antenna. On-Oft switch, push-to-talk button, volume control, and $2^{*}$ PM dynamic speaker. Each is complele with 8 volt battery, carrying strap. and channel 14 crystal. Shpg. wt los.
No. 10A98. Per Palr.
$\$ 9.95$


## Midland

 44 Nitancily

## AIR PUMP AND EXHAUSTER

 takes the work out of inflating and deflating AIR MATTRESSES, TOYS, SWIMMING POOLS, ETC.12 VOLT DC ELECTRIC
$\$ 6^{95}$

INFLATINC: No need for huffing and pufting-this handy alr pump inflates an air mattress effortlessly in seconds.
DEFLATING: No more folding, pushing, or squeezing to get out the airthis exhauster does the job thoroughly.
Durably constructed of rugged Tefion and polystyrene. Attractively display boxed complete with two nozzle attachments, flexible plastic extension. 10 . ft. cord, bullt-in on/off switch. lighter plug-in.
Specification: Alr pressure, $2.7 \mathrm{lbs} / \mathrm{sq}$. inch; Air volume, 50 gallons/mimute: oltage requirements $12^{\prime}$ volts DC . Dimensions: $4 \frac{1 / 4^{\prime \prime}}{}$ high, $2^{\prime \prime}$ dia. W+ $11 / 4$ lbs.
No. 37 A9100. Each
\$6.95


## AM HEADSET

RADIO MOST EXCITING RADIO IDEA IN YEARS!


Great for sporting events. the beach, the dorm of at home...ideal for the hard of hearing. Comfortable lightweight, flexible headband adjusts to any head size. Nothing to plug in. Everything is in the com fortably padded earphone-two $21 / 2{ }^{*}$ dynamic speakers for a full rich sound, volume and tuning knobs and 9 V . battery (included). Shpg wt. 2 los.
No. $36 A 2040$. special Ea. $\$ 17.88$


FOR ACTIVE PEOPLE.. PEOPLE ON THE GO!

VERSATILE TWO-STATION INTERCOM
$\$ 24^{95}$

Hand-hald master station. Opun voice substation allows hands-free remote reply. Fits practicalty ait communication neads between two locations, and ideal for mobile applicatons such as cab to camper, bridge to cabin (on boats), otc. excellent for home door answaring systems 50 ft . of cable included. Add 2 -conductof cable for more distance if needed. Requires 2 "C batteries.
No. 32A468.
Each....
\$24.95
No, 21A2. Batter
(requires 2). Each.
20c


## EICOCRAFT "SOUND 4" ADAPTOR KIT

Exciting 4 -dimensional sound experience at low cost. Hear two additional chamels through two ldentical speakers.
You use onlv your present amplifier or receiver -no need to buy any additional amplifiar
No. 20A1306. EC4700. Essy to build kit. \$9.95
No. 20A1309. 4700. Wired ready to use.... $\$ 19.95$

## AUTOMOBILE BATTERY <br> ADAPTOR CORDS

Use your cer or boat battery to power your tope recorder, dictating machine, portable redio or CB set! Plugs in cigarette lighter receptocle. Saves batteries-gives you full power, al woys! Transistor regulated circuit assures constont voltoge. Max. current: 300 mA . Comes with speciol adapter with 3 plugs to fit proctically ony set and has polority reversing feoture. No. $38 A 8021$. 12 volt to 6 volf.
No. 3848022 . 12 volt to $71 / 2$ volt
No. 3848023 . 12 volt to 9 volt. YOUR CHOICE EACH
$\$ 5.95$


CAA STEREO NOISE SUPPRESSOR KIT
Effectlvely kilts the interference or noise caused by igndition system or alternator in some cars. Kit contains choke and capactior and easy to follow Instruction for hook-up.
No. 38A8020. Each
\$1.99

## PICK-PROOF AUTO DOORKNOBS

Opens easily from inside, con't be opened from outside, Sure grip ends allow odults ta open easily, Solid brass with chrome finish
No. 47A5646. Fits all GM autos 1961 up, Ford. Mercury, TBird 1965 up.
No. 47A5647. Fits oll GM autos thru 1958, Ford 1949.1964, Chrysler, Comet, Foirlane, Falcon and Mustangs 1965-1966. YOUR CHOICE
EACH
$\$ 1.49$

- Cut Material Fast and Easy
- Safe-Fast-Cordlese

Runs on one "C" cell. . no cumbersome cords. Right or teft handed. Cames complete with an extra set of precision cutting blades No. 37A5574.
Less Battery, Each \$3.99
No. 21A39. "C Battery. Each 236

COMPACT
AC-DC
RADIO KIT ${ }^{5} 14^{95}$

Powerful 5-Tube Sowerful S.Tube 530 KHz to 1600 KHz

A compact, high quality table radio. Easily assembled with schematic, plctorial and step-by-step instructions. Extremely sensitive and selective. Complete with all parts: powerful Alnico V PM speaker, built-in Hi-Q ferrite loop antemna coil. If transformers, shockproof chassis, all tubes and beautifut ivory eabinet. $7 \times 41 / 2 \times 3^{3 / 4} /^{\prime \prime}$. For 117 V . AC-OC.
No. $47 \mathrm{AB525}$. Shpg wt. 4 lbs Comolete Kit. No. 47 A8525. Shpg. wt. 4 Ibs. Comolete Kif.

## TOP VALUE! PHILMORE

 GERMANIUM SELECTIVE CRYSTAL RADIO KIT
## WITH

1000 OMM EARSET
Easy to build. Features new midget uning condenser Germanium fired crystal diade for better sensitlvify and selectivity than regular tyoe anystal sets. Parts all mount on a $3 k^{\prime \prime}$ thick plywood baseboard in3/8" thick plywood baseboard incivded. Coil comes already wound. Simplified consiruciion with gummed lobel pictorial diogrom which fits bascboard as a template showing ocolion of W7. 48521 . With Meadset $\$ 4.65$


PHILMORE OUTOOOR AERIAL KIT GREATLY IMPROVES SIGNAL STRENGTH OF ANY RADIO
Can be installed on root between trees, in oftic or garoge, etc. Consisis of $50^{\circ}$ coll stronded copper ocrial wire, $25^{\circ}$ rubber covered leod-in wire, 1 ground clamp. 1 leadain strip. 2 porcelain insutators. 2 nail-it knobs. Complefe with instructions. Shpg. wt. 1 Ib. $\$ 1.99$
No. 9A 3102 Nef Eoch..................... 91.9

## UNIVERSAL MOUNTING KIT



FOR CAR RADIOS AND CAR STEREOS


Provides a handy, convenient way of mounting auto stereo and outo radios. Kit contains 6 brackets, 6 bolts, nuts and washers, 1 brocket strap, 4 lock washers and 4 sheet metal screws.
No. 3844007. Each

# Now everybody can enjoy building electronic kits 

## EICDCRIFT krıs

Simple step-by-step instruction. Pre-drilled copper plated etched printed circuit boards. Finest quality parts You con build an Eico. craft kit In about $11 / 2$


## PERSONAL RADIO

Battery operated transistorized radia. Receives standard broadcast band. Earphone supplied. Requires 6 V . bottery,
No. 20A1131. EC-1400 FM Radio 88-108 MHz. Each
$\$ 9.95$
No. 20A1132. EC-1500 AM Radio $550-1600 \mathrm{KHz}$. Each
$\$ 8.95$
No. 21889.6 Volt Boftery. Each
$\$ 1.13$

## ELECTRONIC VOX

Transistorized audio-activated relay amplifier, and sensitive electromagnetic relay. It provides a variable time delay (adjustable) and oudio comrol of remotely operated devices. Makes on ideal voice control for tape recorder. TV or radio sel (as a commercial killer). atc. Requires 6 V . battery.
No. 20A 130. EC-1300. Each
$\$ 8.95$
No. 21 B89. 6 Volt Bottery

## HAM/CB VOX

Solid stote Hom/CB voice operated switch (VOX) with variable time delay and Anti-Vox input circuitry. This circult mony be used with a CB or ham tansmitter or transceiver which will actuote the transmitter when speoking into a microphone and return to receive operation when you stop speaking. Requires 6 volt battery.
No. 20A1153. EC-1700. Each
$\$ 8.95$
No. 21 B89. 6 Volf Battery

## ' MAGIC SWITCH"

Sensitive 2 -transistor amplifier and latching flip-flop relay control circuit. When the touch plate connecied to the amplifier is touched, the relay doses for opens), thus providing a singal of the event. Turn on or off any appliance with this "mogic" or hidden switeh.
No. 20A1256. EC-2100. Requires 9 V. Battery. Each
$\$ 9.95$
No, 218141.9 Volt Battery. Each

## SIREN

Powefful 3 -fransistor battery-operated alorm. Excellent for all attention-getting and signoling purposes, such as alarms for burglary, fira, outomabile, bicycle, boot, personal attack, etc.. sound effects for model railroads, slot car racers, tope recording, etc. Requires 6 volt battery, speaker and switch.
No. 20A1134. EC-100. Each
$\$ 4.95$
No. 21B89. 6 Volt Battery. Each
51.13

## WIRELESS MIKE

Battery-operated, pockef size. Tronsistorized circuit comprises both audio modulotar and RF oscillator. Broodeast through any home or auto radio while walk. ing about freety, unencumbered by any inferconnecting wires. With case, Requires 9 volf bottery.
No. 20A1128. EC-1100. For use with FM Radios. Choice
$\$ 9.95$
No. 21B141. 9 Volt Battery. Each

## TREASURE FINDER

Battery-operated beat-frequency metal locatar can be used to locate both ferrous metols (iron, steel, eic) and non-ferrous metals (gald, silver, copper, etc). Consists of 2 RF oscillotors and a search loop. This distinetive audio signal pitch goes up when the EC. 1900 locates buried ferrous metols, and the pitch goes down when it locates non-ferrous metal.
No. 20A1155. EC-1900. Requires 9 V. Battery. Each
$\$ 9.95$
No. 218141. 9 Volt Battery. Each

## AUDIO AMPLIFIER

3-tronsistor bottery-operated 2-watt audio amplifier. Accepls a wide variety of input sources, such as microphone, phono cartridge, tape recorder, radio, efc. it con handle speakers for infercom, paging public oddress and long distance hoiling. Requires 6 vols baftery, speaker and 2000 ohm volume control No. 20A113B. EC-300. Each .
$\$ 5.95$
No. 21889. 6 Volt Bottery. Each
$\$ 1.13$

## INTERCOM

Rugged 2 -transistor baftery-operated master intercom station. Becomes multiple channel 2 -way (talk-back) infer-communication system with addition of speakers as remote stations. Can be used for baby sitting, room-to-room and front-daar communications. Requires 6 volt battery. 4PDT switch and speakers.
No. 20A1137. EC-200. Each
$\$ 5.95$
No. 21889. 6 Voli Battery. Each
$\$ 1.13$

## VHF CONVERTERS FOR POLICE, FIRE AND AIRCRAFT

Tune the exciting VHF bands used by Police, Flre. Civil Defense, Emergency Services and Aircraft. Place the converter near your AM sodio, no interconnecting wires necessary. Changes VHF band to lower frequencies that your radio con handle. Requires 9 volt bottery
20A1252. EC-2700. Lo-Band 30:50 MHz Police, etc. Your
20A1253. EC-2900. Hi-Band $152.74 \mathrm{MHz}_{2}$ Police, Fire, efc. Choice $\$ 7.95$
20A1254. EC-2800. Aircraft 108-136 MHz.
20A1254. EC-2800. Aircraff $108-136 \mathrm{MHz}$.
No. 21 B141. 9 Volf Batfery. Each $\ldots . .$.
Each. $\$ 7.95$

## METRONOME

Precision 2 -transistor battery-operated electranic metronome. Incorporates 2 transistor "relaxation Oscillatar" circuit which produces accurate adjustable impulses through a toudspecker - from appraximately 10 to 250 impulses per minute. Requires 6 volt battery and speaker
No. 20A1139. EC-400. Each
$\$ 3.95$
No. 21889.6 Volt Battery. Each
$\$ 1.13$

## No Technical Knowledge or Experience Necessary

## BOWMAN SOLID STATE


EASY TO FOLLOW INSTRUCTIONS AND DIAGRAMS EACH KIT SUPPLIED WITH ENCLOSURE

## AIRCRAFT RECEIVER KIT

Picks up strong signals in the 100 to 200 MHZ alrfroft frequency range. 3 stage super high gain amplifier. teiescoping antenna. Earphone included. Requires No. 2041232.
No. 20A1232. AlR-3. Each
No. 218141.
V. Battery.
\$5.95


SUPER-SLEUTH AUDIO SNOOPER KIT Listening device with specially designed circult with three super-sensitlve transistors. Wil amplify up to
100,000 times. Farphone and crystal pickup is pro100.000 times. Farphone and crystal pickup is pro-
vided. Requires AAA baftery. vided. Requires AAA baftery.
No. 20A1231. AS.3. Each
No. 21 C60. AAA Battery. Each
$\$ 4.95$

## PROXIMITY SWITCH KIT

Uses capacity bridge network. silicon controlled rectifier, and transistor. Switches on when someone comes near unit. stays on until AC power is removed. Use to trigger lights, alarms, etc. or devices using universal motors up to 5 amps.

PRS-100. Each
\$6.95
MOBILE POWER AMPLIFIER KIT
Three transistor circult will produce up to 5 watts power. Has volume and tone control. Cigarette lighter pluger. Has volume and in auto or use other 12 VDC source. Requires mike and spe ek er. $\quad \$ 8.95$
No. 20A1233. MPA-5. Each


Electronic Stethoscope Kit. Uses special 3 tran Kistor high goln omplisistor high goin ompli-
fier. Complefe with senfier. Complete with sen-
sitivity control. Stethsifivity control. Steth-
oscope shuts out bockground noises. 20 Al 266 . Eoch . $\$ 9.95$ 21 B141. 9 V. Botfery Each


Electronle Orgon Kit. Keys pressed Individually or together will produce different tones Mounts in plostic case. Supplied with speaker 20A1260. Each... $\$ 6.95$ 21B141. 9
Battery

Photo Celf Music Moker. Uses oudio oscillotor circuit. Woving your hand over photo cell produces varying oudio tones. Great for science fairs and school projects. Uses 9 V. Battery 20A1264. Each_... 55.95 218141.9 V Battery. Each


5 Watt Amplifier Kit. Use with Puner, phono, guitar, microphone, hiDower intercom, etc. With volume control. Operates any 3 to 16 ohm speaker. Uses 6 V. Battery 20A1237. Each..... 55.95 21889. Batfery. Eos $\$ 1.13$

## INTRUDER ALARM KIT

Sounds furn on lights or alarm. Keyed'by sounds picked up by an external crystal microphone (not supplied). So sensitive that whispers or any sounds will couse the light or alarm to go on. Operates on 117 VAC. Wf. $11 / 2$ libs.
No. 20 A1 305.
Kit. Each
$\$ 19.95$
No. 29A610. Mike for above. Each $\$ 2.39$


## ELECTRONIC STROBE KIT <br> FOR INCANDESCENT LAMPS

Handles up to 600 watts of incandescent amps. Easy to assemble. AC receptacle on back.
Variabie speed control to adjust sfrobe rate. Dual SCR circuit. Operates on 117 VAC.
$\$ 12.95$


EXCITING NEW RECEIVER CONVERTER MODULES

## SEPARATE CONVERTER MODULES

 TO RECEIVE- INTERNATIONAL SHORTWAVE
- VHF POLICE AND FIRE
- VHF AIRCRAFT
- FM-VHF POLICE \& WEATHER Efficient means of receiving Shortwave and VMF broadcasts. For use with your standard broadcast band AM radio. No actual connection to radio is required. Small radiation loop connected to module couples converter signal for reception on a quiet spot on the AM dial. Tuning is by small knob on module. Requires standard 9 V . transistor battery and 25' or more antenna for SW . or a short wire for VMF (20A1280 also requires 5,000 ohm Potentiometeri. Very easy-to-follow instructions supplied. Wr. each 4 ozs. International Shortwave Converter Module
No. 20A1157. Tunes 25 , 31,41 Meter Bands $(7-12 \mathrm{MHz})$
VHF Aircraft Converter Modute
No. 20A1158. Tunes $118-128 \mathrm{MHz}$
VHF Police And Fire Converter Module
No. 20 Al 159 . Tunes 30.50 MHz
FM-VHF Pollice and Weather Converter.
No. 20A1280. Tunes $150-164 \mathrm{MHz}$.
YOUR CHOICE,
No. 21 B141. 9 Volt Bottery. Each
$54^{\circ}$


## ELECTRONIC LATCHING <br> RELAY MODULES

## YOUR CHOICE

Tamper-proof "Lock-On" switch. Ideal for burglar and emergency alarms. Contains complete solid state electronic clrcuitry. ready for immediate use as an efficient latching relay for controlled switching of a 6 volt DC power source into any secondary circuit drawing up to $1 / 2$ ampere. Requires 6 volt battery and switches.
No. 20A1229. For Momentary Make Contact To Operate Choice $\$ \mathbf{\$ 3 . 4}$
No. 20A1230. For Momentary Breat Contact To Operate No. 21889.6 Volt Bottery. Each
$\$ 1.13$

## - $6^{95}$ <br> AUTOMOBILE BURGLAR ALARM MODULE

Triggers and "locks on" car's own horn as an
alarm. Opening a door, attempting to start car alarm. Opening a door, attempting to start car
or switching on lights will trigger alarm. Uses current sensor principle to trigger alarm. Con tains module, lock switch and wire. No. 20A1303. Esch
$\$ 6.95$
3 CHANNEL PSYCHEDELIC LIGHT CONTROL CENTER Use with spotlights or any group of incon-

SYNCHRONIZE LIGHT diescent lights up to 500 worts per chonne WITH MUSIC! or a total of 1500 watts. Great for musical groups, window displays or anywhere a big atrention getting disploy is wanted. Operates from speaker output of omplifier, 3 seporate sensitivity contrals. Each control hos on indicotor light for odjusting light operotion. With oluminum case, all parts and complete instructions. Operates on 115 NAC. 2OA1261. Complete Kit Ea\$12.95


FREQUENCY CONTROLLED 3 CHANNEL LICHT CONTROL CENTER. LIghts respond with different sound frequencles and volume. No channel interaction. Sound spectrum $60-1,000 \mathrm{~Hz}, 1,000-8,000 \mathrm{~Hz}, 8,000-15,000 \mathrm{~Hz}$. Other features same as above unit. W $\mathrm{F} .11 / 2 \mathrm{lb}$.
No. 20A1275. Complote Kit, Each..
$\$ 24.95$
No. 20A1276. Factory Wired, Each. $\qquad$ as sbove.
No. 20A1304. Complete Kit. Each 52.39

No. 29A610. Mike for above. Each


PSYCHEDELIC KITS CONVERT SOUND TO LUGHT
With Enclosure and Easy To Follow Instructions Converts sound to changes of colored lights. Lights blink in unison with the beat of the music. Each kit has 4 colored lights for a foscinating lighting effect. Uses silicon controlled rectifiers to trigger light oction. Eosy to build. Responds to voice and music Built-in sensitivity control. Model PSA-1. Connects to speoker of hi-ff, rodio or phone. For 115 VAC operation.
No. $20 A 1235$. Eoch. No. 20A1235. Eoch
No. 20A1236. Model PSW-1. Sounds are picked up by mike (supplied). For 115 VAC operation. Each..................... $\$ 9.95$


## BCO "ELECTROPLATER"

 age, eiectroplating power supply. Chemicals are included for copper electroplating together with step-by-step information for silver and gold plating. Custom No. 2041277. Model EC-4000. Each
\$12.95

SOLID STATE MODULES


COMPLETELY ENCAPSULATED AS SMALL AS AN ICE CUBE

YOUR CHOICE
$\qquad$ ${ }^{8} 3^{49}$
Eoch module is a smoll reody to use molded copsule containing a completely wired circult of tronsistors resistors, capacitors, and other parts. Most modules require only 2 or 3 items (bottery, mike, speaker, etc.) to complete each device.

Ng. 20All60. PUBLIC ADDRESS AMPLIFIER MODULE. High goin for use with high or low impedonce, crystal or dynarnic mike. Drives ony size PM speaker or trumpet. Operates on 6 volt battery.
No. 20A1161. INTERCOM MODULE. Ready for instant use . . . just connect to two speakers, 6 volt battery and switch. Provides a complete system.
No. 20A1162. PHONO AMPLIFIER MODULE.COnnect to on 8 ohm speaker, 6 volt battery and phono pickup. Provides for above overage volume.
No. 20A1163. POLICE SIREN MODULE.Produces high level upward seream and downward woil. Drive ony 8 chm specker. For use with 6 volt bottery. Complete instructions.
No. 20A1251. STEREO AMPLIFIER MODULE. For crystal or ceramic stereo cartridge. Cood fidelity and volume. Requires 28 -ohm speakers, 2 -meg. potentiometers and 6 volt lantern baftery.
No. 20A1164. TELEPHONE AMPLIFIER MODULE. SIMply connect to any PM speaker, 6 volt boltery and telephone pickup coil. Amplifies telephone conversotion for group listening.
No. 20A1222. CUITAR TREMOLO MODULE. Connects beiween gultar pickup and amplifier. Tremolo frequency adjustable from about 4 to is Hz .
and amplifier. Tremolo frequency adjustable from abo
Requires 9 V . battery and 25.000 ohm volume control
No. 20A1166. CB MICROPHONE PREAMP MODULE. Ready to use preamp. Increases madulation to optimum for dependable fronsmissions. Use any $1 \%$. volf botfery.
No. 20A1167. BURGLAR ALARM MODULE. Automotically sounds o siren olorm when window or door is opened. For use with 6 volt bottery and 8 ohm speoker. Complete instructions.
No. 20A1226. C.W. MONITOR MODULE. Operates from RF energy surrounding your transmitter. Keying transmifter in normal way produces CW note in any 8 ohm speaker. Reouires $11 / 2 \mathrm{~V}$. batfery.

## WIRELESS MICROPHONE TRANSMITTER MODULE

Connects to any high impedance microphone and 9 volt transistor battery. Will transmit voice into nearby radio. In accordance with the regulations of the Federal Communications Commission these wireless modules are warranted by the manufacturer to have a power input of less than 100 milliwatts and may be used by anyone without Itcensing or registration of any kind. No. 20A1169. For AM Radlos Without ilcensing or registration of any $k$
No. 20A1172. For FM Radios No. 20Ali70. For FM Radios as above except for low impedance mike.
YOUR CHOICE
ANY OF ABOVE, EACH
$\$ 3.49$
No. $21 \mathrm{Al}, 11 / 2$ Volt Boltery. Each
20.
No. 21889.6 Volt Battery. Each
$\$ 1.13$
No. 21B141. 9 Volt Botfery. Each

## DUAL FLASHER (FLIP-FLOP) MODULE

Build auto road warning lights, window disploy attention getters, model train grode crossing flosher, bicycle rear wheet satety flasher, etc. .1.99
No. 21889. 6 Volt Battery. Each
$\$ 1.13$

## METRONOME MODULE

Mokes a dependable metronome af fraction of usual price. Adjusts 40 to 208 beots. Requires 2 Meg. Pot., 6 V . bottery and speaker.
No. 20Allis.Wt. 4 oz. Special Each
$\$ 1.99$
No. 21 B89. 6 Volt Bottery. Each
$\$ 1.13$

## BATTERY CHARGER MODULE

Charges flashlight and transistor batteries from $1 / 1 / 2$ io 22 友 valts fram 115 VAC. Trickle charges at 3 mil rate. Makes batteries lost several times longer. Requires a line card and wire and clips to connect to batreries. Wt. 4 oz No. 20A1176. Special Each

99 ${ }^{\circ}$


## CODE PRACTICE OSCILLATOR MODULE $\quad \Theta 0$

Operates from ony $11 / 2$ to 6 voli bottery and ony PM speaker. Only three connections to make. RePM speaker. Only three connections to make. Re-
quires no odjustment. Wt. 4 oz
No. 2041177 . Each....................

## METAL LOCATOR MODULE

Defects and locates larger metal objects at distances up to several feet away and smatter metal objects \{such as coinst at distances up to several inches away. Use with AM radio (no connections required). Requires 9 voit bittery, 5000 ohm pot. 30 feet of $\# 22$ insulated wire, and 2 pieces of wood. $\$ 5.00$ No. 20A1238. Each.
No. 21B141. 9 Volt Battery. Each


I

ravels from end to end of these remarkable plastic fibers by total internal reflection. The fibers may be bent around corners, even tied in knots. The light follows the fibers and shines out the end. Use them anywhere a flexible, movable point of light is desired.

## MASTER ASSORTMENT

Contoins one each of alt fibers and accessory items. A total of 264 feet of mono fiber, 9 feet of jacketed light guides, 4 channel light head, low voltage power source, end treat compound eyelet assortment, spare bulbs and the $F$ iber Optic "Why-How-Where" Handbook.
No. 12A2849. OP8080-C. Each
\$23.95
Fiber Oplics Starter Kit contains 30 six foot lengths of 10 mil mono-fiber, 8 six foot lengths of $20 \mathrm{mil}, 3$ teet of cabled 19 fibers each 17 mils, eye:
let assortment. adhesive end treat compound and instruction book. A $\$ 12.10$ retail value.
$\$ 8.85$
No. 12A2652. Ops070C Starter Kit. Each
"FIBER OPTICS BOOK"
The history, principle, methods of working with, applications and project suggestions concerning plastic fiber optics.

