

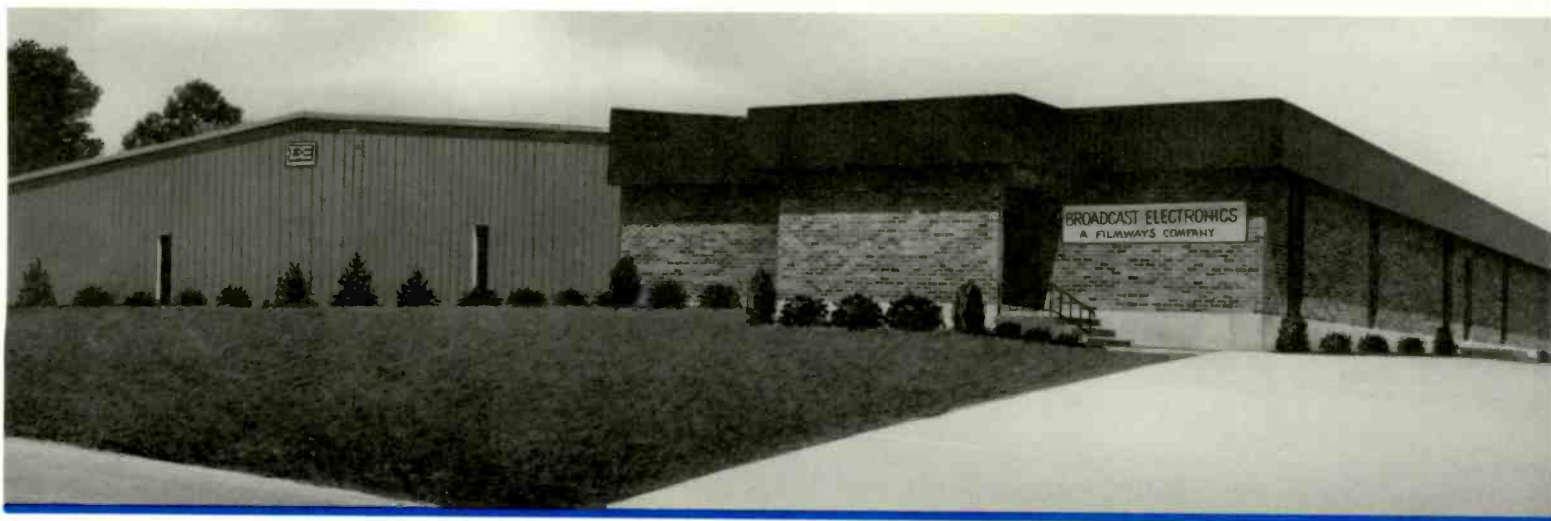


BROADCAST  
EQUIPMENT  
CATALOG 102



**BROADCAST ELECTRONICS INC.**

a **FILMWAYS** company



## BROADCAST ELECTRONICS INC.

Dear Customer,

Today at Broadcast Electronics our company is staffed with an abundance of technically trained and experienced personnel in all departments. We're specialists; and our knowledge of and attention to broadcast equipment has allowed us to design and manufacture products precisely suited to broadcasters' needs.

Today at Broadcast Electronics the emphasis is on technology—creating advanced new products, always with reliability and top quality workmanship in mind. Exciting new products like Control 16 microprocessor program automation, acclaimed by broadcast engineers and programming experts as today's most advanced system.

Linking the new BE with the Spotmaster past are twenty years of tradition providing broadcasters with an extensive selection of tape cartridge machines. In 20 years over 25,000 cart machines, including more than three thousand of the popular 3000 Series, are in worldwide use. Our list of Series 3000 users ranges from the most senior U.S. radio stations and networks, such as KDKA and NBC, to the most prestigious overseas broadcast organizations, such as the BBC.

Broadcast Electronics, Inc. is a wholly owned subsidiary of Filmways Inc., Los Angeles, California. Filmways is a diversified company with over \$150 million revenues in Fiscal 1979, and is engaged in television and motion picture production and distribution, publishing, operation of recording studios, insurance and manufacturing. Included in the Filmways corporate family are such well known companies as Grosset & Dunlap, Inc., Filmways/Heider Recording, Heatter-Quigley, Inc., and Union Fidelity Corporation.

With emphasis on technology and a large investment in product development, you can look to Broadcast Electronics for many more reliable new products, engineered always with the broadcaster in mind.

Lawrence J. Cervon  
President

Curtis I. Kring  
Vice President Marketing

A. Hans Bott  
Vice President Engineering

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# Cart Machine Applications

- "On Line" audio for AM, FM, TV, CATV
- Delay machines—for continuous or network delay
- Flight simulator audio
- Weather information systems
- Announcement systems—airports, bus terminals, public buildings
- Telephone answering systems—commercial or residential
- Customer information systems
- Error-free sales presentations
- Slide projector audio and slide keying—educational, commercial
- Unmanned displays—zoos, museums, trade shows
- Theatrical sound effects systems





## FEATURES

- Top Quality at an Economical Price
- Accepts A, B or C size Carts
- Two Cue Tones Standard (1 kHz and 150 Hz)
- Exclusive Mono/Stereo Switching
- Direct Drive Transport
- Modular Construction
- Quality Nortronics Heads
- New Phase Lok IV Head Assembly
- Low Voltage Air Damped Solenoid
- ½ Inch Aluminum Deck

## GENERAL DESCRIPTION

Totally new, Broadcast Electronics' 2100 family of tape cartridge machines combines versatile operation, quality components and top specifications, all at an economical price. There's more value in the 2100 series than ever found before in any professional cart machine. The combination of advanced engineering design and Broadcast Electronics' cost saving production methods produces a cart machine with double value for the most quality minded users and for those who can now afford the best.

The 2100 series has numerous benefits making it just right for nearly any application: Flexibility in size of carts accepted — A, B or C; Two cue tones (1 kHz and 150 Hz) are standard; Modular construction for easy field maintenance; Top quality Nortronics heads for exceptional performance; Direct drive transport and ½ inch aluminum deck for rugged, reliable operation; New Phase Lok IV head assembly for azimuth adjustment independent of height and zenith adjustments; Exclusive Mono/Stereo switching to aid in future conversions from mono to stereo broadcasting.

**BOTH STEREO AND MONAURAL MODELS** — Whether for monaural or stereo, the series 2100 is a complete new line of cartridge machines. Playback only or Record/Playback are the same physical size and offered in stereo or monaural versions.

**PHASE LOK IV HEAD ASSEMBLY** — The head assembly features high quality Nortronics heads and the new Spotmaster Phase Lok IV head bracket. This head bracket has an azimuth adjustment which is independent of height and zenith, and provides the most precise head positioning possible. Head shielding to prevent hum pickup is extensive. The underside of the deck is covered with a steel plate. Above the head is a mu-metal shield, which has an extremely high rejection of magnetic flux. Additional shielding is provided by a steel plate located directly under the head recessed into the deck.

**TAPE TRANSPORT/COOL OPERATION** — The tape transport features a powerful, direct-drive hysteresis synchronous motor, a large air damped solenoid with a teflon coated plunger, and a ½ inch thick precision aluminum deck.

The 2100 series of cart machines uses Broadcast Electronics' exclusive cut away top cover design which allows an "A" size machine to accommodate A, B, & C size cartridges.

Another key feature of the 2100 design is the solenoid control circuit which applies 36 volts at the beginning of the start cycle for a fast, sure start and then drops to 18 volts. This results in safer, cooler, transient-free operation, which is usually not found in machines using 110 volt solenoids.

The overall reliability inherent in this design has been demonstrated in life cycle testing programs which have, on a number of occasions, cycled this machine through two million operations without failure.

The cartridge guidance system provides very precise positioning. The cartridge is directed down into the head by a tapered side guide and locked in place by a beryllium-copper clamp which insures positive locking regardless of variations in cartridge thickness. The tensile strength of this clamp is exceptional and it will retain this strength throughout many years of use.

**MONO/STEREO SWITCHING** — The model 2100 employs Broadcast Electronics' exclusive automatic mono/stereo switching. This allows mono cartridges that have been previously recorded on any other tape cartridge machine to be played on a 2100 stereo machine with program material available from the left and right outputs.

This is accomplished by automatically recording a 150 Hz cue tone along with the normal 1 kHz cue tone at the beginning of the message.

## Series 2100

When the machine detects both tones together the left channel preamp output is substituted for the right channel preamp output. This offers full compatibility to mono users who wish to convert their operation to stereo since all previously recorded cartridges can easily be encoded with the mono control signal (150 Hz + 1 kHz tones). A front panel LED indicates when the machine is in the mono play mode.

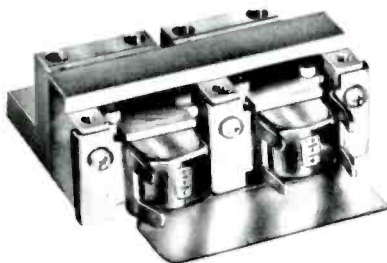
In addition to the standard 1 kHz tone, a 150 Hz tone sensor is included in the series 2100. This sensor provides information to the mono/stereo control circuit as well as closing a pair of relay contacts for external use. When both the 1 kHz and 150 Hz tones are detected together (mono detection) the relay contacts do not close. These detectors use active RC filters which provide very precise detection.

**MODULAR CONSTRUCTION** — Modular construction is used throughout the 2100 cart machine to allow simple field maintenance. The playback and record electronics are located on two individual PC boards that plug into a motherboard, which provides inter-connection, power supply and solenoid drive circuitry. The motor, solenoid, power transformer, and front and rear panels all plug into the motherboard.

Power supplies are all regulated and are thermally as well as overload protected. All logic in the 2100 series is provided by CMOS devices.

**PLAYBACK CIRCUITRY** — The playback amplifier consists of wideband IC operational amplifiers, advanced analog switching and differentially balanced output amplifiers. The amplifiers have an exceptionally wide equalization adjustment range to compensate for head wear, a feature which prolongs useful head life. The solid-state output amplifiers will deliver output levels up to +20 dBm before clipping thereby minimizing the potential for distortion with high level signals.

### Phase Lok IV Head Bracket



In the Phase Lok IV Head Bracket the height and zenith adjustments are not affected by azimuth adjustment. This assures extremely tight control of stereo phasing.



MODEL 2100P. Mono Playback (Model 2100PS, Stereo Playback, looks identical with cover on).

MODEL 2100RP. Mono record/playback.

**RECORD CIRCUITRY** — The record circuitry has differentially balanced inputs followed by high performance IC operational amplifiers. These input circuits have extremely wide dynamic operating ranges which allow them to cleanly handle a greater range of signals than any competitive machine. This high level of signal handling ability, which is inherent throughout the design, contributes significantly to the high quality of reproduction which is characteristic of the 2100 series.

Stereo 2100 series machines can be used to record carts compatible with mono machines. A front panel LED indicates when the machine is in the mono record mode. At this time the left and right inputs are summed together and recorded on the left channel. In addition, the mono encode tone (150 Hz + 1 kHz) is recorded on the cue track.

The 150 Hz secondary cue tone and logging information can be recorded in either the record or playback mode, as full bias switching is incorporated into this machine. External inputs and outputs, and bias switching are available on the cue track.

VU meters are automatically switched between the playback and record modes.

### ORDERING INFORMATION

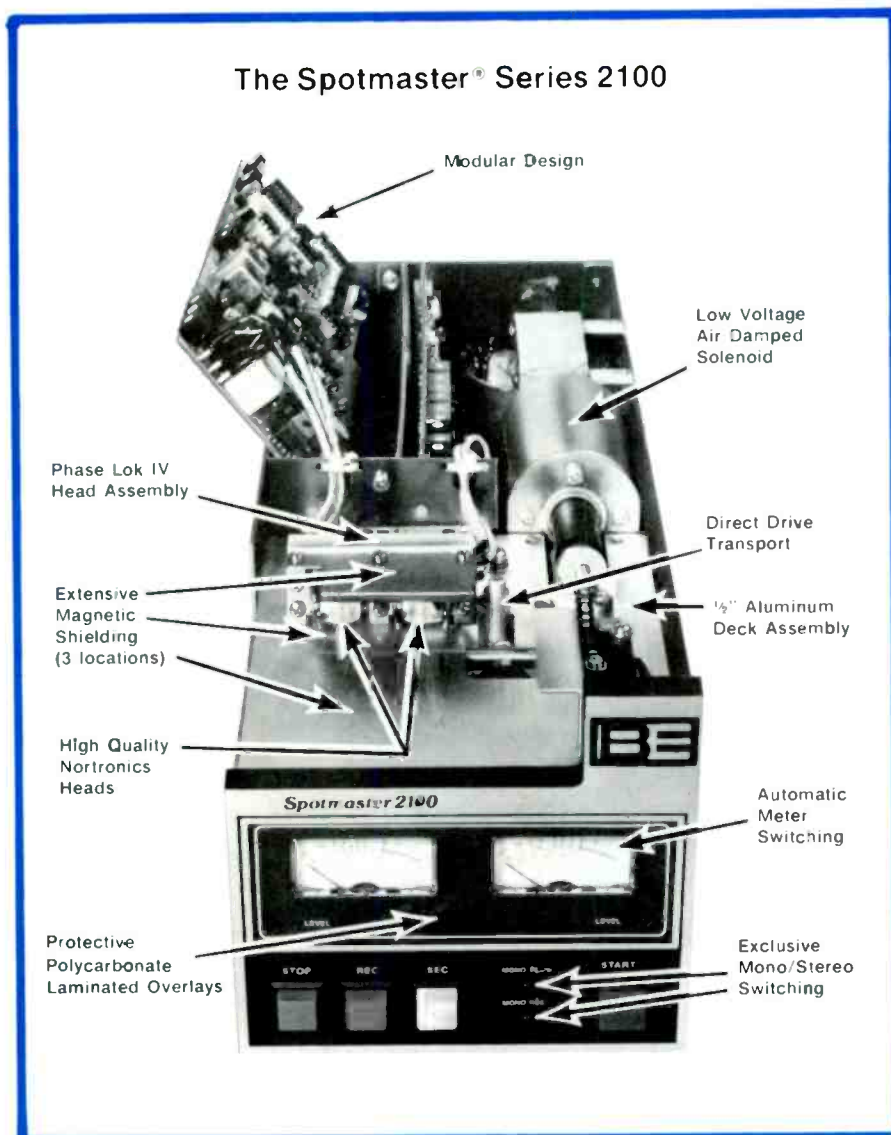
MODEL	STOCK NO.	DESCRIPTION
2100P	907-2110	Mono Playback; 115 V/60 Hz
2100RP	907-2111	Mono record/play; 115 V/60 Hz
2100PS	907-2112	Stereo playback; 115 V/60 Hz
2100RPS	907-2113	Stereo record/play; 115 V/60 Hz
2100P	907-2120	Mono Playback; 220 V/50 Hz
2100RP	907-2121	Mono record/play; 220 V/50 Hz
2100PS	907-2122	Stereo playback; 220 V/50 Hz
2100RPS	907-2123	Stereo record/play; 220 V/50 Hz
	907-2114	Rack Mount Shelf for EIA 19" Rack
	471-2101	Top cover for shelf above
	503-2122	Rack Shelf Filler Panel, 1/3 Rack
	503-2123	Rack Shelf Filler Panel 2/3 Rack
	919-2100	Extender, P.C. Boards

**DURABILITY, ELEGANT STYLING —**

Nothing has been spared to make the 2100 series cartridge machine rugged, reliable and professional in every way. Front panels feature crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. Users will quickly appreciate the durability of the nomenclature despite constant use. This expensive process is a big improvement over ordinary silk screening.

All front panel controls have been laid out with human engineering in mind for easy, error free operation. The elegance of the 2100 series reflects the talents of professional industrial styling and Broadcast Electronics' attention to detail.

**SPACE SAVING DESIGN —** The space saving design of the Series 2100 permits side by side mounting of three 2100's in a 19-inch rack. Each machine is only 5.875" wide, 5.25" high and 15.5" deep.

**SPECIFICATIONS****Tape Speed:**

7.5 ips (19.05 cm/s)

**Timing Accuracy (at 7.5 ips):**

0.1%

**Wow and Flutter:**

0.15% peak weighted  
0.2% RMS unweighted

**Noise (Reproducer):**

Monophonic: 62 dB or better below reference of 400 Hz at 3% THD; 54 dB below 160 nWb/m at 1 kHz  
Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD; 52 dB below 160 nWb/m at 1 kHz

**Distortion:**

2% or less record to playback at 160 nWb/m, 1 kHz

**Equalization:**

NAB, IEC, CCIR as specified

**Frequency Response:**

-2 dB from 50 Hz to 15 kHz exclusive of head contour effect

**Crosstalk (magnetic head limited):**

Cue channel to program channel, monophonic

150 Hz: 50 dB or better  
1000 Hz: 55 dB or better

**Input Impedance (Record Models):**

78 Kohms, balanced, bridging.

**Input Levels:**

18 to -20 dBm (100 mV to 7.7 V)

**Audio Output:**

Balanced, maximum adjustable level +8 dBm into 600 ohm load from 160 nWb/m at 1 kHz

**Peak Output Level:**

+20 dBm before clipping

**Bias Oscillator Frequency:**

100 kHz

**Cue Signalization:**

Relay contact closure for external control (150 Hz). External cue input/output available for other control functions

**Ambient Operating Temperature:**

0° to 55° C (32° to 132° F)

**Power Requirements:**

105 to 130 V or 210 to 230 V, 50 or 60 Hz, as specified

**Power Consumption:**

40 W continuous

**Mounting:**

Desk top standard. Adaptors for rack mounting optional

**External Connectors:**

Mating plugs furnished

**Dimensions:**

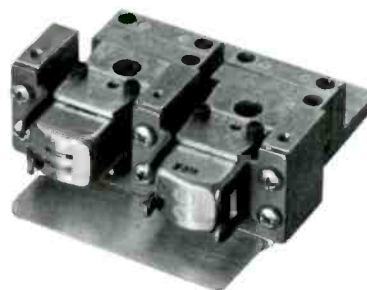
5.25" H, 5.875" W, 15.5" D  
13.3 cm H, 14.9 cm W, 39.4 cm D  
(Add 0.375" to height for rubber feet)

**Weight (packed); all models**

28 lbs. (12.7 kg)



MODEL 3200 RPS STEREO RECORD/PLAYBACK with automatic fast forward and all cue tones.



PHASE LOK III HEAD BRACKET

In the Phase Lok III head bracket height and zenith adjustments are not affected by azimuth adjustment. This assures extremely tight control of stereo phasing.

## FEATURES

- A Professional Quality Monaural Or Stereo Cart Machine
- Direct Drive Motor, Air Damped Solenoid
- Automatic or Manual Fast Forward Option
- Phase Lok III Head Bracket
- Low Voltage Solenoid Switching
- Long Life Nortronics Duracore® Heads

## GENERAL DESCRIPTION

Series 3000 machines have all the standard features: a direct-drive hysteresis synchronous motor, an air damped solenoid with excellent reserve capability, and a 1/2-inch thick machined aluminum deck. In addition, these machines are loaded with Spotmaster exclusives: the Phase Lok III head bracket; low voltage solenoid switching; advanced integrated circuit/solid-state design with exceptionally wide dynamic operating ranges; long life Nortronics Duracore® heads; and an outstanding set of performance specifications.

**PHASE LOK III HEAD BRACKET** — Phase Lok III by Spotmaster improves stereo phase performance. This unique head bracket has an azimuth adjustment which is totally independent of height and zenith and offers the most precise head positioning possible. All stereo playback models are also equipped with a dummy head to insure correct stereo tracking.

**SOLENOID CONTROL CIRCUIT** — A key feature of the Spotmaster design is the solenoid control circuit. This is a low-voltage, current regulated source which is applied through a solid-state switch. With this circuit, solenoid operation is not affected by ac line variations, heat dissipation is reduced, and the combination of low voltage and solid-state switching significantly enhances reliability. A further benefit is the elimination of a potential source of noise that is present with high level ac switching.

The overall reliability inherent in this design has been demonstrated in life cycle testing programs which have, on a number of occasions, cycled this machine through two million operations without failure.

**CARTRIDGE GUIDANCE SYSTEM** — The cartridge guidance system provides very precise positioning. The cartridge is directed down into the head by a tapered side guide and locked in place by a beryllium clamp which insures positive locking regardless of variations in cartridge thickness. The tensile strength of this clamp is exceptional and it will retain this strength throughout many years of use.

**RECORD CIRCUITRY** — The record circuitry has balanced inputs followed by high performance IC operational amplifiers. These input circuits have extremely wide dynamic operating ranges which allow them to cleanly handle a greater range of signals than any competitive machine. This high level of signal handling ability, which is inherent throughout the design, contributes significantly to the high quality of reproduction which is characteristic of the 3000 Series.

**PLAYBACK CIRCUIT** — The playback amplifier consists of wideband IC operational amplifiers, FET muting circuits, and output amplifiers with wide dynamic ranges. The amplifiers have an exceptionally wide adjustment range for compensating for head wear, a feature which prolongs useful head life. The solid-state output amplifiers will deliver output levels of up to +20 dBm before clipping, thereby minimizing the potential for distortion with high level signals.





\*MODEL 3100P



\*MODEL 3200RP



\*MODEL 3300P

\*Shown with all options

## AVAILABLE MODELS

Series 3000 is a family of tape cartridge machines with the industry's widest choice of models and options. This series offers the Broadcaster an exceptional degree of flexibility in customizing a record/playback system for a particular studio.

Model 3100 Slim Line is a space saving design for playback of A size cartridges. It is available in mono and stereo. 3100's are only 5 $\frac{7}{8}$ " wide and three units can mount side-by-side in 19" of rack space.

Model 3200 is a full feature machine available with complete record/playback capability for A and B cartridges, yet it is only 8 $\frac{3}{4}$ " wide. Two machines can fit into 19-inches of rack space. It is available in mono and stereo, record/playback and playback only.

Model 3300 is available to handle A, B and C-size cartridges. It is available in record/playback and playback only for both mono and stereo.

## AVAILABLE OPTIONS

**Secondary and Tertiary Cue Tones** — Options include front panel indicator switches, oscillators (record models) and detectors for 150 Hz and 8 kHz tones; contact closures are provided for external control.

**Manual Fast Forward** — Spring loaded front panel switch, when pressed advances the tape at 3x normal speed to next cue tone.

**Automatic/Manual Fast Forward** (includes secondary and tertiary cue tones) — In automatic operation machine detects end-of-message (150 Hz) cue tone and automatically advances at 3x normal speed to next cue tone (audio is muted during advance). Manual Operation, as described above, is included in this option.

**Remote Control Unit** — Five models available: offers duplication of essential front panel functions.

**Other Options** — Microphone input; 220V 50 Hz power; IEC, CCIR equalization, rack mounting; 3 $\frac{3}{4}$  ips tape speed.

## SPECIFICATIONS

### Tape Speed:

7.5 ips (19.05 cm/s.)

### Timing Accuracy (at 7.5 ips):

0.1%

### Fast-Forward Tape Speed (optional):

22.5 ips (57 cm/s).

### Tape Start/Stop Time:

0.1 second maximum.

### Wow and Flutter:

0.15% peak weighted

0.2% RMS unweighted.

### Noise (Reproducer):

Monophonic: 62 dB or better below reference of 400 Hz at 3% THD;  
54 dB below 160 n Wb/m at 1 kHz.

Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD;  
52 dB below 160 n Wb/m at 1 kHz.

### Distortion:

2% or less record to playback at 160 n Wb/m at 1 kHz.

### Equalization:

NAB, IEC, CCIR as specified.

### Frequency Response:

±2 dB from 50 Hz to 15 kHz exclusive of head contour effect.

### Crosstalk (magnetic head limited):

Cue channel to program channel, monophonic

150 Hz:—50 dB or better

1000 Hz:—55 dB or better

8000 Hz:—50 dB or better

Stereo, crosstalk between program channels; better than 50 dB, 50 Hz to 15 kHz.

### Input Impedance (Recorder):

Microphone (optional): 150 ohms (transformer) balanced floating.

Line: 50 k ohms (transformer) balanced floating.

### Input Levels:

Microphone (optional): -70 to -24 dBm  
Line: -24 to +20 dBm (50 mV to 7.7 V).

### Audio Output:

Maximum adjustable level +8 dBm from 160 n Wb/m at 1 kHz; 600 ohms (transformer) balanced.

### Peak Output Level:

+20 dBm before clipping.

### Cue Signals:

Relay contact closure for external control (150 Hz, 8 kHz). External cue/input/output available at remote control for other control functions.

### Ambient Operating Temperature:

0° to 55° C (32° to 132° F).

### Power Requirements:

105 to 125V/210 to 230V; 50 or 60 Hz. 45 to 50 W maximum.

### Mounting:

Desk top standard. Adaptors for rack mounting optional.

### External Connectors:

Mating plugs furnished.

### Dimensions:

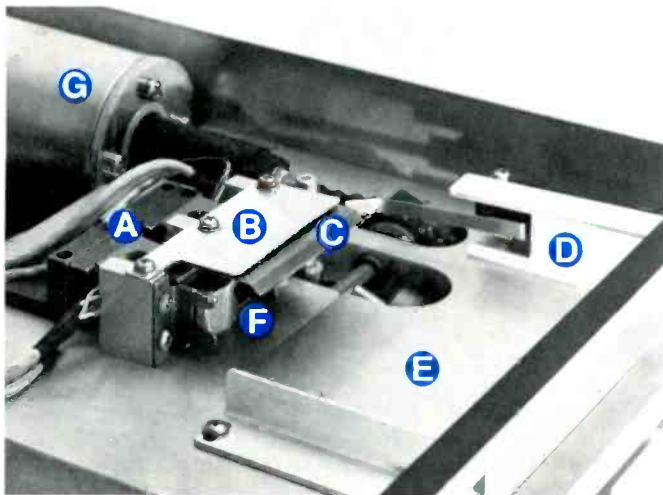
3100: 5 $\frac{1}{4}$ " H, 5 $\frac{7}{8}$ " W, 15 $\frac{1}{2}$ " D  
(13.3 × 14.9 × 39.4 cm)3200: 5 $\frac{1}{4}$ " H, 8 $\frac{3}{4}$ " W, 15 $\frac{1}{2}$ " D  
(13.3 × 22 × 39.4 cm)3300: 5 $\frac{1}{4}$ " H, 11 $\frac{1}{4}$ " W, 15 $\frac{1}{2}$ " D  
(13.3 × 29.8 × 39.4 cm)(Add  $\frac{3}{8}$ " to height for rubber feet.)

### Weight (packed):

3100: 28 lbs. (12.7 kg)

3200: 33 lbs. (15.0 kg)

3300: 37 lbs. (16.8 kg).

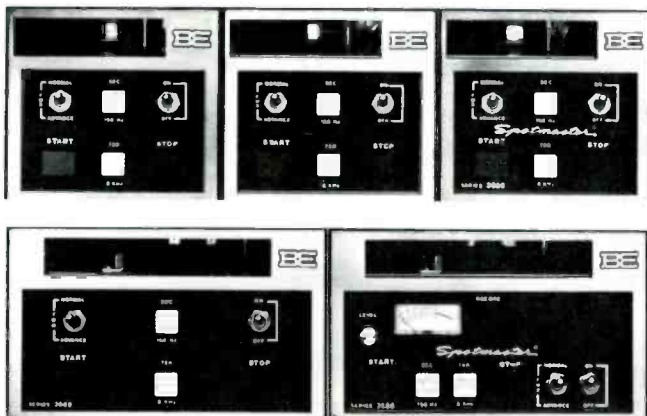


THE TAPE TRANSPORT

**HIGHLIGHTS OF THE SERIES 3000 TAPE TRANSPORT** — includes **A** Phase Lok III Head Bracket; **B** mu-metal magnetic shield; **C** high-tensile beryllium clamp for locking the cartridge in place; **D** tapered side guide which directs the cartridge down into the head; **E** a precision one-half inch thick aluminum deck; **F** under-the-head magnetic shielding provided by a mu-metal plate which is recessed into the deck for optimum cartridge seating; and **G** a large air damped solenoid with exceptionally reliable chain linkage. Not visible in the picture is the plate on the underside of the deck which provides additional head shielding.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
3100P	906-3100	Mono, Playback Only, A Size Cartridges
3100PS	906-3101	Stereo, Playback Only, A Size Cartridges
3200P	906-3200	Mono, Playback Only, A & B Size Cartridges
3200RP	906-3201	Mono, Record/Playback, A & B Size Cartridges
3200PS	906-3202	Stereo, Playback Only, A & B Size Cartridges
3200RPS	906-3203	Stereo, Record/Playback, A & B Size Cartridges
3200RP/DL	906-3204	Mono, Delay Programmer, A & B Size Cartridges
3300P	906-3300	Mono, Playback Only, A, B, & C Size Cartridges
3300RP	906-3301	Mono, Record/Playback, A, B, & C Size Cartridges
3300PS	906-3302	Stereo, Playback Only, A, B, & C Size Cartridges
3300RPS	906-3303	Stereo, Record/Playback, A, B, & C Size Cartridges
3300RP/DL	906-3304	Mono, Delay Programmer, A, B & C Size Cartridges



**RACK MOUNT CONFIGURATIONS**

The Spotmaster design puts a lot of capability into a minimum amount of space. The arrangements above, which occupy 10½ inches of vertical rack space, provide playback capability for five A size cartridges and two B size cartridges. A record capability is provided in the Model 3200 with the meter. These units can be either stereo or mono.

**FACTORY INSTALLED OPTIONS**

906-3000	Q Trip I & II (150 Hz and 8 kHz), Playback Only Models
906-3001	Q Trip I & II (150 Hz and 8 kHz), Record/Playback Models
906-3002	Adjustment of Equalization to IEC/CCIR Specifications
906-3003	Microphone Input Option, Mono Record/Playback Models
906-3004	Microphone Input Option, Stereo Record/Playback Models
906-3005	Manual Fast Forward, All Models, without Q Trip I & II
906-3006	Automatic and Manual Fast Forward, Playback Only Models with Q Trip I and II (150 Hz and 8 kHz)
906-3007	Automatic and Manual Fast Forward, Record/Playback Models with Q Trip I and II (150 Hz and 8 kHz)
906-3008	Additional cost for 117 VAC/50 Hz; or 220 VAC/240 VAC/50 Hz
906-3009	Additional cost for alternate 3.75 IPS tape speed

**ACCESSORIES**

906-3013	Rack Mount Shelf for EIA 19" Rack
471-0098	Top Cover for 906-3013 Shelf
503-0022	Rack Shelf Filler Panel, ½ Rack
503-0023	Rack Shelf Filler Panel, ½ Rack
919-1504	Extender, P.C. Boards
970-0003	Transistor/IC kit for 3200P/RP
906-3016	3000 Remote Control Panel, START for 5 Units
906-3019	3000 Remote Control Panel, Single Record/Playback Model
906-3020	Remote Control Panel, Single Playback (with cue tones)
906-3021	Remote Control Panel, Single Playback (without cue tones)
906-3028	Remote Control Panel with start/stop and fast forward switches for 5 Series 3000 machines



**REAR PANEL**

This is the rear view of a Model 3200RPS (stereo, record/playback). The mating connectors and allen wrenches for head adjustments are furnished with all units and the headphone monitor jack (J6) is standard with all units.



Model 3400 RPS

**FEATURES**

- Rack mounts without additional accessories
- Handles A, B and C sized carts
- Same performance specifications as 3000 series carts
- Full range of options available

**RACK MOUNTING MODEL** — The Model 3400 has all the features of the standard 3000 Series cartridge machine, but is designed into a rack mountable assembly with no shelf or filler panels necessary. The 3400 handles A, B, and C size carts and comes standard as a rack mount unit, for use in any 19-inch rack. It can also be used for desk top operation when equipped with an optional cover.

**AVAILABLE MODELS** — The 3400 is available in both monaural and stereo models, and in record and record/playback configurations. All of the series 3000 options are available for the 3400 series.

**PHASE LOK III HEAD BRACKET** — Phase Lok III by Spotmaster improves stereo phase performance. This unique head bracket has an azimuth adjustment which is totally independent of height and zenith and offers the most precise head positioning possible. All stereo playback models are also equipped with a dummy head to insure correct stereo tracking.

**SOLENOID CONTROL CIRCUIT** — A key feature of the Spotmaster design is the solenoid control circuit. This is a low-voltage, current regulated source which is applied through a solid-state switch. With this circuit, solenoid operation is not affected by ac line variations, heat dissipation is reduced, and the combination of low voltage and solid-state switching significantly enhances reliability. A further benefit is the elimination of a potential source of noise that is present with high level ac switching.

**CARTRIDGE GUIDANCE SYSTEM** — The cartridge guidance system provides very precise positioning. The cartridge is directed down into the head by a tapered side guide and locked in place by a beryllium clamp which insures positive locking regardless of variations in cartridge thickness. The tensile strength of this clamp is exceptional and it will retain this strength throughout many years of use. All three cartridge sizes—A, B, and C—may be used in the 3400.

**RECORD CIRCUITRY** — The record circuitry has balanced inputs followed by high performance IC operational amplifiers. These input circuits have extremely wide dynamic operating ranges which allow them to cleanly handle a greater range of signals than any competitive machine. This high level of signal handling ability, which is inherent throughout the design, contributes significantly to the high quality of reproduction which is characteristic of the 3000 Series.

