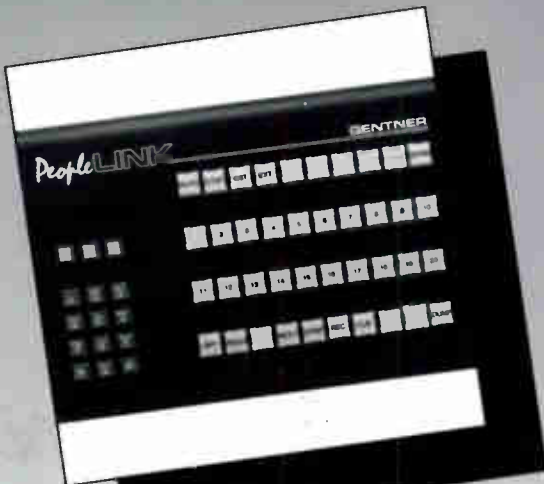# NORTHEAST BROADCAST LAB, INC.

CATALOG 20

1

NORTHEAST BROADCAST LAB, INC.

MANUFACTURERS INDEX

2

NORTHEAST BROADCAST LAB, INC.

ATI

M100

Ultimike Microphone Amplifier

- Low-noise, high CMR, direct balanced input instrumentation amplifier with servo operating point stabilization, drives a unique distortion-free, transformer isolated, line output ideal for driving long cable runs
- 2-pole active low cut filter
- Output phase reversing switch in a rugged, line powered fully shielded enclosure
- Distortion: 0.05% maximum THD, 20Hz-20kHz at +22dBm out
- Response: +0/-0.25dB, 20Hz-20kHz

M100 . . . .**$299.00**
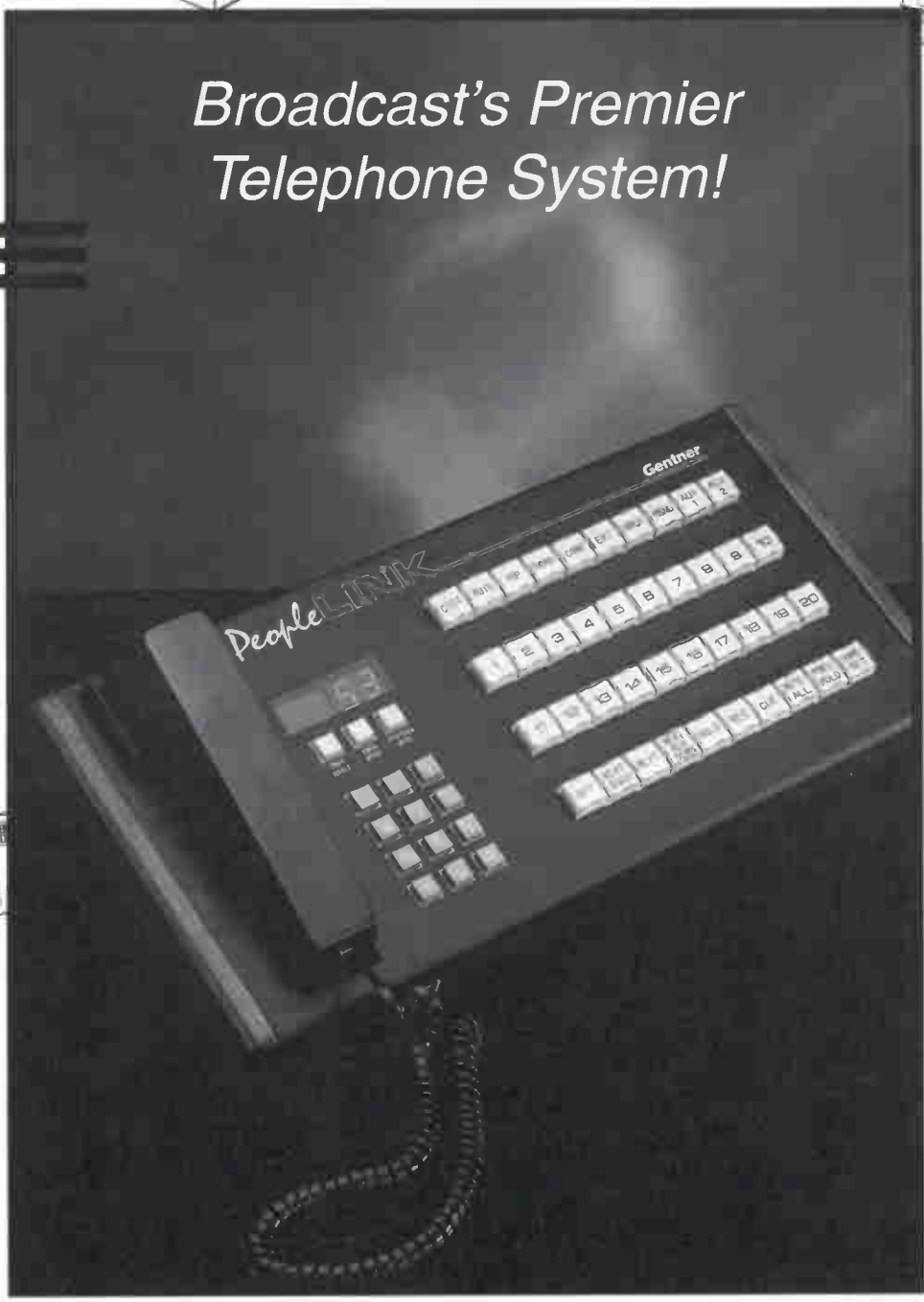**P/N 20273-501** Rackmount panel single or dual **22.00**

BGW Systems

85

Dual Channel Broadcast Power Amplifier

- Power output 35W per channel or 90W monaural (8 ohms)
- Front panel mounted magnetic circuit breaker
- Low noise toroidal transformer
- Low feedback all-discrete full complementary circuitry
- Front panel headphone jack
- Rear panel stereo/mono switch
- 1/4" input connectors
- 13/4" by 19" standard rack front panel 111/2" deep

85. . . . .**$529.00**
85/01 Same as model 85 except includes active balanced inputs and XLR connectors. **599.00**
85/06 Transformer balanced version. Internally mounted input transformers and XLR connectors **699.00**

CROWN International

D-75

Single or Dual Channel Power Amplifier

- Provides 35W per channel minimum continuous average power (both channels operating) into an 8 ohm load over a bandwidth of 20Hz-20kHz at a rated sum total harmonic distortion that is 0.05% of the fundamental output voltage
- Frequency response of the unit varies no more than ±0.1dB from 20Hz-20kHz at 1W into 8 ohms
- Active balanced inputs
- Front panel LEDs indicating overloads and signal presence

D-75. . . . .**$549.00**

D-150A-2

Single or Dual Channel Power Amplifier

- Extremely low harmonic and intermodulation distortion with very low noise
- Switch on the rear of the unit allows stereo or mono operation with no internal wiring changes
- In the mono mode, it is capable of a 50V balanced line output
- Slew-induced distortion, protection circuit activation and clipping distortion will be detected by the IOC circuit at levels below the rated distortion of the amplifier

D-150A-2 . . . .**$879.00**

3

HAFLER

P-125
62/125W MOSFET PRO Amplifier

- Super-linear drive to a pair of MOSFETs on each massive heatsink has unmatched rise time for superb transient response and ultra-low distortion
- Direct coupled throughout with the exception of a DC blocking input capacitor
- Front panel has power switch/pilot light/flashing high temperature indicator
- Back panel has 2-circuit phone jacks on knockouts which can accommodate XLR connectors; screwdriver level controls; 5-way binding posts; ground float switch; bridged mono switch; speaker fuses
- 62W/channel at 8 ohms with less than 0.005% IMD and less than 0.009% THD; 125W/channel at 16 ohms in mono
- Balanced inputs can be accommodated with an optional balanced/unbalanced converter board
- Convection cooled
- S/N ratio > 100dB

P-125 Assembled **$500.00**

QSC Audio

1100
Stereo Amplifier

- 2 stereo headphone jacks
- Calibrated gain controls
- Active balanced inputs
- Mono-bridging switch
- Patented Output Averaging™ short-circuit protection
- Large passive heatsinks

1100 . . . .**$568.00**

Items featured in this catalog are merely representative of our product line, and do not include all of the products we offer. If you do not see the equipment you need here, please call and inquire.

Prices listed are the manufacturers' suggested list prices. Please contact us for specific item or package quotations. Package, quantity and prompt payment discounts are available on most items.

RANE

HC 6
Headphone Console

- 6 stereo headphone amplifiers
- Each headphone amp has its own separate input
- Delivers any combination of master stereo program and/or separate programs for custom monitor mixing
- Includes a dual set of outputs, both front and rear
- Use as a single program distribution amplifier, or run up to 6 separate programs for custom headphone monitoring

HC 6 . . . .**$399.00**

SYMETRIX

A-220
Stereo Amplifier

- 20W/channel, 50W bridged
- Mono, 2-channel or true stereo
- 0.05% THD
- Balanced/unbalanced inputs, XLR 1/4"
- Speaker outputs on barrier strip

A-220 . . . .**$349.00**

SX204
Headphone Amplifier

- 4 channels
- Stereo operation
- Designed to drive multiple headphones of any impedance
- Balanced/unbalanced inputs, TRS 1/4"
- Outputs TS 1/4"

SX204 . . . .**$299.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

RADIO DESIGN LABS

ACM-2 FM/AM Noise Monitor

- Accurate metering of significant synchronous AM noise
- 20-LED bright-string metering with 4 operating ranges
- Programmable "ACM" wideband, 75µs and high-pass filtering ■ Programmable alarm with remote status output
- Continuous-reading remote DC output for AM noise level
- Remote DC output representing transmitter power output

ACM-2 . . . . **$695.00**

STICK-ON SERIES—

Power Supplies Not Included

STA-1 Electronic Transformer

- Dual channel ■ Up to 20dB gain in an audio line ■ Conversion from balanced to unbalanced or unbalanced to balanced ■ Conversion from high to low impedance or low to high impedance ■ Frequency response: DC to 25kHz ± 0.25dB ■ Total harmonic distortion: 0.003% to 0.009%; 0.005% nominal

STA-1 . . . . **$104.95**

STA-1M Audio Line Amplifier

- A single-channel audio line amplifier ■ Balanced or unbalanced inputs and outputs ■ Bridges a line to avoid loading ■ Hi/Lo or Lo/Hi impedance conversion ■ Instrumentation input to isolate ground "loops" ■ Precisely matches audio levels

STA-1M **$78.95**

ST-PA6 Power Amplifier

- Up to 6WRMS into 8 ohms ■ 2 balanced or unbalanced inputs ■ Full output from small input signals ■ Frequency response: 30Hz to 40kHz

ST-PA6 . . . . **$89.95**

ST-SH1 Stereo Headphone Amplifier

- Allows bridging any audio line, adjusting the gain and driving any impedance headset ■ The circuit design allows the input to accept either balanced or unbalanced signals, of either high or low impedance

ST-SH1 . . . . **$89.95**

ST-PA2 2W Utility Amplifier

- 2WRMS output ■ Drives 8 or 600 ohms ■ Low noise and distortion ■ Adjustable gain

ST-PA2 . . . . **$44.95**

ST-DA3 Distribution Amplifier

- Audio distribution with up to 3 outputs ■ Balanced or unbalanced input and outputs ■ Total harmonic distortion (10Hz to 30kHz): <0.03% Hi-Z load, <0.015% 600 ohm load ■ Frequency response: ± 0.25dB 10Hz to 30kHz, ± 0.50dB 10Hz to 45kHz

ST-DA3 . . . . **$93.95**

STM-DA3 Mic Level Distribution Amplifier

- Feeds 1 mic to 3 inputs ■ Electrical isolation ■ Audio isolation ■ Low-noise performance ■ Ultra-low distortion ■ Unparalleled phase response ■ Versatility of "Stick-On" compactness

STM-DA3 . . . . **$99.95**
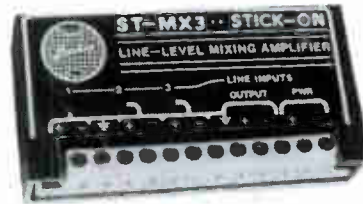
ST-MX3

ST-MX3 Line Level Mixer/ST-MMX3 Mic Level Mixer/ST-MLX3 Mic/Line Level Mixer

- Mix mic or line level signals ■ Individually adjustable inputs ■ Expandable systems (multiple modules may be combined for larger mixing systems) ■ All mixers are line-level output

ST-MX3 Line level mixer, 3 line inputs **$89.95**
ST-MMX3 Mic level mixer, 3 mic inputs **99.95**
ST-MLX3 Mic/line level mixer, 1 mic input, 2 line inputs **94.95**

ST-EQ3 3-Band Equalizer

- Low-noise line level graphic equalizer ■ Separate adjustments for bass, midrange and high frequencies ■ Each adjustment provides for boost or cut ■ Balanced input and output

ST-EQ3 . . . . **$69.95**

ST-CL1 Compressor/Limiter

- Multi-stage incremental gain reduction ■ Select average/peak or peak only control ■ Positive audio level protection ■ Smooth, inaudible gain reduction ■ Very low noise compressor

ST-CL1 . . . . **$109.95**

ST-GCA1 Gain Control Amplifier

- Automatic gain control ■ Wide dynamic range ■ Slow, "inaudible" gain reduction ■ Low noise and distortion AGC

ST-GCA1 . . . . **$84.95**

ST-GCA2 Gain Control Amplifier

- Fast automatic gain control ■ Gain reduction/expansion ■ Tight dynamic control ■ Positive, fast gain reduction ■ Low noise and distortion AGC

ST-GCA2 . . . . **$84.95**

ST-VCA1 Voltage Controlled Amplifier

- Controls audio level with DC voltage ■ Remotely controls audio ■ Single-pair DC control of audio ■ Mic or line input VCA ■ Mic or line output VCA ■ Built-in mic preamp

ST-VCA1 . . . . **$76.95**

ST-VP1 Voice-Over Paging Module

- Studio quality for preset voice-over or "click free" paging ■ Module selects, fades and mixes 2 line level sources ■ 2 independent control inputs: fade and hard-cut ■ Fade-down sequence ramps down music, activates voice input ■ Fade-up sequence deactivates voice input and ramps music up ■ Fade rate and depth are user adjustable ■ Line level inputs and outputs are unity gain

ST-VP1 . . . . **$99.95**

5

ANTENNAS

BROADCAST ELECTRONICS
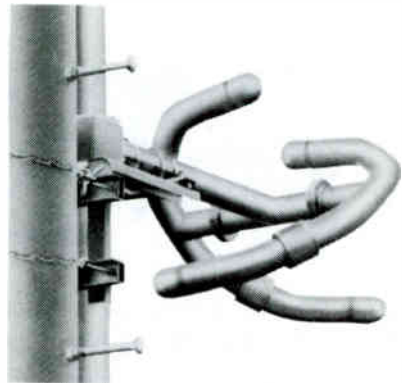
BESP
Super-Power Circularly Polarized FM Antennas

- Brass radiating element with an outside diameter of 3¹/₈″
- The feed point is internal, well shielded from the effects of weather
- Each element is rated at 40kW, with the exception of the "A" series end fed 1- and 2-bay antennas and the center fed 2-bay antennas, which are rated at 32 and 39kW, respectively. The actual element ratings are limited only by the power handling capability of the 3¹/₈″ rigid coaxial line
- Low VSWR of 1.07:1 or less
- Without field trimming, the VSWR at the input is typically 1.2:1 or less when the antenna is pole mounted on the top of a tower, rising slightly to 1.5:1 or less when side mounted
- Ideal for common antenna, multi-station operation due to their superior bandwidth characteristics
- Stations having a frequency separation of at least 4MHz can be diplexed on a common BESP antenna
- Multi-station operation may require a multiple slug tuning system
- When a BESP antenna is pole mounted at the top of a tower, the horizontally polarized radiation pattern is omnidirectional. Circularity is usually ± 2dB when the antenna is mounted on a 14″ diameter steel pole. If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern

Available Models
- The "A" version uses a 3¹/₈″ element feed system and 3¹/₈″ interbay line. It is available in 3¹/₈″ end fed, 3¹/₈″ center fed and 6¹/₈″ center fed models. Arrays of up to 16 bays can be assembled
- The "B" version uses a 4¹/₈″ element feed stem and a 4¹/₈″ rigid interbay line. It is available in either 6¹/₈″ end fed or 6¹/₈″ center fed models in arrays of up to 16 bays
- The "C" version utilizes a 4¹/₈″ element feed stem and a 6¹/₈″ rigid interbay line with 6¹/₈″ end feed. "C" version antennas are available in arrays of up to 6 bays
- Each BESP antenna is supplied with a 6′ input transformer. The input is 50 ohm EIA with either a 3¹/₈″ or a 6¹/₈″ flange depending on the model type. All antennas are assembled at the factory and pre-tuned to the desired frequency

BEMP
Medium Power Circularly Polarized FM Antennas

- All radiating elements are constructed of tubular brass with an outside diameter of 1³/₄″. The feedpoint is internally mounted and pressurized to prevent corrosion
- Typical VSWR of 1.1:1 or less, ± 200kHz with field trimming
- VSWR at the input (without trimming) is 1.2:1 when the antenna is pole mounted on the top of a tower. In side mounting applications, the VSWR is typically 1.5:1 without field trimming
- When a BEMP antenna is mounted on a 14″ diameter steel pole, the horizontally polarized radiation pattern is omnidirectional and circularity is typically ± 2dB. When the antenna is side mounted, the resulting pattern will be affected by the surrounding structures
- Antenna pattern measurement and optimization is available at additional cost

Available Models
- The "E" version is an end fed model that is mounted on a 1⁵/₈″, 50 ohm rigid line
- The "C" version is center fed using 3¹/₈″, 50 ohm rigid line. The end fed models feature a conservatively rated power input capability of 9kW. The center fed models have a power input capability of 12kW with the 3¹/₈″ input feed
- Each BEMP antenna comes with a 6′ input transformer. The antenna feed point is 6′ below the bottom bay for end fed models and approximately 6′ below the center for center fed models. The input is a standard 1⁵/₈″ EIA female flange for end fed models and a 3¹/₈″ EIA female flange for center fed models

200
FM Sidemount Antenna

- All stainless steel hardware
- Pressurized internal feed system
- DC grounded input
- Heliarced rigid brass construction
- Bandwidth with field tuning: VSWR 1.07:1 for f_o ± 100kHz; VSWR 1.15:1 for f_o ± 200kHz
- Free space horizontal plane patterns in horizontal and vertical polarization are circular to better than ± 2dB; free space axial ratio better than ± 3dB

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COMPETITIVE PRICES—EXPERIENCED STAFF

SHIVELY Laboratories

6810

High Power Circularly Polarized FM Antenna

- Low windloading
- Broadband low Q impedance characteristics
- Adjustable transformer standard equipment
- Mounting brackets for most towers included
- 10kW power rating per bay
- Directional patterns and pattern optimization available
- True circular polarization and excellent azimuth pattern circularity
- Its bandwidth is such that it enhances stereo broadcasting
- Unusually capable of being directionalized
- Pattern studies and optimization as well as null fill and beam tilt are available at extra cost

6813

Medium Power Circularly Polarized FM Antenna

- Very low windloading
- Adjustable transformer standard equipment
- Mounting brackets for most towers included
- 3kW power rating per bay
- Pattern optimization, deicers or radomes available
- True circular polarization, excellent azimuth pattern circuitry and fine stereo performance
- Pattern studies as well as null fill and beam tilt are available
- Even with radomes its windload favorably compares with other antennas which claim not to need radomes

6812

Low Power Circularly Polarized FM Antenna

- Designed with the educational broadcaster in mind, but its design features and sturdy construction have led many commercial broadcasters to specify it for a low cost installation, translator, or as a standby antenna
- Truly non-pressurized design
- Constructed of stainless steel, the weight and windload of this antenna are extremely low
- VSWR—1.1:1 ± 100kHz with optional matching transformer

No. of Bays	High Power 6810	Medium Power 6813	Low Power 6812
1	$ 3,725.00	$ 3,300.00	$ 650.00
2	6,375.00	4,675.00	1,200.00
3	8,000.00	5,500.00	1,800.00
4	10,400.00	6,500.00	2,400.00
5	12,700.00	8,100.00	3,000.00
6	15,800.00	9,000.00	3,500.00
7	17,300.00	10,200.00	4,000.00
8	20,400.00	11,400.00	5,000.00
10	25,300.00	14,100.00	N/A
12	31,500.00	16,500.00	N/A
14	37,100.00	19,100.00	N/A
16	41,400.00	23,000.00	N/A
Deicers per bay	475.00	375.00	375.00
Low Windload Radomes per bay	700.00	650.00	650.00
Extra Heavy Icing Protection Radomes	1,000.00	1,000.00	1,000.00
XXL Mt. Washington Style Radomes	1,500.00	1,500.00	1,500.00
Center feed for 2, 4, 6 bays (N/C option for 8 bays; std. for 10, 12, 14 and 16 bays)	1,300.00	1,300.00	650.00
1 5/8″ Input	N/A	Standard	RG-213
3 1/8″ Input	Standard	1-6 Bays 1,950.00 8-16 Bays Standard	N/A
4 1/16″ Input	10-16 Bays 3,250.00	N/A	N/A
6 1/8″ Input	N/A	N/A	N/A
Fine Matching Transformer	Standard	Standard	1,200.00

7

BROADCAST ELECTRONICS

AudioVAULT
Digital Audio Central Storage System

- The system is fully programmable and fully automated with simultaneous, asynchronous record/playback of audio material

- System versatility allows unequalled performance in both pre-programmed, automated environments and in interactive, live-assist situations

- Liners and IDs for all announcers can be stored, and access to the stored material is virtually instantaneous with no searching, no cueing

- The system is capable of being a 4-user system, simultaneously accessing the centrally stored audio material in the AudioVAULT

- Liners and IDs are preloaded in the system's cueing mechanisms. Each may be started on receipt of a contact closure from the satellite decoder

- AudioVAULT can support up to 8 audio inputs (4 stereo pairs), each addressable as a digitized audio signal capable of being routed to any of the 4 stereo output pairs

- Audio output impedance: 600 ohms, electronically balanced

- Input headroom: greater than 10dB over rated input

- Commands to perform various switching functions are entered in the playlist and cued in the proper sequence

- Audio output level: -10dBm to +10dBm, continuously variable

- Frequency response: 20Hz to 20kHz, ±1dB. 1kHz reference at a 44.1kHz sample rate

- S/N ratio: greater than 90dB, 20Hz to 20kHz, 0dBu output level

- Total harmonic distortion: less than 0.1% 20Hz to 20kHz. Nominal input and output levels

- Intermodulation distortion (SMPTE): less than 0.05%, 20Hz to 7kHz, 4:1 amplitude ratio. Nominal input and output levels

- Sample size: 16-bit input and output. Capable of performing internal storage, calculations and digital-signal-processing at 24 bits

- Sample rate: 44.1kHz

- Audio storage time uncompressed: 600M drive: 112 mono min.; 1.2G drive: 195 mono min.

- AC input voltage: 105 to 132VAC or 210 to 264VAC, 50/60Hz

Call for Configuration

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COMPETITIVE PRICES—EXPERIENCED STAFF

BROADCAST ELECTRONICS

AudioVAULT
Digital Audio Central Storage System
(continued)
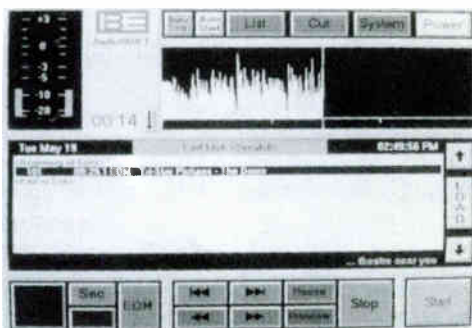
AudioVAULT Cart List Screen
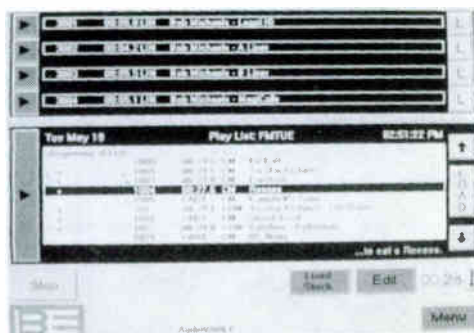
AudioVAULT Play List Screen

CORE
Computer Oriented Radio Environment Automated Program Controller

- Provides simultaneous addressability for up to 36 source inputs, each with flexible machine control and full audio control
- Independent VCA level adjustment is under computer/database control for every individual cut
- Compatible with all established automation source equipment, CORE more closely resembles a computer-controlled console than a traditional automation switcher
- CORE is also compatible with the latest automation source technology, including CD jukeboxes, RDAT and AudioVAULT, as well as with anticipated future technologies
- Virtually unlimited event capability, limited only by the computer's hard disk space
- No event numbers; inserts and deletions require no reprogramming
- Log information is stored on computer hard disk for review at any time
- English language programming uses meaningful information such as song titles and commercial names, rather than lists of numbers

Call for Configuration

9

AUTOMATION

CONEX Electro Systems

CS-25B
Dual 25Hz Sensor

- Compact and modular 25Hz tone sensor for use in broadcast automation and tape control systems
- Useful in remote signalling systems
- The sensor detects 25Hz sub-audible tones that typically signal the end of a program selection
- The resulting relay contact closures can be used to start the next tape (or other program source) and stop the current tape

CS-25B-10	Dual 25Hz sensor	**$389.00**
CS-25B-11	Dual 25Hz sensor/stereo high pass filter	.466.00
CS-25B-20	Quad 25Hz sensor	.568.00
CS-25B-21	Quad 25Hz sensor/stereo high pass filter	.645.00
CS-25B-01	Stereo high pass filter	.287.00
HPF-25	High pass filter board	.77.00
DS-25	Dual sensor board	.179.00
PS-3	Power supply board	.95.00

CG-25
25Hz Tone Generator

- Built-in stereo high-pass filters eliminate 25Hz content from program material
- Front panel LEDs indicate duration of tone and silence intervals (Remote outputs available on CG-25R)
- All timing intervals, tone levels and audio levels easily adjustable from the rear panel
- "Jones" type connectors provided for simple connection between console and recorder or program line
- Jumper selectable tone on right, left or both channels
- All ICs socketed for easy maintenance
- Low distortion circuitry, oscillator less than 0.1% THD and "soft" switching for "silent" tones
- Balanced bridging inputs and balanced 600 ohm outputs
- 2 front panel switches allow timed or un-timed tones

CG-25		**$375.00**
CG-25R	Rackmount	.375.00

BROADCAST ELECTRONICS

TG-2A
Dual Tone Generator

- Active 25Hz filters in left and right channels
- Left or right channel 25Hz record and detection
- 1kHz tone for recording reference level tone
- 25Hz sensors for recorder stop and/or external switching
- Full remote control
- 44K ohm, balanced bridging at 0dBm input
- Detects 25Hz tones as low as -17dBm
- 0dBm output into 600 ohm with 0dB input level. 20dB overhead (+ 20dB output before clipping). 45dB or more at 25Hz

TG-2A	**$895.00**

ZERCOM

TP
25Hz Tone Processor

- A dual 25Hz detector and dual program amplifier/25Hz notch filter
- Designed as a reel-to-reel playback interface for automation or live assist
- The 25Hz filter is only 6Hz wide at the 3dB points, allowing good bass response
- Logic outputs are "C" contact relays to interface with anything
- Options include transformer balanced outputs, active balanced inputs and active balanced outputs
- Input Impedance: 20K ohms resistive
- Output Impedance: 600 ohms unbalanced. Output transformers optional
- Output Level: + 17dBm into 600 ohm load before clipping

TP	**$390.00**

TP-XT
25Hz Tone Processor

Same as above except:
- Input Impedance: 66K ohm active balanced or 33K ohm unbalanced
- Output Impedance: 600 ohm active balanced or unbalanced
- Output Level: + 23dBm into 600 ohms active balanced or + 17dBm into 600 ohms active unbalanced before clipping

TP-XT	**$460.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

10

AUDI-CORD

DL Series
Cartridge Recorders and Reproducers

- Replay lock-out and reminder to prevent accidental replay errors. Manual or automatic muting of output audio (from SEC cue operation). Status indicator lamps show at a glance cue tone presence, both SEC and primary. Latched lamps verify that both have been sensed
- Mute lamp to indicate audio on or off status
- Automatic motor turn-off, if selected, conserves power and heat
- Full +8dBm output ability with 12dB of headroom
- Slide back cover design allows for quick and easy access for cleaning
- Complete remote control connections. Plugs are furnished
- Optional digital recording timer is available for accurate timing
- Extensively modular design with plug-in circuit cards
- Heavy-duty deck and head mounts that stay adjusted
- Selectable 600/150 ohm balanced transformer outputs
- Bridging 5K ohm recorder input
- Bias and tone presence indicators
- Automatic meter switching from record to replay
- All models are equipped with 1kHz primary and 150Hz secondary cues as standard

"DL" Series Playbacks
DL-PM	Mono, 2-cue	$ 920.00
DL-PS	Stereo, 2-cue	1000.00

"DL" Series Record-Playbacks
DL-RM	Mono, 2-cue	$1290.00
DL-RM-5	Mono, 2-cue with timer	1370.00
DL-RS	Stereo, 2-cue	1480.00
DL-RS-5	Stereo, 2-cue with timer	1560.00

"DL" Series Dual Transport Record-Playbacks
DL-DM	Mono, 2-cue	$2270.00
DL-DM-5	Mono, 2-cue with timer	2350.00
DL-DS	Stereo, 2-cue	2630.00
DL-DS-5	Stereo, 2-cue with timer	2710.00
185-0005	Timer accessory assembly with instructions	90.00
185-0006	Rack shelf assembly	62.50

BROADCAST DEVICES

APC-200
Rightrack Audio Phase Controller

- Visual and aural indications of phase performance for precise phase correction
- Compensates for azimuth errors in reel-to-reel and cassette formats
- Phase correction of the stereo audio tracks on video tape recorders insures compatibility with mono VTRs and TVs
- Built-in reference oscillator
- Oscillator frequency selection: 150Hz, 1.5kHz, 12.5kHz
- Oscilloscope outputs are also provided on the rear panel for precise visual phase calibration

APC-200 ....$1150.00

HENRY ENGINEERING

Digicord
Utility Digital Audio Recorder

- Digicord is ideally suited as a network news delay recorder, EBS alert logger, station or translator/identifier with local spot
- 5:25 audio storage time capacity
- 30Hz-5kHz bandwidth (other bandwidths optional)
- 16 separate messages can be stored
- Single or repeat playback modes
- EOM output for "start next event"
- Records from mic or line audio sources
- Can be remotely controlled in all modes including message selection
- Battery backup prevents memory loss during AC power failure

Digicord $695.00

BROADCAST ELECTRONICS

Series 5300C and Series 5400C
3-Deck Tape Cartridge Machines

- Non-repeat lockout
- Toroidal transformer in the primary power supply for cool operation and a significant reduction in stray magnetic fields
- Removable Phase Lok V head assembly provides tight alignment control with a locking azimuth adjustment independent of height or zenith adjustments
- Air damped solenoids guarantee firm, reliable cartridge engagement

Series 5300C (A, AA, B and BB size carts)
(Long Life Head(s) standard)
117VAC, 60Hz Tabletop Mounting
5302C   Mono, playback with cue tones **$4000.00**
5304C   Stereo, playback with cue tones. **4500.00**

Series 5400C (A and AA size carts)
(Long Life Head(s) standard)
117VAC, 60Hz Tabletop Mounting
5402C   Mono, playback with cue tones **$4100.00**
5404C   Stereo, playback with cue tones. **4600.00**

Recorders (Long Life Heads and
3 cue tones standard)
Series 5300 (For use with 5300C Series
Playback Cartridge Machines)
5309C   Recorder, mono with Q Trip, 117VAC, 60Hz . .**$1350.00**
5310C   Recorder, stereo with Q Trip, 117VAC, 60Hz . . .**1450.00**

Series 5400 (For use with 5300C and 5400C Series
Playback Cartridge Machines)
5409C   Recorder, mono with Q Trip, 117VAC, 60Hz . .**$1295.00**
5410C   Recorder, stereo with Q Trip, 117VAC, 60Hz . . .**1395.00**
SW5F   Audio switcher for all cartridge machines. . . .**295.00**

Disc Trak
Digital Cart Machine

- Delivers superior digital audio
- Available in both record/playback and playback only configurations
- Cueing is instantaneous. Up to 8 separate audio tracks can be placed on a single diskette
- Rugged design and construction delivers years of dependable service
- 3½" floppy disks feature hard case and sliding gate for excellent protection of recorded material
- Powerful playback options include single play, sequence and loop
- Flexible user-defined system setup can be reconfigured easily
- Automatic recognition of track sampling rate and stereo/mono selection
- Recognizes standard console start/stop logic commands
- 2M byte and 4M byte high quality "Verbatim" brand floppy disks available from Broadcast Electronics
- Verbatim floppy diskettes carry a lifetime warranty

DC-300   Disc Trak Digital Record/Play Cart Machine with 1 record/play deck and 2 playback decks. Variable sampling rates. Storage media is 3½" 2M byte or 4M byte standard floppy disk. Single stereo XLR input and output **$4995.00**
DC-30   Disc Trak Digital Playback Cart Machine with 3 playback decks. Variable sampling rates. Storage media is 3½" 2M byte or 4M byte standard floppy disk. Single stereo XLR output **$3450.00**
DC-10   Disc Trak Digital Playback Cart Machine with 1 playback deck. Variable sampling rates. Storage media is 3½" 2M byte or 4M byte standard floppy disk. Single stereo XLR output **$2800.00**

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BROADCAST ELECTRONICS

Phase Trak 90 Record/Playback

Phase Trak 90 Playback

Phase Trak 90™
Record/Playback Cartridge Machine

- Automatic non-encoding stereo phase correction
- Dynafex® noise reduction
- Phase Lok V precision adjustment head block
- Removable plug-in/plug-out assemblies
- All cue tones standard with dry contact outputs for 150Hz and 8kHz
- FSK data detection
- Auxiliary start pulse output
- Built-in audio switcher for multiple machine applications
- Full remote control capability
- Non-repeat lockout
- Cart-not-cued lockout
- Hall effect switches
- Miniature rear panel headphone jack
- Automatic/manual fast forward
- Audio muting on either 150Hz or 8kHz cue tones
- Vari speed operation
- Jumper selectable 7½, 3¾ and 15 ips operation
- Long life flat response heads
- Front panel cue tone indicators
- Back-lighted front panel machine status indicators
- SMPTE synchronization compatibility (9600Hz)
- Automatic "Hot" tape sensing
- 15V logic (RF immune)
- Pressure roller cleaning mode
- Compact design (⅓ rack width)
- Machined ½" thick aluminum deck

PT90P	Mono, playback (A and AA size carts).	**$2550.00**
PT90PS	Stereo, playback (A and AA size carts)	**2750.00**
PT90RPS	Stereo record play (A, AA, B and BB size carts)	**4550.00**

Dura Trak 90A
Tape Cartridge Machine

- Right and left side guides make contact with the cartridge as it enters the deck and apply proper positioning
- Toroidal power transformers cause cooler operation for longer component life and reduction of stray magnetic fields
- Instrumentation amplifier-quality active balanced inputs and outputs
- Low driving impedance of 70 ohms accommodates long lines
- The Phase Lok V head block's locking azimuth adjustment is independent of the height and zenith adjustment
- Direct drive motor, optimized solenoid and pressure roller deliver a full 1.25 lbs. of tape pull, maintaining a comfortable safety factor against tape slippage
- Hall effect switches
- Standard fast forward feature can reduce the wait for a cart to cue by as much as 300%
- CMOS logic circuits are straightforward designs that use standard off-the-shelf components
- Large, easy-to-read LED meters switch automatically between record input input level and play audio output

DT-90AP	Mono playback only	**$1750.00**
DT-90ARP	Mono record/playback	**2650.00**
DT-90APS	Stereo playback only	**1900.00**
DT-90ARPS	Stereo record/playback	**2850.00**

Splice Trak 90
Splice Finder/Eraser

- Dual erase heads typically deliver 90dB audio erasure below 1kHz saturated (3% THD) signal level
- Splice detector senses differences in tape thickness as small as 0.5 mil
- High speed operation at 27.5 ips
- For safe, easy servicing, the PC board contains no line voltage
- Hall effect switches
- CMOS logic circuits
- Cool operation—the motor runs only when the Start button is depressed and stops as soon as the splice is located
- For A and AA carts
- Low-voltage solenoid, Phase Lok V head block and positive, accurate cart guidance system

Splice Trak 90	**$1150.00**

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FIDELIPAC

CTR100 Series

Dynamax Cartridge Machines

- CARTSCAN System—automatic activation of elevated level, aux, mono and Maxtrax modes
- All front panel switches illuminated
- Fast forward
- Vary speed—motor speed continuously variable from 1.875 to 30 ips from external reference
- Cue tone tracking within ± 30% of preselected speed
- Front panel diagnostics
- On-board test oscillator

CTR111	A size mono play	**$2675.00**
CTR112	A size stereo play	**2880.00**
CTR123	B size mono record/play	**4475.00**
CTR124	B size stereo record/play	**4830.00**
CTR112MX	A size stereo reproducer with Maxtrax head package	**2935.00**
CTR124MX	B size stereo recorder/reproducer with Maxtrax head package	**4990.00**

CTR10 Series

Dynamax Cartridge Machines

- Versatile, switch-selectable audio/test metering
- Bar graph LED VU meters
- Fast forward
- Selectable high speed recue
- 150Hz control of audio muting
- Audio switcher and mixer
- Strappable repeat play disable
- All front panel switches illuminated
- Front panel 1kHz defeat with dedicated indicator

CTR11	A size mono play	**$1795.00**
CTR12	A size stereo play	**1935.00**
CTR13	A size mono record/play	**2640.00**
CTR14	A size stereo record/play	**2890.00**
CTR12MX	A size stereo reproducer with Maxtrax head package	**1985.00**
CTR14MX	A size stereo recorder/reproducer with Maxtrax head package	**3040.00**

DCR1000 Series

Dynamax Digital Cartridge Machine

- 13M byte disk stores over 5 minutes of stereo audio with 15kHz bandwidth and 15 minutes of mono with 10kHz bandwidth
- Standard low-cost 2M byte floppy disk holds 60-second spots

Player features:
- Simple cart-like operation and maintenance-free design
- Front panel Start, Stop and Cue buttons
- 2-line by 24-character LCD
- RS-232/422 port

Record Module features:
- Extended scale peak metering
- Selectable sampling rate
- AES/EBU digital input
- Secondary and tertiary cues
- Start On Audio for easy dubbing
- PC/AT keyboard for titling carts
- Clock/calendar with battery backup
- Centronics parallel printer port

DCR1020	Master player	**$2975.00**
DCR1040	Record module (includes keyboard)	**2500.00**
HD50	Master disc, 2M byte unformatted (box of 50)	**60.00**
HD50F	Master disc, 2M byte certified with DCR format (box of 50)	**75.00**
TD10	Master disc, 13M byte certified with DCR format (box of 50)	**87.50**
LAB500	Diskette labels, latex reinforced, tractor feed (box of 500)	**35.00**

ESD10

Dynamax Eraser/Splice Detector

- Provides clean erasures with machine precision—erasure depth of 75dB or more
- Improved S/N ratio and on-air sound
- Uses dual, high quality heads
- Desktop or rackmountable
- Duplicates reel-to-reel recorder technology

ESD10	**$1190.00**

Options

Options are field selectable, but will be provided on shipment at no charge if specified at time of order. 220V, 50Hz.

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COMPETITIVE PRICES—EXPERIENCED STAFF

360 SYSTEMS

DigiCart
Digital Audio Cart Machine

- DigiCart fits right into existing studios—it's the same size as most popular carts and audio, remote control and cue signals work the same way
- Offers 16-bit digital audio performance with ruler-flat response with absolute stereo phase accuracy, no high end rolloff or peaks, no wow and flutter and no adjustment ever
- Rugged, removable magnetic disk cartridges provide exceptionally long life
- Provides total format flexibility—recording can be done in stereo or mono, with sample rates of 48K, 44.1K, 32K or 22.05K
- Different formats can be combined on a single disk, with information including title, running time and recording format displayed right on the front panel
- Each time a new cue is selected, DigiCart automatically reads a "cue header" stored on the disk, and instantly configures itself for correct playback
- An optional hard disk providing up to 4 hours of stereo can be installed inside DigiCart's chassis
- Automation ready with an EIA-422 serial port using the popular ES-Bus protocols, plus a BCD automation interface and GPI inputs
- Non-destructive editing allows you to simply re-do your edit until you're satisfied with the result
- For longer storage times, a companion hard disk enclosure with up to 5 additional drives is available, adding up to total storage capacity in excess of 2 days, with every cue on every drive available for immediate playback
- Optional external hard disk systems include half-rack external disk drive expansion enclosure, hard disk, power supply and SCSI interconnect cable

1000	DigiCart	**$3995.00**
1002	DigiCart with HD-200 (200M byte) hard disk installed internally	**5490.00**
1004	DigiCart with HD-400 (400M byte) hard disk installed internally	**6490.00**
1010	DigiCart with HD-1000 (1G byte) hard disk installed internally	**8490.00**
HD-201	200M byte external hard disk system	**2195.00**
HD-401	400M byte external hard disk system	**3195.00**
HD-1001	1G byte external hard disk system	**5195.00**

Hard Disk Options
- For external installation in HDS hard disk system
- Maximum of 5 per HDS enclosure

HD-200E	200M byte external hard disk	**$1495.00**
HD-400E	400M byte external hard disk	**2495.00**
HD-1000E	1G byte external hard disk	**4495.00**

TAPECASTER

900 Series
Tape Cartridge Machines

- All machines ⅓ rack space wide; rack tray available
- Motor runs continually or shuts off when cart is removed
- LED level meter selectable for monitoring playback, record or automatic
- 3 cue tones standard with defeat function
- Features cartridge replay indicator and front panel LED indicators for all cue tones
- Toroid power transformer
- Fast forward manual or activated by secondary or tertiary tone
- Balanced bridging input and 600 ohm active balanced output
- All tones can be recorded in playback as well as record mode
- Plug-in amplifiers and logic boards; playback amp muting

900 P	Mono cartridge reproducer	**$1095.00**
900 RP	Mono cartridge recorder/reproducer	**1795.00**
900 PS	Stereo cartridge reproducer	**1195.00**
900 RPS	Stereo cartridge recorder/reproducer	**1995.00**

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AUDIOLAB Electronics

TD-1B/TD-1BF

Tape Degausser

- Erases audio, video, computer, data tape, magnetic films, cartridges and cassettes
- For tapes up to 3/4"
- Accommodates up to 10 1/2" NAB reels
- Provides a wide focused magnetic field
- Simple 2-pass operation for NAB audio cartridges
- Transient protection to prevent permanent tape damage
- Internal fuse protection

TD-1B 117V, 50/60Hz **$132.00**
TD-1BF 230V, 50/60Hz **142.00**

BROADCAST DEVICES
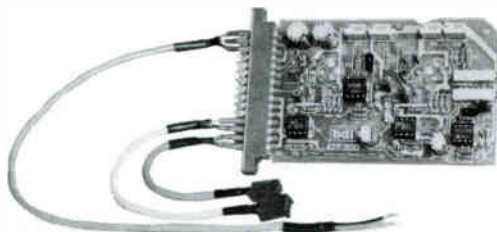
ATF-200

Active Transformer Card

- For ITC Series 99 Recorders
- Offers improved headroom, transient response and frequency response over the original transformer balanced inputs
- With an FET differential input, the ATF-200 is a stereo balancing circuit that mounts on the rear of your existing input connectors
- Runs off of the existing power supply and can be either AC or DC coupled to the audio input
- Multi-turn controls are provided for gain, offset drift and common mode rejection. These are factory preset and/or field adjustable

ATF-200 . . . . **$150.00**

BROADCAST ELECTRONICS
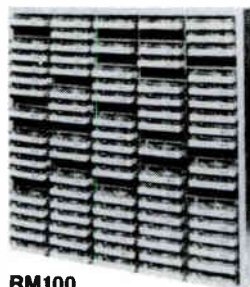
RM100 **DM200**

Cartridge Storage Racks

RM20H-001 Stores 20 A size cartridges, rackmounting (5 1/4"H) . . . . **$ 95.00**
RM100 Wall mounting, Formica covered, holds 100 A size cartridges **125.00**
DM20 Wall or table mounting, walnut finish cabinet, holds 20 A size cartridges **25.00**
DZ20 Lazy susan, tapletop, wood/Formica, holds 20 A size cartridges **45.00**
DM40 Tabletop lazy susan, walnut finish cabinet, holds 40 A size cartridges **35.00**
DM72 Lazy susan module, Formica covered, for tabletop use, holds 72 A size cartridges **150.00**
DM200 As per above, holds 200 A size cartridges **230.00**

TW-120

Cartridge Winders

TW-120 Tape cartridge winder 117V, 50/60Hz **$395.00**
TW-240 Tape cartridge winder 220V, 50Hz **445.00**

200-3T

Demagnetizers and Erasers

200-3T Bulk tape eraser, handheld 115V, 50/60Hz . . . **$115.00**
220-3T Bulk tape eraser, handheld 220V, 50/60Hz **115.00**
K20/115S Annis standard Han-D-Kit. Pocket magnetometer, test strips and clip-on extension probe and Han-D-Mag demagnetizer, 115V, 50/60Hz **62.00**
K25/115S Annis deluxe Han-D-Kit, same as above except with larger Model 25 jewelled demagnetizer, 115V, 50/60Hz. . **104.00**
PF-380 Nortronics carbide head degausser 117V, 60Hz only **41.00**
TD1B Audiolab bulk tape eraser, heavy-duty, tabletop, 115VAC, 50/60Hz **132.00**
TD1BF Audiolab bulk tape eraser, heavy-duty, tabletop, 220VAC, 50/60Hz **142.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

FIDELIPAC

400
Tape Eraser
- Erases tapes up to 1"; removable aluminum guide pin
- High current horsepower-rated switch
- Thermally-protected core

400 110V **$130.00**

395
Blank-It Bulk Eraser
- Multi-format magnetic tape eraser
- Long duty cycle
- Internal thermal overload coil protection

395 . . . . **$75.00**

TR96

Cartridge Racks
- The WR-25 is a single 25-cartridge rack that mounts either on a wall (using the mounting bracket included) or as 1 of 8 racks that form the MR-200 Mobile Cartridge Rack
- Removes easily from the wall bracket and transfers to an MRB-1 carousel rack base

WR-25	Wall rack—holds 25	**$ 38.00**
MRB-1	Mobile rack base—holds 8 WR-25 racks	**.87.00**
MR-200	Mobile cartridge rack—holds 200	**390.00**

TR-48
Tabletop Cartridge Rack
- Storage for 48 cartridges
- 4 separate removable racks store 12 cartridges each
- Outside diameter when fully loaded is 15", height is 20"
- Racks are chrome plated welded steel. Base is black panned steel

TR-48 . . . . **$109.00**

TR-96
Tabletop Cartridge Rack
- Storage for 96 cartridges
- Eight separate removable racks store 12 cartridges each
- Outside diameter when fully loaded is 20", height is 20"
- Racks are chrome plated welded steel. Base is black panned steel

TR-96 . . . . **$194.00**

GARNER Industries

70A

105

116

Audio Tape Degaussers
- Just touch the power button and place any reel, cartridge, cassette or disc on the endless belt. In 4 seconds it delivers a clean erasure
- Erasure level (all models): -80dB nominal
- Overheating is prevented by automatic cut-off switch, which reactivates after cool-down period
- Max. reel diameter: 70A 7"; 105 $10^1/2$"; 116 16"
- Power*: 70A = 117VAC, 4A; 105 = 117VAC, 6A; 116 = 117VAC, 11A

70A	**$1190.00**
105	**.1590.00**
116	**.2390.00**

*All models available in 220/240VAC, 50Hz.

TAPECASTER

X-100
Automatic Cartridge Loader
- Available for 115V or 220V operation
- Ultra-stable heavy-duty steel top deck
- Separate heavy-duty synchronous motors on drive capstan and take-up hub
- Editall splicing block comes standard with unit
- Adjustable tape supply table braking mechanism
- Automatic timer reset
- Mechanical bistable pressure roller
- Provides for the accurate measurement of tape length through precision calibrated minute and second face mounted controls

X-100 . . . . **$695.00**

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MARANTZ

PMD 201

Portable 2-Head, 2-Speed Cassette Recorder

- 3-way power with low-battery indication
- Switchable limiter
- Built-in monitor speaker; line input and output jacks

PMD 201 . . . . **$299.00**
PMD 221 3-head version of PMD 201 plus memory rewind and
replay **369.00**

PMD 430

3-Head Portable Cassette Recorder

- Features Dolby B™ NR, 3-way power, L/R record level controls, true tape/source monitoring, memory rewind and automatic replay
- Includes 2 ¼" microphone inputs, switchable limiter, RCA input and output jacks, AC adaptor and ¼" headphone jack

PMD 430 . . . . **$599.00**

PMD 222

Portable Cassette Recorder/Player

- Features 3-head design, balanced input and XLR connector, telephone line input, ½ speed recording and playback, line input and output and 3-position microphone attenuator (0dB, -10dB, -20dB)
- 2-speed (1⅞ and ¹⁵/₁₆ ips)
- LED peak level and low-battery indicators, built-in limiter and automatic or manual record level control

PMD 222 . . . . **$399.00**

NAKAMICHI U.S.A.