## No. 12A2672. OP8060C. Each

## MONO-FIBER AND LIGHT GUIDES

| Stk. No. | I.R. No. | No. of Fibers | Pcs. in pkg. | Piece length | $\begin{gathered} \text { O.D. } \\ \text { Inches } \end{gathered}$ | Per Pacienge |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 A2653 | OP1030-C | 1 | 30 | 6 ft . | . 010 " | \$2.49 |
| 12 A2654 | OP1060-C |  | 60 | 6 ft . | .010" | 4,49 |
| 12 A2655 | OP2008-C | 1 | 8 | 6 ft. | .020" | 2.49 |
| 1242656 | OP2016-C | 1 | 16 | 6 ft . | .020" | 4.49 |
| 1242657 | OP 3003-C | 1 | 3 | 6 ft . | 030" | 2.69 |
| 12 A2658 | OP 3006-C | 1 | 6 | 6 ft . | .030" | 4.79 |
| 12 A2659 | OP4503-C | 1 | 3 | 6 ft . | .045" | 3.59 |
| 1242660 | OP4506-C | 1 | 6 | 6 ft. | . $045^{\prime \prime}$ | 6.89 |
| 12A2661 | OP7073-C | 7 |  | 3 ft . | \%.087" | 1.39 |
| 12 A2662 | OP7076-C | 7 | 1 | 6 tt. | *.087** | 2.29 |
| 12 A2663 | OP7193-C | 19 | 1 | 3 ft . | *.120* | 2.29 |
| 12 A2664 | OP7196-C | 19 | 1 | 6 ft . | * 120 " | 3.99 |
| 12 A2665 | OP7373-C | 37 | 1 | 3 ft . | *.152" | 2.79 |
| 12 A2666 | OP7376-C | 37 | 1 | 6 ft . | ".152* | 4.89 |

## *Each fiber is $.017^{*}$ diameter. Has jacket over all fibers.

Four Channel Light Head. For low voltage power supply 16 to 12 volts ac/dcl. Consists of 2 wires, light socket, light bulb (No. Op9020) and a 4 channei lensed cover. Includes 2 part connector.
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Contains everything you need to make your own negatives and PC boards. Changes in circuitry, or correction of mistokes, may be made after developing by re-touching the negative. Negotive con be used for hundreds of identical PC boards for sample or small production runs. Detailed instructions included. Kit contains 4 rapid films, 3 drawing paper, 6 sensitized PC boards, developer and etchant, photoflood lamp, glass and back-upe plates for film ond baard exposure. Light filters and other accessories are inciuded. Shpg. wt. 4 lbs.
No. 12 A2850.
Each
$\$ 19.953$ Each
\$16.95

## PHOTO SENSITIZING KIT

Photo sensitize your own regulor copper clad PC baords, re-use boards that hove been accidentally ruined betore etching, and gain more know-how in PC boord technology with this sensitizing kit. Apply photo resist fluid to the board with the oridinary point brush supplied occording to complete instructions furnished. Should be done in semi-dork room. Instructions detail exact operations required including optionol methods of drying the cooted boards. Kit contains photo resist and solvent stripper fluids, application brush, light filter and instructions. Sensitizes twenty $0 \times 4^{\prime \prime}$ boards. Shpg. wi. 3 lbs.
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250 RESISTORS PLUS METAL STORACE CABINET. Here's what you get 200-1/2 Watt and 50-1 Watt Insulated Resistors in most popular resistance values. All latest, small types by IRC, Stackpole, etc. Average cost per resistor less than $5 c$ and the cabinet is frec. Includes Metal Storage Cabinet, as
$\$ 10.95$
No. 37 A9569. 12 Orawer Cabinets. Wt 3 lbs $\$ 4.00$

## BARGAINS!

##  ASSORTMENTS <br> BRAND NEW <br> FULLY GUARANTEED <br> COMPUTER BOARDS <br> 

3 printed circuit boords, each loaded with brand new, high quality Americon made parts. Contairs over 60 comownents in all. You get ot leost 10 tronsistors, miniature metal encased electrolytic ecpocitors and resistors, including $1 \%$ and $5 \%$ tolerance.
Can be easily desoldered and punched boord used for dozens of projects. Wiring easily removed or Lumpered. Boords olone worth more than our un believable low price! Wt. 1 lb
No. 180377 . While
No. 18 D 377 . White
99 c


2SB474 POWER TRANSISTORS

2 FOR

$\$ 2^{9}$
General purpose germanium P-N.P for large audio amplifier application. Use in high fidelity ampiliers and other equipment which require wide frequency range and low distortion, Re. places transisfors used in many types of imported equipment. Creat choice for hobbyists and builders projects too. Furnished with collector insulator screw insulators, and mounting screws, nuts, and washers. Quality import. No. 2041270.
Pkg. of 2 For
\$2.99
WOULD NORMALLY COST OVER \$5.00!

## MAGNETIC

## REED SWITCHES

B-A
SPECIAL
PURCHASE

5 FOR


Hermetically sealed glass tube with a pair of magnetic overlapping reeds. Switches may be actuated with permanent or electro magnets. High sensitivity. Rapld cycling. Mount in any position, ldeal for counting instruments, limiting switches, alarm systems, etc. Size $3^{3} 1^{3} \times 1 / 8^{\text {is }}$ dia. Would mormally cost over $\$ 100$ each
No. 18 A1499.
5 For
$\$ 1.99$


SPST normally open, mamentary contoct. For all sorts of miniature $A C$ or battery powered DC devices. Molded insulated housing and red button. Solder terminals. Really smail, only $3 / 6$ dio ${ }^{x}{ }^{\prime \prime}$ long overall. Mounts in $1 / 4$ ": hole. Top quality import of less thon $1 / 2$ usual cost. Wt. 2 oz.
No. 19 A7210
Net Eoch
10 Lots,
Eoch ...

## SUB-MIN\{ATURE 10-AMP TOGGLE SWITCMES

Perfect for mintoture equipment. 10
omps ( 125 V AC Mig shank, : $\times 3 / 8^{\prime \prime}$ long. Hardware included. 1 oz. 19A7188-SPDT. Each. 10 Lots Each. 19A7189-DPDT $\$ 1.89$ 10 $\$ 1.70$ 19ش7220, SPDT. Center off. Eoch 51.69

## SPST TOGGLE WITH LEADS

Compoct, bakelite enclosed with two $2^{*}$ wire leods. UL approved. 6 amp @ 125 volts ${ }_{31}{ }^{\prime \prime}$ dio. $\times 1 / 4$ " long mig. shonk. Wt. 3 oz .

MOST POPULAR CARLING AT BIG SAVINGS! U.L. Approved. Bokelife enclosed with $11^{\prime \prime}$ L. bot hande, is ${ }^{n}$ dio. $\left.\times 1\right\}$ shonk, solder lugs. (t Center off. Averoge shpg. wf. 3 oz

| Stk. No. | Action | Fig. | 125 V | 250 V, | Net Each | 10, Es. | 100, Ea |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $19 A 7196$ | SPST | 1 | 6 | 3 | $\$ 0.72$ | 50.65 | $\$ 0.50$ |
| $19 A 7197$ | SPDT | 1 | 3 | 1 | .92 | .82 | .63 |
| $19 A 7198$ | DPST | 1 | 3 | 1 | 1.26 | 1.13 | .86 |
| $19 A 7199$ | DPDT | 1 | 3 | 1 | 1.39 | 1.25 | .95 |
| $19 A 7201$ | SPDT | 2 | 15 | 10 | .82 | .74 | .57 |
| $19 A 7202$ | DPST | 2 | 15 | 10 | 1.13 | 1.02 | .78 |
| $19 A 7203$ | DPDT | 2 | 15 | 10 | 1.39 | 1.25 | .95 |

## $82^{4}$

\$ 49
qUALITY IMPORT

## TREMENDOUS SAVINGS SNAP-ACTION SWITCHES



111 Miniafure Micro V-3. SPDT 10

 031 ". Wt. 2 ozs.

(2) Window and Door Switches. Normailly closed. Actuator button projects $3 / 32^{\prime \prime}$. $1 / 4^{\prime \prime}$ quick disconnet or solder terminals. Roted 15 A. 125.250
VAC. $1 / 2 \times 3 / 8 \times 7 / 8^{\prime \prime}$ overall size. VAC. $1 / 1 / 83 / 8 \times 7 / 8$ " overall size. Made by Cherry
No. 18A15s0
Each $9^{c}{ }_{\text {Each }}^{10}$
$59{ }^{\circ}$ Each
 AAC. $1.7 / 8^{\prime \prime}$ L. X $11 / 16^{\prime \prime}$ W. X $1^{\prime \prime}$ H Actuator extends $11 / \mathrm{m}^{\mathrm{c}}$. Wf. 2 oz No. 18 A1455 99c Each

90 (4) Miniature Micro V-3 Switch Normally Open. With $1-7 / 10^{6 \prime}$ long actuoting lever. Roted $1 / 2 / \mathrm{A}$. 125 VAC Body size $1-3 / 32 \times 7 / 8 \times 13 / 32^{\prime \prime}$ 187 quick disconnect terminals. No. $18 A 146269^{10}$

CRL LEVER SWITCH

(7) Double Rocker Curler-Hammer. Versatile, one side SPST. other SPDT Center terminals can be cut apart for individual switching. $13 / \mathrm{m}^{\mathrm{c} \mathrm{\prime}} \mathrm{mig}$. ctrs. Overall $11 / 4 \times 11 / 4 \times 11 / 2^{\prime \prime}$ D. 6 amp

(7) 3PDT Center Off, Cutler-Nammer. 6 amp@ 125 V. $15 /$ al" mig. cirs. Over: $^{2}$


## HARD-TO-FIND MERCURY SWITCH BARGAINS

## 2 AMP Spor MERCURY SWITCH <br> 99c

 hi-current HONEYWELL MERCURY
SWITCH
\$169
Roted conservatively 10 amps 115 V AC. $1 / 2^{\prime \prime}$ dia. $\times 2^{\prime \prime}$ L., $4^{\prime \prime}$ wire leads SPST for timers, relays, flashers, etc Wt. 5 ozs.
No. 18 Al4 18
Special Each
$\$ 1.69$

Slight tip sends mercury to other end for silent operation. Pin terminals. $3 /{ }^{*}$ dia. $\times 15{ }^{15}$ L. Removed from equip-
ment. Wt. 3 ozs. 99 c $10 \AA 89$ c
 248

SLIDE SWITCHES


Small with black bokelite slide hon die. Solder lugs. 1 omp @ $125 \mathrm{~V} . \mathrm{AC}$ Wi. 102 .


Big savings on latest style compact rocker switches. Black button marked with white dot on one side.
Rated 3 amps © 125 VAC . Mtg. centers $1 \mathrm{~K} \mathrm{~K}_{\mathrm{\prime}}$. Overall size: $15 / 8 \times 1 \mathrm{~F} / 8$ x $1 / 2^{\prime \prime}$ Made in U.S.A. 10
No. 18 At 520 . 39 e 10
 100 Esch-...29c 1000 Each
APDT LEVER SWITCH


Positive octing for audio switching. speakers, telephones, model roilroods, etc. Roted 30 mp @ 120 V .2 screws on front for mounting. $21 / 9 \times 11 / 4 \times$ $5 / 0^{\prime \prime}$ behind ponel space. Shpo wf B No. 19A7190. Imbort special \$1.29
$49^{\text {f }}$
och, 10 Lots
BIG IMPORT
SAVINGS
POPULAR BAT HANDLE DPDT TDGGLE SWITCH Bokelite encosed. Chrome on-Dff plote Roted 3 amo @ 125 V . $13^{\prime \prime \prime}$ dio. x $3 /{ }^{3}$ L. shonk. Wt. $4{ }_{0} z_{0}$


TOGGLE SWITCH PLATES. Nickel ploted steel with on-off morkings. Use with stondord $11^{\prime \prime}$ dio. mounttng shafts.
19A7195-3c 10 for. 27c


## DPDT TOGGLE SWITCH

## CENTER OFF

$89^{\text {c }}$
tuch 10 Lots
Bat hondle, bokelite case, red and black on-aff plate. Screw terminals Roted 3 omp @ $250 \mathrm{~V}_{\mathrm{k}} 6 \mathrm{omp}$ @ 125 V . Quolity import. Wt. 4 oz . No. 19 A7191 Each....... $^{c} 10$ Lots, 89 DPDT MEAYY DUTY PUSH-BUTTON SWITCH

s1.49
Push on, push off. 125 volt 3 amp Supplied with mounting ring nut and washer.
No. 19A7349-Black
No. 19 A7350-Red.
Yowr Choice Each
MINIATURE PUSH-BUTTON SWITCH 30 3

Tiny normally open momentary switch. single pole. Mounts in $1 / 4$ " hole, red button. Requires ${ }^{\text {space, extends anly }} 3 /{ }^{n}$ behind panel. Nickel finish with mounting pane
 (O) H\&H LOCK SWITCH TURNS ON WITM
REAOVABLE KEY


Prevents unauthorized operation of any electrical equipment. Fine for alarm systems, doar openers. fixed and mobile transmitting equipment. etc. SPST. ${ }^{3}$ amp Q 250 V. 6 amps @ 125 V . $\mathbf{1}^{\mu}$ dia. $x$ y ${ }^{\mu} \mathrm{L}$. migg shank: U.L. approved. With key. Wi, 3 oz No. 19 A7217 Special Each
$\$ 1.99$
No. 19A7218.Extra Kcy. Each.......22 $2^{6}$

## ACTUAL

MINIATURE MAGNETIC REED SWITCH

## 4 FOR

SIZEI
$\$ 1.95$
Fantastic B.A special purchase. Would norrially cost way over $\$ 1.00$ each. Migh sensitivity. small size. Only $13 / 4$ " long overall $X{ }_{6}{ }^{" N}$ dia. Glass length


## FANTASTIG LON PRIGE ON RGLATS! SAVE OVER HALF 25 AMP 115 VAC RELAY <br> REG. <br> NET <br> $\$ 9.50$ <br> SPECIAL ONLY

Big bargain on a high power relay! Hart-Advance No. WHU. DPDT plus one aux. SPST in' series with the coil. Solenoid plunger type., Eight 250 " quick disconnect terminals on power circuits and three "1io" quick disconnect terminals on coil circuit, $8-32$ threaded mtg. stud on side. $1 . \frac{18}{6}$ sq. $\times 2,6 \%^{\prime \prime}$ H. Shpg. wt. I lb .

No. 18A1559. special Each
$\$ 4.69$

$5: 5=50 \%$
OMAR ENCLOSED PLUG-IN RELAYS 3PDT. 10 amp contacts. Continuous duty. Clear plastic case $11 / s^{\prime \prime} s a^{\prime 2} 21 / a^{\prime \prime}$ seated height. Fits 11 prong socket. Shpg. wt. 4 ozs.
No. 18A1545. For $122^{8} \mathrm{VAC}$
Choice Each
$\$ 4.95$

## 115 VAC DPDT RELAY



## REG. NET OVER $\$ 4.00$

Molded phenolic ferminal blacks, molded nylon bobbin, contacts 10 amp. 115 VAC. Solder lug $13 / 8^{\prime \prime} \mathrm{W} \times 1 / 4^{\circ} \mathrm{H}$. above mounting surface. Shpg. wt. 3 ozs.
\$1.99

## GUARDIAN 115 VAC <br> PLUG-IN RELAY

## $83^{93}$

 115 VAC coil. Has 3 sets of contacts: SPDT,SPST-NO and SPST wired NO but wlth back SPST-NO and SPST wired NO but with back SPDT easily. 10 amp contacts continuous duty $1 \frac{1}{2} 2^{\prime \prime}$ square. $21 / 8^{\prime \prime}$ seated height. Shpg. wt. 8 ozs. No. 18A1548. Each
$\$ 3.95$ No. 12A57. il-Pin Socket. Each.

## BIG SAVINGS ON

## POTTER \& BRUMFIELD RELAYS

187 combination quick disconnect/solder terminals. Use as supplied, with plug-in sockets below or snap cover off for open relays with 6.32 tapped mounting hole Size $21 / 2 \times 1 / 2 \times 1 / 2{ }^{\prime \prime}$. Shpg. wt. 3 ozs.
3PST 120 VAC. 5 Amp Contacts. Clear cover No. 18 A1584.
Each
$\$ 2.39^{10}$

.....
$\$ 1.99$
SPDT 6 VDC. 10 Amp Contacts. Yellow covér.
No. 18 A1583.
$\$ 1.95 \quad 10$
$\$ 1.79$
No. 19A1610. Sockets for above. Each ....... $79^{\circ}$

## 115 VAC 3PDT RELAY

Exceptionally nice relay 10 amp contacts have solder lug connections. Coll has 2 leads. $6-32$ tapped mounting hole. $1 \% \times \mathrm{X}$
 No. 18A1585
$\$ 2.99{ }^{6}$ Each
$\$ 2.69$

## SAVE OVER HALFI

115 VAC SOLENOIDS

(1)


Each
(1) Spring loaded plunger returns to open position. $1 /{ }^{1 / 2}$ stroke. Two 8-32 mounting holes. 187 quick disconnect terminals. $13 / 6 \times 1 / 6 \times 21 /{ }^{1 / 2}$ long over: all. Made by Dormeyer. Shpg, wt. 8 ozs.

## No. 18A1587

$\$ 1.29$
10 Lots
Each
Each
$99^{\circ}$
(2) Miniature solenoid, only $7 / \mathrm{K}^{2} \times 1 / 6 \times 13 / 4{ }^{10}$ long. 187 combination quick disconnect/solder terminals. Tapped 6.32 mounting holes. Made by Dormeyer. Shpg. wt. 3 ozs
No. 18 A1588
99- 10 Lots
Each .................... 89
(3) Extra good quality "T" plunger with size 6 hole for coupling. Max $3 / 4$ " stroke. $1 / 4{ }^{\prime \prime}$ disconnect ferminals. Size: $11 / 4 \times 11 / 2 \times 2^{1 / 4} 4^{\prime \prime}$. Shpg. wt. 8 ozs No. 18 A1564
$\$ 1.49$
10 Lots
$\$ 1.29$
HEAVY DUTY 115 VAC PUSH-PULL SOLENOID
 A massive, continous duty solenoid rated at 15 lbs. max. Double action plunger for either push or pull operation. Laminated stack", thick $23 / 4$ W. H . Overali height $31 / 8$ with 4 hole centers $2^{\prime \prime}$ square. Plunger is $61 / 4 "$ overall length, with 1 max. pull or push. $8^{1 \prime \prime}$ leads with quick disconnect lugs. Shpg. wt $31 /$ lis. No. 18 A1542 sisconnect lugs. Shpg. wt. 10 (2)
\$2.69

RBM SENSITIVE DC RELAY


Small size relay with 2 SPDT ond 1 SPST crossbar contacts. Armature isoloted from frame. 1200 ohm coil. Solder terminals. Two 4.40 mtg . holes. Size: $1 / 2 \times 11 / 8 \times 13 / 16^{\prime \prime} \mathrm{H}$.
No. 18A1565
Spee
Each
$\$ 1.99$
10 @
$\$ 1.69$
MERCURY WETTED VERY HIGH SPEED AT RELAY LEAST SIOLUE!
$\$ 4.95$
Features billions of operations without contact wear or bounce. Used for telegraph keyers, teletype, etc. at up to 30 operations per second with utmost qependability. Coil 4000 ohms, 7.2 MA pull-in. 62 MA release. SPDT contacts 5 amps. $25 \mathrm{~h}^{\prime \prime} \mathrm{H} \times 1$. 1 in" dia. Hermetically sealed. Octal base. C.P.Clare - HC IO77. At a fraction of regular cost! $18 \mathrm{c912} \$ 4.95{ }_{\text {For }}^{3} \$ 10.00$ 115 V. AC SOLENOID


POPULAR SMALL SIZE Max. 55 oz. lift, 5/8' stroke. Intermitient operation. Frame size $2 \times 11 / 4 \times$ $11 / 2^{\mathrm{mI}} \mathrm{H}$. Laminated afmature positively positioned in frame. Mtg. flange re positioned in frame. Mig. flange No. 18 B308 No. 188308

## pecial Each

99c

## PRECISION MINIATURE

SNAP ACTION SWITCH


Single pole, double throw for NO or NC uses. Only $3 / 4^{\prime 2}$ L. $X 1 / 1^{2}$ H. and less than $1 / 4^{\prime \prime}(6 \mathrm{~mm})$ wide. Actuates by direct $41 / 2 \mathrm{oz}$. pressure on pin type actuator. Travel is less than. $010^{* \prime}$.
Two mounting holes on $3 / 6^{\circ}$ centers. No. 18A1540 99c ${ }_{\text {Each }}^{10}$ @ 89 c

## BARGAINS!

## RELAYS AND SWITCHES

BRAND NEW
FULLY GUARANTEED
MINIATURE SPDT SENSITIVE DC RELAY


Only $3 / 4 \times 1 \times 1 / 8{ }^{\prime \prime} \mathrm{H}$ t amp, 2.9 MA sensi tivity. For electronic light controls, etc. Wt 10,000 10,000 Ohms.
No. 18Al368. Special Each \$1.69

## BIG SAVINGS!



## DPDT ROLLER LEAF SWITCH

Micro Roller Leaf. 5PDT 15 amps Ft $125 \mathrm{~V} .11 \mathrm{~K}_{4} \times 11 / \mathrm{st}^{2} \times 1 / 2^{11} \mathrm{H}$. Long life roller actuator with extended overtravel. Wt. 2 ozs.

## No. 18 A1597 69C ${ }^{10}$ 59c

## 10 AMP 115 VAC

 SWITCHES

Requires very little pressure to operte. Open construction. $21 / 8 \times \quad 3 / 4 \times$ $3 / 4$ overall size. $13 / 4^{\prime \prime}$ mitg. centers. rerminals
No. 18A1552. 3 For
$99 C$ No. 18A1552. 3 For


[^10]

SIMPLY PLUG-IN IN PLACE OF BATTERIES - OPERATES ON 117 VOLT AC Operates transistor radios, walkie-talkies, tape recorders and other devices from 115 V . AC. Regulated exact output voltages. Reliable noise-free operation. Simple to use-ust plug adaptor into wall outlet and equipment. Requires no change in your equipment-unplug adaptor for portable use. Cable has miniature phone plug on end.. Wt. $3 / 4 \mathrm{lb}$.
No. $13 A 8007-6 \mathrm{~V}$. Output
No. 10A3030- 9 V . Output YOUR CHOICE No. 10A3021-12 V. Output

EACH
$\$ 4.95$

## 6 VOLT RADIO POWER

FROM YOUR WALL OUTLET


Tiny self-contained unit operates from 115 . AC providing proper float charging rate for a 1.2 V. Ni-Cad baftery cell. Made for continuous duty
use. Provides utmost economy of operation for all kinds of battery powered devices, flashlights, electric toothbrushes, radios, recorders, hobby equipment, etc. Charging current 50 MA. for 1 ampere hour battery Charger size $2 \times 1$ 有x1k.". Wt. 4 ozs No. 18 A1336. Socacial tech
$\$ 1.99$

Save baffery costs! Powers 6 volt radios and other low current operated devices from your 1 Simply plugs in. With 6 outlet. Simply plugs in. With 6 it isted. Shpg. wt. 1 ib. $\$ 3.95$ No. 18A1479. Special Each $\$ \mathbf{\$} .95$

CHARCER FOR 2 NI-CAD BATTERIES Requires series connection of batteries Requires series connection of batteries Size 13a $100^{\text {sq }} \times 2^{\text {² }}$ long. Charging current 100 MA . For 2 ampere hour or larger batrery. Wh. 402. 188343. Limited. quantity.
$\$ 2.49$

$\$ 4^{95}$

Eliminates the use of batteries in cassette and cartridge recorders and other battery operated units. Adaptor plugs into 117 V . outlet. Switch selects $6,71 / 2$, or 9 volts. 320 MA output. Polarity reversing connector. Not recommended for small radios or other devices with low power consumption. 3 way connector has miniplug, sub-miniature plug, and coaxial jack. Size: $23 / 4 \times 13 / 4 \times 21 / 4{ }^{\prime \prime}$ (with prongs). Shpg. wt. 8 oz .
No. 13ABO52. Eoch
$\$ 4.95$

## NEW LOW PRICES!



Provides well-filtered DC power from 115 V. AC line. For use with all kinds of battery powered transistor equipment, radios, intercoms, tape recorders record-players, amplifiers, tuners, transceivers, experiments, etc. input 115 V AC 60 Hz . Metered output...switches to $6-9-12$ volts. Heavy duty metal case $6 \times 31 / 2 \times 21 / 2^{\prime \prime}$. Wt. $3^{\circ}$ ibs.
No. 13A8009. Top Import Value! Special Each
$\$ 16.50$


0-15 V. DC@ 1.5 AMPS.
$\$ 34^{95}$

Highly reliable foower for every conceivable iype of solid state device. Oufput voliage selacted by front control. Meter indicaror output voltage. Has pilot light, fused output with binding postr which accept phone tips or bananalplugs. Housed in attractive black metal case with atuminum front panel. workanship throughout. Size $21 / 2 \times 4 \times 7^{\prime \prime} 0$. Shpg. wt. 3 lbs. $\$ 34.95$ and workmanship itroughoui. Size $21 / 2$
No. $13 A B 000$. Top Import Value. Each...

## SAVE ON BATTERY GOSTS WITH THESE HANDY DRY GELL BATHERY GHARGERS!

EVERY HOUSEHOLD SHOULD HAVE ONE
RECHARGES BATTERIES FOR:

- FASHIIGHTS
- RADIOS
- RECORDERS
cameras
- TOYS

FAMOUS "DYNAMIC" PLUG'N'CHARGE HOME BATTERY CHARGER

Operates from any AC outlet. Recharges "weak", batteries, 4 batteries at one time. size D. C. AA or 9 V transistor; carbon-zinc, alkaline, nick-el-cadmium or mercury types. Safe el-cadmium of mercury types. Safe lock IId. Wt. 2 lbs. +505 No 13 A8013. Each
\$5.95

## NOW USE YOUR <br> BATTERIES LONGER- <br> RECHARGES 1 TO 14 AT ONE TIME!

New "Comet" charger plugs into AC socket. Has built-in battery test light to find dead cells. Molded recesses handle up to 4 D cells, $4^{4} \mathrm{C}$ cells. 6 pen cells and 1.9 V transistor batrery. to 2 hours, up most batterin in to 2 hours, charge them fully in $12-16$ hours, providing batteries are not dead and inactive. Completely dead cells cannot be reiuvenated. Very well made. molded plastic. Size 73/8x WF. 2 lbs. $\$ 749$
No. 13A8012. Net Each.
$\$ 7.49$



ALL HAVE
115 V. AC PRIMARY

120 V. @ 70 MA Sec. Isolated 115 V @ 100 MA . Separate filament $\times 25 \%$ Mid 18 A 1386 Wt . $21 / 2 \mathrm{lbs}$. Special Ezeh
\$4.99


## ALL HAVE 117 V. 60 HZ . AC PRIMARIES

 W. $11 / 4 \mathrm{lbs}$. 13 A 96 , $\$ 1.99$ No. 13A967. Japan Euch, \$1.99
$17{ }^{10} \times 13.3 \mathrm{~V}_{\text {. }}$ @ ${ }^{3}$ AMPS Size $17 / 8 \times 13 / 4^{\prime \prime}$ with $27 / 8^{\prime \prime} \mathrm{mig}$. ctrs. solder lugs. Wr. 1 lb.
No. $13 A 968$. Special Each $\$ 2.79$ Ti) 12.6 V . © 1 AMP Tapped @ 6.3 V . Sire $11 \mathrm{l} \times 11 / 2 \times$ No. 13 A 969 Wt. $31 / 210 \mathrm{los}$. No.
Import Specied.
$\$ 2.88$


MIDGET FILAMENT 6.3 V.@. 75 A

 No. 13A243. Special Eoch,.
(1) 24 V .@1 AMP Size $2 \% \times 2{ }^{\prime \prime} \times 2^{\prime \prime}$ AM. with $27 /{ }^{\prime \prime}$ mo. 13 ASto. Specisl Each $\$ 3.75$
(2) 24 V (2) 2 AMP . Size $2 \% \times 21 / 4$ ${ }_{21 / 2} 1_{2} \mathrm{ibs}^{\prime \prime} \mathrm{H}$. with $3^{1 / 18^{\prime \prime}} \mathrm{mtg}$. cirs. Wt. No. 13C501. Special Each...\$4.99


BA special purchase saves you money. Perfect for solid stafe power supplies. 115 VAC primary. Highest quality continuous duty. 19" Insulated leads. Size: $2^{1 / 2^{\prime \prime}} \times 2^{\prime \prime} \times 3^{\prime \prime} H$. Wt. $2^{1 / 2}$ lbs

6.3 V. @ 75 Amp. 117 V. 60 Hz Ac primary, Fine for caulpment
 $\underset{\text { Spec. Eo. }}{1319971 .} \$ 1.69{ }_{\text {Each }}^{10 \text { Lots }} \$ 1.49$ BIG SAVINGS ON OUTPUT TRANSFORMERS

而For $5016,50 B 5$, efc. 2500 ohms to 3.4 ohms V.C. $1 \frac{1 / 4}{}{ }^{21} \mathrm{mtg}$. centers. X $11 / 4^{\prime \prime}$ H. X $3 / 8^{\prime \prime}$ thick core. Wt. $1 / 2 \mathrm{lb}$. No. 184888. Special Each

59e Each


## FILTER CHOKES AT BIG SAVINGS!

A rare find, bargain priced. Perfect match for use with transformers as obove rated to 30 MA . DC resistance 1 i" mig. ctrs. Shog with 8 oz ${ }^{3 / 4}$ with
 MIDGET FILTER CHOKE 39 c


## 24 VOLT HONEYWELL

## TRANSFORMER 99c

Costs more 10 make than our low pricel E mpro high Cosis more quality. Limited Quantity-special purchase. $1 / 2$ amp quality. Limited Quantity-ipecial purchase. $1 / 2$ amp
continuous duty. Varnish impregnated, Just right for continuous duty. Varnish impregnated, Just right for making $\frac{10}{}$ olid state power supplies, Signal devices,
$2^{1 / 4} \times 1^{7} \times 1 / 83^{\prime \prime} .117 \mathrm{~V}$ Primary. Wt. $1 / 3 \mathrm{lb}$.
 BUY PLENTY WHILE THEY LAST!