**PLAYBACK CIRCUIT** — The playback amplifier consists of wideband IC operational amplifiers, FET muting circuits, and output amplifiers with wide dynamic range. The amplifiers have an exceptionally wide adjustment range for compensating for head wear, a feature which prolongs useful head life. The solid-state output amplifiers will deliver output levels of up to +20 dBm before clipping, thereby minimizing the potential for distortion with high level signals.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
3400P	906-3400	Mono, Playback only, rack mount
3400PS	906-3401	Stereo, Playback only, rack mount
3400RP	906-3402	Mono, Record/Playback, rack mount
3400RPS	906-3403	Stereo, Record/Playback, rack mount
	906-3413	Cover for desk mounting 3400 machine

NOTE: SEE PAGE 8 FOR SERIES 3000 OPTIONS

**SPECIFICATIONS**

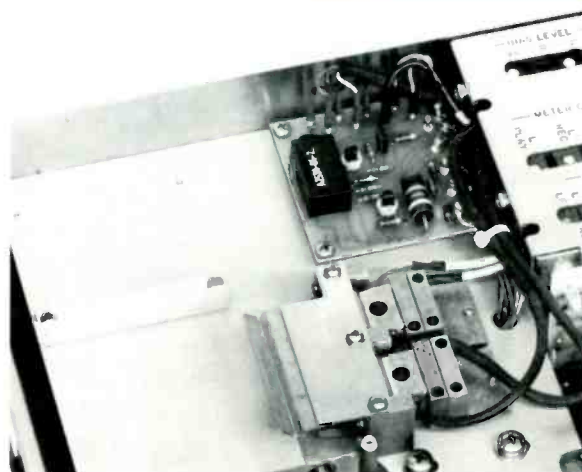
Identical to the 3000 series specifications on page 7 except:

**Dimensions:**  
 5.25" H, 17" W, 15.5" D (13.34 x 43.13 x 39.37 CM)

**Weight:**  
 (packed: 42 lbs. (19.0 Kg))



3200 RP/DL. Monaural record/playback/delay cartridge machine.



3200 RP/DL deck assembly, showing relay P.C. board which controls delay function.

### FEATURES

- Talk show or network program delay
- Solid-state logic switching with full remote capability
- Two models available
- Operate in "Delay" or "Normal" record/play mode
- Standard NAB cartridges used
- Same top performance specifications as Spotmaster® 3000 machines

### GENERAL DESCRIPTION

The versatile Broadcast Electronics Delay cartridge machines handle a variety of functions—continuous delay, network delay, normal recording and normal playback—yet with the same top performance specifications as the rest of the Spotmaster 3000 Series cartridge machines.

**YOUR CHOICE OF TWO MODELS** — Two monaural models are available: the 3200 RP/DL, which handles A and B size NAB cartridges; and the 3300 RP/DL, which accepts A, B and C size carts. The same standard NAB carts used in your other cart machines can be used in the 3200/3300 Delay machines in both the Delay and Normal record/playback modes of operation.

**TALK SHOW APPLICATIONS** — These Delay machines take the worry out of live telephone talk shows and interviews. When in the Delay mode, the tape crosses the erase/record head where it is erased and the live material recorded. The tape then moves through a full cycle of the cartridge before reaching the playback head.

The time span of the delay is determined by the length of the cartridge. A six second delay, for example, gives ample time to edit words or comments inappropriate for on air broadcast use, thus protecting you from libel suits, FCC actions or unhappy advertisers.

**NETWORK PROGRAM DELAY** — Another convenient application of BE's Delay machines is automatically recording network programs, up to 30 minutes in length, for playback at a later time.

The network cue tone or automation system timer generates a command for the Delay machine to start. It

simultaneously erases any old program material still on the tape and records the network program, recueing itself after one complete cycle. The machine is then ready to automatically play back the newly recorded program material at the proper time.

After the tape has played, the machine is once again ready for the erase/record and playback cycle, without the tape cartridge having ever been removed from the machine. This entire process can be done manually if no automation or timing device is used with the Delay machine.

In the Normal record/play mode, standard cue tones are recorded in the normal manner. However, in the Delay mode, the cue track is neither recorded nor erased, so the original cue tone placed on the cart is not disturbed.

**NORMAL RECORD/PLAYBACK OPERATION** — The 3200 RP/DL and 3300 RP/DL cart machines incorporate BE's exclusive push-button controlled, solid-state logic switching, with full remote capability.

Whenever a cart has been recued after recording a message in the Delay mode, the Delay machine automatically switches to the Normal record/play mode. The machine is then ready for standard recorder/reproducer usage.

Options available for the 3200/3300 Delay machines include a 150Hz cue tone, manual fast forward and automatic fast forward.

See pages 7 and 8 for specifications and ordering information.

**FEATURES**

- Plug-In Decks
- Direct Drive Motor With New Ultra-Stable Capstan Positioning
- Plays A and B Size Cartridges
- Stereo Or Mono Operation
- Companion Recording Amplifier
- Long Life, Nortronics Duracore® Heads
- Save Space With Three Machines In One



MODEL 5310 RECORD UNIT



MODEL 5300B

**GENERAL DESCRIPTION**

**THE MODEL 5300B** is the most advanced multi-deck cartridge machine on the market. It is a top-of-the-line professional machine which features: solid-state/integrated circuit design, a direct-drive hysteresis synchronous motor, air damped solenoid, a one-half inch thick machined aluminum deck, and long life Nortronics® Duracore® heads.

Features unique to this multi-deck design are plug-in decks, computer ribbon cabling, rear panel LED service aids, and run lights adjacent to each deck.

**NEW MECHANICAL DESIGN** — The Model 5300B has a new internal mechanical design which insures stable and accurate deck and capstan positioning. The motor mounting and the top capstan bearing mounting are mechanically supported by a sturdy aluminum bulkhead insuring consistent mechanical alignment independent of front panel reference.

**ADVANCED ELECTRONICS** — This machine has all the latest Spotmaster features: ultra-reliable, low-voltage solenoid switching, wide dynamic operating ranges. Phase Lok III head bracket, accurate cartridge positioning and modular design. All stereo models are equipped with a dummy head to insure correct stereo tracking.

The solenoid control circuit utilizes solid-state switching and a regulated low-voltage supply. With this circuit,

solenoid operation is smooth, heat dissipation is reduced, and the combination of low voltage and solid-state switching significantly enhances reliability and safety.

A characteristic of this machine is exceptionally wide dynamic operating ranges which contribute to high quality reproduction. The companion recorder input circuits and the 5300B output circuits will accept and deliver, without introducing distortion, a greater range of signals than any competitive machine. Balanced transformer output with FET switching permits paralleling of machines.

**ADDITIONAL FEATURES** — The 5300B is available in four basic models as shown under Ordering Information. The secondary and tertiary cue tones are made available by changing a PC card. Thus, a unit originally purchased with only the primary (1 kHz) cue tone can be field modified by simply replacing the PC card.

The recorder amplifier is available in either mono or stereo. Each unit has the standard 1 kHz cue tone. Secondary (8 kHz) and tertiary (150 Hz) tones are available for the recorder as an option.

The standard recorder has two input circuits: a high-level 50K ohm balanced transformer and a low level microphone input. The recorder amplifier has an automatic meter switching capability. During recording the meter indicates the record level and in playback the meter indicates the playback level on deck number 3.

# Model 5300B

## RECORDING AMPLIFIER

The optional recording amplifier (mono Model 5309 or stereo Model 5310) is available for recording on deck #3 independent of the other two decks. Thus, the 5300 can operate as three separate machines; a record/playback deck and two playback only decks.



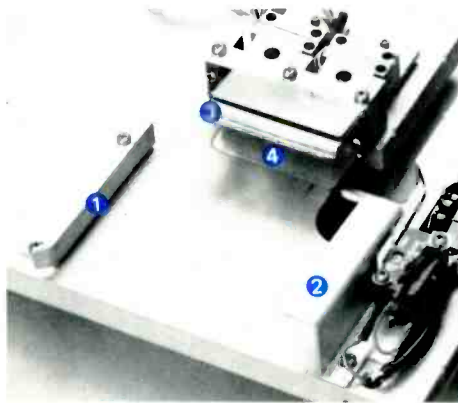
## UNIQUE CARTRIDGE GUIDANCE SYSTEM

A simple yet extremely effective system for positive and accurate cartridge positioning.

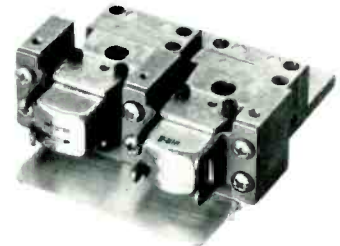
The left side guide **1** is straight forward. The guide on the right **2** has a tapered overlap which directs the cartridge down into the head.

Directly above the head a high-tensile beryllium clamp **3** locks the cartridge into place. The tension provided by this clamp insures positive locking regardless of variations in cartridge machines.

Even the head shielding **4** located under the head is recessed into the deck to provide a perfectly flat surface for optimum cartridge seating.

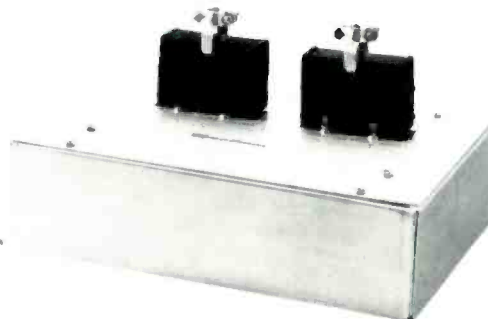


## PHASE LOK III HEAD BRACKET



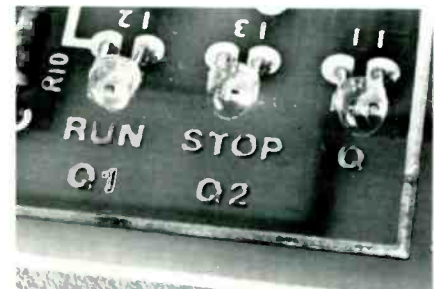
For optimum adjustment of stereo phasing, these machines have the Phase Lok III Head Bracket. The Phase Lok III head bracket has an azimuth adjustment which is completely independent of the height and zenith adjustments.

## AUDIO SWITCHER



Provides a single balanced output. Switchers can be tied together to provide a single balanced output from up to three 5300B machines. Selects last deck started and mutes other decks. If a wrong deck is started, pressing another start button will immediately mute the first deck and put the newly started deck on the output. The first deck started will continue to run, and will re-cue itself.

## LED STATUS LAMPS

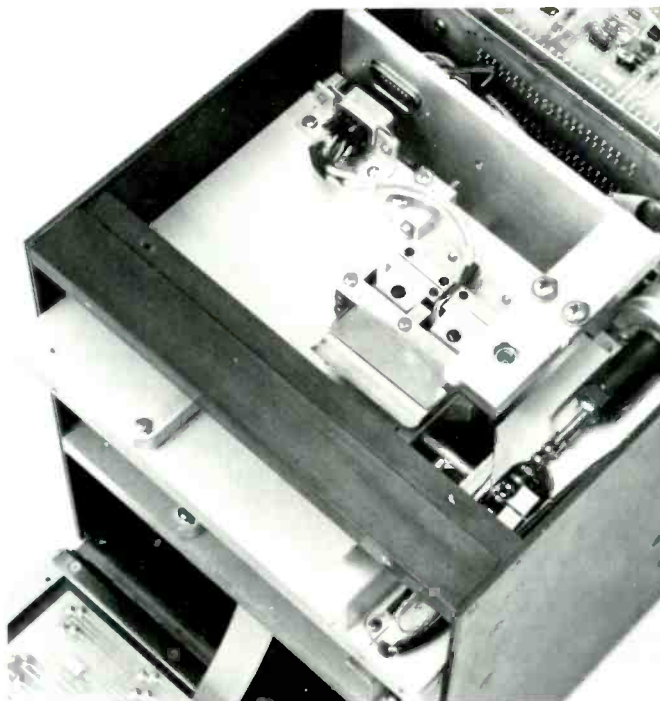


Servicing the equipment at the rear panel is simplified by LED lamps located on the pc cards. These provide a visible indication of the function being performed by the machine.

## REMOVABLE DECKS

Removing a Spotmaster deck couldn't be easier. The front panel is hinged, the decks pull out, and all electrical connections are made through a connector that is a part of the deck.

This photograph shows the top bearing support and aluminum bulkhead which provides the mechanical reference for the motor and the decks.



Electronics for the decks are on individual plug-in pc cards. Also shown above are the mating connectors which are supplied with the machine. The record connector is in place (above the fuse holder) behind a protective shield.

## SPECIFICATIONS

### Tape Speed:

7.5 ips (19.05 cm/s.)

### Timing Accuracy (at 7.5 ips):

0.1%

### Tape Start/Stop Time:

0.1 second maximum.

### Wow and Flutter:

0.15% peak weighted, 0.2% RMS unweighted.

### Noise (Reproducer):

Monophonic: 62 dB or better below reference of 400 Hz at 3% THD; 54 dB below 160 n Wb/m at 1 kHz.

Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD; 52 dB below 160 n Wb/m at 1 kHz.

### Distortion:

2% or less record-to-playback at 160 n Wb/m at 1 kHz.

### Equalization:

NAB, IEC, CCIR as specified.

### Frequency Response:

±2 dB from 50 Hz to 15 kHz exclusive of head contour effect.

### Crosstalk (magnetic head limited):

50 dB.

### Audio Output:

Maximum adjustable level +8 dBm from 160 n Wb/m at 1 kHz; 600 ohms (transformer) balanced.

### Peak Output Level:

+20 dBm before clipping

### Cartridge Size:

A and B.

### Cue Signals:

Relay contact closure for external control (150 Hz, 8 kHz). External cue input/output available at remote control for other control functions.

### Ambient Operating Temperature:

0° to 55°C (32° to 132°F).

### Power Requirements:

105 to 125V or 210 to 230 V 60 Hz.

105 to 125 V or 210 to 230 V 50 Hz (optional).

120 watts maximum.

### Mounting:

Desk top standard. Adaptors for rack mounting optional.

### Dimensions:

10 $\frac{3}{8}$ " H × 8 $\frac{5}{8}$ " W × 13 $\frac{3}{8}$ " D (27 × 22 × 34 cm).

### Weight (packed):

43 lbs. (19.5 kg).

## RECORDER AMPLIFIER

### Input Impedance:

Microphone: 150 ohms, (transformer) balanced floating.

Line: 50K ohms (transformer) balanced floating.

### Input Levels:

Microphone: -70 to -24 dBm

Line: -24 to +20 dBm (50 mV to 7.7 V)

### Power Requirements:

105 to 125 V/210 to 230 V; 50 or 60 Hz

### Dimensions:

5 $\frac{1}{4}$ " H × 8 $\frac{5}{8}$ " W × 13 $\frac{1}{2}$ " D (13.3 × 22 × 34 cm)

### Weight:

16 lbs. (7.25 kg.)

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
5301B	906-5301B	Mono Playback (A & B Size)
5302B	906-5302B	Mono Playback (A & B Size) with Cue Tones
5303B	906-5303B	Stereo Playback (A & B Size)
5304B	906-5304B	Stereo Playback (A & B Size) with Cue Tones

## ACCESSORIES (FOR 5300B SERIES)

SWSE	STOCK NO.	DESCRIPTION
	904-5000	Audio Switcher for 3 Decker
	906-5309	Recorder, Mono for 3 Decker, without Q Trip Option
	906-5310	Recorder, Stereo for 3 Decker, without Q Trip Option
	906-5311A	Secondary (150 Hz) and Tertiary (8 kHz) Q Trips for Mono Recorder
	906-5311B	Secondary (150 Hz) and Tertiary (8 kHz) Q Trips for Stereo Recorder
	906-5306	Rack Mount (1) Unit, 3 Decker
	906-5307	Rack Mount (2) Units, 3 Decker
	906-5508	Additional Cost for 220V/50 Hz Power Source
	919-1806	Extender PC Board
	927-0047	Remote Control Panel for 5300 A/B Series
	927-0048	Remote Control Panel for 5300 A/B Series with Companion Recrd Amplifier

**FEATURES**

- Five Decks In One Space-Saving Package
- Direct Drive Motor
- Low Voltage Solenoid Switching
- Independent Electronics For Each Deck

**GENERAL DESCRIPTION**

Model 5500 Spotmaster 5-deck machine incorporates the latest Spotmaster design features: solid-state/integrated circuit design, dependable direct-drive hysteresis synchronous motor, solid-state, low-voltage solenoid switching, and the unique Phase Lok III head bracket. It is available for monaural or stereo and for NAB or IEC/CCIR equalization.

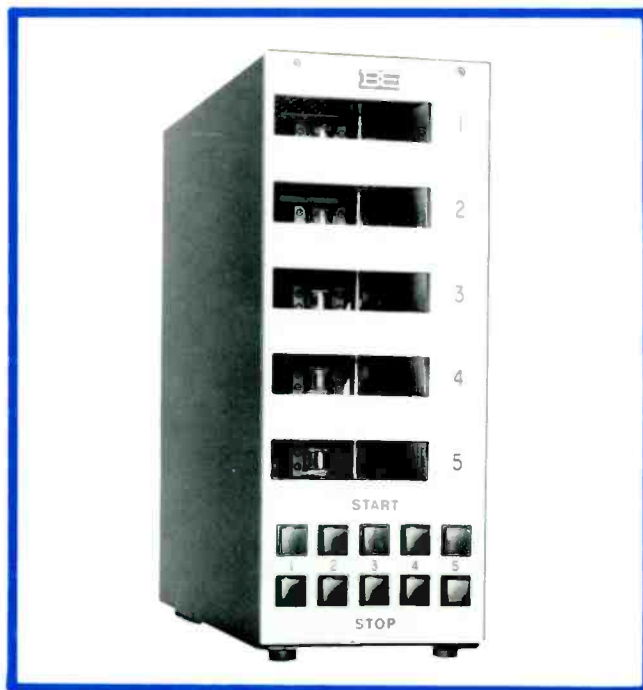
**MECHANICAL DESIGN** — Mechanical and structural innovations include the use of a hinged front panel which folds down to provide complete access to the decks. The top four decks slide out independently for adjustment and routine cleaning. Each deck is a solid piece of machined aluminum designed to insure consistent alignment between the tape cartridge and the PHASE-LOK III head bracket.

The electronic circuits are constructed on printed circuit cards and are accessible from the rear panel of the unit. Front panel controls are connected to this package using modern ribbon cable eliminating bulky multiple wire harnesses.

**OPTIONS** — A choice of options allows the broadcaster to customize his unit to his specific needs in mono or stereo, with or without cue tones. The cue tone option package includes the 150 Hz and 8 kHz sensors for sequential

**SPECIFICATIONS**

- Tape Speed:**  
7.5 ips (19.05 cm/s).
- Timing Accuracy (at 7.5 ips):**  
0.1%
- Tape Start/Stop Time:**  
0.1 second maximum.
- Wow and Flutter:**  
0.15% peak weighted, 0.2% RMS unweighted.
- Noise (Reproducer):**  
Monophonic: 62 dB or better below reference of 400 Hz at 3% THD; 54 dB below 160 n Wb/m at 1 kHz.  
Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD; 52 dB below 160 n Wb/m at 1 kHz.
- Distortion:**  
2% or less record to playback at 160 n Wb/m at 1 kHz.
- Equalization:**  
NAB, IEC, CCIR as specified.
- Frequency Response:**  
±2 dB from 50 Hz to 15 kHz exclusive of head contour effect.
- Crosstalk (magnetic head limited):**  
50 dB.
- Audio Output:**  
Maximum adjustable level +8 dBm from 160 n Wb/m at 1 kHz; 600 ohms (transformer) balanced.
- Peak Output Level:**  
+20 dBm before clipping
- Cartridge Size:**  
Size A.



switching or other cueing assignments in addition to the 1 kHz stop tone provided on each machine.

**REMOTE CONTROL/AUDIO SWITCHER** — Accessories include a complete remote control duplication of front panel functions and the 904-5001 audio switcher.

**RECORDING AMPLIFIER** — A companion recording amplifier, (mono Model 5309A or stereo Model 5310A) is available for recording on deck #5 independent of the other four decks.

- Cue Signals:**  
Relay contact closure for external control (150 Hz, 8 kHz). External cue input/output available at remote control for other control functions.
- Ambient Operating Temperature:**  
0° to 55°C (32° to 132°F).
- Power Requirements:**  
105 to 125 V or 210 to 230 V, 60 Hz; 105 to 125V or 210 to 230 V; 50 Hz (Optional). 120 watts maximum.
- Mounting:**  
Desk top standard. Adaptors for rack mounting optional.
- Dimensions:**  
14¾" H × 5¾" W × 17" D (37.5 × 14.6 × 43.2 cm)
- Weight (Packed):**  
52 lbs. (23.6 kg).

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
5501	906-5501	Mono Playback
5502	906-5502	Mono Playback with cue tones
5503	906-5503	Stereo Playback
5504	906-5504	Stereo Playback with cue tones
	906-5508	50 Hz Power Conversion
	906-5309A	Recorder, Mono for 5500 Series
	906-5310A	Recorder, Stereo for 5500 Series
	906-5311	Secondary & Tertiary Q Trips



### FEATURES

- Compact Design For Playback Of 5 Or 10 "A" And "B" Size Cartridges
- Complete Range Of Accessories: Switcher, Recorder, Remote Control
- Independent Deck Electronics

### GENERAL DESCRIPTION

Model 605C (Five-Spot) and 610CR (Ten-Spot) multiple deck cartridge units are used for manual operation or may be incorporated into small programmed automation systems.

Each deck is capable of independent operation and each deck is independently removable. The motor with capstan drive and power supply is common to all decks. Pressure roller force and cartridge indexing adjustments may be made from the front without removing the deck. Outputs are separately adjustable.

Both the Model 605C and 610CR are available with transformer output or with emitter follower output. The 605C can be supplied for desk mounting housed in an attractive formica cabinet, or, for rack mounting. The 610CR is supplied for rack mounting.

**CUE TONES** — Each deck has one or, optionally, two cue tones as required. A third cue tone can be supplied as an external unit.

### SPECIFICATIONS

**Equalization:**  
NAB standard.

**Frequency Response:**  
±2 dB, 50 Hz - 12 kHz.

**Distortion:**  
2% or less at normal recording level.

**Noise:**  
-45 dB, ref. 160 n Wb/m.

**Wow and Flutter:**  
.2% or less (RMS).

**Tape Speed:**  
7.5 ips (3.75 ips available).

**Output Level:**  
Adjustable to +4 dBm at 600 ohms, peak output +12 dBm.

**Output Load Impedance:**  
600 ohms (emitter-follower). \*600/150 ohms (transformer output).

**Cueing Accuracy:**  
.1 second.

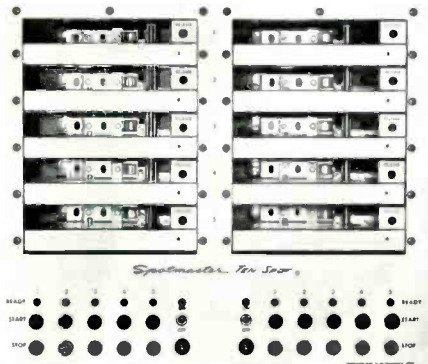
**Cueing Tones:**  
Primary - 1,000 Hz (Stop/Re-Cue). \*Cue Trip No. 1: 150 Hz (end of message). \*Cue Trip No. 2: 8,000 Hz (auxiliary).

**Playing Time:**  
3 sec. to 16 mins. per deck at 7.5 ips using NAB-type A&B cartridges.

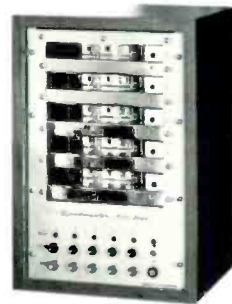
**Capacity:**  
605C: 5 type A or B cartridges; 610: 10 type A or B.

**Power Supply:**  
Transistor, filtered, zener regulated.

**Power Requirements:**  
108 - 125VAC, 60 Hz.; (115V/50 Hz, or 220V/50 Hz optional). 75 watts - 605, 150 watts - 610



Model 610CR



Model 605C

**AUTOMATIC SWITCHER\*** — Plug-in facilities are provided on the rear panel for use with the Model SW-5B Audio Switcher. This unit, which has a balanced transformer output, automatically connects one program at a time to the program line and mutes non-active channels.

**REMOTE CONTROL\*** — Remote control circuitry is provided for use when the equipment is installed at a location other than the operating position. The Model BE-106 remote control and sequencer (next event) indicator unit may be used to provide the remote control function.

**RECORDING MODULE\*** — Removing playback deck #5 and inserting the optional MRM-600A recording module provides this system with record capability on deck #4.

#### Dimensions:

605: 9-13/16" W × 14" D × 15 3/4" H  
610: 19" W × 15" D × 15 3/4" H

#### Mounting:

605: Walnut Formica Cabinet (Model 605C).  
605: In 19" rack panel with cartridge storage cubicle (Model 605CR).  
610: 19" rack (Model 610CR).

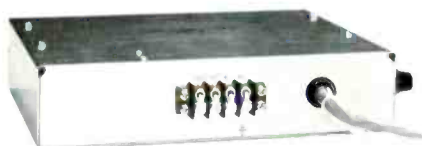
#### Weight:

605: 44 lbs.  
610: 89 lbs.

\*Optional

See price list for ordering information.

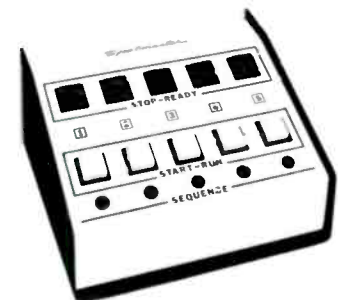
### OPTIONAL ACCESSORIES



**SW-5B AUDIO SWITCHER** — Provides a single transformer balanced output automatically muting non-active channels. Switches any of five audio channels to program line.



**MRM-600A RECORDING MODULE** — Remove one playback deck, insert MRM-600A for instant conversion to record capability.



**BE-106 REMOTE CONTROL** — Illuminated Start/Stop switches plus "electronic bookmark" sequence indicator.

**FEATURES**

- Five Available Models, Including Mono and Stereo Units
- Two Cue Tones Are Standard
- Plug-In Record and Audition Modules For Mono Units
- Advanced Solid-State Integrated Circuit Design
- Economical Price
- Broad Application
- Excellent Performance And Value



Model 2000RP  
 Mono Record/Playback

**GENERAL DESCRIPTION**

**ECONOMICAL PRICE** — Series 2000 machines are economy priced yet they contain many of the features and performance characteristics of the higher priced Spotmaster designs. Among these features are solid-state control switching, integrated circuit amplifiers, active cue tone filters and a wide selection of models.

**AVAILABLE MODELS** — These machines are available in mono and stereo, playback and record/playback configurations. All units accept A and B size cartridges and when used in a table-top situation they will also accept the wider C size cartridges.

**ADVANCED ELECTRONICS** — Series 2000 is an up-to-date design featuring the latest in solid-state/integrated circuit techniques. The electrical performance of these machines is better than competitive designs and compares favorably with our top-of-the-line 3000 and 4000 Series. The audio output is a balanced 600 ohm transformer and the output level is continuously adjustable to +8 dBm with clipping occurring at +16 dBm. Noise and distortion characteristics are very good; better than 54 dB down and 2% respectively. The power supply is fully regulated and protected. FET muting is incorporated in all stereo units.

**AUDITION MODULE** — A well accepted feature of the mono unit is a front panel plug-in audition module which provides a convenient way of listening to tapes prior to their use. This module has a small speaker and a 5 watt

amplifier for driving a large external speaker. A record module can also be used in the same place and a mono unit can be used for both record and audition purposes by simply switching these modules.

**RECORD AMPLIFIER** — The record amplifier has both high and low-level inputs which are selected by jumper changes on the circuit board. Both inputs have exceptionally wide dynamic operating ranges and can accept a wide range of signals without introducing distortion or clipping.

**CUE TONES** — The 1 kHz and 150 Hz cue tones are standard in all Series 2000 machines. As an option the 150 Hz tone can be 8 kHz.

**MECHANICAL CONSTRUCTION** — Series 2000 machines use an indirect drive hysteresis synchronous motor, the micro-adjust head bracket with Nortronic heads, a thick steel deck with additional support brackets, automatic pressure roller engagement and mechanical release. These mechanical features are evolutions of Spotmaster designs which have been proven in thousands of machines in use throughout the world. Their reliability and performance are well established.

**WORLD WIDE USAGE** — Several thousand Series 2000 cartridge machines are in use worldwide. Performance is excellent in monaural or stereo modes and with 60 Hz or 50 Hz power source.

## MONAURAL MODELS



Model 2000P Mono Playback

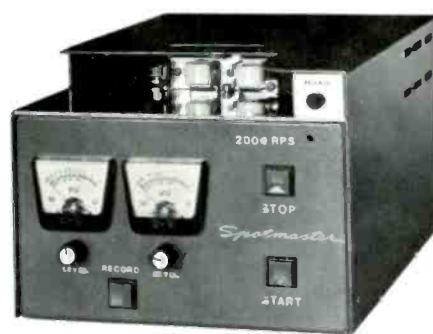


Model 2000PA Mono Playback/Audition

## STEREO MODELS



Model 2000PS Stereo Playback



Model 2000RPS Stereo Record/Playback

## SPECIFICATIONS

**Tape Speed:**

7.5 ips (19.05 cm/s).

**Timing Accuracy (at 7.5 ips):**

0.2%

**Tape Start/Stop Time:**

80 milliseconds maximum.

**Wow and Flutter:**

0.2% RMS (unweighted), 0.15% peak (unweighted).

**Noise (Reproducer):**

Monophonic: 62 dB or better below reference of 400 Hz at 3% THD; 54 dB below 160 n Wb/m at 1 kHz.

Stereophonic: 60 dB or better below reference of 400 Hz at 3% THD; 52 dB below 160 n Wb/m at 1 kHz.

**Distortion:**

2% or less at +16 dBm output.

**Equalization:**

NAB, IEC, CCIR as specified.

**Frequency Response:** $\pm 2$  dB from 50 to 15 kHz exclusive of head contour effect.**Crosstalk (magnetic head limited):**

50 dB.

**Audio Output:**

Maximum adjustable level +8 dBm from 160 n Wb/m at 1 kHz; 600 ohms (transformer) balanced.

**Peak Output Level:**

+16 dBm before clipping.

**Drive:**

Hysteresis synchronous, indirect.

**Recorder Input Levels:**

Microphone: -70 to -25 dBm.

Line: -32 to +18 dBm.

**Cue Tones:**

1 kHz and 150 Hz are standard.

**Remote Control:**

24-pin connector. Stop, Start, TELCO telephone answering accessory and 150 Hz cue tone logic ground with 40 ma capability.

**Power Requirements:**

105 to 125V/210 to 230V; 60 Hz.

105 to 125V/210 to 230V; 50 Hz (optional).

**Power Consumption:**

45 Watts.

**Dimensions:**5 $\frac{1}{2}$ " H, 8 $\frac{1}{2}$ " W, 12" D (14.3  $\times$  21.6  $\times$  30.5 cm).**Weight (packed):**

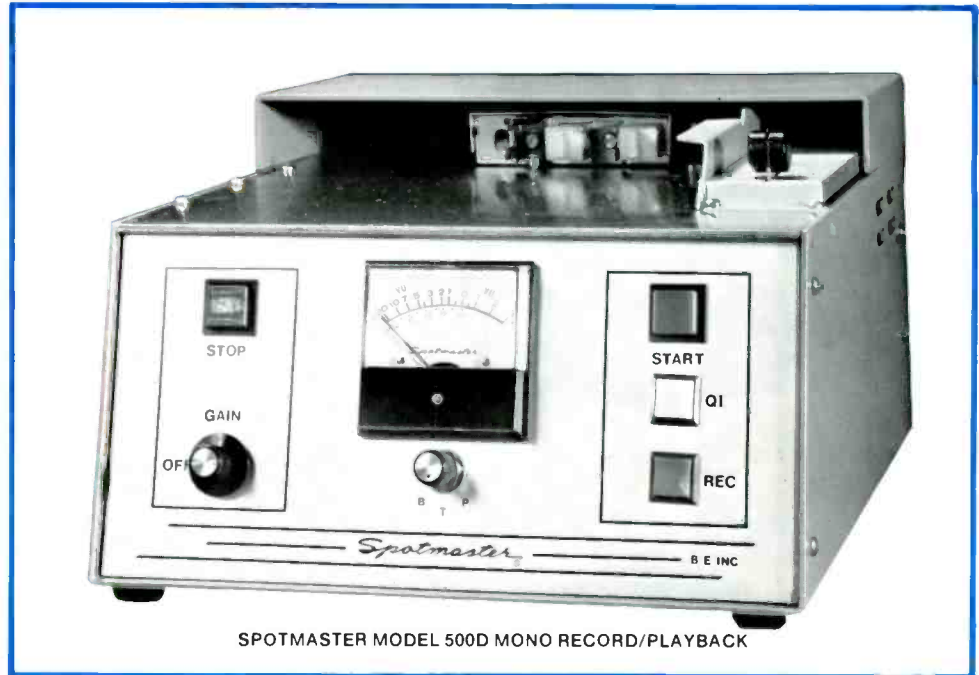
20 lbs. (9.0 kg).

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
2000P	906-2000	Series 2000, Monaural Playback, Compact Unit
2000RP	906-2001	Series 2000, Monaural Record/Playback Compact Unit complete with Factory Installed Record Module and Head
2000PA	906-2002	Series 2000, Monaural Playback/Audition Compact Unit complete with Factory Installed Audition Amplifier Module
2000PS	906-2020	Series 2000, Stereo Playback, Compact Unit
2000RPS	906-2021	Series 2000, Stereo Record/Playback Compact Unit complete with Factory Installed Record Module and Head

**FEATURES**

- Worldwide Favorite
- Complete Range Of Models At Moderate Prices
- 500 D Features Auto-Matic Record Cancel, Built-In Mike Pre-Amp And Full Auxiliary Cue Tone Options
- Handles A, B or C Cartridges



SPOTMASTER MODEL 500D MONO RECORD/PLAYBACK

**GENERAL DESCRIPTION**

The value and the wide acceptance of the 500 Series is evidenced by the continuing high demand for these machines. Many years after their introduction, they still remain the traditional favorite of many broadcasters. Reasons for their continuing popularity include low initial cost, simplicity of operation, proven reliability, and low on-going maintenance costs.