MR-1

3-Head Professional Cassette Deck

- 20Hz-20kHz frequency response
- Dual capstan transport; direct-drive capstan motor
- Front panel ¼" balanced line input, XLR rear panel
- Unbalanced ¼" rear panel
- 4-digit LED tape counter
- Dolby B and C NR

MR-1 . . . . **$995.00**
MR-2 Same as MR-1 except 2-head system, single capstan
transport. **695.00**

RAMSA

SV-3700

PRO-DAT Recorder

- Front-panel shuttle wheel
- 0.5-15X speed range
- IR remote control
- 4-stage, 1-bit Delta-Sigma A-to-D converters
- Horizontal cassette tray
- Program absolute and time-remaining displays
- Pushbutton selection of 44 ¼/48kHz sampling rates via either analog or digital inputs
- Pushbutton fade-in and fade-out functions
- Balanced inputs and outputs via XL-type connector with choice of -10dBu or +4dBm output levels
- Up to 400X fast forward/rewind and search speeds to provide high speed access to any point on a 2-hour DAT tape within 27 seconds

SV-3700 . . . . **$1599.00**
SSE-44 Wired remote control **45.00**

SV-255

Portable Digital Audio Tape Recorder

- ADC digital filtering
- AD converter
- 64X oversampling
- 48kHz recording, 44.1kHz/48kHz playback
- 2.2-hour continuous recording/playback with rechargeable battery
- Stereo/mono/mic LIM selector
- XLR type mic/line inputs
- 32-step random access programming
- Accepts AC and rechargeable battery
- High speed search
- Automatic music track number recording
- Wide range level meters with peak hold
- Digital output terminal
- Direct access and skip search
- Auto recording mute
- L/R independent rec level control
- Headphone jack with level control

SV-255 . . . . **$2700.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

MARANTZ

PMD 700
Portable DAT Stereo Recorder

- 1-bit 256X oversampling A/D converter (48kHz)
- 1-bit 64X oversampling D/A converter (48, 44.1, 32kHz)
- AES/EBU and SPDIF digital I/O
- No SCMS
- Balanced XLR mic and line in
- RCA line in/out
- ABS timecode
- Backlit LCD display
- Wired remote control
- Built-in auto-limiter
- Start ID editing and renumbering

PMD 700 . . . . **$2500.00**

RADIO SYSTEMS

RS-6700
DAT Machine

- High quality Sony DAT transport
- Large cart-style controls and keypad
- Auto cue-up, fast cut access, tight, reliable starting time, auto rewind and convenient "Next/Last" function
- End-of-message (EOM) functions including fast forward to next cut, rewind or stop at the end of each cut, relay closure and more
- Front panel LED error indication for both A and B heads
- Balanced XLR audio
- Full rear-panel broadcast remote connector
- Ideal for sequential automation
- Great for public broadcasters. 1-button recording allows automated satellite program capture
- All services and warranty by Radio Systems, with toll-free calling and around the clock emergency phone support

RS-6700 . . . . **$1895.00**
Rack kit **65.00**
Remote with keypad **165.00**

TASCAM

112B
4-Track, 2-Channel Stereo Cassette Deck

- 2 heads, balanced XLR inputs and outputs
- High stability transport using diecast and precision machined parts
- Dolby HX Pro for enhanced high frequencies
- Dolby B and C noise reduction
- Cue and review functions to monitor during fast wind modes
- High slew-rate IC electronics

112B **$799.00**

112R
Auto Reverse Stereo Cassette Deck

- 4 heads (2 erase, record, reproduce)
- Ideal for applications that require extended playback and record capability with professional durability and reliability
- Symmetrical bidirectional transport assures identical transport performance in both directions
- 19" rackmountable
- Dolby B and C noise reduction systems
- Digital tape counter and automatic tape type selection
- Synchronized multi-deck operation allowing "chain" recording or playback, simultaneous play or record when duplicating, "stop" activated switch over, "cue play"

112R **$899.00**

103
3-Head Stereo Mastering Cassette Deck

- Dolby HX Pro
- Auto tape type automatically adjusts recording electronics to any standard tape formulation
- Record/mute auto spacer puts a 4-second space between songs
- Electronic tape counter with real time display
- Auto monitor function switches for flawless matching of record levels to tape levels
- Dolby B and C noise reduction
- Both units include bipolar power supply and direct-coupled circuitry
- Proprietary Permalloy record/playback heads

103 . . . . **$499.00**

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TECHNICS

RS-DC10
Digital Compact Cassette Player/Recorder
- Features digital record/playback, compatibility with analog cassettes and precision thin-film head
- 1-bit analog-to-digital converter and 1-bit digital-to-analog converter
- 4 dedicated PASC (Precision Adaptive Sub-band Coding) chips
- Built-in Dolby B/C noise reduction for analog playback compatibility
- Horizontally mounted auto-reverse mechanism equipped to slide open the DCC cassette's shutter
- An optical sensor detects the tape end, while switches detect DCC/analog cassettes, record enable/disable and blank cassette tape length
- 29-key wireless remote
- SCMS (Serial Copy Management System) lets you record from a variety of digital sources, yet prohibits making a second digital copy from the digital output of your DDC deck (unlimited copies can be made when recording from the analog output)

RS-DC10 . . . .**$999.95**

DENON

DTR-80P
Digital Audio Tape Recorder
- High speed Sigma/Delta A/D converter with 64X oversampling digital filter
- 18-bit advanced interpolative D/A converter with 8X oversampling digital filter
- Up to 4 hours of recording/playback operation
- 32kHz, 44.1kHz and 48kHz sampling frequencies
- 4 power sources: NiCad or alkaline batteries, AC power supply or car battery
- Optical and coaxial digital input/output terminals
- TOC (Table of Contents) display, speedy cue and review, backlit LC display and step attenuator function

DTR-80P **$900.00**

TASCAM TEAC Professional Division

122 MK II
Stereo Cassette Deck
- 3-head (cobalt amorphous)
- Cue and review function
- Dolby HX Pro, B, C
- Zero return, stop/play and cue point stop/rewind loop functions
- Standard speed 1 7/8 ips
- Tape run time counter and index mode
- XLR +4 RCA -10 connectors

122 MK II **$1149.00**

DA-30
Digital Audio Recorder
- Analog-to digital converters use Delta/Sigma modulation and 64X oversampling
- S/N ratio in excess of 94dB
- AES/EBU digital I/O
- Full-function programmable remote control
- Start ID positioning
- Headroom margin display
- +4dBm balanced inputs and outputs plus -10dBV unbalanced inputs and outputs
- Ability to interact with other professional digital equipment via the AES/EBU interface
- 48kHz, 44.1kHz and 32kHz sampling frequencies

DA-30 . . . .**$1499.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

DENON

DN-970FA
CD Cart Player

- Variable speed
- Quick search
- Stores up to 3 cue points
- RAM buffer memory starts audio within 30ms of pushing play button
- 2 audio channels
- Digital audio outputs in AES/EBU professional format
- External synchronization
- Full remote control capability
- Standby/cue functions
- Track search
- Index search
- 18-bit D/A converters
- Optional 8cm CD adaptor available
- 20Hz-20kHz frequency response
- 90dB or more dynamic range
- Optional pickup cleaner available
- Includes 25 ACD-5B cartridges

DN-970FA **$2599.00**

DN-951FA
CD Cart Player

- Proprietary auto track select system reads bar-coded labels placed on the CD cart to enable the player to lock-out play of a specific track, lock-in play of a specific track only, or auto-cue to a specific track while still allowing manual selection of other tracks
- 2 audio channels
- Selectable fixed speed increase of up to +3% over normal, with steps of 0.2%
- 3 units can be rackmounted side-by-side
- End monitor
- Full remote control capability
- Dual 18-bit DACs
- 8X oversampling
- 20-bit digital filter
- 20Hz-20kHz frequency response

DN-951FA **$1350.00**

DN-961FA
Drawer-Loading CD Player

- Ideal for stations that do not use the CD cart format
- Smooth, fast drawer loading and unloading provides DJs with quick, ultra-reliable operation
- Eject lock during play prevents accidental interruption of on-air CDs
- 3 units fit side-by-side in a rack
- Full remote control via RS-422 and parallel interfaces
- Features front-panel selection of elapsed or remaining time display, end of message signals, track and time status displays, end monitor, instant start
- Dual 18-bit DACs and 8X oversampling, 20-bit digital filter

DN-961FA **$1350.00**

AUDIO SOURCE

LLC-1
Compact Disc Laser Lens Cleaner

- Removes airborn particles and chemical residues
- Digitally encoded compact disc with a built-in, man made, carbon fiber impregnated cleaning brush
- Inaudible test tone positions the disc, aligns brush and lens and spins the disc in a rapid circular motion, passing the static free brush directly over the optical lens

LLC-1 . . . . **$29.95**

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COMPETITIVE PRICES—EXPERIENCED STAFF

TASCAM TEAC Professional Division

CD-701
Compact Disc Player
RC-701
Multi-Player Control Unit

- Integrates instant start-up, automatic cueing and error-free tracking to provide production and broadcast professionals with ultimate precision performance and no dead air
- CD-701 CD Player/RC-701 Control Unit combination features an auto cue function, event play, link play, and an optional BU-1 RAM buffer which enables continuous looping between any 2 points
- The CD-701 and the RC-701 were specifically designed to compliment each other and to form the basis of an exceptionally powerful professional CD reproduction system aimed at broadcast and audio production applications
- In order to eliminate tracking errors common to other CD players, the CD-701 features a unique clamping system which uses a rigid-free disc clamping device to ensure precise disc rotation and faultless tracking
- ZD circuits provide full CD sound while guaranteeing minimal noise occurrence
- The CD-701 features oversampling digital filters, 16-bit D/A converters and an internally switchable monitor-mode line output
- 98dB S/N
- Frequency response of 20Hz-20kHz ± 0.5dB
- Total harmonic distortion is 0.008%
- The player unit measures 8^7/16″ x 4³/4″ x 19³/8″ and weighs 20.9 lbs.
- RC-701 Control Unit controls up to 4 CD player units
- The control unit features ± 6% pitch control with frame-accurate search using an easy-to-handle dial or numeric keys
- The RC-701 is 4-event programmable and measures 14⁹/16″ x 4³/8″ x 9⁷/8″ and weighs 11¹/8 lbs.

CD-701 Compact disc player **$2199.00**
RC-701 Multi-player control unit **1249.00**
RC-7 Remote control unit **199.00**
BU-1 RAM buffer **399.00**
PW-5CD Connection cable. **100.00**

CD-401MKII
Professional Compact Disc Player

- Designed for the professional recording production studio or broadcast environment
- Features fader start, auto cue, pitch control, single play, digital out, 20-selection calendar, 4-mode time counter, 4-mode repeat, index search and auto space
- Has both XLR balanced and RCA unbalanced outputs

CD-401MKII **$849.00**

CD-301
Compact Disc Player

- Balanced XLR and unbalanced RCA audio outputs
- Hardwired 10-key remote control
- 20-program memory
- Single-play function
- Link function
- Center-drawer design
- Standard 19″ rackmountable
- Ideal for use in studio, radio and disco environments

CD-301 . . . .**$549.00**

TECHNICS

SL-P1200
Compact Disc Player

- Twin class AA circuitry
- Dual high-speed D/A converter
- High resolution digital filter
- Separate power supply for digital and analog
- Serial transfer of digital data
- Select audio circuit parts
- Tri-layer base construction
- Double insulation helps prevent structural vibrations
- FF1 fine focus single beam system
- 2-speed search of dial cueing
- Precision pitch control
- 20-selection random access programming
- Multi-mode repeat
- Auto space for convenient tape editing
- Music matrix
- Elapsed time indication

SL-P1200. . . . .**$1499.00**

TECHNICS

SL-P1300
Compact Disc Player

- 8X (352.8kHz) oversampling filter
- 4 digital-to-analog converters (2 per channel)
- 18-bit high resolution signal processing
- Rocker switch for precise mixing control
- Can be cued via direct-entry of CD time code
- Wired remote control terminal on back panel for connection of momentary or sustained contact remote triggers
- 10 keypad allows direct access by time code or track
- Operator can preview in-point and then recall it
- Auto-cue automatically positions laser pickup at the first sound of a track
- Analog and digital circuits have separate power supplies, including transformers
- 2-speed audible search buttons
- Track repeat, disc repeat
- Program repeat
- Headphone output with level control
- Line output via unbalanced (phono) pin connectors or balanced (XLR) connectors
- 6.7"H x 16.9"W x 14.8"D
- Infrared wireless remote control
- Full-function FL display includes $^1/_{10}$ sec. time indication

SL-P1300 . . . .**$1799.95**

SL-PS840
Programmable Compact Disc Player

- Advanced MASH 1-bit DACs in an 8-DAC/64X oversampling configuration, for accurate small signal reproduction
- Advanced digital servo system offers improved playability
- Virtual battery operation (MOS-FET) for excellent sound quality
- Technics hybrid construction base (THCB)
- Optical digital output
- Class AA circuitry design in analog audio stages
- Symmetrically-balanced layout
- Instrumentstion amp for high-quality sound
- Peak level search for level setting convenience
- Remote control with 20-key direct access
- 32-step random access programming
- Aluminum front panel
- Headphone jack with volume control

SL-PS840 . . . .**$429.95**

SL-PG440
Programmable Compact Disc Player

- MASH 1-bit DAC for accurate small signal reproduction
- Advanced digital servo system
- 30-key wireless remote control with 10-key pad
- Edit guide
- Peak level search
- Synchro editing function
- Disc link for continuous editing from multiple CDs to tape
- Random play and auto cue
- Time fade for automatic fading at your selected time
- Headphone jack with volume control
- 20-step random access programming

SL-PG440 . . . .**$189.95**

SL-PG340
Programmable Compact Disc Player

- MASH 1-bit DAC for accurate small signal reproduction
- Advanced digital servo system
- Remote control capability when used with selected Technics receivers
- Edit guide
- Peak level search
- Synchro editing function
- Disc link for continuous editing from multiple CDs to tape
- Random play and auto cue
- Time fade for automatic fading at selected time
- 20-step random access programming

SL-PG340 . . . .**$169.95**

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AUTOGRAM

100C/100D
Autoclock

200C

- Time, stopwatch, date and temperature (high and low of the day and time each occurred)

100C Console mounted **$375.00**
100D Stand-alone. **375.00**

200C/200D
Autocount

- Count-up and stopwatch

200C Console mounted **$193.00**
200D Stand-alone. **193.00**

BENJAMIN MICHAEL

972A
Analog Clock

- 14" O.D. x 1¾" deep (12" dial)
- True 12-hour quartz clock
- Black textured case
- Clear glass crystal
- Single "C" battery will operate for over a year—no wiring needed

972A **$36.95**

ESE

ES 112E
Digital Clock

- 12-hour, solid-state, 6-digit clock
- Can drive 80 Series and 90 Series slaves
- Displays are gas discharge, 0.55" H
- Dimensions: 2½" H x 8" W x 6" D

ES 112E **$191.00**

ES 520
4-Digit Microprocessor 60-Minute Timer

- 4-digit microprocessor based 60-minute timer (59:59) with start, stop and reset controls
- If stopped, display with hold time reading and when restarted will continue with next count from last displayed figure
- If reset while running, timer will continue to run
- Can drive 80 Series and 90 Series slaves
- Includes remote control, serial output and 4 "trigger reset inputs"

ES 520 . . . .**$169.00**

ES 302AE
100-Minute Up/Down Timer

- 4-digit, 100-minute timer (99:59) with 6 controls: Count Up, Count Down, Stop, Minutes Advance, Seconds Advance, Reset
- Counting can be activated up or down or set back to zero
- Counting direction (up or down) can be changed or time can be reset to zero without stopping the count
- Lever-wheel type switches are used for the preset feature
- Can drive 80 Series and 90 Series slaves

ES 302AE **$350.00**

ES 172
Console Mount Clock

- 6-digit, 12-hour clock
- 3 setting controls: Fast Advance, Slow Advance and Hold

ES 172 . . . .**$183.00**

RADIO SYSTEMS

RS
Analog Master Clock System

- Low cost, large analog clocks
- Battery backup standard
- Single driver runs up to 50 clocks
- 1-button daylight savings time adjust
- 1-second catch up or slow down control
- Internal crystal or line sync reference
- Optional TCXO crystal available for super accuracy
- Sync to any external reference
- Interconnects with Radio Systems digital displays

RS Master driver **$625.00**
RS 12" analog clock **125.00**

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AUDIOARTS ENGINEERING

R-30
Radio On-Air Console

- Available in 2 mainframe sizes with 12 or 18 input channels and has 2 stereo outputs, plus mono sum and mix-minus
- Ample expansion room for additional inputs and optional accessory modules
- Features modular construction, a fully regulated rackmount power supply, logic follow, full machine control and an all-gold module-to-console interface system
- Program and Audition VU meters, a digital timer and clock, built-in cue speaker and monitor module for control room and headphone functions
- A natural for newsroom use

R-30-18 18 inputs **$16,300.00**
R-30-12 12 inputs **11,495.00**

MR-40
Audio Mixing Console

- 4-track bus assign for your tape recorder, program assign so you can transfer direct to your 2-track—or go right on-air
- Machine start/stops just below the fader like an on-air console
- 3-band equalizer section gives you the tone control that a normal radio console doesn't provide
- Features a stereo send bus that follows stereo channel balance controls
- Mono modules have both mic and line inputs
- Subgroup channels provide fader control for record levels and have a second track playback path
- On-air type monitor section complete with control room, headphone and studio outputs, muting and tally functions, a built-in cue speaker and power amplifier
- All audio switches are gold contact; assign buttons are LED illuminated

MR-40 12 inputs **$11,995.00**

A-50
Radio Console

- Comes complete with machine control functions; individually programmable channel logic; program, audition and telephone outputs; control room and studio monitors; and headphone and cue power amplifiers
- Designed so you can expand or add accessory modules
- Any combination of mic or line inputs is available
- Includes count-up timer, 1 dual microphone preamp, cue speaker and white fader knobs
- A-50-18 includes clock

A-50-18 18 inputs **$9,095.00**
A-50-12 12 inputs **6,695.00**
A-50-8 8 inputs (in 12-input mainframe) **4,595.00**

R-10
Audio Console

- For small stations in small markets—or big stations chasing down remotes—or any station needing a reliable small format console
- Features gold audio switches, gold edgecard connectors, conductive plastic faders, conductive plastic monitor pots, fully burned-in, socket-mounted ICs and industry standard machine control switches
- Dynamic range of 113dB, a frequency response of ± 0.25dB (20Hz-20kHz) and a THD of 0.002%

R-10-10 10 inputs **$4,495.00**
R-10-6 6 inputs **3,195.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

CONSOLES

RADIO SYSTEMS

RS Series
Consoles

- 6, 12, 18 and 24-channel models available
- 2 inputs per channel; 3 assignable output buses (program, audition and mono/telco)
- Penny & Giles faders, dbx VCAs, illuminated on/off switches, full metering
- Exceptional audio, RFI rejection and crosstalk performance
- Remote start open-collector logic
- Built-in timer, talkback, cue speaker and headphone amp in all models
- Time-of-day clock in RS-18 and RS-24
- Fully flexible inputs: program any input for microphone, consumer or line-level sources, no optional modules required
- Removeable, push-on connectors make installation fast and easy
- Outboard, rackmount power supply

RS-6 Console . . . .**$ 4,795.00**
RS-12 Console **6,795.00**
RS-18 Console **9,895.00**
RS-24 Console **12,995.00**

ATI

BC12DSL   BC8DSR

Vanguard Series
Consoles

- 12 stereo inputs to eight mixers (BC8)
- 24 stereo inputs to 12 mixers (BC12)
- Gain switched, high level instrumentation amplifier inputs accept +4, -10 or -20dBm nominal levels with excellent common mode hum and RF rejection
- Two mono mic preamps with internal pan pots
- All faders and level controls drive DC operated voltage controlled amplifiers (VCA)
- Dual, stereo +22dBm program outputs with dual mono sum program outputs and two switched analog VU meters
- Stereo headphone amplifiers; 5W cue amplifier
- External power module minimizes hum and isolates power line conducted RF pickup

BC8DSR AB type J rotary faders control dbx™ VCAs. . .**$3,395.00**
BC8DSL 60mm, linear faders control dbx VCAs **3,395.00**
BC12DSL 60mm, linear faders control dbx VCAs **4,995.00**

AUTOGRAM
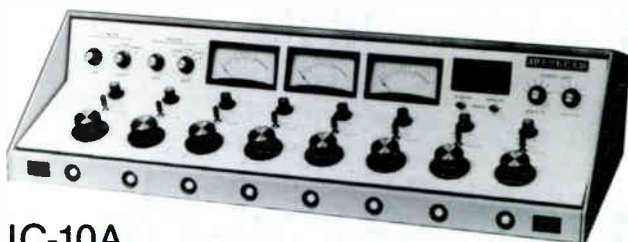
IC-10A
10-Channel Stereo/Mono Console   AC-8A

- Input—Sources: 28 stereo inputs*; 1 high level cassette
- Output (depends on modules used)—1 stereo program; 1 stereo audition; 1 monophonic program; 2 monitor amplifiers; 2 headphone amplifiers; 1 cue amplifier

IC-10A Typical mono **$8,093.00**
IC-10A Typical stereo **9,166.00**

AC-8A
8-Channel Stereo/Mono Console

- Input—Sources: 26 stereo inputs*; 1 high level cassette
- Output (depends on modules used)—1 stereo program; 1 stereo audition; 1 monophonic program; 2 monitor amplifiers; 1 cue amplifier

AC-8A Typical mono **$6,026.00**
AC-8A Typical stereo **6,967.00**

AC-6A
6-Channel Stereo/Mono Console

- Input—Sources: 23 stereo inputs*; 1 high level cassette
- Output (depends on modules used)—1 stereo program; 1 stereo audition; 2 monitor amplifiers; 2 headphone amplifiers; 1 cue amplifier

AC-6A Typical mono **$4,809.00**
AC-6A Typical stereo. **5,604.00**

*Customer's option as to use by plug-in modules.

R/TV-12 and R/TV-20
Stereo Consoles

- VCA level control
- Electronic switching
- No audio transformers
- Penny & Giles linear conductive plastic pots
- Schadow selector switches
- Plugable miniature terminal strips
- Each channel remotely controllable

R/TV-12 12 slide pots—typical stereo/mono—2 stereo programs; 1 mono program; 2 mix minus; 1 cue, 2 headphones; 2 line monitors out; 8 single inputs; 4 multi-line inputs (4 inputs each); 1 mic preamp card (4 mic preamps); balanced line outputs **$11,098.00**
R/TV-20 Same as R/TV-12 except 20 slide pots; 18 single inputs; 2 multi-line inputs (8 inputs each) **13,385.00**

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BROADCAST ELECTRONICS

50A Series

4-Mixer Mono/Stereo Consoles

- The 4M50A is a complete console ideal for production or on-air use
- The 4 mixers accept 2 switch selectable inputs and each preamplifier can be wired for either microphone or line level sources
- Speaker and headphone amplifiers are built in for monitoring console output, an external source or the cue circuit
- The 4S50A 4-mixer, 12-input stereo console has cue-switches on all faders
- In addition to level selectable preamplifiers, the 4S50A has individual monitor, cue and headphone amplifiers

4M50A 4-mixer monophonic **$1600.00**
4M50AR Rackmount 4-mixer monophonic **1750.00**
4S50A 4-mixer stereophonic **2300.00**
4S50AR Rackmount 4-mixer stereophonic **2450.00**

150A Series

Mono/Stereo Consoles

- The 5M150A mono dual-channel and the 5S150A stereo 5-mixer consoles employ high quality conductive-plastic attenuators
- Identical plug-in preamplifier modules, presettable for microphone or line input service, feature gold-to-gold contact fingers
- Interlocked pushbutton selection of 2 sources per mixer is provided
- Separate headphone and monitor amplifiers
- Other than the number of mixing channels, the 8-mixer models are essentially identical to their 5- and 10-mixer counterparts
- All consoles in the 150A Series feature durable styling with clean, crisp front panel graphics protected by a laminated polycarbonate overlay
- Sealed pots on all models

5S150A 5-mixer stereophonic, dual channel **$3450.00**
8S150A 8-mixer stereophonic, dual channel **4650.00**

250A Series

Mono/Stereo Deluxe Dual Channel Consoles

- Precision step type ladder attenuators
- Channel keys are telephone type roller cam design
- 3 muting relays are included
- In addition to preamplifier and line amplifiers, all Series 250A consoles are supplied with required monitor, cue and headphone amplifiers
- The 10S250A accommodates 20 inputs into 10 mixing channels with identical line level stereo program and audition output channels with VU meter switching to either stereo pair
- Maintainable, step type dual ladder attenuators
- Quiet operating, telephone type channel select switches

5M250A 5-mixer, monophonic **$3450.00**
8M250A 8-mixer, monophonic **4650.00**
5S250A 5-mixer, stereophonic **4350.00**
8S250A 8-mixer, stereophonic **5600.00**
10S250A 10-mixer, stereophonic **7000.00**

Mix Trak 90™

On-Air Console

- Total VCA audio control
- Automatic source sequencing
- Independent program and audition metering
- Electronically balanced and floating output buses
- Balanced inputs and patch points
- Separate music and speech program buses
- 3 mix-minus buses
- Versatile talkback system
- Monitor dim function
- Individual line and microphone input modules
- Penny & Giles linear faders
- Silent hall effect switching
- The board is attractively laid out with easy-to-reach controls
- All modules are 2" wide, providing a cleaner, less cluttered console

MT90-12 12-input mixer mainframe with 4 VU meters (2 program and 2 utility) and 8 accessory module slots . . .**$6300.00**
MT90-18 18-input mixer mainframe with 6 VU meters (2 program, 2 utility and 2 audition) and 8 accessory module slots **7500.00**

Call for configuration and pricing information on the modular Mix Trak 90 console.

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BROADCAST ELECTRONICS

Air Trak™ Series
Broadcast Consoles

- 6-, 12-, 18- and 24-channel consoles ■ Stereo program and audition outputs ■ Mono program, audition and auxiliary outputs ■ Internal jumper-selectable telephone mix-minus bus configuration ■ 3 inputs per channel with versatile microphone and line level input selection ■ Accepts both balanced and unbalanced line level input sources ■ Clock and dual timer standard with capacity for operating external slave clocks and dual timers ■ Full logic following audio input switching ■ Convenient remote control of all external audio source machines ■ Built-in cue speaker and headphone jack with separate audio gain controls ■ Phase integrity display to monitor mono outputs and alert operator to possible phasing problems

AT-9006	Air Trak 90 6-channel audio console with Penny & Giles linear faders. Includes power supply (rackmounted), installation kit and 1 each relay interface kit.............................**$5,595.00**
AT-9012	Air Trak 90 12-channel audio console with Penny & Giles linear faders. Includes power supply (rackmounted), installation kit and 2 each relay interface kits............................**$7,895.00**
AT-9018	Air Trak 90 18-channel audio console with Penny & Giles linear faders. Includes power supply (rackmounted), installation kit and 2 each relay interface kits............................**$10,495.00**
AT-9024	Air Trak 90 24-channel audio console with Penny & Giles linear faders. Includes power supply (rackmounted), installation kit and 2 each relay interface kits............................**$13,895.00**
AT-10006	Air Trak 100 6-channel audio console with Penny & Giles linear faders. Includes 10 accessory module positions with blank filler panels, power supply (rackmounted), installation kit and 1 each relay interface kit............................**$6,395.00**
AT-10012	Air Trak 100 12-channel audio console with Penny & Giles linear faders. Includes 16 accessory module positions with blank filler panels, power supply (rackmounted), installation kit and 2 each relay interface kits....................**$9,095.00**
AT-10018	Air Trak 100 18-channel audio console with Penny & Giles linear faders. Includes 22 accessory module positions with blank filler panels, power supply (rackmounted), installation kit and 2 each relay interface kits....................**$12,095.00**
AT-10024	Air Trak 100 24-channel audio console with Penny & Giles linear faders. Includes 28 accessory module positions with blank filler panels, power supply (rackmounted), installation kit and 2 each relay interface kits....................**$15,895.00**

LPB

Signature III
Audio Consoles

■ Models include 6-, 8-, 10- and 12-mixer duals, both mono and stereo. All are identical functioning full duals, i.e., the only difference between any 2 stereo (or mono) consoles is the number of mixers (and associated inputs) ■ State-of-the-art semiconductors. A headphone amplifier has been added with jacks on both sides of the front panel ■ On stereo models, all mixers may operate in mono or stereo with the status of each indicated on panel LEDs ■ Remote start pushbuttons are standard ■ 3 inputs per mixer, rotary Shallco step or optional Penny & Giles stepless faders, plug-in modules, LED peak indicators, switchable mic gain, all transformer inputs and outputs and RFI immunity ■ Mixers 1 through 4 accept either microphone or high level plug-ins (option available for more); others are fixed high level ■ Monitor speaker muting and tally are provided for mixers 1 through 3 ■ Every fader has a cue position, and the consoles include an internal cue amplifier and 5" cue speaker as well as 12W/channel monitor amplifiers

S-11	6-mixer dual mono................**$3,395.00**
S-10	6-mixer dual stereo..................**4,195.00**
S-15	8-mixer dual mono...................**4,195.00**
S-13	8-mixer dual stereo..................**4,995.00**
S-21	10-mixer dual mono..................**4,995.00**
S-20	10-mixer dual stereo.................**5,895.00**
S-24	12-mixer dual stereo.................**6,895.00**

(On ALL STEREO Signature consoles, for mono mixdown add $125.00) (Penny & Giles Rotary Stepless Faders available at $75.00/fader cost increase)

7012/7018
Stereo Slide-Fader Consoles

■ 2 inputs per channel ■ 3 stereo output buses ■ 3 mono outputs for optional mono-mixdown or optional mix-minus ■ 3 stereo tape outputs and 3 mono tape outputs (for optional mixdown) ■ Remote starts for all inputs with blinking ready light ■ Channel start and stop can be controlled remotely ■ Timer can start and stop with channel, may be set for either cumulative or event timing ■ Programmable muting for each input for cue and 4 sets of monitor speakers ■ Internal headphone amplifier, cue amplifier and speaker/monitor driver ■ Talkback standard ■ Penny & Giles linear faders ■ Gold contacts throughout ■ All front panel pushbutton switches rated for 5 million operations

7012 12-channel stereo ....**under $ 7,000.00**
7018 18-channel stereo ....**under 10,000.00**

RAMSA

WR-S208/WR-S212/WR-S216

Stereo Mixing Consoles

- 2 channels on each console have stereo inputs on both line and phono/recorder inputs
- With the exception of the 2 inputs, all inputs are mono, electronically balanced mic/line inputs
- Each model offers 3 send circuits; a pre-fader monitor foldback circuit; a post-fader effect send and a switchable pre/post-fader send for foldback monitoring of effects
- 48V phantom power
- Solo buttons allow monitoring each channel individually
- 60mm faders standard on input channels

WR-S208 2 stereo, 8 mono mic/line inputs. **$1750.00**
WR-S212 2 stereo, 12 mono mic/line inputs 2450.00
WR-S216 2 stereo, 16 mono mic/line inputs 2850.00
WR-Q208 Rackmount adaptor for WR-S208 . . . . .90.00

WR-133

Portable 8-Input/2-Output Audio Mixer

- Wide dynamic range and noise-free performance
- Switchable remote broadcasts, recording or sound reinforcement modes
- Can be connected to cue to echo effect unit through pre-mix outputs, and to echo effect unit through from echo and to echo
- Frequency response: 20Hz to 20kHz

WR-133 . . . .**$1290.00**
WR-Q51 Rackmount adaptor .87.00

WR-8616

Modular Post Production/Recording Console

- 16 x 4 x 2 x 1
- Left and right stereo outputs, XFMR balanced
- Phantom mic power, at each input 48V
- Remote start-stop control for cart machines, turntables, etc.
- Extensive metering facilities, 8 Gan-Graph, 6 VU meters

WR-8616 Includes 4 standard modules (WU-8103 x 2, WU-8104, WU-8105) and separate power supply (WU-8083). Optional modules are the WU-8101, WU-8102, WU-8106 and WU-8107 . . . .**$5530.00**

SHURE Brothers

M267

Professional Mixer With Limiter

- For recording or broadcast use
- 4 low-impedance balanced inputs switchable to mic or line level
- Phantom power on each input
- Fast-acting limiter; built-in battery supply
- Headphone level control
- Illuminated VU meter with LED peak level indicator
- Mix bus jack; mic and line level outputs

M267 . . . .**$520.00**

BROADCAST DEVICES

HPR-100 Preamp Card
HLR-100 Line Amplifier Module

- Upgrade/retrofit kits can make your console meet or exceed the specifications of today's top of the line
- Precision adjustment of input gain and mic/line switching are standard on the preamp card
- Voltage controlled master gain controls and improved headroom are added features on the lineamp module
- Will work with either the existing power supply or any regulated OEM supply with no change in specs
- A typical installation can take as little as 10 minutes

HPR-100 . . . .**$165.00**
HLR-100 . . . . .360.00

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CONSOLES

TASCAM TEAC Professional Division

M-108
4-Bus Recording Mixer
- 12 input channels (8 mono and 2 stereo)
- 4 outputs with 8 tape returns
- High and low band EQ
- 2 effects buses
- Selectable aux bus which can be used for either tape monitoring or as a pre-fader send

M-108 . . . . **$799.00**

M-06/M-06ST
Compact Mixers
M-06
- 6-input channel stereo mixer
- Effects system includes an effect output and stereo returns
- Phono input on channels 5 and 6
- Mic inputs for each channel accept a wide signal range from microphone, instrument and audio components
- Access send/receive jacks on channels 5 and 6
- Hi and Low EQ on each channel
- 2 M-06s can be stacked to double inputs

M-06ST
- 6 stereo input channels (channels 1 and 2 have stereo phono inputs for direct connection of record players, while channels 3-6 have stereo line inputs)
- Mic inputs on each channel accept a wide range of signals from microphone, musical instruments and audio equipment
- Stereo aux inputs with level control provide an extra stereo input
- Insert patch points on channels 5 and 6
- Cue send level controls on each channel
- Balance controls

M-06 . . . . **$389.00**
M-06ST **499.00**

M1500 Series
Studio Mixers
- Balanced XLR mic and 1/4" line inputs for each channel
- Top access connector panel for easy patching
- 3-band mid-sweep EQ on each channel
- 3 aux send with independent send controls
- 2 stereo and 2 mono assignable effects returns
- Insert and direct out patch points on channels 1-8
- Bargraph meters for group and monitor outputs
- PFL facility

M1508 8 dual ins, 4 groups, 8 monitor channels **$1199.00**
M1516 16 dual ins, 4 groups, 8 monitor channels **1899.00**
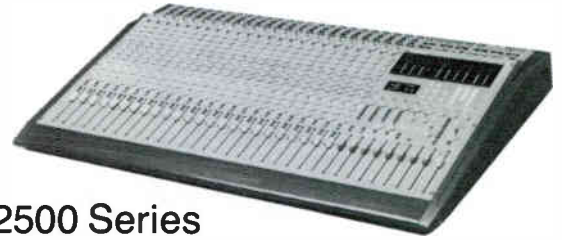
M2500 Series
Studio Mixers
- XLR mic, 1/4" line and RCA tape channel inputs
- Channel direct out and insert jacks
- Sub L and R, ext. in L and R, and 2-track L and R inputs
- Stereo XLR and 1/4", 8-group, studio L and R, and control room L and R outputs
- 4 auxiliary outputs
- 2 stereo, 2 mono effect returns
- MIDI in, out and thru jacks
- 100mm linear faders

M2516 16 ins, 8 groups, 16 monitor channels **$3199.00**
M2524 24 ins, 8 groups, 24 monitor channels **4199.00**

M3500 Series
Mixing Consoles
- In-line monitor format with linear faders
- Flip function swaps monitor input sources (normally tape) with channel input source (normally mic/line)
- Input channels provide 6 aux sends with 4 send level controls, PFL or stereo in-place solo facilities, and mute switches for channel, monitor and aux 5 and 6
- 8 bar graph meters with select switches for group/tape return monitoring, plus 2 VU meters on stereo returns
- Talkback facility
- Balanced XLR stereo outputs and 2TR inputs
- Built-in 5-frequency oscillators
- Insertion point on each channel, stereo and group bus
- PFL or stereo in-place solo
- Mute switches for channel, monitor and aux 5 and 6
- Control room section provides monitor select switches, solo switch, dim switch, mono switch and level control
- Studio section provides control room or stereo monitor select switches, mono switch, on/off switch and independent phones and studio level controls

M3500ST/24 . . . . **$9999.00**
M3500/24 . . . . **7999.00**
M3500/32 . . . . **8999.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

ATI
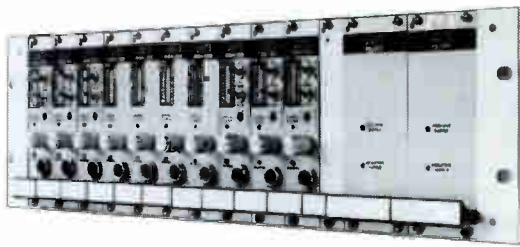
DA10000

MicroAmp Series

DA10000 Modular DA Systems

- Ten 1 x 6 DA modules in 5¼"
- Dual redundant plug-in power supplies
- 5 interchangeable types of DA modules
- Active balanced or transformer outputs
- Metering and compressor options
- Barrier block or mass termination connectors

DA100 Basic 1 In, 6 Out DA

- Drives 6 balanced outputs at +22dBm each ■ Split/by-passed build-out resistors ■ Balanced bridging input ■ Single panel level control ■ Headphone monitor jack **$250.00**

MDA100 Metered 1 x 6 DA

- Same as DA100 plus bargraph VU meter ■ Measures -21 to +6 VU with adjustable outputs ■ Signal alarm indicator and dead channel warning **$335.00**

CDA100 Compressing 1 x 6 DA

- Same as MDA100 plus gated compressor ■ Controls on in-puts above -30dBm ■ Compression slope adjustable to 20:1
- Switchable meter and linear amplifier mode **$395.00**

IDA100-1 Independent 6 Output DA

- Individual trimmers for each output ■ Headphone out-put **$375.00**

MIDA100-1RC Metered Independent Output DA

- 1 input to 4 independent transformer balanced outputs at +22dBm ■ Remote/local VCA master gain control, LED me-ter. **$495.00**

MIDA100-1 Metered Independent Output DA

- 6 transformer outputs with level controls ■ LED bargraph switchable to all outputs **$449.00**

PS100 Power Supply

- Bi-polar unregulated 18VDC supply ■ Operates singly or as a redundant pair ■ Power failure alarm relay **$299.00**

RM100 Rack Frame Assembly

- Mounts 10 amplifier and 2 power modules ■ 5¼" H x 19" W x 14½" D ■ Barrier block connections, fanout strips . **$299.00**

DA10000

DA2008

DA1008

DA2016

DA1000 1x8/DA2008 1x4

Mass Feed DAs

- +24dBm active balanced outputs
- 70dB output isolation and full short circuit protection
- Signal present LED (DA1000 only)
- Output clipping LEDs
- Front headphone or metering jack

DA1000-1 1 input to 8 balanced outputs **$345.00**
DA2008-1 Dual sections, each 1 x 4 . . . . **365.00**

DA1008 1x8/DA2016 2x16

MicroAmp DAs

- Provide individual adjustment for each output
- Touching SCAN marking on the panel scans the monitor circuit across all 16 outputs at 2 steps per second
- 3-color LED VU meter display. Front panel calibration switch selects +4, +8, or +18dBm outputs at 0 VU
- Headphone monitor provides 2 channel monaural drive for heaphones with front panel level control and phone jack
- +24dBm maximum input level. Input impedance balanced differential inputs; 30K ohm bridging gain 24dB

1 Input to 8 Individual Outputs
DA1008-1 +22dBm, transformer outputs . . . . **$ 850.00**
DA1008-2 +22dBm balanced differential outputs **755.00**
DA1008-3 +30dBm, transformer outputs. **1095.00**
DA1008-4 +30dBm, balanced differential outputs. . . **995.00**

Dual 1 x 8, 2 Inputs to 16 Individual Outputs
DA2016-1 +22dBm, transformer outputs. **$1195.00**
DA2016-2 +22dBm, balanced differential outputs. . . . **995.00**
DA2016-3 +30dBm, transformer outputs. **1695.00**
DA2016-4 +30dBm, balanced differential outputs. . . **1475.00**

DA208

DA416

DA208/DA416

Encore Series Audio DAs

- 8 or 16 active balanced +18dBm output
- Individual smooth log taper level adjustments
- Combine channels by paralleling inputs for 1 x 8, 2 x 8, or 1 x 16 configurations
- 20dB gain, 0.1% maximum THD, -75dBm maximum outputs noise, ±0.25dB response, 30Hz-20kHz
- -70dBm isolation and crosstalk
- 30K ohm balanced inputs bridge +22dBm lines
- High slew rate, 13V/µs for minimum TIM distortion

DA208 Dual 1 x 4. . . . . **$329.00**
DA416 Quad 1 x 4 . . . . **469.00**

31

RADIO SYSTEMS

DA-8/DA-16
Distribution Amplifiers

- Single rack space
- Recessed, independent level settings
- Barrier strip I/O
- 10K ohm, balanced bridging inputs
- 100 ohm balanced outputs
- Output level +25dBm max. into 600 ohms
- Output channel isolation greater than 90dB
- Toll-free factory support
- Distortion less than 0.01%

DA-8 8 mono **$340.00**
DA-16 8 stereo or 16 mono **425.00**

HNAT HINDES

DA2-12
Audio Distribution Amplifier

- 3-position input gain selection 0dB, +10dB, +20dB
- 12 discrete balanced differential outputs may be used as unbalanced outputs

DA2-12 . . . .**$525.00**

BENCHMARK Media Systems
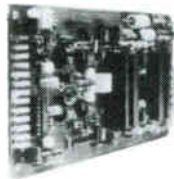
System 1000
DA-101 Mono Distribution Amplifier

- Two 2M ohm balanced inputs—select or mix
- Peak in and out clip points = +27dBu
- CMRR = >100dB to 2kHz, 75dB at 20kHz
- Bandwidth = 250kHz, 20kHz $\emptyset$ = -8°
- Gain, variable or fixed at unity (switched)
- Ten 60 ohm balanced outputs
- Up to 90 additional external split outputs
- 10W headphone amp
- 40W bridged mono direct output
- Daughter board compatible

DA-101 . . . .**$315.00**

MDA-102

DA-102 Stereo Distribution Amplifier

- 2M ohm balanced stereo inputs
- Peak in and out clip points = +27dBu
- CMRR = >100dB to 2kHz, 75dB at 20kHz
- Bandwidth = 160kHz, 20kHz $\emptyset$ = -12°
- Interchannel $\emptyset$ difference = 0.5° maximum, 0.1° typical
- Crosstalk < -100dB to 900Hz, -75dB at 20kHz
- Gain, variable or fixed at unity (switchable)
- Five 60 ohm stereo outputs, 6th out; mix, direct or 60 ohm
- Up to 15 additional external split outputs
- Daughter board compatible

DA-102 . . . .**$420.00**

MDA-101 Program/Mic-Pre DA

- 1dB noise figure, -130dBu EIN
- Gain range from -2 to +73dB (with pad)
- CMRR = >100dB to 2kHz, 75dB at 20kHz
- Bandwidth = 200kHz, 20kHz $\emptyset$ = -8°
- THD = <0.001% at 2kHz, 0.0035% at 20kHz
- Virtually no intermodulation distortion
- 3 types of phantom; +48 and +12V Neumann, AB/T
- Common mode input filter for RF immunity
- Eight 60 ohm balanced outputs
- 6 variable gain outputs
- Remote input pad option
- Daughter board compatible

MDA-101 . . . .**$355.00**
MDA-102 dual channel, ultra low noise, variable gain program/mic-pre DA, with 4 line level outputs per channel **425.00**

PS-102 Power Supply

- Powers a maximum of four B1000 frames, 48 modules
- Single supply in 3RU, separate AC connectors
- Redundant operation with 2 PS-102s and an RCN-02 combining network

PS-102 . . . .**$980.00**

PS-202 Power Supply

- Totally redundant supply, 3RU
- Powers a maximum of 4 B1000 frames, 48 modules

PS-202 . . . .**$1375.00**

PS-103 Power Supply

- 4RU chassis, powers up to 10 B1000 frames, 120 modules
- Redundant configurations with either 2 or 3 input RCN-03 combining networks

PS-103 . . . .**$1385.00**

EX-01 Extender board . . . .**$ 60.00**
LC-01 Laboratory card **35.00**
LMA-1 Line to mic level attenuator **30.00**
1-UP Ultra-Patch™ interface panel **425.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

GENTNER Electronics

Routing DA
Audio Distribution Amplifier

- 8 inputs, 28 outputs
- Distortion: < 0.01%
- S/N Ratio: > 80dB referenced to + 4dBm output level with + 4dBm input level; > 100dB below clipping threshold
- Crosstalk: > 90dB between any channel
- Frequency Response: 10Hz to 20kHz ± 0.1dB, < 5° phase shift at 10Hz and 20kHz

Routing DA **$1629.00**

CONEX Electro Systems

AS-101
Audio Switching System

- 10 stereo inputs switchable to 1 stereo output
- All audio and remote control connections are made with plug-in screw-clamp terminal blocks
- Transformerless balanced inputs and outputs
- Front panel accessible input and output level controls
- Inputs individually switch selectable for 10k Ω bridging or 600 Ω loads
- Multiple remote controls may be connected to the 7-wire remote control bus

AS-101 . . . . **$895.00**

UM-33
Cue Amplifier

- 8 balanced bridging stereo inputs
- 600 ohm and direct switched outputs
- Stereo LED VU meters with front panel calibration (-20 to +8)
- Stereo monitor amplifier drives external speakers at 2W per channel
- Built-in 3-frequency test oscillator with level control
- Front panel jacks for easy connection of test equipment to the switched audio bus

UM-33 . . . . **$495.00**

GENTNER Electronics

10/20
Signal Switchers

- When a source switch is depressed with the "Control Enable" switch, the corresponding relay is energized to route the desired signal to the switcher's output
- Multiple switchers may be used to form a matrix switcher
- Can be used as an output selector

10 Stereo Routes 10 stereo inputs to a stereo channel output
. . . . **$1039.00**
20 Mono Routes 20 mono inputs to a mono channel output
. . . . **1039.00**

JNS Electronics

8000 Series
Modular Audio Distribution System

- Mono or stereo audio distribution; audio monitor amplifiers
- Stereo presence/validity measurement; audio failure sensing
- Program changeover—manual or automatic
- RF demodulation

8000 Rackframe Accommodates up to 10 modules and up to 2 8024 power supplies **$525.00**

RAMKO Research

RS-1616
Routing/Amplifying/Distribution System

- Configured from as little as 8 mono/4 stereo in by 2 out, to as large as 128 mono/64 stereo in by 64 out with each mainframe capable of handling up to 16 mono/8 stereo (or combinations thereof) and 16 out. Up to 32 mainframes may be looped together and controlled with a single control system
- Accepts balanced or unbalanced inputs from mic thru line level, with a maximum of +27dBm (18V peak)
- Can handle audio, SMPTE, time code, DC, Ultrasonics modems or any other signal through 350Hz

RS-1616FP/MF Mainframe for front panel control and serial remote control. Cabinet, supply and control card. Uses RS20C cards. **$1162.00**
RS-1616LC/MF Mainframe for remote parallel and serial control only. No front panel controls or indicators. Uses RS20C cards **949.00**
RS-1616MP/MF Mainframe, same as RS-1616LC/MF but for use with MP20C switching cards with the added feature of mixing/paging **996.00**

33

EQUALIZERS

JBL Professional

537
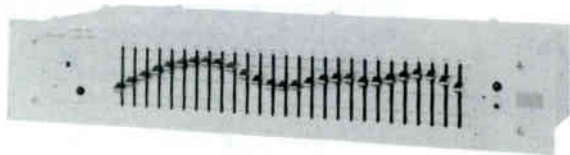
⅓-Octave Graphic Equalizer

- 27 adjustable equalizers on ISO ⅓-octave center frequencies
- 12dB boost or cut
- Stepless, noiseless controls, precision calibrated
- Active L-C filter circuitry
- Low distortion, lowest noise, minimum phase shift
- Zero insertion loss, up to 20dB gain
- Standard rackmounting, 3½″ high; optional front panel security cover

537.....................................**$1250.00**
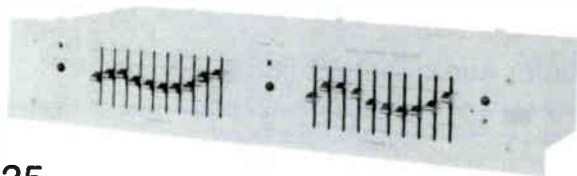
535

Dual Graphic Equalizer

- 2 channels
- 10 adjustable equalizers in ISO 1-octave center frequencies for each channel
- 12dB boost or cut
- Stepless, noiseless, calibrated controls
- -10 to +20dB gain
- State-of-the-art synthesized LC filter circuitry
- Low distortion, noise, minimum phase shift
- Standard rackmounting, 3½″ H

535.....................................**$690.00**
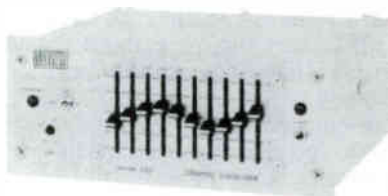
533

Octave Graphic Equalizer

- Synthesized LC filter circuitry with smooth combining characteristic
- -10 to +20dB gain
- Low distortion, noise, minimum phase shift
- 10 adjustable equalizers on ISO 1-octave center frequencies
- 12dB boost or cut
- S/N ratio better than 106dB at maximum output
- Input of +20dB; output +24dBm

533.....................................**$520.00**

RANE
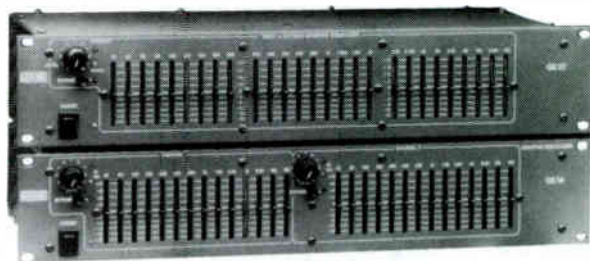
GE 27/14

Graphic Equalizers

- 45mm sliders accurately calibrated for +12/-15dB boost/cut
- Built-in sub/ultrasonic and RFI filters, on/off relay
- Auto balanced/unbalanced floating ¼″ inputs and outputs
- Constant-Q filter maintains consistent bandwidth at all slider positions
- Reduced filter overlap minimizes interaction between adjacent sliders
- Dimensions: 3.5″ H x 19″ W x 8.5″ rack depth. Weight: 9 lbs. net

GE 27 27-band ⅓-octave.....................**$499.00**
GE 14 Dual channel ⅔-octave **499.00**
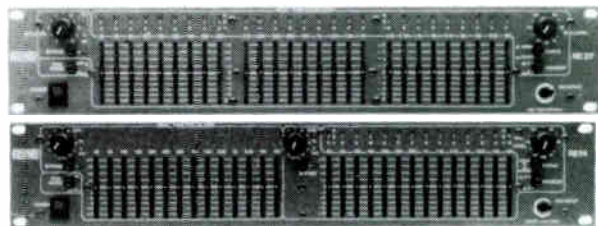
RE 27/14

Realtime Equalizer Systems

- Precision constant-Q equalizer combined with a matching realtime analyzer
- Accurately calibrated long-throw 45mm sliders on a 3.5″ panel
- Built-in pink noise generator and flat-response condenser microphone with 40′ cable and case included
- Enables system equalization to ±1dB accuracy

RE 27 ⅓-octave..........................**$849.00**
RE 14 Dual channel ⅔-octave **749.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

ORBAN Associates

642B/U

Parametric Equalizer/Notch Filter

- 4-band, dual-channel parametric equalizer
- "Q" variable from 0.29 to 5.0
- Tunable 18dB/octave highpass filter and 12dB/octave "Automatic Sliding Besselworth"™ lowpass filter
- Use as either a 2-channel 4-band or 1-channel 8-band equalizer
- 12dB make-up gain is available
- Overload indicator

642B/U LF/LMF/HMF/HF x 2 . . . . **$1200.00**
642B/SP/U LMF/LMF/HMF/HMF x 2 . . . . **1250.00**
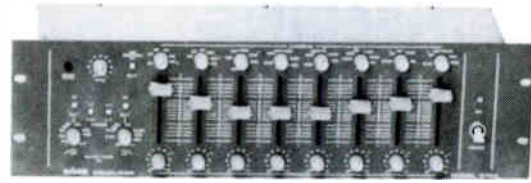
672A/U, 674A/U

Graphic Parametric Equalizers

- Continuous control over center frequency, bandwidth and amount of peak or dip
- Graphic-style EQ controls provide reciprocal EQ in 8 bands
- Additional 12dB/octave highpass and lowpass filters tune continuously over 100:1 frequency range
- Gain control, overload lamp, in/out switches for equalizer and each filter

672A/U . . . . **$ 725.00**
674A/U 2-channel version of the 672A with HP/LP filters, barrier strip terminals **1525.00**

ATLAS/SOUNDOLIER
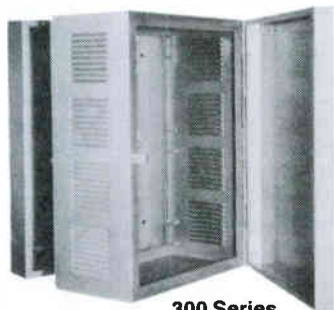
300 Series
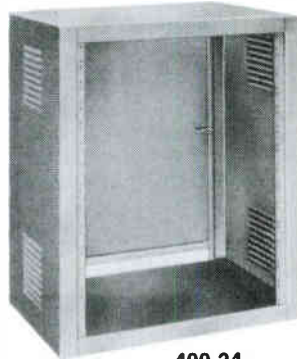
300/320 Series

Assembled Sectional
Wall Mounting Cabinets

400-24

- 300 Series has an 11" deep center section; 320 Series has a 15" deep center section
- 1-piece rear and front sections strengthened with corner-angle braces, reinforced center section and electric-welded seams and miters

400 Series

Welded and Assembled Desktop Cabinets

- Offered in 6 sizes with vertical panel space ranging from 5³/₈" to 31⁵/₈"
- Includes panel mounting screws and ample space for external wiring below rear door or panel

Contact us for configuration pricing.