## VOLTAGE REGULATOR

## from 0 <br> FROM 130 <br> (2) 5 AMPS <br> ${ }^{5} 18^{95}$



Output is variable from 0 to 130 volts Input is 115 volts 60 Hz at 5 amps. Current ratings apply. over full range
of output voltage. Shipg. Wt. 8 lbs. of output voltage. Shpg. Wt. 8 lbs. No. 134988
Import Special. Each \$18.95

## EA

## TRANSFORMERS AND CHOKES

## TRANSISTOR POWER SUPPLY TRANSFORMERS


(1) For 9 V. DC supply. Add rectifier and 500 mfd. or larger filter. Will power iransistor padio, small amplifiers, ete. from ilf VAC. 7 VAC at
 No. 18A1365. Special Each

BRAND NEW<br>FULLY GUARANTEED

No. 18 Ai475.
$\$ 1.39$
$x$
10 Lon
fach.
10 Lon
Each
\$1.19

3 ors
(3) 20 V. ET fit Amp. with printed circuit mounting tabs and $1 / 2^{\prime \prime}$ leads.

(2) 30 V. CT (G) 5 Amp. Size $2 k^{\prime \prime} H_{.} \times 2^{\prime \prime} \times 2 \%^{\prime \prime}$. 5hielded construction mounting centers $2-3 / 8^{\prime \prime}$. For 115 VAC . Shpg. wt. 2 lbs.
No. $18 A 1532$. Each ........................................ $\$ 2.99$ No. $18 A 1532$. Each
(4) $35 \mathrm{~V} . \mathrm{CT}$
No. 18 Al 488.
-1 mom

\$3.69
(i) 40 V. ет G $1 / 2$ Amp. $21^{\prime \prime \prime}{ }^{\prime \prime}$ H. $\times 2^{\prime \prime} \times 13 / /^{\circ \prime} .21 / 2^{\prime \prime}$ Mig. Cirs. Shpg. wt.

No. 18 A1487.
Each
\$2.99
10 Lots
Each ..
\$2.69

## 24 VOLT 3 AMP TRANSFORMERS

B-A's best selling transistor power transformer.
Top quality. These are made to $B \cdot A$ 's rigid specifications by a leadling American manufacturer.
Fully encased, continuous duly type. Rated .3 amps with fully isolated $115 \mathrm{~V}, 60 \mathrm{~Hz}$, AC primary. Size $1 *^{\prime \prime} \mathrm{H}, \mathrm{F} .112^{\prime \prime} \mathrm{W} .2^{\prime \prime}$ mtg. ctrs. Wt. 6025
No. 13A903. 19910 Lots $\$ 189100$ Lots 0199 mis Special Each
$\$ 1.89{ }_{\text {Each }}^{10 \text { Lots } \$ 1.69{ }_{\text {Each. }}^{100} \text { Lots }} \mathbf{1 . 2 9}$ Same as above except has center tap on secondary.


## MULTIPLE VOLTAOE TRANSFORMER

Husky 1 amp. transistor power supply
transformer. Will furnish 6,9 op 12 6-9-12-
VDC after full-wave rectification: $18-24 \mathrm{~V}$.
12. 18 or 24 VDC tier half-wave DC SUPPLY pecilification. secondary has center fap. Primary 115 VAC . Exceptionally well made, nylon bobbin construction. Best iransistor supply fransformer we've seen! 3" mounting centers. Size $2^{\prime \prime} \mathrm{H} . \times 21 / 2 \mathrm{~m}^{\mathrm{W}} \mathrm{W} . \times 2^{\mathrm{m}} \mathrm{D}$. Shpg. Wt. 2 lbs. No. 134902
Terrific Import Value ....... \$4.99

## B-A SPECIAL PURCHASE!

## 4 AMP 26 VOLT C.T. <br> TRANSFORMER

Heavy duty iransformer just right for bullding 12 volt power supplies for auto tape players, $C 8$ equipment. chargers efc. $115 \mathrm{~V} 60 \mathrm{~Hz} A C$ primary. 26 VCT @ 4 amp secondary, $33 / 8 \times 23 / 8 \times$ wt. 4 lbs. Made in USA
wi.



|  | SPECIAL PURCHASE SAVINGS ON GEAR DRIVE MOTORS |
| :---: | :---: |
| BARCAINS |  |
| MOTORS AND COUNTERS |  |
| BRAND NEW FULLY GUARANTEED |  |
| hl-torque <br> sLot CAR MOTOR | (1) MERKLE-KORFF EXTRA RUGGED GEAR MOTOR. 6 RPM. CCW Rotation. Very high quality. Fully enciosed die-cast gear case, shoded <br>  Wt. 3 libs S.Soply limited. No. 18 A 1429. Each |
| 2-1) ${ }^{\text {a }}$ |  |
|  | Trectional horsepower shaded pole motor with permanenty lubricoted |
|  | models ond hobby work. Small size for its terrific power, only $23 / 4 \times$ |
|  |  |



High quaity, dependabic, efficient, quief-operoting blow- atus, forced droff to fumaces, exhausting bad odors or ers. Hove shaded pole induction type motors; smooth- hormful vopors in kitchen, lab, etc., cooling of tubes and running forrington wheets; well designed glossy block enamel housings.
Fine for photo dork-roorns, forced ventllation of appor.
undustrial opplications. All are 115 V .60 Hz . AC .


## 10 RMP- 115 VAC GEARLESS MOTOR



Has more Torque than any gear mo tor of similar size we vo seonl Runs extremely qulet and smooth. Clock wise rotation. $3 / 16^{\prime \prime}$ square shaft ex tends $1 / 2$ " from housing. Size $31 / 4 \times$ $81 / 8 \times 11 / 2^{\prime \prime}$. Shpg. wt. 2 lbs. Hurryl Limited Quantity.
No. I8A1474. Special Each. 10 Lots Each
\$3.69


## NOISELESS 4-INCH

 HI-FI "BOXER" FAN Cenvine "Boxer", made by IMC Magnetics Corp. Engineered speclfically to cool and ventilate enclosures wor amplifiers, funers, etc. Dperates mounting kit, vibration damping grommounting kit, vibration damping gromand $A C$ cord for wiring into equip. ment power switch. Can be installed to pull in or expell air or simply to puit in or expelits. Frame size blow across $x$ il deep. No, 41A4047. Wt. 3 lbs. $\$ 14.95$Net Each

## TIMING MOTORS $\mathbb{\$}$

Precision type as used in clocks timers, efc. Overall size $2 \% \times 21 / 8 \times 1{ }^{\prime \prime}$ 60 Hz . AC. Shog, wh $1 / 2$ behind
No. 18 A 1586 . $11 / 3$ RPM.
No. 18A1454. Bristol 2 RPM
$\underset{\substack{\text { Chaice } \\ \text { Each }}}{\text { Con }}$


Electrically reversible geared shaff motor drive unit. Rotates $300^{\circ}$ lock to lock, easily converted to full 360* rotafion. Use for remote control funing devices, remote control panning device drives, and other applications. Motor unit is completely insulated and isolated from the output shaft and potentiometer. High torque, built-in clutch to protect gear assembly. Miltisecond directional change capability with starting capacitor reversing switch and schematic to show operation from 117 VAC . Standard $4 / 8-32$ brass bushing. Size: $17 / 8^{"}$ Dia. $55 / 8^{\prime \prime}$ overall length, $1 \frac{7 / 8 "}{}{ }^{\prime \prime}$ shaft. Shpg. wt. 1 lb . No. 18 A1465.
$\$ 3.95$

## VENTNCH VENTILATING FAN <br> $\$ 3^{95}$

## Circulates 400 CFM. Powered by fasco

 type 21 motor designed especially for ventilation and exhoust fans. Precision, open frame shoded pole, 1800 RPM motor with bronze bushings.One piece Torringion stamped aluminum blades with Allen hex screw. Motor $31 / 4^{\prime \prime}$ dia. Overall length $4^{\prime \prime}$. For 115 V . AC . Shpg. wt. 2 lbs.

## FANS AND BLOWERS

## BRAND NEW <br> FULLY GUARANTEED <br> $41 / 2$ INCH "MUFFIN" STYLE FAN



## SUPER LOW PRICE!

5 blade fan delivers 115 cfm of air quietly and without vibration. All metol construction. $411 / 16^{\prime \prime}$ square. $11 / 2^{\prime \prime}$ depth. Frame has 4 mounting holes on $4 \mathrm{Y/4}$ "centers. Use for exhoust or intake of oir in sound sys. fems, power supplies, office machines and for cooling any other electronic equipment. Solder terminals. For 117 V. $50-60 \mathrm{~Hz} .19 \mathrm{~W}$. made by Pamo for. Shipg. wf. 2 lbs.
No. 18 A1576
Special Each

## B-A SPECIAL PURCHASE BARGAIN!

## 110 VOLT 60 Hz . CLOCK MOVEMENTS

Accept standard clock hands for seconds. WORTH minutes and hours. Precision motor move. SEVERAL ments can be used to build your own clock TIMES OUR or any use where you want a slow qulet IIMES OUR motor. Size $21 / 2 \times 1.13 / 16 \times 11 / 4^{*}$ deep (less shaft). 6" wire leads.
No. 18A1502. $15 / \mathrm{s}^{\prime \prime}$ shaft, Front Time Set
No. 18 A $156811 /$ H $^{\text {" shaft, Back Time Set }}$ No. 18A1501. $15 / 16^{\prime \prime}$ shaft, Front Time Set No. 18A1503. 15/16" shaft, Back Time Set


## B-A SPECIAL PURCHASE BARGAIN!



## BARGAINS!

EXPERIMENTERS 6 BUILDERS

## BRAND NEW <br> FULLY GUARANTEED

## RECORDING

LEVEL METER

## 

Can be added to most recorders. Far better than usual neon type indicator for showing proper signal to make good recordings. Meter has basic
movement of 0.1 MA . In plastic case, movement of $0-1 \mathrm{MA}$. In plastic case. size $1 / x^{1} 1_{10} x^{1} K_{0}{ }^{\prime \prime}$ deep. Supplied with meter rectifier. Wt. 6 oz. $\$ 2.45$
No. 18Al396. Special Each..

## EXCITING METER VALUES!



## MINIATURE PANEL METERS

ONLY $15 /{ }^{\circ \prime}$ SOUARE LATEST MODERN DESIGNED CLEAR PLASTIC CASES Standard D'Arsonvol moving coil type with zero sef. Mounts in front or behind ponel in $11 / 2^{\prime \prime}$
diameter hole. Silvered dial ond block numerals. Precision quolity import. At least a $50 \%$ sovings. Wt. $1 / 2 \mathrm{lb}$.
 $\begin{array}{llllllll}35 A 6168 & \text { O-1 DC Milliamps } & \$ 5.49 & 35 A 6170 & 0-100 \text { DC Microamps } & \$ 6.95 \\ 35 A 6169 & 0-50 \text { DC Microamps } & \$ 6.75 & 35 A 6171 & \text { " } \$^{\prime \prime} \text { Meter Col. } 0-9 & \$ 5.49\end{array}$ VOLUME LEVEL (VU) METER. Caibrated in dbs, and percentage. $\$ 6.95$
No. $35 A 6172$ Net Each......................................... $\$ 6.95$

Precision moving coll Instruments with zero set. Beoutifully constructed, top quality throughout. Excellently shielded ogainst moonetic fields Scoles calibroted block on bright metal with red pointer. Body molded plostic with clear plostic front. Mounts in $5 / 8 \times 13 / 8{ }^{\prime \prime}$ rectanquior hole. Wt. 2 oz.
35A6173. 0.1 DC Milliamperes. Ea. \$4.35


## SPECIAL PURCHASE BARGAINS!

 DUAL MOVEMENT 200 MICROAMP METER

## \$5.95

deai for stereo Salance, Recording Levels, Forward and Reflected Power. Has Many Experimental

Square $3^{\prime \prime}$ clear plastic case, 1 black pointer for "left" scale, I red pointer for "right" scale. Finest D'Arsonval movements. By matching pointers stereo levels are easily and perfectly adjusted. Full scale sensitivity 0.5 volts DC. Mounts in $23 / 4^{\prime \prime}$ hole. No. 18A1366
\$5.95

## PAIR OF METERS FOR BATTERY

 CHARGERS OR DC POWER SUPPLY

AMMETER

## VOLTMETER.

 our price. Meter ranges 0.50 DC volts and 0.80 DC amps. Ammeter is supplied with accurate 50 MV shunt allowing remote Indication of high current circuits. Round $3^{"}$ case style, hermetically sealed construction. By Marion and Roller Smith. Shog. Wt. 3 lbs.$\$ 12.95$
B-A SUPER BARGAIN VALUE!
3.6 MFD. 5000 VOLT FPLTER CONDENSER

HIGH CAPACITY-SMALL SIZE


SIMILAR RATED CONDENSERS COST OVER $\$ 35.00$

New production surplus from modern space age projects. Very small size for voltage and capacity rating. Ideal high capascity filter for HV supply on Inear RF power ampliflers. Case only $21 / 4 \times 27 / 8 \times 4 K_{0}$ "H. with handy mig.
brackets attached to sides. Shpg. wt brackets attached to sides. Shpg. w 2 lbs.
No. 18 A1441
Special Each
$\$ 6.95$

## BEST CE TESTER VALUES!

SWR AND POWER METER READS OUTPUT AND REFLECTED POWER SIMULTANEOUSLY


A highly efficient meter. Reads output and reflected power at the same time. Easy-to-read heavy black numbers scaled for quick, exact readings. Can be used for reference power meter. Dual 100 -micraamp meter movements. Low insertion loss. May be left in line, up to 2000 watts. Cood through
175 MHz . Gray enameled metal case. Size: $41 / 4 \mathrm{~L} \times 21 / 4 \mathrm{H} \times 21 / \mathbf{N}^{\prime \prime} \mathrm{O}$. No. 1043046.
Each
\$23.95


## R. F. Field Strength Meter

 Makes transmitter or antenno tuning quick and easy. Gives positive indication of rodiored signal on sensttive microammeter. has sensitivity adjustment, collapsible antenno. Includes erystal earphone for monitoring transmitter speech quolity. Requires no bottery. in groy enameled case $23 / 8 \times 13 / 4 \times 31 / 8^{\prime \prime} \mathrm{H}$. Magnet in bottom holds tight to ony steel surface. No. 10A3019.Special Import value.
$\$ 9.99$
SWR-RF POWER METER
\$1295
Uses the some perfected design principles found in expensive instruments. Exceptionally well constructed. Measures relative power output and $\%$ reflected power on 52 ohm
coas line. Transmitter output con (2) $\begin{aligned} & \text { be monitored continuously by ieav- } \\ & \text { ing in circult. Simple to use. Scole } \\ & \text { calibroted in SWR. Size } 43 / 4 \times 21 / 4 \times 2^{\prime \prime} \\ & \text { No. 10A3018. }\end{aligned}$ No. 10A3018.
special Import value.... \$12.95

## AMPHENOL COAXIAL CABLE ASSEMBLIES



FOR CB-AMATEUR-MONITOR RECEIVER ANTENNA CIRCUITS Finest low-loss polyfoam coax, attached PL259 plugs, factory as
bled to save time and money.

Stk. No. $2 A 4000$ 249986 2A4002 2A9979 249980

3 ft. RC $58 / \mathrm{U}$. PL . 20 ft . RC 58/U. PL-259 Both Ends 20 ft . RC $58 / \mathrm{U}$. PL- 259 Onth Ends 50 ft Spade Lugs on Other End 50 ft . RC $8 / \mathrm{U}$. PL-259. Both Ends
100 ft . RG $8 / \mathrm{U}$. PL-259. Both Ends

Wt. Net Each
3 oz . $\quad \$ 2.25$
$\begin{array}{ll}1 \text { ib. } & 3.25\end{array}$
1 ib. 2.85
$\begin{array}{lr}6 \text { lbs. } & 9.25 \\ 11 \mathrm{lbs} . & 15.90\end{array}$

## SAVE! COAX CABLE CONNECTORS

(1) (3)


MINIATURE INDICATING METERS
O.C. moving coil type meters, designed for recording level indicators or battery condition indicators. High grade movements in plastic cases. Bullt for rugged partable use. Just brating scales may be used to indicate current or voltage measurement.

(1) $1 / 2^{\prime \prime}$ long seale marked TUNING, inclined line increasing
to the right. Better than I Ma sensitivity. 400 to 600 ohms internal resistance.
No. 18A1516. Quelity Import, Each
99c
(8) $15 / 8^{\prime \prime} \times 2^{\prime \prime}$ V.U. scale callbrated $-20-0+3$ and 0 to $100 \%$
(2) at OV.U. Has zero adjust on front. 200 UA sensitivity, internal resistance above 7000 ohms. No. 18A1518. Quality Import. Each
$\$ 2.49$
(3) Battery Check Meter. Full deflection on 1 volt. Add resistor to match meter to voltage of your power supply. Press-fit mounting in $1 / /^{\prime \prime}$ hole.
No. 18A1596. Each

## TRANSISTOR CODE

 PRACTICE OSCILLATOR

## ${ }^{5} 11^{60}$

KEY INCLUDED
Top imfort value compares with other ascillators selling for twice this price. Perfect for the learning beginner or the professional who wants to keep in procselects tome, light or combination operselects tanc, iight or combination operation. Buit -in speaker has sub-minio$\times 31 / 2 \times 25 / 8^{\prime \prime}$. Minlature earset, key, batteries and instructions supptied.
No. 9A3105. Wt. 2 lbs.
Complete Unit

## DELUXE ERASS FAET <br> DELUXE BRASS FAST-ACTION SPEED KEY

We thought we had seen em all but this one is different, even betfer thon the fomous J-38. Quodruple ball bearing pivats give key fast action .. ideal for novice, perfect for high speed operator. Base is bright polish. ed solld brass, silver contocts, Fully, Nickeled knurled hardware, shorting lever switch and standord block knob. Believe us, this import is an unusual value and would ordinarily cost several times more. Shpg. wt. $11 / 2$ lbs.
No. 9A3107.
Special Eech
\$3.59
PROFESSIONAL STYLE
EQUIPMENT KNOBS


Bcoutifully made, will really dress up quipment skirted $13^{\prime \prime}$ with equipment. Skirted 10 zarking. with white filled 0 to 10 marking. and Wrass insert. Specify Black or Grey.
No. 12M2007 $44^{c} \quad 10$ Lots, $3^{c}$
Each ........... Un-numbered, white pointer on skirt No. 12M2008. Black or Cray .... 44 10 Lots, Each.................. . . . $39^{\circ}$

## B-A BARGAIN SPECIAL

 TELEGRAPH KEY
## $89 c$

WORTH MUCH MORE!

# CODE PRACTICE SET 

## ${ }^{5} 2^{39}$



FINE QUALITY
Beautifully made import. Gives clear steady "code note" at ample listening evel, or will operate ane or several pairs of headphones wired in parallel. Two sets, each with headphones and hooked fogether with wire will transnif code messoges 100 ft. apart. Uses 5 tandard flashlight battery. No. 9A3106. Less Battery. Wt. I lb. Net
Each
N Each .... $\$ 2.98$ For. $\$ 4.75$
$\mathrm{Na}$.21 Al . Battery. Each. 20 c


Finest key we've seen at anywhere near this low price. Neat, import made with heovy $1 / 8^{\prime \prime}$ contacts, bright plared sturdy steel lever arm, fully hardware, molded bakelite base. Wonhardware, moided bakelite base. Wonderful for cade pracilce or ham sic fon operating. Wt. 10 oz.
LEARNING THE CODE
$89^{\circ}$
ARRL Book provides basic instruction No sending and receiving. Wt. 6 oz .


VELVET SMOOTH VERNIER DIALS


COMPARE WITH DIALS SELIJNO FOR OVER \$4.00

Planetary drive ratio $B$ to 1 in $180^{\circ}$ counter clockwise. Brushed silver dial with deep-etched black-filled mark ings reads 0 to 100 Knob and hous ing molded black phenolic. Surface mounting for $1 / 4 "$ shaft Shop wt 8 ay No. $12 \mathrm{~A} 2458.1 \mathrm{~K} 2^{\prime \prime}$ Dia. Each.... $\$ 1.89$ No. 12 A $2306.2^{\prime \prime}$ Dia. Each ....... $\$ 1.99$ No.12A2009. $3^{\prime \prime}$ Dia. with vernier to I/ioth division. Exch.................... $\$ 3.89$


> (3) Telescoping Folding Monopole Antennss. Disappears completely. Swivels or folds $90^{\circ}$ in any direction when extended. Finely made, heavity chromed plated brass. 8 sections extend to $23^{\circ}$ overall. Shpg. wt. $11 / 2$ Ibs.
> No. $10 A 7033$. Top Quality Import. Special Each


## HI-FREQUENCY BUZZER



Fine companion for key page 8 . Gives clear, steady "code" note. Fully odjustable. Operates on single $11 / 2 \mathrm{~V}$. bot tery. in molded bokelite cose $2^{\prime \prime}$ dia. imported, of lowest cost ever. Wf. 4 oz. No. 9 A 3104.
$\$ 1.12$
Special Each. ${ }^{21}$ Al 12 Bottery. Clip-In Battery Hiolder Net Eoch

## BARE COPPERWELD ANTENNA WIRE



500 FI. COIL

Has many times the strength of ordinary copper wire-does not siretch or sog. Ideal where long lines are needed. Electric al properties same as capper of high frequency. Wt. 3 fbs.
No. 2B24. Size 18
500 Ff . Coll.
$\$ 3.99$

## COIL LOADED CB ANTENNA

$$
{ }^{5} 2^{95}
$$

## FOR WALKIE

 TALKIESIdeal for use in confined areas or places where extended antennas ore impractical.

Compact unit adjusts from $14^{\prime \prime}$ to $16^{\prime \prime}$ for turing. Re plades 3 - ft. to 5 - ft . telescopic ontennas.
Maunts quickly on existing ontenno with screw clamp. Durable construction. Hondy to have in confined wore house areas, dense undergrowth, othletic events, etc. No. 10A7000. Special Each
\$2.95

## BARGAINS:

## EXPERIMENTERS

 6 BUILDERSBRAND NEW

## FULLY GUARANTEED

POCKET RADIO EARPHONES


Used with most transistor radios. Subminiature plug attached. High quality import.
No.32A90 05. 5pecial, 2 for 99 e


Modern, lightweight, under-chin design. Fully adjustable. High impedance, wlde ronge. 3 ft . cord. 19 Communications Quality
IMPORTED HEADPHONES


Rugged, lightweight, polished block and white bakelife heodsets. Offers extro sensitivity and fidelity, af big extra savings. For the novice ham adjustoble heodband flexible $42^{\prime \prime}$ card with tios. Shon. wt itable
Nord wis ibs. Shpg. wt. Ib.
No. 3249006
4000 Ohm. Net Each
\$2.95
CRYSTAL EARPHONE
Extra sensitive
high - power high imped ance. ${ }^{3}$ ft
cord, import
wt. 4 oz.
3249000 . Each $89^{\circ}$


Lightweight, high quality. Imported. 3 f. cord, plug, jock. Wt. 4 oz.

32A9002 - 2000 Ohm 3249001 - 15 Ohm
CHOICE, EACH Japoncse radios. 15 ohms.
No.32A9003. Wt. 3 oz. Eoch

BZA

## EXPERIMENTERS

 AND BUILDERSBRAND NEW<br>FULLY GUARANTEED



## RETRACTABLE TEST LEADS

Extends to 96 inches, retracts to 16 inches 1 ea. phone itip test prods Red and Black are 6 inches long. No. 35 ABO16.
$\$ 1.95$


## 60 INCH TEST LEAD EXTRA FLEXIBLE

Both the pest prods and the plug tips have flexible strain reliefs to minumize breakage at these points. No. 35 AbOS 3. Each
$\$ 1.09$


SUPER LOW PRICE!
4 INCH
VENTILATING FAN


Quiet, efficient fan moves approximateiy $100 \mathrm{cu} . \mathrm{ft}$. of air per minute. Barber-Coleman motor is designed for continuous duty. Mounts by 10/32 threaded spacers on $2^{\prime \prime}$ centers on $23 / 8 \times 2^{\text {mate }}$ olus. Motor size: $23 / 7 \times$
 on lbs.
No.
No. 18A1546. Each
\$2.95

## 7 INCM

VENTILATING FAN


5 blade fan for quick. efficient cooling and exhausting applications. Moves sbout 500 CFM. For 115 VAC opera. No. 18A1562. special ench $\$ 3.95$ LOOK AT THIS SAVING! RF CHOKE

## ave now:



Each, 10 Lots
Popular four pie type for use in high frequency circuits of receivers and tronsmitters. Replaces Nationol types R50 and Rioo. Small size, only \$3"" dia. with oxiol leods. Humidity proof rornish impregnated. Wt. 1 oz
 BIG SAVINGS ON VOLUME CONTROLS


Popular CTS American made volume controls with on-off switch. Standard $1 / 4^{\prime \prime}$ shaft, ${ }^{\prime \prime}$ long. $3 / 4^{\prime \prime}$ diameter Hurry while limited stock lasts. 8A1497. $1 / 2$ meg. control with switch. 18A1496. 1 meg. control with switch. Choic $99 e^{10} \quad 89 e$


Same as used in most transistor port ables. Has standard snap-on battery connectors. Sturdy plastic construcfion. Aver. Shpg. Wr, 3 oz 8 Holds 2 " 0 " Cells. No. 12 A 2453 . Each (1) Holds $4^{\circ}$ " ${ }^{\circ}$ " Cells. No. $12 A 2449$ Each. (1) Holds $2^{\circ} \because A A^{\prime}$ Cells. No. 12 A 2450 . Each (3) Holds 4 " $A$ A" Ceils. No. 124245 !. Esch
O. Holds 4 "AA Celis. (3) Holds 6 "AA"
(3) Holds 8 . Each
(3) Holds $8^{8} A^{\circ}$ Ceils.