500 Series machines feature the Micro-Adjust precision head bracket, modular construction, self-cancelling record pre-set, separate record and playback heads and transformer output.

**CHOICE OF MODELS** — The 500 Series is available in mono playback and record/playback, in desk top or rack mounting units. A record/playback/delay unit is also available. The rack mounting units are self-contained and require no external adapters.

**DIAGNOSTIC METERING** — All record units have built-in diagnostic metering for monitoring the cue tone and bias levels as well as the record levels.

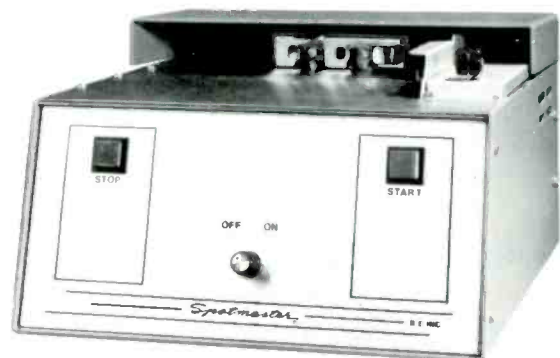
**ALL CARTRIDGE SIZES** — These machines accept A, B and C size cartridges. One machine can handle all your cartridge requirements.

**RACK MOUNT MODELS** — These are self-contained units with their own heavy-duty chassis slides for installation in a standard 19-inch equipment rack.

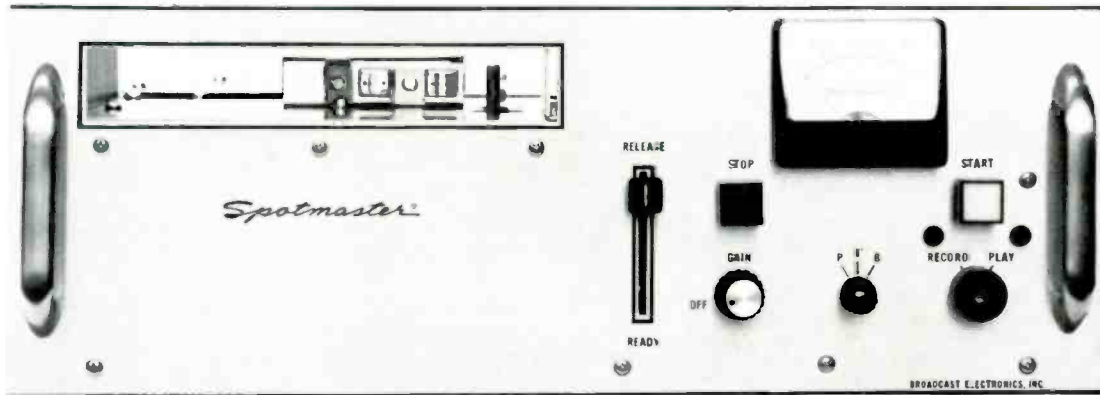
**MICROPHONE PREAMPLIFIER** — This is standard in mono record/playback desk top units and is available as an option in all other record units.



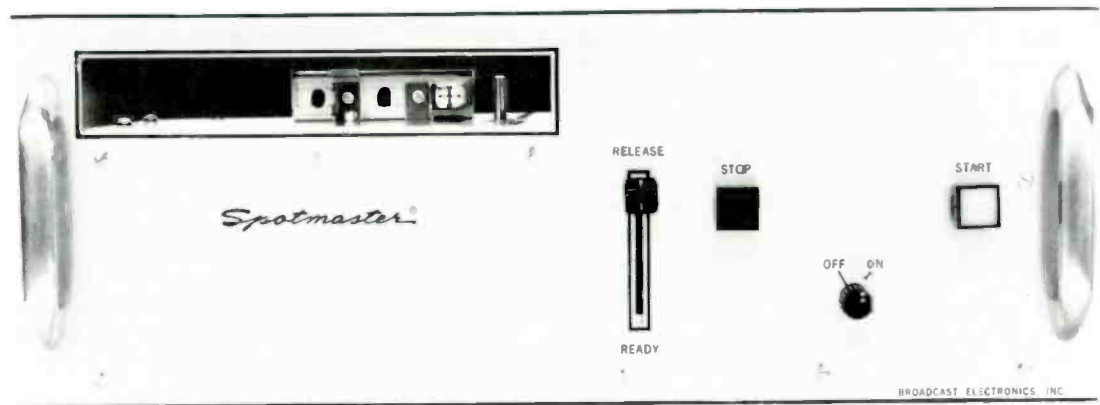
500 D/DL Record/Playback/Delay. Records, stores and plays back any program material for pre-determined length on standard cartridges. Also normal record/playback functions.



505 D Monaural Playback. Desk mount unit, plays back A, B and C size cartridges. Companion to the Spotmaster Model 500D Record/Playback



500 DR. Rack Mount 500 D in 7" panel height. Chassis rolls out for access. Optional mike pre-amp.



505 DR. Rack Mount Mono Playback Unit. Accepts A, B, or C size cartridges.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
500D	900-0500	Monaural Record/Playback Unit, Compact
500DR	901-0500	Monaural Record/Playback Unit, Rack Mounting with Slides
505D	900-0505	Monaural Playback Unit, Compact
505DR	901-0505	Monaural Playback, Rack Mounting with Slides
500D/DL	900-0502	Delay, Record/Playback Unit, Compact

**SPECIFICATIONS**

**Tape Speed:**  
7.5 ips (19.05 cm/s.)

**Timing Accuracy (at 7.5 ips):**  
0.1%

**Tape Start/Stop Time:**  
0.1 second maximum.

**Wow and Flutter:**  
0.15% peak weighted.  
0.2% rms unweighted.

**Noise (Reproducer):**  
52 dB below 160 n Wb/m @ 1 kHz.

**Distortion:**  
2% or less record to playback at 160 n Wb/m at 1 kHz.

**Equalization:**  
NAB, IEC, CCIR as specified.

**Frequency Response:**  
±2 dB from 50 Hz to 12 kHz exclusive of head contour effect.

**Crosstalk (magnetic head limited):**  
50 dB.

**Recorder Input (Line):**  
0.1 Volt minimum.

**Recorder Input (Mike):**  
0.25 Volts (-64 dBm) minimum.

**Audio Output:**  
+4 dBm (600 ohm transformer); peak output +14 dBm.

**Cue Tones:**  
1000 Hz standard;  
150 Hz optional;  
8 kHz optional.

**Power Requirements:**  
105 to 125 VAC, 60 Hz, 50 watts.  
115 to 220 VAC, 50 Hz optional.

**Motor Drive:**  
Hysteresis synchronous, indirect.

**Size (500 and 505 desk-top units):**  
10 1/4" W × 12 3/4" D × 6 3/8" H  
(26 × 32.4 × 16.9 cm).

**Size (rack-mount units):**  
18" W × 16" D × 7" H  
(45.7 × 40.6 × 17.8 cm).

**Weight (packed):**  
Model 500: 22 lbs. (9.9 kg)  
Model 505: 19 lbs. (8.6 kg)  
Model 500 DR: 28 lbs. (13.0 kg)  
Model 505 DR: 28 lbs. (13.0 kg)

**FEATURES**

- Simulation And Training Systems
- Sound Effects And Display Audio
- Low-Budget Automation Systems
- Automated Telephone Answering Systems

**DESCRIPTION**

Cartridge machines are extremely flexible and economical devices for implementing any system in which pre-recorded audio information is made available to a listening audience.

Broadcast Electronics has a unique capability in designing and implementing such systems. The Spotmaster product line is the most comprehensive of its type. With the widest range of accessories including programmable sequencers, switchers, multi-deck machines, and telephone answering equipment, this equipment can be used to implement an endless variety of systems.

**SIMULATION AND TRAINING SYSTEMS** — Spotmaster type cartridge equipment has, for many years, been used to provide programmable audio commands in sophisticated aircraft simulation systems for pilot training.

**SOUND EFFECTS AND DISPLAY AUDIO** — Amusement parks, museums, and displays can centralize all audio sources in a single or several multiple cartridge machines. Separate outputs from each deck can be routed to individual areas and controlled separately. Or the deck outputs may be combined into a single output. The auxiliary cue tones are used to sequence separate cartridges into a single unified program. The single cartridges are easily changed to vary the program. The auxiliary cue tones may also be used to control associated slide projectors or other devices.

**PILOT WEATHER INFORMATION SYSTEM** — weather conditions at 15 airports are available to the caller.

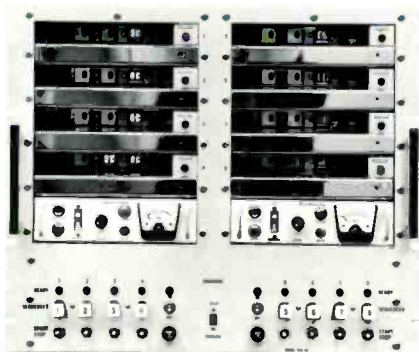
**LOW BUDGET AUTOMATION SYSTEMS** — Spotmaster cart machines and accessories, including reel-to-reel recorders, can be used to provide a complete format of commercials, station breaks, music, etc., for many hours of air time with limited or no operator intervention. Thus the small station can achieve many of the benefits of automation without the large investment required for a full scale system.

**AUTOMATED TELEPHONE ANSWERING SYSTEMS** — Cart machines and automatic telephone answering equipment can be used for information dissemination systems. Weather information, news bulletins, political statements, or any similar data which can be expressed in a pre-recorded message can be made available to any caller. The messages can be quickly up-dated when necessary and provision can also be made for recording incoming messages from the caller.

Prices and ordering information available on request.



**MODEL 610CX AUTOMATIC AUDIO SYSTEM**



The SPOTMASTER 610CX is an example of a basic self-contained system which can be used to fulfill many applications. The system consists of six playback and two record/playback channels plus a programmable sequencer. This unit can provide up to two hours of programmable audio. The two record/playback channels may be utilized for recording purposes while the other playback channels are in use. The 610CX may be operated as one 8-channel system, or as two 4-channel systems. A front-panel "Split-Combined" function switch is provided for the selection of this mode of operation.

The Automatic Audio System is equipped with an integral sequential switcher that may be programmed to automatically playback any of two to eight cartridges in any desired sequence.

Prices and ordering information available on request.

**SPECIFICATIONS**

**Frequency Response:**  
 ±3 dB, 50 Hz - 12 kHz, ±5 dB, 50 Hz - 15 kHz

**Output Level:**  
 -4 dBm, ±3 dBm

**Cueing Tones:**  
 1 kHz, 150 Hz

**Tape Speed:**  
 7.5 ips

**Drive:**  
 Each 4 channel unit is driven by a common capstan thru a belt and pulley

**Power:**  
 108 - 125 VAC, 60 Hz, 200 watts

**Distortion:**  
 2% or less

**Wow and Flutter:**  
 0.2% RMS

**Inputs:**  
 (2) microphone, 250 mv sens. low impedance,  
 (2) Line, 0.1 v sens., 2.5 k nom. impedance

**Cartridges:**  
 NAB types A, B

**Mounting:**  
 Standard 19" rack, 15 3/4" high

**Weight:**  
 95 pounds

**TELCO 80/91 Series**

- Provides Automatic Answering And Message Recording
- Models Available For All Spotmaster Machines

**TELCO 80 - (904-0080)** — Record/Play Telephone Answering Interface System for use with Spotmaster Cartridge Machine Series 400/500/605/610

**TELCO 91 - (904-0091)** — Record/Play Telephone Answering Interface System for use With Spotmaster Cartridge Machine Series 3000/4000

Spotmaster Telco 80 or Telco 91 are interface devices installed between cartridge machines and the telephone company coupler to provide automatic answering and message recording. All Spotmaster cart machines may be adapted for use with Telco equipment.

**AUTOMATIC PLAY** — In this position the play machine will automatically answer the call at the end of the first full ringing cycle and give out the prerecorded message to the caller. The phone line is released when message recues.

**MANUAL PLAY** — This is used in conjunction with a telephone handset. The phone can be answered by an operator, the caller can tell operator what message he/she wants to hear. The operator inserts cartridge, pushes manual play and the prerecorded message will play. The operator can stay on line or hang up the phone and be ready for the next call. The phone line is held by the TELCO even if the handset is replaced in the cradle, until the message recues.

**AUTOMATIC RECORD** — In this position the record machine will automatically answer the call at the end of the first full ring and record the incoming message. The machine will continue to record until the caller hangs up. RDL recorder connector is equipped with a silence sensor which will release the phone line after 15 seconds of silence.

**MANUAL RECORD** — This is used in conjunction with the telephone handset. The phone can be answered by an operator. When the caller is ready, the operator can insert cartridge and push manual record and the caller's message will be recorded. The phone line is held by the TELCO, even if the handset is replaced in the cradle, until the message recues.

TELCC 80



TELCO 91

**AUTOMATIC PLAY AND RECORD** — In this position the play machine will automatically seize the phone line at the end of the first full ring and give a prerecorded announcement to the caller. At the end of the recorded announcement a 150 Hz (Q1) prerecorded tone will start the recorder and record the caller's reply. The sequence can be ended in several ways: If the calling party hangs up before the end of the sequence, the recorder connector will release the phone line. At this time, the recorder, if running, will be stopped, but the play unit will be allowed to recue.

**SPECIFICATIONS**
**Dimensions:**

10 1/2" wide x 2 3/4" high x 8 3/8" deep.

**Weight:**

8 lbs. (3.6 kg)

**Connecting Cable:** Provided with 15 feet of cabling and mating connector for W. E. RDM/RDL Connector. Also provided with 15 feet of cabling and connectors for two Spotmaster cartridge units.

**Power:**

Required voltage supplied from associated cartridge machine.

**Play Audio Monitor:**

Allows normal use of cartridge machine without disconnecting the TELCO 80/91.

See price list for ordering information.

**TELCO III, IV, V and VI Series**

- Provides Automatic Response To Incoming Calls
- Interfaces Between Spotmaster® Cartridge Machine And Bell Recorder Coupler

The Telco III, IV, V & VI are interface devices which provide automatic answer only capability. All Spotmaster record-playback and playback units can be adapted for Automatic telephone response. Install the Telco between the unit and a standard Bell System RDM Recorder Coupler. Allows pre-recorded messages, advertising, audio reports, etc. to automatically respond to incoming calls. The Telco provides the required signal level and switching interface between the cartridge machine and Bell KS19522-L1 (or L2) recorder coupler. Models are available for automatic or combined manual/automatic operation. See price list for ordering information.



**TC-4 COUNTER** — Registers the number of incoming calls to the Spotmaster unit. Counter installs under tape deck lid.

**AUDIO SWITCHERS**

Audio switchers are used with multiple cart machines or multiple deck machines to provide a single balanced output. The switcher selects the last deck started and mutes the other decks. If a wrong deck is started, pressing another start button will immediately mute the first deck and put the newly started deck on the output. The first deck started will continue to run, and will re-cue itself.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
SW5B	904-0005	605/610 Audio Switcher switches any of five audio channels to program line (two required for 610)
SW5C	904-0012	500 Series Audio Switcher for up to five units
SW5D	904-0009	2000 Series Audio Switcher for up to five units
SW5E	904-5000	5300A/B Audio Switcher for three decks. Switchers can be tied together to provide a single balanced output from up to three 5300 A/B machines.
SW5F	904-5001	5500 Audio Switcher for five decks.



**REMOTE CONTROL UNITS**

Units are available for remote control of practically all Spotmaster cartridge machines.



BE106 — 5 start/stop functions and sequence indicator for Model 605.



BE102 — Start/Stop Function for three 500 machines.



SERIES 3000 REMOTE CONTROL PANEL for record/playback unit with cue tones and fast forward option.



SERIES 5300 REMOTE CONTROL PANEL for use with 5300 A/B Series with companion record amplifier.



SERIES 3000 REMOTE CONTROL PANEL with start/stop and fast forward switches for 5 Series 3000 machines.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
BE-102	904-0102	500 Series, Remote Control, 3 start/stop functions w/ 15 ft. cable.
BE-106	904-0106	605 Remote Control, 5 start/stop functions and sequencing indicator, illuminated buttons w/ 15 ft. cable.
3000	906-3016	3000 Remote Control Panel, START for 5 Units
3000	906-3019	3000 Remote Control Panel, Single Record/Playback Model
3000	906-3020	3000 Remote Control Panel, Single Playback (with cue tones)
3000	906-3021	3000 Remote Control Panel, Single Playback (without cue tones)
3000	906-3028	3000 Remote Control Panel, START/STOP and FAST FORWARD for 5 Units
4000	906-4015	4000 Remote Control Panel, START for 5 Units
4000	906-4016	4000 Remote Control Panel, Single Record/Playback Model
5300	927-0047	5300 A/B Series Remote Control Panel
5300	927-0048	Remote Control Panel for 5300 A/B Series with companion record amplifier





TW-200  
(With Timer)

**TW-100 TAPE CARTRIDGE WINDER** — The SPOT-MASTER Tape Cartridge Winder is a rugged, dependable and field tested tape cartridge winder which fills a need in every station using cartridge equipment. It is no longer necessary to limit your cartridge operation by using only stock sizes or to tie up your conventional tape equipment to load tape cartridges. The SPOTMASTER Winder will handle all reel sizes and runs at 22½" per second. Worn tape in old cartridges is easily replaced. New or old cartridges may be wound to any length. Tape Timer installed, optional. Model TW-200 includes timer.

**SPECIFICATIONS**

<b>Size:</b> 10" W x 20" L x 6¼" H.	<b>Drive Motor:</b> 4 pole induction.
<b>Weight:</b> 9½ lbs.	<b>Take Up Reel:</b> Up to 7¼" dia.
<b>Power Requirements:</b> 117 V ac, 50/60 Hz, 30 watts.	<b>Capacity:</b> Handles supply reel up to 3600' 1 mil lubricated tape.
<b>Winding Speed:</b> 22½ IPS.	



200-3T



TI-50

**TI-50 TAPE TIMER** — Precise tape or speed measuring device with scale calibrated in minutes and seconds at 7.5 and 3.75 ips. Features time reset knob and strobe disc for speed checks. Use with reel-to-reel decks, cart machines and tape winder.



TD1A

**TAPE ERASERS MODEL 200-3T AND MODEL TD1A** — Handy bulk erasers essential for cartridge users to assure clean, noiseless tape. Model 200-3T handheld, easy to use with 6-foot cord and pushbutton thumb switch. Model TD1A heavy-duty table top unit for cartridges, and equipped with spindle for reels up to 10.5 inches diameter, 1 inch wide. Both available in 117 or 230 VAC.



R-25015 Demagnetizer

**HEAD DEMAGNETIZER R-25015** — Indispensable for proper head maintenance to insure maximum frequency response, low tape noise...Special finished pole piece will not damage head surface...High impact molded epoxy case...117 VAC-50/60 Hz.



Recording Tape

**LUBRICATED TAPE** — World-renowned Scotch Recording Tape specifically recommended by Spotmaster for tape cartridge use...A heavy-duty tape featuring a special lubricated surface for cleaner, longer tape life... 1800 feet/7-inch reel or 3600 feet/NAB Hub.

Also available is the Formula-17 tape from Capital Magnetics.

**FIDELIPAC CARTRIDGES** — Series 300 ("A" size), 600 ("B" size), 1200 ("C" size) available empty or in assorted pre-loaded sizes. Custom winding provided. Complete stock of cartridge replacement parts.

Series 350 Cartridges are for use in stereo machines with inadequate tape guidance. The cartridge is adjustable for added precision.

The Master Cart series is for those broadcasters who seek maximum stereo performance.

Hot Tape (High Output Transfer Tape) is available in all Fidelipac cartridges listed above. See price list for complete listing of models, times, etc.

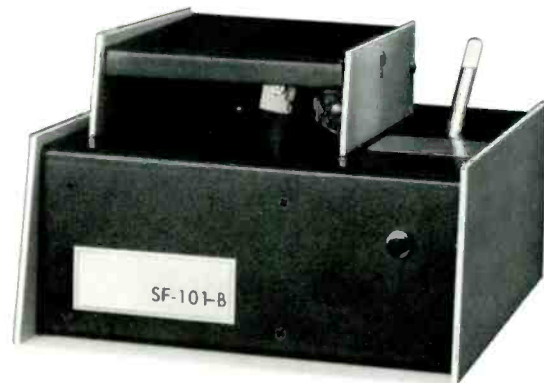


Fidelipac Cartridges

**SPLICE DETECTOR SF-101-B** — The SF-101-B utilizes the latest in opto-electronics to detect a splice in a tape cartridge. An audible tone alerts the operator when the splice is found (tone on/off switch is provided). Upon detection it stops the cartridge reel rotation immediately to position the splice beyond the recording point on the tape. Sensitivity may be adjusted to detect tape kinks, flaws, etc.

## SPECIFICATIONS

- Cartridge Size: A
- Speed of Operation: 25 to 30 ips
- \*Power Requirements: 115V, 60 Hz, 85 watts
- Weight (packed): 10 lbs.
- Dimensions: 7" W × 5" H × 9½" D
- \*Supplied with step-down transformer for 220V, 50/60 Hz operation.



SF-101-B

**MODEL A-2 AND AA-3 AUDIOPAK BROADCAST TAPE CARTRIDGES** — Designed to meet all NAB specifications for the type "A" continuous loop tape cartridge, Audiopak Model A-2 offers quality, reliability, and consistently high performance. Available empty or loaded with Formula 17 lubricated tape from 20 seconds to 10.5 minutes playtime.

The Audiopak AA-3 stereo phase cartridges meet or exceed NAB specifications and have a superior dynamic range due to a new high output/low noise tape formulation. Available in "A" size from 10 seconds to 10.5 minutes playtime.



A-2

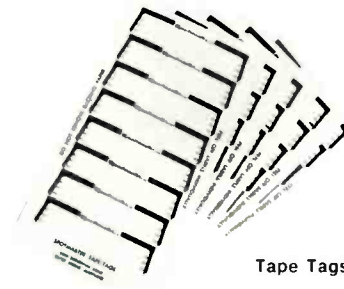
**TAPE TAGS** — Handy self-adhesive labels especially die-cut and color-coded for cartridge cataloging... and are easy to remove...Room for three typewritten lines...Sheets of 8 tags each...Eight distinctive colors.

**TAPE SPLICER** — Model R26038 is ideal for cartridge splicing...Two-position cutting assembly cuts tape on 45° bias then shifts for "Gibson-Girl" trim...Comes complete with tape...Extra splicing tape, too, in two convenient sizes.

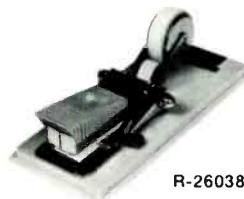
**BE-903 CLEANING FLUID** — Our exclusive special blend was developed to meet stringent broadcaster requirements...Quickly dissolves accumulated tape oxides...Will not harm heads or rubber parts...Safe to use...16 and 32 oz. cans.

**TEST TAPES** — Several types of test tapes are available including those made by Fidelipac, Standard Test Lab (STL) and Magnetic Radio Lab (MRL). Refer to price list for make and model.

See Price List for Ordering Information for all Tape Cartridge Accessories.



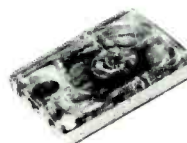
Tape Tags



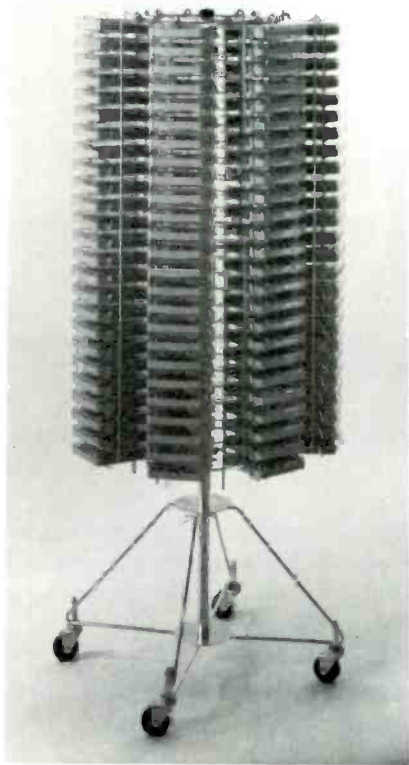
R-26038



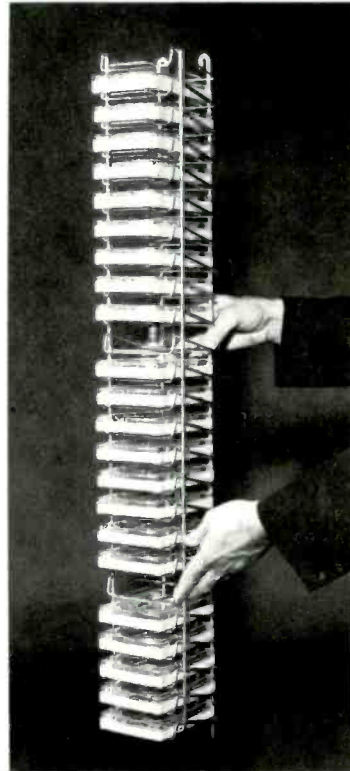
Cleaning Fluid



350STL



LS-200



RS-25 Rack Section

**WIRE UNITS**

**LS-200 LAZY SUSAN** — Holds 200 cartridges on rotating stand. Ideal for large storage situations requiring mobility. Equipped with 4 heavy-duty casters and constructed of heavy steel rod finished bright zinc. Each individual RS-25 section is removable. 51¼" high, 20½" diameter.

**MODULAR UNITS**

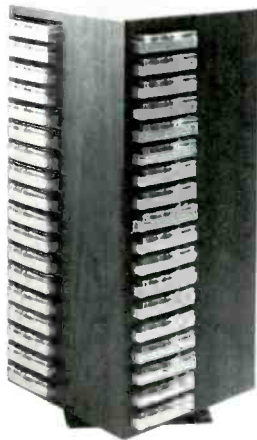
**DESK MOUNT MODULES** — Rotating racks present four-sided storage in attractive Walnut Formica. DM-72 holds 72 cartridges, measures only 22" H x 11" W x 11" D. DM-200 provides 200 storage slots. 29½" H x 15¾" W x 15¾" D.

**DM-40 WALNUT WOODGRAIN FINISHED CABINET** — Lazy Susan designed for tabletop operation; holds 40 "A" cartridges. 9½" W x 8" D x 11⅞" H. Weight 6½ lbs.

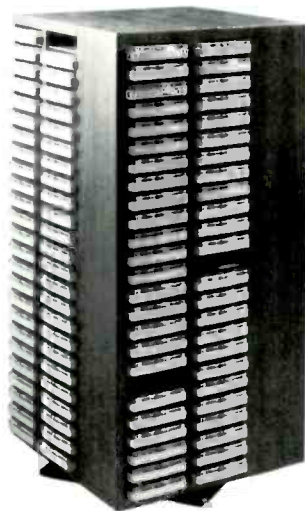
**DM-20 WALNUT WOODGRAIN FINISHED CABINET** — Holds 20 "A" cartridges. Units may be stacked; 9½" W x 4" D x 10⅞" H. Weight 3¼ lbs.

**RM-100 WALL MOUNT RACK** — Holds 100 "A" size cartridges in minimum space. Walnut Formica trim. 2' H x 2' W x 4¾" D.

**RM-20** is designed for standard 19" rack installation. Put vacant rack space to good use. Holds 20 "A" size cartridges in only 5¼" vertical space. Made of aluminum.



DM-72



DM-200



DM-40



DM-20



RM-20



RM-100

# Audio Console Applications

**RADIO BROADCAST**—With 15 different models from which to choose, one of Broadcast Electronics' monaural or stereo audio consoles is just right for use in any radio station, whether AM, FM or Short Wave.

**TELEVISION BROADCAST**—Wherever audio consoles are used in a television station, BE fills the need...from on-air audio control to production of commercials, PSA's and news.

**REMOTE/MOBILE BROADCAST**—BE consoles provide outstanding performance in remote broadcast situations such as news and sports coverage. Several portable models are available which are ideal for transporting and operating at out-of-the-way locations. Or incorporate a BE console into a mobile van for timely, convenient remote broadcasts.

**PRODUCTION AND RECORDING STUDIOS**—Production and recording studios appreciate the professional results obtained with Broadcast Electronics consoles when producing music, radio and TV commercials, and everything in-between.

**CATV**—Control all CATV audio, from on-line to production, with a Broadcast Electronics audio console.

**DISCO**—Several of BE's smaller consoles are easy-to-operate, yet flexible and rugged enough for use in Discos and Clubs...and at prices you won't mind paying.

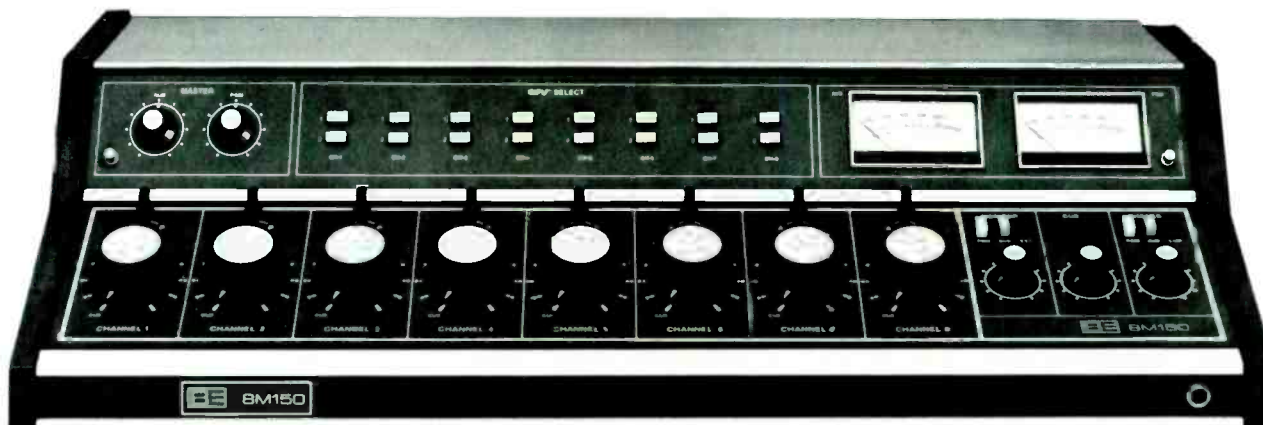


**FEATURES**

- Elegant Styling
- Plug-In Amplifiers
- .05% IM and THD Distortion
- $\pm 5$  dB, 30 Hz - 20 kHz Response
- High Or Low Level Input
- 8 Watt Monitor Amp
- Durable Front Panel



5M150



8M150

**GENERAL DESCRIPTION**

**CLEAN AUDIO** — State of the art technology and newly designed audio circuitry give the new Broadcast Electronics 150 Series consoles unequalled audio performance.

**FIVE OR EIGHT MIXER MODELS** — The Broadcast Electronics 150 Series dual-channel consoles are available in either five- or eight-input mixer models. They are human engineered for error free production or on air use.

**NEW, ELEGANT, DURABLE STYLING** — A totally new styling adds durability and enhances the attractiveness of the 150-series consoles. The front panel features crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. The front panel should look as clean and fresh after years of normal usage as it did the day it was purchased!

**SELECTABLE MICROPHONE/LINE LEVEL INPUTS** — Identical plug-in preamplifier modules are used in each mixing channel. These modules can be preset to operate either as low-impedance microphone preamplifiers or to accommodate high-level sources. This feature affords complete flexibility in mixing assignments to meet existing operating requirements or to readily adapt to future changes.

**TWO INPUTS PER MIXER** — Interlocked, pushbutton selection of two sources per mixer is provided.

**FET BUS SELECTION** — The preamplifier module circuitry includes modern FET output bus selection, permitting silent channel bus assignment of the mixer preamp output. Dry-contact mechanical switching of low-level audio bus signals is eliminated.

**SPEAKER MUTING** — The 150 Series consoles are supplied with one speaker muting/warning light relay, with a second as an option. The consoles are prewired for relay operation in conjunction with Mixer #1 and #2. Muting assignment is easily field-modified for other mixer assignments or extensions.

**DUAL OUTPUT CHANNELS AND VU METERING** — The output channels are identical in performance. Each plug-in line amplifier module delivers 600 ohm, transformer-isolated, balanced output at a +8 dBm level. Illuminated 3½" VU meters afford continuous visual monitoring of the individual channel outputs. Contact fingers on all plug-in modules are gold-plated.

**COMPLETE SYSTEM MONITORING** — Monitoring at levels up to 8 watts, rms, affords an aural check of the program or audition channels.

Headphone monitoring of program, audition or cue buses, selectable by pushbutton operation, is standard. A front panel jack and headphone gain control permit monitoring up to a 1.0 watt level with 8 ohm headphones.

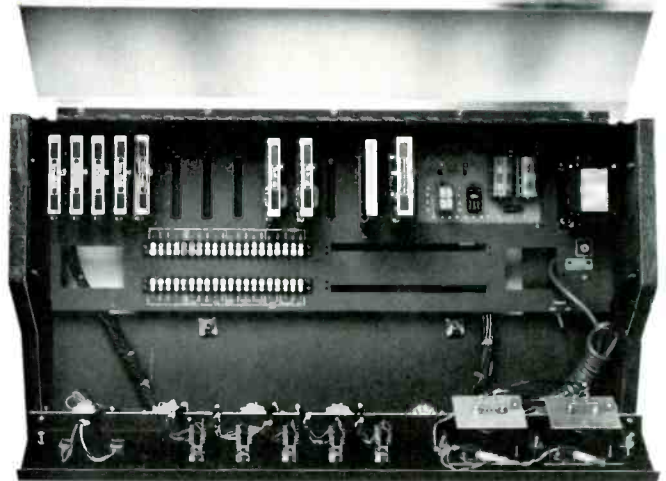
Each input source may be previewed through the internal cue amplifier/speaker fed from detented cue switch closures actuated at the extreme CCW mixer knob position.