H.O.M.E.
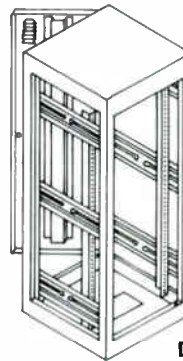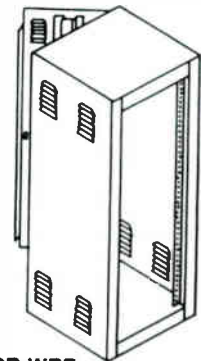
DR-HD   **SCR-WRE**

19" Modular Racks
DR Series

- Sturdy welded construction of 16 gauge CRS

DR-HD Series
- Extra-sturdy 11 gauge CRS welded construction

SCR Series
19" Cabinet Relay Rack
- K.D. or assembled
- WRE Series welded only

Contact us for all rack pricing.

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COMPETITIVE PRICES—EXPERIENCED STAFF

AUDIOARTS ENGINEERING

Modular Audio Furniture

■ Choose from a large variety of standup or sitdown furniture arrangements including a full range of interview counter configurations ■ Punchblock assembly, cart and CD storage, elevated equipment turrets, tape recorder enclosures, glide-out drawer system ■ Fully integrated components fit together precisely and assure a smooth, flawless studio installation ■ Generous wire passages, oversized rear access panels and replaceable countertops in the event of equipment changes

Module pictured includes:
#7

Under console cabinets with racks installed, punchblock housing, console counter, left and right double rack cabinets with countertops, and elevated left and right equipment turrets

#7 . . . . **$5900.00**

Other popular configurations*
#16

Under console cabinets with racks installed, punchblock housing, console counter, right double rack cabinet with countertop, and elevated right equipment turret

#16. . . . . **$4400.00**

#17

Under console cabinets with racks installed, punchblock housing, console counter, left single rack cabinet, right double rack cabinet—both with countertops, and elevated left equipment turret

#17 . . . . **$5400.00**

#19

Under console cabinets with racks installed, punchblock housing, console counter with interview extension, left single rack cabinet, right double rack cabinet—both with countertops, elevated left and right equipment turrets

#19 . . . . **$6400.00**

*Space prevents showing all possible configurations.

THE EXPRESS GROUP

Series 1000

■ Void-free birch plywood construction ■ Numerous and generous access panels including both front and inside areas ■ Quick, quarter-turn fasteners on all removeable access panels ■ Large built-in wire passes ■ Easily adjustable leveling feet on all floor cabinets

Series 1000

Qty	Unit	Description	
1	TCS	Top and Center Section	$ 749.00
1	TPU	Triple Pedestal Unit	1049.00
1	DPU	Double Pedestal Unit	799.00
2	CCP	Countertop Cart Pod	918.00
1	OCS	Overbridge Copy Stand	250.00
Total $3765.00			

Series 2000

Qty	Unit	Description	
1	TCS	Top/Center Section	$ 749.00
1	TPU	Triple Pedestal Unit	1399.00
1	DPU	Double Pedestal Unit	1099.00
2	CCP	Countertop Cart Pod	918.00
1	OCS	Overbridge Copy Stand	250.00
Total $4415.00			

Series 3000

Qty	Unit	Description	
1	PTC	Pedestal/Top/Center	$1695.00
1	URM	Utility Rack Module	499.00
1	DTM	Double Turntable Module	1250.00
2	CCP	Countertop Cart Pod	918.00
1	ITM	Interview Table Module	399.00
1	OCS	Overbridge Copy Stand	250.00
2	FEP	Finished End Panel	320.00
Total $5281.00			

Series 4000

Qty	Unit	Description	
1	PTC	Pedestal/Top/Center	$1995.00
1	URM	Utility Rack Module	499.00
1	DTM	Double Turntable Module	1349.00
2	CCP	Countertop Cart Pod	1198.00
1	ITM	Interview Table Module	599.00
1	OCS	Overbridge Copy Stand	300.00
2	FEP	Finished End Panel	400.00
Total $6340.00			

Series 5000

Qty	Unit	Description	
1	LRP	Left/Right Pedestal	$1995.00
1	CSU	Center Section Unit	598.00
1	DTM	Double Turntable Module	949.00
1	DTD	Double Turntable Dustcover	499.00
1	FEP	Finished End Panel	240.00
1	CCM	Connecting Counter Module	598.00
1	URM	Utility Rack Module	720.00
2	CCP	Countertop Cart Pod	998.00
1	ITM	Interview Table Module	749.00
1	OCS	Overbridge Copy Stand	350.00
Total $7696.00			

COMPETITIVE PRICES—EXPERIENCED STAFF

MIDDLE ATLANTIC

BRK Equipment Racks

- Constructed of ⁵⁄₈″ thick high density particle board with an attractive black laminate
- Full hole 10-32 threaded rack rail is pre-installed
- Ships flat; easily assembled with included allen key
- Decorative caps snap over allen bolts; 18″ deep racks

BRK-8	14″H, 8-space	**$126.67**
BRK-12	21″H, 12-space	.137.78
BRK-16	28″H, 16-space	.144.44
BRK-20	35″H, 20-space	.160.00

BL

BL Blank Panels

- 16 gauge aluminum, flanged for strength
- Brushed and black anodized finish

BL1	1³⁄₄″, 1-space	**$17.02**
BL2	3¹⁄₂″, 2-space	.19.62
BL3	5¹⁄₄″, 3-space	.24.16
BL4	7″, 4-space	.26.14

RR Rack Rails

- ¹⁄₈″ thick steel, punched and tapped for 10-32 screws
- Black textured powder coat finish
- ⁹⁄₃₂″ diameter side mounting holes punched every space
- Tapped holes spaced 1¹⁄₄″-¹⁄₂″
- Bent for 19¹⁄₈″ wide (L to R) rough opening

RR-2	Pair 2-space	$ 6.33
RR-4	Pair 4-space	.9.78
RR-6	Pair 6-space.	.14.51
RR-8	Pair 8-space.	.17.05
RR-10	Pair 10-space	.20.39
RR-12	Pair 12-space	.24.33

Call for additional sizes.

CD/TCD Compact Disc Holders

- 19″ rackmount holder; stores up to 40 CDs
- Tip partitions prevent discs from falling over
- Discs stand on end with labels facing out
- Open design allows for multiple disc sets
- Body is constructed of 20 gauge steel
- Occupies 4 spaces (7″H)

CD	Brushed and black anodized faceplate.	**$82.35**
TCD	Black textured power coat faceplate	.54.44

CS/TCS Cassette Holders

- 19″ rackmountable holder holds up to 33 audio cassettes
- Tip partitions prevent tapes from falling over
- Tapes stand on end and protrude ³⁄₈″ for easy access
- 20 gauge steel body; occupies 3 spaces (5¹⁄₄″)

CS	Brushed and black anodized faceplate.	**$78.70**
TCS	Black textured powder coat finish	.52.22

MURPHY STUDIO FURNITURE

Elite Series

CSW	Console support and wire trough	**$2595.00**
CTR	Corner tower rack	.499.00
TSB	Tower storage base	.75.00
SRR	Sloped rack return	.599.00
STR	Single turntable return	.698.00
WSR	Work surface return	.499.00
RCP	Return completion panel	.125.00
GPS	Guest position shelf	.795.00
SCS	Sliding copy stand.	.349.00
RRO	Raised rack overbridge	.1399.00
TSR	Top sloped rack.	.349.00
GTR	Guest turret rack	.279.00
RPC	Rack panel cover	.29.00
MSR	Media storage racks	**Start at 299.00**

Premier Series

CWT-P	Counter and wire trough	$ 849.00
SRS-P	Single rack support	.549.00
DRS-P	Double rack support	.849.00
TRS-P	Triple rack support	.1149.00
CTR-P	Corner tower rack	.449.00
TSB-P	Tower storage base	.75.00
CTO-P	Covered turntable option.	.698.00
WSO-P	Work surface option	.499.00
GPS-P	Guest position shelf	.479.00
SCS-P	Sliding copy stand.	.259.00
RRO-P	Raised rack overbridge	.1299.00
TSR-P	Top sloped rack.	.299.00
GTR-P	Guest turret rack	.249.00
RPC	Rack panel cover	.29.00
MSR-P	Media storage rack	**Start at 299.00**
BAC	Broadcasters adjustable chair.	.299.00

Dub/Edit Station

DES	Dub/edit station.	**$1399.00**
KRO	Keyboard return option	.699.00
DDO	Double drawer option	.399.00
URO	Undercounter rack option.	.299.00
CTR	Corner tower rack	.499.00
BAC	Broadcasters adjustable chair.	.299.00

Modules shipped with rack rails installed. Console cutouts are provided free of charge.

COMPETITIVE PRICES—EXPERIENCED STAFF

FURNISHINGS

RUSLANG

Console Table
- Top: 1½" thick up to 32" x 96"
- Panel base: 4 panels 24" x 29" high become a sturdy console table when assembled

Single and Double Turntable Pedestals
- 22" x 24" x 29" high (single); 24" x 42" x 29" high (double)
- 21" front rack space
- Standard EIA tapped rails; liftoff back panels; levelers

RL600
Tape Transport Console
- Accepts tape transport 19" x 21" high standard or 21⅝" by request
- Transport tilts down in front for ease of operation; lifts up for service
- Front directly under transport lifts off after loosening 4 mounting screws
- Casters are included; optional overbridge can be added to RL600 with special riser
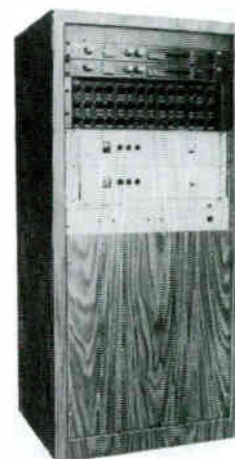
400A-B
Tape Transport Consoles
- 33¾"H x 22¾"W x 27½"D (variable upon request)
- Can be locked in desired position without complicated hardware
- Machine is dropped in place using feet to locate position and prevent movement
- Rollaround casters; lower section has 19" opening front and rear, plus a shelf with back as standard equipment
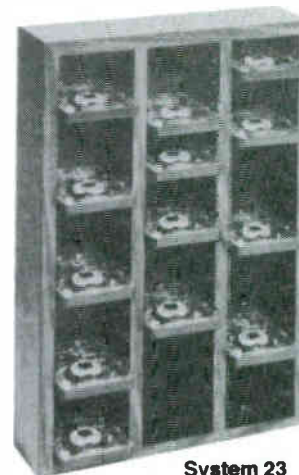
Electronic Equipment Racks
- Accept standard 19" wide equipment
- Come in 14 different heights, in 3½" increments, ranging from 21" to 70"
- Constructed of high pressure laminates and steel mounts
- Come fully assembled and available in a variety of solid colors as well as wood grain finish

Overbridge Systems
- Available in 4 depths: 11", 12¾", 16⅛" and 18½"
- Made up of 4 parts: a finished top, a finished bottom and 2 finished side panels in lengths required for rack space with rackmount rails applied
- To increase rack space, just add new side panels with longer rods and rack rails
- System can be mounted on any flat desk surface; RL liftoff back panels can be added as options

Console Table

Electronic Equipment Racks

RL600

Overbridge Racks

400-B

System 23
Modular Cart Racks
- Made up of 6 basic units holding either 18, 36, 54, 72, 90 or 108 cartridges
- Individual units can be bolted together to become freestanding, rotating, 4-sided cart racks which hold up to 1296 cartridges
- Other configurations are designed to sit on tabletops or can be wall mounted
- Sturdy and attractive, with the look of expensive walnut furniture

Also available:
- Tabletop and floor type lazy susan cart racks
- Cassette storage system
- Compact disc storage system

System 23

38

AKG Acoustics

K-141/2

Supra-Aural Stereo Headphone

- Semi-open, featuring resonance-free characteristics but with greater freedom from low-frequency side effects
- Provides an extremely broad, flat response almost totally free of coloration—sound which is warm, not boomy; open and present, without harshness; weighs 9¼ oz.

K-141/2 . . . .**$119.00**

K-44

Dynamic Headphone

- Reproduces the entire audio bandwidth from 20-24,000Hz, with uncompromising accuracy and low distortion
- Rated ar 50 ohms impedance, delivers plenty of output from low output level devices
- Dual stereo ¼″ and ⅛″ mini jack plugs

K-44 . . . .**$59.00**

K-240M

Monitor Headphone

- Precise bass and distortion-free high frequency capability
- Weight distribution over the head is uniform. Its cardan-pivoted earpieces are comfortable, self-adjusting
- Dynamic moving coil, 20-20,000Hz
- Single cord 8'4″ ¼″ phone plug; 8.5 oz. without cable

K-240M **$139.00**

SENNHEISER

HD 440   **HD 450 II**

HD 440

Headphone

- Digitally compatible supraural headphone with radial bead diaphragm
- Frequency response: 20-20,000Hz; 60 ohms impedance
- Sensitivity: 94dB
- 10′ kevlar-reinforced oxygen-free copper signal cable with ⅛″ to ¼″ stereo phone plug

HD 440 . . . .**$79.00**

HD 450 II

Headphone

- Digitally compatible
- Frequency response: 20-20,000Hz
- Impedance: 60 ohms
- Sensitivity (SPL at 1mW/1kHz): 94dB
- 10′ kevlar-reinforced oxygen-free cable with ⅛″ stereo phone plug and ¼″ adaptor

HD 450 II **$99.00**

HD 490

Headphone

- Digitally compatible
- Frequency response: 18-22,000Hz
- Impedance: 70 ohms
- Sensitivity (SPL at 1mW/1kHz): 94dB
- 10′ kevlar-reinforced oxygen-free cable with ⅛″ stereo phone plug and ¼″ adaptor

HD 490 . . . .**$129.00**

HD 520 II

Headphone

- Digitally compatible
- Frequency response: 18-22,000Hz
- Impedance: 300 ohms
- Sensitivity (SPL at 1mW/1kHz): 94dB
- 10′ kevlar-reinforced oxygen-free cable with ⅛″ stereo phone plug and ¼″ adaptor

HD 520 II **$169.00**

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INTERFACES

ATI

MM100
The Match Maker™

- Bi-directional IHF◄─PRO level/impedance interface
- 60dB line input CMR hum rejection
- Adjustable IHF output level
- True transformer balanced and protected line outputs drive
- +22dBm at under 0.01% THD
- 20Hz to 20kHz with +0dB, -0.25dB response over 98dB dynamic range
- Adjustable outputs
- Self-contained power supply
- Velcro or rack panel mounting, 1 or 2 units in 1³/₄″

MM100.....................................**$259.00**
Rackmount panel, single or dual **22.00**

DP100
The Disc-Patcher™

- Uni-directional□PRO level/impedance interface
- True transformer balanced, isolated and protected outputs
- Greater dynamic range (102dB)
- Flatter response (+0, -0.25dB)
- Lower nominal THD (0.005%, 20Hz to 20kHz)
- Adjustable outputs
- Self-contained power supply
- Velcro™ or rack panel mounting

DP100 ....**$209.00**
Rackmount panel, single or dual **22.00**

BENCHMARK Media Systems
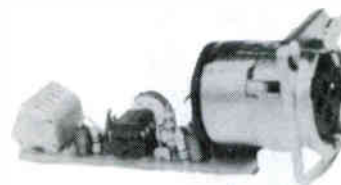
DIA-1
Differential Input Amplifier

- 100/10K ohm balanced input
- CMRR=90dB to 2kHz
- A=Unity, -6dB or -12dB
- Bipolar ± V power
- THD at 2kHz=0.0008%
- >200kHz bandwidth
- >120dB dynamic range
- Excellent RF immunity
- Highest sonic purity

DIA-1 ....**$55.00***
DIA-1LN Same as above except low noise; has 10K ohm inputs and is the preferred device when a 100K ohm input impedance is not necessary **55.00***
DIA-2 Same as DIA-1 except operates from a single power supply **55.00***
DIA-2LN Low noise version of DIA-2..............**55.00***
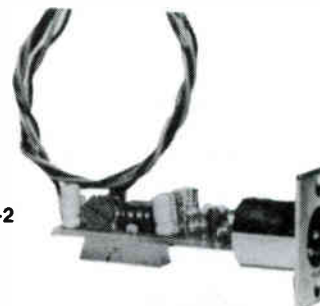
DOA-2

DOA-1
Differential Output Amplifier

- 60 ohm balanced output
- 10K ohm unbalanced input, min.
- A=off to +26dB
- Bipolar ± V power
- THD at 2kHz=0.0008%
- >200kHz bandwidth
- >120dB dynamic range
- Excellent RF immunity
- Highest sonic purity

DOA-1 ....**$55.00***
DOA-3 Same as DOA-1 except does not require a DC offset trim and may have its gain pot removed. **55.00***
DOA-2 Same as DOA-3, but uses single power supply . .**55.00***

***With XLR Connector, $48.00 Without**

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BENCHMARK Media Systems

DOM-1
Differential Output Mixer

- 60 ohm balanced mix output
- 2 10K ohm unbalanced inputs
- A = off to +26dB
- Bipolar ± V power
- >200kHz bandwidth
- >120dB dynamic range
- Excellent RF immunity; highest sonic purity

DOM-1 Requires a DC offset null when installation and gain are complete **$55.00***
DOM-3 Same as above except is AC coupled and does not require the offset null, so gain pot may be remoted **55.00***

*With XLR Connector, $48.00 Without
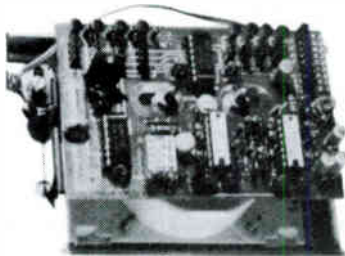
RPM-1
Meter Amplifier

- Peak-reading meter
- Local and remote FET switching between VU, peak and peak hold modes
- Gang switching possible with MR-1 master reset card
- Dip switch
- Beyond scale peak LED

RPM-1 . . . .**$160.00**

EXCALIBUR
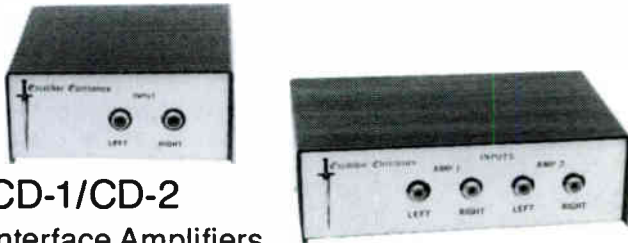
CD-1/CD-2
Interface Amplifiers

- Unidirectional interface amplifier designed to match the output of equipment using IHF standards to the input of equipment using broadcast standards
- Appropriate for use with the highest quality CD players, as well as monitors, tuners and cassette and tape playback
- Frequency response: 10Hz-25kHz ± 0.2dB

CD-1 2 amplifier sections . . . .**$ 99.00**
CD-2 4 amplifier sections **165.00**

HENRY ENGINEERING

Matchbox
Interface Amplifier

- Gain is adjustable to +20dB
- +26dBm maximum output level
- 0.008% distortion, 90dB S/N ratio
- All active direct coupled circuitry
- Does not load or ground studio lines
- Self contained regulated power supply
- Provides extra AC outlet for convenience

Matchbox **$195.00**

APHEX Systems

124A
10/4 Audio Level Interface

- Easily interfaces consumer audio equipment with professional studio and broadcast facilities
- Active, servo-balanced circuitry converts +4dBm (or +8dBm) line levels to -10dBm (IHF Hi-Fi) levels, and back again. XLR and RCA-type connectors enable quick hookup
- Full RF protection
- Servo-balanced inputs and outputs (high level)
- Low output impedances
- Selectable 600 ohm input termination
- Compact 1/2 rack package (rackmountable)

124A **$229.00**
44-008 Rack kit **29.95**

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AKG Acoustics

C-414B/ULS
Selectable Pattern Microphone
- Frequency response: 20Hz-20kHz
- FET condenser microphone, providing omni cardioid, hyper-cardioid and figure eight patterns with 3-position bass rolloff switch
- For 9-52V low current drain (μ1mA) phantom powering. Includes windscreen, clamp, stand adaptor and case

C-414B/ULS **$1199.00**
C-414B/TL Transformerless version **1399.00**

C-460B/ULS
C-451EB

C-460B/ULS
Microphone Combination
- Frequency response: 20Hz-20kHz
- 12-52V cardioid condenser microphone combination
- Switchable 4-position bass rolloff: flat, 70Hz, 150Hz and 10dB attenuation
- Consists of: C-460B preamplifier and CK-61 cardioid capsule
- Satin black finish, foam windscreen, stand adaptor and case

C-460B + CK-61 Cardioid **$599.00**
C-460B + CK-62 Omni **599.00**
C-460B + CK-63 Hypercardioid **599.00**
C-460B + CK-1X Cardioid. **957.00**

C-451E/C-451EB
Microphone Combinations
- Frequency response: 20Hz-20kHz
- 9-52V cardioid condenser microphone combination
- Modular system utilizes a wide range of capsules, modules, extension tubes and accessories
- Includes windscreen, stand adaptor and case

C-451E + CK-1 Cardioid capsule combination (nickel finish)
. . . . **$438.00**
C-451EB + CK-1 Cardioid capsule combination (black finish) with built-in bass roll-off switch. **518.00**

N-62E Power Supply
Portable, two-microphone, 120VAC operated in-line power supply; for adjustment-free compatibility with 12V and 48V DIN systems of phantom powering

N-62E **$110.00**

C-567E
Omnidirectional Lavalier Microphone
- Frequency range: 20Hz-20kHz; Sensitivity at 1kHz: -44dBV
- Wide-range mic for clean speech and music coverage in film, TV and general theatrical sound reinforcement
- User worn or clipped to musical instrument
- Shock/noise resistance and ease of field service
- 9-52V phantom powered
- Includes windscreen, belt clip, tie tack and tie bar case. Satin black chrome finish

C-567E **$279.00**

C-568EB
Shotgun Microphone
- Frequency range: 20Hz-20kHz; Sensitivity at 1kHz: -42dBV
- For film, TV (handheld or camera mount), stage and audio or video recording
- 2-position bass rolloff switch
- Stand adaptor and foam windscreen; satin black finish
- Integrated preamplifier is phantom powered by 9-52V

C-568EB **$449.00**

D-190E
D-1200E

D-190E
Cardioid Microphone
- Frequency range: 30Hz-15kHz
- Sintered bronze windscreen/pop filter; reduced feedback
- Speech or music microphone for performing and recording
- Includes SA-40 stand adaptor and case

D-190E **$179.00**
D-190ES with on-off switch **199.00**

D-1200E
Cardioid Microphone
- Frequency range: 25Hz-17kHz
- B—M—S switch allows for on-mic equalization
- Includes SA-41 adaptor and case

D-1200E **$349.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

ELECTRO-VOICE

RE10

Super-Cardioid Microphone

RE10

- Frequency response: 90Hz-13kHz
- Impedance: 150 ohms
- Output: -56dB
- Acoustalloy diaphragm, steel case, fawn beige finish
- 6³/₄" long, 1³/₈" max. diameter, ³/₄" shank diameter; 6 oz.
- 15' Switchcraft A3F connecting cable
- 310A clamp, metal carrying case included

RE10 . . . .**$250.00**

RE27N/D

Variable-D N/DYM® Dynamic Cardioid Microphone

- Frequency response: 45Hz-20kHz
- Impedance: 150 ohms balanced
- Power level: -51dB at 1000Hz (0dB = 1mW/Pascal)
- Neodymium alloy magnet and a reinforced diaphragm dome. Length is 8.53" and widest diameter is 2.14"; 1 lb., 9 oz. without cable
- 15' cable with Switchcraft A3T connector
- 81714 stand clamp included

RE27N/D **$639.00**

RE15

Super-Cardioid Microphone

- Frequency response: 80Hz-15kHz
- Impedance: 150 ohms
- Output: -56dB
- Acoustalloy diaphragm, steel case, fawn beige finish
- 6⁹/₁₆" long, 1³/₈" diameter, ³/₄" shank diameter; 6 oz.
- 15' Switchcraft A3F connecting cable
- 310A clamp, metal carrying case included

RE15 . . . .**$377.00**

RE16

Super-Cardioid Microphone

Same as RE15 except:
- Blast filter provides closest handheld use without any "P-pops"
- Hum pickup level: -57dBm (re: .001 gauss field)
- 7³/₈" long, 1²⁵/₃₂" max. diameter, ³/₄" shank diameter; 8 oz.

RE16 . . . .**$395.00**

RE20

Cardioid Microphone

- For applications which require response that extends to the frequency extremes
- Frequency response: 45Hz-18kHz
- Impedance: 150 ohms (changeable to 50 or 250 ohms)
- Output: -57dB
- Acoustalloy diaphragm, steel case, fawn beige finish
- 8¹⁷/₃₂" long, 2⁹/₆₄" max. diameter, 1¹⁵/₁₆" body diameter; 1 lb., 10 oz.
- 15' Switchcraft A3F connecting cable
- Stand adaptor, metal carrying case included

RE20 . . . .**$564.00**

RE50

Dynamic Omnidirectional Microphone

- Frequency response: 80Hz-13kHz
- Impedance: 150 ohms
- Output: 55dB
- Acoustalloy diaphragm, aluminum case, fawn beige finish
- 7³/₄" long, 1¹⁵/₁₆" max. diameter, 1" shank diameter; 9¹/₂ oz.
- 15' Switchcraft A3F connecting cable
- 301A clamp, metal carrying case included

RE50 . . . .**$217.00**

635A

Dynamic Omnidirectional Microphone

Same as RE50 except:
- Steel case
- 5¹⁵/₁₆" long, 1¹³/₃₂" diameter; 6 oz.
- 312A clamp included

635A **$145.00**

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MICROPHONES

SENNHEISER

MD 441 U

MD 421 U

MD 421 U
Studio Cardioid Microphone
- Frequency response: 30Hz-17kHz
- Reduced handling noise and no overload at extremely high volume
- 5-step variable bass control (MD 421 N, MD 421 U-4)

MD 421 U **$469.00**

MD 441 U
Dynamic Supercardioid Microphone
- Frequency response: 30Hz-20kHz
- 10 different, switchable response curves
- Built-in pop filter

MD 441 U **$629.00**

SHURE Brothers

SM57
Unidirectional Dynamic Microphone
- Slender dynamic microphone built to provide wide range reproduction of music and voice
- Bright, clean sound
- Cartridge shock-mounted for quiet operation
- Frequency response: 40Hz-15kHz

SM57-CN With 25' cable **$165.00**
SM57-LC Without cable **141.25**

SM58
Unidirectional Dynamic Microphone
- Uniform cardioid pickup pattern minimizes off-axis coloration and rejects background noise
- Effective presence rise in mid-frequencies
- Fixed low-frequency response of 50Hz-15kHz

SM58-CN With 25' cable **$205.00**
SM58-LC Without cable **181.50**

SM7
Unidirectional Dynamic Microphone
- For use with instruments or voice in multi-track recording
- Boom or stand mounting
- Frequency response: 40Hz-16kHz
- Graphic response-tailoring switches

SM7 . . . .**$556.50**

AUDIO TECHNICA

AT804
Omnidirectional Moving Coil Dynamic Microphone
- Frequency response: 50Hz-15kHz
- Sensitivity: -53dBm (0dB = 1mW/1 Pa)
- Open circuit sensitivity: 3.5mV (-49dB re 1V/1 Pa)
- Impedance: 600 ohms balanced
- Accessories furnished: AT8405 snap-in clamp for standard 5/8"-27 threaded stands; protective carrying case; foam windscreen

AT804 . . . .**$95.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

ELECTRO-VOICE

MS-2000A
True Diversity Wireless Microphone Systems
- Rackmountable receivers
- Ultimate quieting (S/N): 105dB (20kHz flat); 108dB (A-weighted)

MS-2000AB	Dual receiver	**$550.00**
MR-2000A	Receiver	**392.00**
MT-2000A	Handheld transmitter with N/D757B microphone head	**359.00**
MB-2000A	Body-pack transmitter	**225.00**

SHURE

L4

L2/58

L Series
VHF Wireless Microphone Systems
- Available in diversity and non-diversity versions

L4	MARCAD diversity receiver	**$335.00**
L3	Receiver	**195.00**
L11	Body-pack transmitter	**185.00**
L2/58	Handheld transmitter with SM58 microphone	**355.00**
L2/87	Handheld transmitter with SM87 microphone	**415.00**

VEGA

Pro Plus
Wireless Microphone Systems
- 150-216MHz

77/DIII	Dynex® pocket transmitter; includes 153A belt clip, short flexible antenna, battery, 119 audio input plug and C157 soft zippered protective case for transmitter	**$1086.00**
R-42A	Pro Plus diversity receiver with Dynex III (no antennas included)	**3570.00**
67B/DIII	Dynex III portable, diversity, battery-powered receiver; includes 4 9V alkaline batteries and 2 121 BNC antennas	**1794.00**
LM-203	Vega RSX-12 miniature unidirectional electret microphone with 3' cable and Lemo connector to plug into 77/DIII transmitter	**150.00**

TELEX

ProStar Series
True Diversity Wireless Systems
- Compact design, lightweight and easy to use

R-10
Receiver
- 169.505 to 174.075MHz RF frequency range
- Permanently attached telescoping antennas on the R-10 receiver simplify system setup
- Pos-i-Phase™ true diversity circuitry with LED indicators
- Volume control and squelch control

B-10
Belt Pack Transmitter
- 3 lapel mic element options
- Permanently wired mic cord which functions as an efficient antenna
- Popless mic mute
- Long battery life (608 hours alkaline, 1.5 to 2 hours NiCad)
- Mic gain control in battery compartment

R-10	Pos-i-Phase receiver	**$200.00**
R-20	Pos-i-Phase receiver	**370.00**
B-10	Belt pack transmitter with Telex WLM-10 "Omni" lapel mic	**180.00**
B-10	Belt pack transmitter with Audio Technica AT-831b"Uni" lapel mic	**270.00**
B-10	Belt pack transmitter with attached Telex WLM-50 "Omni" mic	**230.00**
B-10/23	Belt pack transmitter	**299.00**
WT-55	Belt pack transmitter	**227.00**
WLM-30	Lapel microphone	**50.00**
WLM-60	"Uni" lapel microphone	**80.00**
H-10/10	Handheld transmitter with Telex TE-10 head	**290.00**
H-10/757	Handheld transmitter with EV NDym-757 head	**420.00**
R-10/B-10	Lapel system with attached Telex WLM-10	**380.00**
R-10/H-10/10	Handheld system with Telex TE-10 head	**490.00**
R-20/WT-55/WLM-30	Lapel system	**647.00**
R-20/H-10/10	Handheld system with Telex TE-10 head	**660.00**

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AKG Acoustics

KM-211/1

KM211/1

Telescoping Boom Arm

- For KM-200, KM-201A/2 or KM-251
- Extension 27½" maximum ⅝"-27 thread
- Chrome with matte black fittings

KM-211/1 ....$40.00
KM-211/1 Black 40.00

KM211/2

Telescoping Boom Arm

Same as KM211/1 except:
- Extension 17¼" minimum, 33" maximum ⅝"-27 thread
- Collapsed length: 22½"
- Net weight: 2 lbs.

KM-211/2 ....$45.00
KM-211/2 Black 45.00

KM211/3

Adjustable Boom Arm

- Adjustable boom arm for use with KM-265
- Total length 32"
- Black finish
- Net weight 1.5 lbs.

KM-211/3 ....$40.00

LGN Series

Flexible Goosenecks

LGN6*	Chrome or black ⅝" threaded	$ 6.95
LGN13*	Chrome or black ⅝" threaded	9.95
LGN19*	Chrome or black ⅝" threaded	12.95

*Add B suffix for black.

TM Series

Tensimount Shock Mounts

TM1	Mounts with SA40, SA26	$17.00
TM2	Mounts with SA40, SA26	19.00
TM3	Mounts with SA40, SA26	19.00

AUDIOMETRICS

M2MDU   **TMA**
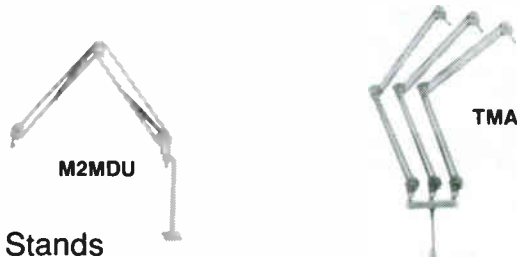
Mic Stands

M2MDU	Single mic arm. Black or gray	**POR***
M3MDRU	2 joint single mic arm. Gray	**POR***
51900-3	Triple mic stand	**POR***
TMA	Triple mic arm. Gray	**POR***
MJRM1	Single mic arm. Lightweight version of M2MDU. Gray	**POR***

LUXO

LM-3   **KM-1**

LM-1 Arm
- 41" maximum reach
- For mounts A, B or C ....**POR***

LM-3 Arm
- 26" maximum reach
- For mounts A, B or C ....**POR***

KM-1 Arm
- 41" maximum reach
- For mounts A, B or C ....**POR***

16008

Manual Copyholder

- Arm length: 33"
- Letter/legal size faceplate
- Load capacity: approximately 2.5 lbs.
- Heavy-duty "K" arm
- "A" clamp included

16008 ....$82.95
Note: All arms available in white, black, tech gray, tan and oyster

A   **B**   **C**

Mounting Brackets

Style A	C-clamp style for horizontal surfaces	$9.50
Style B	Permanent mounting for vertical surfaces	9.50
Style C	Permanent mounting for horizontal surfaces	9.50

Note: All brackets available in black, white, oyster, tan, tech gray and soft white

*Price On Request

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ATI

L-1000

Dual Line Amplifiers

- Balanced differential inputs: 30K ohm bridging, fully transient protected and RF suppressed
- 80dB common mode hum rejection
- High input overload capability: +24dBm bridging
- Low noise: -107dBm equivalent input noise (20kHz bandwidth)
- Low distortion: 0.2% max. transformer output, 0.05% max. direct outputs
- Flat response: ± 25dB, 20Hz to 20kHz
- 34dB voltage gain, front panel adjustable

L-1000-1 Dual, transformer outputs **$345.00**
L-1000-2 Dual, balanced differential outputs **345.00**
Microphone and Line Amplifier/Mixers
ML-1000-1 Transformer outputs **$385.00**
ML-1000-2 Balanced differential outputs **385.00**

BELAR Electronics Laboratory

AS-1

Audio Sentry

- Aurally and visually alerts station personnel of the absence of modulation or carrier
- Can be programmed to sound off anywhere between 3 and 60 seconds, in the case of modulation loss
- Can be installed in AM/FM or TV facilities, locations with store-casting and public address systems as well as in recording and duplicating studios

AS-1 .... **$250.00**

BROADCAST ELECTRONICS

English   Spanish

On-Air Lights

- Horizontal or vertical format, wall or ceiling mount
- Supplied with 25W red bulb and attention-getting flasher

835-0001 Vertical **$60.00**
835-0002 Horizontal **60.00**

COMPUTEMP

Computemp 5

Time and Temp

- Main temperature, 30' sensor intended for measuring ambient outdoor temperature
- Aux. temperature measures any temperature within 6' of unit
- Current time display
- Temperature memory for low and high of the day
- Temperature alarm when pre-selected temperature is reached
- Time alarm when pre-selected time is reached
- Select what is to be displayed
- Choice of Celsius or Farenheit

Computemp 5 .... **$89.95**

ENBERG
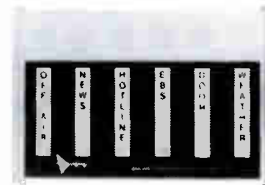
BA-6/BA-6R

Broadcast Alert Monitor

- 6 alert channels
- Flashing indicators
- Auto or manual reset
- 2-line fone module and 30 alert labels included

BA-6 .... **$349.00**
BA-6R Remote monitor. **149.00**

EXCALIBUR

"H" Pads

- Fixed 600 ohm attenuators on a ¾" x 1¼" PC board
- Use 1% metal film resistors for accurate losses and low noise
- 6, 10, 20, 50dB losses

"H" Pads **$2.25**
Blank Pads **2.10**
Custom "H" Pads available in multiples of 100 ..... **ea. 2.40**

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COMPETITIVE PRICES—EXPERIENCED STAFF

FIDELIPAC

World Standard Studio Warning Lights

- Brilliant red lettering on jet black background
- Faceplate of unbreakable plexiglas
- Light includes lamps and mounting hardware

340 ON AIR **$72.00**
340-S ON AIR in French, German, Greek, Japanese, Polish, Russian, Spanish or Swedish. Specify when ordering. . .**72.00**
340-REC RECORDING **72.00**
340-REC-S GRABANDO (RECORDING in Spanish) . . .**72.00**
340-CUS* Warning light with custom legend **90.00**

*Must be ordered in multiples of the standard package.

GENTNER Electronics

Silence Sensor

- Monitors the audio source, observing both rising and falling edges of audio
- When a loss of audio or "silence" occurs, an open collector output is activated and the time-out sequence begins. If audio returns before time-out, the unit reverts to a "ready" state. If audio does not return, a second open collector output is activated along with a relay closure

Silence Sensor. **$509.00**

HENRY ENGINEERING

LogiConverter
Studio Equipment Control Interface

- Facilitates remote control of broadcast studio equipment
- Eliminates the incompatibility often encountered when a broadcast console is used to provide remote start-stop control of peripheral equipment
- All inputs are opto-isolated
- All outputs are relay-isolated
- User-programmable logic translation
- Compatible with TTL/CMOS/open-collector logic
- Inputs/outputs can be momentary or maintained
- Start-only or start-stop from single input signal

LogiConverter **$195.00**

TITUS Technological Laboratories

OAL-HG

OAL-VS

On Air Lights

- Handsome appearance
- Oak base
- Silver or gold frame
- Horizontal or vertical mounting
- "On air" or "recording"
- "Blackout" face when not in use
- Dimensions: 4³/₄" H x 8¹¹/₁₆" W x 2¹/₂" D
- Power: 24VDC 680mA (4 #1864 bulbs in parallel)
- Wiring: class 2, #18 to #24 gauge

OAL-HG Horizontal "On Air" gold frame **$125.00**
OAL-HS Horizontal "On Air" silver frame **125.00**
OAL-VG Vertical "On Air" gold frame. **125.00**
OAL-VS Vertical "On Air" silver frame **125.00**

For horizontal or vertical "Recording" add suffix "R" (e.g., OAL-HGR)

ANNIS

Audiophile Han-D-Kit

Provides everything needed to measure and eliminate magnetism in recorder components before recorded tapes are damaged permanently.

Annis Pocket Magnetometer

Measures level of magnetism in components. Calibrated to read directly in gauss. K20/B5 shown.

Test Strips

One of these sensor strips is magnetically soft and the other magnetically hard. For experiments and testing your demagnetizing technique.

Clip-On Extension Probe

Extension probe is 1¾" long. Can be formed with fingers. Improves checking of magnetism in hard-to-reach components.

Standard Han-D-Kit K20/B5

Includes all items shown above. K20 Magnetometer has polarity indicating center zero scale, calibrated to read 5-0-5 gauss.

K20/B5 . . . . **$53.50**

"Notes on Demagnetizing," Etc.

Explains causes of magnetism, with particular reference to tape recorders. How to measure it accurately and how to eliminate it. Interesting experiments also included.

Annis Audiophile Han-D-Mag

A rugged, dual-use demagnetizer having a powerful sine wave demagnetizing field strength of over 350 oersteds ¼" beyond the tip of the 2¼" long probe.
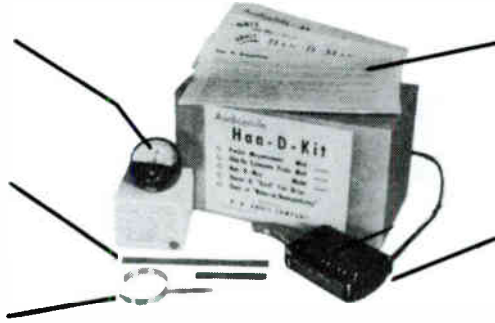
Deluxe Han-D-Kit K25/S5

Same as above except for the Magnetometer. This kit includes the larger, more rugged K25 jewelled Magnetometer with 10 times the calibration stability of the standard K20.

K25/S5 . . . . **$84.00**

NORTRONICS

Duracore Heads

Nortronics Universal Replacement Heads

Nortronics offers the most complete line of replacement heads for virtually every recording application. Its Universal Replacement Magnetic Tape Heads are specially designed for a wide variety of cassette (0.150") and 8-track cartridge players. Nortronics can provide a precise replacement head for hundreds of home and auto stereo cartridge and cassette tape players manufactured by both foreign and domestic firms.

Duracore™ Replacement Tape Heads for Professional Recorders

Professional recording equipment users need magnetic heads with greatly extended wear life to directly reduce operational costs by eliminating electronic adjustments, requiring fewer service calls and cutting recorder downtime. Nortronics now offers a new series of direct replacement magnetic heads constructed with a new wear-resistant material called Duracore. It provides 10 times the operational lifespan of conventional Mumetal replacements to yield meaningful cost advantages. Many years of extensive testing have proved Duracore to be the ideal material for long-life replacement heads. You'll find that Duracore heads provide excellent wear resistance, and they're also affordable. Duracore replacements are currently available for popular professional reel-to-reel and cartridge recorders/players manufactured by many well-known companies.

Call for a complete replacement guide.

THE CUTTING WEDGE
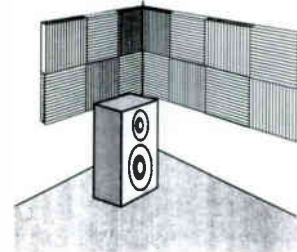
Acoustical Foam

- 0.70 NRC/0.72 NRC actual (noise reduction coefficient)
- Medical spec. foam stock
- Universal 1' cut—not odd inch cut
- 30% superiority in shape retention over SONEX®
- Patented anechoic wedge design
- Available in 2", 3", 4" and 6" thickness

Noise Reduction Coefficients (NRC)

49
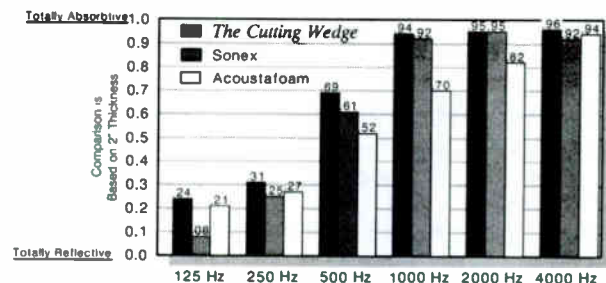
CAIG LABORATORIES

DeoxIT™
Environmentally Safe Chemicals for Maintenance and Service

■ Advanced formula contains improved deoxidizers, preservatives, conductivity enhancers, anti-tarnishing compounds and arcing and RFI inhibitors, and provides extended temperature range ■ A fast-acting 1-step treatment ■ Use on connectors, plugs and sockets, switches, relays, batteries, terminal strips, stationary and moving connections, similar and dissimilar metals

D5S-6 5.5 oz. DeoxIT D5 spray..................**$ 7.95**
K-D50W 50 DeoxIT wipes **8.95**
K-D100P DeoxIT pen..............................**9.95**
K-D100S DeoxIT spray kit, includes 2 oz. D100S-2 spray, extension tubes, lint-free cloth, swabs and cleaning brushes.........**17.95**
D100L-25C DeoxIT precision dispenser, polypropylene, 100% liquid, 25ml....................................**12.95**

GENEVA

AT-210B Audio Cassette Alignment Tape

■ Makes it easy to check recorder accuracy ■ Has test tones from 125Hz to 10kHz ■ Provides azimuth adjustment of record/playback head, frequency response of tape head and amplifier, and record and Dolby level calibrations ■ Measures frequency response level for ferric and chrome formats
AT-210B **$17.40**

PF-102/QM-108, PF-116/PF-132 Liquid Head Cleaner

■ For volume use pure TF solution ■ Effectively cleans magnetic heads, pinch rollers and capstans, and dries with absolutely no residue ■ Non-flammable, non-toxic and absolutely safe for all metal, plastic, rubber, painted and elastomer parts
PF-102 1 oz......................................**$ 7.99**
QM-108 8 oz. **8.18**
PF-116 16 oz. spray..............................**12.23**
PF-132 32 oz. liquid **23.90**

PF-208 Professional Head Demagnetizer

■ 1000 gauss field intensity quickly removes residual magnetism from multi-channel, 2" studio tape heads and guides ■ Rubber covered probe tip protects delicate head surfaces ■ When demagnetizer is not in use, a momentary switch automatically shuts it off
PF-208 ....**$96.88**

50

PF-211/PF-212 Video/Audio Tape Erasers

■ 2300 gauss field intensity is excellent for VHS and Beta video tapes, audio cassettes and reel-to-reel tapes up to 1/2" wide ■ U.L./CSA approved ■ 220-250VAC
PF-211 ....**$69.95**
PF-212 ....**79.95**

PF-250/PF-252 Tabletop Bulk Erasers

■ Powerful, professional eraser for 101/2", 7" and 6" reels, for cassettes and cartridges, and for both 1" and 1/2" VHS and Beta video cassettes ■ Switch offers both continuous and momentary on positions ■ Automatic thermal protection prevents burnout ■ U.L. approved ■ 220-250VAC
PF-250......................................**$429.00**
PF-252......................................**493.00**

PF-380 Broadcast Head Degausser

■ Same size as a broadcast cartridge ■ 400 gauss flux intensity demagnetizes record and playback heads in seconds
PF-380......................................**$99.99**

PF-400 Compact Disc Storage System

■ Accommodates 4 CDs and is conveniently shaped to the dimensions of a standard LP album ■ Individual compartments accept the complete CD case
PF-400 ....**$21.00**

PF-412 Auto-Stop CD Cleaner

■ Disc Safe 5 cleaning solution ■ Straight radial cleaning pattern ■ Automatic 20-second cleaning cycle ■ Refill pads (PF-418) and solution (PF-416) available
PF-412 ....**$39.95**
PF-416 1 oz. Disc Safe 5 cleaning solution **4.99**
PF-418 5 replacement cleaning pads **10.32**

PF-563 Audio Cassette Head Cleaner

■ Cleans cassette heads and tape path components in 5 seconds ■ Capstan cleaner and extra pads included ■ Wet-type cleaner
PF-563 ....**$7.99**

PF-710 Broadcast Cartridge Height Gauge

■ Provides critical head track, height, tape guide height and head zenith adjustments ■ Zenith adjustment is 90° ±5° ■ Height adjustments to 1/1000
PF-710 ....**$57.60**

QM-230 Standard Cassette Eraser

■ Ideal for standard format cassette tapes ■ Powerful, permanent strontium-ferrite magnets provide complete erasure and require no power cord or battery
QM-230 ....**$44.95**

VR-109 Super Blast High Velocity Air Duster

■ Safe, easy way to remove dust and dirt from hard to reach areas within delicate audio, video and photographic gear
VR-109 10 oz. spray can **$10.99**

LITTLITE

L-4/18
L-3/12
L-2/12
L-1/6
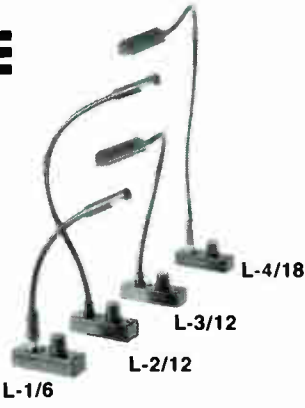
Littlite Sets

■ High intensity Littlite has a 5W bulb with a finned hood ■ Low intensity has a 2.4W bulb with a smooth, tubular hood ■ "L" Series sets come complete and ready for easy surface mounting ■ All sets include bulb, mounting base and fully adjustable dimmer. Sets also include a 6' cord, 2-piece snap mount, screws for permanent mounting and a wall plug-in transformer ■ "A" versions do not include the transformer and can be powered by any available 12V supply

Low Intensity Series
Detachable Lamp With Base

L-1/6	6″	$57.00	L-1/6A	6″	$47.00
L-1/12	12″	57.00	L-1/12A	12″	47.00
L-1/18	18″	57.00	L-1/18A	18″	47.00

Attached Lamp With Base

L-2/6	6″	$47.00	L-2/6A	6″	$37.00
L-2/12	12″	47.00	L-2/12A	12″	37.00
L-2/18	18″	47.00	L-2/18A	18″	37.00

High Intensity Series
Attached Lamp With Base

L-3/6	6″	$57.00	L-3/6A	6″	$47.00
L-3/12	12″	57.00	L-3/12A	12″	47.00
L-3/18	18″	57.00	L-3/18A	18″	47.00

Detachable Lamp With Base

L-4/6	6″	$67.00	L-4/6A	6″	$57.00
L-4/12	12″	67.00	L-4/12A	12″	57.00
L-4/18	18″	67.00	L-4/18A	18″	57.00

Individual Gooseneck Lamps

■ Littlite "P", "G" and "X" Series lamps can be built into any device that requires lighting ■ "G" Series Goosenecks have a BNC type swivel connector ■ "P" Series Goosenecks have a ³/₈″ diameter (¹/₈″ NPT) threaded end with ground lug and nut ■ "X" Series Goosenecks have a 3-pin male "XLR type" connector

Low Intensity Individual Permanent Mount Lamp			High Intensity Individual Permanent Mount Lamp		
6P	6″	$19.00	6P-HI	6″	$29.00
12P	12″	21.00	12P-HI	12″	31.00
18P	18″	23.00	18P-HI	18″	33.00
Individual Detachable Lamp			**Individual Detachable Lamp**		
6G	6″	$25.00	6G-HI	6″	$35.00
12G	12″	27.00	12G-HI	12″	37.00
18G	18″	29.00	18G-HI	18″	39.00
Individual Detachable Lamp (XLR)			**Individual Detachable Lamp (XLR)**		
6X	6″	$31.00	6X-HI	6″	$41.00
12X	12″	33.00	12X-HI	12″	43.00
18X	18″	35.00	18X-HI	18″	45.00
Individual Detachable Right Angle Lamp (XLR)			**Individual Detachable Right Angle Lamp (XLR)**		
6XR	6″	$41.00	6XR-HI	6″	$51.00
12XR	12″	43.00	12XR-HI	12″	53.00
18XR	18″	45.00	18XR-HI	18″	55.00
Automotive Lamp Set			**Raklites**		
L-5/6, 12, 18		$47.00	L-8PF	With filter	$169.00

NEUTRIK

NC3MX
NC3FX

X Series Cable Connectors
In-Line Style—Male and Female Types

■ Smallest available XLR cable connector, consists of only 4 parts and eliminates the use of a set screw or crimping during assembly ■ Bellows-style polyurethane secure strain relief ■ Flex relief and chuck type snap-on cable clamp provide between 2.8-8mmØ

MX-Type	Contact	Nickel	Black Chrome
Standard	Silver	NC3MX	NC3MX-BAG
Standard	Gold	—	NC3MX-B
Heavy-Duty	Gold	NC3MX-HD	NC3MX-HD-B
FX-Type			
Standard	Silver	NC3FX	NC3FX-BAG
Standard	Gold	—	NC3FX-B
Heavy-Duty	Silver	NC3FX-HD	—
Switch	Gold	NC3FX-S	NC3FX-SB

VIF INTERNATIONAL

VIF 1005

VIF 1005 Self Aligning Capstan
Idler Assembly

■ A unique self-aligning feature enables the VIF 1005 to remain exactly parallel to the capstan at all times, eliminating the problem of tape steering up or down due to faulty alignment

VIF 1005 . . . . **$46.00**

VIF 1000 Lock-Down Reel Retainer

■ Provides quick loading and a highly reliable method of securing both NAB and RETMA tape reels in place ■ Works well with either ¼″ or ½″ reels on both rack and console mounted recorders ■ Can be permanently locked on the shaft when used with NAB reels

VIF 1000 . . . . **$20.00**

XEDIT CORP.