No. 12A2455. Each .-............ $\$ 1.19$ No. 12 A 2456 EA Cells . 1. No. 12A2456. Each O. Double-5nap Fastener for $9 V$ bat fery and battery holders above. 256


Terrific bargain priced kit originally butit for transistorized loudspeaker. One or itwparts alone worth our low price. Build a low power translstor public address bystem, intercom, listening and monitoring devices, etc. Contnins $21 / 4^{\prime \prime}$ speaker, carbon mike, audio amplifier transistor, matching transformer, resistor and diagram. Operates from 6 to 12 volt bastery.
No. 18 A1315
$\$ 1.39 \begin{gathered}10 \mathrm{Kits} \\ \text { Each..... }\end{gathered}$
$\$ 1.19$

## PDPULAR MIDGET VARIABLE CDNDENSERS


(1) SEMI-MIDGET 365 Pfd. All brass and aluminum construction with smooth action ball bearings. $1 / 4^{\prime \prime} x 1^{\prime \prime}$ long shaft. Panel or base mount. $118^{\prime \prime} \mathrm{W} \times 1 \mathrm{Ko}^{\prime \prime} \mathrm{H} . \times$ Ma" D. Import. $\$ 2.5910$ Lots
$\$ 2.22$
(2) DUAL 365 Pfd. Beautfully made with ball-beoring rotor and built-in trimmers. Size only $15 / 8 \times 11 K_{6} \times 2 K_{0}{ }^{*} \mathrm{~L}$. $1 / 4^{" 4}$ brass shaff extends $11 / \mathrm{B}^{\prime \prime}$. For tuned radio frequency, crystal, transistor and experimentol circuits. Shpg.
wh. $1 / 2$ lb. 1242494 . Eoch............ $\$ 6.99$

## HARO-TO-FINO

 MIOGET APCVARIABLES

## 39 ${ }^{\text {c }}$



Finest quality, U.S.A. made. Actually priced far below manufocturers cost. Limited quantities available. Avg. shpg. wt. 4 oz. With screwdriver slotted shaft.
Give away low price on top quality Amerlcan made speakers. 1.47 oz . American
No. 18 A1459. \$1.49 10 \$1. 29

AMERICAN MADE
PERMANENT NEON SNAP.IN PANEL LIGHTS

COMPLETELY ASSEMBLED WITH LONG-LIFE NEON BULBS


YOUR $88^{c}$ EA
Popular new style panel lights give hi-fi, ham, commercial, etc. equipment a brand new modern look. Just snaps in-much simpler, much faster, better looking than older type assemblies. Contains 10,000 hour life high brightness neon lamp with built-in resistor. Has $41 / 2^{\prime \prime}$ leads. Unaffected by vibration or shock. For 105-125 V. AC Specify color: Red Amber or White. Ave. wi 1 oz.
(1) No. 12 M4124 Small flush mount. Almost a dot of light. Requires only a T6" dia. mounting hole in thin or thick panels
(3) No. 14M4125 Medium $1 / 2^{\prime \prime \prime}$ dia. Extends slightly from surface for good side visibility. Mig. hole $1 / 2^{\prime \prime}$ in thin or thick panels.
(3) No. 12 M 4126 Large, $7 / \mathrm{a}^{\mathrm{m}}$ dia. Mounts in $7 / \mathrm{m}^{\mathrm{m}}$ hole. With retainer for thin panels. Can be press-fit into thick wood or composition panels.
 to $0.70^{\prime \prime}$ thick. Mounts with speed nut in thicker panels.
Choice
$88 \mathrm{c} \mathrm{c}_{\text {Each }}^{10 \mathrm{tans}}$
79c

59c

8AVE ON CE NE2A
A NEON LAMPS
10 FOR
90


REG. NET
REG. NET
Popular 1/25 watt bulb as used for pilot light assemblies, volume level indicators; Unbosed, with 2 wire leads $1 / 4^{" \prime}$ dia., 1 'li" long. Requires $200,000 \mathrm{ohm}$ series resistor for 105 125 V. operation. Wt. 40 oz.
12 A4129 .99e $\begin{aligned} & 50 \\ & 10 \text { For }\end{aligned} \$ 4.49$
MINAATURE TRANSISTOR
AUDIO TRANSFORMERS


Tiny size. Measures $4 / 65 / 8 \times$ $5 / 8^{\prime \prime}$. For amplifier and radio circuits using standard types of transistors. Highest quality import. Wt. 6 oz .
No. 13 A950. Input. Pri. 20,000 ohms; sec .1000 ohms.
No. 13A951. Driver. Pri. 10,000 ohms; sec. 2000 ohms C.T.
No. 13 A952. Output. Pri. 500 ohms C.T.; sec. 3.2 ohms.

No. 13A949. Crystal Mike Input. Pri. 200,000 ohms; sec. 1000 ohms. Your Cholce
Eoch .........99e 10 Lots 89e


MOST POPULAR
BAKELITE TUBE SOCKETS


## SUB- MINIATURE Pluas \& JACKS <br> 

Solder terminals. Plug $1^{\prime \prime}$ long $\times 3 / 8^{\prime \prime}$ dia. $1 /{ }^{11}$ dia. finger. Jack mounts in $1 / /^{12}$ hole. Wt. 1 oz.
No.12A6080.Red Plug. Eoch..... 49 . No. 12 A608 1.Block Plug. Eoch. . . . 49 . No. 12A6082. Metal Plug. Each. . No.12A6082Metal Plug. Each. . . 59
No. 12 A6072 Jock. Eoch. . ..... . 29

## SUPER-SENSITIVE

 "VARI-LOOPSTICK" MINIATURE ANTENNA

Powerful high-Q type tapped for transistor circuits. Punes with 365 Pfd. condenser. size only ${ }^{\text {fo" }}$ dla. $\times 2^{\prime \prime}$ long. Mounts in this hole, Wt. 2 ozs. Wt. 2 ozs.
No. $13 \mathrm{~A} 5060 \quad 89 \mathrm{c} \quad 10$ (13) $79^{c}$
Each..........
(1) Octal fits $111 / 64^{\prime \prime} \mathrm{mig}$. hole with $1 \frac{5}{6 \prime \prime}$ " mounting centers.

No. 188677
22c ${ }_{\text {Each }}^{10} \mathrm{~L}^{\text {Lots }}$
18 c
(2) Octal fits $11 / 8^{\prime \prime}$ mounting hole with $11 / 2^{\prime \prime}$ mounting centers.

No. 18 C 210
19c ${ }_{\text {toch }}^{10}{ }^{\text {Lots }}$
(3) 7 Pin Miniature fits $3 / 0^{\prime \prime}$ mounting hole with $7 / 8^{\prime \prime}$ mounting centers

No. 18C893
11 C 10 Lots
10c
(3) 9 Pin Miniature fits $3 / 4^{\prime \prime}$ mounting hole with $11 / 8^{\prime \prime}$ mounting centers.

No. 18 C 894
$13 c$
10 Lots
$11 c$
CHASSIS MOUNTING AC SOCKETS


## $13^{\text {c }}$

EACH, 10 LOTS
REG. NET 2le
Fits standord AC plugs. Fine for repairs or new construction, Mounts in ${ }^{3}{ }^{\text {" }} \times 3 / 4$ " hole. Mitg, ctrs. $11 / \mathrm{a}^{\prime \prime}$. Wt. ,
No. $18826.16 \mathrm{C} \quad 10$ Lots, 13 c 2-WIRE AC LINE
CONNECTOR SET CONNECTOR SET


Handy for extending AC cords, speok er leods, efc. Gray plastic. Makes sturdy, positive connection. Import savings. Size $21 / 2 \times 1 \times 1 /{ }^{\prime \prime} . W_{1} .3$ oz. No. 1246083 oc 10 Sels
Per Set ... $49^{\text {c Eacb. }}$
BATTERY SNAP ( $~>十$
WITH 3" LEADS (
Fits popular 9 volt
batterles like 216,
U30, 006P 16 C
$32^{c}$
$2 A 2012$ Es. 16 C C

## BIG SAVINGS ON COAX CABLE

## 53-2

RC58U cable. Nice clean cable at tremendous savings because of a BA special purchase. Shpg. wt. 3.5 lbs. per 100 ft.
No. 18 A1526. $\$ 3.99^{1000} \mathrm{Ft}$.
\$28.88
82 CHANNEL 75 OHM TV CABLE
Lafest type with foil shield and drain wire. Save plenty while limited quantity lasts. shpg. wt. 3.5 lbs per 100 t.
No. 18 Ft . For
100
.
\$28.88

## AC POWER CORD BARGAINS

BELDEN $71 / 2$-FT. HEAVY DUTY AC LINE CORD

WILL OUTLAST
6 ORDINARY
CORDS

OCTAL PLUG AND SOCKET SET

## $58 C^{5}$

Most popular for power cables, speakers, remote control, etc. Octal 8 -prons black bakelife plug with snap-on meta cap plus black bakelite socket. Reg. net $83^{\prime}$. Wt. 3 oz. No. 18 c 207
Per Set 69e 10 sets 59 c
tach ค

No. $18 \mathrm{C894}$

## = $\Delta$ BARGANS:

## SAVE ON CAPACITORS

## BRAND NEW <br> FULLY GUARANTEED

## PRINTED CIRCUIT ELECTROLYTICS

Muniature size capacitors for small solid state ciscuits. Top quality imports, Metal Case with epoxy end fill Viny insulaling sleeve araund
sides. Use 16 voll types lor all volfages below sides.
16 volts

| Stoch No. | 16 VOLTS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size | Inches | 1.9 | 10.99 |
|  | UF | Dia. | Length | Each | Each |
| 15 A5661 | 5 | 13/64 | 7/18 | SO. 24 | S0.21 |
| 1545662 | 10 | 15/64 | 7/16 | 24 | 21 |
| 1545663 | 22 | 5/16 | 29/64 | 28 | 24 |
| 1545664 | 50 | 25/64 | 1/2 | 33 | 27 |
| 1545665 | 100 | 25/64 | 21/32 | 36 | 29 |
| 1545666 | 220 | 33/64 | 13/16 | 52 | . 46 |
| 1546667 | 500 | 19/32 | 31/32 | 60 | . 52 |
| 15A5668 | 1000 | 19/32 | 1.3/8 | . 96 | . 85 |
|  | 35 VOLTS |  |  |  |  |
| 1545669 | 5 | 1/4 | 3/8 | 24 | 21 |
| 1545670 | 10 | 5/18 | 13/32 | 28 | 24 |
| 1545671 | 22 | 3/8 | 15/32 | . 33 | 27 |
| 1545672 | 50 | 3/8 | 9/16 | . 38 | 33 |
| 1645673 | 100 | 3/8 | 3/4 | . 48 | 41 |
| 1545674 | 220 | 18/32 | 31/32 | . 60 | 52 |
| 1546675 | 500 | 3/4 | 1.5/8 | . 96 | 85 |
|  | 50 VOLTS |  |  |  |  |
| 1545676 | 1 | 13/64 | 7/16 | . 24 | . 21 |
| 1545677 | 2.2 | 13/64 | 7/16 | . 24 | . 21 |
| 1545115 | 5 | 15/64 | 7/18 | . 26 | 23 |
| 1645116 | 10 | $5 / 16$ | 29/64 | 36 | 32 |
| 1545678 | 22 | 25/64 | 21/32 | 42 | . 37 |
| 1545117 | 50 | 33/64 | 21/32 | . 45 | . 38 |
| 16 A5t18 | 100 | 33/64 | 31/32 | 52 | 46 |
| 15A 1119 | 220 | 19/32 | $1.3 / 8$ | 96 | 85 |
| 1545679 | 500 | 25/32 | $1.5 / 8$ | 1.24 | 1.07 |

## MINIATURE

 CERAMIC DISCS
$59 c$
Reg. Vafue
10c Each
600 WORKING VOLTS DC
Finest quality general purpose ceromic capacitors featuring excellent high small size and rugaed constructione All ore fresh sfock-Fully Guaranteed

| Stock No. | Cap. ut. | $\begin{aligned} & \text { " } 10 \\ & \text { for } \end{aligned}$ | $\begin{aligned} & -100 \\ & \text { For } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 16A1210 | . 00001 | 59C | \$4.95 |
| 15.1219 | . 00002 | 896 | 4.95 |
| 15 A1211 | . 000017 | 59. | 4.95 |
| 18 A1212 | . 00001 | 596 | 4.95 |
| 15A1213 | . 000017 | 59c | 4.95 |
| 15A1214 | . 001 | 59\% | 4.95 |
| 15A1216 | . 002 | 59c | 4.85 |
| $15 \mathrm{Al218}$ | . 005 | 59c | 4.95 |
| $18 \mathrm{A1217}$ | . 01 | 598 | 4.95 |
| 18 A1238 | . 02 | 79 c | 8.95 |

*Minimum 10 per Cocty. Wi. 10, 2 oz. KIT of 50 of ABOVE: 4 each . 00001 , $.00002, .000047, .0001, .002$ and $.005 ; 8$ each .00047 and $\dot{V}$. or 6 each No. 15 A2239. Wt. 10 oz.
Special Per Asst
$\$ 2.79$
MINIATURE CONTROL Has $15 / 18^{\prime \prime}$ thumbwhes adjustment. With

14A1143-5K Ohms 14A1142-10 K Ohms

Choice Each

BIG SAVINGS ON HIGH CAPACITY TUBULARS

SAVE AT LEAST 1/2!
Precision made - very high quality Hermetically sealed in aluminum, viny insulated. B-A special purchase makes prices lowest we've seen for electro. lytics like these. Have $11 / 2^{\prime \prime}$ tinned leads. Imported.
15 WORKINC VOLTS

| ul. | Sixe | Stock No. | Each | $\begin{aligned} & 10 \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1000 | ${ }^{11 / 60 \times 13}$ | 18 A1407 | 49c | 44 c |
| 2000 | 1/8×1\%" | 18 Al408 | 69 c | 63 c |
| 25 WORKINC VOLTS |  |  |  |  |
| 250 | $3 / 4 \times 13^{\prime \prime}$ | 18 A1405 | 396 | 55 |
| 500 | $3 / 4 \times 15 / 8{ }^{\prime \prime}$ | 18 A1406 | 49 c | 44 c |

Minature iubular capscitors for solid state circuits. Top quality imports. Metal case with sides Use 16 wolt types for all woliages belaw sides Use 16 volit types for all woliages belaw 16 uplis


## PRINTED CIRCUIT TYPE FILM CAPACITOR5

1
Extremely small, high qualty Fiom Capactiors Pertect for transistorized curcuits High dielectric strength and rugged construction assures long hile Epoxy coaling withstands high humadity ond 100 WORKING VOLTS OC
 $\begin{array}{llllll}15 A 7535 & .001 & .455 & .168 & .17 & .12 \\ 15 A 7538 & .0047 & .455 & .168 & 17 & .12\end{array}$ $1547538^{-}$
$15 A 7536$ $15 A 7536$
$15 A 7537$ 1547537
1547539
1547548 1547541 1547542
1547543

## TUBULAR CAPACITORS

High temperature rated, moisture resistant, nonInductive. Every one and perfect. Average wt. 2025

| uf: | Size | stock No. | Each | $10$ | $\begin{aligned} & 50 \mathrm{Up} \\ & \text { Einch } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 600 W.V. OC |  |  |  |  |  |
| . 0001 | Kı10 | 188399 | 12c | 10 | 9 c |
| . 0005 | Kıx1" | 184591 | 12c | 10c | 9 C |
| . 001 | Kx1" | 184592 | 216 | 18c | 14 c |
| . 0022 | K0x1" | 184595 | 16 c | 14c | 10 c |
| . 0047 | Kı1" | 184605 | 16 c | 14e | 10 c |
| . 01 | $3 / 8 \times 114^{\prime \prime}$ | 15A2243 | 21 c | 180 | 14 c |
| . 022 | $310 \times 11 / 4$ | 184621 | 21c | 18 c | 14 c |
| . 05 | 1 | 15A2244 | 21c | 18c | 1ic |
| . 10 | Kxito | 184705 | $26 c$ | 23 c | 17 c |
| . 22 | 3/01\% | 188713 | 43 c | 39 c | 30 c |
| . 25 | $11 / 6 \times 116$ | $18 \times 714$ | 50c | 45 | $35 c$ |
| . 50 | $3 / 4 \times 2 \frac{1 / 4}{} 1$ | 184726 | 74 c | 68 c | $52 c$ |



REG. 1 Finest Americon made. Just the ticket for printed
$50-30$ ut.
No. $15 A 5159$ (

69 c
$1 \times s^{21 / 4 "}$

2 Blue vinyl (ai 35 v. 1 " Dia. $\times 2^{\prime \prime}$ Long. $1 / 4^{\prime \prime}$ leads. No. 18 Al506. 99c io

89c
 No. is Althes. 69 s ice

69c tots
59c
[] $31 / 200 \times$ ul. 30 V. Capacitor. Vinyl insulating sleeve. $\$ 1 / 2 \times{ }^{1 \prime}$ dia. Solder lug terminals. Reg net over No. 18A1423. Each

69c

 $\underset{\text { Each } 18 \text { A1523 }}{\text { Non }} \$ 1.39 \underset{\text { Each }}{10}$

## [3 TWIST PRONG ELECTROLYTIC5

4000 uF @ 25 V . Aluminum can $1-3 / 8 \times 2-5 / 8^{\prime}$
at fantastic GIVE-AWAY No. ${ }^{\text {HAL }} 590$ Each
$\$ 1.69 \begin{gathered}10 \\ \text { lots }\end{gathered}$
$\$ 1.49$ $50-50$ ul. @ 150 V. Size $1 \times 21 / 4$ No. 15 A5160
$75{ }^{\circ} \stackrel{5}{50}$
$\$ 3.29$
 150 V No. 18 A 1398 49c

5
$\$ 2.19$ High Capacity Types for modern solid stafe circuitry, Avg Shpg. wi. 8 ozs.
Sth. No. ul.
Solts Site No. ul. Volts


 BIG SAVINGS ON VOLUME CONTROLS


# HEAT SHRINKABLE TUBING 

## 24 FT. FOR

Popular $3 / 32^{\circ}$ black tubing. Shrinks about $50 \%$ Use to insulate splices, ter minals elc. Supplited in 4 ft . lengths. Limited quantity available. No. 1841581 24 Ft . For

1
 No. 18A1307.
No. 18 Al 307.

6 VOLT DC ELECTRICAL IMPULSE COUNTER


WESTCLOX APPLIANCE CLOCK TIMER
${ }^{5} 2^{95}$
Turns on equipment up to 10 hours ofter setting. Switth rated at iwenty emps, big enough to handie nearty ony applience, air conditioner, ete. Attroctive $4 \frac{1}{8}$ "elock face with domed plastic, cover. 2 " dicep behind cover. With $5^{\prime \prime}$ leads
No. 18A1282. Special Eoch. \$2.95

## 3-INCH 117 V. AC

## ALARM BELL

Produces loud, clear ring. Overcomes high background noises. Operates directly from any 117 VAC power source.

8 ozs. Imported
No. 41 A4045.
Special Each
$\$ 3.95$
Clear, easy to read $1 / 6^{\prime \prime}$ figures read Clear, ceasy to read $1 / 6$ figures read zero on the next impulse, ready to zero on the next impulse, ready to repeat the count again. Each impulse
counts one. Operates on 6 volts DC.

 mounting eenters, or may be mounted from panel by 2 No. 4 screws inot import. Shpg. wt. 10 ozs. $\$ 4.95$ No. I8A1531. Each


COMBINATION ELECTRICAL LOCK DIAL ACTUATES INTERNAL SWITCH

FOR DOORS. ALARMS, ETC. Plek-proof-Made for Maximum ocked" position holds eireuit open Dlating a 3 number combination closes circuit until dial is again turned to a random setting. Very well made, with black finished dial, white mark. ings and chrome finished die-cast enclosure and 2 wire lead from rear. Overall diameter $21 / 2^{\prime \prime}$. Mounts in $13 / 4^{\prime \prime}$ nole, extending $11 / 4^{\prime \prime}$ deep
American made.
No. 18 A 1375 . While Limited $\$ 4.95$
Ouantity Lasts, Each


American made. For telephones. microphones, electrical connection, be. tween moving devices. ete. Individual extra flexible tinsel conductors are vinyl imsulated. color coded. Black inyl jacket.
No. 18A1456. 3-Cond. 72", retracts to $28^{\prime \prime} 89 e^{10} 79$ e Each 1841457 . 4. Eand. $60^{\prime \prime}$, retracts to $22^{\prime \prime} 99 e^{10} 89 e^{10}$

TOP QUALITY 3 AND 4 CONDUCTOR COIL CORDS

## $89^{c}$

Each …... 98 E Each

## $\$ 1.99$ VEEDER-ROOT ELECTRIC COUNTER

High quality industrial type unit with digital readout dials. Cownts up to 999,999 , non-resefting. Single electrical pulse moves counter 1 digit. Hos 110 V . DC coll, 5000 ohms. Use on 115 V . AC by odding small power rectifier, $11^{\circ} \times 1 \times 3 / 8{ }^{\prime \prime} \mathrm{H}$. Ideal for use with an electric eye for counting people or ob-
iects. Orlginot cost several times our price. Shog. wh. 1008.
No. $18 \mathrm{B973}$. Specioi Purchose Price.
$\$ 5.95$
HIGH SPEED 115 V. AC

## ELECTRIC COUNTER

Six digit readout. Counts up to 999,999 and repeots. Very high quality industriol type, mode for surfoce or behind panel monting. Operates quietly in any position. Single, 25 Millisec. or longee electrical pulse moves counter 1 digit. Body size $31 / 4 \times 13 / 8 \times$ 2." high. Cover removable for resefting, inspection, etc. Mode by Durant. Model 6 Y13RMFS. Shpg.

While Limited Quontity Lasts
$\$ 8.95$

## 1000 WATT HEATER ELEMENT


$63 / 4$ dia. solid element as used in electric ranges, appliances, heaters, exposed for connections. For 115 V Shps. wt. 1 it 99 No sals54

99c

BABARGAINS!

## EXPERIMENTERS AND BUILDERS

BRAND NEW FULLY GUARANTEED

## WOW! 70\% OFF LIST PRICE ON PURCHASE OF 6 OR MORE!


$\square$ Mullard

## EXTRA BIG

 SAVINGS ON 30 BEST SELLING TUBES
## 1st QUALITY FAMOUS MULLARD TUBES

 ONE FULL YEAR WARRANTYJust return defective tubes with order papers for prompt replacement.
May be assorted for quantity Prices-The more you buy the more you save

| Stock No. | Tubo Type | Mfg. List | $\begin{aligned} & 1-5 \\ & \text { Each } \end{aligned}$ | 6 or more Each |
| :---: | :---: | :---: | :---: | :---: |
| 26A10010 | 163/183CT | \$4.20 | 51.47 | \$1.26 |
| 26A10020 | 3A3C/3AW3 | 4.05 | 1.42 | 1.22 |
| 26A10030 | 5U4C8 | 3.45 | 1.21 | 1.04 |
| 26A10040 | 6AQ5A | 3.70 | 1.30 | 1.11 |
| 26A10045 | GAU6 | 3.25 | 1.14 | . 98 |
| 26A10050 | 68A6 | 3.75 | 1.31 | 1.13 |
| 26A10060 | $6 B \times 4 C$ | 7.85 | 2.75 | 2.36 |
| 26 A 10070 | 68L8 | 2.70 | . 95 | . 81 |
| 26 A 10080 | 6805 | 3.90 | 1.37 | 1.17 |
| 26A10090 | 6826 | 3.40 | 1.19 | 1.02 |
| 26A10100 | 6CC8A | 4.80 | 1.68 | 1.44 |
| 26A10110 | 6CL3/60W4 | 4.10 | 1.44 | 1.23 |
| 26A10120 | 60Q6B/6CW6 | 5.35 | 1.87 | 1.61 |
| 26A10130 | 6EA8 | 4.30 | 1.51 | 1.29 |
| $26 A 10140$ | 6F07/6CC7 | 3.25 | 1.14 | . 98 |
| 26A10150 | 6CF7A | 5.65 | 1.98 | 1.70 |
| 26A10160 | 6CH8A | 3.20 | 1.12 | . 96 |
| 26A10170 | 6GM6 | 4.25 | 1.49 | 1.28 |
| 26A10180 | 6CU7 | 4.45 | 1.56 | 1.34 |
| 26A10190 | 6HMS/6HA5 | 3.85 | 1.35 | 1.16 |
| 26A10200 | 6JC6A | 4.75 | 1.66 | 1.43 |
| 26A10210 | 6156 | 8.80 | 3.08 | 2.64 |
| 26A10220 | $6156 C$ | 7.85 | 2.75 | 2.35 |
| 26A10230 | $6 \mathrm{KZ8}$ | 4.50 | 1.58 | 1.35 |
| 26410240 | 6SN7CTE | 4.40 | 1.54 | 1.32 |
| 26 A 10250 | $8 \mathrm{FQ7}$ /8CC7 | 3.25 | 1.14 | . 98 |
| 26A10260 | $12 \mathrm{AX7}$ | 2.80 | . 98 | . 84 |
| 26 A10280 | 12BY7/120V7 | 4.15 | 1.45 | 1.25 |
| 26A10300 | 35 W 4 | 2.25 | . 79 | . 68 |
| 26A10500 | SOC5 | 3,50 | 1.23 | 1.05 |

## PACK OF FIVE MINIATURE TUBES


$\$ 3 .{ }^{39}$
MOST COMMON TYPES IN AC-DC RECEIVERS I-12AV6 1-50C5 1-128A6 1.35W4 - 12 BE6

Brond new ond perfect, fully warronted by B-A ot o tremendous sovings ust think, o whole sef of 5 tubes for less th. on the retall orice of one Stock up now-Ruy several packs at B-A's monev saving low prices! No. 18 A 1409
$\$ 3.39$
$\underset{\text { for }}{\text { 3irocks }} \mathbf{\$ 8 . 0 0}$

## BURROUAHS

## NIXIE READOUT TUBES

DISPLAYS A TO Z AND 0.9

Large character size $21 / 2^{\circ}$ nigh, $11 / 2{ }^{\prime \prime}$ wide. Bright red neon glow, easily 170 volt $D C$ supoly voltage. With socket and pin connection data. Tubes are used. Each checked and guaranteed. Burroughs 8-7971. Shpg. wt. 8 ozs. No. 18 A1567
$\$ 4.95$


## 3/4-IN. WIDE PLASTIC

 ELECTRICAL TAPEHighest quality import value at for less than
American made products. Specify Red or Black
Wt. 6 oz. 66 Ft. Roll.
17A7032-Black Choice $57 \mathrm{C}_{\text {for }}^{6} \$ 2.99$

[^11]

# BARGAINS! <br> <br> PHONO NEEDLES <br> <br> PHONO NEEDLES \& CARTRIDGES 

 \& CARTRIDGES}

## BRAND NEW <br> IUVIY GUARANTEED

STEREO CARTRIDGES
(i) RONETTE TURNOVER. Popular type 106 used in BSR. etc. changers. Standard $1 / 2^{\prime \prime} \mathrm{mig} .1 .5^{\circ} \mathrm{V}$. output. 30 to $14,000 \mathrm{~Hz}$. Sopphire stylll.
Wt. 4 ozs.
No. 24A4056. Special Each \$2.99 With Diamond Stylus for stereo and LP sapphire for 78 RPM


Wi. 4 ozs.
No. 24A4057. special Each \$3.99
(3) VACO FLIP-UNDER. Exact replacement clip-in cartridge for many phonos. Comes complete with $1 / 2$ bracket to fit most standard tone arms. Dual sapphire stylii. Wt. 3 oz. No. 18A1319. CN75. 2 V output.
No. 18A1318. CN72. 9 Vutout No. 18A1318. CN72. . 9 V. Outout. SPECIAL VALUE!