# 5 & 8 Mixer, Dual Channel, Mono

## GENERAL DESCRIPTION, (Cont.)

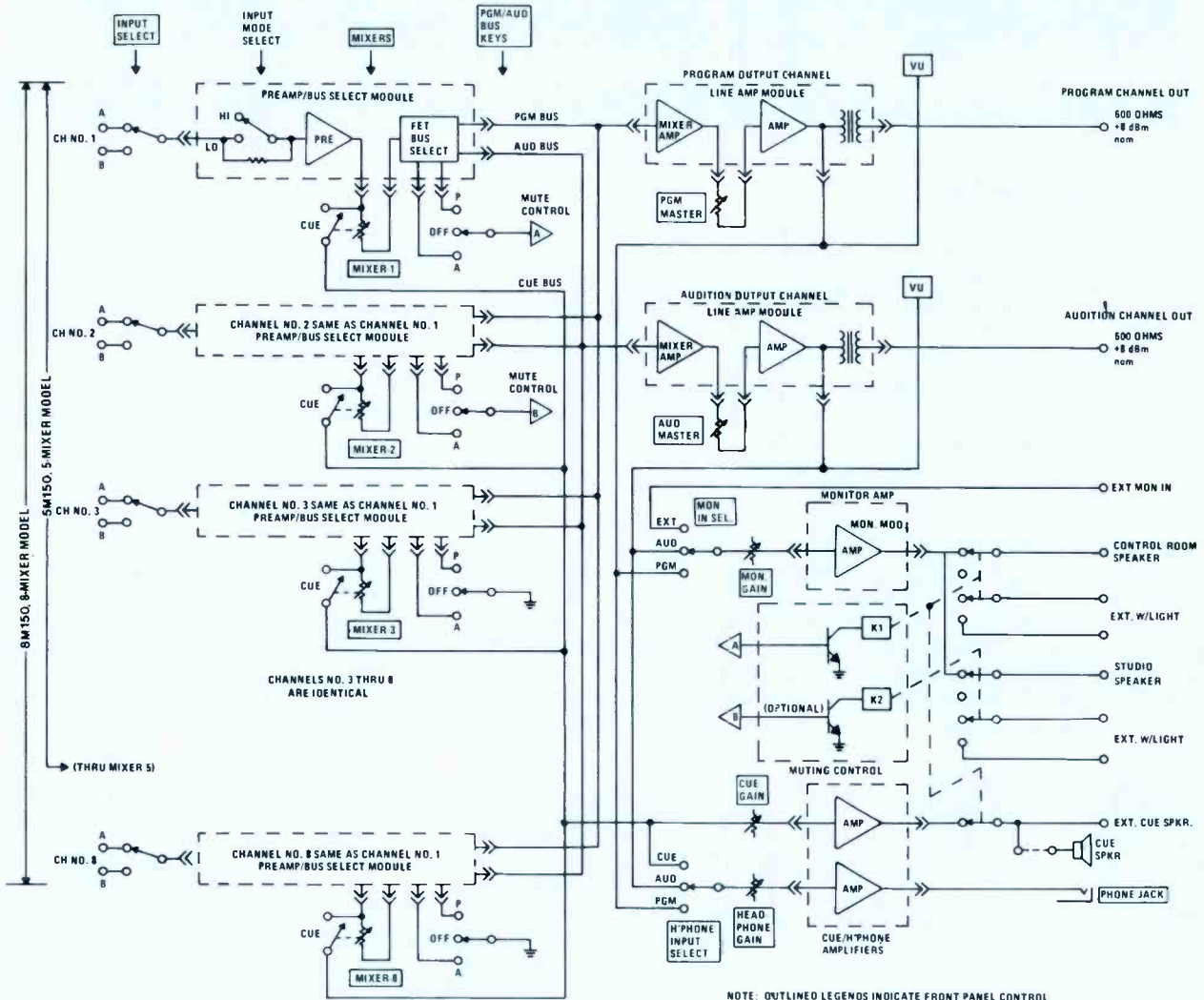
**NEAT-APPEARING SIMPLE INSTALLATION** — All external wiring is made to clearly labeled screw-type barrier strips, eliminating unattractive exposed cables. Cable access is through openings in the base of the console housing. These features insure simple, neat-appearing installation.

**HIGHLY RELIABLE, FUNCTIONAL OPERATION** — The 150 Series consoles provide reliable, long-term operation, plus attention to human engineering factors for ease of operation and maintenance. They are further enhanced by elegant, yet functional modern styling, and insure the 150 Series console user of a highly-professional, yet economically-practical audio console.

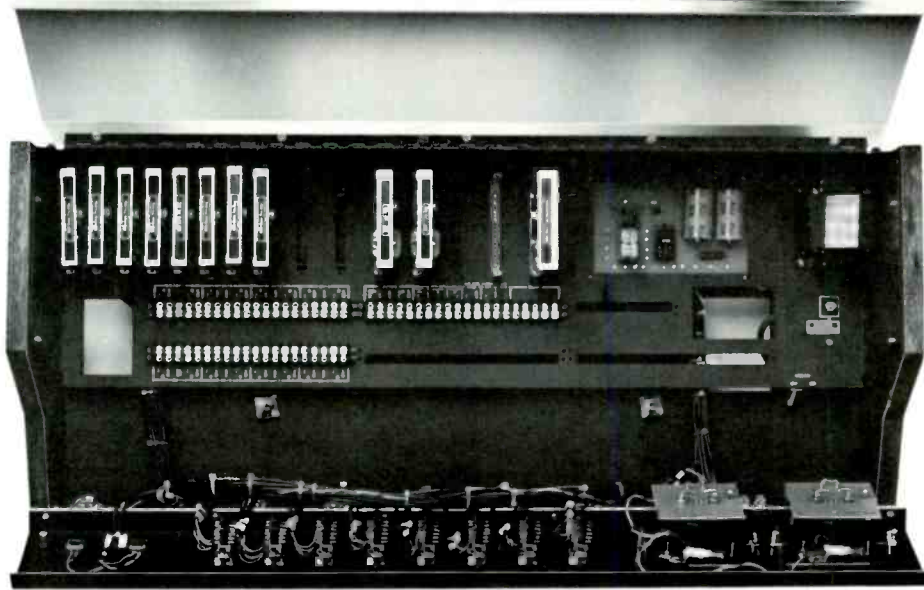


**MODEL 5M150**  
Internal view shows complete access to controls, switches, modules and terminal blocks.

## BLOCK DIAGRAM



NOTE: OUTLINED LEGENDS INDICATE FRONT PANEL CONTROL



Model 8M150 with top lid and front panel open. Note neat cabling and clear access to all components and modules for maintenance. Includes preamp for each mixer. 2 line amps. 1 monitor amp and 1 cue/headphone amp.

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
5M150	938-0531	5-Mixer Monophonic Console, sealed Pots, Dual Channel
8M150	938-0831	8-Mixer Monophonic Console, sealed Pots, Dual Channel
	838-0200	Additional Cost for 230 VAC/50 Hz Power Source
	270-0007	Second Muting Relay For 5M150 and 8M150

## SPECIFICATIONS

### PROGRAM AND AUDITION CHANNELS

#### Inputs:

5M150: 10 into 5 mixers

8M150: 16 into 8 mixers

#### Input Impedances (Selectable)/Levels:

Low Mode: 150 ohms, -65 dBm min. -38 dBm max.

High Mode: 54 K ohms, bal., bridging; -20 dBm min. +20 dBm max.

#### Frequency Response:

±0.5 dB, 30 Hz to 20 kHz

#### Distortion:

.05% or less IM & THD at +18 dBm output, 30 Hz to 20 kHz.

#### Signal-to-Noise Ratio:

70 dB below +18 dBm output with -50 dBm into any low level input. 20 kHz Bandwidth.

#### Output Impedance/Level:

600 ohms balanced, +8 dBm for zero-VU meter reading; +18 dBm max.

#### Overall Gain:

105 dB.

### MONITOR CHANNEL

#### Inputs:

Program/Audition/External. Pushbutton selectable.

#### Frequency Response:

±0.75 dB, 50 Hz to 20 kHz.

#### Distortion:

0.75% or less, 30 Hz to 20 kHz, @ rated rms output and load.

#### Output Power/Impedance:

8 watts rms into 8 ohm load.

### CUE AND HEADPHONE AMPLIFIERS:

1.0 watt rms. Internal cue speaker. Front panel headphone jack and pushbutton program/audition/cue bus selection.

### MUTING:

One muting relay standard. Second relay optional. Standard relay mutes monitor and cue speakers when Mixer 1 activated. Includes terminated contact closure (1A, 125Vac) for warning light operation.

### POWER REQUIREMENTS:

115Vac, 50/60 Hz (230Vac, 50/60 Hz optional) 50 watt max.

### DIMENSIONS:

5M150: 29" W, 15.75" D, 8.25" H (73.7 × 40 × 20.9 cm).

8M150: 33" W, 15.75" D, 8.25" H (83.8 × 40 × 20.9 cm).

### WEIGHT (packed):

5M150: 49 lbs. (22.3 kg.)

8M150: 55 lbs. (25 kg.)

## FEATURES

- Elegant Styling
- Modular, Plug-In Electronics
- Preset High/Low Input Sensitivity
- Cue Switches, All Mixers
- Mono Mixdown And Dual Channel Options
- .05% IM And THD Distortion
- $\pm .5$  dB, 30 Hz - 20 kHz Response
- Durable Front Panel



MODEL 5S150



MODEL 8S150

## GENERAL DESCRIPTION

**CLEAN AUDIO** — State of the art technology and newly designed audio circuitry give the new Broadcast Electronics 150 Series Consoles unequaled audio performance.

**FIVE- AND EIGHT-MIXER MODELS** — The Broadcast Electronics 150 Series Stereo Consoles are available in 5-mixer and 8-mixer configurations. Two inputs per mixer, at either microphone or line input levels, are pushbutton selectable. They are human engineered for error free production or on air use.

**NEW ELEGANT, DURABLE STYLING** — A totally new styling adds durability and enhances the attractiveness of the 150-series consoles. The front panel features crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. The front panel should look as clean and fresh after years of normal usage as it did the day it was purchased!

**PROGRAMMABLE MONO/STEREO, HIGH/LOW LEVEL INPUTS** — Identical modules are used in each stereo mixer input channel. Modules may be preset for mono/stereo and (or) high/low level to permit the user to gear individual mixing channel operation functions precisely to his programming requirements.

**+18 dBm LEFT AND RIGHT CHANNEL OUTPUT CAPABILITY** — Left and right channel plug-in line amplifier modules deliver +18 dBm balanced stereo outputs, visually-monitored on dual 3½" illuminated VU meters. Adequate "headroom" is insured by the +18 dBm output capability of the line amplifiers.

**CONTACT-FREE FET BUS SELECTION** — Electronic bus switching, using gated FET techniques, insures fast and silent operation. Switching is effected by simple, remote application of dc control voltages to the FET circuitry, eliminating mechanical contact closures from low-level audio bus paths.

**STEREO MONITOR/HEADPHONE AND SUMMED L + R CUE AMPLIFIERS** — Stereo monitoring of program and audition channels, or an external source, is pushbutton selected and fed to stereo monitor amplifiers. Stereo headphone amplifier outputs, with pushbutton input selection of program, audition and cue busses, appear on a front panel jack. Through a summed L+R cue bus signal any input may be previewed through the built-in cue amplifier speaker system.

**LONG-LIFE, LOW-NOISE MIXING CONTROLS** — Dual potentiometers of sealed, high-reliability, long-life design are used for mixing controls. Dual cue switches, actuated in a detented CCW control position, produce a summed L&R cue bus signal source.



**GENERAL DESCRIPTION (Cont.)**

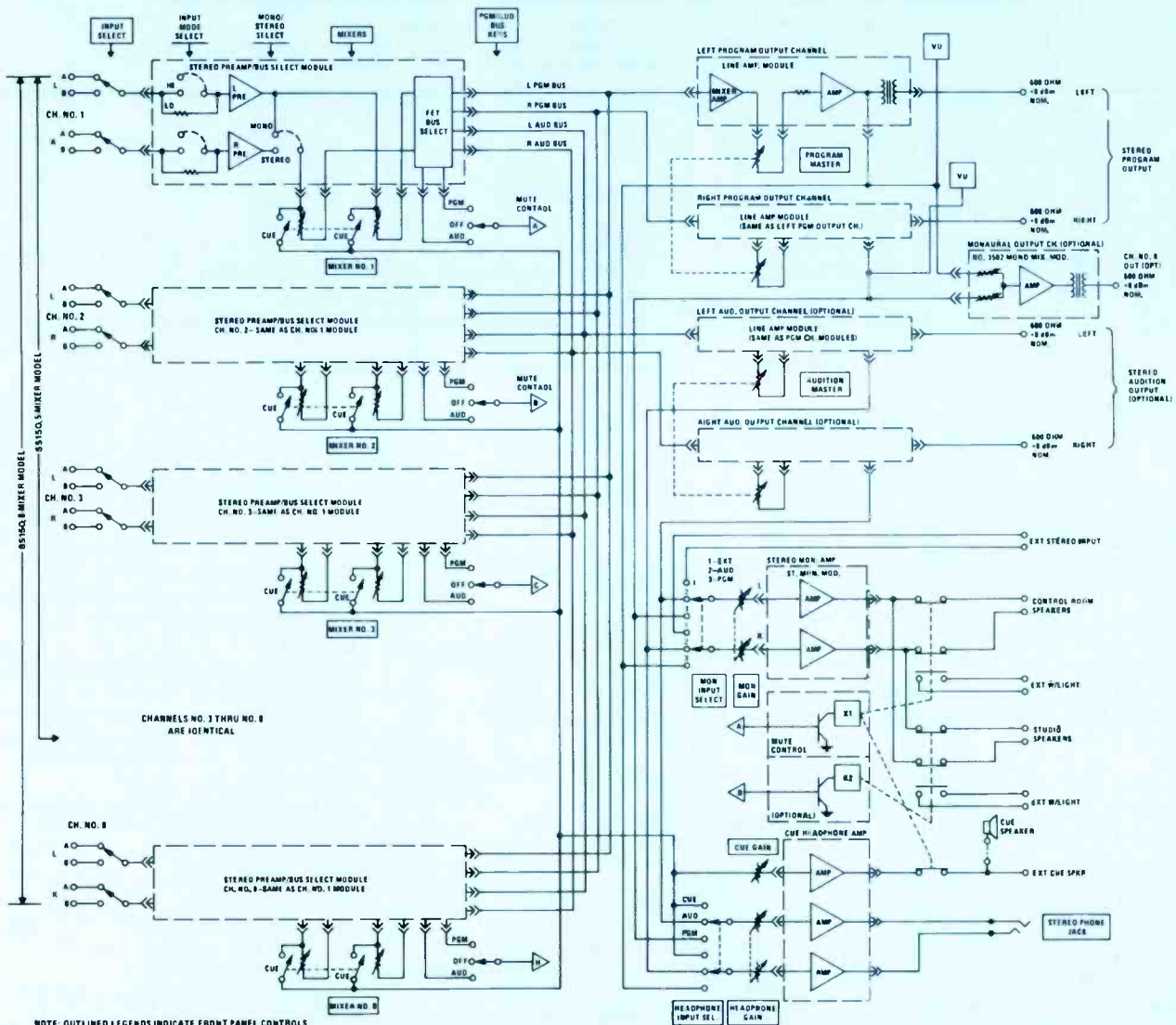
**SIMPLE MUTING LOGIC** — Muting of monitor and cue speakers is by transistor-switched relay operation, initiated by the Mixer #1 channel-select key switch. The consoles are prewired for a second optional relay. The relays include terminated contact closures for operation of external warning lights.

**CLEAN, STRAIGHTFORWARD INSTALLATION** — External connections are made to labeled screw-type barrier strips located in the cabinet bottom with adjacent cable access openings. This permits an installation completely free from unattractive exposed cables.

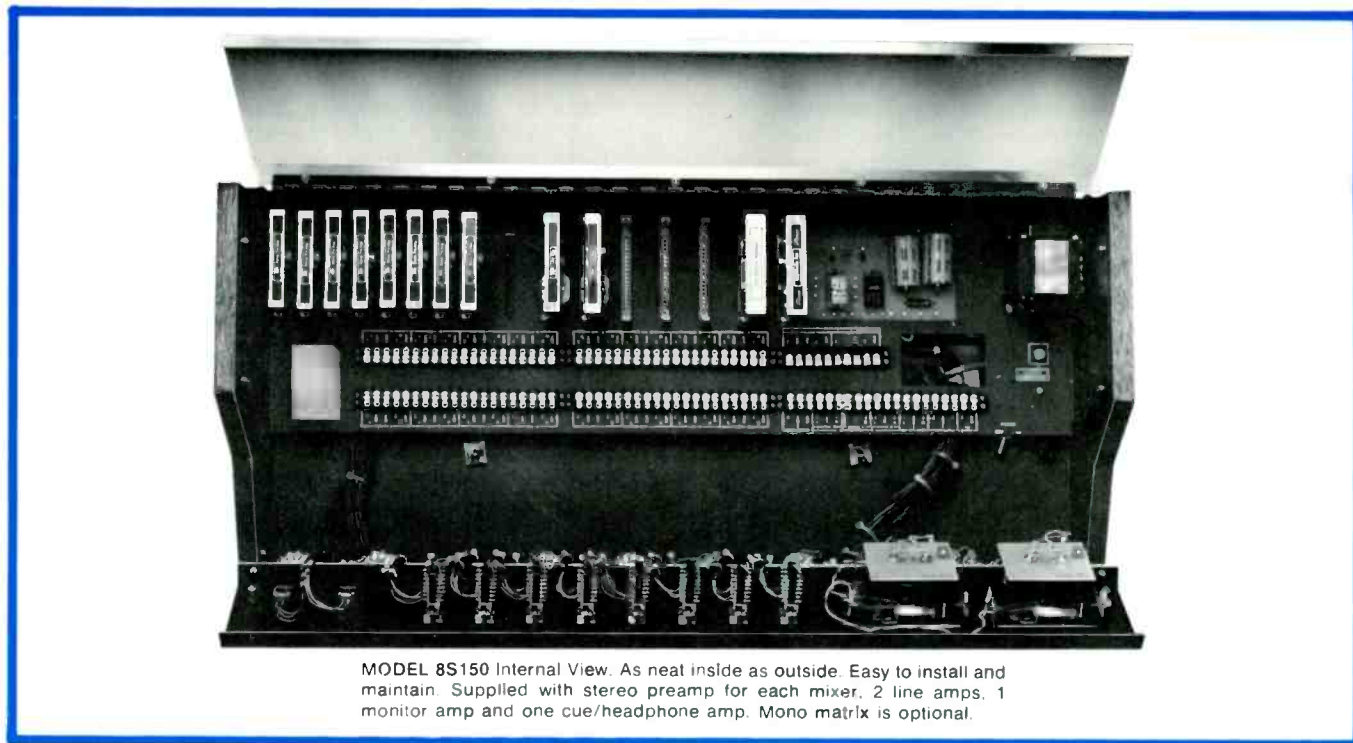
**MONO MIXDOWN/LINE LEVEL AUDITION OPTIONS** — The consoles are prewired to accept optional plug-in modules for line-level monaural or stereo audition outputs where either of these additional operating functions are required. An optional mono program output is also available for simultaneous mono/stereo broadcasting.

**SUPERB STEREO SYSTEM** — The 150 Series Stereo Consoles satisfy the demand for reasonably-priced, professional control equipment, tailored to meet the widely varying requirements of today's stereo broadcaster.

**BLOCK DIAGRAM**



## 5 & 8 Mixer, Stereo



### ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
5S150	938-0530	5-Mixer Stereophonic Console, sealed Pots
8S150	938-0830	8-Mixer Stereophonic Console, sealed Pots
	838-0200	Additional Cost for 230 VAC/50 Hz Power Source
	918-3602	Mono Matrix Card for 5S150 and 8S150
	918-3604	Line Amplifier for Stereo Audition Channel 5S150 and 8S150 (2 Required)
	270-0007	Second Muting Relay for 5S150 and 8S150

### SPECIFICATIONS

#### PROGRAM AND AUDITION (OPTIONAL) CHANNELS

##### Stereo Inputs:

5S150: 10 into 5 mixers  
8S150: 16 into 8 mixers

##### Input Impedances/Levels (Selectable):

Low Mode: 150 ohms balanced. -65 dBm min., -38 dBm max.

High Mode: 54K ohms balanced, bridging. -20 dBm min., +20 dBm, max.

##### Frequency Response:

±0.5 dB, 30 Hz - 20 kHz.

##### Distortion:

.05% or less IM & THD at +18 dBm output, 30 Hz - 20 kHz.

##### Signal-to-Noise:

Noise (unweighted), 70 dB below +18 dBm output with -50 dBm signal into any low-level input. 20 kHz Bandwidth.

##### Output Impedance/Level:

600 ohms balanced. +8 dBm for zero-VU meter reading. +18 dBm output capability.

##### Overall Gain:

105 dB.

##### Monaural Output (Optional):

Same performance specifications as program/audition output channels. Mix ratio adjustable. ±6 dB.

#### STEREO MONITOR CHANNELS

##### Stereo Inputs:

Pushbutton selectable. program/audition/external.

##### Frequency Response:

±0.75 dB, 50 Hz - 20 kHz.

##### Distortion:

0.75% or less, 30 Hz - 20 kHz at 1.5 watts rms into 8 ohm loads.

##### Output Power/Impedance:

1.5 watts rms per channel into 8 ohm loads.

#### STEREO HEADPHONE AMPLIFIERS:

1.0 watts rms per channel into front panel phone jack. Program, audition and cue pushbutton input select.

#### CUE AMPLIFIER:

1.0 watts rms into built-in 8 ohm speaker. Input is summed L+R signal.

#### MUTING:

One muting relay standard. Mutes monitor and cue speakers when Mixer No. 1 activated. Prewired for second optional relay. Relays have terminated contact closures (1A at 125 Vac) for warning light operation.

#### POWER REQUIREMENTS:

115 Vac, 50/60 Hz (230 Vac, 50/60 Hz optional) 85 watts max.

#### DIMENSIONS:

5S150: 29" W, 15.75" D, 8.25" H (73.7 × 40 × 20.9 cm)

8S150: 33" W, 15.75" D, 8.25" H (83.8 × 40 × 20.9 cm)

#### Weight (packed):

5S150: 54 lbs. (24.5 kg).

8S150: 55 lbs. (25 kg).



**FEATURES**

- Elegant Styling
- Step Type Ladder Attenuators
- Telephone Type Channel Key Switches
- Modular, Plug-In Electronics
- Cue Switches, All Mixers
- High/Low Level Input Selection
- Durable Front Panel



MODEL 5M250



MODEL 8M250

**GENERAL DESCRIPTION**

**FLEXIBILITY** — Complete flexibility in mixing channel function is a unique feature of the Broadcast Electronics 250 Series, five- and eight-mixer dual-channel monaural consoles. All plug-in input preamplifier modules are identical. They may be preset to accept either balanced, high-level sources or balanced, low-level microphones. Mixing channel assignments may be geared precisely to individual programming requirements with pushbutton preselection of two inputs per mixer.

**NEW ATTRACTIVE, DURABLE STYLING** — A totally new styling adds durability and enhances the attractiveness of the 250-series consoles. The front panel features crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. The front panel should look as clean and fresh after years of normal usage as it did the day it was purchased!

**LADDER ATTENUATORS AND TELEPHONE TYPE SWITCHES** — Mixing step-type ladder attenuators, quiet, telephone-type bus select key switches, and contact-free, FET bus selection contribute to the consoles' high-grade performance.

**DUAL CHANNEL DESIGN** — A 600 ohm balanced audition channel is equal in performance to the program channel.

**HUMAN ENGINEERED** — The uncluttered control panel arrangement affords convenient, error-free operation. Input pushbutton switches are logically grouped for mixer input preselection; program, audition or external source inputs to the monitor amplifier; and program, audition and cue bus inputs to the headphone amplifier. Masters, plus monitor, headphone and cue gain controls are panel mounted. Illuminated, 3½" VU meters continuously display both program and audition channel output levels.

**PLUG-IN ELECTRONICS** — All active circuitry, other than the power supply/relay assembly, is on plug-in modules with gold-plated contact fingers to insure long-term socket mating reliability.

**FOUR EXTRA INPUTS ON 8-MIXER MODEL** — The model 8M250 has four extra unwired switches to aid the broadcaster with any future expansion plans.

# Deluxe 5 and 8 Mixer, Dual Channel, Mono

## GENERAL DESCRIPTION (Cont.)

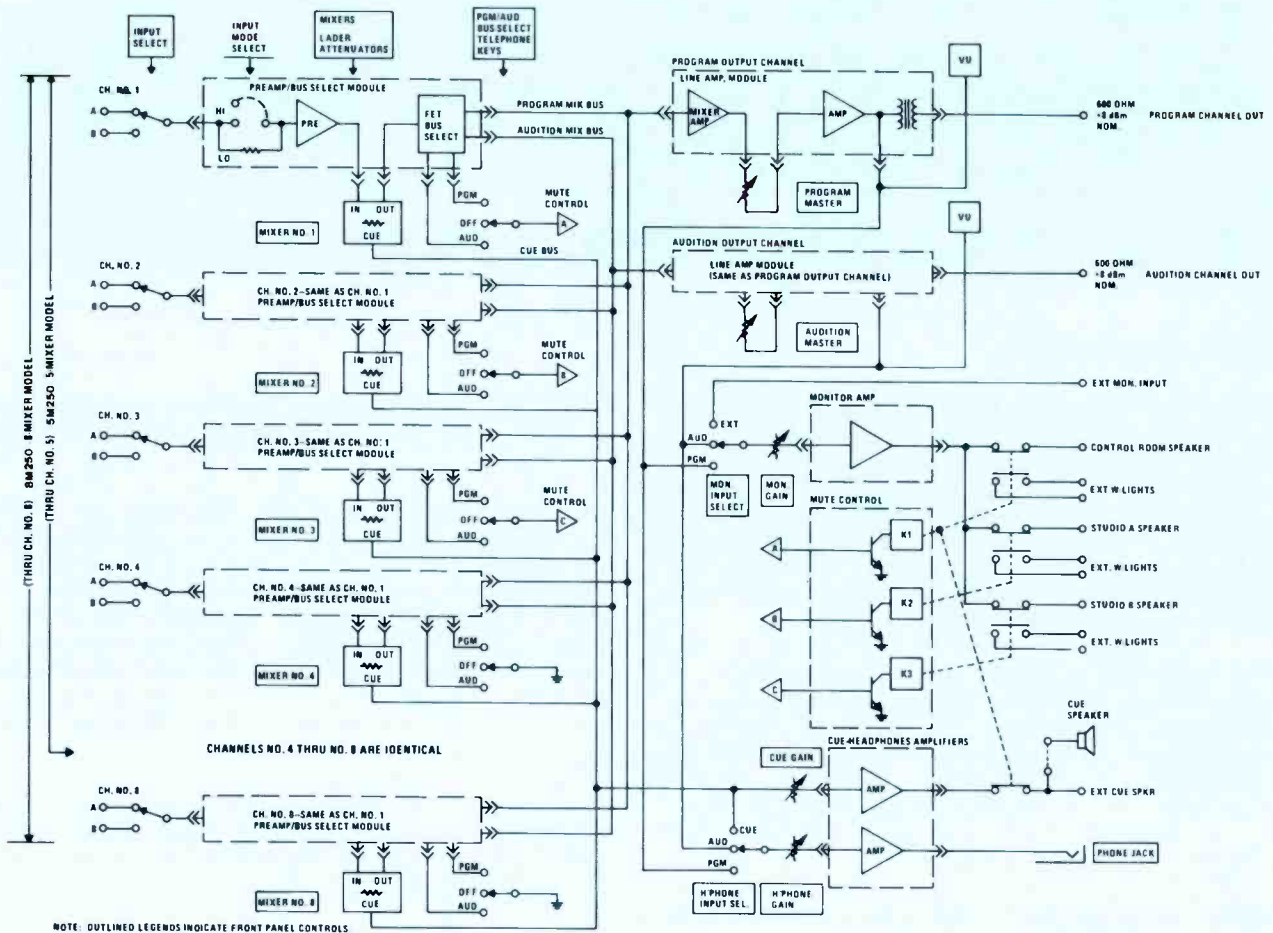
**NEAT AND SIMPLE INSTALLATION** — Completely free from exposed wiring, incoming cables are connected to internal, labeled, screw-type barrier strips with cable access through the base of the cabinet. An outstandingly neat installation results.

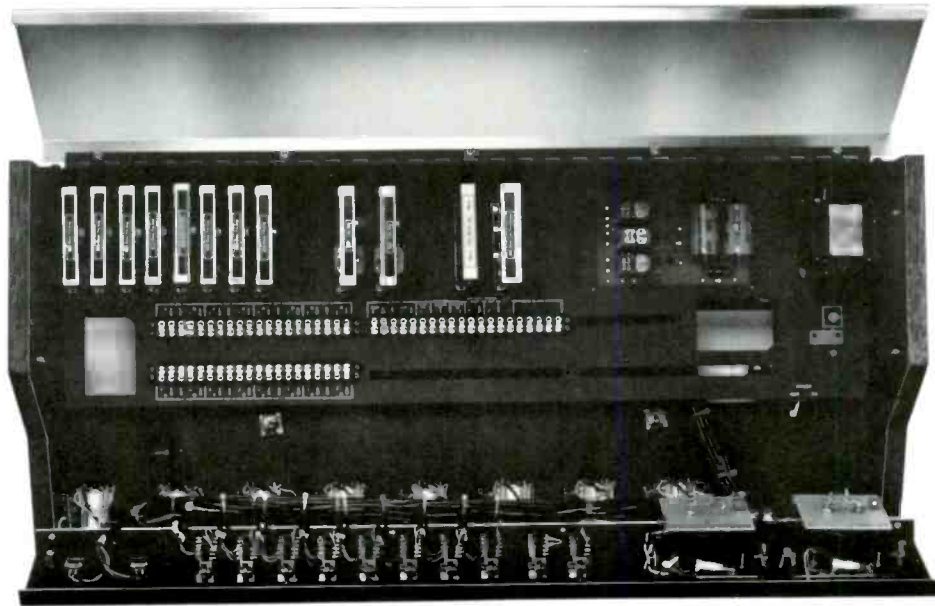
**FULL MONITORING** — An 8-watt monitor amplifier and individual 1-watt headphone and cue amplifiers afford complete operational and preview monitoring capability. Three muting relays equipped with terminated warning light contacts (1A @ 125 Vac) are controlled by channel activation of the first three mixer channel select keys. Muting logic is straightforward and readily field modified for alternative or expanded muting assignments.

**FET BUS SELECTION** — Output channel bus selection is controlled electronically by remote FET dc switching, eliminating mechanical contact closures from the low-level audio bus switching system.

**SUPERB PERFORMANCE** — Guaranteed electrical specifications and logically-positioned operating controls, complemented by attractive modern styling, make the Broadcast Electronics 250 Series Consoles the clear choice to satisfy the most demanding operating requirements.

## BLOCK DIAGRAM





MODEL 8M250 Inside view. Shows the same close attention to detail as the "human-engineered" front panel. Installation, service and maintenance are a pleasure!

### ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
5M250	938-0541	5-mixer, step attenuators and telephone type channel keys. Dual mono output channels. Supplied with 3 muting relays. Includes preamp for each mixer channel; 2 line amp, 1 monitor amp, and 1 cue/headphone amp
8M250	938-0841	8-mixer, step attenuators and telephone type channel keys. Dual mono output channels. Supplied with 3 muting relays. Includes preamp for each mixer channel; 2 line amp, 1 monitor amp, and 1 cue/headphone amp
	838-0200	230 Vac, 50/60 Hz power conversion.

### SPECIFICATIONS

#### PROGRAM AND AUDITION CHANNELS

##### Inputs:

5M250: 10 into 5 mixers  
8M250: 16 into 8 mixers (8-mixer model has 4 extra unwired inputs)

##### Input Impedances/Levels (Selectable):

Low Mode: 150 ohms, balanced. -65 dBm min., -38 dBm max.

High Mode: 54K ohms balanced bridging. -20 dBm min., +20 dBm, max.

##### Frequency Response:

±0.5 dB, 30 Hz - 20 kHz.

##### Distortion:

.05% or less IM & THD at +18 dBm output, 30 Hz - 20 kHz.

##### Signal-to-Noise:

Noise (unweighted), 70 dB below +18 dBm output with -50 dBm signal into any low-level input. 20 kHz bandwidth.

##### Output Impedance/Level:

600 ohms balanced. +8 dBm for zero-VU meter reading, +18 dBm output capability.

Overall Gain:  
105 dB.

#### MONITOR CHANNEL

##### Inputs:

Pushbutton Selectable; Program/Audition/External.

##### Frequency Response:

±0.75 dB, 50 Hz - 20 kHz.

##### Distortion:

0.75% or less, 30 Hz - 20 kHz at 8 watts rms into 8 ohm load.

##### Output Power/Impedance:

8 watts rms into 8 ohms load.

#### CUE AND HEADPHONE AMPLIFIERS:

1.0 watt rms into 8 ohms loads. Internal cue speaker. Front panel headphone jack and program/audition/cue pushbutton selection.