S-3 Aluminum Splicing Block

■ For consoles using ¼″ audio tape ■ 5³/₄″ x 1″ x ³/₈″ with counter-sunk mounting holes ■ 90° and multi-track cutting angle, calculated for normally imperceptible time interval of less than ¹/₁₀₀ᵗʰ of a second between the top and bottom tracks

S-3 . . . .**$46.00**

EDitabs

■ Pre-cut. No trimming of tape overhang ■ Eliminates hard, brittle, sticky splices ■ Automatically positions and centers on tape in EDIT-all block ■ Tape may be erased and used indefinitely ■ Assures click-free recordings ■ Smooth, tapered edges prevent wow ■ Never damages tape or tape heads ■ Tough, outlasts the original tape ■ Retains the original quality of sound reproduction ■ ¼″ tabs for ¼″ tape, for open reel and cartridge machines

CL-1 . . . .**Per 1000/$45.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

HENRY ENGINEERING

Superelay

Utility Control Interface

- 6 double-pole relays for low voltage audio switching
- Solid-state synchronous relay controls 300W of on-the-air lights without buzz, pops or arcing (1000W version available)
- Built-in flasher, can be defeated for constant-on mode
- Can be controlled by switch, relay, CMOS and TTL compatible
- Can be connected to telco line for ring control switching
- Built-in power supply, 24VDC available for utility use

Superelay **$225.00**

DigiStor

Digital Message Storage System

- Ideally suited for broadcast station information lines such as concert information, ski reports and sports scores
- Can be used for message-on-hold or as a utility message repeater
- May be programmed to play the message only once or continuously
- Storage time is dependent upon sampling rate
- Standard DigiStor will record up to 2:08 with quality suitable for voice or music or 4:16 with voice-only quality (user selectable)
- DigiStor-XM will record 8:32 with good quality or 17:04 with voice-only quality
- DigiStor-HF offers higher fidelity with memory time of 1:20
- DigiStor-XM-HF yields a memory time of 5:30

DigiStor Standard **$395.00**
DigiStor-XM **595.00**
DigiStor-HF. **420.00**
DigiStor-XM-HF **620.00**

INTERALIA Communications
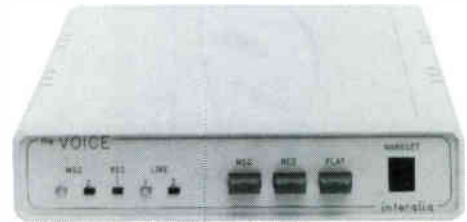
V23

Digital Voice Announcer

- Interfaces with central office lines and most PABXs
- A recorded message may be assigned to 1 or both output channels
- Recorded message may be played separately or linked together
- Variable number of rings before answering caller
- Standard RJ-11 modular jacks
- 3-minute recording time
- 2 announcement channels

V23 . . . .**$1200.00**

MMU2-4/2-6

Digital Voice Announcer

- Interfaces with central office lines and most PABXs
- Channels can be configured by user to operate in ground start, loop start, battery start or continuous play (no add-on circuitry required)
- A recorded message may be assigned to 1 or multiple channels by user
- Remote access option allows messages to be recorded from a remote location by using a touch tone telephone
- Changeable remote access security code
- Self diagnostics for troubleshooting: memory test, telephone line test and audio test

MMU2-4 4 messages, 4 lines, 64 seconds **$3150.00**
MMU2-6 6 messages, 6 lines, 64 seconds **4065.00**

ORBAN

Security Covers

- Acrylic security covers attach easily to any Orban product
- Fit most other EIA-standard rackmount panels
- Available in 4 sizes and 3 colors
- 3 sets of screws are supplied for 3 levels of security
- Any other 10-32 x 1/2" screw may be used

Model	Panel Height	Suffix (xx) for Color	Price
SC-1	13/4" (1 unit)	CL-Clear Transparent	$55.00
SC-2	31/2" (2 units)	BL-Blue Transparent	60.00
SC-3	51/4" (3 units)	WH-Opaque White	60.00
SC-4	7" (4 units)		60.00

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COMPETITIVE PRICES—EXPERIENCED STAFF

ATI

VU 1000 MicroAmp
Line Switcher, Meter and Monitoring Amplifier

- 8 active balanced inputs bridge +24dBm lines
- Remoteable digital input selection mutes all audio during scan
- 12-segment, 3-color LED meter has switchable VU, average and PPM ballistics
- Range switch selects 0VU meter reading at -10, 0, +4, +8 or +18dBm input
- Line output drives +22dBm into 600 ohm balanced load, select 0, +4 or +8dBm output at 0VU meter indication, +0.25dB response, 0.1% max. THD, 20Hz-20kHz
- Monitor circuit with level control

VU1000-1 Drives 600 ohm headphones and external amplifier **$625.00**
VU-1000-2 Drives 6W/8 ohm amplifier into Lo-Z phones or external speaker, phones interrupt external feed; mount singly or as stereo pair in 1³⁄₄" **725.00**

VU800

Micro-Meter
Studio Metering System

- Useful for visually monitoring many audio lines simultaneously
- Expandable Micro-Meters display 1, 2, 3 or 4 stereo signal pairs (up to 8 channels) on bright, high resolution, 3-color LED bar graphs with simultaneous VU and PPM peak display
- Balanced, bridging inputs prevent line loading and are individually switchable for 0VU indication at -10, +4 or +8dBu
- Compact 3¹⁄₂" rackmount

VU200 1 stereo display . . . . **$ 499.00**
VU400 2 stereo displays. **749.00**
VU600 3 stereo displays. **999.00**
VU800 4 stereo displays. **1249.00**

BELAR Electronics Laboratory
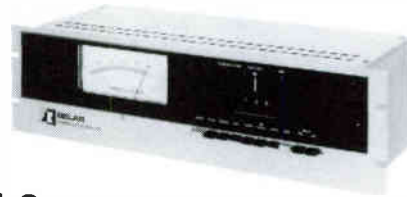
FMM-2
FM Modulation Monitor

- Ultra-linear digital discriminator
- Digitally selectable peak indicator, adjustable in 1% increments from 1 to 199%, independent of modulation polarity
- Built-in voltmeter for AM and FM noise measurements
- Carrier alarm with front panel indicator
- 2 wideband outputs
- True peak or semi-peak metering
- Separate fixed 100% modulation indicator
- High visibility rear-illuminated meter

FMM-2 . . . . **$1450.00**

FMM-4A
FM Digital Frequency Monitor

- RF/Lo input
- IF input (when Lo is used)
- ± 1kHz off-frequency alarm
- ± 2kHz off-frequency alarm
- Low level alarm
- RF/Lo selector switch
- Average counts selector switch
- ± 500Hz off-frequency alarm
- Invalid count alarm
- 6MHz timebase output
- 3¹⁄₂-digit LED display
- Designed for ATS operation

FMM-4A **$1295.00**

FMS-2
FM Stereo Modulation Monitor

- 2 independent semi-peak modulation meters for simultaneous monitoring of left and right channels
- Front panel switchable de-emphasis for noise measurements
- Pilot alarm with front panel indicator
- Outputs for audio proof-of-performance measurements
- 2 auto-ranging voltmeters with LED displays for 0 to -80dB range measurements
- Stereo separation measurement capability of over 70dB at 15kHz

FMS-2 . . . . **$1650.00**

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MONITORS

BELAR Electronics Laboratory

TVM-100
TV Aural Modulation Monitor

- Mono/stereo compatible
- Designed to measure the total modulation characteristics of mono as well as multi-channel television audio
- Utilizing split sound and quasi-parallel detection modes, automatic deviation calibrators for 25kHz (mono) and 73kHz (BTSC stereo) and a digital display for indication of actual deviation

TVM-100 ....**$3795.00**
Option 01 SAP and PRO injection board **350.00**
Option 02 Preamplifier **350.00**

TVM-2A/TVM-3A
TV Frequency Monitors

- Designed to measure TV visual carrier and aural carrier or aural intercarrier deviations
- Units incorporate true frequency counter circuits that are multiplexed between aural and visual carriers, so the aural and visual carrier frequencies may be measured independently
- Inhibited off-frequency alarm drivers. The input to the monitors may be from either a composite visual-aural signal or the output of an RFA-3 RF amplifier

TVM-2A VHF.........................**$2595.00**
TVM-3A UHF...........................**2795.00**

RFA-1
FM RF Amplifier

- Designed for off-air monitoring of both monaural and multiplexed FM transmitters
- Amplifies the signal to a level suitable for the input requirements of Belar FM modulation monitors
- Utilizes an IF bandwidth of 400kHz
- IF selectively is such that an adjacent channel, 800kHz removed, is attenuated 50dB
- No adjustments are necessary over an input range of $100\mu V$ to 0.5V

RFA-1.....................................**$575.00**

RFA-2
AM RF Amplifier

- Designed to provide the required signal level for Belar AM modulation and frequency monitors when the monitors are located remotely from the transmitter site
- Requires a suitable antenna such as a whip or loop
- AGC range is more than 30dB

RFA-2....................................**$595.00**

AMM-2B
AM Modulation Monitor

- 125% peak positive and 99% peak negative indicators
- Modulation calibrator provided
- Carrier level arm
- Designed to measure the total modulation characteristics of AM broadcast transmitters
- Suitable for measuring shortwave and VHF transmitter modulation
- Metering provisions allow direct measurement of carrier level deviation and modulation

AMM-2B.................................**$1195.00**

AMM-3
AM Modulation Monitor

- 2 meters provided
- 125% peak positive and 100% peak negative indicators
- Metering of carrier level as well as AM noise
- Built-in modulation calibrator and remote outputs for all indicators
- Designed to measure AM transmitter modulation characteristics over a frequency range of 200kHz to 160MHz
- Modulation peaks are referenced to unmodulated carrier for extremely accurate program peak indication

AMM-3..................................**$1450.00**

AMM-4
AM Frequency Monitor

- Low RF level alarm, loss of carrier alarm
- $\pm$ 10Hz/ $\pm$ 20Hz off-frequency alarm
- Designed for use in the 10kHz to 50MHz frequency range
- Optional relay circuit assembly available for ease of interface for ATS and alarm requirements

AMM-4...................................**$1095.00**
3-alarm relay cord.........................**250.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

BELAR Electronics Laboratory

TVM-220

TVM-210

TVM-200

BTSC Stereo TV Modulation Monitor System

- Consists of 2 separate units: the TVM-210 BTSC reference monitor and the TVM-220 BTSC program monitor
- The TVM-210 is designed to operate in conjunction with the TVM-100 or other precision wideband demodulators
- May be used separately from the TVM-220 for the setup, test and measurement of BTSC stereo TV transmission systems, as well as providing accurately decoded left and right channel audio outputs
- 2 auto-ranging voltmeters allow easy measurement of total modulation, channel separation, signal-to-noise ratio, L + R modulation, pilot level and 2H rejection level, along with decoded left and right audio levels. A professional dbx decoder card is used to assure optimum stereo separation
- The TVM-220, as used with the TVM-210, provides full time monitoring of L + R and composite signal modulation levels. Both functions include digitally selectable peak indicators along with fixed 100% peak modulation indicators
- Peaks-of-frequent recurrence mode allows extremely accurate (no overshoot) indications of pre-selected L + R and composite modulation peaks occurring within a moving 1 minute window

TVM-200 . . . .**$4595.00**

SCM-2

SCA Modulation Monitor

- When added to the FMM-2 modulation monitor, the SCM-2 provides complete monitoring and test functions for SCA storecasting, data transmission and remote telemetering applications
- Up to 4 crystal switch positions allow 4 channels to be operated and tested by pushbutton selection
- 3 deviation ranges for optimum operation of a particular subcarrier
- Narrow deviation (2kHz deviation) is for remote telemetering applications and selective call systems
- Normal operation (6kHz deviation) is for storecasting and other background programming applications; 4kHz deviation is for simultaneous stereo operation
- Wideband discriminator for minimum distortion

SCM-2 . . . .**$1550.00**

BENCHMARK Media Systems

SPM-2

SPM-3

SPM-2

Audio Metering System

- Peak and VU capability
- Peak hold mode
- Peak LED monitors beyond meter scale
- Matrix stereo metering
- BNC scope outputs
- Active balanced inputs
- Optional balanced outputs and a stereo headphone amp

SPM-2 . . . .**$1150.00**
SPM-3 Same as SPM-2 plus a third meter for SCA, SAP or mono input. Follows peak or VU, peak hold or peak release selection **1560.00**

DELTA Electronics

SM-1

AM Splatter Monitor

- Means of verifying FCC and NRSC compliance
- Easy to operate and to interpret measured results
- Measurement of I, Q, I + Q (chopped) and external audio signals
- 450-1700kHz phase-locked operation with 10kHz or optional 9kHz channel spacing
- Portable operation from external 12VDC supply and optional active antenna
- Meter detector circuit ballistics matched to splatter levels as perceived by a listener
- Front panel speaker and headphone jack permit audible monitoring of interference
- Adjustable alarm output with remote control monitoring
- Rear panel I and Q outputs and buffered meter output

SM-1 . . . .**$2300.00**
AWA Active whip antenna. **350.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

GORMAN-REDLICH
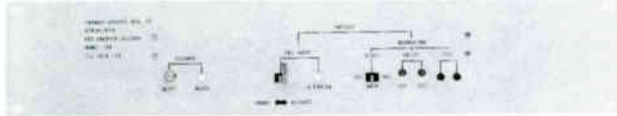
CEB

EBS Equipment
- The CE or the encoder portion of the CEB generate the 853 and 960Hz tones that make up the attention signal of the EBS system
- A loopthrough relay substitutes the attention signal tones for program audio when the encoder is activated
- Activation is for a period of 20 to 25 seconds, and can be initiated either by a front panel switch or remotely
- The CD or the decoder section of the CEB works in conjunction with a radio receiver tuned to the station being monitored
- When an EBS attention signal is received, the receiver will be demuted and will remain demuted until a reset button is pushed
- Auxiliary alarm terminals are provided

CEB Encoder/decoder........................**$540.00**
CEB Encoder only **375.00**
CE Encoder with stereo option **405.00**
CD Decoder (required for LPTV)................**320.00**

CRW
Weather Radio
- 0.28µV sensitivity for clear, reliable reception
- Crystal and ceramic IF filters, dual gate MOSFET front end for excellent interference rejection
- Rackmounting, remotable, black anodized panel
- Relay closure by 1050Hz "alert" tone for automated recording of emergency messages; 1650Hz tone signal for automated recording of updated forecasts
- 1050Hz "alert" tone demutes receiver, gates audio to rear terminals and energizes a flashing LED for local and/or remote alarm
- Built-in whip antenna, plus jack for 50 ohm outdoor antenna and terminals for 300 ohm antenna
- False alarms and missed alerts eliminated by high Q, individually tuned active filters, and a circuit that requires at least 4 seconds of continuous tone signal to trigger
- Mil. Spec. PC board, socketed ICs

CRW **$540.00**

CM
Antenna Monitor
- True ratio readout. Non-reference and reference amplitudes separately measured and divided electronically to give a digital readout that will not change with transmitter power. Extremely stable under conditions of unsymmetric modulation
- Either true ratio or relative amplitude may be selected for measurement with a front panel switch
- Mil. Spec. PC boards with through-hole plating. Gold plated switch and relay contacts. Tower select switch contacts of coined silver. All ICs and relays socketed. Minimum 1 week burn-in to expose early IC failure. Relays tested 10^7 operations without failing
- Stable phase indication with automatic display of phase sign
- Dual surge protection
- Level meter simplifies installation

CM **$1780.00**
CMR Antenna Monitor Same as CM plus equally accurate DC voltage for remote readings; Optional common point terminal for measuring common point amplitude; Narrow phase-sign ambiguity (typically ±0.2°) gives accurate phase readings near zero or 180° **$2400.00**

CMR-1
Remote Indicator
- May be used for hardwire remote control and remote reading of the CMR Antenna Monitor
- Since the readings of the CMR-1 will duplicate those of the CMR, weekly remote metering calibration is not necessary
- A local-remote switch on the CMR front panel transfers control to the CMR-1 when it is set to remote; when set to local control reverts to the CMR

CMR-1 ....**$430.00**

MODULATION SCIENCES

ModMinder
Modulation Monitor
- Increase modulation by 1dB to 48dB
- Measurement technique complies with FCC rulings
- Digital technology improves measurement accuracy by over 500%; updates any conventional modulation monitor
- Operation from remote control or PC

ModMinder ....**POR***

*Price On Request

COMPETITIVE PRICES—EXPERIENCED STAFF

BELAR Electronics Laboratory

FMMA-1 Wizard™
FM Digital Modulation Analyzer

- Menu-driven 16-character alphanumeric display
- Deviation in percent—0.1% or 1% increments
- Deviation in kHz—0.1kHz or 1kHz
- Up to 0.1% accuracy—function of demodulator calibration
- Self-calibration to external calibrating signal
- Pre-set peak modulation—adjustable in 0.5% increments
- Pre-set ppm—adjustable from 0 to 100 ppm
- Variable peak hold time
- Peak weighting mode
- Real time mode or past time mode
- Provision for pilot injection measurement and pilot modulation measurement from FMS-2
- Provision for SCA injection measurement from SCM-2
- Silent sentry alarm adjustable in time and threshold
- Will accept external alarms
- Alarms read on menu
- Modulation adjust on 2 ports, adjustable in 0.5% increments
- 3-level password protection
- Either infinite window histogram or sliding window histogram
- 1 rack height panel space, including precision demodulator

FMMA-1 . . . .**$3300.00**
Option 1 Precision FM demodulator with calibrator (IF input) **590.00**
Option 02 Down converter and AM noise detector (specify frequency) **495.00**

MTS Communications Products Div.
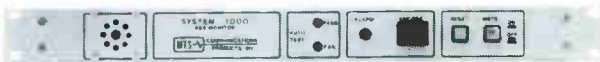
System 1000
EBS Monitor

- Integrated EBS monitor
- Incorporates EBS encoder, decoder and receiver in 1 single rack space enclosure
- Continuous automatic self test
- Full program audio loopthrough
- Stereo outputs
- Independent encoder output
- Alarm relay
- Hi-Z RX monitor port
- Encode duration 22.5 sec.
- Tone levels internally independent and adjustable from -25dBm to +8dBm
- Output impedance 600 ohms balanced
- Decode time 8.5 sec.
- Decode bandwidth +5Hz
- FM receiver sensitivity 5µV for 26dB S/N
- FM receiver bandwidth 7kHz
- AM receiver sensitivity is greater than 15µV for 10dB S/N
- AM receiver bandwidth 5kHz
- Dimensions: 1.75" H x 19" W x 13" D

System 1000 . . . .**$899.95**

System 3000
EBS Monitor

- Incorporates 3 monitor/receivers, the EBS encoder and decoder into 1 unit
- Ultimate answer for simple, reliable and cost effective EBS service
- Same specifications as the System 1000
- Can monitor your area's CPCS1, CPCS2 and the local NOAA Weather Service or can monitor your CPCS1, CPCS2 and an adjacent area CPCS1
- With 2 or more systems you can monitor EBS and NOAA services over a large area
- Continuous self test keeps you informed of system status
- National weather receiver optional

System 3000 . . . .**$1900.00**

2070
FM Composite Receiver

- Environment: 0°C to +50°C; 0% to 95% humidity non-condensating
- 115VAC ± 15%, 60Hz at 0.5A; 13.0VDC ± 1V at 0.3A
- Single rack space, no front panel controls; carrier present on front panel indicators
- Features ¼" mono for headset, 4-pin standard MTS for 24VAC adaptor or 12V, type F antenna, BNC composite out, DB-9 I/O connector, crystal controlled LO, low side injection, 73dB ultimate S/N
- I/O functions: carrier fail relay, open collector/carrier, RSSI, headphone audio
- Single conversion receiver; 10.7MHz frequency
- Maximum RF input -10dBm; 3dB bandwidth 75kHz

2070 . . . .**$995.00**

QEI
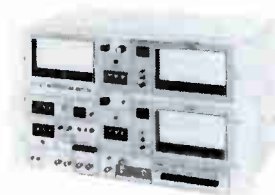
691
Tunable Stereo Modulation and FM Test Set

- Complete proof-of-performance instrument for mono, stereo and SCA measurements
- Converts a standard X-Y oscilloscope into a spectrum analyzer
- Off-the-air or direct transmitter connection
- Will accept up to 50W of RF input with a suitable termination
- Peak flashers adjustable from 1-199% with 100% peak counting digitally displayed

691 . . . .**$5610.00**
691/01 FM modulation monitor/test set with SCA **6675.00**
691/02 FM modulation monitor/test set with dual SCA . . .**7100.00**

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SCALA

CL-FMHR
FM Monitor

- Super-rugged log-periodic
- 88-108MHz (broadband)
- 7.0dBd gain
- 25dB F/B ratio
- Rear mount
- H polarization, available in 50 or 75 ohms

CL-FMHR **$550.00**
CL-FMRX Same as CL-FMHR except 6.5dBd gain, center mount. **280.00**

TFT

844A/884
FM Stereo Modulation Monitors

- Three major subsystems in one package: frequency-agile RF pre-selector, baseband demodulator, stereo demodulator
- Complete stereo measurements: L + R, L-R, pilot, 38kHz, L, R, SNR, phase, AM noise, multipath
- Built-in frequency-synthesized type modulation calibrator, 1% modulation accuracy without performing Bessel null calibration
- Exclusive peak modulation duration differentiator and counter (P.M.D.D.), separate transients from true peak modulation
- Carrier and pilot frequency measurement via front panel connector
- Fully synthesized high and low level inputs

844A (5116-844A) FM baseband/stereo modulation monitor. Includes absence of modulation/carrier fail alarm (75μs de-emphasis supplied standard) **$4685.00**
804 (5116-0804) Remote meter and peak flasher panel for 844A **555.00**
884 (5116-0884) FM baseband/stereo modulation monitor (75μs de-emphasis supplied standard). **3425.00**
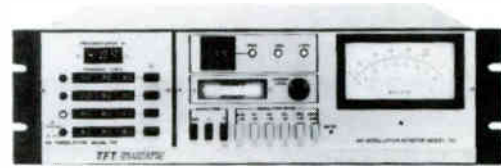
753
AM Modulation Monitor

- Linear-phase filters eliminate transient filter overshoot which results from the heavy amplitude clipping of audio limiters
- Makes extremely accurate proof-of-performance measurements
- Allows you to monitor your transmitter so precisely that you can modulate it to the maximum legal limits

753 (5116-0753)	AM modulation monitor . .	**$1600.00**
Option 02 (7100-2440)	Carrier power alarm	**100.00**
Option 03 (7100-2410)	10kHz whistle filter	**380.00**
Option 04 (7100-2420)	30Hz telemetry lowpass filter	**300.00**
Option 05 (7100-2430)	Absence of modulation alarm	**315.00**
Option 06 (7100-2460)	230VAC	**60.00**
Option 07 (7100-2560)	Spare parts kit	**245.00**
755A (5116-0755A)	AM RF preselector (tunable in 1kHz increments)	**1680.00**
Option 01 (7100-2470)	Narrow band filter	**520.00**
Option 04 (7100-2500)	Spare parts kit	**325.00**
704E (5116-704E)	Remote meter and peak flasher panel for 753	**525.00**

886
AM EBS Monitor

- Tunable across the AM broadcast band, using a frequency synthesized local oscillator
- Tuning is accomplished with a 3-digit, front-panel pushbutton switch in 10kHz increments
- The stability of the receiver is that of the crystal oscillator, ±500Hz per year
- Built-in 2-tone decoders for the 853Hz and 960Hz EBS signaling tones from demodulated audio outputs
- Stable piezoelectric tuning fork filters are used to achieve a bandwidth of ±5Hz from each tone frequency
- The receiver squelch is controlled by a programmable delay circuit two, four or eight seconds after receipt of the 2-tone signal
- Separate 2-digit LED displays on the front panel, showing the number of days, up to 12, since EBS test transmissions were last received and/or sent
- Bargraphs provided on the front panel for both audio level and RF signal strength observations
- Front panel loudspeaker is standard in each receiver
- Integral 2-tone EBS generator produces 853Hz and 960Hz tones simultaneously with an accuracy of ±0.25Hz
- Tone amplitudes may be observed and adjusted individually
- Test and on-air transmission switches are provided on the front panel of each receiver
- Stereo and composite signal loopthrough are provided on the rear panel

886 . . . .**$1920.00**

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MCI
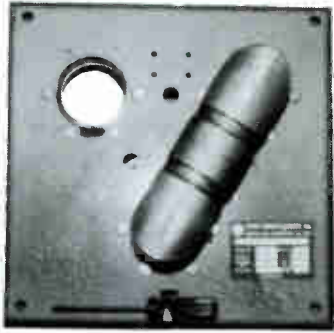
Coaxial Patch Panels

- Manual transfer patch panel assembly
- Includes anchor connectors and line clamps
- Screwdriver mounted on panel
- Not pressurized

31103	1⅝", 3-port, 1 link	**$1575.00**
31403	1⅝", 4-port, 1 link	**2325.00**
31503	1⅝", 5-port, 2 links	**2600.00**
31703	1⅝", 7-port, 3 links	**3550.00**
31113	1⅝", U-Link	**600.00**
31213	1⅝", additional port	**170.00**
31104	3⅛", 3-port, 1 link	**1875.00**
31404	3⅛", 4-port, 2 links	**2950.00**
31504	3⅛", 5-port, 2 links	**3225.00**
31704	3⅛", 7-port, 3 links	**4550.00**
31114	3⅛", U-Link	**900.00**
31214	3⅛", additional port	**190.00**

Series 61000
Coaxial Transfer Switches

- Coplanar port configuration permits neater, more compact layouts and requires fewer elbows
- Independent interlock/logic circuits for transmitter blanking, logic input or position indication
- Can be remotely controlled or integrated into computer controlled logic systems, making them ideally suited for use in unattended transmitter operations
- Standard features include gear motor drive, EIA male RF connectors and double pole micro switch interlocks
- 0-1000MHz frequency range, 50 ohms impedance

61103	1⅝" EIA male	**$2800.00**
61104	3⅛" EIA male	**3600.00**

SUPERIOR ELECTRIC

WHR Series Stabline®
Automatic Voltage Regulators

- Excellent accuracy—holds output voltage within ± 1%
- 2 input voltage ranges available
- Input ranges shifted to provide greater low voltage protection
- All buck or boost capability
- Power ratings: 2 to 1680kVA
- 99% typical efficiency
- High overload capacity
- Low impedance
- Fast response time
- No waveform distortion
- No power factor restrictions
- Designed for UL and CSA approvals
- Extensive range of standard sizes, features and options

Call for configuration and pricing.

DELTA Electronics

**6740B/6742B
3⅛" Coaxial
Transfer Switch**

6700 Series
Transfer Switches

- Manually or remotely operated
- Switches pairs of transmission lines in less than two seconds

6700 Transfer Switches

6730E Coaxial transfer switch, 1⅝", 120V, 50/60Hz. For use with 1⅝" 50 ohm transmission line **$1890.00**
6732E Coaxial transfer switch 1⅝", 220/240V, 50/60Hz. For use with 1⅝" 50 ohm transmission line **1995.00**
6740B Coaxial transfer switch 3⅛", 120V, 50/60Hz. For use with 3⅛" 50 ohm transmission line **4675.00**
6742B Coaxial transfer switch 3⅛", 220/240V, 50/60Hz. For use with 3⅛" 50 ohm transmission line **5200.00**
33630A Control panel for any transfer switch **590.00**

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DIELECTRIC Communications

A 50000 Series
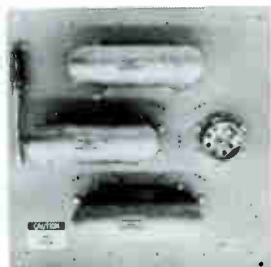
80 Series Patch Panels

A 50000 Series Coaxial Switches

Line Size (Inches)	Imped-ance in Ohms	Number of Ports	Motor Drive Voltage	Control Relay Coil Voltage	Catalog Number	Price
1⁵/₈	50	4	115VAC	12VDC	A50000-200	$3780.00
1⁵/₈	50	4	115VAC	24VDC	A50000-201	3780.00
1⁵/₈	50	4	115VAC	115VAC	A50000-203	3780.00
1⁵/₈	50	4	230VAC	12VDC	A50000-205	3810.00
1⁵/₈	50	4	230VAC	24VDC	A50000-206	3810.00
1⁵/₈	50	4	230VAC	115VAC	A50000-208	3810.00
1⁵/₈	50	4	230VAC	230VAC	A50000-209	3810.00
3¹/₈	50	4	115VAC	12VDC	A50000-300	3940.00
3¹/₈	50	4	115VAC	24VDC	A50000-301	3940.00
3¹/₈	50	4	115VAC	115VAC	A50000-303	3940.00
3¹/₈	50	4	230VAC	12VDC	A50000-305	3970.00
3¹/₈	50	4	230VAC	24VDC	A50000-306	3970.00
3¹/₈	50	4	230VAC	115VAC	A50000-308	3970.00
3¹/₈	50	4	230VAC	230VAC	A50000-309	3970.00

80 Series Manual Coaxial Switches

Line Size (Inches)	Number of Ports	Number of U-Links	Imped-ance in Ohms	Catalog Number Without Interlocks	Catalog Number With Interlocks	Price
1⁵/₈*	3	NA	50	NA	DC-285-534	$2940.00
1⁵/₈*	4	NA	50	NA	DC-285-544	3045.00
3¹/₈*	3	NA	50	NA	DC-385-534	3250.00
3¹/₈*	4	NA	50	NA	DC-385-544	3620.00

* All ports are terminated with EIA flanges

80 Series Coaxial Patch Panels

Line Size (Inches)	Number of Ports	Number of U-Links	Imped-ance in Ohms	Catalog Number Without Interlocks	Catalog Number With Interlocks	Price
1⁵/₈	3	1	50	DC-285-430	DC-285-431	$1200.00
1⁵/₈	4	2	50	DC-285-440	DC-285-441	1800.00
1⁵/₈	7	3	50	DC-285-470	DC-285-471	2100.00
3¹/₈	3	1	50	DC-385-430	DC-385-431	1450.00
3¹/₈	4	2	50	DC-385-440	DC-385-441	1950.00
3¹/₈	7	3	50	DC-385-470	DC-385-471	2700.00

Coaxial Switch Accessory

C48112-501 Local control panel **$630.00**

KINTRONIC Laboratories

Unpressurized Patch Panels

PP-78-3U 3 ports, 1 U-link, 2 interlock microswitches, for ⁷/₈"
line . . . .**$ 375.00**
PP-78-4U 4 ports, 2 U-links, 4 interlock microswitches, for ⁷/₈"
line **695.00**
PP-158-3U 3 ports, 1 U-link, 2 interlock microswitches, for 1⁵/₈"
line **950.00**
PP-158-4U 4 ports, 2 U-links, 4 interlock microswitches, for
1⁵/₈" line **1520.00**
PP-318-3U 3 ports, 1 U-link, 2 interlock microswitches, for 3¹/₈"
line **1425.00**
PP-318-4U 4 ports, 2 U-links, 4 interlock microswitches, for
3¹/₈" line. **1805.00**
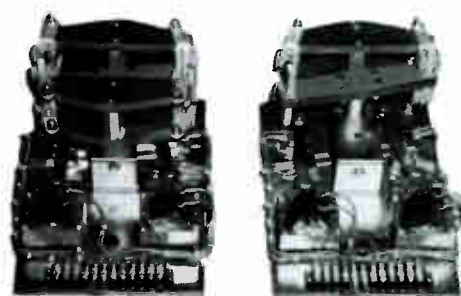
RF Contactors

- Available in both single-pole double-throw and double-pole double-throw
- Applied solenoid voltage is disconnected by the closing of a microswitch as the rotating arm completes its movements
- Convenient terminal board with barriers is provided for connections to solenoids and microswitches

RFC40-20-1, SPDT 40A, 20kV, 110/220V **$365.00**
RFC40-20-2, DPDT 40A, 20kV, 110/220V **499.00**
RFC80-30-1 80A, 30kV, 220V **450.00**
RFC80-30-2, DPDT 80A, 30kV, 220V **600.00**

SHIVELY Laboratories
Coaxial Patch Panels

	1⁵/₈" 1200 Series	3¹/₈" 1300 Series	4¹/₁₆" 1400 Series	6¹/₈" 1600 Series	9³/₁₆" 1900 Series
03-28 Patch panel, 3 port with 1 U-bend					
	$ 900.00	$1115.00	$1450.00	$2100.00	$4700.00
03-71 Patch panel, 4 port with 2 U-bends					
	1125.00	1370.00	2440.00	3175.00	8200.00
56214 Patch panel, 4 port with 1 U-bend (1 into 3 layout)					
	1060.00	1290.00	2335.00	3015.00	POR*
03-72 Patch panel, 5 port with 2 U-bends					
	1265.00	1600.00	2725.00	4080.00	POR*
03-73 Patch panel, 6 port with 3 U-bends					
	1645.00	2060.00	2840.00	4540.00	POR*
03-29 Patch panel, 7 port with 3 U-bends					
	1696.00	2115.00	2950.00	4650.00	POR*

*Price On Request

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COMPETITIVE PRICES—EXPERIENCED STAFF

GENTNER Electronics
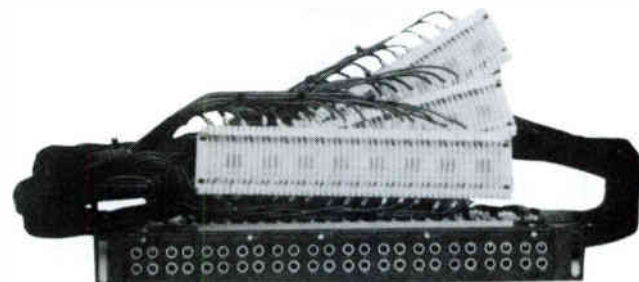
Versapatch II/FB-1
Versapatch II/66
Chassis Enclosed Patch Panels

- Provide RFI protection, dust protection and have the advantage of a well-organized wiring installation
- Termination mounted on the rear panel
- Mount in a standard 19" rack
- 48 tip-ring sleeve jacks are provided with offset spacing in 2 rows of 24 each for stereo patching
- The FB-1 is terminated to a Flexiblock, a high density block for stranded wire
- The Flexiblock termination provides 320 terminals with 2 connection points for each terminal. This allows 4 wires to be connected for each terminal
- Versapatch II/FB-1—Use with standard or solid wire. Strain relief bar is provided for cable tie down

Versapatch II/FB-BO Normals brought out **$769.00**
Versapatch II/FB-AB Normals at bay **649.00**
Versapatch II/FB-TRB Half-normalled **649.00**
Versapatch II/66 Telco type 66 punch block. Dust cover provides snap on/off access to punch block. Solid wire only use recommended **769.00**
Patch Panel/Versapatch II Designation Kit Provides an easy method of designating patch panel circuits. Each designation strip is ½"H x 8.5"W (will fit in a standard typewriter), has self-adhesive backing. Self-adhesive clear Mylar® cover protects designations. Individual designation strips with Mylar cover. . . . .**ea./$1.14**

Pre-Wired Audio Patch Panels

- High-quality components (Switchcraft, ADC or equivalent)
- 22-gauge shielded pair stranded wire for flex strength (Belden 8451 or equivalent)
- Numbers at both ends of each cable, protected with clear heatshrink
- Combed wire bundle for neat appearance and easy handling
- Extensive testing prior to shipment

Call us for pricing information on pre-wired patch panels.

Patch Panel Terminations and Accessories

EasyTerm/FB-1 Rackmount termination with 320 terminals (equivalent to 32 Flexiblocks). Uses stranded or solid wire; hinged for access to equipment **$249.00**
EasyTerm/66 Rackmount termination with '66' type punch block; hinged for access to equipment **129.00**
Kickbar Holds EasyTerm panel open for running and punching down wires **31.00**
Flexiblock FB-1 (100 terminals, 2 connection slots per terminal) **31.00**
Mounting Bracket FB-89 Snap-on bracket for Flexiblock . . .**3.80**
Miniblock FB-10 (small block with 20 terminals, 2 connection slots per terminal) **8.07**
Flexitool FB-714 Punch tool for Flexiblock **69.00**
    Blade only. **19.00**
B-Clip (SA-1, '66' blocks) **ea./.07**
FB-Clip (Split Flexiblock) **ea./.07**
66B350 Siemon punch block (2 x 50 terminals) **23.09**
66B375 Siemon punch block (3 x 50 terminals) **23.09**
Mounting Bracket for '66' punch blocks. **3.80**
Plastic Cover for '66' punch blocks. **3.80**
D1714 punch tool for '66' punch blocks **69.00**
    Blade only. **19.00**
Barrier Block 24 terminals. **13.85**
ADC Christmas Tree (Model PJ660-6) **42.72**
Patch Cords
    Standard 2' (¼" TRS). **25.36**
    Bantam 2' (TRS) **25.36**
    Standard 4' (¼" TRS). **27.67**
    Bantam 4' (TRS) **27.67**

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ADC Telecommunications

PPV-24 MK II
Pro-Patch Video Jackfield

- 2 x 24 array of ADC switching (self-normaling) coax jacks wired back to quick and simple BNC connectors on a clutter-free rear panel
- Self-normaling loops internal to the jackfield are color-phase compensated for cross patching
- No phase shift occurs between self-normal and patch cord, providing a phase coherent patching system

2 x 24 (48 jacks) **$1997.69**
Note: Use only 3′ patch cord to preserve phase coherent capability.

Pro-Patch Audio Jackfields

PPA3-14 MK II N.O. 3″ x 14″, normals brought out . . **$726.69**
PPA3-18 MK II N.O. 3″ x 18″, normals brought out . . . **726.69**
PPA3-14 MK II N.S. 3″ x 14″, normals strapped at panel **592.69**
PPA3-18 MK II N.S. 3″ x 18″, normals strapped at panel **592.69**
PPS3-14 MK II N.O. 3″ x 14″, stereo version, normals brought out **780.77**
PPS3-18 MK II N.O. 3″ x 18″, stereo version, normals brought out **780.77**
PPS3-14 MK II N.S. 3″ x 14″, stereo version, normals strapped at panel **640.77**
PPS3-18 MK II N.S. 3″ x 18″, stereo version, normals strapped at panel **640.77**
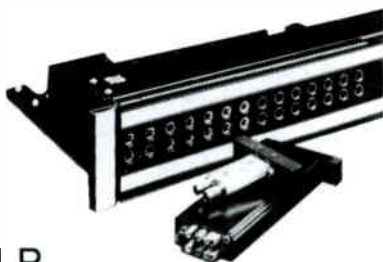
V.A.M.P.
Video, Audio Modular Patchbay

- Chassis accepts 20 video and audio modules
- Audio module features unique QCP terminations; video module comes with the ADC SJ2000 self-normaling coax jack
- ADC supplies blanks for unused positions to give the appearance of a fully loaded patchbay
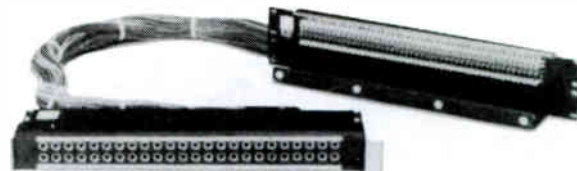
Standard BJF MK II Patchbays
1.75″ Panels with 2 x 24 Array of Longframe (¼″) Jacks
BJF103-4 MK II Normals brought out, UP3-N termination **$780.77**
BJF107-4 MK II Normals strapped at jacks, UP3 termination **619.23**
3.5″ Panels with 2 x 24 Array Longframe (¼″) Jacks
BJF203-4 MK II Normals brought out, UP3-N termination **$780.77**
BJF207-4 MK II Normals strapped at jacks, UP3 termination **619.23**
1.75″ Panels with 2 x 48 Array Bantam Jacks
BJF303-4 MK II Ultra Patch, brought out **$1453.85**
BJF307-4 MK II Ultra Patch, strapped **1130.77**

Panel Assemblies with Jacks (Audio)
PJ390 Includes 52 PJ339 ¼″ jacks and reinforcing strips **$155.03**
PJ396 Includes 26 PJ339 ¼″ jacks and brackets for flushmounting **95.75**
PJ739 Includes 96 PJ839 Bantam jacks. Designation cards and windows are included **230.73**

S.A.I.L.S. Kits—Labeling Systems
- Includes a sheet of labels and 4 anodized aluminum extrusions to hold the labels
- 2 extrusions for the vertical labels are held in place by your patchbay's rackmounting screws
- Horizontal extrusions are backed with a permanent pressure sensitive adhesive
- Each kit is $20.00—Call to determine which kit you need

Coax Panels
19″ x 1.75″ Panels
PPI-1120R 20-hole, 0.83″ horizontal spacing **$51.45**
PPI-1124G 24-hole, 0.625″/0.75″ horizontal spacing . . .**58.80**
PPI-1220R 40-hole, 0.83″ horizontal spacing, 0.625″ vertical spacing **80.85**
PPI-1224G 48-hole, 0.625″/0.75″ horizontal spacing, 0.625″ vertical spacing **89.00**
PPI-1226R 52-hole, 0.83″ horizontal spacing, 0.625″ vertical spacing **99.00**
19″ x 3.5″ Panels
PPI-2220RS 40-hole, 0.83″ horizontal spacing, 0.625″ vertical spacing **$80.85**
PPI-2224GS 48-hole, 0.625″/0.75″ horizontal spacing, 0.625″ vertical spacing **89.00**
PPI-2224RS 48-hole, 0.625″ horizontal spacing, 0.625″ vertical spacing **89.00**
PPI-2226RS 52-hole, 0.625″ horizontal spacing, 0.625″ vertical spacing **99.00**

ADC Telecommunications

I-WS
I.C.O.N. (Integrated Cable Organization Network)

- Super high density, wall mount cable management system designed to be used where floor space and wall space are at a premium
- The primary component of this system is the I-WS. Integral to the I-WS are 2 96-circuit QCP panels, a wall mounting backplane and all of the necessary cable management hardware to neatly dress cabling onto and off of the frame and securely strain relieve each connection
- The cabling to and from your equipment quickly punches down on the left side of the vertically oriented panel
- QCP is a feedthrough contact that allows cross-connecting to be accomplished on the right side of the panel without disturbing the permanently installed cabling on the left
- Each stacked pair of I-WS frames terminates and cross-connects 384 balanced audio circuits on a wall only 5'H x 2'W, yet uses no valuable floor space

I-WS Terminates and cross-connects 192 balanced audio circuits
I-WSET Express trough mounts above or below I-T and routes cabling horizontally between frames

ARCOR

2-Channel—Red and Green

DZ2202
Zip Stereo™ 2-Channel Shielded Pair Audio Cable

- Numbered for easier identification
- An overall jacket contains the pairs, adds strength and assists in pulling the cable
- Overall aluminum polyester tape shield and stranded 16 gauge drain wire over the cable assembly is for your grounding preference
- Overall matte finish PVC jacket
- Nom. O.D.: .135" x .270"

DZ2202 . . . . per 1000'/**$210.00**

RADIO DESIGN LABS

STA-1
Stick-On Series Electronic Transformer

- Up to 20dB gain in an audio line
- Conversion from balanced to unbalanced or unbalanced to balanced
- Conversion from high to low impedance or low to high impedance
- Frequency response: DC to 25kHz ± 0.25dB

STA-1 Dual channel with supply **$109.95**
STA-1/S Dual channel without supply **99.95**

STP-1
Dual Channel Variable Attenuator

- Reduces audio level and feeds audio into equipment
- Presets and precisely matches audio levels
- Prevents input overload and increases audio input headroom

STP-1 . . . . **$32.95**

SIEMON

S714

Adaptors and Bridging Clips

- Bridge clips are made of tin plated phosphor bronze and can be easily removed for wiring and re-used many times
- Adaptors provide additional capacity for horizontal and vertical terminals, respectively, on all 66-type connecting blocks

S714
Automatic Wiring Tool

- For punch board wiring applications
- Most efficient method utilized

WEST PENN WIRE

CL2-291/292
2-Conductor Twisted Pair (Overall Shield)

- Aluminum polyester foil shield
- Copolene insulated primaries
- Gray PVC jacket
- Color coded: black/red (291 is available in white, red, brown, black, yellow, green, gray, blue, violet and orange)
- Standard spool size: 1000'

Catalog Number	AWG Size and Construction	Nom. O.D.	Drain Wire Size	Price
CL2-291	22 (7 x 30)	.165	24 (7 x 32)	$ 82.50
CL2-292	20 (7 x 28)	.184	22 (7 x 30)	102.50

63

KINTRONIC Laboratories
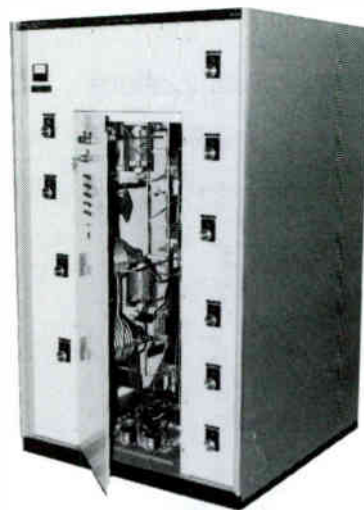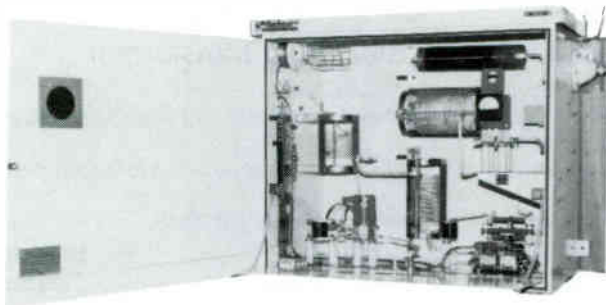
KTL