Special Each.
$\$ 2.99$
(3) ASTATIC I3TX CERAMIC with Oiamond Stylus for stereo and LP sapphire for 78 RPM. One of the most popular American made cartridges. 5 V . output. $20-15.000 \mathrm{~Hz}$. Mfg. list $\$ 8.95$.
No. 24A4058. Wt. $20 z$
Special Each
SLASH ON

## GENUINE DIAMOND NEEDLES

Daring B-A deep price slashes on finest quality hand cut polished diamond needles. Last far langer than regular needles with far less wear to records. Avg. wt. 3 ozs.


[2] LOWEST PRICES IN LOWEST PRICES I
(1) Used in all the following cartridses. Atatic. $64,118,120,124,310,312$, $414,420,422,436,456,570$. Stereo $70,74,76,78,80,86,320,472,474$. EsR TC8H, M, S. EV Cart, H119 120. 121.

Ronithe. Collaro, Fuji, Futura, PE DT60. RA-284. RA-395, DC-04, TC-200, TO-222, 284,400 .
Varco. TO-55 Serles, TO-35X, 45, SN-45, ST-45, ST-1, 2, 4. 5. 20. 40, 100. 200.

No. 24A681. Special Each.......... $\$ 1.49$ (0) For Astatic. 17 17D, 170A, 217D, 135DA. Also CE EA97X155.
No. 24A682. Special Each......... $\$ 1.49$
(C) For Astatic. 133. 137, 138, 140 142, 146, 148, 233, 237, 253, 450 483. 485,497 . Also CE C-300.
No. 24A83. Special Each For ESR ST3 thru ST10. No. 24A704. Each. $\$ 1.49$
for Astatic. N8-3
No. 24A705. Each
(3) For Ceneral Electric. VR-11 Series $4 \mathrm{C}-040,041,050,052,053,061,063$. No. 24A686. Special fach …..... $\$ 1.49$ © For RCA. RMP-200-8, 9, 106770B71B, 110021. 23, 11347, 48, 115062 Also Astatic $475,477$.
No. 24A687. Special Each
. .51 .49 () For Ronette. $\mathrm{DC}-04,122,222,284$. $395,400,422,500, \mathrm{BF} 40, \mathrm{OV}, \mathrm{OV}-1$. TO-208, 291.
For Sonotome. 14T. For Electro-Voice 56. 87, 88 . For Perpetum Ebner PE30, 90.
No. 24A688. Special Each .......... 51.49 (C) For Sonotone 2T, 5T, 7T G W9980. No. 24A689. Special Eiach ........ $\$ 1.49$ (5) For Sonotone 8T, BTA, 8T4 Series No. 24A690. Speclal Each ........... \$1.49 (4) For Sonotone $21 \mathrm{~T}, 22 \mathrm{~T}, 23 \mathrm{~T}, 24 \mathrm{~T}$,

No. 24A691. Special Each .......... $\$ 1.49$ © For Varco CN-6U, 62, 65, 67, 68, $70,72,75$. No. 24a692. Special Each .......... $\$ 1.49$

## B-A SUPER BARGAIN VALUE <br> ASTATIC CERAMIC STEREO CARTRIDGE <br> WITH DIAMOND STYLUS <br> Popular American made Astatic 1330 with .7 mil diamond stylus for stereo and LP, 3 mil sapphire for 78 RPM. Perfect high quality replacement for most changers and players. Fits standard $1 / 2^{\prime \prime} \mathrm{mtg}_{\text {. }}$ Ceramic element unaffected by temperature change. 5 volts output. High fidelity performance 20 to $15,000 \mathrm{~Hz}$. W1. 4 ozs. <br> $\$ 595$ <br> $\$ 5.95$

Monaural phono cartrides
11) UNIVERSAL TURNOVER. Fits most changers and players, Regular $1 / 2$ mounting. 3 V . output, 40 to $13,000 \mathrm{~Hz}$. Sapphire needles. Wt. 3 oz . No. 24A4052. \$1.75 io Lots
$\$ 1.59$
(2) EXACT REPLACEMENT FOR VACO TURNOVER. TO-45 used in thousonds of changers and players. Front clamp mounting. 3 V output. Sapphire needles. Wt. 2 ozs.
No. 18A1395. 10 Lots
Special Each
$\$ 2.19$ Each
$\$ 1.95$
(1) RCA TYPE 45 RPM. Exact replacement for 45 RPM players. 1 V . output. $50-10,000 \mathrm{~Hz}$. I mil sapphire stylus. Quality import No. 24A4054. $\$ 1.19 \quad 10$ Lots
Special Each
99c
EXACT REPLACEMENTS FOR BSR CARTRIDGES
() Replaces TC8H. Fits all BSR plastic and metal brackets for quick replacement. 3.25 volt output. Black color.
No. 24A4062.- Monourol \$2.40 10 Lots
$\$ 1.99$
(1) Replaces $\$$ XIH. With flat metal bracket allowing replacement of dozens of models of Astatic. Electro-Voice. Euphonics, Sonotone, Varco, etc. 2.75 volt No. 24A4063.
No. ${ }^{\text {No }}$
$\$ 2.95_{\text {Each }}^{10}$ Lots
\$2.59

## RECORDER ADAPTOR

USE YOUR 8-TRACK PLAYER OR DECK TO MAKE RECORDINGS $\$ 24^{95}$

Contains all the electronics to make quality recordings with your home or auto 8-track player or deck from the speaker terminals of your hadio or auto 8-track player or deck from the speaker terminals of your radio or amplifier. Complete instructions included for essy connection to your player
or deck. Connects to same 12 VDC source that powers your player. Has RCA or deck. Connects to same 12 VDC source that powers your player. Has RCA
phono jacks for input connection from speakers. No other parts needed. At-
 taches to side of player with adhesive strips. Slze: $15 / 8 \times 21 / 2 \times 5^{n}$. $\$ 24.95$
No. 11 A7615. Each.............


# POPULAR B-A AUDIO SPECIALS! 

SUB-MINIATURE 2-WATT TRANSISTOR AMPLIFIER

HJ-IMPEDANCE INPUT 4, 8 OR 16 OHM OUTPUT $\$ 895$ Push-pull 4 transistor amplifier. Power output sufficient for small PA systems and other audio applications. Specially designed shield eliminates hum pickup and serves as transistor heat sink. 50,000 ohm input, 4,8 or 16 ohm output. $50.15,000 \mathrm{~Hz}$. response, 10 mv in for 2 wat output. Operotes from 9 VDC. Size $21 / 8 \times 3 \times 1$ " H . No. 49A210. Shpg. wf. 1002 Quality Import, Special
$\$ 8.95$

## B-A SPECIAL PURCHASE! COMPARE AT $\$ 6.95$

 HEAD DEMAGNETIZER
Deluxe cassette size device simply plugs into machine tike a repular cartridge. Removes all tape head mag For $110 \mathrm{~V} 60^{\circ} \mathrm{Hz}$ No 1841522. Tach
$\$ 3.95$
 $30-20,000 \mathrm{~Hz}$,
Exceptional stereo pre-amp for use with $\mathrm{HI}-\mathrm{Fi}$. amplifiers not having low-level input. Handles all magnetic cartridges or tape heads. Input selector switch equallzes for phono or tape. Perfect Impedance match af input and output. Signal to noise better than -45 dh . Dperates on 115 V . AC. Size $6 \times 21 / 8 \times 33 / 8^{\prime \prime} \mathrm{D}$. Shpg. wt 4 Jbs.
$\$ 12.95$


A real sweet deall Fine quality omplifier. Compact, " $L$ " shope, mounts in almost any position in smallest spoce. 3 tube (50C5, 12AV6, 35W4 rect.) for 2 watts output with excellent tone. Has separafe volume and tone controls. $51 / 4^{\prime \prime} \mathrm{W} . \times 2 k^{\prime \prime} \mathrm{D} . \times 4^{\frac{3}{4}}{ }^{\prime H} \mathrm{H} . \mathrm{U} / 1 \mathrm{AC}-\mathrm{DC}$ cord and plug. Includes heavy-duty $4^{\prime \prime}$ PM Alnico $V$ speaker and output transformer. W: 2 lbs.
No. 33 A35 8.
Complete with Tubes \& Speaker
No. 33A359. Amplifier Only (less tubes). Each
$\$ 9.99$

Z ${ }^{7}$
BARGAINS!

## EXPERIMENTERS AND BUILDERS

BRAND NEW
FULLY GUARANTEED

## 8 OHM

 HEADSET MATCHES OF TV OF TV RADIO$\$ 249$

Cood quallty light weight double earphone with metal headband. Made for direct connection to speaker volce coil leads. Proviples proper impedance maich for iransistor radio when used in place of earset. With Plastic insu lated cord, pin tips. Imported No. 3249007.
Spectal Each
$\$ 2.49$

## 4 TUBE STEREO PHONO AMPLIFIER



COMPLETE
WITH WITH
TUBES


Low cost way to stereo. Use with any record changer or player with crystal cellent tone quality with speakers of your choice, 5 in. to 12 in . Versatile your choice, 5 in. to 12 in. Versatile horizontally. Tubes: 2-12Av6; 2-50C5. Separate volume and fone controls for each channel. For 3.2 ohm speakers $61 / 2^{\prime \prime} \mathrm{L} .21 / 4^{\circ} \mathrm{W} . \mathrm{Cl}^{\prime \prime} 13 / 8^{\prime \prime} \mathrm{D}$. for No. $33 A 360$. Complete with Tubes $\$ 14.95$


## AUTOMOTIVE ACCESSORY EXTENSION CORDS

 (1) Cigarotte Lighter Plug to female lighter receptacle. 10 ft . cord for 6 or No. iza6118. Special Each
## (3) Battery Clips to female lighter receptacie. 10 tt . cord for 6 or 12 V .

No. 12A6119. Special Each ................................................................... $\$ 4.95$ (3) 6 ft . Extension Cord for portable cassette type recorders, radios, etc. With o 3.5 MM miniature plug. With reverse polority plug.
No. 12A6i20. Special Eacn
(4) Same as above except with 2.5 MM coax plug

No. 12A6121. Special Each

CAR STEREO NOISE SUPPRESSOR KIT


Effectively kilis the interference or noise caused by ignition system or alternator in some cars. Kit contains choke and capacitor and easy to follow instructions for hook-up. No. 38A8020. Each
$\$ 1.99$

## AUTOMOBILE BATTERY ADAPTOR CORDS

 Use your car or boat battery to power your tape recorder, dictating machine, portabie radio or CB set! Plugs in cigarette Itghter receptacle. Saves batteries gives you full power, always! Transistor regulated circult assures constant voltage. Max. current: 300 mA . Comes with special adapter with 3 plugs to fit practically any set and has polarity reversing feature
No. 3848021 . 12 volt to 6 volt. Each... $\$ 5.95$ No. $3848022: 12$ volt to $71 / 2$ volt. Each No. $38 A 8023$. 12 volt to 9 volt. Each....

EARPHONE WITH 24 FOOT CORD $\$$ 49


Low impedance earphane works with most TV's, recorders, radios and other solid state devices. With one minature and one sub-minature plug to fit practically any set. Special import value
No. 32A4044. Epch
$\$ 1.49$

## SUPER BALGAIN VALUF



## SOLID STATE PHONO AMPLIFIER

Use with crystat phono cartridge. Op erates fram 6 volt DC. 300 mw out put. With volume control. Wire leods for easy connection. Wiring diagram supplied. Size: $1.3 / 8 \times 1 / 1 / \times 2$ "
No. 18A1591. 2
Each. \$1.29 Fo
$\$ 1.99$

## FANTASTIC GIVE-AWAY PRICE

## CONTINUOUS LOOP TAPE MECHANISM



[^12] approximatety 30 seconds, then tepeats. Unlimited uses for bullding message reminders toys and other gimicks. Three position swith selects record, off and play function. Tone generator records a beap tone it end of tape loop. Switch can be disconnected to eliminate beep if desired. Dual purpose speaker-mike for recording and playback. Runs on " $D$ " and 19 voit battery (order below). Size $4 \times 4 \times 2$ H Shp. wt. 2 lbs.

- Hurry while Hmiled quantity lante.

No. 18A1509. Speclal Efch.
$\$ 3.95$
No. 21B141. 8 Volt battery. Ea

## Wt. 202.

(1) Standard $5 / 8 \% 27$ cable typh with

## AUDIO PLUGS AND JACKS

## BRAND NEW <br> FULLY GUARANTEED

Universol ring
Use as male or femole.
1246032
Each ..... $59^{c} \quad{ }^{10}$ Each ..... 53
(3) Standord mole enossis type.

1246933 35c $\quad 10$
Each... 35 Eoch. 29c (1) Miniature Type. Some as used on mony imported mikes. 7/16"O.D. Wi. 1 oz. Coble type with universol ring.


## MICROPHONE EXTENSION CABLE KIT

 WITH TWO ADAPTORS> 25 feet of heow duty shielded microphone cable with stondard microphone connectors on each end. Adaptors convert to $1 / 4$ "phone plug or $1 / 4^{\prime \prime}$ phone iock. Makes ony PA system more flexible. Big Import Soving! Wt. I ib. No. 33 A6585. Speciol Eoch ............ $\$ 3.19$

## BIG SAVINGS ON $1 / 4 /{ }^{\prime \prime}$ PHONE PLUGS



SLIM SHIELDED PLUG
Big savings on foine quality import.
Two-way with solder lugs and coble clamp. Stondard $1 / 4^{\prime \prime}$ plug and slim style chrome shell. Compare at over Noc. Wt. 3 oz.
No. 12A6030.
Each ...... $59^{c}{ }^{c} 10$ Lats,
Each... $9^{c}$ SHIELDED FLAT PLUG Best quality import. For $1 / 4^{\prime \prime}$ jacks where long plugs can't fit. solder minals. Wt. 2 oz No. 12A6084 59e Each Each 10 4c

## 3-WAY PHONE PLUG

 Finest quality import of a sovings Standord $1 / 4$. Diug with solder lugs. Biack bakelite shell $3 / 4^{\prime \prime}$ dio. $\times 2^{\prime \prime}$ No. 1246031 Sp.3-WAY FLAT PLUG fits $1 /{ }^{\prime \prime}$ lacks like $12 A 6027$ below No. 12 A6068 59 e 10 ar 53 c PLUG AND JACK SET Lotest style slim design. Stondord $1 / 4^{\prime \prime}$
plug ond fock comblnation only $3 / 3^{x}$
1/2 $1 / 2^{\circ}$ overall. Special import valuc. W
No. 12 A6029.

Per Set

79- 10 Sets
71
HIGH QUALITY $1 / 4$ INCH PHONE PLUGS \& JACKS

(1) FLAT TYPE PLUG. Two conductor. Use where spoce is limited. Protrudes only $1 / 4^{\prime \prime}$. Bokelite shell. screw con nectors $49 \mathrm{c} 10 \mathrm{Lats}, 44^{\mathrm{c}}$ (3) STANDARD TWO-CONDUCTOR PLUG. For 1 or 2 pairs of phones with either pin tip or lug type cords. Bokelite barrel. $49^{\text {c }} 10$ Lots.
1246024. Each... $44^{\circ}$
(3) ALL METAL SHIELDED PLUG. Another top quality import value. $1 / 3^{\prime \prime} \times$ 1\}," mickel plate brass shell. Two-
woy with solder lug connections. 59 c woy with solder lug connections. 59c
volue.
1246025 . Ea, $49^{c} \quad 10$ Lots,
Eoch... $44^{c}$
No. 12A6024.
Each
10 Lots
Eoch.... 44 (1) MODERN SLIM DESIGN PHONE PLUG AT 8IG SAVINGS. TOD quality import made. Neot $1 / 2^{\prime \prime}$ dia. $\times 15 / 8^{\text {" }}$ long bakelite shell. Two-way with solder lug connections. Red and Black, please specify. 45 c volue.
No. 12 M6026
$39^{\circ}$
10 Lots,
Each
$35^{\text {c }}$
For stereo headsefs, eic. Mates with No.12A6027.
So.tial Each $4^{c}$ Each... $39^{\circ}$ (6) SLIM IN-LINE JACK. Two circuit type for phone or mike extension use. Fits standord $1 / 4^{"}$ phone plug. $13 / 4$ " long. 1,2 dio. Quality Import.
Motes with $1 / 4^{21}$ plugs. Fits $3 /{ }^{\prime \prime}$ hole Uotes with $1 / 4^{\prime \prime}$ plugs. Fits $7 /{ }^{\prime \prime}$ hole Universol closed 3 open circuit design $\begin{array}{lll}12 A 1764 \\ \text { Special Ea.... } 34^{c} \quad 10 \text { Lots, } \\ \text { Each... } & 31\end{array}$
(3) 3-WAY PHONE JACK

## SHIELDED AUDIO ADAPTOR BARGAINS

 IMPORTED FOR BIC SAVINGS2) 12 A6012 RCA Pin Jack to $1 / 4$. Pinone Plug. Eoch.................................... 69 c



3) 12 A6016 $1 / 4$ " Phone Jock to RCA Pin Plug. Each..............................69c
$12 A 6017$ Y-Connector. 2 RCA Pin Jocks to RCA Pin Plug. Eoch................. 79 c
() 1246018 Y-Connector. 2 RCA Pin Jocks to RCA Pin Plug. Eoch................... 88 c (1) 12 A6019 Universal Male or Female Mike to RCA Pin Plug. Each................. 69 C 아 1246020 Universal Mole or Fernale Mike to $1 / 4$ "Phone Jock. Each.......... 88 c


SHIELDED MINIATURE ADAPTERS
Converts miniafure to sub-miniature and vice-
versa. Allows carsets or mikes with one size of cif
 connector to plus into lacks of other size. Wi.
2 oz.
$12 A 6069$. Input $.140^{\prime \prime}$ lack. output $.097^{\prime \prime}$ plug. Choice 12A6069. Input .140" lack, output .097" plug. Choice
12 A6070. Input .097" jack, output. $140^{\prime \prime}$ plug. Each ........................... $6^{\circ}$ 4. 1 Standard phone jack to RCA Phono iack.
No. 12A6211. Each
69C Miniature phone jack to RCA Phono jack. 12 A6212. Each. 69
3-PC. HANDY ADAPTER PLUG KIT


Easy way to convert parch cords to fit jacks on radios, recorders. amplifiers efc. Adapis from miniafure phone plug to standard RCA phono plug, from RCA phono plug to miniature phone plug and from miniature phone plug to standard $1 / 4^{\prime \prime}$ phone plug. Well made. Imported No. 1246089 . Wt. 4 oz. Special 3 pc. Kit. Each
$\$ 1.39$

(1) No. 12A6071. Cable Connector Jack to mate $9 / 64^{\prime \prime}$ minioture plug. (2) No. 12A6088. Shielded 9/64" Miniature Plug. Your Choice
$59^{\text {c }} 10$ Lots

## MINIATURE PLUG \& JACK SET



## ALL-SHIELDED PHONO CONNECTORS



Mates with standard RCA pin plugs and receptacles. Completely shleids circult. Makes installation neat and easy. Cable plugs have shell 3 " dia. f!e" long Chassis type mounts in $1 / 4^{\circ}$ hole in panels 40 to $1 / 8^{\prime \prime}$ plated Highest quallty brass nickel
plated construction. Av. Wt. 2 oz
 Q No. 12 A6086. Female Extension Jack. Each (3) No. 12A6087, Chassis Jack. Each

"DIN" SERIES PLUGS FOR EUROPEAN EQUIPNENT

Fits audio inpul and output jacks on many recorders, radios etc. made by Norelco. Wollensak, Uher, Telefunken. Korting. Dual, Kuba, Sony. Shielded metal shell, plastic cover, built-in strain relief.
No. 12 A 6065 . Mafe Plug, 3-Pins. Special Each............................................................. No. 12A6066. Male Plug. 5-Pins. Special Each.

PAIR 5 PRONG MALE AND FEMALE CABLE PLUGS
Handy for extending or adding to existing audio cables. Consists of 5 prong male cable plug above and mating female cable plug.
No. 1246067.

## ADAPTOR CORD

$\$ 1.29$
$\$ 239$


FOR EUROPEAN RECORDERS
Fits 3 and 5 Pin "DIN" Style connectors
For Norelco. Wollensak, VM, Grundig, Tetefunken, Ampex and Bell \& Howell Cassette recopders. $12^{\prime \prime}$ long with 2 RCA jacks and 3 -pin DIN plug. No. 32 AAOOA3. Socicil Each
\$2.39

STEREO PATCH CORD
FOR NORELCO, WOLLENSAK, AMPEX MICRO
Motes 5 pin European input-output socket on recorder. Provides 4 phono plug
ed cobles. Shpg. wt. 6 oz .
No. 3346599
No. 3346599 Special Each $\$ 3.29 \quad$ Each
-

## SAVE ON HIGH QUALITY H-FI INTERCONNECTNG CABLES




Finést quality featuring shielded silver-grey audlo catie. Plugs and facks molded directly with polyethylene for a more rellable trouble-free connection. Shpg. wt. 6 ozs. 30 ft . colls 1 lb
(1) PHONO PIN PLUG ONE END, STRIPPED G TINNED OTHER END No. 33 A6565. 36". Each..................69e No.33A6567.15 Ft. Each ........... $\$ 1.19$ No.33A6566. 72". Eoch.................. 89 c No.33A6568. 30 Ft. Eoch ........... $\$ 2.49$ (1) PHONO PIN PLUG BOTH ENDS
 No.33A6570. 72". Each..................99e No.33A6572, 30 Ff. Eoch $\$ 2.79$ (3) PHONO PIN PLUG ONE END, PHONO JACK OTHER END No. 33 A6573.72". Eoch.................99e No. 33A6574. 30 Ft, Each ..... $\$ 2.69$ PHONO PIN PLUG ONE END, PNONE PLUG OTHER (Not Illus.) No.33A6575.72" Each .............. $\$ 1.29$ No.33A6576.15 Ff. Each............. $\$ 1.99$

## RIGHT ANGLE PLUG HI-FI CABLES



Alf top quality silver-grey audio cable with molded plugs. Used on music instruments, many amplifiers and speaker systems. ALL CABLES ARE 72 LONG. Shpg. Wr. 6 oz.
(1) No. 33 A6607. $1 / 4$ ", Phone Plug to Mike Connector. Net Each........... $\$ 1.19$ (2) No. 33 A6608. 1/4" Phone Plug to Right Angle RCA Plug. Net Each. 1.19 ONo. 33 A6609. $1 / 4^{\prime \prime}$ Phone Plug to RCA Phono Jack. Net Each........... 1.19 (1) No. 33 A6610. $1 / 4^{" 1}$ Phone Plug to Alligator Clips. Net Each

## COILED HI-FI CONNECTING CABLES

No more unsightly dongling cords. Coiled audio cobles with RCA plugs each end. Quolity import. Shpg. wt. 8.02 .
No.33A6583-72" Long. Eoch
$\$ 1.59$

## DUAL 8TEREO <br> HI.FI CABLES



Neat single sheath encloses dual shielded cables. All cables have molded RCA phono plugs aftached
1 No. 33 A $6611.36^{m}$-RCA plugs one end, stripped other end. Net Each.o. 5.99 No. 33A6612. $72^{\text {N }}$-RCA plugs one end. stripped other end. Net Each-- $\$ 1.29$ No. $33 A 6613.48^{\prime \prime}-$ RCA plugs both ends. Net Each

## 1 a 16



## 72 INCH AUDIO HI-FI CONNECTING CABLES

## WITH MINIATURE PLUGS

Finest quolity shielded silver-arev oudio cables. plastic covered. All quality imports. Works with most Japanese recorders ond rodios. Averoge shpa. wt. $1 / 2 \mathrm{ib}$. (1) Miniature moided phig one end to molded RCA type jock other end. No. 33A6577. Each
(3) Minioture molded plug one end to standard molded phone plug other end No. 33 A6578. Eoch 3) Miniature molded
No. 33 A6579. Each

A Minioture moided plug one end to stancord shielded inline jock No. 33A6580 Eoch.... one end to standord shielded inline jock other end,, 50

## TAPE RECORDER PATCH CORD

For recording direct from Radio, Phono or TV. Flexible 72" two conductor cable with attached insulated alligator clips and RCA pin plug. Comes with pin plug to phone plug adaptor. Wt. 8 oz.
( No . 33 A6586. Spectal Each. \$1.49

## SMALL 2.COND. SPEAKER WIRE

Neat gray plastic insulated 2 -wire parallel cable. Extra flexible with size 24 stranded copper conductors. Perfect for hi-fi and intercom installations. Essily concealed. Dia, only 058 tions. Esily concealed. Dia. only 058 No. 2C33 \$1.89 1000 \$12.95



With built-in Volume Control ready to hook up to any radio, TV, phono, hifi , atc. Heovy duty 6 /2" PM speaker 4-8 ohm. Walnut finish. Shpg. wt. 8 libs.
3343504.

Import Special
$\$ 11.49$

## 2-WAY SPEAKER SYSTEM

## In Deluxe Walnut Enclasure

 Has high compliance woofer and super tweeter with powerful ferrite magnets. Response 40 to $18,000 \mathrm{~Hz}_{\mathrm{z}}-15$ watts music rating. Small and mighty $91 / 4$ " so., $31 / 4$ "D. 8 ohms. W 4.4 lbs. Qualisy Import33A2041
Spec. Each $\$ 15.95$ Poir
For $\mathbf{\$ 2 9 . 9 5}$
SLIM-LINE SPEAKER WITH LEVEL CONTROL
Excellent tone quality, fine appearance. Has volume control on outside of cabinet. Heovy duty speaker has 2.15 oz . magnet, 8 ohm vaice coil.