##### VU Meters:

2 Meters; Audition & Program.

#### MUTING:

Three relays provided. Prewired for monitor/cue muting through Mixer No. 1. Relays No. 2 and No. 3 controlled by Mixers No. 2 and No. 3 respectively. Other combinations by simple field strapping. Relays have terminated 1A, 125 Vac warning light contacts.

#### POWER REQUIREMENTS:

115 Vac, 50/60 Hz (230 Vac, 50/60 Hz optional). 70 watts maximum.

#### DIMENSIONS:

5M250: 29" W, 15.75" D, 8.25" H (73.7 × 40 × 20.9 cm)

8M250: 33" W, 15.75" D, 8.25" H (83.8 × 40 × 20.9 cm)

#### Weight (packed):

5M250: 55 lbs. (25 kg).

8M250: 60 lbs. (27.3 kg).

## FEATURES

- Elegant Styling
- Ladder Step Attenuators
- Modular Plug-In Electronics
- Contact-Free Bus Selection
- Telephone-Type Channel Keys
- Four Line-Level Outputs
- Mono Mix-Down Option
- Durable Front Panel



MODEL 5S250



MODEL 8S250

## GENERAL DESCRIPTION

**THE COMPLETE STEREO CONSOLE** — The Broadcast Electronics 250 Series Dual Stereo Consoles, available with either five or eight input mixing channels feature identical line-level output stereo program and audition channels, with VU meter switching to either stereo channel pair. Mixing controls are maintainable, step-type dual ladder attenuators. Quiet-operating, telephone-type channel select switches are used.

**NEW ELEGANT, DURABLE STYLING** — A totally new styling adds durability and enhances the attractiveness of the 250-series consoles. The front panel features crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. The front panel should look as clean and fresh after years of normal usage as it did the day it was purchased!

**MONO- MIX-DOWN OPTION** — For applications requiring a summed L+R mono signal in addition to the stereo program outputs, the consoles are prewired to accept an optional plug-in module for this purpose.

**INTEGRAL HIGH/LOW LEVEL AND MONO/STEREO MODE SELECTION** — Identical stereo preamplifier modules are used in all mixing channels. Modules may be pre-programmed for mono or stereo operation; and for

either low impedance microphone, or line-level input service. The user can thus assign mixing channel functions to meet current operating requirements and can readily change them to satisfy future combinations, without obsolescence.

**DUAL CHANNEL DESIGN** — A 600 ohm balanced audition channel is equal in performance to the program channel.

**STEREO MONITOR AND HEADPHONE AMPLIFIERS** — High-quality control room and studio stereo monitoring of program, audition or an external input is afforded by 8-watt per channel monitor amplifier modules. Terminated in a front panel jack, headphone monitoring at up to a 1-watt level, of stereo program and audition channels, plus a summed L+R cue bus signal, insures full aural access to critical portions of the console system.

**PREFADER PREVIEW, ALL INPUTS** — A built-in cue amplifier-speaker system is fed from a summed-stereo bus. Bus signals are applied by dual cue switches on each mixer control, actuated in the detented closed-fader position.

**FOUR EXTRA INPUTS ON 8-MIXER MODEL** — The Model 8S250 has four extra unwired switches to aid the broadcaster with any future expansion plans.

# Deluxe 5 and 8 Mixer, Dual Channel, Stereo

## GENERAL DESCRIPTION (Cont.)

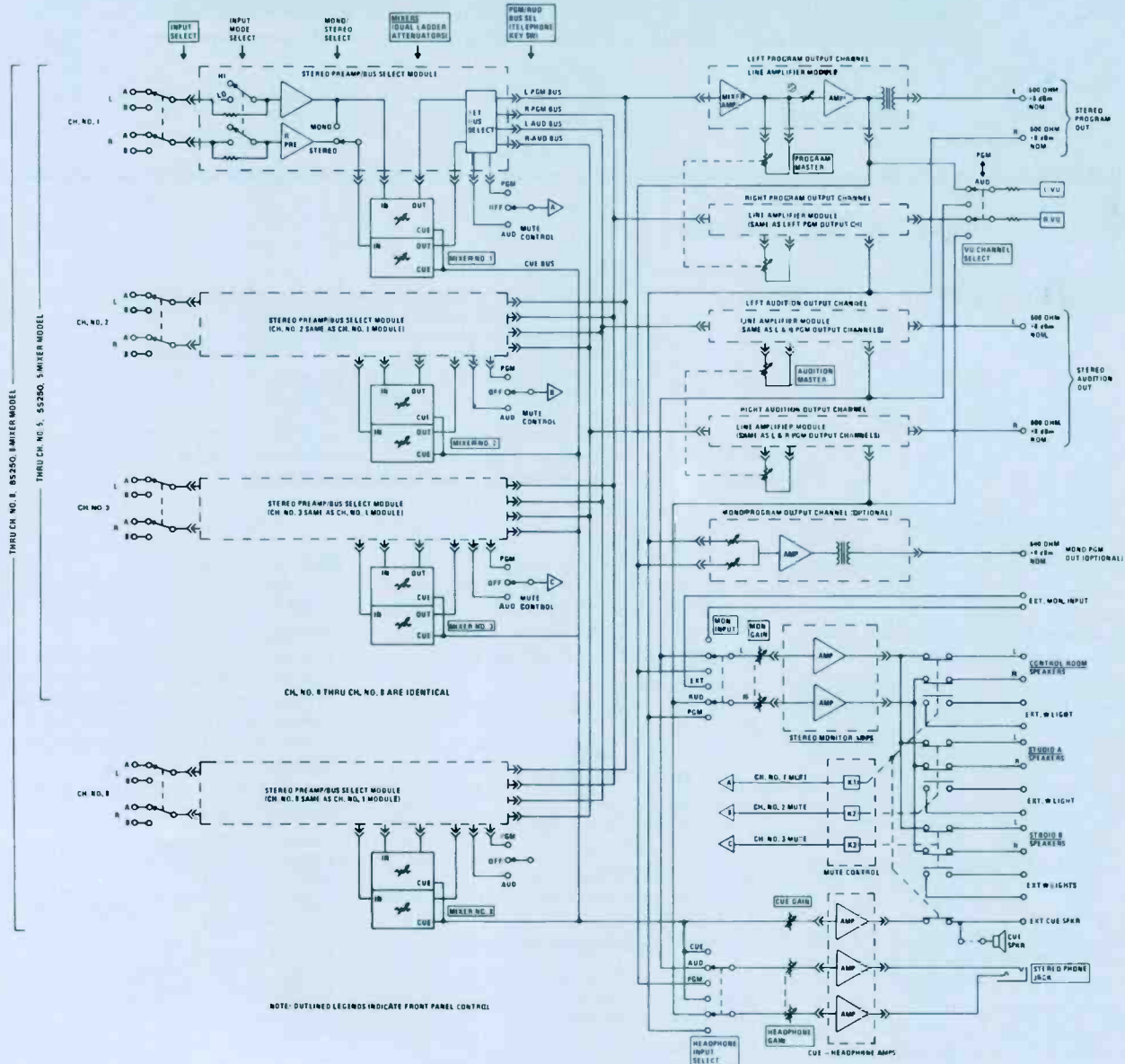
**NO EXPOSED EXTERNAL CABLING** — With labeled, screw-type barrier strips and adjacent cable access openings, the 250-Series Consoles are a pleasure to install. The completed installation is free from exposed incoming wires and cables, with a truly professional appearance.

**HUMAN ENGINEERED FOR LONG-TERM SERVICE** — Special attention has been focused on control and switch locations to insure minimum error and maximum operating ease. The 250 Series Consoles are the choice of today's discerning stereo broadcaster. They perform . . . they produce the sound that satisfies the most demanding stereo programming.

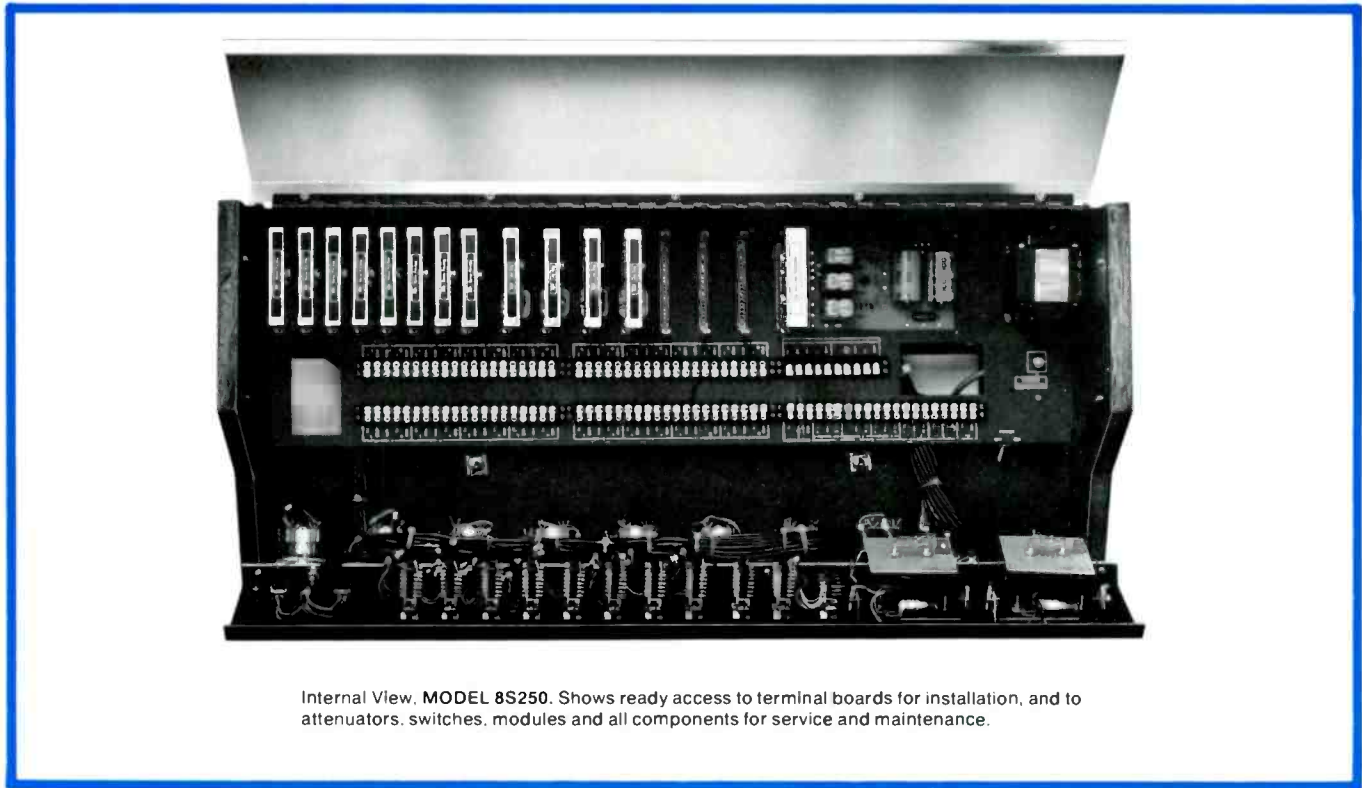
**ADVANCED, FET, ELECTRONIC BUS SELECTION** — Initiated by remote dc voltage, fast-acting, low-noise selection of mixing busses is accomplished by gated-FET, contact-free switching, with no mechanical closures in the relatively low-level audio bus paths.

**MUTING** — Three muting relays are supplied, each with terminated contact closures for external warning light operation. The relay circuit is wired for individual operation in conjunction with the first three mixers, however the muting logic is simple and accessible for other, or expanded, relay interlock arrangements.

## BLOCK DIAGRAM



Model 5S250  
Model 8S250



**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
5S250	938-0540	5-Mixer Deluxe Stereophonic Console, Step Type Attenuators, supplied with 3 muting relays. Includes preamp (stereo) for each mixer; 4 line amp, 2 monitor amp, and 1 cue/headphone amp
8S250	938-0840	8-Mixer Deluxe Stereophonic Console, Step Type Attenuators, supplied with 3 muting relays. Includes preamp (stereo) for each mixer; 4 line amp, 2 monitor amp, and 1 cue/headphone amp
	838-0200	Additional Cost for 230 VAC/50 Hz Power Source
	918-3602	Mono Matrix Module for 5S250 and 8S250

**SPECIFICATIONS**

**PROGRAM AND AUDITION CHANNELS**

**Stereo Inputs:**  
5S250: 10 into 5 mixers  
8S250: 16 into 8 mixers (8-mixer model has 4 extra unwired inputs)

**Input Impedances/Levels (Selectable):**  
Low Mode: 150 ohms balanced. -65 dBm min., -38 dBm max.

High Mode: 54K ohms balanced, bridging. -20 dBm min., +20 dBm, max.

**Frequency Response:**  
±0.5 dB, 30 Hz - 20 kHz.

**Distortion:**  
.05% or less IM & THD at +18 dBm output, 30 Hz - 20 kHz.

**Signal-to-Noise:**  
Noise (unweighted), 70 dB below +18 dBm output with -50 dBm signal into any low-level input. 20 kHz Bandwidth.

**Output Impedance/Level:**  
600 ohms balanced. +8 dBm for zero-VU meter reading. +18 dBm output capability.

**Overall Gain:**  
105 dB.

**Monaural Output (Optional):**  
Same performance specifications as program/audition output channels. Mix ratio adjustable, ±6 dB.

**STEREO MONITOR CHANNELS**

**Stereo Inputs:**  
Pushbutton selectable, program/audition/external.

**Frequency Response:**  
±0.75 dB, 50 Hz - 20 kHz.

**Distortion:**  
0.75% or less, 30 Hz - 20 kHz at 1.5 watts rms into 8 ohm loads.

**Output Power/Impedance:**  
1.5 watts rms per channel into 8 ohm loads.

**STEREO HEADPHONE AMPLIFIERS:**  
1.0 watts rms per channel into front panel phone jack. Program, audition and cue pushbutton input select.

**VU Meters:**  
2 meters: L & R switchable to Audition and Program.

**CUE AMPLIFIER:**  
1.0 watts rms into built-in 8 ohm speaker. Input is summed L+R signal.

**MUTING:**  
One muting relay standard. Mutes monitor and cue speakers when Mixer No. 1 activated. Prewired for second optional relay. Relays have terminated contact closures (1A at 125 Vac) for warning light operation.

**POWER REQUIREMENTS:**  
115 Vac, 50/60 Hz (230 Vac, 50/60 Hz optional) 85 watts max.

**DIMENSIONS:**  
5S250: 29" W, 15.75" D, 8.25" H (73.7 × 40 × 20.9 cm)  
8S250: 33" W, 15.75" D, 8.25" H (83.8 × 40 × 20.9 cm)

**Weight (packed):**  
5S250: 55 lbs. (25 kg).  
8S250: 60 lbs. (27.3 kg).





### FEATURES

- Selectable Hi/Lo Sensitivity, All Channels
- Individual Monitor, Headphone And Cue Amplifiers
- Straightforward, Neat Installation
- Excellent For On-Air, Newsroom, Remote And Production Use

### GENERAL DESCRIPTION

**COMPACT, PROFESSIONAL PERFORMANCE** — Incorporating modern solid-state technology, the Broadcast Electronics Model 4M50 4-Mixer Monaural Console affords professional performance at reasonable cost. Compact, yet uncluttered, the 4M50, with two inputs per mixer, can handle the selection and level control/mix of up to eight sources.

**MICROPHONE OR LINE LEVEL INPUT SELECTION** — Flexibility is a feature. Each mixing channel uses identical input preamplifier circuitry which can be prewired for either low-impedance microphone service or for use with high-level input equipment.

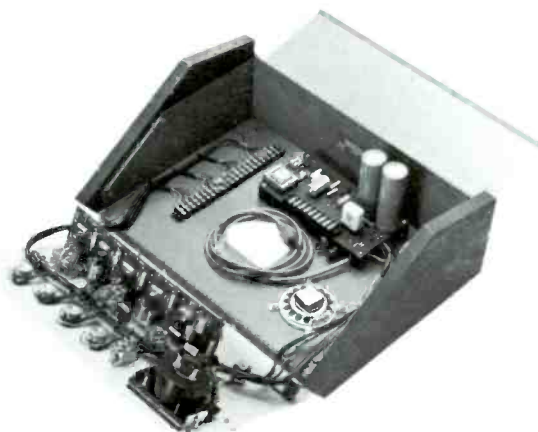
**COMPLETE MONITORING AND CUE CAPABILITY** — Individual monitor, headphone and cue amplifiers with front panel input and level control insure aural monitoring capability of all critical functions.

**RUGGED, LOW-NOISE MIXER CONTROLS** — Sealed, high-reliability potentiometers are used for mixing. These are of special design, intended for applications where continual use is required. All mixers are equipped with cue switches.

**MONITOR/CUE SPEAKER MUTING** — Monitor amplifier output and the built-in cue loudspeaker are automatically muted whenever Mixer #1 is used. Muting assignment to other mixing channels is easily effected by strapping. Terminated relay contacts (1A, 125 Vac) for warning light operation are included.

**EASY TO INSTALL. NO EXPOSED CABLE** — All incoming cables connect to labelled screw-type barrier strips with adjacent access openings in the bottom of the cabinet. This eliminates exposed wiring.

**EFFICIENT, PROFESSIONAL OPERATION** — High quality performance and clean functional operation highlight the ideal console for production, on-air, newsroom or remote broadcast purposes — or for educational and industrial applications.



Hinged top cover and front panel give full access to the barrier strips for installation, and all control switches and components for maintenance.

# 4-Mixer, Mono

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
4M50	938-0450	Mono Four 4-Mixer Monophonic Console
4M50R	938-0451	Mono Four Rack Mount 4-Mixer Monophonic Console
	838-0201	230 Vac 50/60 Hz Power Conversion

## SPECIFICATIONS

### PROGRAM CHANNEL

#### Inputs:

Two per mixer, total: 8

#### Input Impedances/Levels (Strappable):

Low Mode: 150 ohms balanced. -65 dBm nom., -45 dBm max.

High Mode: 20K ohms balanced bridging. -20 dBm nom., 0 dBm max.

#### Frequency Response/Distortion:

±2.0 dB/0.5%, 30 Hz - 20 kHz.

#### Signal-to-Noise:

65 dB (unweighted) below +8 dBm output.

-50 dBm signal to any low-level input.

#### Overall Gain:

90 dB minimum.

#### Output Impedance/Level:

600 ohm balanced. +8 dBm for zero-VU meter reading. +16 dBm max.

### MONITOR AMPLIFIER

#### Frequency Response:

±2.0 dB, 40 Hz - 20 kHz.

#### Distortion:

.75% or less, 40 Hz - 20 kHz at rated output and load.

#### Output Power/Impedance:

1.5 watts rms into 8 ohms load.

### HEADPHONE AMPLIFIER:

1.0 watt rms into 8 ohms load. Front panel jack. Program/cue/external input.

### CUE AMPLIFIER:

1.0 watt rms into built-in 4 ohm speaker.

### MUTING:

Assignable by strapping to any channel input combination.

### POWER REQUIREMENTS:

115 Vac, 50/60 Hz (230 Vac, 50/60 Hz optional) 40 watts max.

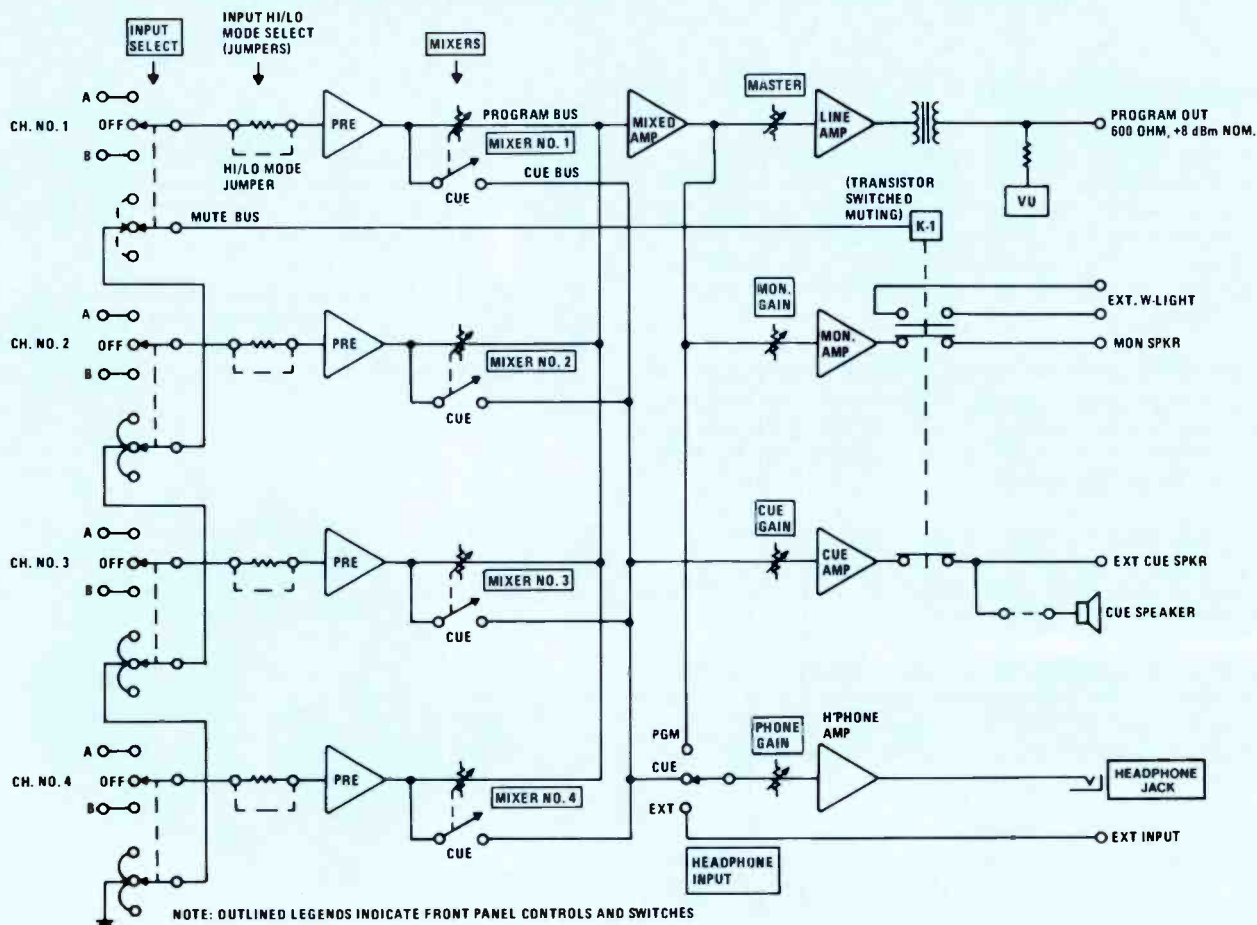
### DIMENSIONS:

18" W, 13" D, 7.5" H (45.8 × 33 × 19.1 cm)

### SHIPPING WEIGHT:

23 lbs. (10.4 kg).

## BLOCK DIAGRAM





### FEATURES

- High/Low Input Sensitivity Selection
- Cue Switches, All Mixers
- Individual Monitor, Cue, Headphone Amplifiers
- Excellent Performance-Reasonable Cost
- 12 Stereo Inputs; 4 Mixers
- Ideal For Stereo Production, Discotheque Or On Air

### GENERAL DESCRIPTION

**ACCOMMODATES 12 STEREO INPUT SOURCES** — The Broadcast Electronics 4S50 four-mixer stereo console features quality stereo performance at a practical price. This versatile console allows preselection of eight stereo input sources with intermix and level control of four of these simultaneously.

**INPUT SELECTION** — Two Stereo inputs, either high or low level, can be accommodated by each of the first three channels. Channel four can be preselected to a single high or low level stereo input or to one of five high level remote/utility stereo inputs. Unique window indicator push-button switches are used for channel on/off functions as well as input selection.

**DUAL VU METERS AND STEREO MONITORING** — Visual monitoring of left and right channel outputs is by 3½" VU meters. Aural monitoring at 3 watt rms level, per channel for operating position and studio loudspeakers, plus stereo headphone .5 watt per channel amplifier outputs, terminated in a front panel jack, insure close surveillance of program quality. In addition to stereo program channel

information, an external stereo source and mono cue bus material may be monitored by headphones.

**CUE-SWITCHES ON ALL FADERS** — The high reliability, low-noise sealed dual potentiometers used for mixer level control are fitted with cue switches so that each source can be previewed through the self-contained cue amplifier speaker system.

**MUTING LOGIC** — Monitor and cue speakers are relay-muted through contact closures on the mixer A-B input select key switches. Normally wired for muting in conjunction with Mixer #1 operation, other assignments are readily made in the field by strapping.

**IDEAL FOR STEREO PRODUCTION OR ON-AIR USE** — The stereo performance characteristics of the 4S50 are excellent and make it an ideal tool in the production of stereo taped material, or where a modest, yet flexible control room/studio operation is involved, totally suited for on-air stereo FM broadcast use.

# 4-Mixer, Stereo

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
4S50	938-0452	Stereo Four 4-Mixer Stereo Console
4S50R	938-0453	Rack Mount Stereo Four 4-Mixer Stereophonic Console
	838-0201	230 Vac 50/60 Hz Power Conversion

## SPECIFICATIONS

### STEREO PROGRAM CHANNELS

#### Stereo Inputs:

Two per mixing channels 1-3. Ch 4:6. Total 12.

#### Input Impedances/Levels:

Low Mode: 150 ohms balanced. -65 dBm, nominal, -38 dBm max.

High Mode: 20K ohms balanced bridging. -20 dBm, nom., +20 dBm max.

Above modes preset by internal strapping.

#### Frequency Response:

±.5 dB, 30 Hz - 20 kHz.

#### Distortion:

.1% THD and .15 IM, 30 Hz - 20 kHz at +18 dBm output.

#### Signal-to-Noise:

70 dB (unweighted) below +18 dBm out with -50 dBm low level input signal, 20 kHz bandwidth.

#### Output Impedance/Level:

600 ohms balanced. +8 dBm for zero-VU meter readings. +16 dBm max.

### STEREO MONITOR AMPLIFIERS

#### Frequency Response:

±1.0 dB, 30 Hz - 20 kHz.

#### Distortion:

.3% THD and IM, 30 Hz - 20 kHz at 3.0 watts rms per channel into nominal ohm load.

#### Output Power/Impedance:

3.0 watts rms per channel into 8 ohm loads.

### STEREO HEADPHONE AMPLIFIERS:

.5 watt rms per channel into front panel jack. Program/cue inputs.

#### MUTING:

As wired, monitor and cue speakers muted by Mixer 1 A-B input select switch. Assignable, by strapping, to any channel input. Muting relay includes 1A, 125 Vac warning light contacts.

#### POWER REQUIREMENTS:

115 Vac, 60 Hz (230 Vac, 50/60 Hz optional) 50 watts maximum.

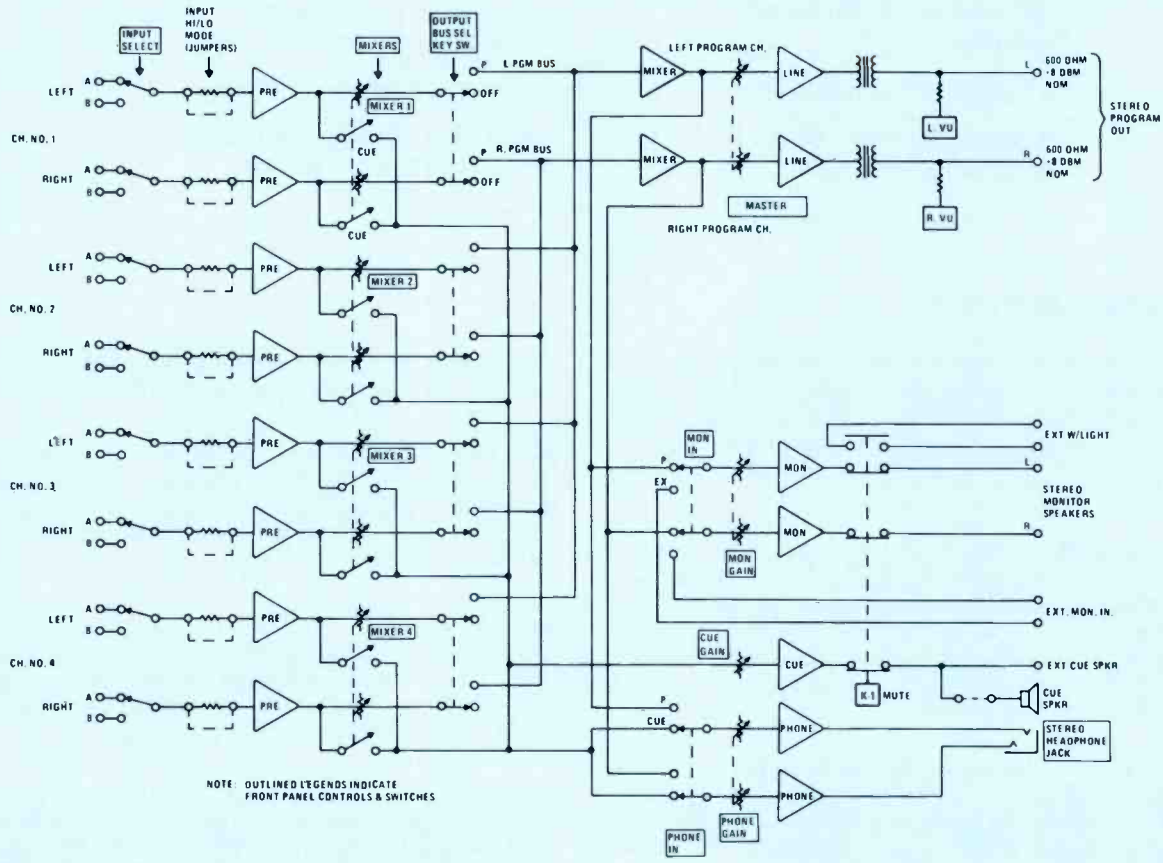
#### DIMENSIONS:

18" W, 13" D, 7.5" H (45.8 × 33 × 19.1 cm).

#### WEIGHT (PACKED):

24 lbs. (10.8 kg).

## BLOCK DIAGRAM





**FEATURES**

- Transformer Balanced Inputs
- Cue Switches, All Mixers
- For Broadcast, A/V, CCTV And CATV
- Switchable Microphone/High Level Inputs
- Integral Tone Generator

**GENERAL DESCRIPTION**

**BROADCAST, A/V, CCTV AND CATV APPLICATIONS** — The Broadcast Electronics 4V50 rack-mount, four-mixer "Versa-Console" brings, in a self-contained, compact package, operating versatility usually expected only in larger, desk-top units. The "Versa-Console" is useful for production and semi-permanent broadcast remote originations. Its multi-input flexibility makes it a valuable tool as the aural complement in audio/visual systems for industrial and educational training purposes or for CATV studio origination.

**ACCOMMODATES WIDE CHOICE OF INPUT SOURCES** — The first three mixing channels are identical, accepting either low-impedance microphone or high-level inputs through rear panel preset switching. Two inputs may be selected for each mixer by adjacent switch operation. Mixer 4 has additional high-level input capability. It will accept one low-level input or three pushbutton-selected high-level inputs. Thus, a total of ten sources may be selected for up to four simultaneous "mixes."

**SEALED MIXER CONTROLS WITH CUE SWITCHING** — Mixers are long-life sealed potentiometers, each equipped with cue switches. This permits preview of input sources

through the built-in cue amplifier and speaker. The latter is automatically muted whenever input 1A is activated.

**1 kHz TONE GENERATOR** — An internal tone generator facilitates quick and accurate output level adjustment.

**HEADPHONE MONITORING/EXTERNAL AMPLIFIER FEED** — Either program output or cue bus information may be monitored through the headphone amplifier with front panel jack output. Program material appears on a rear panel high-impedance output terminal for feeding external PA or monitoring equipment.

**DESIGNED FOR SIMPLE INSTALLATION** — External wiring connections are made to labelled rear-panel screw-type barrier strips or for program output and ground, to binding posts.

**COMPACT, COMPLETE, CONTROL CENTER** — Astoundingly versatile for its size, the "Versa-Console" is an outstanding unit where selection and mixing of many inputs of either microphone-level or line-level nature are involved.

# 4-Mixer, Rack Mount, Versa Console

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
4V50	938-2000	4-Mixer Mono Console, Rack Mount
	838-0201	230 Vac 50/60 Hz Power Conversion

## SPECIFICATIONS

### INPUTS:

Mixers No. 1, 2 and 3—two per mixer; high or low level.

Mixer No. 4—one, high or low level, plus three pushbutton-selectable high-level inputs. Tone generator—internal level set.

### INPUT IMPEDANCES/LEVELS (SWITCHABLE - REAR PANEL):

Low Level Mode: 150 ohms bal. -50 dBm nom., -38 dBm max.

High Level Mode: 20K ohms bal. bridging. -20 dBm nom., +10 dBm max.

### OUTPUTS

#### Program:

600 ohms balanced. +4/+8 dBm switchable for zero-VU meter reading. +18 dBm max.

#### Cue:

1.0 watt rms to internal speaker. FET muted.

#### Headphone:

1.0 watt rms to front panel jack. Program/cue input select.

#### PA:

10k ohms unbalanced. 0.45V @ +8 dBm program out level. Adjustable. Rear panel phono jack.

### FREQUENCY RESPONSE (PROGRAM & PA OUTPUTS):

±1.5 dB, 30 Hz - 20 kHz (Reference: 1 kHz)

### DISTORTION: (PROGRAM CHANNEL):

0.5% or less, 30 Hz - 20 kHz, +8 dBm output.

### SIGNAL-TO-NOISE (unweighted):

60 dB below +8 dBm out with -50 dBm signal to any low-level input.