Antenna Phasing Systems

- Depending on the RF amperage rating, the coil windings either consist of edgewound silver-plated copper ribbon or silver-plated copper tubing terminated at each end with silver-soldered end terminals
- The interconnecting RF buses are made of silver-plated $3/8''$ O.D. copper tubing and the coil adjustment straps are made of $0.032''$ thick x $5/8''$ wide silver-plated copper ribbon
- Insulators are steatite type
- Mica capacitors manufactured by Sangamo and vacuum capacitors manufactured by Jennings are used as specified in the design
- Variable components in the phase and power dividing networks have counter dials to insure accurate resettability. All variable components are preset to design values prior to shipment
- The phaser may be configured in either a cabinet or on open panel(s) in accordance with the transmitter building layout as specified by the customer
- The input connections from the transmitters and dummy load are provided at the top of the cabinet/panel, unless otherwise specified
- Transmission line connections may be provided at either the top or bottom of the cabinet/panel
- Cable terminating clamps are incorporated for input and output connections to the phasing and power dividing networks as well as the line terminating units (LTUs) unless other connectors are specified
- J-plugs are provided at each end of each transmission line, as well as at the output of each LTU in order to facilitate the use of an operating impedance bridge
- To aid the field engineer in the phaser tune-up, a detachable shelf that mounts on the rear of each bay of the phaser cabinet is provided to support RF bridge equipment
- The LTUs are fabricated in weatherproof housings or on aluminum panels depending on the design specifications
- In the LTU weather-proof housing the transmission line is typically brought in at the bottom left and the antenna feed is coupled through a bowl insulator mounted on the upper right side of the box
- A solid stud bowl insulator is provided with each open panel LTU to allow for coupling of the antenna feed through the doghouse wall. Horn gaps are available upon request to provide added lightning protection
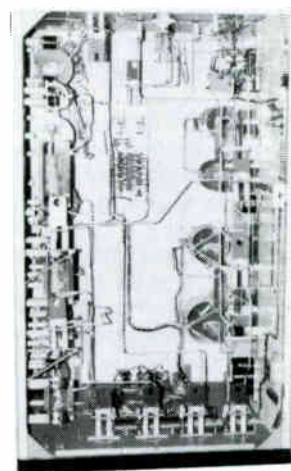
- A double J-plug is incorporated in the output leg of each LTU to allow the RF thermocoupler ammeter to be plugged into the line only when base current measurements are desired. This avoids the possibility of the meter being damaged by lightning
- Delta sampling transformers and/or base current meters can also be installed in each of the LTUs upon request
- The switching of day and night operation or directional and non-directional operation is accomplished by means of an indicating type pushbutton switch on the front panel. When the pushbutton is actuated, the system automatically removes the plate voltage or carrier drive of the transmitter before switching, and restores it when the interlock switching is completed
- The fully interlocked doors on the phasing and power dividing cabinet serve to remove the transmitter plate voltage when they are opened
- The control system is equipped with a tally light system which indicates the position of each RF contractor. When switching from day and night or directional and non-directional operation, the tally lights indicate if all contactors switched or which one failed to complete the switching mode
- Relays are also provided to allow for 24VDC remote control operation via one of the currently available remote control systems

64

APHEX Systems

320

320

Compellor—Dual Channel/Stereo

■ Dual mono operation; individual silence gates ■ 1-touch metering select for input, output or gain reduction ■ 2 stereo modes: leveling link, and compression and leveling link ■ Reference level (-10, +4, +8) switchable from rear panel ■ Leveling speed (fast/slow) switchable from front panel . . .**$1350.00**

303

Compellor/Aural Exciter

■ A single 1 rack height package combining a monaural Compellor for completely automatic gain control, and the circuitry of the Aural Exciter for improved clarity, dimension and detail ■ Aural Exciter increases intelligibility and penetration, even at reduced power levels, in highly reverberant rooms or under high ambient noise conditions **$949.00**

301

Mono Compellor Compressor/Leveler/Limiter

■ Delivers invisible compression, leveling and peak limiting ■ Ideal for broadcast preprocessing microphone control, audio production, tape duplication, and live sound and film dubbing ■ Control circuits are actually analog computers that constantly monitor the input and adapt and control a single VCA per channel for minimal signal path ■ Compellor intelligently varies all the parameters for you **$795.00**

720/723

720/723

Dominator™ II Precision Multi-Band Peak Limiter

■ 104dB dynamic range ■ Servo-balanced transformerless inputs and outputs ■ Detented potentiometers ■ Freedom from pumping and spectral gain intermodulation ■ Automatic Limit Threshold (ALT) ■ Peak ceiling trimmable in 0.2dB steps over a 34dB range ■ Switchable crossover frequencies

720 Designed for applications in which the frequency response is flat **$1350.00**

723 Designed for applications in which the frequency response must follow a pre-emphasis curve (either 50 or 75μs) . . .**1495.00**

CRL

PMC-450

AM Mono/Stereo Systems
AGC-400

Audio Gain Controller (Mono)

■ Linearized, dual band automatic gain control ■ Gating ■ Dynafex noise reduction ■ Pulsed or static USASI noise generator ■ Audio asymmetry removal ■ EQ balance ■ Attack and release time constants **$1550.00**

SEC-400

Spectral Energy Compressor (Mono)

■ 4-band compressor ■ Multiband crossover frequencies and filters ■ Selectable multiband compression ratio ■ Jumper selectable bass EQ ■ Time constants **$1795.00**

PMC-450

Peak Modulation Controller (Mono)

■ 3-band limiter ■ Input gain control ■ Tilt correct ■ NRSC standard pre-emphasis and low pass filtering ■ Resonant low pass clipping filter ■ Jumper selectable bass EQ ■ Powerful input compressor followed by a tri-band limiter section and low pass filter ■ Can be used as a stand-alone processor or with various AGCs and pre-processors **$1850.00**

SMP-950

AM Stereo Matrix Processor (Mono)

■ 3-band limiter ■ Stereo enhancement ■ Input gain control ■ Modified matrix limiting ■ Tilt correction ■ NRSC standard pre-emphasis and low pass filtering ■ Jumper selectable bass EQ ■ Monaural output **$2495.00**

SGC-800

Stereo Gain Controller (Stereo)

■ Audio asymmetry removal ■ Linearized, dual band automatic gain control ■ Gating ■ Attack and release time constants ■ EQ balance ■ Dynafex noise reduction ■ Pulsed or static USASI noise generator **$2250.00**

SEC-800

Spectral Energy Controller (Stereo)

■ Musically designed 4-band compressor/limiter ■ Multiband crossover frequencies and filters ■ Jumper selectable bass EQ **$2350.00**

65

CRL

FM-2G + System

FM Stereo Processing Systems
SGC-800
Gain Controller (Stereo)

■ Audio asymmetry removal ■ Linearized, dual band automatic gain control ■ Gating ■ Attack and release time constants ■ EQ balance ■ Dynaflex® noise reduction ■ Pulsed or static USASI noise generator

SEC-800
Spectral Energy Controller (Stereo)

■ Musically designed 4-band compressor/limiter ■ Multiband crossover frequencies and filters ■ Jumper selectable bass EQ

SMP-850
FM Stereo Processor/Limiter (Dual Band)

■ Stand-alone input AGC/compressor ■ Time constants ■ Sound field enhancement ■ Limit or clip priority ■ Variable transfer pre-emphasis limiting ■ Final output limiter ■ High protection low pass filter

SG-800A
Digital FM Stereo Generator (Stereo)

■ Digitally synthesized carrier ■ Pulse amplitude modulator ■ 2 input SCA ports for multiple SCA use ■ High current output

FM-1G System	**$3895.00**
SMP-850 Stereo modulation processor (limiter)	2350.00
SG-800A Stereo generator	1795.00
FM-2G System	**$5895.00**
SGC-800 Stereo gain controller (AGC)	2250.00
SMP-850 Stereo modulation processor (limiter)	2350.00
SG-800A Stereo generator	1795.00
FM-2G + System	**$7995.00**
SGC-800 Stereo gain controller (AGC)	2250.00
SEC-800 Spectral energy compressor	2350.00
SMP-850 Stereo modulation processor (limiter)	2350.00
SG-800A Stereo generator	1795.00
FM-3 System	**$4395.00**
SGC-800 Stereo gain controller (AGC)	2250.00
SEC-800 Spectral energy compressor	2350.00
SG-OPT1 Pre-emphasis/analog LPF for SG-800A	695.00

BAP-2000
FM/TV Monaural Audio Processor

■ Complete stand-alone audio processor for any mono FM or TV application ■ Advanced 2-band AGC and variable transfer function pre-emphasis limiter ■ Linearized AGC action provides over 30dB of AGC range ■ Integral Fh filter for television applications ■ Dynafex® single-ended noise reduction system included ■ Dual 10-segment LED display for easy set up of gain reduction and relative output ■ Rugged 1¾″ rackmount chassis with integral RFI protection

BAP-2000 ....**$2150.00**

MDF-800

MDF-400/MDF-800
De-emphasis/Filter

■ NRSC de-emphasis characteristic ■ HQ notch filter ■ 9.5kHz or 11kHz steep low pass filter ■ Functions can be selected individually or in any multiple combination ■ Post detection—interfaces to any AM modulation monitor or monitor receiver ■ Active-balanced or unbalanced audio inputs and outputs ■ Rugged 1¾″ rackmount chassis with integral RFI protection

MDF-400 Monaural **$549.00**
MDF-800 Stereo 695.00

TITUS Technological Laboratories

MLW-1
Automatic Stereo Router

■ Automatic change to alternate channel on loss of channel ■ Automatic change to alternate source on loss of channel or loss of signal ■ 3 balanced, bridging inputs ■ 3 modes of operation: automatic, manual, forced ■ +29dBV (+27dBm) maximum output level (X-balanced, D.C. isolated outputs) ■ Multiple manual audio control functions

MLW-1 ....**$1800.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

GENTNER Electronics

Prism™ II
Digitally Controlled Audio Processor

- Digital control of the processing yields high apparent loudness without excessive listener fatigue
- Multiband processing allows heavy processing in 1 band without "punching holes" in the rest of the audio spectrum
- A safety buffer protects the processing from overloads caused by excessive levels from the on-air console
- Front panel LEDs show the status of each processing band
- Individual "mix level" controls for each band
- A "density" control adjusts the amount of processing action in the Prism II FM
- Adjustable gating provides "single ended" noise reduction
- Built-in phase rotator produces symmetrical audio peaks
- Optional RCF-2 card maximizes the processing power of the Prism II FM and the Optimod 8100A

Prism II FM 2 required for stereo **$1779.00**
Prism Upgrade Kit Upgrades Audio Prism to Prism II FM, includes 4 M102 cards; customer installs **519.00**
RCF-2 Card Five. **319.00**

Lazer
Digital Limiter/Stereo Generator

- 100% digital processing
- Less distortion, cleaner signal
- Loudness achieved without clipping
- 23 processing parameters
- Ultra precise baseband stereo signal generation
- Simple setup and operation
- 8 preset processing programs, user adjustable
- A/B processing program comparison
- Remotely accessible via RS-232
- Upgradeable through future software programs
- Companion unit, the Optical Encoder, converts your stereo signal into a digital data stream and then, via a fiber optic link, sends the signal to Lazer

Lazer FM Limiter/Stereo Generator Includes Optical Encoder. **$6299.00**
Lazer Plus 2 Prism II FMs. **9029.00**

HNAT HINDES

Ultramod UM2000
Audio Processor

- Ultrafast, digitally synthesized stereo generator
- Split band AGC and peak processor
- Dual composite outputs
- Noise reduction
- Separate pilot out for composite processor phase lock

UM2000. . . . .**$2995.00**

Tri-Maze
Audio Processor

- Complete stand alone processor designed to interface directly to the multiplex input of all stereo generators
- Employs post filter zero hysteresis clipping, which results in an overall 2dB increase in loudness. This makes active composite clipping unnecessary

Input Section

- Selectable pre-emphasis; 35dB gain reduction capability
- Broadband output control for precise density control
- 30dB expansion control range
- Triggered Absolute Level Expansion (TALE) automatically determines mode of expansion for voice and music

Triband Section

- Time domain contoured integrated release, specifically treats time intervals associated with frequencies in the 3 bands of processing
- 20dB gain reduction range, 35dB capability
- Expansion control on all 3 bands of processing
- Separate mix-down peak metering, permits active online setup with program
- Crossover frequencies: 275Hz and 4100Hz, 12dB/octave

Output Section

- Separate pre-clipper output
- 10kHz or 15kHz low pass filters
- Low pass filtering dip switch selectable
- Designed to feed Orban 8000 and 8100 "Test" input, affording complete control over "On Air" sound

Tri-Maze Single channel. **$1650.00**
Tri-Maze Stereo package. **3200.00**

67

MODULATION SCIENCES

MYB-2 StereoMaxx
Spatial Image Enlarger
- Operates in the spatial domain, enhancing and enlarging the stereo image
- The effect is compelling and dramatic without becoming overwhelming
- StereoMaxx gives the station a "big sound" stereo image that adds new audio excitement to Hi-Fi stereos, auto radios and even portable "boom boxes"
- Totally mono compatible and avoids the undesirable side effects of other image enhancement techniques

MYB-2 . . . . **$2889.00**

CP-803
Composite Audio Processor
- For FM stereo
- Automatically reduces filter overshoot present in every stereo generator or composite STL
- Allows transmitter to be modulated with lower peak-to-average ratio
- Restores "lost" modulation capability and loudness
- Specify 120 or 240VAC
- Includes rackmount
- Reduces amount of audio processing required
- No variable gain element, gives you more loudness without audible distortion
- Upgrade the quality of your signal, a brighter, more "open" sound

CP-803 . . . . **$1495.00**

ORBAN Associates

9100B1/U10 Optimod
AM Mono Processor
- Complete audio processing for AM broadcast
- Includes broadband AGC, NRSC-standard and alternative pre-emphasis, 6-band limiter with distortion-canceled clipper, switchable NRSC 10kHz filter, jumperable 5kHz low-pass filter, transmitter equalizer for 2 transmitters (day/night)
- One ACC-023 NRSC monitor rolloff filter supplied
- Field convertible to stereo
- 120V, 50-60Hz

9100B1/U10 . . . . **$4550.00**

9100B2/U10 Optimod
AM Stereo Processor
- For C-QUAM or Kahn
- As 9100B/1 above, equipped for stereo operation
- Uses sum and difference control of processing to assure maximum loudness on mono receivers
- Switchable features include L and R 75% negative peak limiter as recommended by Motorola for C-QUAM, adjustable stereo enhancer that increases L-R, 200Hz high-pass filter for telemetry or LF SCA
- 2 ACC-023 NRSC monitor rolloff filters supplied
- 115V/230V, 50-60Hz

9100B2/U10 . . . . **$6350.00**

RET-033
Alternate Pre-Emphasis Module Retrofit Kit
- For 9100A/1 and 9100A/2 prior to S/N 700000 (supplied standard on later units)
- Provides socket for field-selectable alternative pre-emphasis curves
- Includes 1 transition PCB assembly, 1 each green, yellow, red pre-emphasis module
- 2 RET-033 kits are required for stereo

RET-033 . . . . **$50.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

ORBAN Associates

8100A1

8100AXT2

8100A1

Optimod FM Stereo Processor

- Dual-band stereo compressor; high frequency limiter
- Smart clippers; stereo generator
- 120V, 50-60Hz
- 75µs standard; order OPT-11 for 50µs installed (no charge)

8100A1/U75 . . . . **$5550.00**
8100A1/U75F With FM filter card **6250.00**

8100A/ST, 8100AST/U

Studio Chassis

- Separates 8100A and 8100A1 audio processing into 2 chassis to locate compressors at studio
- Controls average levels into STL or phone lines and optimizes signal-to-noise ratio
- 120V, 50-60Hz

8100AST/U **$1000.00**

8100AXT2

6-Band Limiter

- Accessory to 8100A1
- Provides aggressive multiband processing where bright, loud, "highly-processed" audio is desired
- Especially suited for CHR formats

8100AXT2 . . . . **$2550.00**

RET027

8100A Retrofit Kit to Accept XT2

- Used to upgrade 8100A to 8100A1 to accept 8100AXT2 6-band limiter
- Includes replacement circuit card and prewired connector assembly

RET027 . . . . **$400.00**
ATE3F Interface panel for Harris TE-1 or TE-3 exciter . . . **75.00**
RCA1 Shorting connector for RCA BTE-15 exciter **10.00**

Note: For Continental 510R-1, Collins 310Z-2 and 310Z-1 exciters, obtain interface from Continental. Most other direct-FM exciters with broadband inputs do not require special interface.

> *"Prices listed are manufacturers' suggested list. Call for package, prompt payment or quantity discounts."*
>
> *"If you don't see what you are looking for, call. Products listed are only representative of our huge product line."*

8200

Optimod-FM Digital Audio Processor

- Full-digital audio processing improves the quality and clarity of "Optimod sound" while adding changeable processing structures, programmability, expandability and a PC interface
- Audio is digitized and processed by multiple high-speed Digital Signal Processor (DSP) math chips under the control of proprietary software
- Delivered with 1 or more Multiple Variable Processor (MVP) structures which determine the type of processing provided by the unit
- For optimizing dayparting or for changing formats, switch among MVPs by front panel control, remote control or at pre-programmed times by the 8200's internal clock
- Adjust basic MVP sound by a Less < > More function or achieve a more customized sound by tweaking individual parameters on-screen
- Add MVPs by replacing a module and adding DSP cards as necessary
- Fits 4U rack space and features a large LCD display screen, knob for scrolling through adjustment ranges, a set of cursor direction buttons, dedicated Help and ESCape buttons, RS-422 and RS-232 serial control ports and a separate interface to allow standard transmitter remote controls to activate up to 8 user defined functions
- 120V, switchable 50µ or 75µ

8200/U2S With 2 DSP cards, stereo coder, protection structure, 2-band purist structure, 2-band processing structure **$7400.00**
8200/U3S With 3 DSP cards, stereo coder, protection structure, 2-band purist structure, 2-band processing structure, multi-band structure **9820.00**

TITUS Technological Laboratories

TLW-2

The Last Word Automatic Stereo Synthesizer

- Internal dynamic stereo audio synthesizer
- Automatic insertion of synthesizer into audio chain with loss of channel, monaural detection, remote command
- Automatic change to alternate channel on loss of channel
- Automatic change to alternate source on loss of channel or source
- +28dBm maximum output level

TLW-2 . . . . **$3900.00**

69

AUDIO DIGITAL

TC-4
Broadcast Digital Processor

- 20Hz-15kHz bandwidth
- <0.2 THD + noise at 1kHz
- 85dB dynamic range (A-weighted)
- Balanced inputs/outputs
- Input gain display, as well as independent control of input and output gain
- Display of active and catch-up status
- Dump system is remoteable to your system
- 6.8-second delay
- 2 TC-4 processors can be linked together with a factory installed stereo sync option for a stereo system

TC-4 . . . .$1521.00
TC-4A Catch-up option 272.00
Stereo sync option 77.00

CRL

DX-2
Noise Reduction System

- Single ended—no encoding or decoding
- 30dB of noise reduction
- Brilliance control
- Useful on any audio signal

DX-2 . . . .$820.00

dbx

160X
Mono Compressor/Limiter

- OverEasy® or classic hard-knee compression
- Dual RMS display system monitors input or output with a 19-LED display. Simultaneously monitors gain reduction over a 40dB range with 12-LED display
- Hardwire bypass
- Stereo-strappable (2 units required)
- Infinity + compression provides "dynamic reversal" effects
- Compression ratio continuously variable from 1:1 through infinity:1 to -1:1
- +24dBv input and output levels
- Input and output connections via a barrier strip or ¼" tip/ring/sleeve phone
- Active balanced input provides hum and RF rejection
- Provision for optional active-balanced output

160X $399.00

165A
Mono Compressor/Limiter

- Compression ratio continuously variable from 1:1 to infinity:1
- In automatic mode, compressor attack and release times are determined by program material dynamics. In manual mode, variable attack and release rates allow the 165A to be used as an ultra-fast or slower RMS-detecting limiter
- PeakStop® circuit prevents unwanted peaks from getting through
- Separate detector input allows compression pre-emphasis and other effects
- Each 165A is equipped with matched RMS detectors for stereo-strapping operation without the signal-summing errors of conventional strapped compressors
- Analog RMS meter is switchable to read input or output levels or the amount of gain reduction over a 30dB range
- Active balanced input for hum and RF rejection
- 24dBv input/output capability
- Rackmountable

165A $999.00

166
Dual Channel Compressor/
Limiter/Noise Gate

- Noise gate with switchable release rate
- LED shows gate operation
- Variable OverEasy compressor with infinity:1 effects
- PeakStop for good sounding clipping
- Side-chain monitoring for easy setup of frequency-dependent or anticipatory processing
- Output level control, +21dBv maximum output
- Hardwire bypass
- 1U-high rackmount
- Gate threshold control allows an 80dB input range. The attack of the gate is very fast and the release is switchable (fast or slow)
- Dual-mono or stereo operation is possible

166 . . . .$575.00

70

EVENTIDE

H3000S/H3000SE

Studio Ultra-Harmonizer

- Program key for loading, saving, removing, up loading and downloading presets
- User-adjustable parameters for each program
- Control and data entry group to perform data entry functions in 3 ways: "knob," keypad and up/down buttons
- Complete receive/transmit MIDI control of all parameters in real time

H3000S **$2495.00**
H3000SE Studio enhanced version **2995.00**

H3000B/H3000BSE

Broadcast Ultra-Harmonizer

- Same as H3000S plus:
- Automatic Stereo Timesqueeze® with built-in stereo audio time compression and expansion
- Standard software currently accommodates almost all frequency-controlled reel-to-reel and cart machines
- Special package of effects program presets
- Maintains phase synchronization for full mono compatibility

H3000B **$2995.00**
H3000BSE Studio enhanced version **3595.00**

BD980

Broadcast Delay Line

- Stereo operation with 2 independent audio channels and 10 seconds of delay
- Advanced de-glitched catch-up system
- 16-bit linear PCM design and 50kHz sampling rate
- Frequency response extends to 20kHz
- Manual delay mode
- Remote control compatible with the BD955 delay

BD980 . . . . **$5495.00**

BD955

Broadcast Digital Delay Line

- RAM-based digital delay line offers delay up to 6.4 seconds
- Dump button cancels the objectionable program and, if desired, cuts off the caller
- Catch-up feature allows the program to continue in real time
- Front panel switches allow setting of delay from 6.5ms to the unit's maximum delay
- Including variable delay dump and catch-up features

BD955 7.5Hz, 6.4-second delay. **$3350.00**
BD955 15kHz, 3.2-second delay **3350.00**
BD955 15kHz, 6.4-second delay **4300.00**
Stereo interconnect—plus cost of 2 units. **150.00**

HNAT HINDES

Mic Maze

Audio Processor

- Comprehensive support processor
- Multiple outputs; 2 lines (diff. and transformer), 1 mic (-55dBm)
- Triggered expansion; adjustable expansion platform
- Muting; pause delay
- Sync capability for ducker operation or stereo
- Line in; dipswitch selectable pre-emphasis
- De-emphasis clippers

Mic Maze **$730.00**

JBL Professional
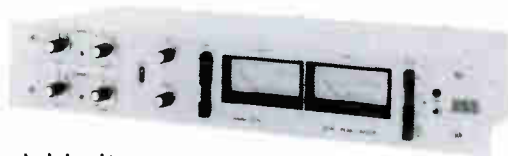
1178

Dual Peak Limiter

- 2 independent peak limiters
- Attack time front panel adjustable from 20-800ms independent of peak duration or frequency
- Release time front panel adjustable from 50ms to 1.1 second
- 4 compression ratios
- High impedance, balanced bridging inputs
- Balanced transformer outputs
- Switchable meter ballistics (VU, peak)

1178 . . . . **$1150.00**

1176LN

Peak Limiter

- 4 compression ratios
- Attack time front panel adjustable from 20-800ms independent of the degree of limiting
- High impedance, balanced bridging input
- Balanced transformer output

1176LN **$730.00**

LA-4

Compressor/Limiter

- Long-life LED optical attenuator
- Smooth, natural sounding RMS action
- Selectable compression ratios
- True standard volume indicator (VU); input overload indicator
- Simple stereo coupling
- 2:1 compression with 20:1 limiting

LA-4 . . . . **$620.00**

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ORBAN Associates

536A/U

Dynamic Sibilance Controller

- 2-channel de-esser
- Contains 2 independent channels with active-balanced input and output
- Inaudible de-essing over a 15dB input range
- Improved noise and distortion performance

536A/U **$650.00**

787A/U

Programmable Mic Processor

- Standard line-level with optional Jensen transformer mic pre-amp and 48V phantom power
- 3-band parametric equalizer
- Full-function de-esser
- Noise gate attenuates noise by up to 25dB; compressor gate prevents rush-ups during pauses
- Effects send-and-return with programmable return level
- Instantaneous access to 99 user-programmed control setups
- Memory protected by internal backup battery
- Security code locks programming controls
- Built-in control connectors for remote control and MIDI and RS-232 interfaces

787A/U **$1450.00**
787ASL/U Second channel slave for 787A (10 lbs.) . . **1150.00**

764A

Multi-Channel Parametric Equalizer

- Up to 99 channels of total digital recall and programmability
- Available with 1 or 2 equalizer boards
- 4 bands of constant "Q"
- Minimum phase fully parametric equalization
- Separately adjustable high pass and low pass filters
- Can be equipped with MIDI, RS-232 or RS-422 optional interface modules
- Digital control system for adjusting, maintaining and distributing filter and attenuator parameters
- Query key quickly and directly displays the programmed status of any equalizer board and preset

764A1/UM, 764A1/U2, 764A1/U4
Programmable digitally controlled parametric equalizer system. Controls up to 99 channels of masters and slaves and stores up to 99 presets. Comes with choice of MIDI, RS-232 or RS-422. (Model number suffix indicates choice of interface: "M" = MIDI, "2" = RS-232, "4" = RS-422; field retrofitable) **$1995.00**

764A2/UM, 764A2/U2, 764A2/U4
Dual-channel version of 764A1 . . . . **$2495.00**

764ASL2/UM, 764ASL2/U2, 764ASL2/U4
Dual-channel unit for use with 764A1. Select correct interface suffix ("M" = MIDI, "2" = RS-232, "4" = RS-422) for your system **$1895.00**

222A/U

Stereo Spatial Enhancer

- Proprietary technique detects and enhances psychoacoustic directional cues
- Increases brightness, impact and definition
- Allows tailoring of processing to user requirements
- Full mono compatibility
- Complements any broadcast audio processor without changing the station's sound
- Stereo inputs and outputs

222A/U **$975.00**

245F/U

Stereo Synthesizer

- Creates a pseudo-stereo effect from mono original
- Left and right channels sum back to original mono for total compatibility in disc cutting and FM stereo broadcast
- Unbalanced line level input and output

245F/U **$440.00**
245F/UT With output transformers **490.00**

275A/U

Automatic Stereo Synthesizer

- 19" rackmount package
- 2 modes of stereo synthesis (wide and narrow)
- Automatic mono and single-channel recognition
- Automatic polarity correction
- Single-ended noise reduction

275A/U **$2400.00**
275ARC Remote control **275.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

ORBAN Associates

412A/U, 414A/U
Compressor/Limiters

- Wide-range attack time, release time and ratio controls
- Threshold control with 20dB range
- User controls interact to simplify and speed setup
- Illuminated, true peak-reading gain reduction meter

412A/U 1-channel, requires 1 rack space. **$525.00**
414A/U 2-channel, stereo unit requiring 2 rack spaces and features stereo coupling switch. 10 lbs. **800.00**
RET-28A XLR connectors for input and output (for 412A) . .**25.00**
RET-28B XLR connectors for inputs and outputs (for 414A) **40.00**

422A/U, 424A/U
Gated Compressor/Limiter/De-esser

- Production AGC device which achieves high average loudness without undesirable artifacts
- Defeatable gate with adjustable threshold freeze gain
- Adjustable attack time, release time and compression ratio
- 25dB gain reduction
- 19" rackmount package
- Balanced input and output

422A/U 1-channel . . . .**$ 680.00**
424A/U 2-channel, can be strapped or used independently. 14 lbs. **1150.00**
RET-14 XLR connectors for inputs and outputs (for 422A) . .**25.00**
RET-15 XLR connectors for inputs and outputs (for 424A) . .**40.00**

464A/U
Gated Stereo Leveler/Compressor/ HF Limiter/Peak Clipper

- 4-stage level control selectable on front panel
- Defeatable "silence gate"
- 6 switchable HF limiter curves
- Defeatable clipper follows the HF limiter
- Switch-selectable gain compression recovery rate

464A/U **$1200.00**
RET-040 XLR connectors for inputs and ouputs **40.00**

SYMETRIX

501
Peak-RMS Compressor/Limiter

- Separate processors for both compression and peak limiting
- Balanced in/out XLR
- Unbalanced in/out 1/4"
- Sidechain in/out 1/4"
- Stereo connect 1/4"

501 . . . .**$349.00**
501 Option 01—transformer coupled output. **389.00**

425
Stereo Compressor/Limiter

- Independent downward expander, compressor and limiter
- Individual LED meters for each processing section
- Stereo or dual-mono operation
- Balanced/unbalanced XLR
- Balanced/unbalanced 1/4" connectors
- Soft-knee compression curve

425 . . . .**$579.00**

511A
Noise Reduction System

- No encoding required
- Dynamic filter and downward expander
- Subsonic filter
- Up to 30dB signal-to-noise improvement
- Stereo/2-channel switch
- Balanced in/out on XLR
- Unbalanced in/out on 1/4"

511A **$599.00**

73

SYMETRIX

571

SPL Computer™

- Senses ambient noise, automatically adjusts levels
- Music input, paging controller
- Semi-automatic calibration
- Sensing mic inputs XLR
- Page mic XLR
- Balanced/unbalanced in/out connections of #6 barrier

571..**$849.00**

AIR CORP.

500 PH

Pro Announcer

- Front panel selection of input level in 4 ranges, +4dB to -50dB
- 3-section variable boost and cut equalization designed for easy setup
- Symmetry correction (phase rotators) provides more talk power with less compression
- Compressor/expander combination provides punch without noise rush-up
- "Popless" insert point for any effects device. May be operated while announcer speaks
- Simultaneous mic level output to feed console and telephone hybrid
- De-esser supresses excessive sibilance
- Servo-balanced outputs eliminate ground loops in any installation
- Buffered headphone jack to permit setup without being on-air
- Internal 48VDC phantom supply

500 PH..................................**$769.00**

ATI

Emph'a Sizer
Audio Processor

- Low noise microphone preamp
- Background fade 0 to 80dB—fast or slow, inaudible recovery
- 4 full range parametric equalizer sections
- DJ personality processor...for that unique sound
- Equalizers allow maximum levels without feedback
- Bar graph output level and gain reduction displays

EM1000-1 Transformer output at +24dBm........**$1395.00**
EM1000-2 Active balanced output at +24dBm.....**1395.00**

CRL
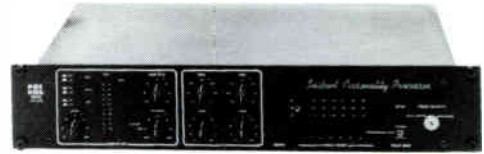
IPP-100

Instant Personality Processor

- Programmable microphone processor with 18 preset memories
- Remote control capability
- External audio loop for special effects
- 2-band, parametric equalizer drives a 2-band compressor with adjustable splitting
- Mic or line level inputs/outputs
- Key lock security system

IPP-100..................................**$1295.00**

SYMETRIX

528

Voice Processor

- Mic to line level
- Preamp, de-esser, downward expander, compressor/limiter, parametric EQ/notch filter, +48 phantom power, switchable metering
- Single rack space
- Mic input XLR
- Unbalanced in/out ¼"
- Line level in/out on #6 barrier

528..................................**$679.00**

VALLEY AUDIO

400

Mic Processor

- On-board, 3-band tone control EQ section
- "Smart" interactive expander
- Expander section doubles as a noise gate
- Adjustable threshold and range controls
- De-esser incorporated in the dynamics processing
- Microphone connection via a rear panel chassis mount XLR connector

400..................................**$679.00**

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BURK Technology

TC-8
Remote Control System

- Full-time control
- Built-in subcarrier generators
- Ideal for AM or FM facilities with 1 or 2 transmitters
- 8 analog metering channels
- 8 status channels
- 16 control outputs (8 raise, 8 lower)

TC-8.	**$2495.00**
IP-8 Interface panel	**495.00**
CI-8 Computer interface.	**495.00**
TSU Telephone speech unit	**595.00**
ST4-A SCA receiver	**168.00**

ARC-16
16-Channel Transmitter Remote Control

- Full-time studio control, dial-up control, or both
- Dial-up speech unit features digitally-recorded human voice
- Built-in subcarrier generators
- Built-in alarms
- Control multiple sites with a single unit
- 16 analog metering channels, 16 status channels and 32 control outputs (16 raise, 16 lower)
- Transmitter unit with a 32-character display for easy calibration and local operation

Single Unit Configuration Includes transmitter unit with front panel display and 1 telephone/speech unit to allow full remote control from any telephone. **$2495.00**
Conventional 2-Unit System Includes 1 studio unit, 1 transmitter unit and 1 set of modems to interconnect by telco, STL, SCA or TRL **3495.00**

Accessories

IP-8 Interface panel	**$495.00**
CI-16 Computer interface	**495.00**
TSU Telephone speech unit	**595.00**
SSI Studio status indicator	**150.00**
SIO Studio I/O unit	**495.00**
AMI Antenna monitor interface.	**350.00**
SCA-1 Subcarrier receiver	**168.00**

GENTNER Electronics

VRC-2000
Remote Control Unit

- For controlling your broadcast transmitter from anywhere a telephone line, radio link, data link or bidirectional audio link is available
- Access from any Touch Tone® telephone to communicate with the synthesized voice. It will provide full-time data and automatic logging capabilities on a terminal or IBM® or compatible personal computer. If there are no telephone lines to your transmitter, you can use a radio link or any bidirectional audio link
- Will notify you when something goes out of tolerance, when security is breached, or if it had to turn on the standby because the main failed
- Will also help manage your remote translator site or will handle any remote switching requirements
- 16 single-ended analog input channels for use in metering
- 16 TTL compatible input channels for use as status monitors
- 32 "open collector" transistor outputs for use as remote "switches" to generate control commands
- 32 outputs are configured as 16 separate "Command Channels" with 2 outputs per channel

VRC-2000 . . . . **$3359.00**

Optional Accessories
Data Interface Permits an operator to see the conditions of all metering, status and command channels at a glance, to control the command channels from a keyboard and to provide on-site logging and control. **$519.00**

Setup VRC-2000 Software Allows a PC to automatically program the VRC-2000 even if the unit does not have the Data Interface accessory. This software will store the configurations for many different remote sites. **$99.00**

Command Relay Unit Provides isolation between the solid-state open collector command outputs and your equipment which requires relay switching for operation. Unit contains 16 SPDT relays which provide A and B dry contact closures for 8 VRC-2000 command channels **$679.00**

Temperature Sensor Unit Provides accurate air temperature monitoring **299.00**

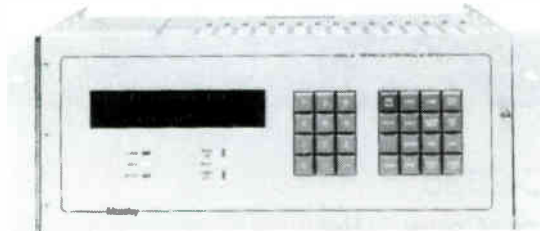**DC Isolation Amplifier** Allows use of the VRC-2000 metering channels with floating DC voltage samples. When a DC metering sample cannot be referenced to the VRC-2000 chassis ground, it can convert floating voltages up to 1000VDC to a chassis-referenced voltage. **$449.00**

Battery Backup Unit. **839.00**

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MOSELEY Associates

SINE SYSTEMS

MRC-2

Microprocessor Remote Control System

- Controls and monitors as many as 99 remote sites, with multiple control terminal capability to let you delegate control from master to master as needed
- Up to 255 status, 255 telemetry and 255 command channels supervise your sites
- Dual tolerance limits can be set to prevent a telemetry parameter from reaching critical levels
- Choose from 6 modes in which to calibrate telemetry inputs, and set status inputs to initiate alarms or events on rising or falling waveforms, or both

MRC-2 Control terminal only **$4980.00**
MRC-2 16x16x16 remote terminal only **7980.00**
**Inquire about expansions and options.**

MRC-1620

Microprocessor Remote Control System

- Consists of a remote terminal that allows an optional control terminal or IBM PC with Taskmaster 20 software to monitor and control a remote facility from both dedicated and/or dial-up control points
- Built-in internal 1200 baud modem to communicate over dedicated circuits
- 2 special system test channels
- System setup and calibration are done at the remote terminal with 8 color-coded buttons

MRC-1620 Remote terminal **$3450.00**
MRC-1620 Control terminal **1550.00**
Taskmaster 20 Software **595.00**
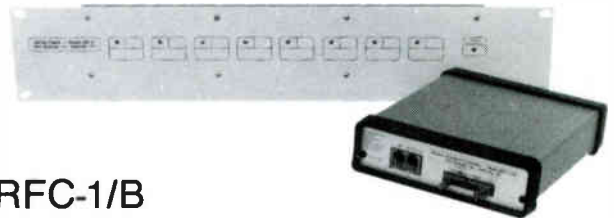
RFC-1/B
Remote Facilities Controller

- Automatically monitors up to 6 designated telemetry channels and calls 2 user-programmed telephone numbers when telemetry falls outside a preset range
- When the RFC-1/B makes a call, it reports its security code (for site identification) and the channel number responsible for the alarm
- The number of rings before answering, telephone alarm status, telephone numbers to be called for alarm, and the channels designated for automatic monitoring (up to 6) are all user-programmable from either the local (transmitter) telephone or a remote telephone
- The security code can be programmed from the local telephone only
- User programming is stored in non-volatile memory and does not require a backup battery
- The RFC-1 is connected with modular jacks located on the front panel to an ordinary telephone line and a local telephone, which functions normally when the RFC-1 is not being used
- The RFC-1 is also connected in a "daisy chain" fashion with 16-conductor flat cable to 1 or more RP-8 relay panels
- RP-8 panels are 3.5" high and are designed to be mounted in a standard 19" equipment rack
- Each RP-8 relay panel provides 8 channels of control and telemetry interface. This means there are 8 telemetry inputs, 8 "on" control relays and 8 "off" control relays per RP-8 panel
- The system can be expanded any time by adding more RP-8 panels and more connectors to the daisy-chain interconnect cable

RFC-1/B Remote facilities controller **$1099.00**
RP-8 8-channel relay panel **399.00**

Accessories
AFS-1 Dual-channel audio failsafe **$249.00**
RS-232 Serial data adaptor **299.00**
UPS-1 Uninterruptible power supply (for RFC-1/B) **249.00**
SP-8 Heavy-duty surge protector for telephone line and 8 telemetry channels, highly recommended for sites prone to lightning damage; mounts on RP-8 panel **129.00**
SP-8/TO Telemetry surge protector, 8-channel telemetry-only version of above **89.00**
ACM-1 AC current monitor (for tower lights) **99.00**
RK-3 Rackmount kit for RFC-1, AFS-1 and UPS-1, mounts up to 3 units. **35.00**
TM-1 Temperature monitor module, mounts on RP-8 . . . **29.00**
SU-4 Software upgrade kit (for earlier RFC-1s) **100.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

COMREX

3XP

Comrex Frequency Extenders

- 1-button auto dial and setup, automatic line equalization, multiband noise reduction and real time audio processing
- 1, 2 or 3-line operation

3XP Multiline Encoder/ 3XR Multiline Decoder

- 50Hz-8kHz audio on 3 lines
- 3XP gives visual indication of line integrity and monitors line 3 for communications
- Handles even the high noise environment of long-haul international circuits

3XP **$5000.00**
3XR 4000.00

2XP 2-Line Encoder/2XR 2-Line Decoder

- 50Hz-5kHz on 2 lines
- For use with an external console
- 2XP has a built-in telephone interface for 2 program lines, with a third for communications
- 2XR is used with either the 2XP or STLX

2XP **$3500.00**
2XR 3000.00

LX-T 1-Line Encoder/LX-R 1-Line Decoder

- 50Hz-3kHz on 1 line
- 1-way frequency extension over a single telephone
- With line switched to bypass, you may talk back down the line during program breaks
- LX-T accepts line level inputs from an external console
- Both LX-T and LX-R have built-in couplers which allow direct connection to the telephone line
- LX-R may be used with LX-T or PLXmicro

LX-T **$750.00**
LX-R 750.00

PLXmicro Portable 1-Line Encoder

- Battery operated, duplex, 1-line extender for use with cellular phones or dial telephone lines
- Built-in coupler/hybrid for direct connection to standard dial lines
- Microphone and tape inputs, monitor decoder, hybrid circuitry and headphone output
- Works with LX-R decoder for 1-way needs, or with TH-X extender/hybrid for full on-air duplex operation

PLXmicro **$1450.00**

STLX
2-Line Sports Console

- 2-line frequency extender/encoder with noise reduction
- 4 mixing channels (2 mic/line), Penny & Giles conductive plastic slide faders, built-in telephone interface
- Custom monitor mix with station talkback available on each headphone (4 headphones)
- AGC, Aux In and Out for external PA feeds and monitors
- Feeds dial or dedicated circuits

STLX **$7750.00**

Talk Console

- Combines a 2-channel mixer with 2 telephone lines
- Channel 1 is for the "host" microphone; channel 2 can be used for a guest microphone or other external source
- Built-in telephone dial pad works on either pulse or Touch Tone®, telephone lines 1 and 2 connect to standard direct telephone lines
- 2 self-adjusting hybrids allow caller levels to be individually controlled
- Line 2 also works from the handset connection of a PABX system for call screening and queuing

Talk Console **$2495.00**

DXP/DXR
Digital Audio Codec

- The DXP and DXR are digital audio compression devices designed for broadcasters
- They work on all of the expanding number of 56 and 64kB/s data services and allow full duplex audio transmission with 7.5kHz bandwidth
- Can be used for audio links in network distribution, studio-to-studio links and STL applications
- DSP (Digital Signal Processing) technology is employed to "squeeze" wider bandwidth into a digital channel previously capable of carrying only standard telephone quality audio
- The DXP is a portable unit with built-in A/C supply, adjustable headphone output and an input switchable between mic and line levels
- The DXR is in a rackmount case with balanced line level input and output

DXP **$2395.00**
DXR 1995.00

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INTRAPLEX

TDM-160 Series

T-1 Multiplexers

- Modular 19" rackmount system accommodates 18 standard width modules (at least 1 module must be a common module) and 1 or 2 power supplies
- The TDM-163 is the terminal version and is used at either end of a T1 circuit
- The TDM-165 is the drop/insert multiplexer for use at sites between the end points for a T1 circuit
- Each TDM-163 includes a power supply and T1 common module; the TDM-165 includes a second T1 common module (redundant power supply available as an option)
- By using a drop/insert multiplexer one need only install the necessary channel modules that require access at the drop/insert site; the through channels will be passed in their digital format
- Operates at the T1 (DS1) rate of 1.544 mbps with line code and format selectable either AMI/SF or B8ZS/ESF
- A "Smart Mux" firmware package allows control of the multiplexer and its plug-in modules through a DB15S connector over an RS-232 data line

Call for Configuration and Pricing

GENTNER Electronics

EFT-900A

Digital Frequency Extender

- Better sounding broadcasts through frequency extension, precision filtering and noise reduction. Telephone line doesn't sound "tinny," and hiss and hum are greatly reduced
- Can connect directly to the telephone line without extra equipment
- Internal mic and headset amplifiers allow you to keep equipment to a minimum on simple remotes
- Internal telephone coupler with full duplex (2-way) capability, providing direct connection to the telephone line
- Attendant telephone set connects to the rear panel
- Depression of the Line switch disables the telephone set and places telephone audio on the internal coupler
- Internal monitor amplifier allows the user to connect a headset directly to it with front panel level control
- Accepts mic or line level input
- Remote site constantly monitors the telephone line; cues may be sent from the studio during setup and program breaks
- "Mix input" jack permits the placement of an auxiliary audio source on the user's monitor (this audio will not be sent down the telephone line)

EFT-900A **$939.00**

EFT-1000A

Digital Frequency Extender

- Same basic features as the EFT-900A
- Can auto-answer, auto-disconnect and automatically place itself in or out of the "frequency extension" mode
- Save costs by using 1 phone line for the broadcast (receive cues on the same line) or use 2 lines for continuous cueing of remote site
- Possible to feed 2 locations simultaneously
- Uses digital process of frequency extension, Aphex® processing, noise reduction and precision filtering
- Cues are either sent on the same line used for the broadcast (for occasional cues), or on a second line that connects directly to the unit (for continuous cueing)
- Through a Touch-Tone® "handshake" with another EFT-1000A, can automatically set itself up or take itself out of the frequency extension mode

EFT-1000A **$1469.00**

EFT-100

Digital Frequency Extender

- Recovers low end frequencies, reduces the ambient noise level and filters out hum and line noise
- As an "in-line" device connects between your telephone hybrid and audio equipment
- Allows audio to pass through normally until you depress the "Extend" button
- "2-way" frequency extender allows you to communicate both directions while using the device
- Aphex processing artificially extends the high-end frequency response by generating harmonics of the lower frequencies
- Audio is applied to both the send and receive input stages. Input audio is balanced bridging
- In the "Non-Extend" mode, audio simply passes through the device at unity gain and appears at the 600 ohm balanced output
- LED indicates the proper level into the encoder and decoder
- Encoder shifts the audio up 250Hz while the decoder shifts the audio down by 250Hz
- In the "Extend" mode, the encoded and decoded audio is sent to the output; "Extend" relay can be remoted

EFT-100 . . . .**$649.00**

Microtel

Portable Telephone Interface

- Connected to a telephone by unplugging the handset and connecting the handset cord to Microtel's handset jack
- XLR, phone and mini jacks are provided for mic and line level inputs, line level outputs and a headset
- Utilizes the hybrid circuitry within the telephone set to permit audio feeding down the line, recording from the line or hands-free conversations
- Powered by 1 9V battery or an optional wall transformer

Microtel **$259.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

AKG Acoustics

Q-34
Headphone/Boom-Microphone Set
- Can be used in audio and video monitoring and talkback, radio and surveillance services and broadcasting
- Dynamic transducers and a self-adjusting headband
- Microphone boom may be continuously adjusted
- Dynamic 2-conductor shielded 200 ohms
- 4'8" 7-conductor with free ends; weighs 8.1 oz.

Q-34 . . . . **$189.00**

RACAL

2636-G1
Astrolite MKII Dual Muff Headset
- Dynamic microphone and coil cord with "Y" junction for installing separate connectors (connectors not included)
- Moderate noise reduction
- Easy interface to most systems
- Ear enveloping cushions

2636-G1 . . . . **$239.00**

SENNHEISER

HMD 224
Dual Muff Headset
- Frequency response of headphones: 16Hz-20kHz; frequency response of microphone: 50Hz-12kHz
- Maximum sensitivity of microphone in direction of mouth
- Circumaural air-filled double-layer plastic air cushions

HMD 224 . . . . **$315.00**

SHURE Brothers

SM2
Headset
- Adjustable boom
- Cardioid polar pattern
- Detachable cable and windscreen supplied
- Double-braced all metal headband with leather-like covering
- Matte chrome and black finish

SM2 . . . . **$244.00**

FP12
Headphone Bridging Amplifier
- 1-input, 2-output
- Designed to provide headphone feeds from any type of audio input
- 2 XLR in/out connectors and 2 1/4" in/out jacks
- Mic/line input switch
- Hi-Z/Lo-Z headphone switch
- Headphone level control, powered by 1 standard 9V battery

FP12 . . . . **$275.00**

TELEX Communications

V-220

V-Series
Full Cushion Modular Headset System
V-200 Round full cushion dual headphone, 300 ohms impedance, less mic cartridge and cable **$127.00**

V-220 Round full cushion double sided with boom, 70 ohms impedance, less mic cartridge and cable **147.00**

MB-11 Cardioid dynamic microphone cartridge **42.00**

MB-12 Cardioid electret microphone cartridge **42.00**

Call for cable assemblies for V Series headphones.