Walnut finished waod $93 y^{\prime \prime} \times 934^{\prime \prime}$ tapering from 3 to $4^{\prime \prime}$. Quality import. $33 A 2042$. $\$ 13.95$ Pair For.$\$ 26.95$

## 4-INCH SPEAKER

 IN WOOD BAFFLEWainut finished natural wood miniafure cabinet, closed of rear. 4" speaker with heavy magnet. 3.2 ohm V.C.
Fine for intercom, remote or chairside TV-radio extension. $5 \mathrm{~K}^{\prime \prime} \mathrm{W} . \times 3 \mathrm{k"}$ D. $\mathrm{X} 5 \mathrm{~W} \mathrm{~V}^{\prime \mathrm{H}} \mathrm{H}$. Shpg. wt. 2 lbs. No. 49 A4004.
Import Special
$\$ 4.99$

## FANTASTIC TUBULAR ACOUSTICAL SPEAKER

 SOUND FLOWS FROM BOTH ENDSAbsolutely amazing sound reproduction ${ }^{\text {a }}$. you must hear it 1 Perfect for hi- $f 1$ radio, auto rear seat. TV, efc. Midget plugs provided for transistor radios. $12^{\prime \prime}$ long, $33 /{ }^{\prime \prime}$ dia.
With 12 ft. cord. Shpg. wt. 5 lbs. No. 49 A4000. cord. Shpg. wt. 5 lbs. Import Special, Each.
$\$ 3.88$

## HIGH FREQUENCY TWEETER

2-5/8" square, $1.5 / 8^{\prime \prime}$ deep, solid back. 8 ohms. Frequency response $3000-8000 \mathrm{~Hz}$. Imported. Shpg. wt. 1 lb . No. 34 A510. Each
$\$ 2.95$

## CEHLING-WALL SPEAKER

## IN MOUNTIMG BAFFLE

Pipe music from rodio, music system, etc. to any room of the house, office or plant, easily and economically. High quality speaker is premounted in beautiful baftle that surface mounts no cutouts necessary - to ceiling or wall. $914^{\prime \prime}$ dia. 8 ohm imp. 3 watts. Shpg. wt. 4 lbs. Import value!
No. 33 A2 177
Each
$\$ 9.95$

(1) 12A6064. Cooxial Power Plug. Standard for many walkie-tolkies, recorders, radios. 1 large 2.5 MM and 1 small 2.1 MM plug. Eosily attached to power supply leads. Wi. 3 az. Special, Pair

79
(2) 12A2492. Power Plug Adaptor. One end like 2.1 MM above, other has jack for sub-miniature . $097^{\text {n }}$ phone plug. Each .......................... . . . . 79
(3) 12 A6122. 4-Way Adaptor Plug. For radios and cassette type recorders. 2.5 MM miniature, 2.1 and 2.5 MM coexial power plugs and 3.5 MM miniature jack. Special Each
$\$ 1.95$


The measuring stick for speaker efficiency and its value is the Magnet Weight. Be sure you check when you compare prices. All have 3.2 ohm voice cails (except $34 \mathrm{~A} 422,423$ and 424 which are $6-8$ ohm and 18 A 1401 which is 45 onmt for Intercoms).

| Ste | Mag. Wt. ox. | Itus. | Depth | Shpg. Wt, Llos. | Stk. No. | Each | $\begin{aligned} & 10 \text { © (4) } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3" | 1.00 | 3 | 2\%" | 1/2 | $34 A 415$ | \$2.29 | \$2.03 |
| 4"' | 1.00 | 3 | 2\%" | 1/2 | 18 A1400 | 1.39 | 1.29 |
| 4"† | . 55 | 3 | 2" | 1/2 | 18A1401 | 2.99 | 2.79 |
| $4^{\prime \prime}$ | 1.47 | 3 | 21/" | 1/2 | 34 A 416 | 2,49 | 2.25 |
| 5"' | 1.47 | 4 | 274 ${ }^{\text {\% }}$ | 1 | 34 A 48 | 2.59 | 2.36 |
| $6^{\prime \prime}$ | 2.18 | 4 | 2\%" | $11 / 4$ | 34 A 20 | 3.39 | 3.01 |
| $8{ }^{\prime \prime \prime}$ | 3.16 | 4 | 3\%\% | 1\% | 344422 | 4.98 | 4.43 |
| $8^{\prime \prime}$ | 6.8 | 4 | $4^{\prime \prime}$ | 2 | 344423 | 6.99 | 6.23 |
| $12^{\text {* }}$ | 6.8 | 1 | 51/2" | 3 | 344424 | 9.49 | 8.42 |
| 2 \%x | $10^{\prime \prime} 1.47$ | $\overline{7}$ | $2.7 / 16^{\prime \prime}$ | 1 | 344413 | 3.99 | 3.56 |
| $4 \times 6$ | -1.00 | 2 |  | $3 / 4$ | 344425 | 2.69 | 2.42 |
| $5 \times 7 \times$ | 1.00 | 2 | 210" | 近 | 344426 | 2.99 | 2.68 |
| $4 \times 8{ }^{\prime \prime}$ | " 2.18 | 2 | 2\%" | 1/2 | 34 A509 | 4.99 | 4.46 |
| $6 \times 9$ - | - 2.18 | 2 | $31 /{ }^{\prime \prime \prime}$ | $11 / 2$ | 344427 | 4.89 | 3.58 |

## MULTIPLE IMPEDANCE AUTOMOTIVE SPEAKERS


for Replacement or rear seat speaker instaklations. Readily odjusts for 10,20 or 40 ohm impedonce. Heavy 2.18 oz. cup magnets, $1^{\text {t" }}$ voice coit. Average shpg. wt. 1 lb
$6^{\prime \prime}$ Pin Cushion $21 / 4^{" D}$ Deep. Not illustrated. No. 34 A388.
Net Each
$\$ 4.30$
No. 34A390. $4 \times 10^{\prime \prime} .3^{\prime \prime}$ Deep. Net Each
No. 34A428. 5 ㅍ". 2-1/16" Deep. Net Each
POWERFUL 1O-MATT MULTIPLE IMPEDANCE 6X9* Big 6 oz. ceromic magnet for 10

$\$ 5^{95}$watts of power. Whizzer cone for extended range tone. $3 / 4^{\prime \prime}$ V.C. Multiple imp. 10, 20 or 40 ohme. Shallow mig., $23 / 4^{\prime \prime}$.Wt. $11 / 2 \mathrm{Hb}$.
No. 34 C 209 . Speciol Eo.
\$5.95
No. 34A386. Extra Heavy Duty $6 \times 9^{\prime \prime}$ Multi-Imped. Speaker. 10 az. ceramic magnet. I" vaice coil, tweetar cone. Strictly HiFFi. Wf. 2 lbs.
$\$ 8.95$

## COMPARE B-A's LOM PRICE ANYWHERदो



SUPER DELUXE 6X9" SPEAKER HEAVY 10 OZ. MAGNET

Lawest price we've had for a $6 \times 9$ speaker with massive 10 oz. magnet, Built ta take the

## 5495

 power and valume of todays 8 track and stereo radios. Use in pairs far stereo. $21 / "^{\prime \prime}$ tweeter cone. 8 ahm. Shpg. wt. 2 lbs. No. 18A1580. Each\$4.95

## B-A RED HOT VALUE!!

DELUXE 8-INCH HIGH FIDELITY SPEAKER AMERICAN MADE

- 25 WATTS PEAK POWER
- $40-20,000 \mathrm{~Hz}$. FREQ. RESPONSE


Top quality by one af America's leading speaker makers. Exceptionally fine performance. Will provide much better sound quality than ordinarily found in record players, TV sets, radios, etc. Also exceptionally well suited for space is limited. Heavy-duty 10 oz . territe ceramic magnet produces 25 watts peak power. Frea, response $40-20,000 \mathrm{~Hz}$. Full $1^{\prime \prime}$ V.C. Imp. 8 ohms. Only $3^{3 \prime \prime}$ deep, fine for in-wall insfallations, Shps. wt. 2 lbs.


EXCEPTIONAL SPEAKER BARGAINS


WORID famous NORELCO 8 INCH TWIN CONE HIGH FIDELITY SPEAKER

You would usually expect to pay 3 times as much for equal quality. Ideal replacement for older type speaker in record players, TV sets, radios, etc., or for hi-fi systems where space is limited. Handles up to 10 watts. Frequency response $60-18,000 \mathrm{~Hz}$. Impedance 8 nhms.
No. 33A 2050, Special Each
\$4.99


Here's your chance to up-grade any TV set, auto radio dash or rear seat speaker or hi-fi installation at big speaker or hi-fi installation at big savings! 5 oz. Ferroxdure magnet
structure more ventional ceramic magnets. 8 ohm. $23 /{ }^{\circ}$ thick Range $65-18,000 \mathrm{~Hz}$ N. No. 34 A435.
Special Each
$\$ 3.95$


## 12-INCH GUITAR SPEAKER

Special design for optımum performance with guitars and other musical instruments. High efficiency for clear distortion-free sound of high volume. Exceptionally well made. Heary basket frame and spectiol cone designed for bass note reproduction of guitars. Made for B A by a toD Americon manufacturer. 8 ohm impedance. 6.8 oz . mognet, $11 / 2^{\prime \prime}$ voice coil. Shpg. wt. 5 lbs. No. 348224. Special Buy
$\$ 10.95$

## INDOOR OR OUTDOOR MUSIC SPEAKER

## 51/4" 5 watt weatherproof speaker. Brown woodgrain appeor-

 ance. Response 300 to $10,000 \mathrm{~Hz}$. Fine choice for intercom or poging. Tilting mounting bracket. 8 ohm . Shpg. wt. $1 / 1 / 2 \mathrm{lbs}$. No. 34 A7010.$\$ 9.95$


STEREO SPEAKER WALL PLATE COMPLETE WITH TWO $\frac{1}{4}$-INCH PLUGS New lvory wall plate with two $1 / 4^{\prime \prime}$ phone jacks mounted. Hardware supplied for use with standard outlet box or dry wall mounting. Two $1 / 4$ " phone plugs included. Size $23 / 4 \times 41 / 2^{\prime \prime}$. Wt. $1 / 2 \mathrm{lb}$. No. 33 A6616. Special Each
$\$ 1.99$


## Y-CONNECTOR CORD FOR TWO STEREO PHONES

 Use 2 pairs of stereo phones at the same time from a single amplifier out put. High quality 3 3-way plug and two 3-way jacks, $36^{-1}$ overall. No. 33A6598. Special$\$ 2.99$


CLOSED CIRCUIT STEREO PHONE JACK ONLY
Fits $1 / 4$ " 2 or 3 circuit plug. Can be wired to disconnect speakers when plug is inserted
89c
Each
79c

LOW PRICES ON SPEAKER CONTROLS

(1) Level Controls (L-Pads). For adjusting and matching the listening levels of 2 or more speakers. Silver and black $21 / 2 \times 2^{\prime \prime}$ plate, with black plastic knob. Mounts in panels to $3 / 4^{\prime \prime}$. Wt. 3 oz
No. MuAt137. 8 ohm. Import. Esch...tized "on off" (3) Mitiple spe $31 /{ }^{\prime \prime} \mathrm{W} \times 25 / \mathrm{H}$ gold tone mtg plate with 6 SPDT slide mote speakers. $31 / 2 \mathrm{~W} \times 25 / \mathrm{H}^{2}$. gold rone mig. plate with 6 SPOT slide switches. Requires $11 / 0^{\prime \prime}$ behind panel. Wt. 4 oz.
No. Remote Spesker Control Controls both speakers main and $\$ 1.99$ (3) Remote speaker fader main and remote from one location. $21 / 8 \times 21 / \mathrm{s}^{\prime \prime}$ gold tone mounting plate. Requires $3 /{ }^{\prime \prime}$ depth behind panel. Wr. 3 oz.
No. 1 Ah 3 Lots, Each.......................79c or speaker volume independently of other speakers, in the system. Handles


## AUTO STEREO SPEAKER CONTROL

Adjusts the output af the stereo system from the front
to the rear speakers using the newest type slide con
trols. With mtg. hdwe. and instructions
No. 1947362
Each
$\$ 4.95$


## REAR SEAT SPEAKER CONTROLS



For switching between dual speakers such as auto rear seat and front seat speakers; $\mathbf{N}$, radio, etc. Operates elther speaker separately or both together
No. 19A7108. Centralab PK-300. EACH.
Mo. 19A7187. Wired Fader Controi Kit. For intermixing
front and rear speakers. Shpg. Wt. 3 oz. Nit Each.
\$1.76

## SAVE! NORELCO HIGH-FIDELITY SPEAKERS

 CONE SPEAKER Norelco's best-compare with speakers costing $\$ 70$ to $\$ 100$. Famous fiwin-cone design incorporating $\mathrm{T}_{i}$ conal VII, the most powerful of modern magnet ofloys. Extro high flux density ( 11,000 gauss) for ex. ceptional transient response, maximum efficiency $(14 \%$ at 400 Mz .) ond domping. Conservatively rated 35 to $18,000 \mathrm{~Hz}$ with power handling capacity also conservatively rated 30 watts peok V.C. 8

## ohms. Shpg. wt. Bolbs. <br> COMPARE AT No. 34 A204 <br> $\$ 70$ to $\$ 100$ ! No. 34 A204 <br> $\$ 29.88{ }^{2}$ for

$\$ 54.50$
NORELCO $12-1$ NCH TWIN-CONE
Amazing value! Pertormance surpasses speakers priced at over double B-A's low, low special purchase price! Provides unusually clean response over entire audio spectrum-deep bass and silky smooth highs.. frea. respanse 40 to $15,000 \mathrm{~Hz}$. Powerful ferroxdure ceramic magnet produces 15 watts peak power. Extra high flux density of 42.600 maxwells. Will match $4-8$ ohm amplifier output. Wi. 5 lbs.
No. 33 A2024.
Nef Each
$\$ 12.88$
$\$ 19.50$

## NORELCO 5 INCH SPEAKER WITH WHIZZER CONE

One of the best $5^{\prime \prime}$ speakers you'll ever hearl Excellent for auto stereo, replacement in TV or recorders, or for building sweet sixieens.00 Oz. Ferroximpedance. shpg. wt. I lb. No. 33 A2093. Each
$\$ 3.29$
6 Lot $\qquad$ \$2.99

## NORELCO 1 INCH DOME TWEETER

 WITH 10 OZ. CERAMIC MAONET One of the finest tweeters we've ever seen! Reprotems. Handles 40 watts power. 8 ohm impedance. Mylar disphragm Width 55\%", Requires $3^{\prime \prime}$ mounting hole. Shpg. wt. 2 lbs.No. 33A2094. $\$ 8.60$
Pair
$\$ 16.00$
For


## or <br> Norelco <br> нінн сомplance woofers <br> WITH BUTYL-RUBBER ROLLED EDAE GUSPENSION <br> 12 INCH <br> $\$ 1995 \mathrm{CACH}$



The rolled rubber edge has to be one of the finest improvernents ever made in woofer speakers. Outperforms speakers costing two or three times our low price!
12 INCH WOOFER. 1 lb. very sensitive Ferroxdure magnet system. Bass response to 20 Hz .40 watt power rating. $51 / 4^{\prime \prime}$ deep. 8 ohm impedance. Wf. $41 / 2$ lbs.
No. 33 A2096.

$\$ 19.95$| Par |
| :---: |
| for |

$\$ 38.00$
Each
INCH WOOFER. 12 oz. very sensitive Ferroxdure magnet system. Bass
esponse to 30 Hz . 20 waft power rating. 8 ohm impedance. $31 / 2^{\prime \prime}$ deep. response to 30 Hz
Shpg. wt. $21 / 4$ lbs.
No. $33 A 2095$. $\$ 9.95$ Pair
Each
$\$ 18.00$

## 10 WATT NORELCO 5" WOOFER

AND 21" TWEETER COMBINATION

## $\$ 795$

Highest quality, made in Holland.


Designed for smoll enclosures, book-shelf speoker systems, etc. Maximum enclosure size 3 litres:
$5^{\prime \prime}$ Woofer-Response 38 to $2,000 \mathrm{~Hz}$. Mas rigid cone with highly flexible butyl-rubber cone suspension Mossive Ferroxdure ceromic magnet strucfure provides extremely high efficiency, Voice coil impedance 8 ohms.
$21 / 4^{\prime \prime}$ Tweetor-Response 800 Hz to 19 KHz . Supplied with capacitor for cross-over from 8 ohm source. Utilizes square 20 gram Ferroxdure ceromic magnet. Baffle hole diameter 52 mm . Wt. 3 lbs.
No. $34 \dot{4} 434$. Combination Woofer-Tweeter, Special
\$7.95
 CROSSOVER WITH LEVEL CONTROL

## $\$ 5^{95}$

Fine appearance. Comes assembled on sturdy finished metal pancl, ready to install on your speaker enclosure. Features high quality L/C type network with tweeter level contral. Crossover point, 3000 Hz . Impedance 8 ohms. Convenient spring-loaded binding posts. Size $4 x$
 $51 / 2$ black enameled, gold leftering. Atrached 3 ft . leads. $\mathbf{W t}$. 1 tb. No. 33 A6597. Special Each
$\$ 5.95$

## BARGAINS!

## FULL RANGE SPEAKERS

MINIATURE HI-FI EXTENSION SPEAKER
IN DELUXE HAND-RUBBED WALNUT CABINET
Low cost hi-fi quality extension speaker is perfect addition to home stereo systems. Beautifully finished hand-rubbed walnut on all 4 sides provides for optimum placement. Contains $4^{\prime \prime} 8$ ohm heavy duty speaker. Wall mounting bracket sup-


BRAND NEW FULLY GUARANTEED
wt. $11 / 2 \mathrm{lbs}$.

No. 33A2097. Special Each
$\$ 5.95$

No. 33A2097. Special Each
HSGH EFFICIENCY

## 8 INCH SPEAKER

SPECIALLY OESIGNEO ANO LOW PRICED FOR MULTIPLE SPEAKER INSTALLATIONS
Real good buy! Sove over $50 \%$. Perfect for restouronts, doctors offices, business estoblishments, homes onywhere multipte speokers ore used for background music. low level paging systems, eft. High efficiency design provides excellent response from even the lowest powered omplifiers. Shollow construction, only $21 /{ }^{\prime \prime}$ deep. 2.4 oz. ferrite mognet. Impedonce 8 ohm


COMPARE AT


## INTERCOM - OUTDOOR THEATRE SPEAKERS

Weother resistont type with 1.47 oz. Alnico magnet.
Correct impedance for many tronsistorized devices. 45
ahm. Pertect intercom or theatre replacement.
No. I8A1369, 4-Inch. Wt. Y/ lb
Special
Each
$\$ 3.29 \quad$ Eoch
No. i8Ai370. 6.inch. Wt. 2 lb .
Speciol
Each
$\$ 2.6910$ Eoch
\$2.99
$\$ 2.49$

## QIANT 15-SNCM <br> Absolutely amazing performance ot

surprising low cost. Outperforms speakers usually costing much, much more. Big power handiling capacity of 25 watts with extra heavy duly 6.8 oz . Alnico $V$ magnet. Faithfuily reproduces clean rich bass tones to 30 Hz . with high frequency range extending to over $13,000 \mathrm{~Hz}$.. Full $\mathrm{in}^{\prime \prime}$ voice coil. 8 ohm Imp. Depth $51 / 2^{\prime \prime}$. Wt. 6 libs.
No. 34 C 211 .
Special Each
$\$ 10.95$
Pair
for


ANOTMER FABULOUS BUY
15-IN. TWIN-CONE HI-FI SPEAKER
BUIT FOR ELECTRONIC

ORGANS EYTOP

## AMERICAN MADE

## HANDLES UP TO 30 -watts

## $\$ 1775$

## A terrific MUSIC POWER

WORTM AT LEAST $\$ 30.00$
quality conscooker af conside, obly tess than its quirements of maker for the wides thon its usuol pricet Built by both wooter electronic orgons. Designed for and high-powsr scund by tb. Anico $y$ and tweeter cones extrad for top hi-fi performonce with entire tond magnet ond rugged from lorge $13 / 4$ " voice colt, huge 2 highs. Ronge 20 it Provides unusually low boss response is smooth over No. 33 Ronge $20-15,000 \mathrm{~Hz}$. V.C. imp low boss response, sparkling criso No. 33 A2034. Wt. 12 lbs . Eech .... imp. 8 ohms. $61 / 2$ deep. $\$ 1775$


> HI-FI SPEAKERS AND TWEETERS

BRAND NEW<br>FULLY GUARANTEED



©
5-1NCH PARABOLIC CONE TWEETER WITH CROSSOVER INCLUDED Extends range of any 4 to 8 ohm speaker from 5000 Hz , to 20.000 Hz . Features a hard parabolic cone to reproduce all high frequency ranges cleanty without cone "break-up". High efficiency from 1.64 oz . Alnico $V$ magnet matches even the most efficient low-frequency speakers. Handles 15 watts averare audio power. Includes capacitor crossover and diagram for connecting to existing speakers. Wi. 2 lbs WORTH MANY TIMES OUR PRICE! No. 34 A41 2.
Twecter and Crossover
$\$ 2.95$

## 12-INCH TWIN CONE

## HI-FI SPEAKEP

Best buy ever for budget minded music lovers. Astonishingly smooth, wide-range reproduction. TOD quality American made by leading speaker manufacturer. High efficiency, provides plenty of volume with low power amplifiers. Fine for low cost component systems. console replacement speakers and public address. Heavy Alnico V magnet handles 10 watts power with a frequency respanse of $40-15,000 \mathrm{~Hz}$. Full $1^{*}$ voice coll. 8 ohms impedance. Shpg. wt. 4 lbs. Low price made possible by B-A's large special purchase quantity.
 CROSSOVER NETWORK CAPACITORS


SPECIAL VALUE VOLUMETRIC SPEAKERS

## 4-INCH HIGH COMPLIANCE SPEAKER

- Acoustic suspension
- Full ronge 10 watt.
- Response: 35-16,000 He

Powerful ceromic mognel deveiops over 10,000 gouss. Recommended cabinet size $83 / 4 \times 8 \times 61 / 8^{\prime \prime}$ I mpedance 8 ohms. Shpg. wt. 5 liss
No. 34A403. Special Each
$\$ 8.95$

## 6-INCH HIGH

COMPLIANCE SPEAKER WITH WHIZZER CONE

- Ideol for solid state and tube omplitiers alike.
- Response: $35-18,000 \mathrm{Mz}$
- Power capacity 20 wotts.

Large cone with flexible cloth edge provides more power in the low frequency range. Impedance 8 ghm. Recommended cobinet size is $7,8 \times 113 / 4 \times 61 / 2^{\prime \prime}$ Shpq. wt. 6 lbs .
No. 34 A 408 . Special Each \$10.95


## 8-INCH HIGH

COMPLIANCE VOLUMETRIC SPEAKER WITH WHIZZER CONE

- Power copocity 30 watts.
- Frequency response $\mathbf{3 0 - 2 0 , 0 0 0 ~} \mathrm{Hz}$
- Ferrite magnet.

Latest design, powerful ferrite mognet, and soft cloth edge hos made this speaker comporable to most speakers of larger size. Beautiful reproduction of the entire oudio spectrum. Impedance 8 ohms. Extends $31 / 2$ " deep. Shpg. wt. 10 lbs.
$\$ 14.95$

## SAVE ON COMPONENTS FOR 2, 3 AND A-WAY SPEAKFR SYSTEMS


(1) TWO-WAY LC CROSSOVER NETWORKS

Compact Inductive-Capacitive Network feeds frequencies above 3000 Mz . 10 tweeter, below 3000 Hz , to wooter. Insertion loss only I db. Solder lug terminals for amplifier, woofer, tweeter. 8 ohms. No. 33 A6513. $31 / 2 \times 2 \times 13,{ }^{\prime \prime}$ " Shpg. wt. 8 oz . Net Each.
$\$ 3.95$ (1) THREE-WAY CROSSOVER NETWORK

Dividing audio signals between woofer, midrange and tweeter. Simplified L.C circuit, crossover frequencies $2,500-6,600 \mathrm{~Hz}$. Imped. 8 ohm . No. 33A6676. Shpg. wt. 1 lb. Quality Import. Each
$\$ 4.95$
(3) UNIVERSAL DIVIDINC 3-WAY NETWORK

Two buils-In L-pad type adjustments for use in balancing speakers of different etficiencies Crossover points are 500 and $3,300 \mathrm{~Hz}$ with attenuation of 6 db per octave. Wiring diagram and instructions included. Size: $53 / 4$ long. $33 / /^{" \prime}$ wide. $23 / /^{\prime \prime}$ high.
No. $33 A 6650$. Shpg. wt, 2 lbs. Net Each_.............................. $\$ 11.95$ No. (1) DELUXE EXTRA HEAVY MAGNET 31/2-1NCH CONE TWEETER Like used in expensive hi-fi speaker systems. Direct radiating cone type weeter with damping to prevent peaking and metallic harshness. Enclosed back prevents interaction between other speakers. Heavy 3 oz, ferrite mag-
 No. 33A2040. Special Net Each


Actually the price belies the quafity Here is on exceptional voluc! Some acoustic design as used with the more expensive speaker systems
Long throot mocitied hyperbolic hoin provides wide angle high frequency sound dispersion and is compression loaded to flatten the response curve. Hondles 20 watts of power with a flat frequency response from 2000 to 20 , 000 Hz . Fu! I " V.C. Imp ot 4000 Hz . 8 ohm . $3 \times 71 / /^{\prime \prime}$ ' fanje requires $2 \times 66^{\prime \prime}$ baffle cutout. $61 / 9^{*}$ deep. Low-lustre black and metallic gold.
Shpg. wh. $21 / 2 \mathrm{lbs}$. Americon mode.
No. 33 A2029. Special Net Each

## (3) EXPONENTIAL HORN TYPE MID-RANGE TWEETER

Fills the need for mid-range horn in 3 -woy speaker systems or mid-range ond tweeter in 2 -way systems. Same fype as used in costly home and theatre systems ... ot a' small fraction of their usual cost. Long $10^{\circ}$ horn with $3 \times 91 / 2^{\prime \prime}$ mouth reproduces $900-20,000 \mathrm{~Hz}$. smoothly, cleonly, ond efficiently.. tree of "humps" or "peaks" in the response curve, without distort on, and with high output to moteh even large woofers. $4 \times 101 / 2^{\prime \prime}$ flange requires $3 \times 9^{\prime \prime}$ cutout 20 wott power rating. Low-lustre black and metollic gold. Overall length $111 / 2$. $\$ \$ 9.95$ No. 33 A2030. Shpg. wt. 4 lbs. Net Each
$\$ 9.95$

## BUILD 2 OR 3-WAY SPEAKER SYSTEMS WTVH THESE B-A STEP-UP KITS



MIGH FREQUENGY STEP-UP KIT NO, I
Extends the range of single voice-coil speakers to beyond the range of audibility. Consists of Tweeter, 2.Way Crossover, and L-Pad for iweeter volume control
No. 33 A2031. Wt. $31 / 2 \mathrm{lbs}$. Special Each
$\$ 10.95$