### POWER REQUIREMENTS:

115 Vac, 50/60 Hz, 11 watts max.

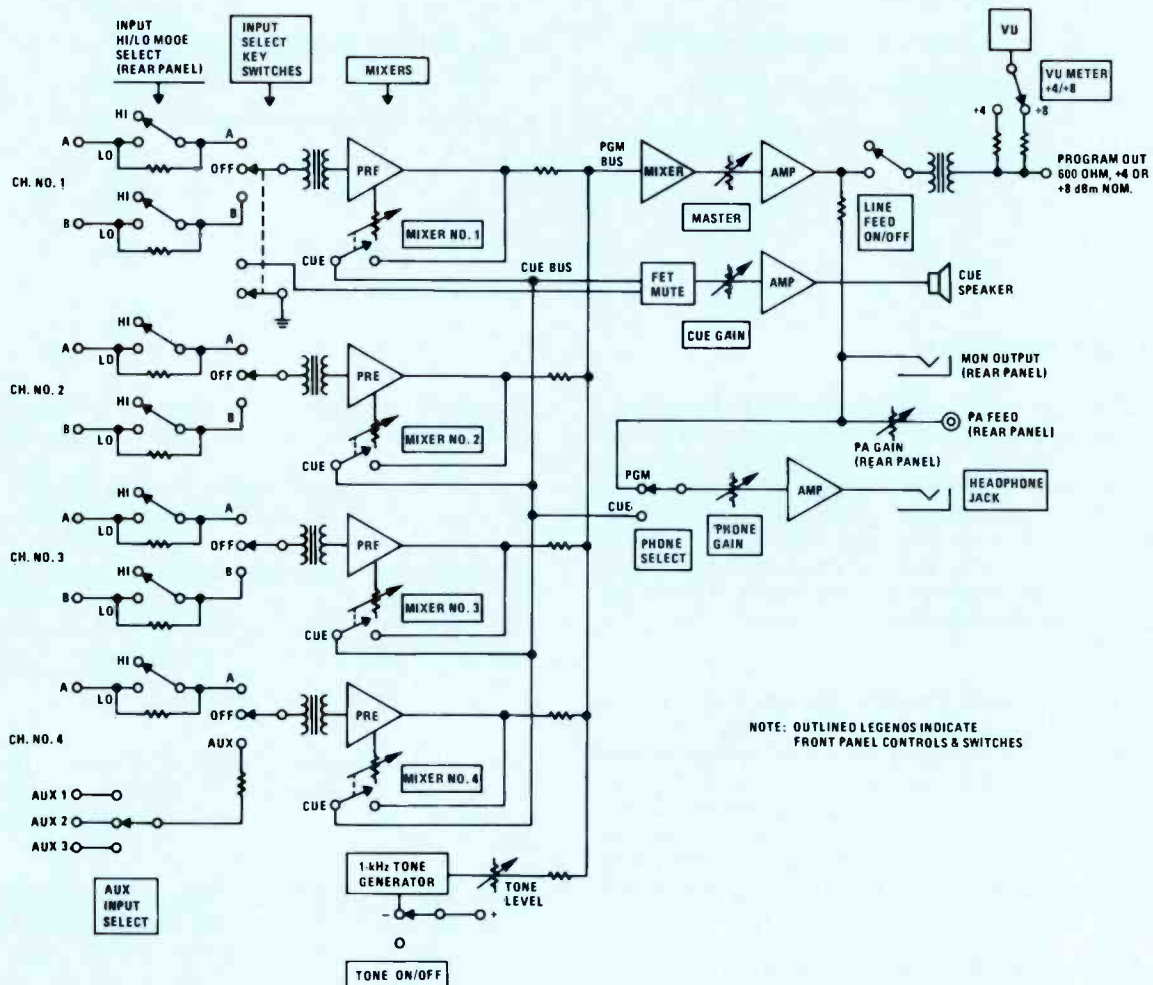
### DIMENSIONS:

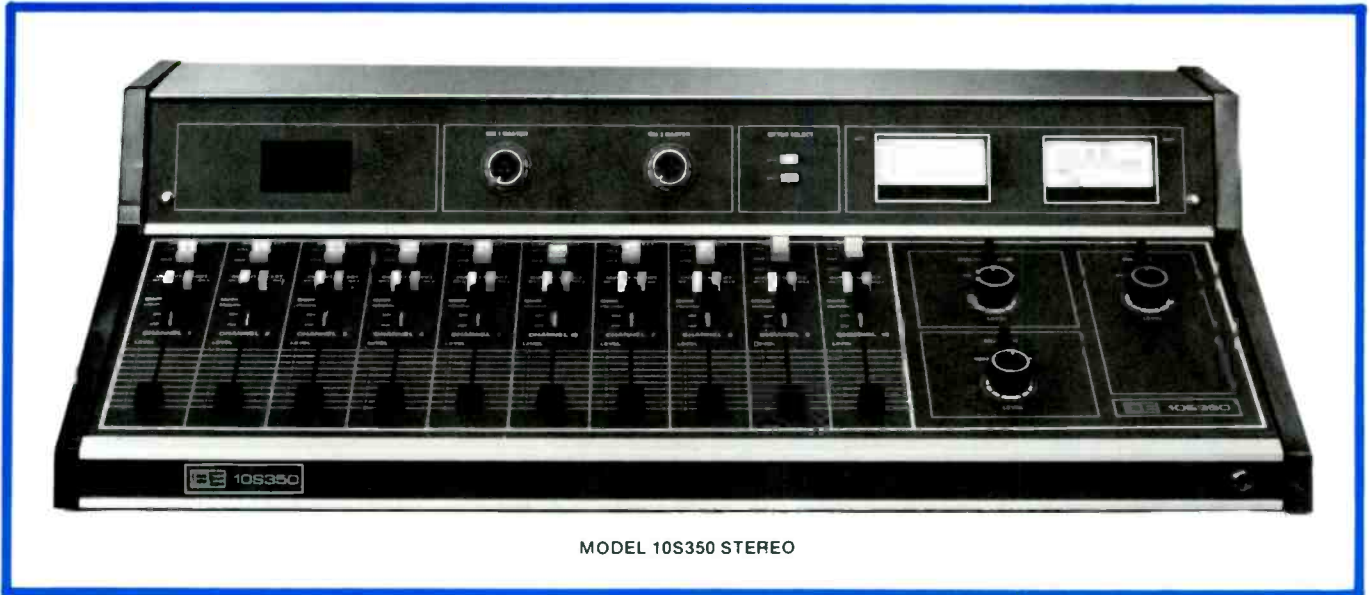
19" W, 10" D, 3.5" H (48.3 × 25.4 × 8.9 cm). EIA Std 19" rack mtg.

### SHIPPING WEIGHT:

14 lbs. (6.4 kg).

## BLOCK DIAGRAM





MODEL 10S350 STEREO

**FEATURES**

- 22 Inputs To 10 Slide Faders
- Modular Plug-In Electronics
- Dual Channel Output
- Elegant Styling
- Mono Or Stereo Models
- Contact-Free, FET Bus Selection
- Economical Price
- Durable Front Panel

**GENERAL DESCRIPTION**

**REASONABLY-PRICED, SLIDE-FADER CONSOLE** — To satisfy the increasing demand for multichannel vertical-fader flexibility, Broadcast Electronics offers in standard monaural or stereophonic configurations, at prices competitive with rotary-mixer models, the 10-channel 10M350 mono and 10S350 stereo dual-channel output consoles.

**NEW ATTRACTIVE, DURABLE STYLING** — A totally new styling adds durability and enhances the attractiveness of the 350 series consoles. The front panel features crisp, clean graphics under a laminated polycarbonate overlay. This tough protective surface makes it virtually impossible to scratch or wear the lettering away. The front panel should look as clean and fresh after years of normal usage as it did the day it was purchased!

**COMPLETE INPUT FLEXIBILITY** — Using the widely-accepted universal modular input preamplifier technique pioneered in BE rotary-mixer console models, the new consoles feature integral module presetting to permit individual input channel use for either low impedance microphone or line-level input service. The stereo model also features mono/stereo selection. Mixers #1 through #8 accept two inputs per mixer; and #9 and #10, three each. Input preselection is by interlocked pushbuttons. Mixer

outputs, by advanced, contact-free FET switching, may be fed separately or simultaneously to the dual output channels.

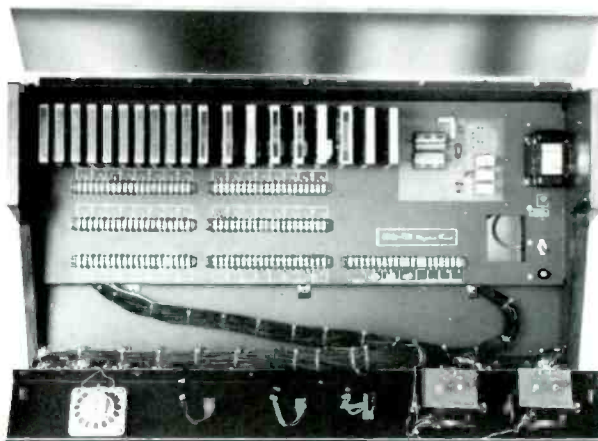
**PRE-FADER PREVIEW** — Multichannel consoles involving many inputs generally require presetting of the input channel fader positions. Cue switches operate independently of fader position. A lever switch, in an "operation mode select" function, determines program, cue or off assignments.

**DUAL CHANNEL OUTPUT** — The mono and stereo models feature dual line-level output channels; two for mono, four for stereo; with VU meter switching for level monitoring. Standard +8 dBm output levels, with +18 dBm capability to insure adequate "headroom," produce "zero-VU" meter readings. An additional monaural line-level output is a plug-in module option for the 10S350.

**FULL SYSTEM MONITORING** — 8-watt full-fidelity loudspeaker monitoring of all output channels, plus the convenience of 1-watt level mono or stereo headphone monitoring of the output channels and mono cue bus information assures maintenance of system quality.

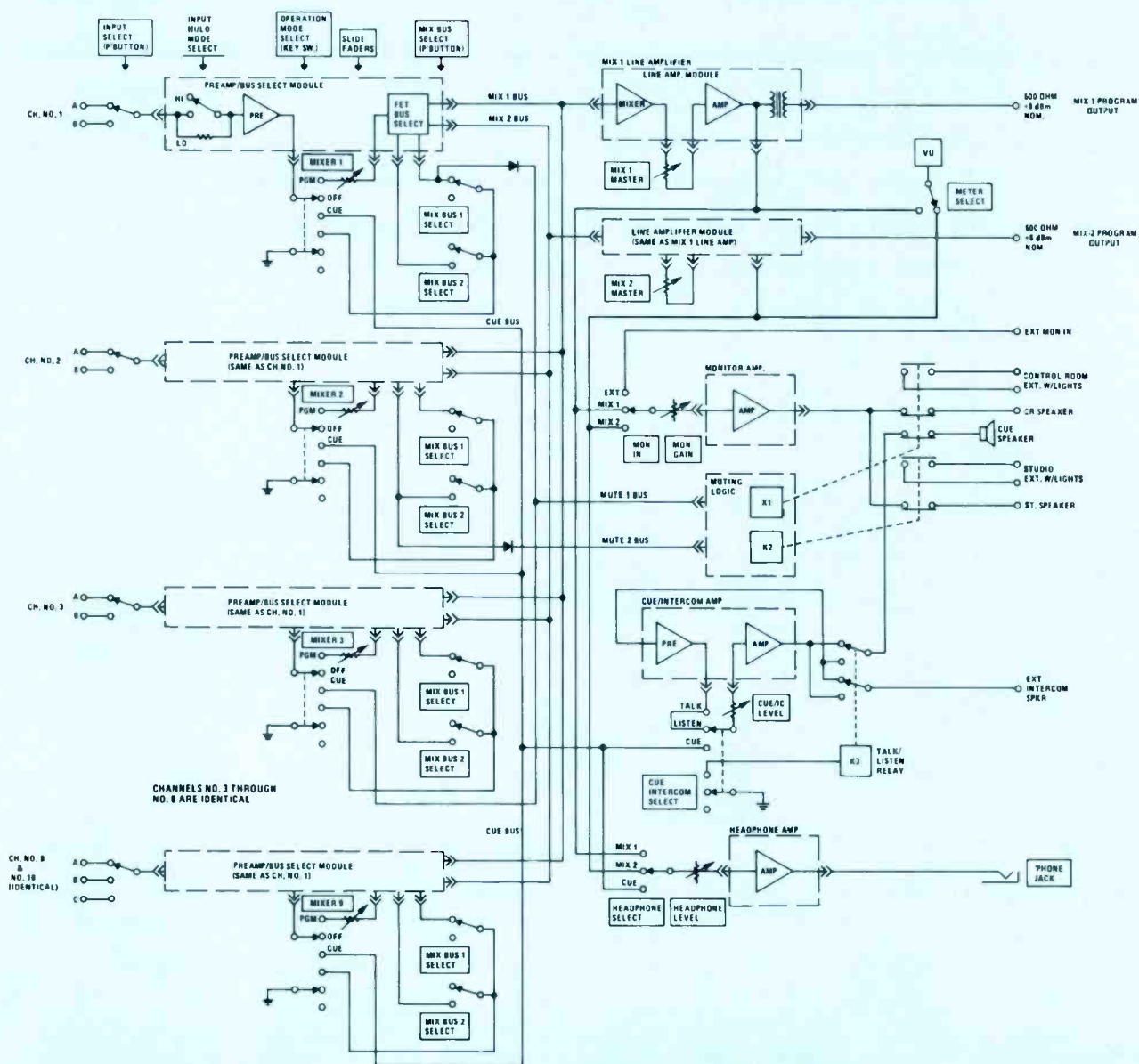
# 10-Mixer, Vertical Fader, Dual Channel

Internal view of Model 10S350 shows ready access to terminal boards for installation, and to attenuators, switches, modules and all components for easy maintenance. Note full complement of plug-in amplifiers.



## BLOCK DIAGRAM — MODEL 10M350 MONO

(10S350 Stereo: Basic System Essentially Identical, with Individual Left- and Right-Channel Capability)





## GENERAL DESCRIPTION (Cont.)

**CUE/INTERCOM SYSTEM** — In addition to conventional inbuilt loudspeaker monitoring of cue bus inputs, the integral 1-watt cue amplifier performs a two-way intercom function. With the addition of a small speaker in the studio, control room/studio intercommunication, controlled at the console position, is possible. The loudspeakers act as microphone transducers in the "talk" mode.

**MULTICHANNEL MUTING** — Speaker muting is normally assigned to Mixers 1 and 2. By diode matrixing this is readily modified or extended to other mixing channels. Contacts for external warning light operation are included on each relay.

**IDEAL FOR SOPHISTICATED, MULTIMIX APPLICATIONS** — Where simultaneous mixing and level control in excess of the two mixers at a time limitation of rotary fader consoles is a necessity, the multichannel mixing capability afforded by the exciting new BE 10-input, vertical-attenuator models at their surprisingly low prices, fill the void. Sophisticated styling in an easy-to-operate, human-engineered package make the standard "350 Series" consoles the obvious choice for complex "on-air," production, or TV studio use.

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
10M350	938-1051	10-mixer, slide-fader, dual-channel monaural console. Supplied with 10 preamps; 2 line amps; 1 monitor amp; 1 cue amp; 1 headphone amp
10S350	938-1050	10-mixer, slide-fader, dual-channel stereo console. Supplied with 10 stereo preamps; 4 line amp; 2 monitor amp; 1 cue amp; 1 headphone amp
3502	918-3502 838-0200	Mono matrix module, 10S350 230Vac Power Conversion

## SPECIFICATIONS

### PROGRAM CHANNELS

(Mono: 2; Stereo: 4)

#### Inputs:

Two per mixer. Channels 1-8; Three per mixer. Channels 9 and 10. Total: 22.

#### Input Impedances/Levels (Switchable):

Low Mode: 150 ohms balanced. -65 dBm nominal. 38 dBm maximum.

High Mode: 54K ohms Balanced Bridging. 20 dBm nominal. +20 dBm maximum.

#### Mono/Stereo Select (10S350)

In-phase stereo outputs from mono source.

#### Frequency Response:

±0.5 dB. 30 Hz - 20 kHz.

#### Distortion:

.05% IM & THD. 30 Hz - 20 kHz at +18 dBm output.

#### Signal-to-Noise (unweighted):

70 dB below +18 dBm output. -50 dBm input, 20 kHz bandwidth.

#### Output Impedance/Level:

600 ohms balanced +8 dBm for zero-VU meter deflection. +18 dBm capability.

### MONAURAL OUTPUT CHANNEL

(Optional, 10S350)

Same performance specification as program channels.

#### Inputs:

Pushbutton select. Program output channels and an external source.

#### Frequency Response:

±0.75 dB. 50 Hz - 20 kHz.

#### Distortion:

0.75% or less. 30 Hz - 20 kHz at rated output and load.

#### Output Power/Load:

8 watts rms per channel, 8 ohm load.

#### VU Meters:

10M350: 2 meters; Mix 1 & Mix 2

10S350: 2 meters: L & R switchable to mix 1 or 2

#### HEADPHONE AMPLIFIER

(Mono: one; Stereo: two)

1-watt rms per channel. Pushbutton selection of output channels and cue bus.

#### CUE/INTERCOM AMPLIFIER

1-watt rms mono output to built-in speaker. Input mono (or summed L+R, 10S350). Front panel intercom talk/listen/cue switching.

#### MUTING:

Two relays standard. As wired, Relay 1 mutes monitor/cue speakers with Mixer 1 operation; Mixer 2 controls Relay 2. Other combinations, field-assignable. Relays include 1A/125Vac contacts for external warning-light operation.

#### POWER REQUIREMENTS:

115Vac. 50/60 Hz (230Vac operation, optional).

10M350: 75W; 10S350: 110W.

#### DIMENSIONS:

36" W, 10.75" H, 19" D (91.4 × 27.3 × 48.2 cm).

#### WEIGHTS (Packed):

10M350: 80 lbs. (36.4 kg).

10S350: 85 lbs. (38.6 kg).



Model SL-4100 shown with eight mic/line mixing channels, two mic/line mixing channels with muting and two remote input channels.

**FEATURES**

- Vertical Faders
- Completely-Shielded Input Modules
- Low-Noise Reed Relay Bus Selection
- 12-Input Channel Capability
- Dual-Channel Output, Mono Or Stereo
- Modular Plug-In Electronics
- Transformer Balanced Inputs

**GENERAL DESCRIPTION**

**VERTICAL-FADER, MULTI-MIX FLEXIBILITY** — The Broadcast Electronics 4000-Series modular, dual-channel consoles, available in monaural or stereophonic models, afford the discriminating AM, FM or TV broadcaster a quality vertical-fader console at reasonable cost. These consoles fill the need for operating situations where a large number of input sources must be simultaneously mixed and controlled.

**THREE MIXING-CHANNEL MODULE TYPES** — The consoles accommodate up to 12 input modules of three different functions. The first type houses the components and electronics with provision for pushbutton selection of two sources and output feed to two mix busses. Preset switching establishes channel use for either low-impedance microphone or line-level inputs. The stereo model also includes mono/stereo switching whereby in-phase stereo outputs are produced from a monaural source.

The second type module is essentially identical to the first with the added feature of DIP-switch programmable muting-logic control of up to 16 different combinations of input/mix bus alignments.

The third accommodates three selectable 600Ω balanced remote line or network inputs (two stereo, one mono in the stereo model) with provision for program cue feed or intercom facilities to the remote origination loca-

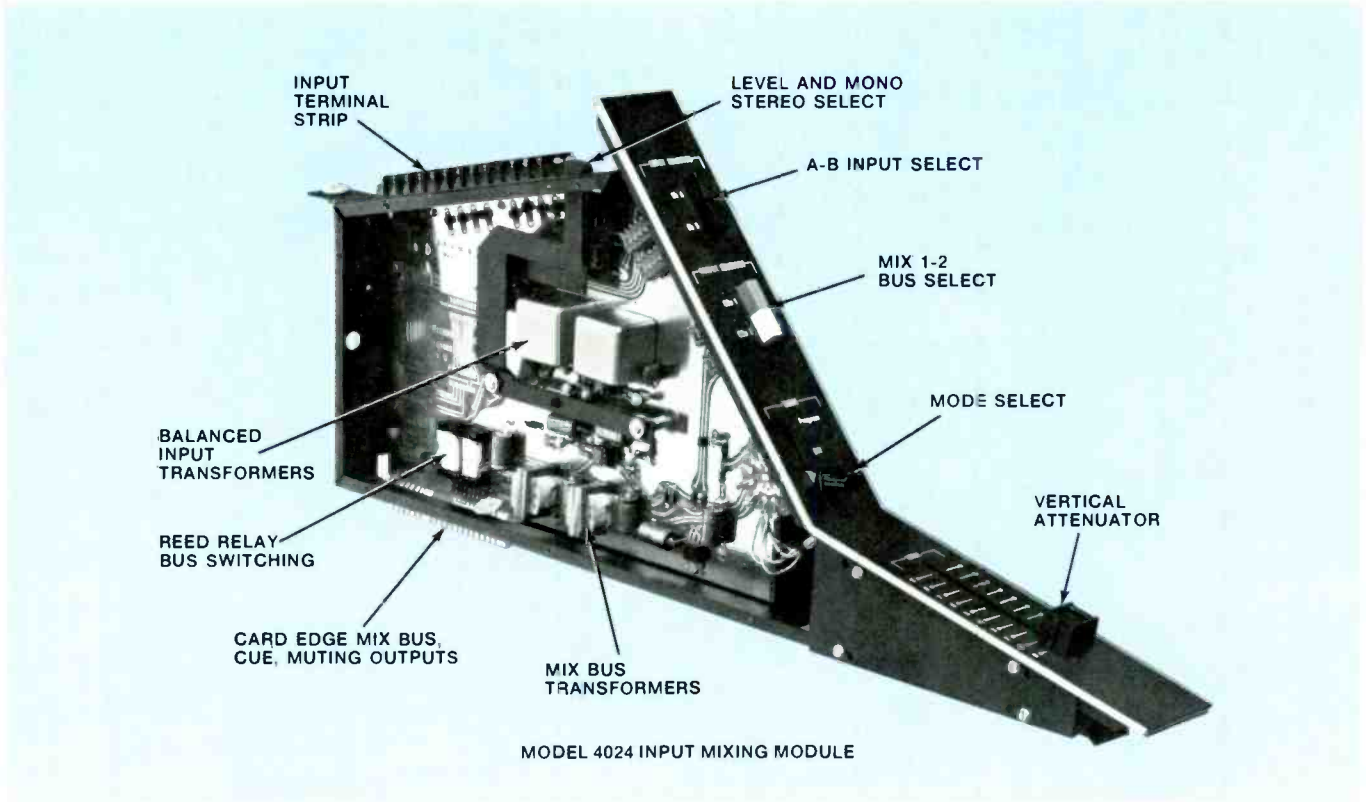
tion. The remote feed module is used in conjunction with a standard, unmuted input module and this combination occupies two module spaces.

**INDEPENDENT CUE SWITCHING** — When a large number of mixing channels are involved it is general practice to predetermine individual channel-fader positions. "End-of-travel" cue switch activation defeats this objective. The 4000-Series consoles feature individual prefader preview switching by utilization of a key-type "operation mode select" switch with program/off/cue indexing.

**SEPARATE, OR SIMULTANEOUS MIX-BUS SELECTION** — All mix busses are balanced and by color-coded push-button selection, the output of each mixing-channel module may be fed to either of two mix busses, or to both.

**VU METERING, ALL OUTPUT CHANNELS** — Each program output channel operates at a nominal +8 dBm output level with a minimum of 10 dB headroom reserve. Individual 3½" illuminated VU meters assure continuous visual monitoring of all program channels. The monaural model has two meters; the stereo model, four.

The stereo model is prewired to accept two optional mono mixdown modules where a "summed L+R" line-level, monaural output of Mix 1 and/or Mix 2 is desired for simulcast operation.



### GENERAL DESCRIPTION (Cont.)

**FULL-FIDELITY MONITORING** — Key-switch input selection of the program channels and an external source to the input of an 8-watt rms monitor amplifier (two provided in stereo model) produces excellent reproduction of the programming, appropriately muted at the operating position and in the various studios.

**HEADPHONE MONITORING WITH PROGRAM-CUE OVERRIDE** — Terminated in a front panel jack, headphone monitoring of either mono or stereo program outputs and mono cue bus information is accomplished at up to a 1-watt rms output level.

Program-cue "override" capability is a unique feature. In the cue mode, panel level controls permit intermix of program and cue signal to satisfy individual operating preferences.

**CUE/INTERCOM SYSTEM** — In addition to the normal cueing function, the 1-watt rms cue amplifier-speaker system is utilized for two-way intercommunication between the operating position and two studios. Small PM speakers in each studio with simple two-conductor interconnection to the console complete the intercom function. "Talk-listen" control is at the console position.

**COMPLETE MUTING-ASSIGNMENT FLEXIBILITY** — The consoles include four muting relays. Relay actuation is controlled by a C-mos quad and/or select gate system, programmed by dual 8-position DIP-type switches located in the input mixing module. The switches are labelled so that any combination of A-B inputs or Mix 1-2 outputs may be programmed to actuate a specific relay. Normally-open contacts on each relay are terminated for slave operation of external warning-light relays.

**AMAZINGLY-SIMPLE INSTALLATION, FULL ACCESSIBILITY FOR MAINTENANCE** — For a console of its system complexity, installation is surprisingly simple. External wiring enters through access openings in the console base. All input connections are made to labelled screw-type barrier strips on each module, easily accessible by raising the hinged top lid. Output connections are to similar-type terminals inside the right hand end of the console.

Individual input mixing modules are easily removed for servicing. Pressure-locked under the front-edge, leather-finish padded arm rest, a simple quarter-turn fastener at the top rear of the module allows its removal from a base-mounted printed circuit board socket. The right hand panel containing the VU meters and secondary operating controls hinges forward. The plug-in modular electronics (line output, monitor, cue and headphone amplifiers) are immediately behind this panel area and may be hinged upward for complete access to all system wiring. The console may be mounted tight to a wall without impairing access to wiring.

**FLEXIBILITY, OPERATING EASE, QUALITY PERFORMANCE** — The ever-increasing complexity of today's programming with its demands for simultaneous level control of many inputs is rapidly placing greater emphasis on vertical fader designs with their expanded manual control capability. Most consoles of this type are either of custom design at prohibitively high prices or are intended primarily for the recording or film industries. The 4000-Series Consoles have been designed by experienced, broadcast-oriented people — for the AM, FM and TV broadcaster. They perform the multi-functions you need — at prices competitive with many rotary-mixer consoles, with their basic "two-hand, two-mixer" limitation.



# 12-Mixer, Vertical Fader, Dual Channel

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
ML-4000	938-4000	Monaural dual-channel console chassis with provision for accepting up to 12 input modules.
SL-4100	938-4100	Stereo dual-channel console chassis with provision for accepting up to 12 input modules.
4021	980-4021	Mono Input Mixing Module, with muting logic.
4023	980-4023	Mono Input Mixing Module, less muting logic.
4025	980-4025	Mono Remote Input Module (feeds mono Input Mixing Module).
4022	980-4022	Stereo Input Mixing Module, with muting logic.
4024	980-4024	Stereo Input Mixing Module, less muting logic.
4026	980-4026	Stereo Remote Input Module (feeds stereo Input Mixing Module).
3602	918-3602	Mono mix-down module for stereo (4100) units.
	828-0200	230 VAC Power Option (either model).
	980-4008	Module filler panel (for unused module space).

Note: Mono mix-down module—When used, two modules required (one for MIX-1, one for MIX-2). Mix-down module is necessary to use feed function of remote modules in SL-4100 Console.

## SPECIFICATIONS

### PROGRAM CHANNELS (Mono: two; Stereo: four)

#### Input Mixing Channels:

12 module spaces provided. Remote input capability requires two spaces: one for remote feed module; one for associated standard input module. Blank face plates are installed on any open module spaces.

#### Input Impedances/Levels (Preamp Modules):

Low Mode: 150 ohms balanced, -70 dBm nominal; 30 dBm maximum.  
High Mode: 36K ohms balanced, bridging, 20 dBm, nom., +20 dBm maximum.

#### Input Impedances/Levels (Remote Feed Modules):

600 ohms balanced, 20 dBm, nom., +20 dBm max

#### Mono/Stereo Select (SL-4100):

In-phase stereo outputs from monaural source.

#### Frequency Response:

-0.5 dB, 30 Hz - 20 kHz.

#### Distortion:

0.5% or less, 30 Hz - 20 kHz at +8 dBm output.

#### Signal-to-Noise (unweighted):

70 dB or greater below +8 dBm output, with -50 dBm input signal.

#### Output Impedance/Level:

600 ohms balanced, +8 dBm nominal; +18 dBm maximum.

### MONAURAL OUTPUT CHANNEL

#### (Optional, SL-4100):

Same performance as program channels.

### MONITOR CHANNEL

#### (Mono: one; Stereo: two)

#### Inputs:

Mix 1, Mix 2, External; key-switch selectable.

#### Frequency Response:

±0.75 dB, 50 Hz - 20 kHz.

#### Distortion:

0.75% or less, 30 Hz - 20 kHz at rated output and load.

#### Output Power/Load:

8 watts rms per channel, 8 ohm load.

### HEADPHONE AMPLIFIER

#### (Mono: one; Stereo: two)

1 watt rms per channel. Pgm 1/Pgm2/Cue key-switch input selection. Program and cue levels can be intermixed in cue position. Front panel jack.

### CUE/INTERCOM AMPLIFIER:

1-watt rms mono output to panel speaker. Inputs mono or summed L+R in stereo model. Front panel Cue/Talk/Listen and studio intercom select by key switching.

### MUTING:

Four relays standard. Programmable assignment of any input/output bus combination. Relays include N. O. contacts terminated for external warning light operation.

### POWER REQUIREMENTS:

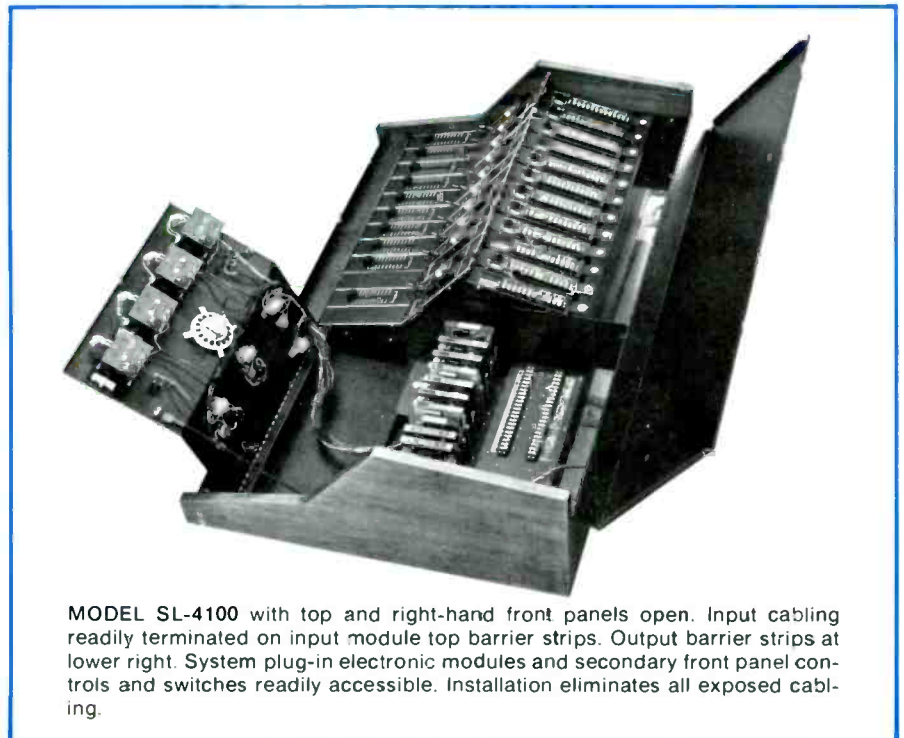
115Vac, 50/60 Hz (230Vac optional). ML-4000, 110W; SL-4100, 130W max.