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ELECTRO-VOICE

ELX-1R™
Audio Mixer

- Low distortion and noise
- LED clip indicators on each channel
- Multi-colored Peak Program Meter (PPM) bar graph provides instant program display
- Electro-Pulse™ LED indicates status of AC and/or DC power source
- Standard 9V batteries provide backup power or portable operation
- 1kHz tone oscillator and transformer-isolated output; split windings present signal to 5-way binding posts and XLR-type jack

ELX-1R Rackmount version **$595.00**

TELFAX

GX Series

GX-440

Phone Remote Mixers

Common features to the GX-300, GX-400 and GX-440 include:
- Built-in peak limiter
- Auxiliary output jack
- 1kHz test tone oscillator
- Defeatable bass boost circuitry
- Squelch function
- Low frequency extender interface
- Radio monitor switch and jack
- Tone/pulse dialing
- ¼" mono headphone jacks
- Active balanced mic inputs
- Transformer balanced auxiliary input jack
- Rechargeable batteries
- 10-element LED bargraph VU/peak indicator

Both the GX-400 and GX-440 have:
- A fourth microphone channel
- A secondary auxiliary input and a headphone cueing channel (channel 4)

The GX-440 has:
- Second phone line capability
- Up/down event timer with large LCD display

GX-300 . . . . **$ 950.00**
GX-400 . . . .**1050.00**
GX-440 . . . .**1195.00**

CELLABS

Linejack II
Cellular Broadcast Interface

- The Linejack II enables you to do live remote broadcasts with virtually any cellular telephone
- XLR jacks for broadcast microphone or mixers
- Tape jack for remote tape playback
- Headphones/earpiece jack
- Radio/TV tuner input
- Mic/line input switch
- Transmit and receive level controls
- Power and line mode LEDs
- Powered by the cellular phone
- Compatible with most cellular phones

Linejack II **$249.00**

ZERCOM

MAX-Z
Remote Broadcast Console

- 4 high or low level inputs (mic or line)
- 4 headphone outputs
- Tone or pulse touch pad dialing
- Modular telco jack
- Carrying case, built-in rechargeable batteries and charger
- Clock stopwatch/timer, VU meter and cue channel

MAX-Z **$1095.00**

MAX-Z-II
Remote Broadcast Console

- Same as MAX-Z except:
- 2 high or low level inputs (mic or line)
- 2 headphone outputs

MAX-Z-II **$600.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

SHURE Brothers

M267
Professional Mixer with Limiter

- For recording or broadcast use
- 4 low-impedance balanced inputs switchable to mic or line level
- Phantom power on each input
- Fast-acting limiter; built-in battery supply
- Headphone level control
- Illuminated VU meter with LED peak level indicator
- Low-cut filters and tone oscillator
- Battery check switch
- Mix bus jack
- Mic and line level outputs
- Master volume control

M267 . . . .**$520.00**

M268
Microphone Mixer with Phantom Power

- 5 channels
- Ideal for public address and recording applications
- Mix bus, phantom power
- Automatic muting circuit
- Active gain controls and electronic power supply regulation
- 120VAC, 50/60Hz, 5W
- 2³/₄" H x 11³/₈" W x 7¹/₂" D

M268 . . . .**$315.00**

FP11
Microphone-to-Line Level Amplifier

- Portable, 1 input, 1 output
- Provides up to 84dB of gain so microphone and auxiliary level devices can be boosted to line level
- Balanced, locking XLR input and output provide a switchable peak limiter, a peak/limiter LED indicator, auxiliary level mini-phone jack input, powered by 1 standard 9V battery

FP11 . . . .**$290.00**

FP31
Microphone Mixer

- Designed for electronic news gathering (ENG) and electronic field production (EFP) use, including film, video and remote broadcast applications
- Measures just 6⁵/₁₆" x 5⁵/₁₆" x 1⁷/₈"
- Provides a wide, flat frequency response, low distortion and up to + 18dBm output
- Built-in slate microphone for voice announcement and emergency field use

FP31 Battery power **$1095.00**
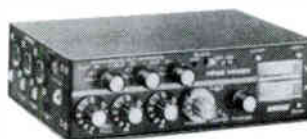
FP32
Stereo Microphone Mixer

- 2 transformer-coupled outputs (1 for each stereo channel) and 3 inputs, each switchable for low impedance microphone or line level operation
- Stereo capability is enhanced by a concentric clutched stereo master gain control
- Built-in slate microphone and slate tone
- Built-in tone oscillator for level checks or line tests
- Built-in phantom and A-B (T) power for condenser microphones
- "Phantom" jack permitting use of an external microphone power supply (up to 48VDC)

FP32 Battery power **$1495.00**
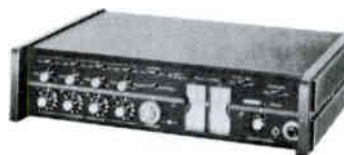
FP42
Stereo Microphone Mixer

- Handles remote mixing jobs with its 2 outputs (1 for each stereo channel) and 4 balanced inputs, each switchable for line or mic level operation
- Each input channel has low-frequency rolloff switch and a center-detented stereo pan pot
- Concentric clutched stereo master level control
- Pull-pot cueing permits cueing or checking each input via headphones
- Battery or AC-operated
- Mini and ¹/₄" stereo headphone jacks with level control

FP42 120/240VAC/battery power **$1050.00**

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MARTI Electronics
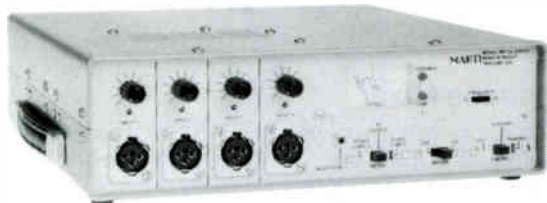
RPT-30

Remote Pickup Broadcast Transmitter

- Frequency switch selects both frequency and deviation
- Subaudible encoder activates repeaters or other equipment
- Illuminated meter displays compressor gain reduction, relative power output or power supply voltage
- Flashing LEDs indicate antenna VSWR problems and over-temperature condition
- Automatic modulation control by built-in FM compressor-limiter
- 4 balanced microphone mixing inputs, 1 switchable to balanced line level

RPT-30 30W transmitter at 450MHz and 45W at 140-180MHz, continuous duty, single freq., 4 audio inputs, tone encoder, UHF or VHF **$1695.00**
RPT-30-2 30W transmitter at 450MHz and 45W at 140-180MHz, continuous duty, dual freq., 4 audio inputs with tone encoder, UHF or VHF **1725.00**

AR-10

### Mobile Relay Receiver

- Built-in subaudible tone decoder allowing receiver to turn on a mobile transmitter upon receiving an encoded signal from a hand-carried portable transmitter, automatically relaying a broadcast to the base station receiver over a greater distance
- Operates on all remote pickup frequencies and bandwidths
- Built-in features include monitor speaker and terminals for feeding telephone lines in portable operations
- Noise reduction circuit provides an improvement of 6dB in S/N ratio for weak signals

AR-10 Single frequency **$1195.00**
AR-10-2 Dual frequency **1225.00**
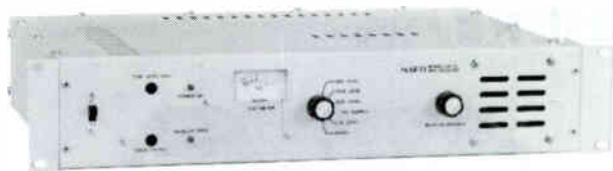
CR-10

Remote Pickup Broadcast Receiver

- GaAs Fet low-noise RF amplifier 200-480MHz
- Double balanced mixer
- 4 IF bandwidths available
- 6-function illuminated test meter
- Built-in tone decoder and relay
- Monitor speaker and control

CR-10 Single frequency **$1195.00**
CR-10-2 Dual frequency **1225.00**

DR-10

Remote Pickup Broadcast Receiver

- Rackmounted base station receiver designed for VHF or UHF broadcast remote pickup service
- Dual frequency capability is standard, with tone decoding and audio companding available as options
- Designed for 25kHz bandwidth channel only and has 7.5kHz audio low-pass filtering

DR-10 Single frequency **$895.00**
DR-10-2 Dual frequency **925.00**
SC-155AC Base antenna vertically polarized, 6dB gain, top mounting, includes PG-15A cable, for 152-171MHz band with "N" male connector. Requires a 12' x 1¼" mounting pipe with standard threads (not included) **$290.00**
YC-450 Yagi antenna horizontally or vertically polarized depending on mounting, 6 elements, 9dB gain, for 450.01-455.99MHz band with "N" female connector. **135.00**

WILL-BURT
RENG

Telescoping Pneumatic Masts

- Lightweight and easily installed in either internal or external mountings
- Minimal space required
- Quick erecting to allow for fast setups of remote broadcasts
- Free standing up to 58' without guylines
- Supports antenna weights of up to 40 lbs. to heights of 34', allowing the remote to shoot over most local obstructions

COMPETITIVE PRICES—EXPERIENCED STAFF

MOSELEY Associates

RPL 4020 Series
Remote Programming System
- Broadcast quality performance
- Audio bandwidths from 5-15kHz
- 25, 50 and 100kHz channels
- Encoding and decoding for repeaters
- Noise-reduction companding

RPL 4010
Transmitter
- Fully synthesized 450-456MHz
- RF output 20W maximum
- 2 XLR microphone inputs, 1 switchable to line
- Subaudible encoder
- 120VAC or 12VDC
- Comprehensive metering
- Lightweight, less than 8 lbs.
- Ready to use in conjunction with existing repeater and portable audio meters
- Extensive metering on the front panel
- Optional DTMF decoder
- Optional variable deviation and channel selection

RPL 4010 . . . .**$2425.00**

RPL 4020
Receiver
- Excellent selectivity
- Excellent adjacent channel rejection
- Dual-frequency operation with remote select
- Subaudible decoder
- Low distortion
- Channel rejection characteristics which are essential in crowded UHF bands
- Industry standard connector is provided for audio and control interface with existing equipment
- Optional DTMF decoder
- Optional variable IF and channel selection

RPL 4020 . . . .**$2425.00**

TFT

8888
RPU System
- Frequency synthesized for maximum versatility in the N1, N2 and S frequency bands
- 2 operating frequencies are programmed by internal DIP switches and are front panel selectable
- Allows you to select ± 5kHz, ± 10kHz or ± 25kHz frequency deviation depending on frequency band or occasion
- Selection of receiver bandwidths is possible via a front panel switch or DTMF signal
- Full audio frequency response
- Versatile DTMF control is provided for receiver activation, bandwidth and deviation selection and security
- Enables you to change the RF power output via a rear panel switch to suit your needs
- A switching power supply for lightweight, cool operation

8888 5116-8888 25W transmitter (specify frequency)
. . . .**$2395.00**
8889 5116-8889 receiver (specify frequency) **1795.00**

TPL

PA6-1BE
Mobile Amplifier
- 13.6VDC
- Carrier operated relay
- UHF connectors
- Minimum bandwidth of ± 10MHz from specified frequency
- Power in: 8-20W
- Power out: 70-100W
- Current drain: 18A
- 5 lbs.
- 2.9"H x 5.5"W x 11.6"L

PA6-1BE **$546.00**

BROADCAST ELECTRONICS

FC-30
SCA Generator

- Guarantees low FM noise and high operational stability
- Distortion is minimized with modulated oscillator and the use of an output low pass filter rather than a distortion producing bandpass filter
- DC coupled data input
- Internal data/audio low pass filter
- Extensive RFI filtering
- LED peak modulation indicator
- Front panel test jack
- Controlled subcarrier decay muting eliminates squelch noise in SCA receivers

FC-30 . . . . **$1495.00**

CRL

SCA-2 System—SCA-300B
Subcarrier Limiter/Generator

- Digitally synthesized, frequency locked subcarrier generation
- Integral 2-band audio limiter increases intelligibility of voice or music
- User can program different subcarrier frequencies and deviation levels
- Full remote control capability
- Superior crosstalk protection
- Direct modulator inputs via RS-232 or BNC connectors
- Rugged 1¾" rackmount chassis with integral RFI protection

SCA-2 System **$3295.00**
AGC-400 Audio gain controller **1250.00**
SCA-300B Subcarrier limiter/generator **1795.00**

MARTI Electronics

SCD-10
Subcarrier Demodulator

- Designed for use with the SCG-10 subcarrier generator to provide a high quality subcarrier channel on a microwave link (STL) or FM station
- May be specified for operation on a standard subcarrier frequency used in FM broadcasting
- The subcarrier input should be from a high quality FM receiver having adequate IF bandwidth with group delay characteristics sufficient for subcarrier work. The Marti R-10 receiver with 200kHz phase linear IF filter is excellent in this respect
- Audio precessing options include selectable de-emphasis of zero, 75, 150 or 225 microseconds
- Low pass audio filters of 3kHz, 5kHz or 7.5kHz are available
- For subcarrier link systems using the SCG-10, a compander decode board plugs into the demodulator and an encode board into the generator to adapt the system to audio companding
- Illuminated panel meter aids in adjusting subcarrier input level and audio output

SCD-10 . . . . **$695.00**

SCG-10
Subcarrier Generator

- Designed to operate in SCA service with an FM broadcast transmitter or, with the SCD-10 subcarrier demodulator, to form a subcarrier link on a microwave (STL) system
- Several options are available which allow it to perform a wide range of functions in broadcasting and communications
- Audio processing options include selectable pre-empasis of zero, 75, 150 or 225 microseconds
- Low pass audio filters of 3kHz, 5kHz or 7.5kHz are available
- For subcarrier link systems using the SCD-10, a compander encode board plugs into the generator and a decode board into the demodulator to adapt the system to audio companding
- Illuminated panel meter aids in adjusting modulation and subcarrier output level

SCG-10 . . . . **$695.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

MODULATION SCIENCES

SCA-186 Sidekick
SCA Generator/Audio Processor

- Excellent RF shielding
- Built-in transmitter tuning aid
- Stable over a wide temperature range
- Compatible with compander, data or telemetry systems
- Integral audio processing can be optimized for music and speech
- Peak holding deviation meter can eliminate need for a modulation monitor
- Quartz crystal controlled synthesizer can be programmed to any SCA frequency
- Built-in audio processor, front panel deviation, gain reduction metering and a device to help minimize crosstalk-causing incidental AM modulation
- Specify SCA operating frequency: 92 or 67kHz

SCA-186.................................**$3835.00**

CLD-2504
Composite Distribution Amp

- 1-in 4-out unity gain configuration makes distribution of the composite baseband signal as easy as distributing audio
- High impedance input avoids circuit loading
- 4 low impedance outputs drive a wide range of equipment
- All connectors are BNCs
- Provides more than 50dB of isolation between outputs

CLD-2504 ....**$950.00**

FMMM-1 ModMinder
Modulation Monitor

- Increases modulation by 1dB to 4dB
- Uses less processing
- Measurement technique complies with FCC rulings
- Digital technology improves measurement accuracy by over 500%
- Updates any conventional modulation monitor
- Operation from remote control or PC

FMMM-1 ....**$2395.00**

FMMM-4 ModMinder
DeMod Board

- Internal card turns ModMinder into a self-contained peak modulation analyzer. The DeMod option can be retrofitted to any ModMinder or ordered with new unit
- Calibration is factory-locked and certified NIST- (NBS-) traceable for 2 full years
- No need to calibrate before each measurement
- Measures peak deviation on any RF level from 10mW to 1W without any user adjustments and locks itself out automatically if the RF level is outside of its operating range
- Maintains ModMinder's measurement accuracy
- All functions are remote-compatible
- Provides graphic modulation analysis with easy-to-use ModMinder remote and advanced remote PC software
- ModMinder remote (free with every ModMinder) runs on any PC-compatible computer. It allows remote access to all of ModMinder's front panel controls via a modem and dial-up telco line, while providing modulation analysis of your station
- No crystals required
- DeMod employs a software programmed frequency synthesizer for total accuracy and stability
- An external tuner will permit off-the-air monitoring and modulation analysis of local stations

FMMM-4 ....**$695.00**

MOSELEY Associates

Digimux
Digital Program Multiplexer

- User-programmable for audio bandwidths of 3, 5, 7.5, 10 and 15kHz
- Center frequency programmable in 1kHz steps from 1 to 20kHz
- 80dB S/N ratio, ±0.5dB response, 0.5% distortion
- A spectrum-efficient modulation technique is used to allow inter-channel spacing to be as low as 100Hz
- Available in a housing that can carry 6 full duplex programs
- Optional dual channel transmit and receive
- Optional duplex cards

Digimux Mainframe.......................**$1995.00**
Digimux Additional 2-program module **995.00**

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SPEAKERS

AURATONE

5CV
Super-Sound Cube™

- World standard mixdown/comparative recording monitor and powerful extension speaker
- Driver: 5″ treated paper cone full-range with foam suspension, 1″ dia. aluminum voice coil
- Impedance: 8 ohms
- Power handling: 40W program
- Sensitivity: 90dB 1W/1M
- Anechoic on-axis frequency response: 160Hz-12.5kHz ± 5dB

5CV . . . .**pr./$109.50**

FOSTEX

6301B
Personal Monitor

- Self-powered by a 10W amplifier, these speakers offer instant high fidelity in a wide variety of applications
- ¼″ phone jack will accept any line feed from an instrument, preamplifier, line speaker studio reference and remote recording
- Includes power switch, LED indicator, volume control and amplifier output for driving other speakers or headphones

6301B . . . .**pr./$350.00**
6301BX With XLR input and video shielding **pr./410.00**

ELECTRO-VOICE

Sentry® 500/505
Professional Monitor Systems

- Designed for the broadcast/recording studio engineer
- Super-Dome™ tweeter capable of handling 25W of input power, while reproducing program material with response out to 18kHz
- 40Hz-18kHz frequency response
- 8 ohms impedance

Sentry 500 For ¼ to ½ space use; mount close to floor/ceiling and/or wall surfaces; 23¾″ H x 27″ W x 13″ D **$692.00**
WB23 Wall Mount Kit **40.50**
Sentry 505 For ¼ space uses; mounting brackets included; possible to mount at 60° or 30° from vertical; at 30°: 19.5″ H x 25.63″ W; at 60°: 18.75″ H x 25.63″ W **705.00**

Sentry 100EL
Professional Powered Monitor System

- Combines the advantages of the Sentry 100A monitor with a self-contained, high performance power amplifier
- Designed for the broadcast/recording studio engineer
- Offers uniform frequency response and dispersion across a wide range, extended low frequency response
- Super-Dome tweeter is used to reproduce program material at high levels
- Low frequency section is an 8″ direct radiator woofer
- 40-20,000 Hz frequency response

Sentry 100EL **$727.00**

Sentry 100A
Monitor Speaker System

- High efficiency and extended low frequency response
- High power capacity across the entire frequency range
- Uniform frequency response and dispersion
- 45-18,000Hz frequency response
- 6 ohms impedance

Sentry 100A **$344.00**
SRB-7 Rackmount/wall mount brackets for 100EL and 100A **36.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

JBL Professional

4406
Studio Monitor
- Frequency range (-6dB): 45Hz-27kHz
- Frequency response (± 2dB): 55Hz-20kHz
- Sensitivity: 87dB SPL, 1W (2.83V), 1m
- Power rating: 75W, pink noise
- Transducer complement: 6.5" LF, filled polypropylene cone; 1" HF, pure titanium dome

4406 . . . .**$235.00**

4408
Studio Monitor
- Frequency range (-6dB): 40Hz-27kHz
- Frequency response (± 2dB): 50Hz-20kHz
- Sensitivity: 89dB SPL, 1W (2.83V), 1m
- Power rating: 100W, pink noise
- Transducer complement: 8" LF, felted cone; 1" HF, pure titanium dome

4408 . . . .**$285.00**

4410
Studio Monitor
- Frequency range (-6dB): 35Hz-27kHz
- Frequency response (± 2dB): 45Hz-20kHz
- Sensitivity: 91dB SPL, 1W (2.83V), 1m
- Power rating: 125W, pink noise
- Transducer complement: 10" LF, Aquaplas laminate cone; 5" midrange cone; 1" HF, pure titanium dome

4410 L,R **$445.00**

4412
Studio Monitor
- Frequency range (-6dB): 35Hz-27kHz
- Frequency response (± 2dB): 45Hz-20kHz
- Sensitivity: 90dB SPL, 1W (2.83V), 1m
- Power rating: 150W, pink noise
- Transducer complement: 12" LF, Aquaplas laminate cone; 5" midrange felted paper cone; 1" HF, pure titanium dome

4412 L,R **$675.00**

Control 1™
Personal-Sized Monitor Loudspeaker
- Frequency response (± 3dB): 120Hz-20kHz
- Power capacity: 150W
- Sensitivity: 90dB SPL, 2.83V, 3.3'
- Nominal impedance: 4 ohms
- Crossover frequency: 6kHz
- 9¼" x 6¼" x 5⅝"D; 4 lbs. each
- 5¼" low frequency loudspeaker, ¾" polycarbonate dome tweeter

Control 1 . . . .**per pair/$225.00**

WHARFEDALE

Programme 20

Programme 20/30D
Loudspeakers
- Frequency response (-6dB): 70Hz-20kHz
- Sensitivity (1m on axis, 1W pink noise): Programme 20, 88dB SPL; Programme 30D, 86dB SPL
- Power handling: 20, 60W; 30D, 75W
- Bass/midrange driver (paper cone): 20, 7"; 30D, 4"
- High frequency driver: ¾" dome tweeter

Programme 20 13"H x 8.7"W x 6.3"D . . **per pair/$279.00**
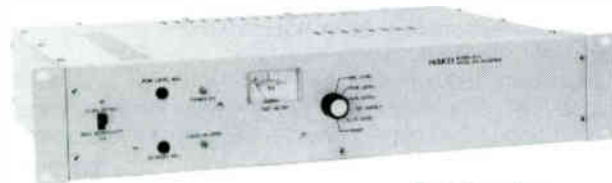**Programme 30D** 9"H x 7"W x 8"D . . . .**per pair/259.00**

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MARTI Electronics

STL-10 Transmitter

R-10 Receiver

STL-10

Studio Transmitter Links Intercity Relay

- High interference rejection receivers
- Backup reliability of scpc stereo
- 10W output power
- GaAs FET low noise amplifier
- Available for narrow channels
- Selectable 0, 25, 50 or $75\mu s$ emphasis
- FCC approved under Parts 74 and 94, FCC ID: BEN9EZSTL-10/950
- Up to 4 subcarriers per stereo system
- Frequency range: 800-960, 400-480, 280-340, 200-260MHz

Call for Configuration and Pricing

R-10

Receiver

- Frequency range: 800-960, 400-480, 280-340, 200-260MHz
- Input impedance: 50 ohms

Call for Configuration and Pricing

TSL-10

928-960MHz Telemetry Systems

- Four continuous data/voice channels on single carrier
- Multiple receive sites possible
- Transmitter FCC authorized for Part 94 service. FCC ID: BEN9EZSTL-10/950

Package 94-1 1-channel, 1 STL-10 transmitter, 1 R-10 receiver **$3195.00**
Package 94-2 2-channel, 1 STL-10 transmitter, 1 R-10 receiver, 1 subchannel **4585.00**
Package 94-3 3-channel, 1 STL-10 transmitter, 1 R-10 receiver, 2 subchannels **5975.00**
Package 94-4 4-channel, 1 STL-10 transmitter, 1-R-10 receiver, 3 subchannels **7365.00**
Additional receiver sites **2292.50**
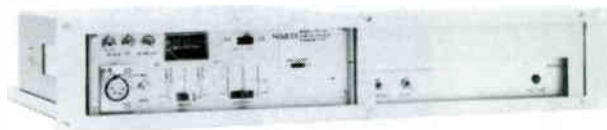
TSL-15/TSL-30

450-456MHz Telemetry Systems

- Choice of transmitter power 15 or 30W continuous duty
- Transmitters are FCC type accepted
- Super selective receiver with 90dB spurious rejection
- Test meter built into both transmitter and receiver
- Receiver has adjustable squelch and carrier operated relay
- Built-in modulation control

TSL-30 Package (30W) 1 RPT-30/450 transmitter, 1 CR-10/450 receiver, 1 1300 station identifier, 1 700-253 rackmounting kit **$3129.50**
TSL-15 Package (15W) 1 RPT-15/450 transmitter, 1 CR-10/450 receiver, 1 1300 station identifier, 1 RMH-3B rack shelf . . **2544.50**
Part 74 TSL Antenna Package 2 DB-438 Yagi antennas, 1 PG-2A jumper cable, 1 PG-2B jumper cable, 2 K-1 grounding kits **444.00**

MODULATION SCIENCES

Driver

Receiver

CLD-2500

Composite Line Driver/Receiver System

- Wired STL system sends stereo composite baseband over long lengths of inexpensive transmission line
- Driver and receiver can easily operate with 2500′ of cable
- 1 driver can feed 2 separate runs of different lengths, each with its own receiver
- Driver can stand alone as a composite distribution amplifier to drive up to 4 separate coaxial lines

CLD-2500 . . . . **$1550.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

MOSELEY Associates

PCL 6000 Series

Studio Transmitter Links

- Monaural or composite operation
- 2 PCL 6000 systems can be used in a dual discrete configuration to transmit right and left stereo programs with no measurable crosstalk
- Receiver IF bandwidth can be factory or field set for channel spacing of 100kHz-500kHz
- Both the PCL 6010 transmitter and PCL 6020, 6030 and 6060 receivers employ a synthesized reference oscillator to eliminate fixed-frequency crystals
- Physical module count on the PCL 6000 Series has been kept to a minimum for the highest MTBF without compromising operational or maintenance ease
- All oscillators, up converters and discriminator audio sections can be individually isolated by appropriate jumpers for alignment or repair

PCL 6010

Transmitter

- Uses direct modulation techniques
- Synthesized reference oscillator is used for FM generation
- Conversion of the transmitter FM-modulated oscillator frequency to the final output frequency is done via an up converter mixer technique
- Optional extended baseband is available for users conveying 67kHz and 92kHz FM SCA through baseband
- Optional 15W transmitter power output is available for long STL paths
- IF repeater technology is also available for STL paths requiring a midpoint

PCL 6010 Transmitter........................**$4000.00**

PCL 6020

Receiver

- Dual conversion PCL 6020 receiver uses an FM quadrature detector to provide maximum fidelity
- Excellent selectivity characteristics ignore adjacent channels in your area
- Receiver IF bandwidth can be set for channel spacing of 100kHz-500kHz, depending on RF congestion and channel availability
- Built-in transfer circuitry allows automatic changeover to a standby receiver in the event of a detected malfunction
- Front-panel meter indicates true RF input level in microvolts, program output level, subcarrier level, oscillator levels and supply voltages
- When used in conjunction with the optional composite stereo generator and built-in stereo decoder, the PCL 6020 is an excellent choice for AM stereo

PCL 6020 System Includes 6010 transmitter......**$8250.00**

PCL 6030

Receiver

- Triple conversion PCL 6030 receiver uses a digital pulse counting discriminator to provide extremely low distortion and low noise characteristics
- Excellent selectivity characteristics ignore adjacent channels 20dB stronger than your received signal
- Front-panel meter allows the monitoring of several parameters, including RF input in microvolts, audio and subcarrier outputs, power supply and oscillator levels
- Built-in automatic changeover circuitry is included for hot standby operation
- Receiver IF bandwidth can be set for channel spacing of 100kHz or 500kHz, depending on RF congestion and channel availability

**PCL 6030 System** Includes 6010 transmitter......**$9250.00**

PCL 6060

Receiver

- The best receiver for congested antenna farm environments
- Uses the PCL 606/C Preselector RF Gain/Attenuator module, which allows an STL receiver to operate in the most hostile RF conditions free from the problems associated with adjacent channel and front end overload conditions
- Receiver is frequency agile and can be configured for monaural, composite or digital operation
- Receiver IF bandwidth can be set for channel spacing of 100kHz-500kHz, depending on RF congestion and channel availability
- An adjacent signal 20dB higher than the desired signal will degrade S/N ratio by less than 3dB

PCL 6060 System Includes 6010 transmitter......**$9950.00**

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MOSELEY Associates
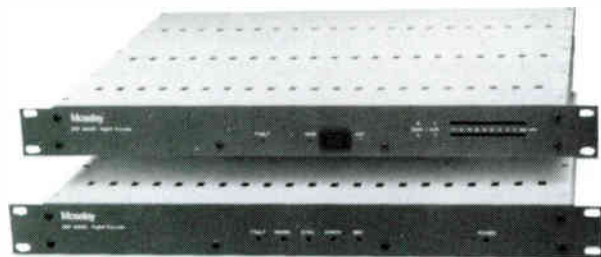
DSP 6000
Digital Studio Transmitter Links

- The DSP 6000 Digital Transmission System consists of the DSP 6000E Encoder, the DSP 6000D Decoder and any Moseley digital-ready STL transmitter and receiver; may also be used with other FM radios and/or digital circuits

DSP 6000E
Encoder

- Accepts up to 4 audio program channels through active balanced inputs via XLR connectors
- Each input, programmable for 7.5 or 15kHz bandwidths, is routed to a source encoder which converts it to 16-bit linear PCM data
- The source encoder output feeds the channel encoder and will also accept data from an external source to facilitate transmission of basic rate ISDN or Musicam encoded material
- Next, the encoded material is routed through the channel encoder's scrambler to prevent adjacent channel interference
- The data is precoded to prevent error propagation in the receiver
- Finally, the shaped data at the channel encoder's output drives the STL transmitter

DSP 6000D
Decoder

- The recovered baseband signal from the STL receiver is first noise averaged in the channel decoder
- Bit-by-bit detection is performed on the filter baseband signal using a digital sample-and-hold
- Decode logic reconstructs and descrambles the data for output to the digital source decoder
- The recovered data is fed to the source decoder, which performs the inverse function of the source encoder
- 16-bit linear PCM is output as either formatted AES/EBU or unformatted serial data
- Analog output is also available by use of a 4X oversampling DA converter

DSP 6000E 1 1 audio and 1 data channel encoder . . .**$2495.00**
DSP 6000D 1 1 audio and 1 data channel decoder **2495.00**

RADIATION SYSTEMS

Microwave Grid Parabolic Antennas

- Meet or exceed all existing FCC requirements
- Lightweight, yet extremely strong
- Electrical characteristics equal to comparable diameter solid parabolic reflectors
- Cross polarization discrimination response exceeds 40dB
- Wind loading characteristics only 25% to 40% of comparable size solid parabolas
- De-icing available on all models
- Nesting design for shipping ease and economy
- Survival: 125 mph with 1″ of ice
- Heated grid parabolas come with completely installed de-icing equipment. The lead jacketed heater cable is securely mounted to the back side of each grid element and terminated in a weather-proof cast aluminum enclosure
- The thermostat is preset to activate when the temperature drops to the ice forming range. De-icing power is applied only between 25 and 35°F
- The grid parabola is made of heavy walled, aluminum pipe heliarc welded for superior strength and rigidity
- Feeds are constructed of heavy brass components protected against oxidation
- The radiator's active element is protected by a durable Teflon (335-960MHz) or Plexiglas (1400-2700MHz) feed housing, which assures long life with trouble-free operation, with up to 10 psi pressurization

890-960MHz Non-Pressurized
Mount to 1.9″-3.5″ Pipe
P-9A48GN-1 4′ **$1050.00**
P-9A72GN-1 6′ 1380.00
P-9A96GN-1 8′ 2100.00
P-9A120GN-1 10′ 2700.00

MARTI Electronics

PA-48
4′ Parabolic Antenna

- Broadband for the 940-960MHz aural STL band
- Category B rated in vertical and horizontal planes
- The 16° ¹/₂ power beam is the maximum beam width a 4′ parabola is capable of at 950MHz

PA-48 . . . .**$500.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

SCALA

Antennas

CA5-150EB 150-174MHz 5-element ruggedized yagi, 9.0dBd gain, rear-mount, H or V polarization, 144-174MHz (specify frequency), N or UHF connector **$200.00**
CA5-450 450-470MHz 5-element ruggedized yagi, 10.0dBd gain, 406-512MHz (specify frequency), rear-mount, H or V polarization, N connector **190.00**
CA7-460 450-470MHz 7-element ruggedized broadband yagi, 10.0dBd gain, 450-470MHz (broadband), rear-mount, H or V polarization, N connector. **190.00**
PR-450U 940-960MHz paraflector, half-parabolic screen, 18.0dBd gain, 940-960MHz (broadband), H or V polarization, N connector **580.00**
MF-960 940-960MHz miniflector, 14.0dBd gain, 940-960MHz (broadband), V-polarization, N connector **320.00**

TFT

8300 Series

Composite 950MHz Aural STL and Intercity Relay

Transmitter
- Direct locked RF carrier
- IF modulation—between 60 and 80MHz
- Fully protected against short and open circuits and high VSWR
- Wide baseband bandwidth
- RF power output—4W minimum, 14W maximum
- ± 50kHz deviation
- Better than 0.0001% 0°C to 50°C frequency stability

Receiver
- Surface acoustic wave filter
- Pulse-counting discriminator
- Selectable IF bandwidth
- Selectable high or low gain RF amplifier

8300 5116-8300 composite transmitter **$4820.00**
8301B 5116-8301B narrow/wide band (250kHz) composite receiver **4690.00**
Option 22 IF repeater **1290.00**

7700B Series

Composite 950MHz Aural STL and Intercity Relay

Transmitter
- IF modulation between 60MHz and 80MHz
- Power from 3W to maximum
- Protected against short circuits and high VSWR
- Frequency stability ± 1 p-pm/year
- Accommodates 2 additional subcarriers

Receiver
- Crystal controlled triple conversion super heterodyne design
- Low noise RF amplifier—3.5dB noise figure
- Pulse-counting discriminator
- Automatic changeover optional

7700B 5116-7700B transmitter for composite or monaural use **$3975.00**
7707 5116-7707 composite receiver **3250.00**
7705 5116-7705 monaural receiver **3250.00**

8600A Series

950MHz STL System

- Single-channel or dual monaural applications
- ± 25kHz deviation, 100kHz channel spacings
- Direct output power amplification
- Optional SCA generator/demodulator (39kHz)
- Provision for phase matching between 2 systems for stereo
- Tested to customer specified operating frequency
- Available for FCC Part 94 frequencies

8600A 5116-8600 all solid-state monaural transmitter . .**$1520.00**
8601A 5116-8601 all solid-state monaural receiver . . .**1370.00**

8700/8701

8700

450MHz Transmitter Studio Datalink

- Ideally suited for the telemetry return of a remote control system using FSK data modems
- Audio frequency response 300Hz-3kHz ± 3dB
- ± 1.5kHz for 100% modulation
- ± 0.00025% frequency stability
- 6W transmitter power
- Optional morse code identifier, external battery backup and multi-user time division multiplex

8700 5116-8700 450MHz transmitter studio voice/data link. Specify FCC Group P frequency. **$1445.00**
8701 5116-8701 450MHz receiver-studio voice/data link. Specify FCC Group P frequency. **1445.00**
Option 01 Automatic ID (specify ID code) **320.00**
Option 02 Time division multiplex for transmitter **920.00**
Option 03 Time division multiplex for receiver **420.00**

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ADVANCED Receiver Research

P450/P900

Preamplifiers

■ VD or VDA models are suitable for most fixed location and mobile applications ■ VDG models provide the lowest noise figures and highest immunity to overload ■ Completely shielded and suitable for mast/tower mounting

P450VD	450-460MHz	$ 49.95
P450VDA	450-460MHz	.56.95
P450VDG	450-460MHz	109.95
P900VDG	900-960MHz	119.95

CELWAVE
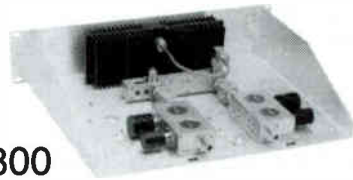
TCD-460/TCD-800

Hybrid-Ferrite Transmitter Combiners

■ Designed to maximize use of tower space and reduce costs by coupling multiple close spaced transmitters into 1 antenna

TCD-460-2	2 channels, 406-512MHz*	$2710.00
TCD-800-2	2 channels, 806-1000MHz*	2063.00

*Exact frequencies must be specified.

DECIBEL PRODUCTS

DB4001/DB4021

5" Bandpass Cavities

■ The DB4001 series are quarter-wave high Q coaxial cavities for the 148-174MHz band ■ The DB-4021 series are ³/₄ wavelength, high Q coaxial cavities for use in the 450-512MHz band

DB4001-1	Single cavity	$236.00
DB4021-1	Single cavity	259.00

DB4162

8" Bandpass Reject Filter

■ Operates in the 150-174MHz frequency range when the frequency separation is 300kHz

DB4162-1	Single cavity, 35dB typical rejection	$426.00

DB4175

Notch Filter

■ High Q band reject cavity filter for 450-512MHz frequencies ■ Frequency separation: 500kHz

DB4175-1A	Single cavity, 17dB typical rejection	$265.00

MICROWAVE FILTER

5KMT-FM

Entire FM Band Suppressor

■ 50dB suppression, 92-104MHz

5KMT-FM	$24.00

6367 Series

Tunable Notch Filters for 30-900MHz

■ Adjustable 3dB bandwidth allows suppression of unwanted carrier with minimum impact on adjacent frequencies

6367-1	30-50MHz	$139.00
6367-2	50-112MHz	139.00
6367-3	88-216MHz	139.00
6367-4	216-450MHz	179.00
6367-5	450-900MHz	169.00

3634 TVRO

Subcarrier Bandpass Filter

■ Isolates a chosen subcarrier at the IF stage of TVRO receivers for interference protection ■ Center frequency available from 55-85MHz and field adjustable ± 1MHz ■ 3dB bandwidth is 400kHz and offband rejection is 30dB nominal at ± 700kHz ■ Insertion loss at tuned frequency is approximately 6dB

3634	$362.00

WACOM

WP-686

WP-686

Bandpass-Reject Duplexer

■ Designed for use with duplex stations operating in the 800-960MHz band when the separation between transmit and receive frequencies is 45MHz or more ■ Consists of 4" O.D. BpBr filter in each section of the duplexer

WP-686	$390.00

WP-470

5" Bandpass Cavity

■ A high Q, ¼ wavelength coaxial cavity filter designed for use with transmitters or receivers in the 450-512MHz band

WP-470-1 Single cavity	$140.00

WP-494

Bandpass Cavity

■ 4" O.D.; designed for operation in the 800-960MHz band ■ Features rotation coupling loop to change insertion loss from 0.5dB to 3.0dB; mounts on 19" rack panel

WP-494-1 Single cavity	$150.00

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OTARI

"The Stealth Producer"
PC Based 4-Track Digital Audio Workstation

- Windows platform
- Compact disc audio quality
- Selectable sampling rates
- 8- or 16-bit selectable audio card
- 4 virtual tracks
- On-screen audio mixing in several formats
- Echo and reverb effects
- EQ in digital domain
- Auto panning
- Time compression and expansion with no pitch change
- Simple analog recorder type graphic interface if desired
- Waveform editing with all tracks on screen at once if desired
- Self-powered studio monitors optional
- CD ROM effects and music library optional
- Black cabinets

Stealth Producer . . . . **Call for Pricing**

MX-5050 Series
2-, 4- and 8-Channel Recorders

- Built-in mini-autolocator with 3 1-touch cue-point memories, search zero and repeat functions
- Tape timer reads hours/minutes/seconds as well as tape speed in inches per second and percentage of tape speed
- 37-pin standard parallel interface for external machine control via SMPTE/EBU timecode-based synchronizers and editors
- DC capstan, quartz PLL servo-controlled
- Independently switchable + 4dBu or -16dBu input and output reference level on each channel
- Plug-in 3-head design with easy access, hinged head cover
- Lighted VU meters with peak-reading indicators
- Front panel record setup adjustments
- Record reference level is switch selectable
- Equalization is switch selectable (NAB/IEC)
- Variable speed control (± 20%) usable in record and play
- Dump edit and cue (lifter defeat) modes
- Real size switches selectable for take-up and supply reels (5"-7", 10.5") EIA or NAB

B-III	¹/₄" 2-channel half-track recorder	**$3459.00**
B-III F	¹/₄" 1-channel full-track recorder	**4158.00**
BQ-III	¹/₄" 4-channel quarter-track recorder . . .	**5418.00**
MK-IV-2	¹/₄" 2-channel half-track recorder with meterbridge console	**4509.00**
MK-IV-4	¹/₂" 4-channel recorder with meterbridge console	**6295.00**
MK-IV-8	¹/₂" 8-channel recorder with meterbridge console	**6609.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

OTARI

MX-50 II N

¹/₄″ Compact Recorder/Reproducer

- DC capstan PLL quartz clock motor
- Speed selectable in pair of 15/7.5 ips or 7.5/3.75 ips
- Max. 1000m tape usable
- Switchable EQ: NAB/IEC
- Search zero plus 1 search cue point
- Standard fader start function (option for low voltage version)
- ± 8% vari speed
- Dump edit function
- VU meters with lamp and peak indicator
- Alternate and momentary cueing

MX-50 II N **$2,725.00**
MX-50 II N-L Low speed **2,877.00**
MX-50 II LR Logger **3,395.00**

DIGITAL AUDIO LABS

The CardD™

- True professional quality digital audio
- Plugs into IBM AT-compatible
- Transfers audio data to/from hard disk in real time
- Selectable sampling rates of 48kHz, 44.1kHz and 32kHz (software selectable)

The CardD **$795.00**

The EdDitor™

- Fully non-destructive waveform editing program
- Extremely fast cut and paste operations—overlays, customized fades and crossfades, multiple undos
- Very easy to learn; on-line help is always available

The EdDitor **$250.00**

The I/O CardD™

- With the addition of The I/O CardD, The CardD system will support digital input and output in the S/PDIF (IEC) format

The I/O CardD **$295.00**

AKAI

DD1000/DD1000i/DD1000s

Magneto Optical Disk Editors

- The DD1000i is a fully functional, self-contained unit; the DD1000s is a slave with no front panel functions and designed to be remotely controlled
- Uses 16-bit linear quantization with Delta Sigma A-D conversion and 18-bit playback with 8X oversampling for superior sound quality
- Capable of playing 2 stereo recordings simultaneously at any sample rate
- 650M byte MO disk offers 325M bytes per side, giving you access to 30 minutes of stereo audio recorded at 44.1kHz per side of disk or 80 minutes of recording in mono at a reduced bandwidth
- You may also chain external disk drives for continuous recording of 2 hours stereo or more at lower sampling rates
- Editing functions are powerful, real time and user friendly
- Extensive range of timecode selection allows perfect synchronization with a wide range of audio-visual devices
- 2 or more DD1000s units may be linked together under the control of 1 central DL1000 remote controller or controlled via RS-422 or from an Apple Macintosh™
- The DL500 Playsheet remote controller makes the DD1000s an ideal playback medium for on-air broadcast studios

DD1000 Digital audio editor **$14,500.00**
DD1000i Digital audio editor **14,995.00**
DD1000s Digital audio editor, slave version **12,995.00**
DL1000 Full function remote **2,700.00**
DL500 Remote trigger controller **1,150.00**

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STUDER REVOX America

PR99 MKIII
Recorder/Reproducer

- Variable speed control with ± 7 half-tone range
- Real time counter with resolution to the exact second, zero locate, address locate and repeat (loop) functions
- Edit mode switch defeats the tape lifters and makes the fast-wind buttons "momentary acting," permitting quick location of audio cues
- Connections for fader start, remote control (parallel), external vari-speed and monitor panel
- Sound heads are mounted above the flat faceplate
- Tape cutter and splicing block
- Tape dump button for wastebasket mode
- Balanced and floating inputs and outputs
- Calibrated and uncalibrated input and output levels
- Adjustable headphone output

HS = High speed, 7½ to 15 ips (NAB)
STD = Standard speed, 3¾ to 7½ ips (NAB)

PR99 Recorder/Reproducer	Order No.	Price
STD MKIII ½ Track Stereo	13600	$3495.00
HS MKIII ½ Track Stereo	13610	3495.00
PR99 Reproduce-Only		
STD MKI ½ Track Stereo	13203	2795.00
HS MKI ½ Track Stereo	13303	2795.00

TASCAM TEAC Professional Division

DA-88
8-Track Digital Recorder

- Hi8 cassette tape allows approximately 100 minutes of re-cording time on a standard 120 tape
- The audio for an entire CD project, feature film or video pro-ject can fit on 1 tape
- Records at both 44.1kHz or 48kHz with a variable pitch of ± 6% at each sampling rate
- 8-digit LED time display shows absolute time in hours, min-utes, seconds and frames as well as displaying memo times, pitch change, SMPTE time code and SMPTE offset

- Large transport buttons and jog/shuttle wheel
- Up to 16 DA-88 units may be locked together for a total of 128 audio tracks

DA-88 .... **$4499.00**
RC-848 Remote controller for up to 6 DA-88 units. . . .**1499.00**

RA-4000
Random Access Digital Recording/ Editing System

- The RA-4000 is a dedicated computer specifically designed for post production recording and editing
- Designed to give the post production engineer controls that are familiar, fast and easy to use for editing
- Dedicated buttons for all editing functions (located on the top panel), large transport controls and an easy-to-read, large LCD display for fast operation
- 200M byte internal drive, 2 input channels and 4 analog outputs
- Digital outputs are AES/EBU and SP/DIF
- Word sync, video sync, SMPTE TC and MIDI TC connections are available
- 9-pin serial port for transport control by a video editor
- SCSI provided for use with external storage devices
- Up to 4 RA-4000 units can be controlled by the RC-4000 remote controller for a system of up to 16 tracks

RA-4000 .... **$5499.00**
RC-4000 Remote controller for RA-4000 ....**1499.00**

STUDER REVOX America

B77 MKII

Recorder/Reproducer

- 3 heads for off-tape monitoring
- 3 motors
- Solid-state, full logic transport control with motion sensing
- 10¹/₂" reel capacity
- Variable speed control
- Input switching for track bounce and tape echo effects
- Front panel microphone inputs (Hi- or Lo-Z)
- VU meters with adjustable peak indicators
- Edit switch for monitoring tape in all transport modes
- Splicing block with tape cutter
- Infrared end-of-tape sensor
- Carry handle on cabinet versions

HS = High speed, 7¹/₂ to 15 ips
STD = Standard speed, 3³/₄ to 7¹/₂ ips
LS = Low speed, 1⁷/₈ to 3³/₄ ips
SLS = Super low speed, ¹⁵/₁₆ to 1⁷/₈ ips

B77 Recorder/ Reproducer	Cabinet	Cage	Price
HS MKII ¹/₂ Track	14106	14306	$2995.00
STD MKII ¹/₂ Track	14102	14302	2995.00
STD MKII ¹/₄ Track	14104	14304	2995.00
LS ¹/₂ Track	14453	14454	2995.00
LS ¹/₄ Track	14451	14447	2995.00
SLS ¹/₂ Track	14502	14500	3195.00
B77 Auto Start			
STD ¹/₂ Track	14498	14489	$3095.00
STD ¹/₄ Track	14499	14488	3095.00
LS ¹/₂ Track	14484	14485	3095.00
LS ¹/₄ Track	14597	14602	3095.00
SLS ¹/₂ Track	14479	14478	3295.00
SLS ¹/₄ Track	14477	14475	3295.00

TASCAM TEAC Professional Division
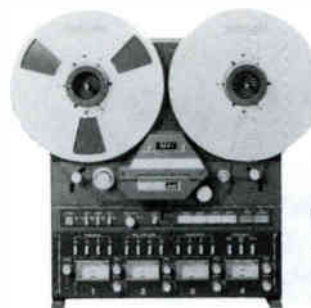
34B

32

Series 30

Recorder/Reproducers

- 3-head tape machines with 10¹/₂" reel capacity
- Ideally suited to all music and sound production applications
- Use ¹/₄" tape with selectable 15 or 7 ¹/₂ ips tape speeds
- FG servo DC capstan motor and 2 slotless DC reel motors
- Microprocessor-controlled full-logic transport
- Precision digital tape counter with zero return function
- ± 12% pitch control
- Bipolar power supply
- Direct-coupled amplifiers for minimum distortion
- Dump edit function; cueing lever
- Microphone inputs; input and output level controls
- Frequency response: 40Hz-22kHz, ± 3dB at 15 ips

34B 4-track, 4-channel **$2299.00**
32 2-track, 2-channel **1799.00**

22-2

Recorder/Reproducer

- 3-head transports and use 7" reels of ¹/₄" tape, offering plenty of recording/playback time for most music and sound production applications
- Selectable 38 or 19cm/sec (15 or 7¹/₂ ips) tape speeds
- Durable FG servo DC capstan motor and 2 AC reel motors
- Bipolar power supply
- Frequency response: 40Hz-22kHz, ± 3dB at 15 ips
- Input and output level controls on each channel

22-2 2-track, 2-channel **$1199.00**

## COMPETITIVE PRICES—EXPERIENCED STAFF

BROADCAST ELECTRONICS

PC-1
Cartridge Machine Telephone Interface

- Automatic gain control circuitry
- Jumper selectable logic for operation with virtually any cart machine
- Provides answer-only access to prerecorded information
- Automatically answers only if cart machine is ready
- Standard RJ11C modular telephone jacks

PC-1..................................**$225.00**

GENTNER Electronics
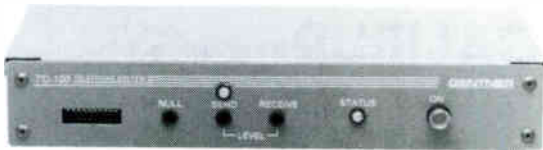
TC-100R
Automatic Telephone Interface

- Auto-answer, auto-disconnect
- Latching or momentary tape starts
- Direct connection to telephone line
- A-lead control for 1A2 and digital phone systems
- Manual or automatic
- Optional Touch-Tone® decoder board with dial tone and busy detection

TC-100R..................................**$479.00**

SPH-3A
Telephone System

- Adaptable to any console configuration
- Remoteable
- Multiple caller capability
- Connects directly to the phone line
- Built-in monitor amplifier

SPH-3A..................................**$579.00**

SPH-5
Telephone System

- Calls can be recorded on-air and off-air
- Automatic answer/disconnect
- Fully remoteable
- Cue button switches the send audio being fed to the caller between the mix-minus of your console and the output of the talent's mic preamp
- Hybrid null

SPH-5..................................**$889.00**

Digital Hybrid II
Auto-Nulling Telephone Hybrid

- Advanced DSP technology uses Motorola 16-bit processing with 2X oversampling
- Digital nulling algorithm provides maximum separation between send and receive audio
- Allows you to record calls
- Cue button switches the send audio being fed to the caller between the mix-minus of your console and the output of the talent's mic preamp
- Automatic answer/disconnect
- On-air line selection
- Fully remoteable

Digital Hybrid II..................................**$1889.00**

Digital Hybrid I
Auto-Nulling Telephone Hybrid

- 100% digital hybrid features 16-bit processing with 2X oversampling and 10kHz sampling rate
- Sturdy rackmount design with adjustable caller control and built-in power supply
- Internal test tone generator
- Remote capable

Digital Hybrid I..................................**$1049.00**

HENRY ENGINEERING

Telecart II
Multi-Mode Telecontroller

- Interfaces with any cart machine to automatically answer a phone line and play a recorded message
- Relay and opto-isolated circuits
- "Failsafe" design prevents the line from being answered unless the message cart is cued and ready to play
- Can also be used for "listen lines"
- CPC sensing for line-release when the caller hangs up

Telecart II..................................**$225.00**

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HENRY ENGINEERING

MixMinus Plus
Differential Summing Amplifier
- Designed to add a "Mix Minus" output to a broadcast console
- Output is typically used to feed the Send input of a telephone hybrid device
- Has 2 inputs and 1 output
- Overall gain is unity; the output will drive a 600 ohm load to +26dBm

MixMinus Plus **$195.00**

GENTNER Electronics

PeopleLink
Multi-Line Telephone System
- Open-ended design handles up to 40 telephone lines
- Compatible with any telephone system
- Tailored for your unique facility needs
- Easy to install, configure, operate and troubleshoot
- Answers contest calls, delivers pre-recorded messages, then puts the winning caller at your fingertips
- Supports multiple, independent, simultaneous control locations
- Telephone lines can be assigned to any selected control surface or any combination of control surfaces
- Interfaces directly with your existing audio equipment
- Superb audio on every call. The system uses digital signal processing hybrid technology to deliver crisp, clear and understandable audio
- Automated call answering simplifies operation
- VIP call handling ensures that important callers are never accidently dropped
- Put multiple callers on air at the same time
- Automatic recording of telephone conversations

PeopleLink . . . .**POR***

TeleSwitch
Call Director
- Up to 5 lines can be directly connected, placed on hold and routed to a hybrid or telephone set
- Uses standard RJ-11C telephone connectors
- Control panel lights indicate whether the line is ringing, in use, on hold or available
- When installed in-line with a business phone system, calls can be answered, screened and put on hold by the regular phone system; when they are needed on-air, TeleSwitch can take the call and route it to the telephone hybrid

TeleSwitch **$1049.00**

EXCALIBUR ELECTRONICS

HC-1
Handi-Coupler
- Connects in series with the handset of any telephone using modular connectors
- Can be used with single or multi-line, modern electronic or older key systems because connection to the telephone line is not required
- Inputs and outputs are TRS jacks wired so you may plug balanced (TRS) or unbalanced (TS) connectors into them
- Press the on/off button to connect external audio in and out; release the button and the handset is once again connected

HC-1 . . . .**$99.00**

ELGIN ELECTRONICS
EC-30A
Voice Coupler
- Provides 2-wire connection of customer provided (CP) voice transmitting and/or receiving equipment to telephone lines
- Provides DC isolation and limits excessive signals
- Associated telephone set must be equipped with an exclusion key—and also with a cutoff turnkey if it is required that the transmitter/receiver is disabled when the CP equipment is in operation

EC-30A **$68.00**
*Price On Request

COMPETITIVE PRICES—EXPERIENCED STAFF

BIRD

3170/3171
High-Speed WATTCHER® RF Monitoring Systems

Common Features:

- Alarms audible: Front panel buzzer, Visual: "Active" and "Trip" LEDs for both FWD and RFL monitors
- Response time 25ms, maximum
- Activate forward monitor delay 73ms-50ms nominal (adjustable)
- Inputs and outputs TTL compatible +5V logic. Outputs for remote meter
- Power: 115/230VAC, 50/60Hz, 10W maximum (rear panel selector switch)
- Signal forward power drop-off below a set level
- Allow remote reset in event of false alarm or momentary disturbance, leaving transmission unimpaired
- Display a continuous, simultaneous view of VSWR conditions and power output, which can be remoted
- Accuracy: ±5% of full scale