COMBINATION MID-RANGR AND HIGM FREQUENCY STEP-UP KIT FOR 3-WAY SPEAKER SYSTEM

Consists of Tweeter, Mid-Range speaker and 3 -way Crossover with 2 built-in L-pads for mid-range and tweeter volume controls. Diagram included. Wf. 9 ibs. No. 33A2098. Each

## 3 $\frac{1}{2}$ INCH TWEETER

$\$ 4^{99}$


Heavy 4.8 oz . ceramic magnet. Extend range of your speaker system to 20.000 Hz . Mechanically damped to reproduce only the high frequencies. $11 / /^{\prime \prime}$ deep. dia. including mounting flange $41 / 2^{\prime \prime}$. Wt. $11 / 5$ Ibs. American made. No. $34 \times 466$
Special Each
\$4.99

# STEREO HEADPHONES FOR ADDED LISTENING PLEASURE 

## MICOTRON HIGH FIDELITY STEREO HEADPHONES



## DELUXE STEREO HEADPHONES

Full-dimensian sound from $21 / 2^{\prime \prime} d y$ nomic elements plus convehient individuol volume controls. Removable foam-filled ear cushions, padded headband, adjustable swivel frame. $20-18,000 \mathrm{~Hz}$ response, 8 ohm imped. ance. 10 ft . coiled cord, 3 -conductor $1 / 4$ plug. Wt. 18 az .
No. $33 A 670$ S.
Model 17-00S. Ea. .... \$ $\$ 4.95$


KOSS QUADRAFONES
Four Koss dynamic driver elements for full-dimensional quadraphonic sound. Four channet sound from matrix or discrete systems. 4 channel to 2 channel selector. Slide type volume balonce controls on each earcup.
Frequency response $20-17,000 \mathrm{~Hz}$. Foam filled vinyl cushions. 10 H , coiled card
No. 33 A6709. Each ... \$39.95

PROFESSIONAL QUALITY STEREO HEADPHONES

Individual volume controls for conven. ience. $2 \mathrm{t} / 4$ " dynamic elements provide outstanding bass reproduction, higho low separation. Removable foom-filled vinyl ear cushions, padded headband, adiustoble stainless steel frame. 20 . 20000 Hz response, 8 ohm impedonce. 12 ft . coiled cord, 3 -conductor $1 / 4$ " plug. Wf. 15 oz.
No. 33A6704
Model 17.008. Each.
$\$ 29.95$


## CUSTOM STEREO HEADPHONES

$2 \%$ " dynamic elements give crisp ster. eo reproduction. Removable foomfilled ear cushions, adjustable frame. $25-15,000 \mathrm{~Hz}$ response, 8 ohm impedance. 6 f . cord, 3 conductor $1 / 4$ "plug. Wt. 19 oz .
No. 33A6706
Model 17-0018. Each .... \$8.99



PROFESSIONAL QUALITY HEADPHONES $\$ 19^{95}$
Separate volume control on eac: earphone provides adjustment for professional full dimensional stereo sound. Foam fllled ear cushions, on swivel frame for maximum comfort are removable for easy cleaning. fequency response 20 to $18,000 \mathrm{~Hz}$ from 3 inch dynamic elements. Foam padded headband adjusts for perfect fit. Black with stainless steel frame. 8 ohm Impedance. Whth 10 foot called cord and standard 3 con. ductor $1 / 4^{\prime \prime}$ stereo phone plug. Durble stitching assures long wear for cushions and headband. Weight 18
OZ
$\$ 19.95$

## DYNAMIC STEREO

 HEADPHONESMakes realistic sound possible! Listening level
is easily adjustable with volume control in each phone. Wide frequency range, low distortion, high sensitivity, full range unit. Special leather vinyl-covered headband and phonepad permits bistening without fatigue. Easy to clean vinyl.
Specifications: Sensitivity: 115 db at 1.000 Hz . mW . Frequency response: 15 to $23,000 \mathrm{~Hz}$. impedance: 8 ohms, each channel.
Complete with 13 ft . coiled cord with 3 confuctor stereo phone plug. Wt. $11 / 2$ lbs.
No. 33A6651.
$\$ 26.95$


Esch

## JUNCTION BOX WITH SLIDE CONTROLS



## FOR STEREO OR MONAURAL

Two headphone jacks to operate 2 pairs of headphones at the same time. 15-ft. coiled cord with plug. No. 33 A6708. Each
$\$ 9.95$

STEREO HEADPHONE EXTENSION CORD
$\$ 2^{49}$


20 Ft. gray extension cord with 3 circuit plug and jack. Wt. 10 oz.
No. 33 A6601. Each $\$ 2.49$
25 Ft. 3-Cond. Coiled Cord.
No. 33A6677. Each


STEREO HEADPHONE JUNCTION BOX
FINEST

Panasonic


Model EAH-20. Personal headphone set with two $3^{\prime \prime}$ speakers. The EAH-20 delivers fine, cleor stereo sound. With frequency response from 50 to 17,000 Hz . An exciting way to listen to your fovorite music. Removoble earpads for
easy cleaning.
No. 3346668 . Each
$\$ 22.88$

Model EAH-40. Superior personal heodphone sel with iwin 2 -way $3^{\prime \prime}$ and $2^{\prime \prime}$ speakers. Separate volume and tone controls. Gives you fullest, most exciting personal listening pleas: ure. Reproduces from 16 to $22,000 \mathrm{~Hz}$ for finest music quality. The EAH-40 is sure to be one of your favorite pieces of stereo equipment.
No. 33 A 970 . Each ... $\$ 42.95$

## REMOTE CONTROL STEREO LISTENING STATION

Stereophone control center for stereo or most music systems. Provides extra ormenience of separate level contral for each channel right at your easy chair. Has stereo jacks for two sets of stereophones and speaker oft-on switch for private listening. In attracswitch for private listening. In affractive wainur grain cabinet. Screw ter$\mathrm{Slze} 43 / 4 \times 2 \% \times 1 \mathrm{~m}^{\circ} \mathrm{H}$. No. 33 A 6615 . Wt. 2 lbs. $\$ 8.50$
Each

Connects to amplifier speaker rerminals. Has change-over switch for speaker or phones, stereo phone jack. $36^{\prime \prime}$ leads. In gray plastic enclosure. Bullt-in aftenuator prevents headphone overload. Finest import.
No. 33A6508. Net Each.
$\$ 3.49$


## PERSONAL PILLOW SPEAKER

Fine sound quality for private listen ing. Ceramic element and plastic diaphragm finted into $21 / 4$ diameter case. $60^{\prime \prime}$ cord, standard $1 / 0^{\prime \prime}$ plug. Fits most radios and recorders. No. 33 A6710. Eoch
$\$ 1.95$

# BARGAINS! 

MICROPHONES \& ACCESSORIES

BRAND NEW
FULLY GUARANTEED

## JIFFY PHONE

 PICKUP COIL

HI OUTPUT CRY5TAL MIKE $53^{93}$

Rugged die-cast case with brushed•finish. 20 ft . cable with molded $1 / a^{\prime \prime}$ phone plug attached. $5^{\prime \prime}$ lang. $142^{\prime \prime}$ dia. Hi-impedance. Low cost for experimenters use. For public address. recording. etc. Shpg wt. 1 lb. No. 18A1577. Each
$\$ 3.95$
Jiffy suction cup attaches to side of telephone or to back of handset. Does not interfers with telephone oferation. With shielded cable. Giant import savings!
No. 11 Alo57.
Special Each
$\$ 1.49$
MINIATURE CRYSTAL MIKES
Only $1^{\prime \prime}$ dia. $x$ 新" deep-perfect for concealed location uses. Also fine as replacement cartridge or regular crystal mikes. Extremely sensitive with good output. High impedonce. Import mode. Wt. 3 oz .

(1) CRYSTAL LAPEL MIKE. A natural for experimenters. Non-directional and gives crisp, clear speech reproduction Hi-impedance, hi-output type with spring clip for attaching. Weighs only 2 oz. Brushed bright metal case 15/8" dia., $3 / 4$ "thick with $55^{\prime \prime}$ cable. Shpg. w. 8 oz .
No. 29A610.
Special Each

Each
$\$ 2.19$
(3) MINIATURE "CLIP-MIKE"

Atraches anywhera! Works with every type of cassette or reel style tape recorder. Picks up sound clearly. Clio attaches to tie or clothing. Cold pisted, size $15 / 8 \times 3 / \mathbf{y}^{\prime \prime}$. Wt. 1 oz. With miniature plug.

## FINE MICROPHONE ACCESSORIES

## B-A LEADER VALUE MIKE FLOOR STAND

\$6.95

## $\$ 169$

Extends to 15 feet, retracts to 3 feet Extremely flexible. Both ends angle phone plugs. Shpg. wt. I lb. phone plugs. Shpg. wt. 1 Ib. No. 33 A6584. Special Each....... $\$ 2.19$ New 25 ft. shietded retractable cord Retracts to 4 feet. Plugs as above. Wt. I Ib.
No. 33A6596. Special Each ....... \$3.29

T.on transceiver or auto dosh auioped with
Spectol Each
 No. 2943031.
temalic
VALUE!
Speciol
As obove $2^{\prime \prime}$ diameter
No, 29AJO32. Special Each
\$1.59
\$1.99

## SENSITIVE

DYNAMIC MICROPHONE

88 ${ }^{\text {c }}$
tiny size
OIA. ONLY $\mathrm{i} 1 / 4$
GUITAR CABLES RETRACTABLE SHIELDED CABLES

## MAGNETIC MOBILE MIKE HOLDER

Powerful ceramic mognet secures bracket to any steel surfoce, powerful ceramic mognet secures biracket to any steel surtoce,
$95 c$
B-A Buyers are constantly on the alert for unusual "finds" priced right for the electronic hobbyist such an Item is this dandy little microphone speaker with coupling transformer Has many uses as a mike replace ment cartridge as an extra sensitive sound pickup device. Tiny transformer supplied for high impedance 100,000 ohm amplifier input, Wt. 402.88 No. 18 C 609 . Special.

MIKE EXTENSION CABLE


8 ft . shielded cable with universal male/female connectors each end Top quality. Made in U.S.A.
No. 1841573
No.18A1573
99

Full size bross tube stem is highgloss double chrome plated. Easily adjustable from $35^{\prime \prime}$ to 64" $^{\prime \prime}$ in height by simple, domoge-proof one-hond clutch without mor or scrotch on the chrome tubes. Weighted $10^{\circ \prime}$ dic. bose is finished in baked wrinkle enomel, has pads to prevent floor mars. $5 / 8^{\prime \prime}-27$ threod. Shog. wf. 9 lbs. $\$ 7.99$
No. 29A7008. Net Exch $\$ 7.9$

## QUICK MIKE-TO-

## STAND ADAPTOR

Needed accessory for musical groups, singers. announcers, intervicwers, etc. Fits any standard $5 / 9-27$ mike and stand. Two-piece chrome finished adaptor has ball stop 10 hold mike an stand securely. Simply lifting No. 294506
Import Special. Each
$\$ 1.39$
YOU CAN'T GET MORE STAND FOR THE MONEY!


## $\$ 799$

## DESK MIKE STAND

Becutatully made import with 5/a " $x$ 27 thread to fit all stondord mikes. Gray plasfic 5 inch diameter base with chrome finished $31 / 2^{\text {" }}$ rod. Stays uppight even with heavy mike. Shpg wi, $1 / 2$ Ib.
No.
$\$ 1.69$

## ROOM ATTACHMENT

Centers mike over pickup area. At. tach to $5 /{ }^{\prime \prime}$ " -27 stand. For piano and similar uses where regular mike stand can't be used. 32 inch chrome plnted No. 29 A7000. Net Eash ... \$6.49

## SLIDE-IN MIKE STAND HOLDER

Fits threaded 5/8"-27 stand. Holds securely yet allows quick removal of securely yet aliows quick removal of No. 29A3028-For $2 /{ }^{\text {se Mike }}$. No. 29A3029-For $1^{\prime \prime}$ Mike \$1.79 No. 29A3029-For


## CARDIOID DYNAMIC MICROPHONE

SINGLE DIRECTION PICK-UP DUAL IMPEDANCE

## while limited

SUPPLY LASTS
$\$ 8^{95}$
Was one of our best seliers at regular $\$ 13.95$ price! B-A bought the remaining warehouse quantity in order to pass along this terrific saving.
Fine for $\mathbf{P A}$, recording, bath vaice and music. Will stop or greatly reduce feed-bock howl on PA systems and allow greater working distonce from mike. Quickly changed from regular high impedonce to 50 ohm low impedance, ollowing long mike lines whithout frequency loss. Has off-on switch and detochable cable. Flot response $60-12.000 \mathrm{~Hz}$ Output -62 db . Swivel mounting for 5/4-27 stands. Shpg. wt. $11 / 2 \mathrm{ib}$. No. 29A604. Spec. Ea.
$\$ 8.95$
VERSATILE OYMAMIC MICROPHORE


FULIY SHIELDED
Standard $1 / 4^{\prime 4}$ phone plug with plastic finger grip ond portable jack molded to flexible plastic silver-grey shielded mike cable. Wt. 1 tb. No. 2A233. Special Eoch
\$2.99

## PROFESSIONAL DYNAMIC MICROPHONE <br> \$19 ${ }^{95}$

- High impedance: 50 K ohms.
- Low impedance: 200 ohms.
- Response: 35-15,000 cps.
- Cordioid pattern.

Designed with a spherical front filter for professional use. Pickup pattern is highly unidirectional to reduce diny chance of feedbock.
Frequency response $35-15,000 \mathrm{cps}$. Out put level - 53 db . Has a die cast cose beautifully finisted in sotín chrome. Equipped with 4 prong detochable connector with cable 20 ft . long, and swivel mike stand holder topped for 5/8-27 stands. Shpg. wt. 2 lbs No. 294502 Special Eech
\$19.95

## PROFESSIONAL CARDIOID DYNAMIC MICROPHONE

## $\$ 12^{95}$



Cardioid uni-directional pattern minimizes background noise. Feedback, pop and booming noises are suppressed and permits close talking. High sensitivity and wide, flat frequency response assures high fidelity repro. duction. Ideal for vocalists, entertainers and all recording and PA applications.
Non-glare satin body. On-off switch. 50,000 ohm impedance. Output -55 db. 20 ft . cable. With stand adaptor.
No. 29A679. Special Each.
$\$ 12.95$


Beautlful and very practical. Combines good looks, excellent performance and Ine quality. Built for general purpose work. PA, church tape and fine quatity, Built for general purpose work ine count. Pickup is uniecording it wherever appearance and sound boin count. Pickup is uni form In alt directions. Response $50-15.000 \mathrm{~Hz}$, output -55 db . impedance 150 or 50,000 ahms allowing use of extra tong mike line if needed. Head ifs from full vertical to horizontal fits $5 / 8-27$ stand. Has on-off switch and derachable 20 ft. cable. Size $81 / 3 \times 11 / 2^{\prime \prime}$ max. dia. Brushed chrom with black perforated grille. Shpg. wt. 2 lbs.
No. 298259. Special Each
\$14.95

Bargoin scoop! Fine for recording, paging, experimenting, etc Wide rance response. High output. 5 ft . cord. $17 / 8 \times 23 / 4$ X $1^{19}$. Wt. 8 ozs. Priced below makers cost. No. 18A341 Special Each


# BIGgEST MICROPHONE SPECIAL PURCHASE IN B-A's HISTORY! <br> TO BRING YOU THE BIGGEST SAVINGS EVER! RCA MICROPHONES ALL PRICED AT $1 / 2$ REGULAR PRICE . . . HURRY WHILE STOCKS LAST! 



## 1 - 1 PUBLIC ADDRESS AND COMMUNICATIONS MIKE

A hand-held omnldiractional magnotic type for general voice and mobile communications applications.
Special tapered high-and-low frequency response characteristics reduces background notse and rumble Has push-to-talk remote control swlich. Migh impact black plastic case Freq. resp. 200-5.000 Hz . Output impedance 20.000 ohms.

Complete with chrome hanger and 6 Ht coiled cable. Mig. Ilist $\$ 17.50$. Shpg wi 1 to.
No. 29A665. MK-107.
Not Each.
$\$ 6.00$


GENERAL PURPOSE MICROPHONES

## SPECIAL <br> ${ }^{570}$

Omnidirectional Dynamic Microphone. For use in applications such os public oddress ond for upgrading home tape recorders. It offers good frequency response and performance at a low low price. Complete with plastic desk stand, lanyord, 10 ff . cobie, die-cast metal case. Freq. resp. $70-12,000 \mathrm{Mz}$. Output impedance 200 ahms, Black and sotin chrome finish. Shpg. wt. 1 lb . Mig. list $\$ 20.00$.
No. 29A660. RCA HK105.
Each
$\$ 7.00$


## SAVE \$24.50 COMMUNICATIONS MICROPHONES <br> TRAMSISTOR AMPLIFIED BASE STATIOM MIXE <br> REG. PRICE $\$ 49.00$ <br> SPECIAL... <br> ${ }^{\mathrm{s}} 24^{50}$

Features an integral transistorized amplifier, with a handy, adjustable output tevel control, which provides a high-level output signal for amoteur radio, C.B., base station mobile communications, and public address applications. Unidirectional dynamic has push-to-talk, lock, and remote control switches and con be odapted to various transmitters or for VOX operation. Tapered speech range. Freq. response $400-8000 \mathrm{~Hz}$. Output impedonce 400 ohm. Output level at 1000 Mz . 21 db . Complete with integral desk stand and 6 -ff. cable. Uses 9 volt battery. Metallic silver and satin chrame finish. Shpg. wf. 3 lb. Mifgr. List price $\$ 72.00$.
No. 29A716. RCA HK 109
Microphone.
Each
No. 21 Bi 41.9 volt bottery. Eoch
$\$ 24.50$

## WAS $\$ 44.00$ <br> SAVE \$22.00 <br> $\square \Gamma /$ PROFESSIONAL QUALITY DUAL IMPEDANCE MIKE <br> Designed for high-quality music, voice recording and public address Especially useful where one microphone is to be used for two or more persons or sound sources st well as for close vocal work. Features an on-off microphone switch. Slim easy-to-hold, hass exceptionaliy wide response. Omnidirectional plekup pattem complete with removable windscreen. Freq. resp. $70-16.000 \mathrm{~Hz}$. Output impedance: Mi-2 15.000 ohms. Lo-2 200 ohms Black and astin chrome finish With attache carrying case Shoo wit 31 bs. Mfo. List $\$ 6400$. Regutar BA Low Price $\$ 44.00$ No. 29A682. HK-1 15 <br> $\$ 22.00$ <br>  Not Esch.

## UNIDIRECTIONAL MIKE

 FOR RECORDING, PUBLIC ADDRESSREG. PRICE $\$ 64.00$
SPECIAL\$3200
A superb "personal" micraphane for the discriminating aftist. Its high off-oxis rejection makes this anti-feedbock microphane o fovorite with "active" performers. Unidirectional dynamic. Freq. response $100-15,000 \mathrm{Mz}$. Output impedance: High 215,000 ohms, low Z 200 ohms. Output level at 1000 Mz : Migh Z. 64 db , Low 2.62 db . Finish is goldploted. Complete with adjustable holder, weighted metol desk stand, $20-\mathrm{ft}$. shielded cable, special Hi Z/Lo $\mathbf{Z}$ connector, and atroche case. Mig. list \$93.00. Shpg. wi. 3 No. 29A714. RCA HKIO3. Each .......... \$32.00

## PAGING AND PUBLIC

 ADDRESS MICROPHONE
## REG. PRICE $\$ 29.00$

## SPECIAL

$\$ 1450$
Particularly useful in service counter, voice recording, public address, and paging applications. Mas push-to-talk, lock, and remote control switch. Goose-neck base fits standard microphone stand. High style, small and unobtrusive appeorance. A natural for aneway and twa-way voice work. Omnidirectionol dynamic. Freq response 200.8000 Mz . Output impedance (for high $Z$ and low $Z$ inputs) 10,000 ohms. Output level at $1000 \mathrm{~Hz},-70 \mathrm{db}$. Complete with 5/8" -27 tapped base, threaded adaptor, and $6 \cdot f$. cable. Mig. list $\$ 42.00$. Shpg. wt. 3 lb . No. 29A719 RCA HK113. Each
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FOR RECORDING STEREO, MEETINGS

## AND CONFERENCES

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$\$ 31.00$

## 1 D DUAL

 EachFeotures two cardioid microphones, having increased directional sensitivity, in a unique housing. Twist the top for channel separation. Unidirectional dynamic. Freq. response $150-10,000 \quad \mathbf{~ M z}$. Output Impedance (for Migh $Z$ and Low $Z$ inputs 10,000 ohms. Output level of $1000 \mathrm{~Hz} \cdot 60 \mathrm{db}$. Finish satin chrome and gray. Complete with integral desk stand, $10-\mathrm{ft}$. cable, connector, and attache case. Mfg. list \$65.00. Shpg. wt. conn.
3 lb .
No. 29A715. RCA HK104.
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Spectal Each

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Each
$\$ 49.88$


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# INFORMATION ABOUT THE PRICE STABILIZATION PROGRAM AND BURSTEIN-APPLEBEE'S CATALOG BASE PERIOD PRICES 

Burstein-Applebee supparts the President's price stabilization program and has made every effort ta be in full compliance with both its spirit and its letter. Accordingly, the items of merchandise offered for sale in this catalog are priced so that our mark-up will be the same or less than we received prior ta November 14, 1971. Further, although iricreased casts fram our suppliers have forced us to raise some prices. these price increases will not result in an increase in our averall profit margin over that which prevailed during the base period.

For your ready information cancerning prices. we have prepared a list setting forth the base prices of those hems which accounted for the highest sales volume in each of our catalog departments last year. For each of these departments. we have listed either the top selling 40 items or the items which accounted for at least $50 \%$ of total sales in the department, whichever is less. The following list sets farth the catalog number and base price of thase items.

We shall be happy to provide you with information regarding the lawful base price for any product in our catalag. Merely fill in the "Base Price Information Request Form" provided below and mail it ta:

BURSTEIN-APPLEBEE
3199 Mercier Street
Kansas City, Mo. 64111
Attention: Catalog Sales Department
You will recelve a prompt answer by mail. Additional forms may be obtained From any Burstein-Applebee store or by making written request to the address set forth above.


BURSTEIN-APPLEBEE'S CATALOG BASE PERIOD PRICES (Continued)


# YOU SHOP EASIER...FASTER...BETTER WITH A B-A E-Z PAY CHARGE ACCOUNT 



## TAKE ADVANTAGE OF OUR MANY WONDERFUL BUYS! IT COSTS SO LITTLE FOR CONTINUOUS BUYING POWER DISCLOSURE OF CREDIT COST

For Burstein-Applebee Revolving Charge Account

1. If full cash price is paid within 30 days of shipment of merchandise or within 30 days of first billing date, whichever is later, NO FINANCE CHARGE will be imposed. 2. The FINANCE CHARGE will be imposed initially on the outstanding balance of the account 30 days after shipment of the merchandise or 30 days after the first billing date, whichever is later. Any subsequent FINANCE CHARGE will be imposed on the outstanding balance of the account as of the last previous billing date without deducting current payments and/or credits.
2. The FINANCE CHARGE will be determined by multiplying the balance due at the last billing date by $11 / 2 \%$ on all sums to $\$ 500.00$ and $3 / 4 \%$ on all sums in excess of $\$ 500.00$ A minimum FINANCE CHARGE of 50c per cycle will be charged.
3. A periodic rate of $11 / 2 \%$ will be charged on all balances to $\$ 500.00$, yielding an ANNUAL PERCENTAGE RATE of $18 \%$.
4. A periodic rate of $3 / 4 \%$ will be charged on all balances over $\$ 500.00$, yielding an ANNUAL PERCENTAGE RATE of $9 \%$
5. Late charges or delinquency charges of $5 \%$ or $\$ 2.50$, whichever is less, unless prohibited by state law, and collection charges of $15 \%$ attorneys fees unless prohibited by state law, will be added to the balance, in the event that you fail to make your monthly installments.
6. Burstein-Applebee Co. retains title and a security interest in all merchandise purchased on the Revolving Charge Pian until the entire balance, including FINANCE CHARGES, is paid in full. Any items fully paid for will not be subject to a security interest.
7. The minimum monthly payment is $5 \%$ of the highest original balance of the account, and in the event that the highest original balance is $\$ 100.00$ or less, then the minimum monthly payment is $\$ 5.00$ or the balance of the account, whichever is less. The amount of any greater minimum required payment may be determined from the Revolving Charge Account Payment Table in this catalog.
8. The cash price of each item is as listed in the catalog. No discount is given to any consumer from catalog price. Twelve payments per year, payable monthly, are required.

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take months to pay . .
painlessly, because your monthly payments are so low. See B-A's payment table on the application. You pay only a small finance charge of $11 / 2 \%$ on each monthly balance ( $3 / 4 \%$ for portion of balance which is over $\$ 500$.) The minimum monthly charge is 50 c .