### DIMENSIONS:

43.5" W, 11" H, 27.5" D (110.5 × 27.9 × 69.9 cm)

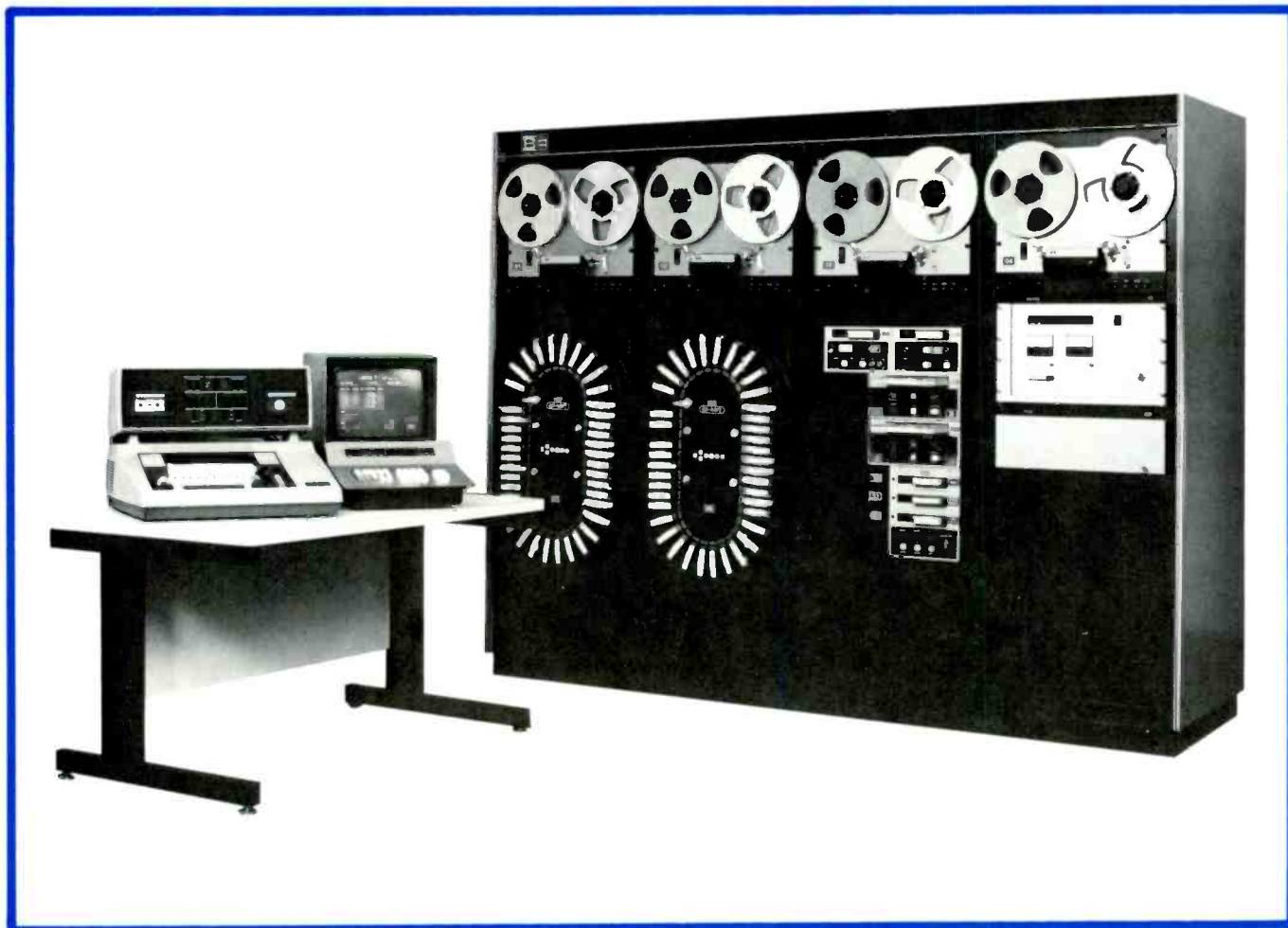
### WEIGHTS (Packed):

ML-4000/SL-4100 — 200 lb. with 10 modules, 215 lb. with 12 modules.



MODEL SL-4100 with top and right-hand front panels open. Input cabling readily terminated on input module top barrier strips. Output barrier strips at lower right. System plug-in electronic modules and secondary front panel controls and switches readily accessible. Installation eliminates all exposed cabling.

PROGRAM/AUDITION CHANNELS	MODELS 10M350 (Mono) 10S350 (Stereo)	MODELS 150 & 250 SERIES MONO & STEREO
MIXING CHANNELS	10 Vertical	5M/S-150/250: 5-mixers 8M/S-150/250: 8-mixers
Type Attenuation	Conductive Plastic Slide Control	150 Series: sealed potentiometers w/cue position 250 Series: step-type ladders w/cue position.
Inputs per Mixer	Channels 1-8, 2 ea. Channels 9 & 10, 3 ea. Total Inputs: 22	150 Series: 2 each mixer 250 Series: 2 each mixer, plus 4 unwired
VU Meters	10M350: 2 meters; Mix 1 & Mix 2 10S350: 2 meters; L & R switchable to mix 1 or mix 2	150/250 Series Mono: 2 meters; Audition and Program 150 Series Stereo: 2 meters; L & R 250 Series Stereo: 2 meters; L & R switchable to Audition and Program
Plug-in Amplifiers	10M350: 10 preamps; 2 line amps; 1 monitor amp; 1 cue amp; 1 headphone amp 10S350: 10 stereo preamps; 4 line amp; 2 monitor amp; 1 cue amp; 1 headphone amp	150/250 Series Mono: preamp for each mixer channel; 2 line amp, 1 monitor amp, and 1 cue/headphone amp 150 Series Stereo: preamp (stereo) for each mixer; 2 line amp, 1 monitor amp, and 1 cue/headphone amp 250 Series Stereo: preamp (stereo) for each mixer; 4 line amp, 2 monitor amp, and 1 cue/headphone amp
Mono Matrix	10S350: Mono Matrix Module 918-3602 Optional	150/250 Series Stereo: Mono Matrix Module 918-3602 Optional
Input Impedances & Levels	Microphone Mode: 150 ohms balanced, -65 dBm minimum to -38 dBm max. High Level Mode: 54kohms balanced bridging, -20 dBm minimum to +20 dBm max.	Microphone Mode: 150 ohms balanced, -65 dBm minimum to -38 dBm max. High Level Mode: 54kohms balanced bridging, -20 dBm minimum to +20 dBm max.
Frequency Response	±0.5 dB, 30 Hz-20 kHz	±0.5 dB, 30 Hz-20 kHz
Distortion	.05% IM and THD 30 Hz-20 kHz, at +18 dBm output	.05% IM and THD 30 Hz-20 kHz, at +18 dBm output
S/N Ratio	70 dB below +18 dBm output with -50 dBm input, 20 kHz Bandwidth	70 dB below +18 dBm output with -50 dBm input, 20 kHz Bandwidth
Output Impedance/Levels	600 ohms balanced. +8 dBm for zero VU meter reading. +18 dBm capability.	600 ohms balanced. +8 dBm for zero VU meter reading. +18 dBm capability.
MONITOR AMP		
Frequency Response	±0.75 dB, 50 Hz - 20 kHz (1 kHz reference)	±0.75 dB, 50 Hz - 20 kHz (1 kHz reference)
Distortion	0.75% or less, 30 Hz - 20 kHz @ rated rms output and load	0.75% or less, 30 Hz - 20 kHz @ rated rms output and load
Output Impedance/Power	8 watts rms per channel/8 ohm load	150 Mono, 250 Mono & Stereo: 8 W rms, 8 ohms 150 Stereo: 1.5 W rms. per channel, 8 ohms
HEADPHONE AMP	1.0 W rms per channel. Front panel jack and input select switching	1.0 W rms per channel. Front panel jack and input select switching
CUE AMP	1.0 W rms to integral cue speaker. Also functions as intercom amplifier	1.0 W rms to built-in cue speaker
MUTING RELAYS	2 relays standard. Assigned to Mixers 1 & 2. Other combinations readily field modified.	150 Series, 1 relay std. Second optional; 250 Series, 3 relays standard.
DIMENSIONS	36"W, 10.75"H, 19"D	5M150: 29"W, 15.75"D, 8.25"H, 49 lbs. 5S150: 29"W, 15.75"D, 8.25"H, 54 lbs.
SHIPPING WEIGHTS (PACKED)	10M350: 80 lbs. 10S350: 85 lbs.	8M/S-150: 33"W, 15.75"D, 8.25"H, 55 lbs. 5M/S-250: 29"W, 15.75"D, 8.25"H, 55 lbs. 8M/S-250: 33"W, 15.75"D, 8.25"H, 60 lbs.
POWER REQUIREMENTS	105-125V, 50/60 Hz (210-230V, 50/60 Hz optional)	105-125V, 50/60 Hz (210-230V, 50-60 Hz optional)



**FEATURES**

- Advanced Microprocessor Control With Unique Dual Processor Concept
- Intelligent Two-Way Communications Between Operator And System
- 3000 Program Events And 11 Functions For Optimum Programming Creativity
- Advanced Compare Time Capability With 500 Event Capacity
- Flexible Operation—Adapts To Any Format
- Superior Technical Performance
- Field Proven Reliability

**GENERAL DESCRIPTION**

Control 16 is a versatile management tool for effective program control. This unique program control system has the ability to smoothly handle even the most difficult program assignments. Formats such as All News, Religious, and Voice Track are carried out to perfection without any compromising. The precision of Control 16 produces a technically consistent on-air sound that is hard to match by live programming. The features described herein—many of them exclusive to Control 16—show how this new generation system can improve your station's programming.

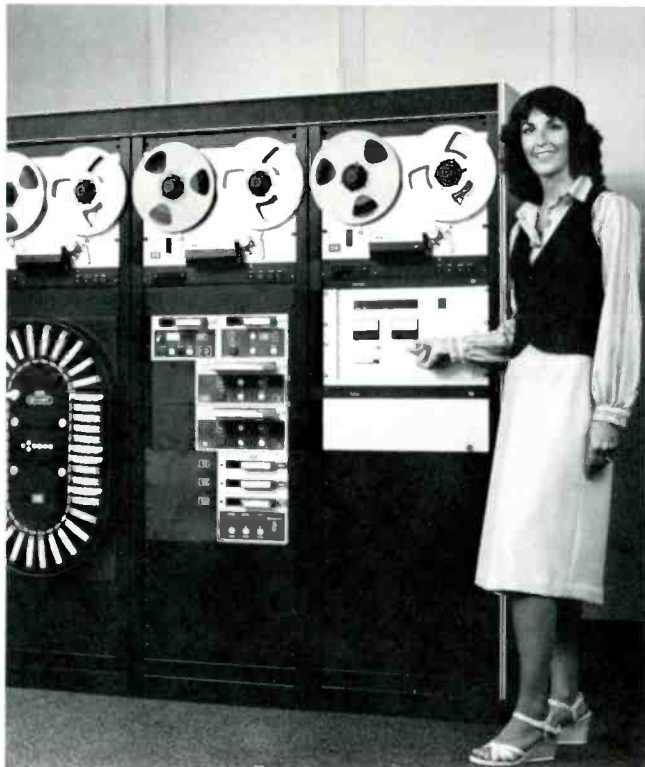
**VERSATILE PROGRAMMING** — All three popular methods of station programming can effectively be carried out...Sequential (when using cartridge music), Main/Sub (when using syndicated reel-to-reel music formats), and

Time Insertion (when programming a loose format). You decide which method best serves your needs. All three are standard.

**EASY SOURCE SUBSTITUTION** — Any source can be substituted for any other source! Source substitution avoids having to reprogram the memory should a source machine ever become defective. Simply substitute some other source to play in place of the defective source!

**AUTOMATIC MEMORY SEARCH** — Let Control 16 do the work. Any commercial announcement can be quickly searched out for deletion or reprogramming. The memory can be automatically searched for any source or any specific source and shelf.

## Control 16



**INSTANT DISPLAY OF ABORTED EVENTS** — Aborted events are instantly displayed with an English description of exactly what happened, where and why. There are 8 conditions that will cause an aborted event and each is fully displayed on the CRT:

- Source Power Off
- Silence Sense
- Power Failure
- Source Card Out
- Machine Error
- Disabled
- Source Not Ready
- Repeated Source

**UNIQUE SPECIAL EVENT INSERTION** — Two Special Event Insertions can be preprogrammed and inserted into the normal program sequence either manually or by time. Either Special Event Insertion can consist of a single event or a cluster of events. The exclusive cluster capability provides for a bulletin open/report/spot/report/bulletin close to be easily sandwiched into the normal program sequence without reprogramming. The insertion can also be reinserted as often as necessary without having to reprogram each time.

**CONVENIENT VOICE TRACK AND TIME ANNOUNCE DISABLE** — Both the Voice Track and Time Announce Decks, if used, are automatically disabled following a power failure, to avoid playing the wrong voice cut or time announcement on the air.

**DATA ERROR SENSING** — The operator instantly knows

when invalid data is being programmed. The word **Invalid** appears on the CRT and the keyboard sounds one pleasing beep. Programming a source to play back-to-back without the back-to-back function will cause a **Repeat Source** error.

Control 16's Data Error Sensing makes it virtually impossible to enter erroneous event or time data from the keyboard.

**FLEXIBLE "GO TO" COMMAND** — Control 16's unique "Go To" Command allows storing any number of program formats for later use. They can be easily called up at any time by the "Go To" command. No jump table or hard wiring of sub memory to restrict your programming creativity.

**SELF-CORRECTING DIGITAL CLOCK** — The crystal reference digital clock samples line frequency over a long period of time and feeds slight corrections back to the crystal, producing a highly stable time reference which has self-correcting capability. This self-correcting feature ends periodic clock resetting.

**UNIVERSAL SOURCE CARD** — A universal source card provides interchangeability between reel-to-reel and cartridge sources. This universal source card includes all components regardless of application and features:

- 25 Hz sensing for reel-to-reel sources
- Voice track update
- On-Air tally signal
- End of tape (reel-to-reel) alerting circuit
- Extend or defeat option of the system silence sensor
- 8 LED status indicators for diagnostics

**UNIQUE DUAL PROCESSOR CONCEPT** — Control 16's unique dual processor concept provides for limited **automatic** operation during emergency conditions. Should the main processor ever fail, the keyboard can be plugged directly into the Audio Control and up to 64 events programmed.

**SIMPLE AUTOMATIC RESTART** — Control 16 automatically restarts following a main AC power failure. If power is off less than 2 minutes, the next source is called on automatically.

**SEVEN DAY COMPARE TIME MEMORY** — Control 16 has an advanced design seven day compare time memory with a capacity for storing 500 time entries with 18 functions for programming the long weekends.

**FIVE EXCLUSIVE VIDEO DISPLAYS** — For making intelligent programming decisions quickly and easily.

- **Program Display** for monitoring on-air programming, and entering, editing, or reviewing other program events and compare times.
- **Assignment Display** for making initial system assignments such as Time Announce, Back Time/Dead Roll, Voice Track, etc.
- **Log Display** for reviewing the last 10 lines of program logging data.
- **Events Display** for reviewing the sequence of any 96 program events.
- **Compare Time Display** for reviewing the chronological order of any 72 compare times.





Up to three additional keyboards (left) can be added by simply plugging them in. Any number of low cost monitors (right) can be daisy-chained up to a maximum distance of 500 feet from the master CRT.



#### LIGHTWEIGHT, PORTABLE KEYBOARD

- Can be located up to 175 ft. from system.
- Engineered for logical and easy operation.
- Only 39 key switches in all-20 Mode Keys, 16 Data Keys and 3 Control Keys.
- Operator Error Sensing for assisting the operator in learning keyboard operation.
- LED display for next-to-run event, reviewing events, setting the digital clock, or making assignments.
- Three-way Electronic Lock prevents unauthorized access to the memory.

**ANNOUNCER ASSIST REMOTE CONTROL** — Control 16's portable keyboard puts the announcer in full command of music, commercials and other program material stored in the automation system. Any number of events can be set to segue automatically, giving the announcer time for other duties during periods of live programming. All events from the system, even during live programming, are automatically logged.

**BATTERY-BACKED POWER SUPPLY** — The power supply used in Control 16 features heavy duty components for a high degree of reliability. Includes battery backup for memory retention during power failure.

**CONVENIENT CUSTOMER PANEL** — For easy access to system inputs/outputs. Includes:

- Ten watt stereo monitor amps for clean, crisp audio.
- Four relay circuits for remote alerting of Next Source Not Ready, Logger Failure, Transmitter System Off The Air, and Aborted Event.
- Stereo and Mono Mix outputs at 600 ohms balanced.

**MICROPROCESSOR AUDIO CONTROL** — One of Control 16's new-generation microprocessors is located in the audio control. It makes decisions for proper program execution and checks system status for alerting the operator. Other features include:

- Full system audio monitoring with left and right meters. Pushbutton selector switches for monitoring Program, Off-Air, Cue, and External. Each can also be monitored in the SUM/NULL mode.

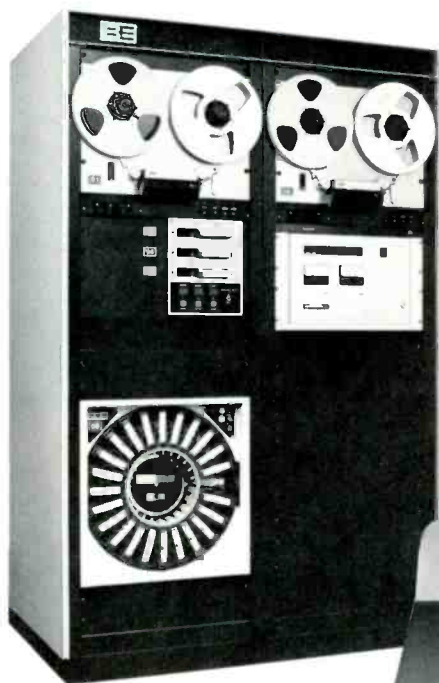
- Front panel digital display of on-air source and shelf.
- Front panel indication of the EOM (End of Message) from the on-air source.
- Front panel alarm indicator and reset switch.
- Self-correcting 12/24 hour digital clock with one pulse per second output for external use.
- Dual Program Bus with adjustable level reduction for voice-over.
- Dual Silence Sensing of system's audio and of the off-air audio.
- FSK logging decoder with 10 line data buffer.
- Easy access to switches, and level controls located on back of swing-out front panel.
- Capacity for 16 sources, including a dedicated 600 ohm balanced input for network. Source capacity can be expanded to 32 or 47 sources.

**NEW GENERATION MAIN PROCESSOR** — Control 16's main processor includes one of the system's two identical high-performance microprocessor boards. This microprocessor checks entries for error; communicates with peripheral computer or printer for automatic memory loading or printing; stores your program format and commercial load as entered from the keyboard; and sorts compare times into chronological order. Other features include:

- 3000 event Program Memory expandable to 10,000 events. Standard memory is capable of storing advance programming for several days. Any one of 11 functions can be programmed with each event for creative programming.
- Seven day, Compare Time Memory for storing 500 compare times. Repetitive daily and hourly entries greatly expand the compare time capacity. Any one of 18 functions can be programmed with each compare time for versatile time control.
- Plug-in circuit boards located in slide-out chassis for easy access.
- Includes port for memory loading and printing, or for external business system.

#### ORDERING INFORMATION

See price list for all ordering and pricing information



Two-Rack  
Econo-Control 16  
System

**FEATURES**

- Microprocessor based system at economical price
- Field expandable to full Control 16
- Perfect for "live assist" programming
- 2000 program events, 10 repetitive compare times
- Full data error sensing
- Completely interchangeable universal source cards
- Same super or technical performance as full Control 16



Keyboard

The Econo-Control 16 is an economy version of Broadcast Electronics' highly successful, top of the line Control 16. Many of Control 16's unequalled features such as simplicity of operation and superior technical performance are retained in this new smaller program controller. Econo-Control 16 meets the broadcaster's demand for a small control system with a modest degree of sophistication.

**WHAT'S THE DIFFERENCE?**— Putting it quite simply, Econo-Control 16 does not use a CRT video monitor. It does, however, include the same portable lightweight Keyboard and the unique Audio Control unit as the full Control 16. This design concept makes Econo-Control 16 the only small microprocessor controller that can be expanded to include all the features of the top of the line video monitor systems.

Should your later needs require full two way communication, simply plug in the CRT video monitor and associated electronics to expand your Econo-Control 16 to include all the features of the full Control 16. Since the same Keyboard is used, the time required for operator retraining is minimized when expanding later.

**HOW ABOUT LIVE ASSIST?** — Econo-Control 16 fits in quite nicely with "live assist" programming. From the portable keyboard, the on-air announcer has easy access to all sources in the system. He can "random select" pre-recorded commercials and music to be played on the air at his discretion, thus allowing the announcer more time for creative live programming.

All pre-recorded material played on the air can be logged in full English with our optional "InteLog" automatic

program logging. This feature also relieves the announcer of the mundane task of manually keeping the log.

The announcer has full control of the audio playback sources (start, automatic, manual, fade, etc.) from the keyboard. This lightweight (only 9 lbs.) portable Keyboard is engineered especially for the live assist operation. It can be located up to 175 feet from the Audio Control unit. The large, conveniently located start switch provides easy operation without the need for visual contact.

Econo-Control 16 is a valuable tool for automatically selecting commercial announcements to be played during live sport events or telephone talk shows. Program only a few events ahead or a full 2000 events ahead and start each at the desired moment.

**WHAT DOES ECONO-CONTROL 16 OFFER?** — Econo-Control 16 is an advanced microprocessor controller that offers many operational features usually found only in the more expensive top of the line program controllers. Here is what you get with Broadcast Electronics' Econo-Control 16:

**2000 PROGRAM EVENTS** — You can use SEQUENTIAL, MAIN FORMAT/SUB FORMAT, or TIME INSERTION programming, with 2000 events standard. All 3 methods are included to provide the flexibility needed to meet your changing needs.

**11 EVENT FUNCTIONS** — Each event can be programmed with a function along with source and shelf data for positive program control. Functions include:

**LINK** — to link events together to prevent interruption by time update.

**MULTI-START** — for smoothly playing time announcements over music.

**BACK-TO-BACK** — for playing the same reel-to-reel source without stopping between selections.

**STOP** — to take manual control.

**RETURN** — for inserting commercials into a repetitive format.

**PREROLL** — for updating the voice track.

**RELAY** — for firing optional relays for switching on or off devices external to your system.

**UPDATE** — the event which the memory will go to when a time jump command takes place.

**PLAY** — tells the system to play this event normally.

**AVAIL** — leaves this event blank and available for later use.

**GO TO** — commands the memory to go to a specific event in memory.

**BUILT-IN SELF CORRECTING CLOCK AND COMPARE TIME MEMORY** — This crystal reference digital clock has many advanced self correcting features. The time memory has capacity for storing 10 entries which repeat on an hourly basis. Any one of 13 functions can be programmed with each time entry.

When the real time clock coincides with a time entry, the system will execute the function. Functions include: **STOP**, **RETURN**, **PREROLL**, **RELAY** (with optional relay panel), **START**, **JUMP**, **FADE & START**, **FADE & STOP**, **DEAD ROLL START**, **DEAD ROLL LIMIT**, **NETWORK EOM**, **SPECIAL EVENT 1 INSERTION** and **SPECIAL EVENT 2 INSERTION**.

**DATA ERROR SENSING** — The operator instantly knows when invalid data is being programmed by a pleasant sounding beep emitted from the Keyboard. Programming a nonexistent source or shelf will be sensed immediately and cause automatic reset for accepting valid data.

Programming a source to play back-to-back without the Back-to-Back function will cause a repeated source error. This feature prevents the common mistake of programming two commercial announcements back-to-back from the same random access machine.

Econo-Control 16's **DATA ERROR SENSING** makes it virtually impossible to enter erroneous event or time data which would otherwise disrupt your on-air sound.

**UNIVERSAL SOURCE CARD** — Econo-Control 16's source cards are truly universal. Only one type is used for all sources—reel-to-reel sources, single deck cartridge sources, random access sources, etc., and each is fully interchangeable with the other source cards. Each universal source card features:

- 25Hz sensing for reel-to-reel sources
- Voice track update control
- On-air tally signal
- End-of-tape (reel-to-reel tape) alerting signal
- System Silence Sense extend or defeat
- 8 LED diagnostic indicators

**SIMPLE SPECIAL EVENT INSERTION** — News bulletins or last minute program changes can be easily inserted into the normal program sequence either manually or by time. Two "Special Event Insertions" can be pre-programmed and inserted and reinserted in the program sequence as often as you like without having to reprogram each time. With the Econo-Control 16, you are never locked in or prevented from making last minute changes.

**UNIQUE ASSIGNMENT TABLE** — The unique assignment table means sources no longer have to be hard wired and dedicated to specific use such as Time Announce, Back Time/Dead Roll, or Voice Track. You simply assign, via the keyboard, the sources you want to use for Time Announce, etc., in the assignment table. Should you later decide to use these source playbacks for news, weather, sounders, voicers, etc., you only need to change the assignment table and not the source wiring.

**FULL AUTOMATIC RESTART** — Econo-Control 16 has the intelligence to automatically restart itself following a main AC power failure. Furthermore, if the source which was on the air when the power failure occurred was a single deck cartridge machine or reel to reel machine, it will be automatically recued off-the-air when power returns.

**DIAGNOSTIC PRINTOUT OF ABORTED EVENTS** (with optional printer) — Aborted events are instantly printed with an English description of exactly what occurred. There are 8 conditions that will cause an aborted event:

- Source Power Off
- Source Card Out
- Power Failure
- Machine Error
- (Source) Disabled
- Source Not Ready
- Repeated Source
- Silence Sense

Say, for example, the log printout reads:

```
02:05:02P 0005 PLAY 01-00 ***SOURCE POWER OFF***
```

From the description you can tell that source number 01 did not play at event 0005 when called upon at two seconds after 2:05 P.M., because the source power was not on.

**TO EXPAND YOUR ECONO-CONTROL 16** — The Econo-Control 16 is especially attractive to those broadcasters whose present needs do not justify the capabilities of the full Control 16, but who may want to expand to the full Control 16 at a later date.

If you decide to expand, simply add the CRT video monitor and Main Processor chassis to have all the benefits of the full Control 16. (See pages 53-55)

#### ORDERING INFORMATION

See price list for all ordering and pricing information



**TECHNICAL SPECIFICATIONS: CONTROL 16 AND ECONO-CONTROL 16**

<b>Program Output:</b>	+8 dBm stereo balanced 600 ohms
<b>Headroom:</b>	+12 dB
<b>Frequency Response:</b>	±1 dB from 40 Hz to 20 kHz with reference of 1 kHz at +8 dBm output and including 25 Hz filters
<b>Total Harmonic Distortion:</b>	Less than .5% at +18 dBm output from 40 Hz to 20 kHz
<b>Signal To Noise:</b>	70 dB or more below +8 dBm output. (Not including source noise)
<b>Stereo Separation:</b>	55 dB or more below +8 dBm output from 40 Hz to 20 kHz
<b>Cue to Program Separation:</b>	70 dB or greater for "0" dBm input to source
<b>25 Hz Filters Attenuation:</b>	55 dB or more (typically 60 dB) at 25 Hz below reference output of 1 kHz at +8 dBm
<b>Mono Mix Program Output (L+R):</b>	"0" dBm mono balanced 600 ohms following 25 Hz filters
<b>Headroom Mono Mix:</b>	+12 dB
<b>Source Audio Input:</b>	"0" dBm at 600 ohms unbalanced for +8 dBm output
<b>Network Audio Input:</b>	"0" to -25 dBm (adjustable) mono 600 ohms balanced
<b>Off-Air Audio Input (To Off-Air Silence Sensor and Monitor Panel):</b>	"0" dBm stereo 600 ohms balanced
<b>External Audio Input (To Monitor Panel):</b>	"0" dBm stereo 600 ohms balanced
<b>Monitor Amp Output:</b>	Stereo, 10 watts RMS/channel at less than .5% distortion
<b>Remote On-Air Tally (from each source card):</b>	Open collector 60 ma max.
<b>Clock reference output for external use:</b>	One PPS contact closure or TTL output

**REMOTE ALERTING OF SYSTEM STATUS**

1. Remote End of Tape Alerting (from each source card) is open collector 60 ma max.
2. Next to Run Source Not Ready is a contact closure with automatic reset when source becomes ready.
3. Aborted Event is a contact closure when an event is aborted for any one of 8 reasons: Source Power Off, Source Card Out, Source Was Not Ready, Silence Sense, Machine Error, Repeated Same Source, Source Disabled, and System Power Failure.
4. Logger Failure is a contact closure when log printer loses power or interconnect cable is disconnected with automatic reset when printer conditions are normal.
5. Transmitter System Off The Air is a contact closure when the Off-Air Silence Sensor detects silence from the off-air monitor. Has automatic reset feature when audio returns.



Features

- Electronic tab setting
• 32-line buffer memory
• Automatic error detection
• Full editing capability
• Automatic printout of encoding instructions
• Exclusive "Message Restore"
• Fast, reliable microprocessor encoding

General Description

Broadcast Electronics' high speed IntelLog represents the first real advance in operational convenience and printout of diagnostic messages in English logging since the early 1970's.

ENCODING

IntelLog's encoder is microprocessor controlled, and includes many unique features for fast, reliable encoding of cartridges with logging data.

Electronic Tab Setting - The Electronic Tab Setting feature is just like the tab stops on a typewriter, for ease in preparing your messages for neat, columnized printout...

IntelLog further simplifies the encoding process by printing step-by-step instructions guiding the operator through the encoding procedure.

Full Editing Capability - Messages stored in memory can be fully edited, not only for minor errors such as spelling, but also to add or delete several words at a time.

Exclusive Automatic Error Detection - IntelLog automatically compares the message being encoded on the tape with the message as stored in memory.

Message Restore - When updating a client's commercial, there is no need to re-type the logging message into the memory.

Table with columns for time, event type, and description. Includes entries like '02:05:39P 0008 PLAY 03-00 SOURCE CARD OUT', '02:08:34P 0011 PLAY 02-00 REPEATED SOURCE', and '02:29:53P 2902 PLAY 99-00'.

Log printout for IntelLog includes diagnostic codes and diagnostic descriptions to indicate abnormal program execution.

commercial is recorded on the cart and the old logging message encoded back onto the cart from memory.

32-Line Buffer Memory - IntelLog's encoder memory provides convenient storage of 32 single line messages, or any combination of multiple line messages up to a total of 32 lines.

IntelLog's encoder includes a five-position transfer switch for switching the data terminal used for encoding to other uses such as printing information from Control 16's memory.

DECODING

IntelLog provides an FCC acceptable log, complete with log heading, space for the operator to sign on and off, and exact start time for each event, along with the event and source number.

The six diagnostic codes tell you if an on-air event did not play to completion, and the reason why. For instance, the designation "FO" means the event was Faded OFF the air.

The nine diagnostic descriptions tell you if an event did not go on the air as scheduled, and the reason it did not play. They are:

- SOURCE POWER OFF, SOURCE NOT READY, DISABLED, SOURCE CARD OUT, REPEATED SOURCE, MACHINE ERROR, XMTR SYSTEM OFF THE AIR, XMTR SYSTEM ON THE AIR, POWER FAILURE.

Ordering Information

See Price List for all ordering and pricing information.

**FEATURES**

- Available in one-, two-, three- and four-bay configurations
- Identical to Control 16 automation racks for attractive, uniform installations
- Pleasing blue and black color scheme
- Louvered back door, top plate, side panels, cowlings and front mounting channels standard

**DESCRIPTION**

B.E. Series 4000 rack cabinets provide a convenient means for arranging equipment and at the same time give a neat appearance to the surrounding facility. They are especially desirable when used in a radio station containing a B.E. Control 16 or Econo-Control 16 program automation system, since the same racks are used in those products. This gives an attractive, uniform appearance to the installation.

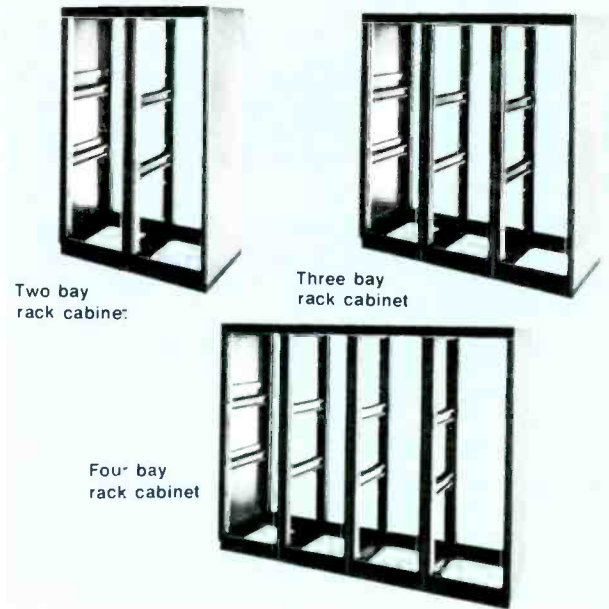
These heavy duty rack cabinets can be ordered in one-, two-, three- and four-bay configurations, depending on your current and future needs. Each rack cabinet, whether a single or multiple bay model, comes with the following standard components: louvered back door(s), top plate(s), side panels, cowlings, and front mounting channels. Door locks, rear mounting channels, plugmolds and blank panels can be ordered as options if needed.

The rack frames are black, with light blue side panels, top panels and doors. Trim strips and cowlings are brushed aluminum with black inserts.

All BE supplied Series 4000 rack cabinets undergo a modern prefinishing and painting process to assure a top quality finish. The units are sanded, phosphatized, painted, bake cured, and then carefully inspected before being shipped. A quality product in all ways, BE Series 4000 rack cabinets are a pleasing addition to any facility with rack-mountable equipment.

**ORDERING INFORMATION**

STOCK NO.	DESCRIPTION
840-4001	ONE RACK BAY with louvered back door, top plate, side panels, cowlings and front mounting channels. Dimensions 69-3/4" high, 23-1/4" wide and 25" deep. 35 rack units per rack. Unwired rack. Weight (packed): 222 lb.
840-4000	ONE RACK BAY, same as above except less side panels. Weight (packed): 148 lb.
840-4002	TWO RACK BAY with louvered back doors, top plates, side panels, cowlings, and front mounting channels. Dimensions 69-3/4" high, 45-1/4" wide and 25" deep. 35 rack units per rack. Unwired rack. Weight (packed): 346 lb.
840-4003	THREE RACK BAY with louvered back doors, top plates, side panels, cowlings and front mounting channels. Dimensions 69-3/4" high, 67-1/4" wide and 25" deep. 35 rack units per rack. Unwired rack. Weight (packed): 494 lb.
840-4004	FOUR RACK BAY with louvered back doors, top plates, side panels, cowlings and front mounting channels. Dimensions 69-3/4" high, 89-1/4" wide and 25" deep. 35 rack units per rack. Unwired rack. Weight (packed): 642 lb.