	3170	3171/3171-020
Power Range:	100mW-10kW	250W-100kW
Frequency Range:	0.45-2300MHz	2-1000MHz
Meter Scales:	FWD & RFL 25, 50 and 100W	FWD & RFL (3171) 5, 10, 25 (3171-020) 15, 30, 60
Insertion VSWR:	with IV connectors 1.05 maximum to 1000MHz, 1.1 maximum to 2300MHz	1.05 maximum
Connectors:	QC tape (female N normally supplied)	

3170 . . . . **$1200.00**
3171 . . . . **1155.00**

3127/3128
WATTCHER RF Power Monitor/Alarm

- Audible and visual alarms indicate system malfunction
- Reflected power meter-relay has front-adjustable trip level
- ±5% full scale accuracy

3127
- 2-1000MHz frequency range
- 250W-250kW power range

3128
- 0.45-2300MHz frequency range
- 100mW-10kW power range

3127 . . . . **$1015.00**
3128 . . . . **1070.00**

Model 43
THRULINE® RF Directional Wattmeter

- Comprised of a line section and a direct-reading 3-scale meter
- Quick change type C connectors and a full range of plug-In measuring elements (ordered separately now or later)
- Provides flexibility
- 2 extra elements can be stored in the housing
- Remote installation
- 0.45-2300MHz, 0.1W-10kW
- Impedance: 50 ohms nominal
- Insertion VSWR: With N connectors 1.05 maximum
- Accuracy: ±5% of full scale
- Optional cases: CC-1 wattmeter and 9 elements; CC-3 wattmeter and 8080 or 8362 (25W load) and 6 elements; EC-1 12 elements

Model 43 . . . . **$197.00**
Most elements **55.00**

4712   **4805**

Series 4700/4800/4900
Wattmeters

Model No.	Power Range kW	Flg/Unflg	Element Table	Price
1⁵⁄₈″ Line 50 ohms nominal; Frequency Range: 2-1000MHz; Scale Divisions: 5/10/25				
4712	¹⁄₄-25	EIA Flg	1⁵⁄₈A	$610.00
4715-200	¹⁄₄-25	EIA Flg	1⁵⁄₈A	650.00
4720	¹⁄₄-25	Unflg	1⁵⁄₈A	465.00
4723-200	¹⁄₄-25	Unflg	1⁵⁄₈A	620.00
3¹⁄₈″ Line 50 ohms nominal; Frequency Range: 2-1000MHz; Scale Divisions: 5/10/25				
460	1-100	EIA Flg	3¹⁄₈A	$695.00
4610-200	1-100	EIA Flg	3¹⁄₈A	810.00
4805	1-100	Unflg	3¹⁄₈A	525.00
4802-200	1-100	Unflg	3¹⁄₈A	670.00
3¹⁄₈″ Line 50 ohms nominal; Frequency Range: 50-250MHz; Scale Divisions: 15/30/60				
4600-037	1¹⁄₂-30	EIA Flg	3¹⁄₈B	$695.00
4610-300	1¹⁄₂-30	EIA Flg	3¹⁄₈B	810.00
4805-037	1¹⁄₂-30	Unflg	3¹⁄₈B	525.00
4802-300	1¹⁄₂-30	Unflg	3¹⁄₈B	670.00

99

DELTA Electronics

RG-4
Receiver/Generator

- Up to 2W output
- 10 microvolt receiver sensitivity
- Receiver/generator isolation > 120dB
- 100kHz-30MHz operating range
- 9 frequency test storage registers
- Coincidence detector
- LCD readout
- Keypad entry operations
- Gel-cell battery pack
- Specify voltage

RG-4 With batteries **$6600.00**

OIB-3

OIB-1
Operating Impedance Bridge

- Measures the operating impedance of directional antenna systems while they are functioning under normal power
- Has many applications in other fields that cannot be duplicated by any other instrument

OIB-1 Specify 12″ or 18″ lead length **$2095.00**
Extended R and X ranges. **2890.00**

OIB-3
Operating Impedance Bridge

- Advanced version of the industry standard OIB-1
- Extended resistance and reactance range and improved meter amplifier
- Built-in heavy drawn aluminum case; no additional carrying case required

OIB-3 Specify 12″ or 18″ lead length **$2890.00**

DIGIMAX

D612/D1200
Frequency Counters

- Built-in audio multiplier
- Meet all FCC requirements
- 1.2GHz prescaler

D612 50Hz-1.2GHz **$259.95**
D1200 10Hz-1.2GHz. Includes prescale input sensitivity control **299.95**

D500/D510
Frequency Counters

- 1PPM (17°-35°C) TCXO
- Compact size
- 8 readouts
- AC adaptor or 8-15VDC power required

D500 50Hz-512MHz. **$149.95**
D510 50Hz-1.2GHZ **179.95**

FOSTEX

TT-15
Test Tone Oscillator

- 5 selectable frequencies
- 3 selectable output levels
- Constant output

TT-15 . . . .**$48.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

POTOMAC Instruments

AA-51

AA-51
Audio Analyzer

- Multi-purpose test instrument
- Automatically measures total harmonic distortion, intermodulation distortion, wow and flutter, frequency response, signal-to-noise ratio, RMS voltage level, stereo phasing and a differential gain (ratio) of signals in the audio frequency spectrum

AA-51 RFI shielded, stereo inputs, 117VAC (230VAC optional) **$3280.00**

AG-51
Audio Generator

- RFI shielded
- Stereo matrix switch
- Precision attenuators
- Low distortion sine wave generator
- 3.15kHz SMPTE wow and flutter frequency standard

AG-51 . . . . **$2605.00**
AT-51 Includes AA-51 and AG-51 at single purchase price
. . . . **5230.00**

QA-100
QuantAural Audio Program Analyzer

- Measures audio processing
- Evaluates station sound
- Analyzes competitive stations

QA-100. . . . . **$3650.00**
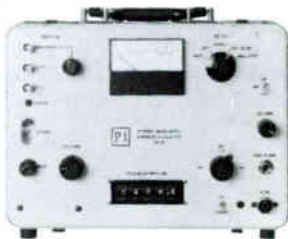
SD-31
Synthesizer/Detector

- Designed for antenna impedance measurements with RF bridges in the presence of strong interference
- Frequency crystal controlled, variable in 500Hz steps from 100kHz-1999.5kHz
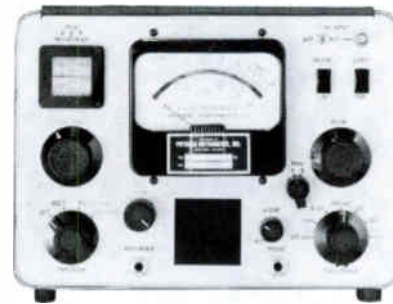- Powered by rechargeable batteries

SD-31 . . . . **$2815.00**

RX-31
Receiver Option

- Designed as an RF interface between an impedance bridge and the SD-31
- IF selectivity is provided by active bandpass filter which can limit receiver bandwidth to 100Hz

RF Filter Manually tuned in 3 bands: 0.1-0.3MHz; 0.3-0.8MHz; 0.8-2.0MHz
RX-31 . . . . **$1095.00**

FIM-21

FIM-21, FIM-22, FIM-41
Field Strength Meters

- Intended for portable field use and include a laboratory quality receiver, integral shielded loop antenna, precision attenuator, internal calibration source and voltage regulated battery power supply
- Differential comparison circuit for balancing oscillator and receiver output for precise calibration
- Capable of signal ratio measurements (including harmonics) to -80dB
- 6-position (20dB per step) attenuator
- High Q double-tuned RF input for maximum image rejection

FIM-21 Covers AM broadcast spectrum only (535-1605kHz). Utilizes 6 "D" batteries (not included). **$4275.00**
FIM-22 Covers 200-550kHz frequency spectrum. Utilizes 6 "D" batteries (not included) **5200.00**
FIM-41 Covers 540kHz-5MHz frequency spectrum in 2 bands. Utilizes 6 "D" batteries (not included). **4970.00**

FIM-71, FIM-72
Field Strength Meters

- Use as signal source/selective voltmeter for insertion loss measurements of filters, etc.
- Measures FM harmonics to -80dB
- 20dB or 60dB meter range (switch selectable)
- AM or FM demodulator (switch selectable)
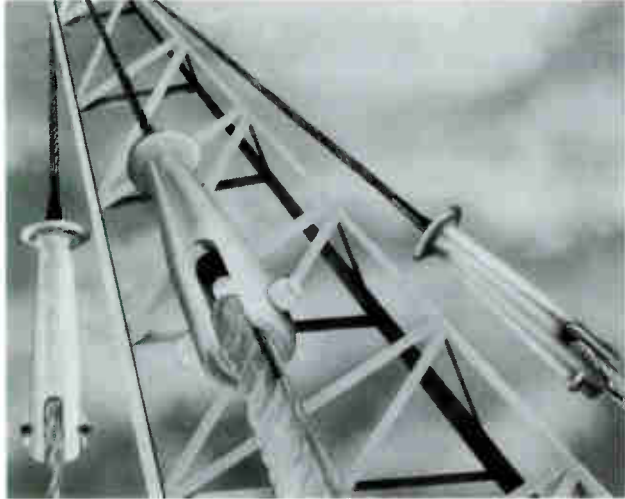- Utilizes 10 "D" batteries (not included)

FIM-71 45MHz-225MHz continuous tuning. Calibrated generator. 45MHz-225MHz **$7980.00**
FIM-72 470MHz-960MHz continuous tuning. Calibrated generator 470MHZ-960MHz . . . . **POR***

* Price On Request

101

PHILLYSTRAN

ROHN
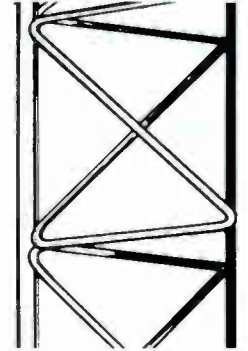
45G
Tower
- Heavy steel tube or solid steel rod side rails
- Sleeve joined and double bolted for extra strength
- Electrically welded
- High strength "Zig-Zag" solid rod bracing
- Hot dip galvanized after fabrication

High Performance Tower Guys

Part Number	Equivalent EHS* Galv. Strand (in.)	Galv. Bridge Strand (in.)	Break Strength (Lbs.)	Jacketed Weight (Lbs./1000')
HPTG-4000	3/16	—	4,000	21
HPTG-6700	1/4	—	6,700	34
HPTG-11200	5/16	—	11,200	55
HPTG-15400	3/8	—	15,400	69
HPTG-20800	7/16	—	20,800	95
HPTG-27000	1/2	—	27,000	117
HPTG-35000	9/16	—	35,000	147
HPTG-42400	5/8	—	42,400	173
HPTG-58300	3/4	—	58,300	276
HPTG-70000	—	3/4	70,000	333
HPTG-85000	—	13/16-7/8	85,000	411
HPTG-105000	—	15/16	105,000	477
HPTG-130000	—	1	130,000	595
HPTG-160000	—	1 1/8	160,000	729
HPTG-200000	—	1 1/4	200,000	889
HPTG-232000	—	1 3/8	232,000	985
HPTG-252000	—	1 7/16	252,000	1055

*Extra High Strength Steel. Break strength listed represents the minimum break strength of a factory assembled guy with potted terminations. Weight can vary ± 5%.
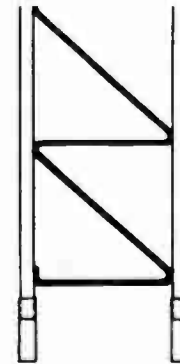
55G
Tower
- Lends itself to a wide variety of uses commonly encountered in the communications field
- Adaptable to varying heights and loading requirements
- Excellent strength in heights up to 400'

C/J Series
Rigid Tube Towers
- All bolted construction
- Available knocked-down, provides greater economy and ease in shipping
- Suitable for a wide range of communications and microwave requirements
- Hot dip galvanized after fabrication according to ASTM specifications A-123
- Precision made with the finest workmanship

CORTANA CORP.

SC-1
Stati-Cat™ Charge Dissipator

- Provides a continuous low resistance discharge path for the static electric charge found on all tall structures
- Reduces the high voltage gradient between cloud and tower that eventually leads to the sudden, massive discharge known as lightning
- Mounts on top or sides of tower with 2' to 4' ⁵/₈" stainless steel all-thread shafts
- 18" x 2" with 120 stainless steel points; 6 lbs.

SC-1 . . . . **$350.00**
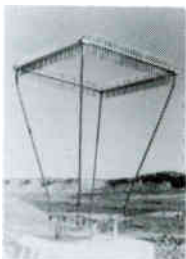
CN-1
Crow's Nest Dissipator

- Mounted to a standard beacon mounting plate, the CN-1 surrounds the beacon with protection, while giving full access to the beacon lamp
- 720 points provide a maximum continuous discharge path
- Mounted with 4' ⁵/₈" all-thread stainless steel shafts
- 37" x 36" and weighs 37 lbs.
- Optional diagonal bar with 264 points recommended for locations with intense storms

CN-1 . . . . **$1450.00**
Diagonal bar for CN-1 . . . .**450.00**

DURO-TEST LIGHTING

682/683
Code Beacon Replacement Bulbs

- Heavier, longer filament withstands severe intermittent operation
- PS-40 bulb with Mogul prefocus base
- Meets requirements of F.A.A. obstruction lighting

682 Standard glass, clear **$31.17**
683 All-weather Durex glass, clear **45.12**

A-21
Traffic Obstruction Side Light Replacement Bulbs

- Sturdy stem construction resists wind vibration and shock
- A-21 bulb with medium brass base
- Horizontal to base down burning only
- Meets requirements of F.A.A. obstruction lighting

A-21 150W **$5.51**
A-21 100W **3.61**

TWR LIGHTING

OL-1
Single Obstruction Light

- F.A.A. Spec. L-810 steady burning red obstruction light
- Weatherproof, non-ventilated construction
- 7" H x 4³/₄" diameter with ³/₄" side hub

OL-1 . . . .**$71.50**

OL-2
Double Obstruction Light

- F.A.A. Spec. L-810 steady burning red obstruction light
- Weatherproof, non-ventilated construction
- 7" H x 4³/₄" W x 11" L; 8 lbs.

OL-2 . . . .**$130.00**

D-1/D-2
Medium Intensity Strobe Lighting Systems

- F.A.A. Spec. L-865 flashing white lights, obstruction, medium intensity
- 31" H x 16¹/₂" diameter
- 40 flashes per minute ± 5%

D-1N D-1 power supply and beacon, interior controller **$3793.00**
D-1X D-1 power supply and beacon, exterior controller **3793.00**
D-2N D-2 power supply and 2 beacons, interior controller **6780.00**
D-2X D-2 power supply and 2 beacons, exterior controller **6780.00**
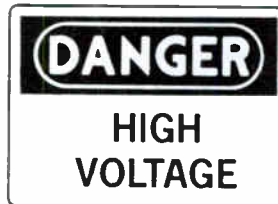
AA-0
Tower Lighting Controller

- For double obstruction lights and towers up to 150'
- 12" H x 6¹/₂" W x 4³/₄" D
- For attended locations; equipped with photoelectric control

AA-0 Unalarmed **$205.00**

Radiation and High Voltage Signs

DANGER
HIGH
VOLTAGE

Call for pricing.

103

CUSHCRAFT

6-Element VHF Broadband Control
Station Yagis

- 7.5dBd gain
- Heavy-duty point-to-point antennas, commonly selected for control station and data transmission applications
- Solid machined aluminum block construction
- Elements and booms are heavy wall, seamless hard drawn, bright finish aluminum tubing
- May be ordered with N female connectors at the feed point

PLC-456 406-470MHz; **PLC-1296** 129-137MHz; **PLC-1346** 134-142MHz; **PLC-1426** 142-150MHz; **PLC-1506** 150-158MHz; **PLC-1586** 158-166MHz; **PLC-1666** 166-174MHz

SCALA

Broadband Stacking Harnesses for CL-Series Antennas

2-bay **$200.00**
4-bay **300.00**
HDCA-5 5-element ruggedized yagi, 1-channel, center-mount, 75 ohms; channels 2-6 (specify channel when ordering) **230.00**
Channels 7-13 (specify channel when ordering) **210.00**
HDCA-5EB 5-element ruggedized yagi, 1-channel, rear-mount, 75 ohms; channels 2-6 (specify channel when ordering) **270.00**
Channels 7-13 (specify channel when ordering) **220.00**
HDCA-10 10-element ruggedized yagi, 1-channel, center-mount, 75 ohms; channels 2-6 (specify channel when ordering) **310.00**
Channels 7-13 (specify channel when ordering) **240.00**
HDCA-10EB 10-element ruggedized yagi, 1-channel, rear-mount, 75 ohms; channels 2-6. **N/A**
Channels 7-13 (specify channel when ordering) **250.00**

NOTE: HDCA-series yagis are available for export channels in Bands I and III. Standard HDCA-series power rating is 250W. Arrays of 2 or more HDCA-series yagis available with 1KW rating (50 ohm input). Standard termination is 75-ohm type N (UHF and F types also available). Superflex feeders optional at extra cost.

TEPCO
J-317-2
FM Translator

- 2 10W outputs, but only 1 final amplifier
- Unsurpassed interstage filtering guarantees clean outputs with specifications far in excess of all FCC regulations
- Built-in load for any reflected power that may show up on the transmission lines, providing stability in the output amplifier, protection for the equipment in case of equipment failure
- Additional features include: a state of the art switching regulator type power supply, monitoring of critical functions with a special metering position indicating the amount of reflected power being dissipated by the built-in load, modular construction for ease of maintenance, true heterodyne conversion as opposed to baseband and more than adequate external heat sinking for the 20W amplifier

J-317-2 . . . . **$3975.00**

J-316
FM Translator

- 1W rebroadcasting system for reliable service in the 88-108MHz FM band
- 100% solid-state design provides freedom of signal selectivity and prevents overload problems
- Heterodyne unit using: MOSFET front ends, dual conversion, dual gate mixing, selective IF filters, 2 independent AGC loops, 5 stages of limiting and positive muting action
- RF output is regulated for signal variation and line voltage changes, monitored with built-in reflectometers and protected in the event of serious load changes
- The construction is compartmentized and thoroughly shielded, using plug-in type circuit boards
- Complete metering in all important stages
- Ideal choice for solar or wind powered sites

J-316 . . . . **$2487.00**

TTC

FM Translators

- 117VAC or 24VDC solar powered (specify)
- Solar powered models do not have the audio monitor feature
- Specify 50 or 75 ohms, "F", BNC, VHF or "N" connector output; input and output frequency

FM 1W

XL1FM Single output **$3395.00**
XL1FMB Single output, on-channel booster **3695.00**
XL1FM2 Dual output **4150.00**
XL1FMB2 Dual output, on-channel booster **4395.00**

FM 10W

XL10FM Single output **$3695.00**
XL10FMB Single output, on-channel booster **3995.00**
XL10FM2 Dual output **4570.00**
XL10FMB2 Dual output, on-channel booster **4870.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

TRANSLATORS/BOOSTERS

THE ANTENNA SPECIALISTS CO.

ASPR-700 Series
Base Commander®

Vertical Base Station Antennas

- 7dB gain, high performance, UHF broad-band collinear fiberglass
- Lightweight, yet rugged to cover a majority of base station requirments
- 7dB gain is provided across each 10MHz band segment, with higher peak gain
- Minimum gain in major lobe 7.5dB
- 450-470MHz
- Tough, lightweight Armorweave™ fiberglass and lack of protruding radials assure easy installation
- Handles quarter kilowatt base stations with ease
- DC grounded for maximum protection of equipment

ASPRD700	450-460MHz.	**$315.00**
ASPRE700	455-465MHz.	**315.00**
ASPRF700	460-470MHz.	**315.00**

DECIBEL PRODUCTS, INC.
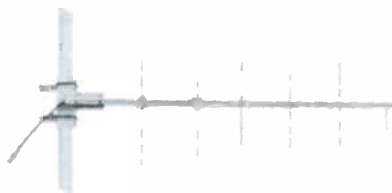
DB-436

Directional Antenna

- 406-470MHz, 10dB gain
- Heavy-duty, lightweight Yagi antenna, designed to provide high directivity and high front-to-back ratio
- Unique mounting arrangement permits either vertical or horizontal polarization as well as rapid azimuth orientation
- Each antenna is fully assembled, then factory checked for minimum VSWR over a wide band of frequencies
- No field pruning or adjustment is required

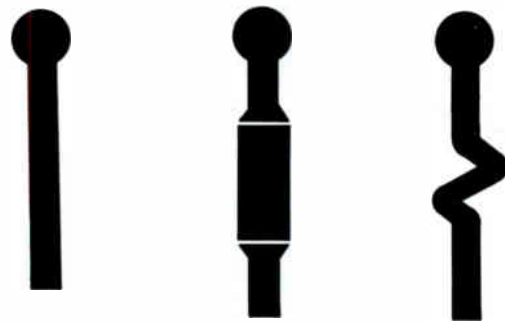**DB-436** **$210.00**

DB-264

Broadband Gain Antenna

- 150-174MHz, 6dB or 9dB gain
- High gain, lightweight, broadband antenna
- Designed for mounting to the top or on the side of a tower
- Clamps for top mounting are supplied with the antenna, but an additional side mount kit (DB-5001) must be ordered for side mounting

DB-264 . . . . **$655.00**

LARSEN ANTENNAS

LM Series

Antennas

- Mates with LM/CM permanent or temporary mounts to provide a durable, roof-hugging installation with high efficiency ground plane contact for full antenna gain potential
- Whips feature durable Kulrod finish for long life and top performance
- Each antenna is supplied with cutting instructions for precise tuning at your desired frequency
- Allen wrench included for whip mounting

LM-150	144-174MHz, 5/8 wave, unity to 3dBd gain.	**$31.50**
LM-406	406-420MHz, 5/8 over 1/2 wave collinear, unity to 5dBd gain.	**31.00**
LM-420	420-440MHz, 5/8 over 1/2 wave collinear, unity to 5dBd gain.	**31.00**
LM-450	450-470MHz, 5/8 over 1/2 wave collinear, unity to 5dBd gain.	**31.00**

105

TRANSMISSION LINES

ANDREW

Andrew was founded more than 50 years ago and has continued to offer a comprehensive line of broadcast products that will meet your specific needs. These products include foam and air dielectric HELIAX® flexible coaxial cables, standard and premium rigid transmission lines and components, pressurization equipment and installation accessories.

All Andrew cables, connectors and other accessories are designed to work as an integrated system to achieve long life and maximum system performance.

HELIAX coaxial cable products, including air and foam dielectric cable, are the industry standard of excellence. These products are used in many applications including land mobile, broadcast, cellular, military, terrestrial microwave, HF, earth station and others.

HELIAX LDF foam dielectric cables from Andrew are designed for most antenna feeder systems which do not require a pressure path to the antenna. Sizes from 3/8″ to 15/8″ are available. They feature a solid copper corrugated outer conductor which results in low loss, high power handling and continuous RFI/EMI shielding to minimize interference and maximize system security.

Andrew also features HELIAX super-flexible 1/4″ and 1/2″ foam dielectric cables designed for ease of installation in confined spaces and HELIAX air dielectric cables which are available in sizes from 1/2″ to 5″. In addition to all of this, a complete line of connectors and accessories are also available.

CABLEWAVE

Semi-flexible coaxial cables from Cablewave Systems are utilized in communications and electronics systems that function from VLF through microwave frequency bands.

These coaxial cables feature flexibility, transverse stability, low attenuation, longitudinal precision and high power rating. They are commonly used as feedlines for broadcast antennas, feedlines for terrestrial microwave antennas, cabling of antenna arrays and radio equipment interconnects.

High conductivity hard-drawn copper tubing, along with precision machined, pin-type Teflon dielectric insulators, make up the Cablewave coaxial transmission line. In sizes ranging from 7/8″ to 61/8″, Cablewave offers as standard a 50 ohm line. Special order 75 ohm copper lines and 50 ohm aluminum outer conductor lines are also available. Inner connectors and EIA bolt-type flanges are compatible with EIA standards, US MIL specifications and international IEC recommendations.

Cablewave produces corrugated copper coaxial cables and smooth wall aluminum cables in foam and air dielectric. With these options, factors such as budget and technical demands can be considered before choosing a construction that best meets your specific needs. The factory will attach connectors and cut cables to designated length upon request.

"Our sales team all have extensive engineering backgrounds. Please put our technical expertise to work when you need help configuring your next system."

COMPETITIVE PRICES—EXPERIENCED STAFF
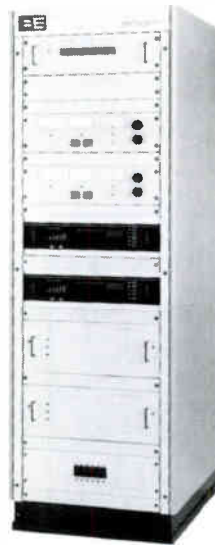
BROADCAST ELECTRONICS

FM-300B/FM-250B/FM-100B
Low Power FM Transmitters

- Built-in low pass filter insures harmonic free operation
- Pull out drawer construction for easy maintenance
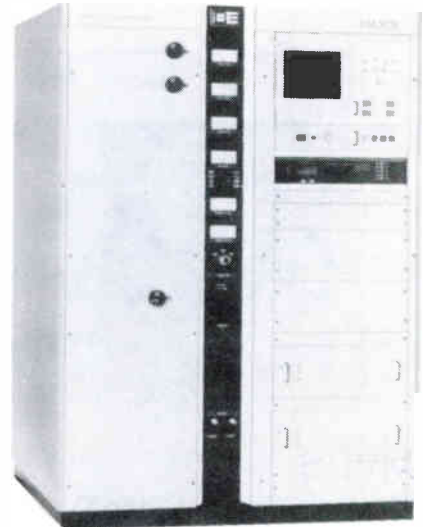- Operates from 194/266V single phase 50/60Hz

FM-300B 90W-400W of RF power. Combines dual solid-state amplifiers driven by the FX-50 exciter.
FM-250B 90W-250W of RF power. Uses single solid-state power amplifier driven by the FX-50 exciter.
FM-100B 50W-125W of RF power. Same configuration as FM-250B.

FM-35B
35kW FM Transmitter

- Uses single high gain Eimac 4CX20000C tetrode tube
- 10kW-38.5kW of RF power
- High plate efficiency results in low power consumption
- Operates from 208/240V Delta or WYE, 3-phase 60Hz or from a 380/415V, 3-phase 50Hz power source as specified

FM-30B
30kW FM Transmitter

Same as FM-35B except:
- 7.5kW-30kW of RF power
- Features 4CX20000C tetrode tube

FM-20B
20kW FM Transmitter

- Uses single high gain Eimac 4CX12000A/8989 tetrode tube
- 7.5kW-22kW of RF power
- Yields an 80% PA efficiency to reduce operating costs
- Broadband input matching network and simplified grid circuit design
- Hinged meter panel allows easy access and maintenance
- Operates from 208/240V Delta or WYE, 3-phase 60Hz or from a 380/415V, 3-phase 50Hz power source as specified

FM-10B
10kW FM Transmitter

- Uses Eimac 4CX7500A tetrode
- 4950W-11kW of RF power
- Low power consumption and long life. Operates from 208/240V Delta or WYE, 3-phase 60Hz
- A 50Hz power supply configuration is also available

FM-250B

FM-20B

FM-5B
5kW FM Transmitter

- Uses single Eimac 4CX3500A tetrode
- 2500W-5500W of RF power
- Contained in a single low profile cabinet
- Operates from 208/240V Delta or WYE, 3-phase 50/60Hz or 208/240V single phase 50/60Hz

FM-3.5B
3.5kW FM Transmitter

Same as the FM-5B except:
- 1500W-3800W of RF power
- Operates from 208/240V single phase 50/60Hz

FM-1.5B
1.5kW FM Transmitter

- Designed for operation from 500W-1650W
- Uses single Eimac 3CX1500A7/8877 triode
- More than 1.5kW of RF power
- Tube is conservatively operated at less than one half of its rated plate dissipation. Operates from 208/240V single phase 50/60Hz. The FM-1.5B and larger transmitters use the BE manufactured IPAs with self-contained power supply and cooling system
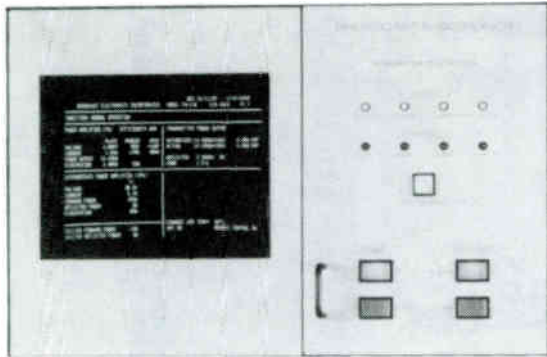
FM-1B
1kW FM Transmitter

Same as FM 1.5B except:
- More than 1kW of power
- For applications requiring 250W-1100W of RF power
- PA driven directly by the exciter

Broadcast Electronics products are subject to territorial restrictions and may not be available from each office.

COMPETITIVE PRICES—EXPERIENCED STAFF

TRANSMITTERS

BROADCAST ELECTRONICS

MVDS
Microprocessor Video Diagnostic System

- Provides visual display of all critical transmitter parameters in a tabular chart or bar graph form
- Prints hardcopy logs on demand, or automatically at regular intervals on an inexpensive computer printer (not supplied)
- Plain English diagnostics will display the nature and the location of any malfunction
- Available for use with all 1-tube low power and high power B/E FM transmitters

MVDS **$3,800.00**

RC-1
MVDS Remote Control

- Remote control for MVDS equipped series "B" transmitters
- Option includes software for customer supplied IBM PC or compatible computer
- Memory board for installation in MVDS option of transmitter

RC-1 . . . . **$2,400.00**

MT-3
Transmitter Interface

- Allows MVDS remote control to monitor and operate non-MVDS equipped transmitters, external sensors or a second MVDS remote control equipped "A" or "B" series FM transmitter
- Provides 8 status channels, 8 analog telemetry channels and 16 control channels
- On/off, raise/lower

MT-3 . . . . **$2,500.00**
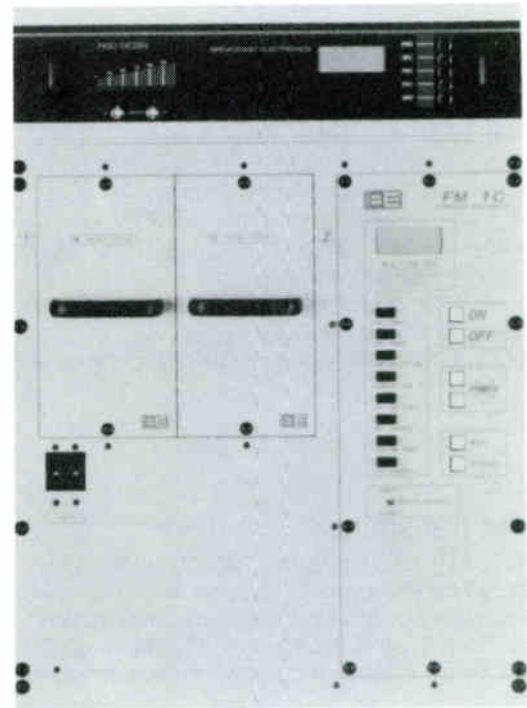
FM1C
1kW Solid-State FM Transmitter

- Broadband FX50 Exciter incorporates a digitally programmed synthesizer and displays operational parameters on a digital LCD multimeter and LED status panel
- Reliable, solid-state design
- Replaceable air filter
- Broadband design means no tuning adjustments
- Internal low pass filter
- Reliable CMOS controller
- Compact and easy to install, rackmountable
- RF power modules are self-protected
- 2-year warranty
- Meets IEC-215 safety requirements
- Optional unity power factor correction available to meet IEC 555-2
- 87.5MHz to 108MHz frequency range, tuned to a specific operating frequency
- 1000W to 250W capability

FM1C **$16,500.00**

FM500C
500W Solid-State FM Stereo Transmitter

- Same features as above except 500W to 125W capability

FM500C **$12,950.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

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BROADCAST ELECTRONICS
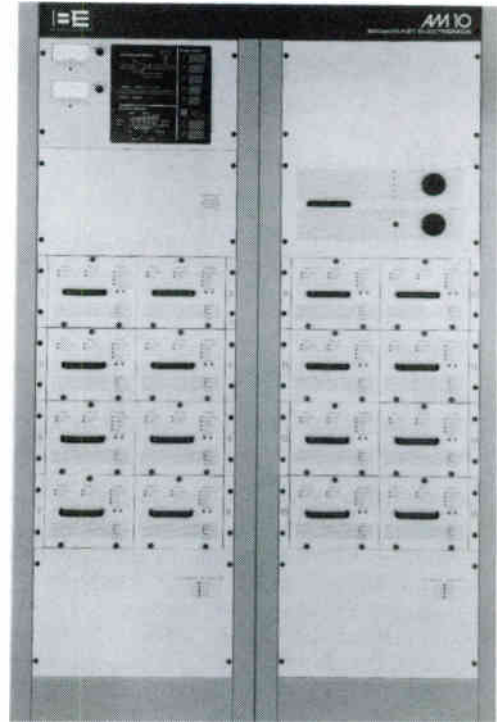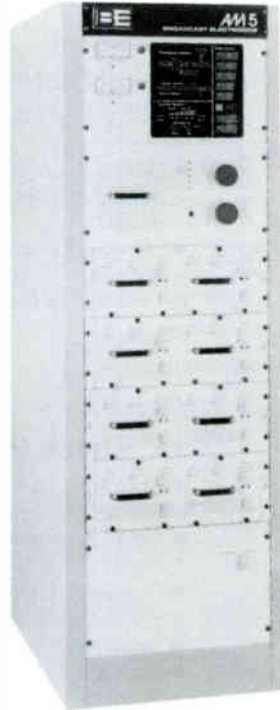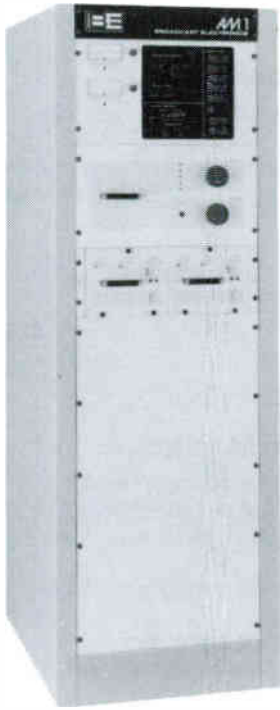
AM1/AM2.5/AM5/AM10

Solid State AM Transmitters

- C-QUAM™ AM stereo built-in, AM stereo at no additional cost
- High efficiency Class E (patented) operated power modules, plus high efficiency redundant switching power supplies provide for low power consumption, reliability and cool operation
- 5 separate power levels accommodate any AM station license's requirement
- Hot pluggable power modules provide rugged reliability and withstand abuse
- "Star" Combiner network (patent pending) provides for uninterrupted operation with minimal power reduction, without the use of dummy modules
- Exclusive VSWR detection and foldback circuit reduces annoying carrier interruptions from nearby weather disturbances
- Built-in output matching network
- Rugged single cabinet construction
- Complies with IEC-215 safety requirements
- For operation from 208/240VAC, 50/60Hz, single phase AC power source
- Tuned to 1 frequency from 522kHz to 1705kHz. Please specify frequency, AC input voltage and desired output power levels when ordering

AM-1

1100W monaural and C-QUAM stereo AM transmitter with power supply, 2 power blocks and instruction manual **$18,250.00**

AM-2.5

2500W monaural and C-QUAM stereo AM transmitter with 2 power supplies, 4 power blocks and instruction manual **$22,750.00**

AM-5

5500W monaural and C-QUAM stereo AM transmitter with power supply, 8 power blocks and instruction manual **$39,500.00**

AM-10

10,800W monaural and C-QUAM stereo AM transmitter with power supply, 16 power blocks and instruction manual **$66,250.00**

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COMPETITIVE PRICES—EXPERIENCED STAFF

BROADCAST ELECTRONICS

FX-50

FM Exciter

- Dynamic range rivals CD players with harmonic and inter-modulation distortion so low that they are almost unmeasurable
- Typical FM signal-to-noise ratio is 93dB and THD and IMD are typically 0.003%
- Transient intermodulation distortion is <0.01%
- Computer-designed linear modulated oscillator
- Unique resonator with hyper abrupt tuning diodes provides lower distortion, extremely flat response and excellent signal-to-noise performance
- Dual speed phase locked loop synthesizer contributes to the superb transient and low frequency response
- Achieves lock from a cold start in <5 seconds with full modulation capability from <0.1Hz to >150kHz
- Broadband RF power amplifier uses a 60W MOSFET for higher power output and improved amplifier reliability
- Digital LCD multimeter and LED annunciator panel
- Multimeter may be used as a high impedance voltmeter for point-by-point measurements within the exciter using the built-in test probe

FX-50 . . . . **$6295.00**

AX-10

AM Stereo Exciter

- Synthesized operation—1kHz increments
- Second generation C-QUAM® Digital Design
- Independent right and left channel IF modulation technique
- Interfaces with virtually any existing AM transmitter
- Superior stereo performance, yet compatible with existing AM mono receivers
- Built-in LED bar graph, peak-reading modulation display
- Compact size—only 3½" rack space
- Independent equalization for 2-transmitter or dual antenna pattern operation
- Full remote control capability

AX-10 . . . . **$5700.00**

FS-30

FS-30

Digital Stereo Generator

- Offers absolute pilot phase stability without adjustment or PLL
- Distortion products are eliminated for a virtually perfect baseband that is an order of magnitude better than previous standards
- Stereo separation is 60dB
- FM noise is 85dB below 100% modulation
- THD and IMD are 0.03% or less

FS-30 . . . . **$2595.00**

AS-10

AM Stereo Modulation Monitor

- Second generation C-QUAM modulation monitor
- RF AGC for optimum C-QUAM decoder performance
- Minimal over-shoot for accurate modulation level measurement
- Digital pilot detection for excellent long term stability
- Rapid carrier shift response
- Selectable manual or auto-ranging meters
- Front panel audio output for transmitter alignment and proof of performance
- 9kHz or 10kHz channel spacing available

AS-10 . . . . **$4800.00**

COMPETITIVE PRICES—EXPERIENCED STAFF

EFI ELECTRONICS

Home Guard
Power Protection

- Prevents external high-voltage spikes and surges from entering your facility
- Placed at the best location for peak protection, between the incoming power and the meter
- Tested with currents comparable to direct lightning, it consistently reduces potentially damaging voltage spikes to "safe" levels
- Perfect complement to any plug-in EFI surge suppressor for the highest level of protection possible
- 120/240VAC single phase, 150VRMS
- Clamping voltage: 750Vpk at 3kA 8 x 20µs
- Peak surge current: 65kA 8 x 20µs
- Single pulse energy rating: 1440 joules per leg
- Equipped with a diagnostics monitor with an audible alarm indicator
- Automatic grounding connection; instantaneous response/resetting time
- For existing installations, prior permission should be obtained from the electric utility to break their seal and remove the meter
- 5-year warranty

**Home Guard** **$179.50**

P-2ES
PowerTrax™ 2000 Plugstrip

- Triple-mode protection (line to neutral, line to ground, neutral to ground)
- Excellent EMI/RFI electronic noise filtration
- High-energy hybrid circuitry
- Patented Sine Wave Tracker™ technology for the only close sine wave protection available

- 2 forms of fail-safe protection to prevent damage to your equipment in the event of an overvoltage. (EFI suppressors prevent you from operating when you're not protected!)
- Unique LED diagnostics to easily vertify if your outlet is grounded and wired properly and that protection is active
- The PowerTrax 2000 features warranty protection on equipment damaged by fire, lightning, liquid spills and accidents

P-2ES. **$99.95**
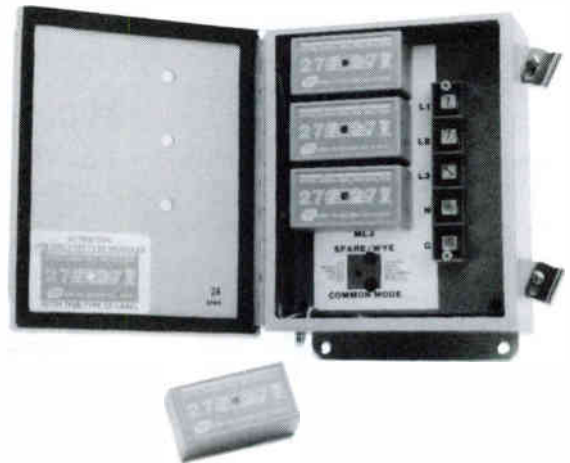
MA5
Panel-Mount TVSS System

- Parallel (across-the-line) module design; staged, hybrid TVSS circuitry
- Patented "cross-over-current" technology for precise, tight clamping
- Diagnostic LED in each module indicates that module is active and functioning properly
- UL listed and CSA approved EMI/RFI noise filtering
- Sine wave tracking on 120V and 220V Wye systems
- Removable, single-phase, direct plug-in TVSS module design for simplified maintenance
- NEMA 12 housing
- 5-year warranty
- Optional flush mount

MBP120EFI-Y2(S) 120/240VAC 1-phase, 3-wire
(+G) . . . .**$ 677.00**
MBP120EFI-Y3(S) 120/208VAC 3-phase Wye,
4-wire (+G) **928.00**
MBP240EFI-D3(S) 240VAC 3-phase Delta,
3-wire (+G). **1180.00**
MBP277EFI-Y3(S) 277/480VAC 3-phase Wye,
4-wire (+G) **1393.00**
Flush-mount collar **100.00**

111

BEST

Ferrups®

Uninterruptible Power Systems

- Events logging for power outage and alarms including time, date and duration

- Alarm sounds in Morse code

- Optional interface packages for AS/400, Novell, 3Com and many others

- Contact closures through RS-232 port for alarm and battery run

- Remote emergency shutdown capability

- Selectable 300 or 1200 baud communication rate

- Ambient temperature sensing with programmable alarm set points

- Optional humidity sensing with programmable alarm set points

- Automatic unattended shutdown software (PowerWatch)

- On-board interrupt driven microprocessor

- Keypad or optional handheld remote control features

- Full duplex TTL communications capability

- RS-232 port standard on every unit

- Over 18 metering functions

- Over 10 alarm functions

- Over nine programmable set points

- Software and plug compatible with virtually all computers and operating systems

- Isolated output with neutral bonded to ground

- Computer-grade power with regulated sine wave output

- Dual-track power path for higher reliability

- Corrects flaws of double conversion UPS

- True on-line UPS, not a standby

- Improves non-linear switch-mode power supply performance

- 2000 to 1 lightning spike protection

Micro-Ferrups
1.5kVA/1.5kW and 2kVA/2kW

Model	Listing Status	Frequency	AC Output Volts/Amps	AC Input Volts	% Efficiency	DC Amps at Nom. Bat.	Stand. Min. Run Time Full/½Ld.	Audible Noise dB (line)	BTU Hr. Line	Wgt.(lbs.) No Bat./ Incl. Bat.
MD1.5KVA	UL	60	120/12.5	120	88	38.8	23/57	51	696	114/214
MD2KVA	UL	60	120/16.7	120	90	50.8	15/45	51	757	125/225
QMD1.5KVA*		50	220/4.6 230/4.4 240/4.2	220 230 240	85	38.8	23/57	51	903	125/225
QMD2KVA*		50	220/6.8 230/6.5 240/6.2	220 230 240	90	50.8	15/45	51	797	137/237

*User must specify desired input voltage at time of order.

Ferrups
3kVA/3kW and 5kVA/5kW

Model	Listing Status	Frequency	AC Output Volts/Amps	AC Input Volts	% Efficiency	DC Amps at Nom. Bat.	Stand. Min. Run Time Full/½Ld.	Audible Noise dB (line)	BTU Hr. Line	Wgt.(lbs.) No Bat./ Incl. Bat.
FC3KVA**	UL	60	*120/25 *208/14.4 *240/12.5	120 208 240	90	76	9/26	50	1400	290/470
FC5KVA**	UL	60	*120/41.6 *208/24.1 *240/20.8	120 208 240	91	127	10/30	52	1900	353/585
QFC3KVA**		50	220/13.6 230/13 240/12.5	220 230 240	90	75	9/26	50	1400	319/499
QFC5KVA**		50	220/22.8 230/21.8 240/20.9	220 230 240	88	126	10/30	52	1900	388/620

*120 output standard on all. User must specify if 208 or 240 output voltage is required.
**User must specify desired input voltage at time of order.

Ferrups
7.5kVA/7.5kW, 10kVA/10kW and 15kVA/15kW

Model	Listing Status	Frequency	AC Output Volts/Amps	AC Input Volts	% Efficiency	DC Amps at Nom. Bat.	Stand. Min. Run Time Full/½Ld.	Audible Noise dB (line)	BTU Hr. Line	Wgt.(lbs.) No Bat.
FC7.5KVA**	UL	60	*120/62.4 *208/36.1 *240/31.2	208 240	90	72	—	55	2250	515
FC10KVA**	UL	60	*120/83.2 *208/48 *240/41.6	208 240	91	95	—	56	3000	570
FC15KVA**	UL	60	*120/125 *208/72.1 *240/62.5	208 240	92	100	—	57	4500	740
QFC7.5KVA**		50	220/34.1 230/32.6 240/31.3	220 230 240	90	72	—	55	2250	565
QFC10KVA**		50	220/45.7 230/43.7 240/41.9	220 230 240	91	95	—	56	3000	627
QFC15KVA**		50	220/68.7 230/65.7 240/63	220 230 240	92	100	—	57	4500	814

*120 output standard on all. User must specify if 208 or 240 output voltage is required.
**User must specify desired input voltage at time of order.

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Call for complete pricing information on Best Uninterruptible Power Systems.

BIRD

Termaline® RF Coaxial Load Resistors Dry Loads

Series 80

8052-53

Series 80
5W

- VSWR: 1.2 max. 1000-3500MHz; 1.3 max. 3500-4000MHz
- Input connector: 80 F female N, 80 M male N
- Nominal size: including connectors $1^1/16''$ hex x $3^3/8''$
- Weight: 4 oz.

Series 80 . . . .**$60.00-$75.00**

8052-53
10W

- VSWR: 1.2 max. 1000-3500MHz
- Input connector: female N (8052), male N (8053)
- Nominal size: including connectors $1^1/16''$ hex x $3^7/16''$
- Weight: 4 oz.

8052-53 . . . .**$75.00**

8080

8085

8080
25W

- VSWR: 1.25 max. 1000-3500MHz
- Input connector: QC type (male N normally supplied)
- Nominal size: including connectors $1^1/4''$ x $1^1/4''$ x $5^1/8''$
- Weight: 9 oz.

8080 . . . .**$85.00**

8085
50W

- VSWR: 1.25 max. 1000-3500MHz
- Input connector: QC type (male N normally supplied)
- Nominal size: including connectors $1^3/4''$ x $1^3/4''$ x $5^1/8''$
- Weight: 15 oz.

8085 . . . .**$120.00**

8164

8166

8164
100W

- VSWR: 1.2 max. 1000-2500 MHz
- Input connector: QC type (female N normally supplied)
- Nominal size: including connectors $2^3/4''$ x $2^3/4''$ x $7''$
- Weight: 3 lbs.

8164 . . . .**$220.00**

8166
150W

- VSWR: 1.2 max. 1000-2500MHz
- Input connector: QC type (female N normally supplied)
- Nominal size: including connectors $4''$ x $4''$ x $7^1/2''$
- Weight: 6 lbs.

8166 . . . .**$260.00**

8173

8431

8173
300W

- VSWR: 1.25 max. 1000-2000MHz
- Input connector: QC type (female N normally supplied)
- Nominal size: including connectors $9^9/16''$ x $5^{15}/16''$ x $9^3/4''$
- Weight: 6 lbs., 4 oz.

8173 . . . .**$430.00**

8431
600W

- VSWR: 1.25 max. 1000-2500MHz
- Input connector: SQC type (female N normally supplied)
- Nominal size: including connectors $8^3/8''$ x $9^1/4''$ x $13^1/8''$
- Weight: 13 lbs.

8431 . . . .**$635.00**

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BIRD

8833-300   **8251**

Termaline® RF Coaxial Load Resistors Oil Dielectric
8833-300
1000W

- Frequency range and VSWR: 1.1 max. DC to 1000MHz, 1.25 max. 1000-2500MHz
- Connector: QC type (female LC normally supplied)
- Load coolant: 2.9 gal. refined mineral oil
- Operating position: horizontal only
- Nominal size: including connector 23⅛" x 17³/₁₆" x 7⅛"
- Weight: 54 lbs., 10 oz.

8833-300 . . . . **$745.00**

8251
1000W

- VSWR: 1.25 max. 1000-2000MHz; 1.3 max. 2000-2400MHz
- Nominal size: including connectors 8½" x 5¹⁵/₁₆" x 17¹⁵/₁₆"
- Weight: 24 lbs.

8251 . . . . **$630.00**

8860
1500W

- Frequency range and VSWR: 1.1 max. DC to 1000MHz, 1.25 max. 1000-2000MHz
- Load coolant: 1.5 gal. silicone oil
- Operating position: horizontal only
- Weight: 30 lbs.

8860 . . . . **$830.00**

8230
2500W

- Water cooled
- Frequency range and VSWR: 1.1 max. DC to 1000MHz, 1.25 max. 1000-2500MHz
- Water temperature range: 8°-80°C
- Water flow: rate ½ gal./min.
- Connector: QC type (female LC normally supplied)
- Load coolant: 0.9 gal. refined mineral oil
- Operating position: vertical, connector down (when water cooled)
- Nominal size: including connector 17²³/₃₂" x 8½" x 5¹⁵/₁₆"
- Weight: 27 lbs.