> or Just Say "CHARGE IT" . . . No Finance Charge

If you pay, within 30 days, the full amount of your pur. chase under your B-A Revolving Charge Account, there is No Finance Charge. It's as easy as filling in the Application on the back of the B-A Order Blank.
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KANSAS CITY, KANSAS

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Include Postage and Guaranteed Safe Delivery Fee. Our Catalog gives shipping weights for almost all items. Where not shown, you can estimate weights. Total these weights to the next full pound, then check the parcel post rate table for your zone and rate. The Guaranteed Safe Delivery Fee is your protection against financial loss after your shipment leaves our piant. B-A refunds all excess remit tance immediately by bank check.
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HOW TO RETURN MERCHANDISE
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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 006-00\%. | 5 | 300-324. |  | 498-499. |  | 620-623 |  | 725-731. |  | 250-431 | 6 |
| 010-043 | A | 327.334 |  |  |  | 684 |  | 734.736 |  | 85S-4.33 | 5 |
| 047 |  | 350-350. |  | 500-507. |  | 673-634 |  | 737.738 | 3 | \% 6 | ${ }_{6}$ |
| 044-098 | * | 360, 36 | 5 | 508 | 2 | 635 |  | 739 |  | 135-100. | 5 |
|  |  | 369-374. |  | 510-514. |  | 630-639. |  | 740-744. | 3 | 881 |  |
| 100-129. |  | 370-39 |  | 515-514 |  | 640-641. |  | 747 | 4 | 882-889 | $g$ |
| 130-138. |  | 300-394. |  | 520-528. |  | -4.4-45. |  | 769-749. | 3 | B4 | 4 |
| $133-136$ |  | 375 |  | 530-337. |  | 644 |  | 750-788 | 4 | 10-\% | 6 |
| 187.178. |  | 306-307. | 4 | 538 | 3 | 64 |  | 769777. | - 5 |  |  |
| $100-181$. |  |  |  | 539-560. |  | 646-653 | 2 | 775 | . 4 | 100-933 |  |
|  |  | 400-410. |  | 561 |  | 654-653 | 3 | 779-769. | 5 | 934 |  |
| 163 |  | $411-412$ |  | 542-588. |  | 656-654 |  | 790-79. |  | 935-937. | 6 |
| 104-184 |  | 413-414. | 4 | 597 | 5 | 660-562. |  | 797-799 | . 5 | 930-45s. |  |
| 100-194 |  | 415-418 | 5 | 570-910. | 4 | 684-674 | 2 |  |  | 956-058 |  |
| 105-10.0. |  | 420-432 | 4 | 500 |  | 675-874. |  | 800-812. | . 4 | 959-p60. |  |
|  |  | 43 | 5 | 58-585 | 4 | 67 |  | 613-816. | . 9 | 961 |  |
| 200-217. |  | 434-430 | 4 | 586-599 |  | ${ }^{178}$ |  | 880-822. | . | 962-964 |  |
| 218 |  | 49-409. |  | 5\%-509. | 6 |  |  | C3-64 |  | 97-90. |  |
| 219-274 | 5 | 450-4ss |  |  |  | 680-605 |  | 47 |  | 970-97a |  |
| 77 | - | 456-49. |  | 600-631. |  | 403-sep. |  | creme | . 3 | \%7-47\% |  |
| 200-2ve. |  | $450-479$ | 5 | 412 |  | 690-699 |  | 433 | , | 100-9\%. |  |
|  |  | 400-49. |  | 613 |  |  |  | 834 |  | 96e-94. |  |
| $300-304$ |  | 499-490. | 4 | 114-616. |  | 700-709 |  | $835-002$ |  | 09-90. |  |
| $300 \ldots$ | $\star$ | 497 |  | 417-611. | - | 710-72 |  | 400-847. | ... 3 |  |  |

## PARCEL POST RATES AND SIZE LIMITS

The table below and the chart above will help you estimate parcel post charges. Packages under 16 ounces are 8 c for first 2 ounces and 2 c for each additional ounce, any zone. WEIGHT AND SIZE LIMITS: Size limits below are maximum combined tenth and girth. 40 Lbs. 84 inches to any Ist Class P.O. In Zones 3 to $8 ; 40$ Lbs. 84 Inches to any 1 st Class P. 0 . in Zones 1 and 2 ; 70 Lbs., 100 inches to any 2nd, 3rd, 4th Class P.O., RFD, APO or FPO. Alaska and Hawail is 70 Lbs., 100 inches for any First Class Post office.
alR Parcel Post Rates vary per pound as distance Increases; please check with ycur Postmaster for ate to your City.
GUARANTEED SAFE DELIVERY RATES: 20 c for values to $\$ 1500,30 \mathrm{c}$ for values $\$ 15.01$ to $\$ 50.00$. 40 c for values $\$ 50.01$ to $\$ 100.00$, 50 c for values $\$ 100.01$ to $\$ 150.00$, 60 c for values $\$ 150.01$ to $\$ 200.00$.

| Wt. |  | Zones 182 | Zone 3 | Zone 4 | Zone 5 | Zone 5 | Zone 7 | Zone 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| In Lbs. | Local Delivery | Up to 150 Miles | $\begin{gathered} 150-300 \\ \text { Miles } \end{gathered}$ | $\begin{gathered} 300-600 \\ \text { mites } \end{gathered}$ | $600 \cdot 1000$ Miles | $\begin{aligned} & 1000-1400 \\ & \text { Miles } \end{aligned}$ | $\begin{aligned} & 1400 \cdot 1800 \\ & \text { Mlles } \end{aligned}$ | Over 1800 Mites |
| 2 | 30.60 | \$0.65 | 50.70 | \$0.75 | \$0.80 | $\$ 0.90$ | \$1.00 | \$1.05 |
| 3 | . 60 | . 75 | . 80 | . 85 | . 95 | 1.10 | 1.20 | 1.35 |
| 4 | . 65 | . 80 | . 85 | . 95 | 1.10 | 1.30 | 1.40 | 1.60 |
| 5 | . 70 | . 85 | . 90 | 1.05 | 1.20 | 1.45 | 1.65 | 1.90 |
| 6 | . 70 | . 95 | 1.00 | 1.15 | 1.35 | 1.60 | 1.85 | 2.10 |
| 7 | . 75 | 1.05 | 1.10 | 1.25 | 1.50 | 1.75 | 2.10 | 2.35 |
| 8 | . 75 | 1.10 | 1.15 | 1.35 | 1.60 | 1.90 | 2.30 | 2.60 |
| 9 | . 80 | 1.15 | 1.20 | 1.45 | 1.75 | 2.05 | 2.45 | 2.85 |
| 10 | . 80 | 1.20 | 1.30 | 1.55 | 1.90 | 2.20 | 2.65 | 3.10 |
| 11 | . 80 | 1.25 | 1.35 | 1.60 | 2.00 | 2.30 | 2.85 | 3.35 |
| 12 | . 85 | 1.30 | 1.45 | 1.70 | 2.10 | 2.45 | 3.05 | 3.55 |
| 13 | . 85 | 1.35 | 1.55 | 1.80 | 2.20 | 2.60 | 3.25 | 3.80 |
| 14 | . 90 | 1.40 | 1.60 | 1.90 | 2.35 | 2.75 | 3.45 | 4.00 |
| 15 | . 90 | 1.45 | 1.65 | 2.00 | 2.45 | 2.85 | 3.60 | 4.20 |
| 16 | . 95 | 1.55 | 1.75 | 2.05 | 2.55 | 2.95 | 3.80 | 4.40 |
| 17 | 1.00 | 1.60 | 1.80 | 2.15 | 2.65 | 3.10 | 3.95 | 4.60 |
| 18 | 1.00 | 1.65 | 1.90 | 2.20 | 2.75 | 3.20 | 4.15 | 4.80 |
| 19 | 1.05 | 1.70 | 2.00 | 2.30 | 2.85 | 3.35 | 4.30 | 5.00 |
| 20 | 1.05 | 1.75 | 2.05 | 2.40 | 2.95 | 3.50 | 4.50 | 5.20 |
| 21 | 1.10 | 1.85 | 2.10 | 2.45 | 3.05 | 3.65 | 4.65 | 5.40 |
| 22 | 1.15 | 1.90 | 2.15 | 2.55 | 3.15 | 3.75 | 4.85 | 5.60 |
| 23 | 1.15 | 1.95 | 2.20 | 2.60 | 3.25 | 3.90 | 5.00 | 5.80 |
| 24 | 1.20 | 2.00 | 2.25 | 2.65 | 3.35 | 4.05 | 5.15 | 6.00 |
| 25 | 1.20 | 2.05 | 2.30 | 2.75 | 3.45 | 4.15 | 5.35 | 6.20 |
| 26 | 1.20 | 2.10 | 2.35 | 2.85 | 3.55 | 4.30 | 5.50 | 6.40 |
| 27 | 1.25 | 2.15 | 2.40 | 2.90 | 3.70 | 4.45 | 5.65 | 6.60 |
| 28 | 1.25 | 2.20 | 2.45 | 2.95 | 3.80 | 4.60 | 5.80 | 6.80 |
| 29 | 1.30 | 2.25 | 2.50 | 3.05 | 3.90 | 4.70 | 5.95 | 7.00 |
| 30 | 1.30 | 2.30 | 2.55 | 3.10 | 4.00 | 4.85 | 6.10 | 7.20 |

PARCEL POST COO FEES (In addition to charges above) 70 C from .01 to $\$ 10.00$, 80 c from $\$ 10.01$ to $\$ 25.00,90 \mathrm{c}$ from $\$ 25.01$ to $\$ 50.00, \$ 1.00$ from $\$ 50.01$ to $\$ 100.00, \$ 1.10$ from $\$ 100.01$ to $\$ 200.00$.

## IF THERE IS QUESTION ON ANY POSTAL RATES PLEASE CONTACT YOUR LOCAL POSTMASTER!

REA SHIPMENTS ARE EEST FOR FRAGILE GOODS
Shipment via REA is often necessary when items you ordered (such is antennas) exceed Post office fimits for package size, explained above.

EXPRESS CHARGES AND INSURANCE ARE COLLECTED ON DELIVERY DO NOT ADD THESE CHARGES TO YOUR REMITTANCE
If you wish home delivery be sure the Express Company offers this service, orherwise you will be expected to pick up your order at the closest station. Check your express agent for schedule of rates.

WE SHIP BY PARCEL POST WHERE PRACTICAL. EXPRESS OR TRUCK ARE USED FOR SPECIAL HANDLING OR LARGE ORDERS. DEPEND ON us to ship the best way. (YOUR CHOICE, IF DESIRED)

THIS ORDER SELECTED FROM CATALOG NO.
please sign here
 ORDER BLANK
MAIL TO... BURSTEIN. APPLEBEE
3199 MERCIER ST. KANSAS CITY. MO 64111

## TO PLACE TELEPHONE ORDERS CALL (816) 531-5614 <br> FOR ORDER INFORMATION AND CUSTOMER SERVICE CALL (816) 531-56/4

## CASH OROER

B-A REVOLVING CHARGE ACCT. 湈 SIGN NAME AT LEFT
AMERICAN EXPRESS
ACCT. \# SIGN NAME AT LEFT
$\square$ MASTER CHARGE
ACCT. \# SIGN NAME AT LEFT
BANK AMERICARD ACCT. \# SIGN NAME AT LEFT
C.O.D. ORDER
( $20 \%$ Deposit Required)
DO NOT USE THIS SPACE

PLEASE PRINT OR WRITE PLAINLY:

DATE $\qquad$ IF YDU HAVE MOVED SINCE LAST ORDER, GIVE OLD ADDRESS:


## ADDRESS

CITY

## STATE

ROUTE
BOX ZIP CODE

ALL ITEMS POSSIBLE ARE SHIPPEO IMMEDIATELY. FOR ITEMS NOT SHIPPED IMMEOIATELY, B-A COOE MARKINGS ARE AS FOLLOWS:

| B.O. | Backordered | T.O. |
| :--- | :--- | :--- |
| Temporary Out - Plekse |  |  |
| Reorder in 2 or 3 Weeks |  |  |



## IT'S EASY TO OPEN A B-A REVOLVING CHARGE ACCOUNT

## AGREEMENT FOR B-A'S REVOLVING CHARGE ACCOUNT

The undersigned, hereinafter called customer, hereby agrees with Burstein-Applebee Co. hereinafter called creditor; that customer may from time to time make purchases of goods and services, as approved by creditor, that all sald purchases will be charged to customer's revolving charge ccount thereby increasing the amount owed; that customer will pay the full amount of any sald purchases within 30 days of the first billing date thereafter without charge, or customer whl pay in monthly instaltments to creditor, computed as to pay in monthiy instaliments to creditor, computed as to table shown hereon (minimum payment 55.00 in the event the balance of the account is less than $\$ 100.00$ ) until the full the balance of the account is less than $\$ 100.00$ ) until the fult including the minimum FINANCE CHAPGE of 50 cents inciuding the minimum FiNANCE CHARGE of 50 cents per month, are paid in full. Customer agrees to pay a FINANCE CHARGE of $11 / 2$ per cent per month on all sums to $\$ 500.00$ and $3 / 4$ per cent per month on all sums in excess of $\$ 500.00$ each month (minimum FINANCE CHARGE of 50 cents per month). Customer further agrees to pay any late charges permitted by state law and all-collection costs including reasonable attorney's fees if permitted by law. Customer grants creditor a security interest in all goods purchased until the purchase price and FINANCE CHARGE have been paid in full, and grants creditor the right to accelerate the balance in the event of default in the payment of any instafl. ment. and further grants creditor the right to repossess the merchandise in the event of any default. Customer acknowl. edges receipt of credit cost disclosure this
day of ANUUL PERCENTAGE RATES set out and and approves treating FINANCE CMARGE on existing outstanding balances as set out.
PLEASE
SIGN HEAE
APPLICATION FOR THOSE WHO DO NOT HAVE A B-A REVOLVING CHARGE ACCOUNT
if under 29, please have parent or guardian sign and fhll out application

## IT'S EASY TO OPEN A

 NEW ACCOUNTJust answer questions shown below and sign the Agreement and the Application on the line marked " X ". You do not need to figure shipping charges; they are prepaid and will be added to your account.

## TO "ADD-ON" AN ORDER TO YOUR B-A CHARGE ACCOUNT

Put your account number in the space pro vided below and sign the contract on the line marked " $X$ ". No need to fill in per. sonal information unless your account has been inactlve over a year. Your "add-on" order should total $\$ 5.00$ or more.

\section*{| AcCount Number |
| :---: |}

SEE DISCLOSUUR OF CREDTT COST INFORMATION ON PAGE 273

## REVOLVING CHARGE ACCOUNT

 PAYMENT TABLEUSE IT TO EASILY DETERMINE YOUR SMALL MONTHLY PAYMENT

| MONTHLY PAYMENT | UNPAID BALANCE total amount less ANY PAYMENT |
| :---: | :---: |
| ONLY | BUYS UP TO |
| \$5 | \$ 20.100 |
| \$ 6 | \$101-120 |
| \$ 7 | \$121-140 |
| 88 | \$141-160 |
| \$9 | \$161-180 |
| \$10 | \$181-200 |
| \$11 | \$201-220 |
| \$12 | \$221-240 |
| \$13 | \$241-280 |
| \$14 | \$261-280 |
| \$15 | \$281-300 |
| \$16 | \$301-320 |
| \$17 | \$321-340 |
| \$18 | \$341-360 |
| \$19 | \$361-380 |
| \$20 | \$381-400 |
| $\$ 21$ | \$401-420 |
| \$22 | \$421-440 |
| \$23 | \$441-460 |
| \$24 | \$481-480 |
| \$25 | \$481-500 |
| ON ACCOUNTS OVER $\$ 500$ Monthly Payments are figured at $\$ 1.00$ additional for each $\$ 20$. (For instance: $\$ 580$ @ $\$ 29.00$ monthly). |  |
|  |  |
|  |  |
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|  |  |
|  |  |

PRINT
FULL
NAME
I номе
ADDRESS
1 POME
I wife's
NAME previous
ADDRESS
PRESENT
CITY
ciry
business PHONE $\qquad$ HOW LONG AT PRESENT ADDRESS MARITAL status

Employen
business
ADDRESS
$\qquad$ POSITION

PREVIDUS
EMPLOYER
STREET
CITY
SOCIAL
SECURITY
$\square$
MARRIED
SINGLE
state DOWN HOME RENT OR


TODAY'S DATE ZIP QRENT MORTGAGE PMT. \$

DE
DIVORCED
SEPARATED
number of dependent HOW LONG AT THIS ADDRESS

## MONTHLY

INCOME
HOW MANY YEARS ON PRESERT JOB
wife's
HOW LONG?
employer LONG
auto
WNED


ADORESS
If StLf
EMPLOYED

## bank account

WITH
credit account
CREDIT ACCOUNT
WITH
$-$
name of relative
NOT LIVING WITH YOU $\qquad$ AODRESS

MONTHLY
INCOME $\$$
MONTHLY
PAYMENT $\qquad$

| STREET | CITY | STATE |  |
| :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { OPEN } \\ & \text { CLOSED } \end{aligned}$ |
| STREET | CITY | STATE |  |
|  |  |  | $\begin{aligned} & \square \text { OPEN } \\ & \text { CLOSED } \end{aligned}$ |
| STREET | CITY | State |  |
|  |  |  | $\begin{aligned} & \text { OPEN } \\ & \text { CLOSED } \end{aligned}$ |

## FREE!

 B-A Catalogs for your friends. JUST FILL IN THEIR NAME AND ADDRESS AND WELL IE HAPPY TO SEND YOUR FFRIENDS THEIR OWN PERSONAI B-A CATALOGI```
NAME
```

$\qquad$

ADDRESS $\qquad$ CITY $\qquad$
STATE $\qquad$ 21P $\qquad$

NAMES.

```
ADORESS
```

$\qquad$ CITY $\qquad$
STATE.
218 $\qquad$

NAMOE $\qquad$

ADDRESS $\qquad$
CrTY $\qquad$
STATE $\qquad$

## Panasonic "The Orinda"

## AC/BATTERY CASSETTE RECORDER WITH BUILT-IN CONDENSER MIKE

A masterpiece of minature construction offering sound reproduction, performance and versatility of recorders several times its sizc. Features simple push-button controls for Record, Play and Stop: Slide control fop tast forward and rewind and thumb operated control for volume. Sensitive built-in condenser mike picks up sounds with amazing clarity, also has Input for using remote mike. IC circuitry with automatic record level assures fine sound reproduction. Operates on regular $A C, 4$ " $A A^{\prime \prime}$ pencell batteries, rechargeable RP-9212 batteries or 12 V . power sourco with adaptor (optional).
Only $61 / 2^{\% 1} \times 4^{\circ} \mathrm{H} \times 2^{\prime \prime} \mathrm{D}$. With carrying case, $4^{\text {" } A A^{\prime \prime}}$ pencells, cassette, earphone. AC cord/battery charger and erase plug which allows you to erase without recording. Shlp. wt. $31 / 2$ lbs. No. 31 A2630. Model RQ-2125.
$\$ 69.95$


## -a Belle Howell QUATRIX 4-CHANNEL AM/FM/8-TRACK SYSTEM

- INTEGRATED CIRCUITS
- FIELD EFFECT TRANSISTORS
- TUNED RF
- LIGHTED TUNING METER.
- 4-CHANNEL HEADPHONE JACK
- AUXILIARY INPUT JACKS



## - SEPARATE FRONT-TO-REAR AND LEFT-TO-RIGHT BALANCE

Thrill to the new experience of three-dimensional sound. Built-in Quatrix decoding circuit converts 4-Channel material from encoded records or tapes and reproduces background information already inherent in many two-channel stereo records, tapes and FM broadcasts. A complete system with AM/FM tuner, 4 separate amplifiers, 4 full-range speakers, 8 track playback deck and Quatrix decoder Also accepts any discrete 4 -channel program through 4 input jacks provided. Features advanced design with integrated circuitry for increased rellability. FET's in tuner section give clearer sharper FM reception. Tuned RF stage provides better selectivity and greater rejection of stray signals and excess noise. Lighted tuning meter and "blackout" lighted dial scale facilitate pinpoint station selection. Built-in 8 track unit offers lighted channel indicators and pushbutton program selector. Has balance controls for front to rear and left to right. AFC \& power switches

- SEPARATE AFC AND POWER SWITCHES

Complete system with plank cherry grained all-wood cabinetry and canted dial scate includes master unit plus four matched speakers. Unit size: $5^{\prime \prime} \mathrm{H} \times 1914^{\prime \prime} \mathrm{W} \times 12^{1 / 2^{\prime \prime} \mathrm{D}}$. Spkrs. size: $1211^{* *} \mathrm{H} \times 8^{\prime \prime} \mathrm{W}$ $\times 47 / 8^{\prime \prime D} .120 \mathrm{VAC} .60 \mathrm{~Hz}$. Shpg. wt. 45 lbs.



BURETEIN-APPLEEEE 3189 MERCIEN ST. KANSAS CITV, MO. 84111 ADDAEs COMRECTON MEQUESTED nETUNN POSTAGE GUAMANTEED

Bulk Rate
U.S. POSTAGE PAID
PERMIT NO. 812 KANSAS CITY. MO.

CHOICE OF THREE EXCITING DECORATOR COKORS!

- INTERLOCKING COMPONENTS... MODULE AND §PEAKER

SUBTÉE
APPEARANCE
MATCHES ANY.
SETTING OR
ANY DECOR



JBL PRIMA 25 SPEAKER SYSTEMS AND CABINETRY OF EXCITING NEW ACOUSTIFORM
Combining the "Contemporary Concept" with traditional excellence. the L25 Speaker System/SM25 Storage Cube project the essence of JBL quality. There's no other ensemble like it!
L25 Prima Enclosure - a compact two-element loudspeaker system embodies the superior performance characteristics associsted with JBL providing all of the subtleties of any musical passage with accuracy and clarity. There's no mystery about its solld bass reproduction; the L25 employs a $10^{\prime \prime}$ long excursion loudspeaker with $31 / 2 \mathrm{lb}$. precisoly machined magnetic assembly (with Alnico V magnet) and 2 -fnch handwound voice coil. The presence of the L25 which gives the feeling that the sound emits from in front of the speaker... is contributed by its $\mathbf{1 . 4}$ inch direct radiator. This high frequency device energized by 1.6 lb . of magnetic structure with an extremely narrow voice coll gap creates the mixture of overtones and harmonics which make up the distinguishing characteristic of sound... timbre. Manipulating the input signals, the variable dividing network joins with other elements in an acoustically ideal enclosure body for the incomoarable "JBL Sound." Beautifully styled Semigloss enclosure measures $1512^{2} \mathrm{H} . \times 19^{\prime \prime} \mathrm{W} . \times 14 \% /^{\circ} \mathrm{D}$. Power Capacity 35 watts continuous program. Oispersion 90 degrees horizontai and vertical. Crossover at 1500 Hz . Impedance 8 ohms. Shpg. wt. 35 lbs .
No. 33A2160. Red. Speaker Syatem Only. Your
No. 33A2161. White. Speaker System Only. Choice \$ 00
No. 33A2162. Blue. Speaker System Only. Each.....
SM2S STORAGE MODULE
Interlocks with L25 enclosure for complementary or contrasting color schemes. Each is made of the same new acoustiform material with five Semigloss finish. Has slot opening in rear for stereo component cables. Possiblities for use and arrangement are as endless as the imagination. Dimensions: $15 \mathrm{Y}^{\prime \prime} \times 18^{\prime \prime} \times 14 \%^{\prime \prime} \mathrm{D}$.

No. 33A8511. Blue. Storage Module Only. Each..



[^0]:    No $33 A 697$. DCB-S. As above but for 1218 and $1215-S$, 12 . 1215 S. Each
    No. $33 A 658$. WB-12. Standard Walnut Base for 1218 and
    No. 33A717. CH-4, Standard Dusi Covar lor 1218 ghd $1218-$ Satridge Holder for 1215,1209 , Each 229 and 1218 .Ea.
     No 33A664. AW-3 12 Auto Spingle lor 1209, 15, 18 19. 29 Es Na. 3AA664. AW-3 12 Auto Spindi for 1209, 15, 18. 19, 29. E.
    No. $33 A 666$. RS-1. Rolating Manual Splade for 1209, 1218, 1219, 1229. En.

[^1]:    No. 3848002.12 Inch Extension. Wh. 402 . Eoch
    No. 38 A8004.36 Inch Extension. Wt. 8 oz. Eoch
    No.38A8005.12 Ft. Extension. Wt. 1 lb. Eech

[^2]:    *WARRANTY INCLUDES TWO YEARS PARTS AND LABOR. ITEM MUST BE SENT POSTAGE PREPAID, WITH WARRANTY CARD, TO ANY AUTHORIZED PANASONIC SERVICE CENTER OR B-A.

    - Applies to Models RF-561, RF-900, RF-930, RF-95i, RF-1600, RF-1700.

[^3]:    

[^4]:    The Pro-Industrial Division of Burstein-Applebee features the complete line of quality-renowned professional PANASONIC video equipment. From surveillance cameras and monitors to the most sophisticated studio cameras and video recording equipment, everything is stocked in depth, In addition to the all-new System 200, above, the complete line of Infonics high-speed cassette duplicators is also featured. In addition, the Pro-Industrial Division is a major rocking distributor for Ampex prafessional broadcast-type, audio products; Edcor wireless microphones; Standard Communications 2 -way radios, walkietalkies, pocket pagers, etc. Expert engineering guidance on professional video and oudio product applications is yours upon request. Factory franchised service on all of our product lines is also available. Whatever your video or audio needs may be, be sure to contact the

[^5]:    TUNG-SOL DIGIVAC READOUT TUBES
    Low cost seven bar segmented Readout. Forms numerals 0 thru $g$ and letters, $A, C, E, F, G, H, J, L, O, P, S, U$ and $Y$. All have uniform britages below
     seated height

    01704 B Readout rube. With standard 9 pin base. 1-9\% En. $\$ 5.30 \quad 100$ Ea, $\$ 3.16$ DTi7050 Readout Tube. With right hand decimal point, 10 pin mimuture base 1.98 Each

    DT17078 Readout Tube. Symbols for pius, minus, numeral 1, fight hand decimal point. Standard 9 pin base, 1.99 Each …....... $\$ 5.40 \quad 100$ Esch ........ $\$ 3.25$ No. 12A5185. DTI718A 10-Pin Socket for OT17050. 1.99 Ee..... $65 \mathrm{C} \quad 100 \mathrm{Ez}$

    ## B-A SUPPLIES ALL RCA, NATIONAL ELECTRONIC, EIMAC, AND MULLARD (IEC) TUBES. CALL OR WRITE FOR QUOTATIONS.

[^6]:    SPRAGUE HARDWARE FOR MOTOR STARTING CAPACITORS Sth. Mo Stk. No
    15.243 $15 A 243$
    1542435 5tk. No.
    $15 A 2436$
    $15 A 2437$

    MDUNTING BRACKET (Requires End Cap)
    Type Capseitor Length 1.9 Each

[^7]:    Immersion Proof, sealed for board washing, all others are humidity proof.
    Not stocked in 15.000 ohme.

[^8]:    Esch 1.49
    1.49
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    1.58
    1.58
    1.58
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    1.58
    1.58
    1.58
    1.58

[^9]:    ## SHOP-VAC PORTABLE VACUUM <br> '29"s <br> Handy for Home. Garase shopl Unimited uses fo rough cieaning $21 / 2^{\prime \prime}$ dis. hose sucks up ali ${ }^{2}$ kinds of debris.. Meavy steel container withstands roughest use. Easy open clamps make emptying cleaner simple. Carryin handle attached. For 115 V. AC. With 6 ft. $21 / 2^{\prime \prime}$ hose, $6^{*}$ utlity nozzle and $21 / 2$ to $11 / 4^{\prime \prime}$ hose adaptor.

    adaptor
    5 GALLON CADACITY. $3 / 4$ HP. $18 \times 12^{\prime \prime}$ dia. Shpg. wt. 17 lbs. $\$ 29.95$
    No. $37 A 613$. Madel 222 . Net Each. 920 No. 37A613. Model 222. Net Each.... 10 dia. Shpg. wt. 25 lbs .334 .95 No. 37A614. Model 777. Net Each.
    BEST BUY: MOOEL 778 DELUXE 10 GALION CADACITY. Includes $45^{\prime \prime}$ BEST BUY! MOOEL 778 DELUXE 10 GALLON CADACITY. Includes 45
    extension wand, fight angie elbow adaptor, pkg. of 5 paper filters and two-way four wheel dolly. Shpg. wt. 30 lbs. No. 37 A9105. Complete-Cleaner and Accessories

[^10]:    Hermetically sealed glass tube contans precious metal contocts rated 15 waits. Max. I amp or 250 volts AC. Meosures $2^{\prime \prime}$ lang, " " darneter with $5 /{ }^{2}$ " leads. Mconet $\left\{\begin{array}{l}1 \\ x\end{array} ?^{\prime \prime}\right.$ square. Both easy to mount becouse of small size ond light weight. Shpa wi. 60 Oz .
    $\$ 1.95$
    No. 19A7193. Nef Each

[^11]:    17A7033-Red Each $\qquad$

[^12]:    Another B-A bargaln scoop Battery Dowered record 8 playback. Continuous tape plays