8230 . . . . **$525.00**

CLEMENT

"A" Port   **Tuning**

"A" Port   **"B" Port**
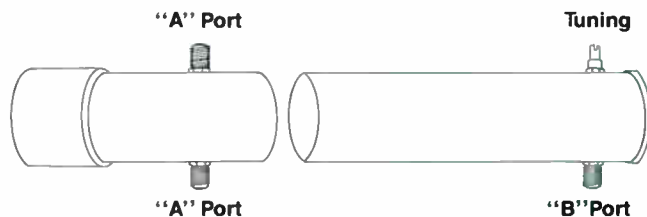
CF-98
FM Antenna Filter

- Designed to pass a desired FM station and reject others. This will lower the amount of interference generated by strong local stations in your receiver. The total attenuation outside of the bandpass frequencies exceeds 30dB. For even greater attenuation of adjacent channels, 2 filters may be cascaded together
- Designed to work with 75 ohm systems and requires RG-59, RG-6 or other cable of 75 ohm impedance. Standard type F connectors are used. An outside antenna is recommended — preferably a directional antenna
- Approx. 22" long, 1½" diameter and 1½ lbs.
- Antenna is connected to either "A" port. They are inductively coupled. 2 different antennas may be connected to the "A" ports. Phase and amplitude differences of the antennas will greatly affect the result

CF-98 . . . . **$80.00**

DELTA Electronics

TCA-Jr.
RF-Ammeter

- The meter is inserted into either a standard J-plug or Delta MJ-50 meter jack and the current readings are made
- Assembly is mounted on a 10" x 4" XXXP plate with contacts that permit the plug to be inserted in either a standard J-plug or Delta meter jack
- Linear, mirrored-scale meter permits measurement of currents from either 0.2-1.0A RF for the TCA-Jr. 1 or from 0.4-2.0A RF for the TCA-Jr. 2
- Designed for temporary insertion; no remote output is necessary
- Meter accuracy exceeds the 2% specified by the FCC and is limited essentially by the linearity error of the meter

TCA-Jr. 1 . . . . **$225.00**
TCA-Jr. 2 . . . .**225.00**

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DELTA Electronics

TCA Series

Ammeters

TCA-N-EX
- Single-scale meter with external output
- System consists of a current transformer; a 6' coaxial cable; and a meter box housing the meter movement, rectifier circuitry and external output connector

TCA-N-EXR, TCA-N/N-EXR
- Meters with the "-EXR" suffix provide an auxiliary output connector along with an internal relay to ground the rectifier circuit (turn the meter off)
- The dual-scale models include a second relay for changing scales remotely

Model	Order #	Description	Price
TCA-5-EX	924-0003-001	5A	**$495.00**
TCA-10-EX	924-0003-002	10A	**495.00**
TCA-20-EX	924-0003-003	20A	**510.00**
TCA-40-EX	924-0003-004	40A	**630.00**
TCA-80-EX	924-0003-005	80A	**630.00**
TCA-10-EXR	924-0005-002	10A with on/off relay	**550.00**
TCA-20-EXR	924-0005-003	20A with on/off relay	**575.00**
TCA-40-EXR	924-0005-004	40A with on/off relay	**720.00**
TCA-80-EXR	924-0005-005	80A with on/off relay	**720.00**
TCA-5/10-EXR	924-0005-006	5A/10A dual scale	**725.00**
TCA-10/20-EXR	924-0005-007	10A/20A dual scale	**760.00**
TCA-20/40-EXR	924-0005-008	20A/40A dual scale	**760.00**
TCA-40/80-EXR	924-0005-009	40A/80A dual scale	**915.00**

CPB-1/CPB-1A

Common Point Impedance Bridges

- Designed for permanent installation in your phasing equipment at the antenna common point
- The CPB-1 will handle common point powers up to 5kW with 100% amplitude modulation on a continuous basis
- The CPB-1A is designed for transmitter powers up to 50kW
- Both instruments have two 4" dials calibrated directly in resistance and reactance
- A panel meter is provided for use as a null detector
- The R and X dials are manipulated as a normal bridge to give a null indication on the panel meter while the transmitter is operating at full or reduced power. The value of the common point resistance and reactance can then be read directly from the 2 dials
- Available with or without front panel

|		
CPB-1 5kW		**$2,205.00**
CPB-1A 50kW		**2,625.00**
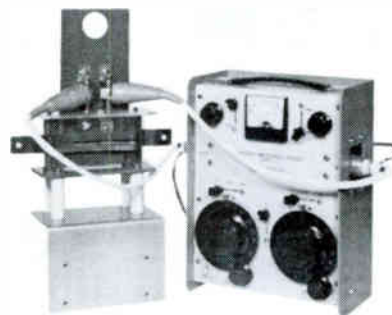
MJ-50

In-Line High Power Meter Jack

- Make-before-break in-line jack assembly especially designed for permanent installation in broadcast antennas, transmission lines and networks to permit the "hot" insertion of the OIB-1 operating impedance bridge or ammeter without interruption to normal program operation
- Rated for continuous operation at currents of up to 50A and insulated for 10kVRMS

MJ-50 . . . . **$205.00**
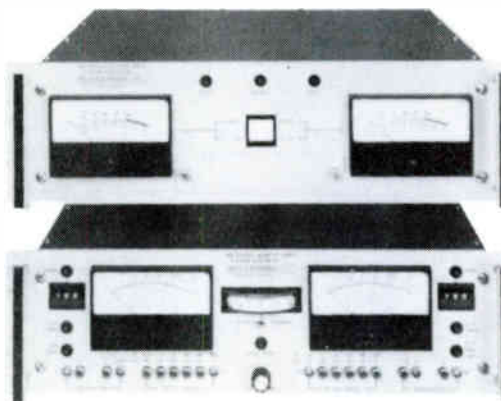
ASE-1

ASM-1

C-Quam® AM Stereo System

ASE-1 AM Stereo Exciter
ASM-1 AM Stereo Modulation Monitor

- C-Quam stereo exciter and stereo modulation monitor produce an AM stereo quadrature modulated signal having superior separation and low distortion throughout the audio spectrum
- The ASE-1 exciter and ASM-1 monitor C-Quam system is completely compatible with existing monaural receivers and multi-mode decoder receivers
- C-Quam stereo transmission system is a full spectrum system providing separation from 50Hz to over 10kHz
- Signal can be demodulated by simple envelope detectors to produce a low distortion monophonic audio signal while stereo receivers demodulate the same signal to full stereo
- FCC laboratory tested and type-accepted
- Easily interfaces to most transmitters
- Internationally accepted as the system of choice for AM stereo

C-Quam **$12,500.00**
Includes Installation

C-Quam is a registered trademark of Motorola, Inc.

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ELECTRO IMPULSE

RF Coaxial Loads

CPTN-3000

2.5-3kW

- Oil dielectric
- Frequency: DC-1000MHz
- VSWR: 1.15 max., 1.1 typical
- Power: 2500W continuous; 3000W intermittent
- Ambient: -40° to +45°C
- Input: LC (f), 1⅝ EIA opt.
- Weight: 35 lbs.
- Op. position: horizontal only
- Finish: gray enamel

CPTC-5K

5kW

- Oil dielectric/forced air
- Frequency: DC-1000MHz
- VSWR: 1.15 max., 1.1 typical
- Power: 5000W max.
- Ambient: -40° to +45°C
- Input: LC (f), 1⅝
- Weight: 57 lbs.
- Op. position: horizontal only
- Finish: gray enamel
- Power: 115VAC, 60Hz (220/50 optional)
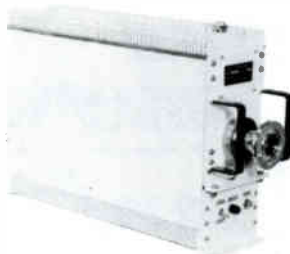
CPTC-50K

50kW

- Calorimeter version CPM-50,000
- Water load with integral heat exchanger
- Frequency/VSWR: DC-1GHz 1.1:1 *
- Power: 50kW continuous
- Ambient: 0° to +35°C
- Input: 3⅛ EIA, 6⅛ opt.
- Weight: 500 lbs.
- Air flow: 4500 CFM
- Op. position: upright
- Finish: white enamel
- Power: 220VAC, 15A, 60Hz, 3 (50Hz optional)
- Fully interlocked: load resistor is field replaceable

DPTC-50KFM

55kW

- Dry, forced air cooled
- Frequency: DC-110MHz
- VSWR: 1.15:1
- Power: 55kW continuous
- Ambient: -40° to +45°C
- Input: 3⅛
- Weight: 143 lbs.
- Op. position: upright
- Finish: white enamel
- Air flow: 1600 CFM interlocked for line power, air flow and over-temperature
- Power: 208/230VAC, 7A, 60Hz (50Hz optional). Reject Load option available

RF Coaxial Loads

Model	Avg. Power (Watts)	Price
CPTN-500	500/750	$ 750.00
CPTN-1500	1500/2000	1,375.00
CPTN-3000	2500/3000	1,400.00
CPTC-5K	5000	2,600.00
DACT-5KFM	5000/7500	1,925.00
DACT-7.5KFM	7500	1,925.00
**DACT-14	10,000/12,000	2,400.00
+ +DPTC-10KFM	10,000/12,000	2,275.00
**DPTU-153	15,000	3,500.00
**DACT-153	15,000	3,500.00
***CPTC-15K	15,000	9,500.00
+ +DPTC-25KFM	25,000	3,850.00
**DACT-253	30,000	10,000.00
***CPTC-25K	Use CPTC-30K	
***CPTC-30K	30,000	11,000.00
**DPTU-50K	Use DPTC-50KFM	
**DPTC-50KFM	55,000	6,500.00
***CPTC-50K	50,000	17,500.00
DPTC-65KFM	Use DPTC-75KFM	
DPTC-75KFM	75,000	11,000.00
***CPTC-80K	80,000	Inquire
**DPTU-75K	80,000	11,000.00

Larger Loads Available
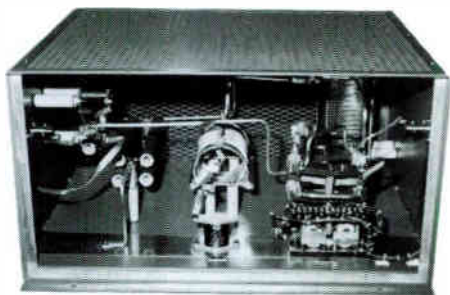
* Also accepts other mfgs. changeable connectors.

** Voltage divider type power meter optional ($1,600.00 add'l.)

*** Detail frequency/VSWR specs of loads may change slightly.

+ + Reject load option (controls fan) $350.00 add'l. Field kit $400.00

COMPETITIVE PRICES—EXPERIENCED STAFF

KINTRONIC Laboratories

PS-1, 2, 3
RF Power Attenuator Series

- The RF power attenuator series is designed to provide the broadcast engineer with an adjustable power dissipation unit that can be mounted adjacent to or on top of a transmitter to reduce the minimum output power of the transmitter to FCC-approved pre-sunrise or post-sunset levels
- The PS-1 attenuator consists of a power divider network of noninductive wirewound resistors coupled into an L-C network to match the output impedance to the desired value
- The PS-2 and PS-3 include additional low power contactors and dissipation components to permit selection of the additional power levels

PS-1 1kW maximum input power with 1 output level . . **$1,515.00**
PS-2 1kW maximum input power with 2 output levels . . **2,150.00**
PS-3 1kW maximum input power with 3 output levels . . **2,630.00**
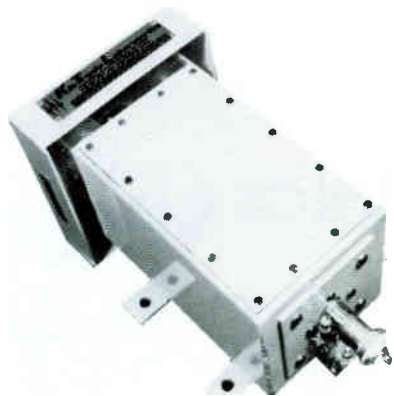
ISO Couplers

Electrical Specifications	FMC-1.5	FMC-7.5	FMC-20	FMC-30
Nominal Power Rating	1500W	7.5kW	20kW	30kW
Tunable Range	88-149MHz	88-108MHz	88-108Mz	88-108MHz
Insertion Loss at Fundamental Frequency	< 0.8dB	< 0.2dB	< 0.2dB	< 0.2dB
Input and Output Connections	Type N Female or 7/8" EIA Male Flange	1 5/8" EIA Male Flange	3 1/8" EIA Male Flange	3 1/8" EIA Male Flange
Price	$995.00	$1,720.00	$3,535.00	$4,955.00

KAY Industries
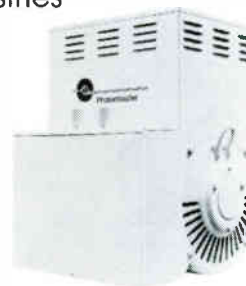
Phasemaster® T-Series
Rotary Phase Converter

- Voltage produced through Phasemaster is regulated within a range of 2-5% of the single-phase primary electrical supply
- Output waveforms and phasing are nearly identical to utility-supplied 3-phase
- Ability to buffer line transients and voltage spikes
- Integral lightning protection adds to operating reliability
- Systems are available to accommodate dual power output ratings, for example in daytime and nighttime transmission. Also available with automatically controlled high/low power switching
- Designed to operate indefinitely on a continuous basis, with or without a load, without injury to the converter
- Units can be remotely controlled
- Factory wired for 230V, 460V available on request

Model	Amps	Shipping Weight	Price
T-1300	14	145	**$2,035.00**
T-2000	18	190	**2,398.00**
T-2500	25	227	**2,770.00**
T-4000	40	365	**3,305.00**
T-5000	48	430	**3,990.00**
T-7500	65	497	**4,466.00**
T-8000	75	640	**5,595.00**
T-10000	95	788	**6,561.00**
T-12000	115	905	**7,182.00**
T-14000	135	950	**8,505.00**

KINTRONIC Laboratories

DL Series
AM Dummy Loads

Model	Maximum Power Rating (kW)	Type of Cooling	Price
DL-1	1.5	Convection	$ 555.00
DL-5	7.5	Convection	1,405.00
DL-10	15	Convection	1,835.00
DL-20	30	Convection	2,535.00
DL-50	75	1 1/2 HP Fan 12,000 CFM	8,165.00
DL-100	150	3 HP Fan 38,000 CFM	13,315.00
DL-200	300	5 HP Fan 45,000 CFM	16,625.00

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COMPETITIVE PRICES—EXPERIENCED STAFF

TURNTABLES

AUDIO TECHNICA

ATP-12T
Professional Stereo Tonearm

- Overall length 357mm
- Cartridge weight (range): 3-23 grams
- Fits wide range of turntable heights and base thicknesses
- Accurate built-in VTF gauge; no accessory gauge needed
- Simplified installation: Plug-in head shell with color coded wiring, 4 cartridge mounting positions
- Set screws provided to lock all critical adjustments, if desired

ATP-12T **$275.00**
ATP-H Replacement head shell for ATP-12T **19.95**

STANTON Magnetics

981Hz MK IIs

681EEE MKIIs

Phono Cartridges

Calibration Standard Series (With "Longhair" Brush)

Model	Stylus Model	Tracking Force	Price
981HZ MK IIs	**D98 IIs**	3/4-1 1/2 grams	**$250.00**
881 MK IIs	**D81 IIs**	3/4-1 1/2 grams	180.00
681EEE MK IIs	**D6800EEE IIs**	3/4-1 1/2 grams	120.00
681SE†	**D6800SE**	2-4 grams	110.00
681A†	**D6807A**	1 1/2-3 grams	88.00

680 Stereo Standard Series (With "Longhair" Brush)

680AL*†¹	**D6800AL**	2-5 grams	**$90.00**

Broadcast Series—Mark II

500A MK II	**D50A MK II**	1-2 grams	**$37.50**

*Does not include brush.
¹Includes extra stylus.
†For backcueing.

SHURE
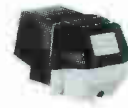
SC39EJ
Phono Cartridge

- High trackability, low-mass telescoped stylus assembly
- Essentially flat frequency response
- Special Side-Guard retractile stylus for extra protection against stylus damage
- Special positive locking flipdown stylus guard
- Low-noise Masar stylus tip virtually eliminates noise buildup

SC39EJ **$78.30**

SC35C
Phono Cartridge

- Improves on-the-air playback quality of all recorded material
- Uses a unique stylus assembly that is rigid enough to withstand the punishment of continuous backcueing, yet compliant enough to offer excellent mid- and high-frequency reproduction
- Frequency reponse is extremely flat ($\pm$ 1dB) up to 15,000Hz, with a smooth rolloff up to 20,000Hz to minimize high frequency "splatter" in FM broadcasts caused by high frequency pre-emphasis

SC35C **$50.00**

V15 Type V-MR
Phono Cartridge

- Micro-Ridge tip offers the ultimate in low distortion sound
- High stiffness, low mass Beryllium Microwall/Be™ Stylus Shank provides incredible trackability
- Features an exclusive dynamic stabilizer and the unique Side-Guard Stylus Protection System
- Designed for the standard 1/2" mount tonearm

VN15E **$56.10**

TECHNICS

SL-1200MK2
Turntable

- Quartz direct-drive manual turntable
- 33 1/3 and 45 RPM speeds
- All quartz-locked variable slide type pitch control ($\pm$ 8%)
- Wow and flutter: 0.025% WRMS
- Pop-up stylus illuminator
- Strobe illuminator
- Gimbal-suspension tonearm with variable height adjustment
- Brushless DC motor
- Anti-resonant viscoelatic main base
- Cartridge not included

SL-1200MK2 . . . .**$449.95**

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ATI

P-1000

Stereo Phono Amplifiers

- High gain: 1mVRMS at 1kHz for + 8dBm output
- High input overload: 320mVRMS at 1kHz, cannot be overloaded
- Low noise: 80dB S/N referred to 10mVRMS at 1kHz, cartridge source impedance
- Active feedback 2-pole high pass filter blocks rumble, record warp and seismic pickup without loss of audio

P-1000-1 Dual/stereo transformer outputs **$365.00**
P-1000-2 Dual/stereo balanced differential outputs . . .**365.00**

Encore Series™ P100S

Turntable Amplifier

- Active balanced + 18dBm outputs
- Adjustable R and C cartridge loading
- Active 2-pole subsonic warp filter
- 750mV p-p input headroom
- 80dB unweighted. S/N 90dB "A" weighted
- ± 0.5dB, 30Hz-20kHz, old or new curve
- 0.1% THD max., 20Hz-20kHz
- 13V/μs slew rate for min. TIM
- Excellent RF protection

P100S Stereo. **$269.00**

BRYSTON Ltd.

BP-1

Phono Preamplifier

- Distortion: <0.005% IM or THD
- Rated output: 27dBm RMS 600 ohms balanced; 21dBm RMS 600 ohms unbalanced
- Balanced XLR outputs
- Cartridge load adjustment

BP-1. . . . .**$675.00**

HENRY ENGINEERING

Universal Turntable Controller

- Works with most console remote control facilities, or use "outboard" switches
- Tally lamp outputs accommodate illuminated pushbuttons
- No contact bounce or false operation
- CMOS circuitry is RF immune...no relays
- Self-contained regulated power supply
- One UTC controls two turntables

Universal Turntable Controller **$195.00**

SHURE Brothers

M64A

Universal Stereo Preamplifier

- Permits turntables to be used with PA mixers and amplifiers without phono inputs
- Also useful as a microphone preamplifier or low-gain buffer amplifier
- Includes a 3-position slide switch for selecting phono, tape or flat frequency compensation

M64A. **$125.00**

STANTON Magnetics

310B

Professional Phono Preamplifier/Equalizer

- Designed to correctly interface magnetic phonograph cartridges for optimum playback of disk records and calibration of audio systems
- Instant selection of flat or NAB postemphasis curves
- Switchable effective rumble filter
- Individual adjustment of gains and high frequency responses
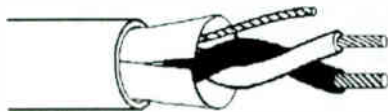- Active balanced output resulting in additional gain of 6dB

310B **$280.00**

119

WEST PENN

2-Conductor Twisted Pair Overall Shield

- UL listed NEC type CM or CL3
- Orange ripcord under jacket
- ASTM tinned copper
- PVC insulation
- Short overall twist lengths
- PVC fillers as required
- Polyester binders as required
- Overall shield coverage 100% aluminum polyester foil with TC drain wire
- Overall 75° PVC jacket

Cat. No.	No. of Cond.	AWG Size & Stranding	Nom. Insulation Thickness		Nom. Jacket Thickness		Nom. O.D.		Nom. Capacitance			
			inch	mm	inch	mm	inch	mm	pf/ft *	pf/m *	pf/ft **	pf/m **
291	2	22 (7x30)	.010	.25	.020	.51	.141	3.58	55	180	99	325

Standard spool size 1000'
Color code: Black, Red
Jacket: Gray
Special jacket colors: 291 is available in the following colors: white, brown, yellow, gray, violet, red, black, green, blue and orange

Multiple Pair Cables Each Pair Shielded
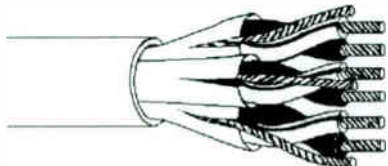
- UL listed NEC type CM or CL3 75°C
- Orange ripcord under jacket
- ASTM tinned copper
- PVC insulation
- Short overall twist lengths
- PVC fillers as required
- Polyester binders as required
- Each pair shielded 100% coverage aluminum polyester foil with 24 (7x32) TC drain wire
- Overall 75° PVC jacket

Cat. No.	No. of Cond.	AWG Size & Stranding	Nom. Insulation Thickness		Nom. Jacket Thickness		Nom. O.D.		Nom. Capacitance			
			inch	mm	inch	mm	inch	mm	pf/ft *	pf/m *	pf/ft **	pf/m **
430	2	22 (7x30)	.010	.25	.020	.51	.220	5.59	55	180	99	325
431	3	22 (7x30)	.010	.25	.020	.51	.234	5.94	55	180	99	325
433	9	22 (7x30)	.010	.25	.025	.64	.373	9.47	55	180	99	325
435	15	22 (7x30)	.010	.25	.025	.64	.469	11.91	55	180	99	325
438	27	22 (7x30)	.010	.25	.025	.64	.765	19.43	55	180	99	325

Standard spool size 1000'
Jacket: Gray

Parallel Speaker Cable

CHROME PERFECT STRIPE™ FOR POLARITY

- ASTM bare copper
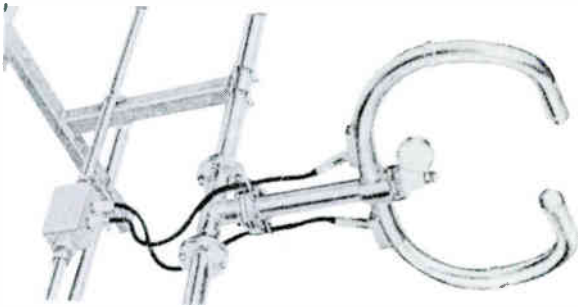- Clear vinyl insulation
- Perfect stripe for polarity

Cat. No.	No. of Cond.	AWG Size & Stranding	Nom. O.D.	
			inch	mm
103	2	22 (7x28)	.068 x .163	1.73 x 4.14

*Capacitance between conductors
**Capacitance between 1 conductor and the others connected to the shield.

COMPETITIVE PRICES—EXPERIENCED STAFF

CABLEWAVE

Standard Circularly Polarized FM Antennas

- Fabricated of 1⅝" O.D. copper tube formed into a 1½ turn helical radiating element circularly polarized in all directions
- Input transformer is provided to correct any minor variations between the antenna test site and the actual field installation
- Length of antenna is 984' divided by frequency in MHz multiplied by (no. of bays minus 1) plus 6½
- Power gains are for 50/50 horizontally and vertically polarized ratios. Other ratios are available
- Include complete mounting hardware for leg or face mounting on uniform towers 24" face or less. Brackets for other than uniform towers are extra and will be quoted upon request
- Deicers require 230V single phase balanced to ground with 500W consumption per bay

Educational FM Antennas

- Complete with matching harness of RG type cables and designed to mount on tower legs or support pipes 1¼" to 2¾" diameters. The spacing between bays is 10'
- Antennas are fed with RG-8 and RG-11 cables and all have a type N male input connector
- The circularly polarized antenna is a 1½ turn helix and the horizontally polarized element has a "U" configuration
- All educational FM antennas are completely grounded structures. Each radiating element is fabricated of a single piece of stainless steel tubing
- The coupling loop is a stainless steel strip attached to the radiating element with a worm-type all stainless steel clamp
- The type N connectors used in the binary feed harness are sealed to the cables with heat shrink tubing
- Where icing may be a problem radomes are available for circularly polarized but not horizontally polarized antennas

ELECTRONICS RESEARCH
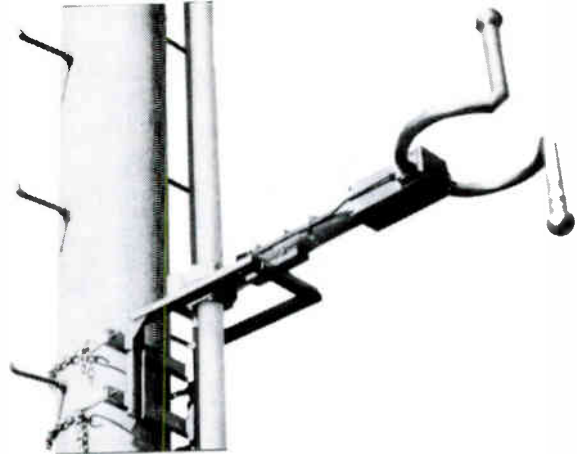
1100 Series
High Power Circularly Polarized FM Antennas

- Rugged, heavy-duty antennas capable of handling powers from 5kW (single bay) to 40kW (8 or more bays)
- Factory installed deicers are available in powers of 300W and 500W per bay
- Special power splits other than 50/50 (vertical/horizontal) as well as beam tilt and/or null fill are available at extra cost
- Radomes are available to reduce the effect of ice on the VSWR of the antenna
- Frequency range: 88 to 108MHz, factory tuned to 1 frequency
- Azimuthal pattern: ±2dB in free space, both horizontal and vertical
- Ellipticity: ±3dB in free space
- VSWR at input: (without field matching) 1.25:1 top mounting, 1.5:1 or better side mounting
- VSWR at input: (with field matching) 1.1:1 or better

1105 Series
Circularly Polarized FM Antennas

- End-fed antenna with a maximum input power of 7.5kW and power gains ranging from 0.46 for 1 bay up to 4.48 for the 8-bay model
- DC short puts the antenna at ground potential for added protection against lightning damage
- Beam tilt and null fill are not available with the 1105 Series and no power splits other than 50/50 are offered with these antennas
- Frequency range: 88 to 108MHz
- Azimuthal pattern: ±2dB in free space, both horizontal and vertical
- Ellipticity: ±3dB in free space
- VSWR at input: (without field tuning) 1.25:1 top pole mounting, 1.5:1 or better side mounting
- VSWR at input: (with field tuning) 1.1:1 or better

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ANTENNAS

JAMPRO Antennas

JHPC
FM Antenna

- Power rating: 15kW per element
- VSWR bandwidth capability: 1.1:1 ±200kHz from factory (per channel) side mounted on a pole or tower. 1.07:1 ±200kHz per channel with field tuning
- Multiple channel operation: 1.2:1 ±150kHz at given channels over 4MHz bandwidth. Special input matching device required
- Frequency range: factory tuned to 1 frequency from 88 to 108MHz
- Polarization: right hand, clockwise, circular
- Free space azimuth pattern circularity: ±2dB
- Radomes: white gel coat over reinforced fiberglass. Stainless steel hardware provided
- Deicers: 500W per bay at 50/60Hz 500

JBBP
FM Antenna

- The unique feed design eliminates the frequency sensitivity due to mismatch at the feed point and results in improved VSWR stability
- Flexible for high power application due to improved feed design
- Superior pattern symmetry and circularity is achieved by eliminating the feed radiation and obvious isometrics inherent in other designs
- VSWR bandwidth capability: 1.1:1 ±200kHz from factory (per channel) side mounted on a pole or tower; 1.07:1 ±200kHz per channel with field tuning
- Multiple channel operation: 1.2:1 ±150kHz at given channels over 4MHz bandwidth. Special input matching device required
- Frequency range: factory tuned to 1 frequency from 88 to 108MHz
- Power rating: 40kW per element
- Polarization: right hand, clockwise, circular
- Free space azimuth circularity pattern: ±2dB
- Radomes: white gel coat over reinforced fiberglass. Stainless steel hardware provided
- Deicers: under normal environmental conditions deicing is not required. Up to ½" radial ice will produce a typical VSWR of 1.5:1. If required, 500W per bay at 50/60Hz 500
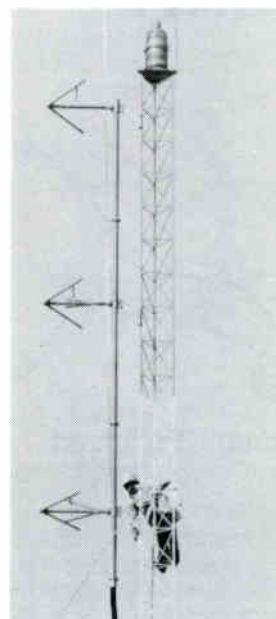
JSCP
FM Antenna

- Excellent performance for stereo, SCA and quadraphonic broadcasting
- Excellent VSWR bandwidth
- Provides a relatively flat, non-reactive load to the transmitter, keeping crosstalk between the main and subcarrier channels to a minimum. Since the antenna load is flat throughout the significant FM sideband frequencies, this antenna does not significantly contribute to synchronous AM noise
- Conservatively rated at 10kW per bay up to 4 bays, with a 40kW maximum rating for 4 bays and above
- True circular polarization
- Rugged mechanical construction and mounting
- Supplied with standard galvanized brackets for round-leg mounting on uniform face towers. Special galvanized brackets can be supplied at additional cost for mounting on tapered towers, on poles, or for tower-face mounting. All hardware is included with mounting brackets
- Tower space requirement in feet for the JSCP antenna array is equal to (984) divided by frequency in MHz (number of bays minus 1)
- Each bay consists of a radiating element with associated 1⅝" flange, and both element and line are bolted to the mounting bracket for that bay
- The interbay feed lines are joined by 3⅛" flanges, using silver-plated inner conductor connectors for maximum contact life and minimum power loss
- The radiating element consists of 4 quarter-wave arms attached to a support boom, which also contains the element feed
- A tuning cap, incorporating a large-radius tip, is supplied on each arm, which eliminates corona while facilitating field tuning, even to a slightly different operating frequency
- The antenna system is fabricated of heavy gauge marine brass and copper throughout
- The interbay line and element boom are pressurized up to the feed point by the transmission line pressurization system, with a pressure relief valve at the top of the antenna to allow pressurization system purging without the necessity of access to the top of the antenna

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INTERNATIONAL TAPETRONICS CORP.

Series 1

Audio Tape Cartridge Machines

- 3 NAB cue tones, high speed cue, front panel 1kHz add and defeat functions, cue track recording and playback access, and simultaneous cue tone generation/detection
- LED indicators, meter-select switch, audio mute on detection of EOM cue tone and replay lockout
- Motor speed of 3.75, 7.5 or 15 ips

Series 1 monophonic reproducer. $1990.00
Series 1 stereophonic reproducer 2075.00
Series 1 monophonic recorder/reproducer. 3020.00
Series 1 stereophonic recorder/reproducer 3230.00

Series 2

Audio Tape Cartridge Machines

- Features digital tape timer, 3 cue tones, microprocessor logic, replay lockout, primary cue tone defeat/looping, VU/PPM metering and Dolby HX Pro™ headroom extension
- Motor speed selectable for 7.5, 3.75 or 15 ips
- XLR-type audio input and output connectors, autoranging power supply with universal mains receptacle, and playback and record remote connectors

Series 2 monophonic reproducer $2295.00
Series 2 stereophonic reproducer 2395.00
Series 2 monophonic recorder/reproducer. 3495.00
Series 2 stereophonic recorder/reproducer 3695.00

Series 99B

Audio Tape Cartridge Machines

- 3 cue tones, high-speed recue, VU meters with LED peak indicators and input level controls
- Meter/special function panel controls for meter function select, 1kHz primary tone add/defeat, cue erase and internal test tone generator
- ELSA system for cartridge preparation; XLR-type audio inputs and outputs

99B Series monophonic reproducer $3070.00
99B Series stereophonic reproducer. 3355.00
99B Series monophonic recorder/reproducer with ELSA 6505.00
99B Series stereophonic recorder/reproducer with ELSA 7080.00

ROLAND CORP.
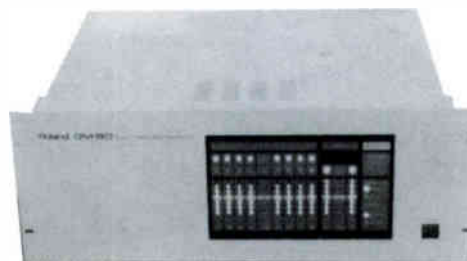
DM-80

Digital Audio Workstation

- Uses standard SCSI disk drives and MIDI control language
- Utilizes a 32-bit internal data path, 24-bit signal processing, 20-bit D/As and 16-bit A/Ds
- AES/EBU digital outputs deliver a true 24-bit digital signal for excellent noise and distortion specs and superb sound
- Will lock to SMPTE or MTC, video composite sync (house sync) or any combination of timing and sampling clock sources
- Using the built-in Tempo Map, can translate between time code and standard MIDI clocks
- Up to 4 DM-80-8 units can be cascaded to provide 32 tracks of digital recording
- You can add up to 12 hours of recording time per 4 tracks
- Offers a choice of user interface: the DM-80-R Remote Controller dedicated "hardware" interface with tape transport buttons and a jog wheel; or the Apple® Macintosh® graphic user interface with Roland's DM-80-S Track Manager™ software with additional control of multiple rack units and provisions for amplitude waveform editing
- Track Manager software gives you a system that can be expanded up to 32 tracks; and it will run on any Macintosh with a hard disk and at least 2M bytes of RAM
- For the ultimate in flexibility and control, you can add the DM-80-F Fader Board to the remote or to Macintosh controlled systems

DM-80-4 Hard disk recorder, 4 tracks. $6995.00
DM-80-8 Hard disk recorder, 8 tracks. 9995.00
DM-80-R Remote controller for DM-80 . . . . .1895.00
DM-80-F Fader unit for DM-80 . . . . .1295.00
DM-80-L Locking resolver 995.00
DM-80-E 4- to 8-track expansion kit 4495.00
DM-80-S Track manager system—Macintosh controller/editing software 650.00
IB-1 MIDI/DM bus interface box 99.95

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SONY Professional Audio

TC-D5PROII

4-Track 2-Channel Stereo Cassette Recorder

- Disk drive capstan-servo tape transport with a coreless motor
- Microphone inputs: Cannon connector XLR-3-31 (female)
- Can also be operated on 12VDC with the addition of an optional AC adaptor (AC-D468) or a car battery (DCC-127A)
- Dolby "B" noise reduction system
- Twin VU meters and LED peak level indicator
- Built-in monitor speaker and earphone jack

TC-D5PROII **$875.00**

TCD-D10 PROII

Digital Audio Recorder

- 2 hours of digital recording on a miniature DAT cassette
- Absolute time can be recorded continuously from the beginning of the tape for the convenience of electronic editing
- LCD multi-display and various safety/warning systems
- Scan search at 100 times normal speed
- Wired remote controller supplied
- Headphone monitoring; built-in speaker
- AC/DC operation; weighs 4 lbs., 7 oz.
- Limiter/mic attenuator eliminates noise caused by unexpected peaks

TCD-D10 PROII **$3400.00**
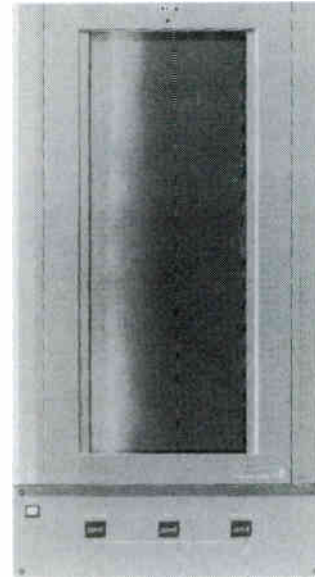

C-48

Dual Diaphragm Condenser Microphone

- Omni-directional, cardioid and bi-directional
- Selector switch, PAD switch and low-cut switch
- 2-way power capability
- Frequency response: 30-16,000Hz

C-48 . . . .**$1085.00**

CDK-3600

CD Auto Disc Loader (Preliminary)

- Holds 360 compact discs
- Incorporates 2 CD players for continuous playback, with crossfade between the 2; crossfade time is variable over the range of 0 to 10 seconds in 0.1-second steps for each player
- Each player can be separately connected to an audio mixer
- Automatic cueing gives a rapid start from the point where modulation is detected on a compact disc for on-air applications
- Playback speed is variable over the range of ± 12.5% in 0.1% steps, the adjusted playback signal being output from analog connectors
- Most operations are controlled from an external computer connected via the RS-232C or RS-422A interface
- Up to 28 CDK-3600 units can be connected through the computer interface, allowing up to 9999 discs to be controlled from the user's computer
- Disc access time is less than 2 seconds and loading time is less than 15 seconds under computer control
- Digital outputs conform to both AES/EBU and unbalanced IEC-958 (type II) for direct connection to professional digital equipment
- Balanced XLR and unbalanced phono analog outputs are provided for connecting with various monitor systems
- A self-diagnosis function and hour-meter are provided for easy maintenance
- 19" rackmounting is possible with the optional rackmounting kit

Call For Pricing

NORTHEAST BROADCAST LAB, INC.

ARRAKIS Systems

2100 Series
12-Channel Consoles

- 34 balanced inputs
- Balanced program and audition outputs with mono mixdown standard
- Penny & Giles slide faders
- VCA level controls—stereo tracking within 1dB
- DC controlled audio—no audio on pots or switches
- NE5532 integrated circuit
- External regulated power supply
- VU meters monitor program and audition
- Remote start standard
- Telephone mix minus bus standard

2100SC-12M Mono **$5895.00**
2100SC-12S Stereo **5995.00**

2000 Series
12-Channel Consoles

- 24 balanced inputs
- Balanced program and audition outputs with mono mixdown standard
- Penny & Giles slide faders
- VCA level controls—stereo tracking within 1dB
- DC controlled audio—no audio on pots or switches
- NE5532 integrated circuit
- External regulated power supply
- VU meters monitor program and audition simultaneously
- Remote start standard
- Telephone mix minus bus standard

2000SC-12M Mono **$4895.00**
2000SC-12S Stereo **4995.00**

1500 Series
8-Channel Consoles

- Dual output, slide faders
- Turbocharged performance
- Distortion reduced to 0.02% typical THD
- Internal amplifier crosstalks improved
- Prefader patch point on all ''A'' inputs for mic processing
- Built-in undedicated mic preamp. Balanced input and output
- Switching for single balanced pair communication with a remote
- Rackmounted external, regulated power supply
- External monitor inputs are connectorized and buffered for ease of installation
- 7-position remote switches are connectorized for ease of installation

1500SC-8M Mono **$4395.00**
1500SC-8S Stereo **4495.00**

10,000 Series
Consoles

- 4- or 8-track production, or stereo production, all in 1 standard mainframe
- Turrets, multistation intercom, multistation monitor system
- Independent control of starting and stopping of sources
- Comprehensive remote control of module and console functions
- 3 muting buses
- Expansive bus structure
- Balanced patch points on all signal paths for insertion of console optional effects modules such as compressors, limiters, noise gates, equalizers, reverb controllers, etc.
- 15 option module positions within mainframe

Call Northeast Broadcast Lab for complete information on 10,000 Series pricing and configurations.

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NORTHEAST BROADCAST LAB, INC.

ARRAKIS Systems

12,000 Series

Consoles

- Totally modular console
- Penny & Giles 3000 Series slide faders
- VCAs remove audio from the pots
- Universal mainframe bus design
- Built-in digital timer with controller (10-minute up timer)
- External regulated and protected power supply
- 3 stereo output buses
- Monitor system for control room and 2 studios
- Stereo cue system; talkback to 2 studios
- 2 user-transparent telephone mix-minus buses
- All mainframes come with 1 TOB1 output module, 1 TCRM1 monitor module, 1 power supply, 1 installation kit, manual, spare parts kit
- Standard mainframes are available in tan color only
- Deluxe mainframes feature through table low profile design, 1/4" milled aluminum side rails, lighted VU meters and choice of platinum or tan color
- Each mainframe must be filled in all input module positions with either an input module, blank module or option module

TMF-8A 8-input module position mainframe. **$2195.00**
TMF-8D 8-input module position deluxe mainframe **2695.00**
TMF-18A 18-input module position mainframe. **2795.00**
TMF-18D 18-input module position deluxe mainframe . .**3295.00**
TMF-28A 28-input module position mainframe **4495.00**
TMF-28D 28-input module position deluxe mainframe . .**4995.00**

Input Modules
TPM1 Line level stereo input module. **$299.00**
TPM1-M Mono mic level input module. **299.00**
TPM2 Advanced mono mic level input module with pan . .**375.00**
TPM3 Advanced stereo line level input module with
mode. **425.00**

Option Modules
TDA1 4 stereo output distribution amplifier module **$295.00**
TRS1 1 by 5 stereo remote selector switch. **149.00**
TBK1 Blank input module **35.00**
TRR1 Dual 5-button machine control module for reel machines **149.00**
TCT1 Dual 5-button machine control module for cart machines **149.00**

Trak*Star
Multitrack Hard Disk Recorder
- A cost-effective multitrack digital audio recorder, mixer and editor designed specifically for the radio broadcast professional
- With an extremely simple and easy-to-operate user interface, anyone in your radio station can achieve the creativity and productivity of multitrack mixing and editing
- 8-track editing and playback of 4 stereo-mono pairs
- 2-channel audio input and output
- CD quality audio performance
- Non-destructive real time editing
- Loop scrub for easy, precision location of edit points
- Full keyboard and trackball control
- Base system is complete: hard disk controller with 120M byte storage (stores 24 minutes of mono audio on disk), VGA color monitor, keyboard and trackball
- 16-bit linear PCM data format, 18-bit A/D and D/As
- Optional built-in mic preamp for stand alone overdub operation
- Optional multistudio capability, from up to 7 different studios, with TS-7EX audio switcher (optional) and keyboard doublers (optional)
- Optional 766M byte hard disk stores an extra 153 mono minutes
- Optional 128M byte removable optical drive for archiving audio
- Two*Trak software operates as a comprehensive mono or stereo audio digital editor for programs up to 10 hours long

TS-8C Base system **$5995.00**
TS-766 766M byte expansion storage **2500.00**
TS-128 128M byte expansion optical storage . . . .**TBA***
TS-7EX Record input switcher (7 in). **495.00**
TS-MC Mic amp with control panel **245.00**
Two*Trak editing software for Trak*Star **995.00**

1100 Series
Routing Switchers
- 16 inputs by 4 outputs; 5 1/4" x 9" rackmount
- Expandable in and out
- Remote control—4-bit binary plus enable

1100A-RSM Mono. Control by 4 16-position binary thumbwheels.
1 per output. . . . .**$ 995.00**
1100A-RSS Stereo. Control by 4 16-position binary thumbwheels.
1 per output **1195.00**
1100B-RSM Mono. Control by 8 16-position binary thumbwheels.
1 per output **1195.00**
1100B-RSS Stereo. Control by 8 16-position binary thumbwheels.
1 per output **1695.00**
16TH-1T Single remote control, thumbwheel control, tabletop mounted **105.00**

*To Be Announced

NORTHEAST BROADCAST LAB, INC.

YAMAHA CORP.

PM1200-16/24/32
Mixing Consoles

- Stereo input channels to accommodate stereo musical instrument sources such as drum machines and synthesizers; modular construction allows adding of stereo channels as needed
- 4 aux. buses, switchable to pre- or post-fader operation, 4 subgroup buses and a stereo master bus
- Cue switches on each channel bus, group bus, aux. send and return bus and the stereo mix allow monitoring of selected channels over the cue bus (pre-fader)
- 4 master mute groups, with 4 mute assign switches on each input channel, permitting user-defined multiple channels to be silenced or activated all at once

PM1200-16 18 channels (16 mono, 2 stereo), 4 groups plus stereo, 4 aux., 4 mute groups................**$5500.00**
PM1200-24 26 channels (24 mono, 2 stereo), 4 groups plus stereo, 4 aux., 4 mute groups...................**6500.00**
PM1200-32 34 channels (32 mono, 2 stereo), 4 groups plus stereo, 4 aux., 4 mute groups...................**8000.00**

*PM1200 Prices Include PW1200
Power Supply and Power Cable*

MR1642/1242/842
Mixing Consoles

- A choice of electronically balanced, low-impedance XLR inputs or balanced, high-impedance TRS phone jack inputs on all input channels
- 4 group mixing buses and a stereo master bus
- Mic/line or tape input selection on input channels
- Switchable pads and gain trim controls on all channels
- Illuminated, highly precise VU meters are switchable to provide accurate monitoring of program aux., cue and stereo mixing buses; built-in peak LEDs indicate high-level peaks

MR1642 16 inputs, 16 tape returns, 4 groups, 3 aux. . .**$1795.00**
MR1242 12 inputs, 12 tape returns, 4 groups, 3 aux. . . .**1595.00**
MR842 8 inputs, 8 tape returns, 4 groups, 3 aux **1295.00**

REV5
Digital Reverberator

- Reverb and gate programs, a pan program and several pitch change programs (with MIDI control) for harmony and chorus effects
- 30 main effect programs and 60 user-programmable memory locations
- 9 unique combination programs, such as chorus/reverb/gate, for professional multi-effect processing

REV5 Digital reverberator....................**$1995.00**

SPX1000
Multi-Effect Processor

- Sophisticated digital reverberation and effects system, provides 40 preset effect programs including: accurate simulations of natural reverberation and early-reflections; delay and echo; gated reverb; modulation; compression; low-level expander; harmonic exciter; freeze (sampling); and others
- Preset effect programs can be edited, retitled and stored in any of 59 RAM user, memory locations

SPX1000 Digital multi-effect processor...........**$1595.00**

NS10MS
Near-Field Studio Monitor

- Full, flat response from 60Hz to 20kHz
- Crisp high-end response for optimum balance in the studio control room
- Unique sheet-formed white-cone 18cm woofer and 3.5cm soft-dome tweeter

NS10MS................................**pair/$430.00**
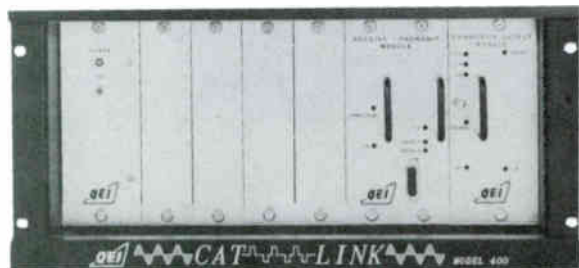
MS101II
Powered Monitor Speaker

- 4" full-range speaker housed in a bass reflex enclosure
- Features independent low and high EQ controls, a built-in 10W amplifier, both line and mic inputs, and line out

MS101II..................................**$135.00**

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NORTHEAST BROADCAST LAB, INC.

MORE SOLUTIONS

QEI CORP.

Cat/Link
Digital STL/TSL

- Digital PCM encoding/decoding provides a transparent link to the transmitter
- Signal routing options include telco DS1 (T1) service, 18GHz or 23GHz microwave, satellite up-downlink, IR, twisted pair, fiber optic cable
- STL/TSL with multi-channel send and receive capabilities including composite stereo plus up to 4 auxiliary channels— AM audio, satellite or remote feeds, SCAs, control channels, voice communications and transmitter readings
- Consists of studio and transmitter rackmount units, each with room for up to 7 modules. Input and output modules encode or decode the composite and auxiliary channels, using linear-phase FIR (finite impulse response) filters and a 70MIPS DSP engine with 24-bit accuracy. Transmit and receive modules multiplex or de-multiplex the channels for transmission

Call for Configuration and Price

WHIRLWIND

Presspower
Active Press Feed Box

- Provides multiple feeds for journalists at press conferences
- Takes 2 transformer isolated XLR mic/line inputs and distributes them to 16 transformer isolated XLR outputs (12 mic/-50dB, 2-line/0dBV, 2-line/variable)
- Features a headphone output with a level control, a 1kHz tone to expedite setup and carrying case
- Powered by 4 9V batteries or AC (110/230V); can be rack-mounted

Call for Price

SABINE Musical Mfg. Co.

FBX-900
Feedback Exterminator

- The FBX-900 automatic feedback controller (AFC) is a digital signal processor (DSP) controlled filtering device which automatically finds and eliminates feedback
- Once feedback occurs, the FBX AFC determines its pitch and assigns 1 of 9 narrow digital notch filters to the resonating frequency and eliminates the feedback faster and with less sound degradation than the best graphic or parametric equalizer

FBX-900 . . . .**$599.95**

ROLAND CORP.

SN-550
Digital Noise Eliminator

- Detects and removes fundamental hum frequency and its harmonics
- Automatic or user set frequency with very short digital filters; user definable threshold settings
- Independent attack and release characteristics for each frequency band to ensure preservation of the natural sound

SN-550 . . . .**$2095.00**

TURTLE BEACH Systems

Wave for Windows
Sound Manipulation Software

- Rearrange a piece of recorded music; add perfect fade-ins and fade-outs, boost the low end on your sound effects with the parametric equalizer; remove unwanted pauses and mistakes from narration tracks; even control time by shortening material without changing pitch

Wave **$149.00**

***Call for Information on MultiSound,
Turtle Tools and Software Bundles***

D & M ELECTRONICS

AM Directional Plotting Software

- Answers "what-if?" questions on loops and angles, finds null locations and gives relative monitoring point values

Software . . . .**less than $200.00 for most arrays**

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NORTHEAST BROADCAST LAB, INC.

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To place an order with Northeast. . .simply call the office nearest you:

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Fax (301) 497-1926

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Order Phone (800) 227-1093

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PRICES:

Prices shown are manufacturers' list prices effective at printing date, and are subject to change without notice. Prompt payment, cash, or package discounts are available on most items. Call for individual quotations.

SHIPPING:

Unless otherwise specified, items under 70 pounds will be shipped UPS surface insured. Items over 70 pounds will be shipped motor freight. Freight charges are to be added to cost and charged to the end user.

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TAXES:

Sales and use taxes are the responsibility of the buyer. Northeast charges sales tax on shipments within New York, Maryland, Texas and other states where manufacturers have reciprocal tax agreements. If you are tax exempt, please include a properly completed tax exemption certificate with your order.

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Upon approval, Northeast Broadcast will ship on credit to established accounts or those well rated by Dun & Bradstreet. Where prompt payment discounts have been quoted, such discounts are only valid if paid within quoted terms. Large orders may require progressive payments. Northeast will also accept payment with order, MasterCard, Visa, American Express or COD shipments. Late payments are subject to a 1½% per month service charge.

WARRANTY:

All new equipment is covered by manufacturers' warranties. Generally shipping charges or on-site labor are not included unless expressly stated in the manufacturer's warranty. Northeast will back these warranties with personal interface between the factory involved and the customer.

PARTIAL SHIPMENT:

Unless previous arrangements have been made, partial shipments will be invoiced as they are made and will become due on a per shipment basis.
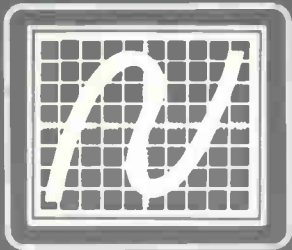
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