- 840-4005 Optional LOCKING flush handle for the above racks (H365L-L1-V for left hinged door), one per rack.
- 840-4006 Pair of "L" type rear mounting channels. (One pair required per rack) MXL-61
- 840-4007 3' Plugmold with 6 AC outlets. PM-36-6
- 840-4008 5' Plugmold with 10 AC outlets. PM-60-10
- 506-0175 1 1/4" Blank Panel - Black, 1 rack unit
- 506-0350 3 1/2" Blank Panel - Black, 2 rack units
- 506-0525 5 1/4" Blank Panel - Black, 3 rack units
- 506-0700 7" Blank Panel - Black, 4 rack units
- 506-0875 8 3/4" Blank Panel - Black, 5 rack units



**FEATURES**

- Symmetrical Or Asymmetrical Processing
- Adjustable Compression Release Time
- 1-Microsecond Attack Time
- +20 dBm Output Capability

**GENERAL DESCRIPTION**

**MAINTAINS HIGH AVERAGE MODULATION, PROTECTS AGAINST OVERMODULATION** — Designed for smooth, noise-free control of AM transmitter peak modulation, the Broadcast Electronics AM-400 Compressor/Limiter amplifier insures the AM broadcaster against overmodulation while automatically maintaining average modulation at optimum levels.

**125% POSITIVE, 100% NEGATIVE OR EQUAL 100% POSITIVE/NEGATIVE PROCESSING** — The AM-400 may be operated in a symmetrical mode, producing equal positive and negative output peaks, or alternatively in an asymmetrical mode which produces positive peaks at a 25% higher amplitude than the negative peaks.

**THREE-MODE OPERATION** — The AM-400 may be operated in three basic modes: a) Compression and limiting, b) compression only, or c) as a fixed-gain, conventional line amplifier. This switching, as well as the symmetrical/asymmetrical operation, plus power on/off switching are on the rear chassis apron.

**TAMPER-PROOF INSTALLATION** — Front panel, screwdriver access control of input and output line levels; compression release time; and selection of +4 or +10 dBm output level and relative gain metering permit presetting of all operating functions and parameters, free from subsequent inadvertent misadjustment or tampering.

**QUALITY CONSTRUCTION AND PERFORMANCE** — Packaged for rack-mounting in 3½" of space, the compact AM-400 unit contains all of the sophisticated electronic circuitry, with high quality components mounted on a readily-accessible, single printed circuit board. The AM-400 is subtly-styled to blend with other rack-mounted equipment.

Long-term reliability combined with guaranteed, broadcast-grade professional specifications give the AM broadcaster excellent audio signal processing capability at moderate cost.

**SPECIFICATIONS**

**Input Impedance:**  
600 ohms, transformer balanced.

**Input Level:**  
-20 dBm to +20 dBm for +20 dBm output.

**Frequency Response:**  
±1 dB, 30 Hz - 15 kHz (1 kHz reference).

**Distortion:**  
0.5% or less, 30 Hz - 15 kHz at +20 dBm output.

**Signal-to-Noise (unweighted):**  
60 dB below +20 dBm output with -20 dBm input.

**Output Impedance:**  
600 ohms, balanced.

**Output Level:**  
Adjustable, +20 dBm maximum. VU meter switchable for "zero VU" deflection at +4 dBm and +10 dBm nominal output.

**Compression Ratio:**  
30 to 1 max.

**Compression Release Time:**  
Adjustable, 5 to 40 seconds for 20 dB release.

**Limiter Attack Time:**  
1.0 microsecond.

**Controls/Switches:**  
Front Panel: Input Level, Output Level, Compression Release Time, Meter Switch (+4 dBm, +10 dBm, relative gain reduction).  
Rear Panel: Symmetrical/Asymmetrical

Modes; Compress/Limit, Compress Only, Test Modes; Power On/Off Switches.

**Power Requirements:**  
105 to 125 Vac, 50/60 Hz, 10 watts  
210 to 230 Vac, 50/60 Hz optional

**Dimensions:**  
19" Wide, 3.5" High, 5" Deep (48.3 × 8.9 × 12.7 cm)  
EIA Std. Rack Mtg.

**Weight (packed):**  
9 lbs. (4.9 kg).

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
AM-400	837-4001	AM Compressor/Limiter



**FEATURES**

- Overmodulation Protection
- Symmetrical Or Asymmetrical Modes
- Advanced Audio Processing Techniques

**GENERAL DESCRIPTION**

**ADVANCED AUDIO PROCESSING—SYMMETRICAL OR ASYMMETRICAL OUTPUT** — The Broadcast Electronics AM-500 utilizes advanced audio processing technology to produce an output of controllable, overall dynamic range that complies precisely with individual AM broadcast station programming objectives. Simultaneously, short-duration program peaks are restricted so as to minimize the possibility of overmodulation. The AM-500 may be operated in either a symmetrical (100% positive, 100% negative) or an asymmetrical (125% positive, 100% negative) output mode.

**THREE MODE OPERATION** — The AM-500 may be operated in three basic modes: 1) Compression, limiting and expansion, 2) compression only, or 3) as a fixed gain, conventional line amplifier. This switching, as well as the symmetrical/asymmetrical operation, plus power on/off switching, is on the rear chassis apron.

**AUDIO GATING FOR OPTIMUM LOW NOISE OPERATION** — Since extended periods of relatively low-level program material, or its total absence, would cause the comparator to sense a need for an extremely high degree of expansion, with a resultant increase in hiss, hum or background noise, this condition is avoided by audio

gating circuitry which holds the processor gain constant for a maximum 17-second period, then automatically reverts to the processor's fixed gain point. Whenever higher-level programming resumes, normal operation continues instantly.

**OVERMODULATION PROTECTION** — Protection against high-amplitude program peaks of short-duration is by means of a peak clipper. Only those peak signals which occur prior to peak level detection, generally a single cycle, will be clipped. Subsequent cycles will not, since the peak level detector rapidly senses these as a "compress command" to the comparator which, in turn, reduces overall gain.

**EASY, STRAIGHTFORWARD "SET-UP"** — Installation and set-up is simple. Input and output controls are adjusted, consistent with input source level and transmitter audio input requirements to produce the desired degree of either symmetrical or asymmetrical maximum modulation. A convenient test/operate switch is incorporated. In the test position, the AM-500 operates as a conventional line amplifier for conducting proof-of-performance measurements.

**SPECIFICATIONS**

**Input Impedance:**  
600 ohms, transformer balanced.

**Input Level:**  
-20 dBm to +20 dBm for +20 dBm output.

**Frequency Response:**  
±1 dB, 30 Hz to 15 kHz (1 kHz reference).

**Distortion:**  
0.5% or less, 30 Hz - 15 kHz at +20 dBm output.

**Signal-to-Noise (unweighted):**  
60 dB below +20 dBm output with -20 dBm input.

**Output Level:**  
+20 dBm max. (adjustable).

**Output Impedance:**  
600 ohms balanced.

**Maximum Overall Gain:**  
60 dB (full expansion).

**Maximum Expansion:**  
20 dB.

**Maximum Compression:**  
30 dB.

**Compression Ratio:**  
30 to 1 max.

**Compression Release Time:**  
Adjustable, 5 to 40 seconds for 20 dB release.

**Limiter Attack Time:**  
1.0 usec.

**Limiting Modes:**  
Symmetrical (equal positive and negative) or asymmetrical (positive 25% greater than negative) peak limiting.

**Controls/Switches:**  
Front Panel: Input level, output level, compression release time.

**Rear Panel:** Symmetrical/Asymmetrical modes; compress/limit/expand, compress only, test; power on/off.

**Indicators/Meters:**  
(Front Panel) gain reduction meter indicates nominal gain, and relative compression or expansion; audio presence and power line presence indicators.

**Power Requirements:**  
105 to 125 VAC, 50/60 Hz, 11 watts; 210 to 230 VAC, 50/60 Hz, optional.

**Dimensions:**  
19" W x 3.5" H x 9" D (48.3 x 8.9 x 22.9 cm.)

**Weight (packed):**  
9 lbs. (4.1 kg.).

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
AM-500	837-0500	AM Compressor/Limiter/Expander





**FEATURES**

- Independent Compression/Expansion Control
- Advanced Audio Gating
- Single 5¼" Rack Package
- Mono and Stereo Models
- Modular, Front Access Plug-In Electronics
- Dolby-B Compatible

**GENERAL DESCRIPTION**

**OVERMODULATION PROTECTION, PLUS FULL PROCESSING CONTROL** — The Broadcast Electronics FM-600 monaural, and FM-601 stereo AGC/Limiter amplifiers allow the FM broadcaster to modulate his transmitter at the highest permissible level and to precisely control the amounts of signal compression and expansion in order to maintain a desired station "sound." These amplifiers, unlike many audio processors, do not produce an uncontrollable "sound" of their own. Instead, they permit the broadcaster to smoothly establish the sound he wishes to produce . . . whether it be "the loudest sound in town" or the gentle "tailoring" of classical music with wide dynamic range. And this is accomplished with no "thumps", extraneous noise or distortion.

**AUDIO GATING—SMOOTH COMPRESSION AND EXPANSION CONTROL** — Innovative audio-gating techniques which sample incoming program material, automatically apply signal processing only when needed.

This gated operation mode allows 50 dB of automatic level control. Individual controls establish compression over a 0 to 30 dB range and expansion, if desired, from 0 to 20 dB. These control adjustments have no effect on maximum peak output levels nor on limiter attack time. In their full-on positions output is at nearly-constant amplitude. Thus a combination of control settings, precisely suited to individual station program material, is easily established.

**SIMPLE SET-UP AND OPERATING MODE SELECTION** — Set-up controls and operating mode switches are

mounted on plug-in modules accessible behind the hinged front panel. Mode switch functions include selection of: (a) 75-microsecond pre-emphasis; (b) 25-microsecond pre-emphasis (for Dolby-B compatibility); (c) flat-frequency response; (d) test (unit operates as conventional line amplifier. Convenient for proof-of-performance measurements); (e) full gated expansion/compression; and (f) limiting only. All mode switching may be controlled remotely by switch closures to ground.

**AUTOMATIC STEREO BALANCE** — Precise stereo balance is insured by matched, ultra-linear, temperature-compensated voltage-controlled amplifiers.

**COMPACT, SINGLE 5¼" RACK-MOUNTED PACKAGING** — The amplifiers replace, in a single 5¼" rack-mount package, separate interconnected AGC and limiting amplifiers. This is done without crowding and with front access to all electronics, which are on six labelled plug-in cards. Output levels plus compression and expansion are fully metered.

**EASY SET-UP, AUTOMATIC BY-PASS** — Set-up is straightforward, requiring adjustment only of input and output level, compression, expansion and expansion return rate controls. Typical of the consideration given to practical operating situations is built-in, automatic, by-pass switching in the event of power interruption and fully-regulated, self-protected power supplies.

# FM-AGC/Limiters Model FM-601 Stereo Model FM-600 Mono

## SPECIFICATIONS

**Input Impedance:**  
600 ohm, transformer balanced.

**Input Level:**  
20 dBm to +26 dBm for +20 dBm output  
(-20 dBm input yields +20 dBm output  
with zero compression or expansion).

**Frequency Response:**  
±0.5 dB, 20 Hz - 20 kHz (1 kHz reference).

**Distortion:**  
0.5% or less, 20 Hz - 20 kHz at +20 dBm  
output.

**Signal-to-Noise:**  
70 dB or greater below +20 dBm output  
with +20 dBm input.

**Output Impedance:**  
600 ohm, transformer balanced.

**Output Level:**  
Adjustable, +20 dBm maximum.

**Overall Gain:**  
60 dB with full expansion.

**Compression Range:**  
0 to 30 dB.

**Expansion Range:**  
0 to 20 dB.

**Expansion Recovery Rate:**  
Adjustable, 5 to 40 seconds for 20 dB ex-  
pansion.

**Average/Peak Ratio:**  
Adjustable, 35 dB minimum, 1 dB max-  
imum.

**Limiter Attack Time:**  
5 microseconds or less for 10 dB of  
limiting.

**Equalization:**  
Normal Mode: 75 microseconds, 25  
microseconds, or flat response (50/25  
usec or flat optional).  
Test or Limit Only Modes: Flat response.

**Operating Temperature Range:**  
0° to 55°C.

**Power Requirements:**  
105 to 125 or 210 to 230 Vac (switchable),  
50/60 Hz, 30 watts.

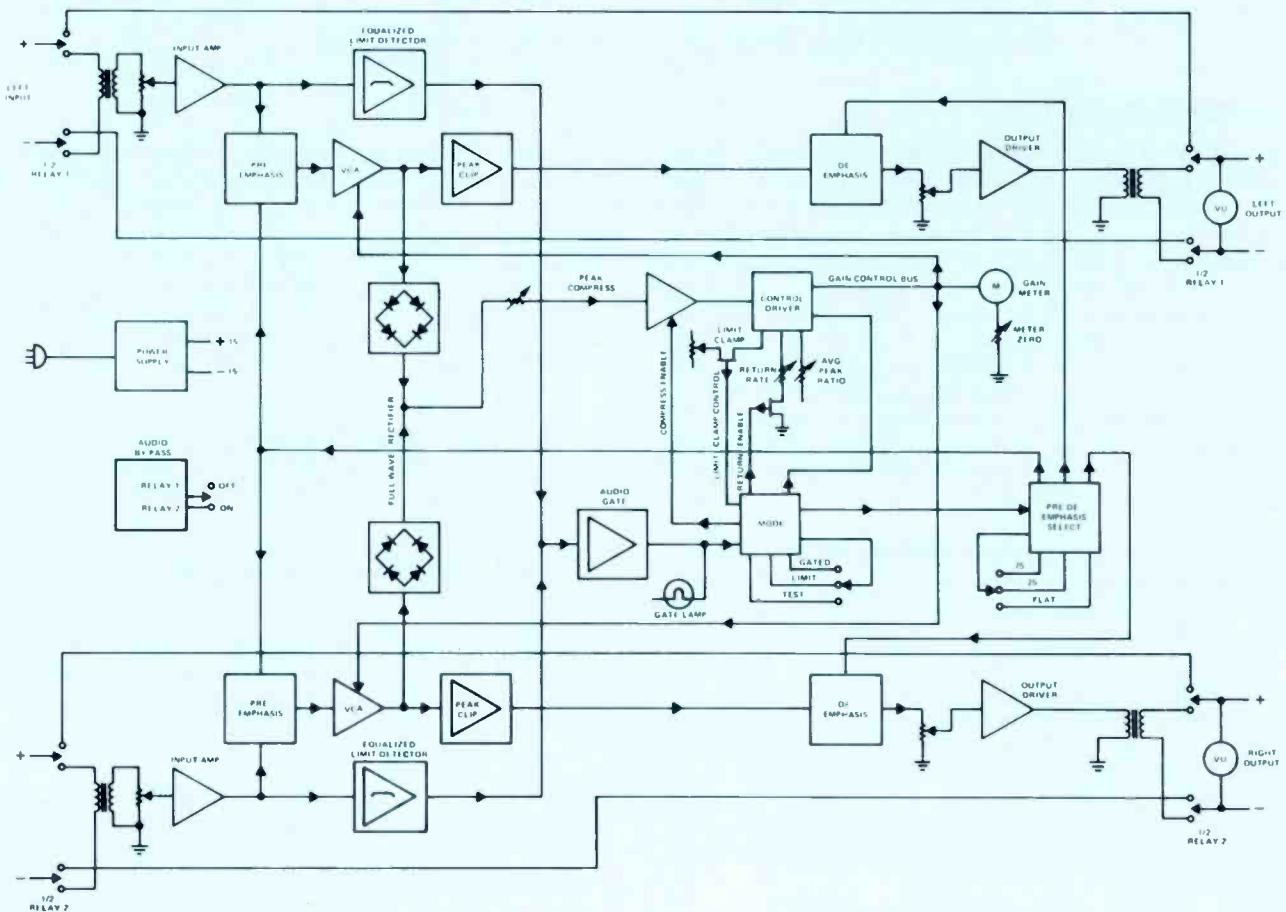
**Dimensions:**  
19" Wide, 5.25" High, 10" Deep (48.3 ×  
13.3 × 25.4 cm)  
EIA Std. Rack Mounting.

**Weight (packed):**  
16 lbs. (7.2 kg).

## ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
FM-600	837-0600	Mono FM AGC/Limiter w/mating 24-pin female conn.
FM-601	837-0601	Stereo FM AGC/Limiter w/mating 24-pin female conn.

## BLOCK DIAGRAM — MODEL FM-601 STEREO AGC/LIMITER



**GENERAL DESCRIPTION**

The AD1B Audio Distribution Amplifier distributes an audio input to multiple points within a studio system or to telephone lines. Facilities for visual and aural monitoring of the incoming signal are provided on the front panel by means of a VU meter and a headphone monitor jack. The meter and headphone jack also monitor the output from each channel. Locking-type controls are provided for adjusting each output channel.

Five highly isolated output channels are provided on the basic AD1B. Frequency response is essentially flat from 40 to 20,000 Hz. Distortion is well below 1% at rated output and peak overload handling capacity is in excess of 12 dB. Noise is better than 60 dB below rated output with 60 dB isolation between channels.

**FIVE CHANNEL EXTENDER** — The AD1B-X Extender is designed to expand the number of output channels provided by the basic AD1B unit if more than five output channels are needed. Each AD1B-X Extender provides five additional output channels and up to four Extenders may be added to each basic AD1B unit. Metering and audio monitoring are automatically provided to the AD1B-X Extenders by strapping between the basic AD1B unit and the AD1B-X Extenders.



**INPUT AND OUTPUT IMPEDANCE** — Both the AD1B and AD1B-X standard units are shipped with 600 ohm unbalanced emitter follower outputs for operation into 600 ohm or higher load impedances. If ordered with balanced transformer outputs, units are shipped with transformers connected for operation into 600 ohm or higher load impedances. Transformers may be reconnected for operation into 150 ohm load impedances, if desired.

Input transformers are standard on all units. Input circuitry may be operated either bridging or matching, balanced or unbalanced.

See price list for ordering information.

**SPECIFICATIONS**
**AD1B (BASIC UNIT)**

**Input Impedance:**  
600 ohms matching, 10 k ohms bridging.

**Output Load Impedance:**  
Emitter-Follower—600 ohms or higher.  
Optional transformer output 600/150 ohm.

**Maximum Input Level:**  
+30 dBm.

**Minimum Input Level:**  
-26 dBm matching, -10 dBm bridging.

**Output Level Per Channel:**  
+4 dBm (+14 dBm max.).

**Gain:**  
30 dB (matching), 14 dB (bridging).

**Frequency Response:**  
±1 dB 30-15,000, ±2 dB 20-20,000 Hz.

**Distortion:**  
Less than 1%.

**Noise:**  
65 dB or better below rated output.

**Channel Separation:**  
60 dB @ 400 Hz.

**Maximum Ambient Temperature:**  
55°C.

**Power:**  
115V, 50/60 Hz, 50 watts or optional 220V, 50/60 Hz, 50 watts.

**Dimensions:**  
19" W × 5¼" H × 7½" D.

**Weight:**  
9½ lbs.

**Mounting:**  
19" rack.

**AD1B-X (5 CHANNEL EXTENDER):**

**Input Impedance:**  
1200 ohms, unbalanced.

**Input Level:**  
+5 dBm.

**Gain:**  
Unity.

**Output Level Per Channel:**  
+4 dBm.

**Power:**  
115V, 50/60 Hz, 40 watts or optional 220V, 50/60 Hz, 40 watts.

**Dimensions:**  
19" W × 5¼" H × 7½" D.

**Weight:**  
8 lbs.

**BEM-10 MONITOR AMPLIFIER**
**GENERAL DESCRIPTION**

The BEM-10 is a conservatively rated wide power-bandwidth 10-15 watt rms audio amplifier. It is designed for system sound applications requiring one microphone and one program source. As many as twenty speakers (tapped ½ watt) may be driven from the 25 or 70.7 volt balanced output, or a single four-ohm speaker system may be driven to a full 15 watts rms from the unbalanced



output. The BEM-10 features a fully electronic page mute system.

See price list for ordering information.

**SPECIFICATIONS**

**Power Output:**  
10 watts rms—16 ohms unbalanced  
25/70.7 volt balanced line. 12.5 watts rms—8 ohms unbalanced. 15 watts rms—4 ohms unbalanced.

**Frequency Response:**  
±1 dB, 50-15,000 Hz.

**Hum & Noise:**  
Mic: 60 dB below 10 watts output.  
Pgm: 70 dB below 10 watts output.

**Program/Line Input:**  
25K ohm unbalanced; or 600 ohms balanced.

**Mic Input:**  
150 ohms balanced (internal transformer).  
Screw Terminals.

**Power Requirements:**  
115VAC, 50/60 Hz, 30 watts.

**FEATURES**

- Five Operating Modes
- Phase Reversal Capability
- +8 dBm Output
- Monaural Or Stereo



**GENERAL DESCRIPTION**

The Broadcast Electronics Turntable Preamplifier models BETMS-100 and BETMS-200 have been designed for today's professional studios. Employing the latest integrated circuit techniques, these preamplifiers provide accurate reproduction, outstanding reliability, and versatile operation.

**OPERATING MODES** — Both the BETMS-100 and BETMS-200 are dual channel units for use with monophonic or stereophonic phono cartridges. Either model operates in five modes:

1. As a single stereo preamplifier with stereo in/stereo out.
2. As a dual monophonic unit with two mono in/two mono out.
3. As a single monophonic preamp with one mono in/one mono out.
4. As a stereo to mono converter with stereo in/one composite mono out.
5. As a dual stereo to mono converter with stereo in/two composite mono out.

**SPECIFICATIONS**

**Output Level:**  
+8 dBm nominal, +16 dBm peak, into 600 ohms. Each output continuously adjustable.

**Output Impedance:**  
BETMS-100: 150 ohms unbalanced.  
BETMS-200: 600 ohms balanced, 150 ohms balanced (wiring option).

**Input Sensitivity:**  
5mV for +8 dBm output, at 1 kHz, full output.

**Input Impedance:**  
47,000 ohms resistive (50 pf parallel).

**Signal-to-Noise:**  
65 dB or better for 5mV input, +8 dBm output, 1 kHz.

**Equivalent Input Noise:**  
2.8 microvolts (116 dB below output with 600 ohm load).

**Channel Separation:**  
50 dB or better for +8 dBm output, 1 kHz into 600 ohms, with 5mV input.

**Frequency Response:**  
±1 dB of RIAA equalization curve, 50-15,000 Hz.

**Distortion:**  
Less than 0.25% THD at 1 kHz, +8 dBm output into 600 ohms.

**Equalization:**  
Standard NAB/RIAA Disc Reproduction.

**Front Panel Controls:**  
Power on/off, Left Output Level, Right Output Level, Mono/Stereo Mode Switch, Right Channel Phase Reversal Switch.

This operational versatility means the BETMS preamplifier is never obsolete. It also provides a true composite mono signal mixed from a stereo pick-up required for many records.

**HIGH PERFORMANCE STANDARD** — The BETMS does not sacrifice performance. Specifications are conservatively rated at the intended operating figures to truly reflect the unit's performance. As an example, the BETMS is rated for +8 dBm output with a 5 millivolt input signal, the output level of today's high compliance stereophonic phono cartridges. Noise, cross talk, and distortion are all specified from this operating condition.

**PHASE REVERSAL FEATURE** — The right channel phase reversal capability simplifies installation in stereo facilities. In monophonic facilities this feature permits correction of improperly mixed records.

**INTEGRATED CIRCUIT DESIGN** — The integrated circuitry of the BETMS provides trouble-free operation for the life of the unit. This circuitry also provides stable operation which ensures rated operation without field adjustment.

**Rear Panel Connections:**  
Right input, Left input, Right output, Left output, Ground terminal, 3-wire Power Cord.

**AC Power:**  
100 to 135 VAC, 50/60 Hz, 200 to 270 VAC, 50/60 Hz (optional), 6 watts max.

**Dimensions:**  
9.5" W x 6.5" D x 3" H (24.1x16.5x7.62 cm).

**Weight:**  
3.5 lbs. (1.6 kg).

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
BETMS-100	827-0100	Monaural/Stereo Equalized Pre-amplifier (less transformer output) with phase reversal feature
BETMS-200	827-0200	Monaural/Stereo Equalized Pre-amplifier (w/ transformer output) with phase reversal feature
	827-0220	220 VAC/50 Hz Power Conversion Installed

**FEATURES**

- Two- and three-speed models
- Heavy duty synchronous motor
- Solid cast aluminum chassis
- Rugged, maintenance free operation
- Only three moving parts
- Heavy duty aluminum platter
- Easy cueing

**GENERAL DESCRIPTION**

The Cue-Master 3-speed and the Studio-Pro 2-speed are professional quality turntables designed and manufactured to the highest standards of the broadcast industry.

**OPERATING FEATURES**—These include no slip starting, a smooth responsive speed control lever which allows speed change while the platter is in motion and easier, more positive cueing (when the lever is in neutral, the platter spins freely for hard to cue records). The drive system is a neoprene idler wheel transmitting power direct from the stepped capstan on the motor shaft to the inside platter rim.

**QUALITY DESIGN**—A heavy duty synchronous motor, a solid cast aluminum chassis, a heavy duty aluminum platter and the use of oilite bronze bearings throughout insure quiet operation and a long maintenance-free life. Each turntable has only three moving parts.

**PLATTER OFFSET**—Permits more compact turntable arrangement. Permits free movement of tone arms when units are installed side-by-side.

**CUE-MASTER SPECIFICATIONS**

Weight of entire unit ..... 15 pounds  
 Weight of platter ..... 5½ pounds  
 Chassis dimensions ..... 15½ by 15½ inches  
 Depth requirements below chassis ..... 6½ inches

The unit is powered by a heavy duty synchronous motor. Operating voltage 115V, 60 Hz. Also available for 220V, 50 Hz. Three speeds—33, 45, 78 RPM.

Acceleration is extremely fast, average results are 1/16 revolution of platter at 33 RPM's...1/10 revolution at 45...1/2 revolution at 78.

Chassis adaptable to any 12" tone arm.

Wow and flutter, less than 3/10 of 1%

Rumble (both vertical and lateral) minus 36 dB down from standard NAB level.

Standard color is BE blue with red felt platter cover. Special felt colors to match studio decor available on special order at slight additional cost.



**STUDIO PRO SPECIFICATIONS**

Weight of entire unit ..... 20 pounds  
 Weight of platter ..... 6½ pounds  
 Chassis dimensions ..... 15½ by 15½ inches  
 Depth requirement below chassis ..... 7½ inches

Unit is powered by a heavy duty synchronous motor. Operating voltage 115V, 60 Hz. Also available for 220V, 50 Hz.

2 Speeds—45 & 33 RPM's.

Detachable tone arm mounting plate adaptable to any 12" tone arm.

Acceleration, extremely fast, average results 1/16 revolution of platter at 33 RPM's, 1/10 revolution at 45 RPM's.

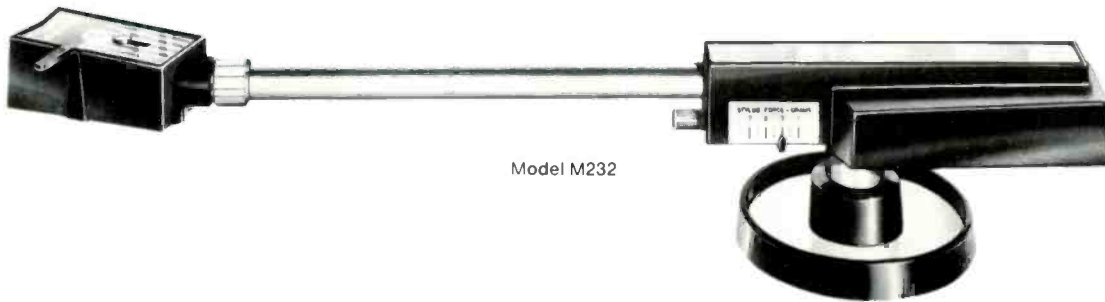
Wow and flutter—less than 2/10 of 1%

Rumble (both vertical and lateral) minus 38 dB down from standard NAB level assures the finest sound reproduction.

Standard color is BE blue with red felt platter cover. Special felt colors to match studio decor available on special order at slight additional cost.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
	821-0001	SPOTMASTER Studio Pro-B 12" direct drive 2 speed turntable (33-1/3, 45) w/hys. syn. motor
	821-0007	SPOTMASTER CueMaster 12" direct-drive 3 speed turntable
	821-0010	Additional cost for Power Conversion to 50 Hz
SP 33B	821-0040	Replacement Felt for Spotmaster Turntables (Red)
SP 5B	821-0045	Idler Wheel for Spotmaster Turntables
SP-24B	821-0060	Synchronous Motor, 60 Hz, with Capstan
	821-0050	Synchronous Motor, 50 Hz, with Capstan



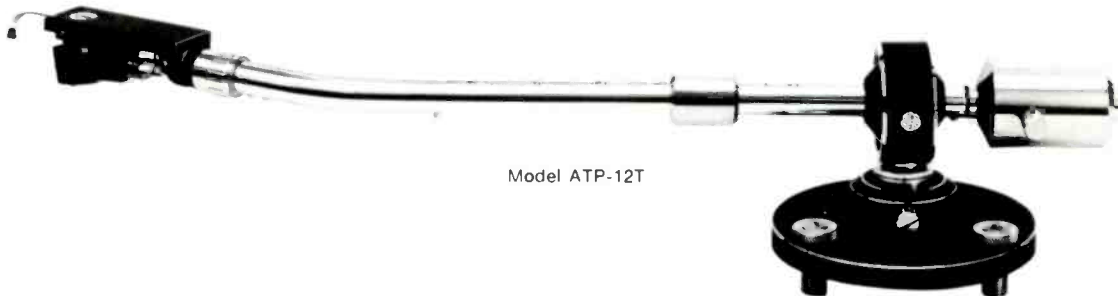
Model M232

**SHURE TONE ARMS AND CARTRIDGES**

Model M232/M236. High quality, rugged, simple arm for tracking at 1½ grams or higher. Full range of adjustments for static and dynamic balance, cartridge overhang, arm height, etc. Direct reading tracking force scale. Twist-to-lock head accommodates any stereo or mono cartridge. A real "workhorse" that takes abuse. Simple mounting through a single hole from the top of the table: plug-in cable. Model M232 is for 12" turntables; Model M236 for 16" turntables. Weight: 232, 1 lb.; 236, 1.125 lb.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
M232	821-4232	SHURE MODEL M232, 12" tone arm
M236	821-4236	SHURE MODEL M236, 16" tone arm
SC35C	821-4350	SHURE SC35C. Professional Broadcast Cartridge
SS35C	821-4352	SHURE SS35C. Spherical Stylus for SC35C
3009-III		SHURE SME Tone Arm, 3009 Series III
V15-IV		SHURE CARTRIDGE for SME Tone Arm
VN45HE		SHURE Replacement Stylus for V15-IV Cartridge
M44-7	821-4470	SHURE M44-7. Stereo Broadcast Cartridge with N44-7 Spherical .7 mil stylus
N44-7	821-4471	SHURE N44-7. Replacement Stylus for M44-7
N44-3	821-4472	SHURE N44-3. Replacement 78 RPM Stylus for M44 Cartridge



Model ATP-12T

**AUDIO-TECHNICA ATP SERIES**

The ATP-12T and ATP-16T turntable tone arms have many outstanding features: Fit wide range of turntable heights and base thicknesses; Sealed horizontal and vertical ball bearing pivots; Accurate, built-in VTF gauge, no accessory gauge needed; Precise equilateral leveling base; Decoupled counterweight shaft for arm resonance control; Low resistance, anti-corrosion, gold-plated connectors throughout; Simplified installation...plug-in head shell with color-coded wiring, 4 cartridge mounting positions; Handy arm lift and tone arm rest provided; Pre-wired, color-coded, low capacity cable with ground lug; Set screws provided to lock all critical adjustments, if desired.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
ATP-12T	821-0011	Audio-Technica 12" Tone Arm
ATP-16T	821-0012	Audio-Technica 16" Tone Arm
ATP-1	821-0013	Audio-Technica dual magnetic cartridge w/spherical diamond stylus
ATP-N1	821-0014	Replacement stylus for ATP-1
ATP-2	821-0015	Audio-Technica dual magnetic cartridge w/elliptical diamond stylus
ATP-N2	821-0016	Replacement stylus for ATP-2
ATP-3	821-0017	Audio-Technica dual magnetic cartridge w/nude elliptical diamond stylus
ATP-N3	821-0018	Replacement stylus for ATP-3

**MICRO-TRAK TONE ARMS**

The Micro-Trak 303 and 306 tone arms provide the low mass necessary for high compliance performance and also provide the strength necessary for 24 hour a day, on-line operation.

Features such as the impregnated wood body, laminated for high strength, the plug-in memory balancing head, sapphire jewel bearings for virtually frictionless vertical rotation, the fluid anti-skate mechanism, and the overall rugged simplicity of design make the models 303 and 306 an excellent choice in tone arms. Weight: 303, 1 lb.; 306, 1.25 lb.

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
303	821-0303	12" Micro-Trak Arm
306	821-0306	16" Micro-Trak Arm

**STANTON TURNTABLE CARTRIDGES**
**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
500AA	821-5002	Stanton Cartridge, .5 mil stylus
500AL	821-5000	Stanton Cartridge, .7 mil (extra heavy duty) stylus
681A	821-6810	Stanton Cartridge, Calibration standard, .7 mil stylus
681EE	821-6812	Stanton Cartridge, .2 x .7 mil elliptical stylus
D5107A	821-5003	Stylus for 500A Cartridge
D5105AA	821-5004	Stylus for 500AA Cartridge
D5107AL	821-5001	Stylus for 500AL Cartridge
D6807A	821-6811	Stylus for 681A Cartridge
D6800EE	821-6813	Stylus for 681EE Cartridge
D5127	821-6815	78 RPM Stylus for 500 Series Cartridge
D6827	821-6817	78 RPM Stylus for 600 Series Cartridge

**NOTE:** Other models of tone arms, turntable cartridges and accessories available.



**FEATURES**

- Modular Design For Complete Flexibility
- Single And Dual Turntable Cabinets
- Desk Top Section Mounts On Cabinets Or Metal Legs

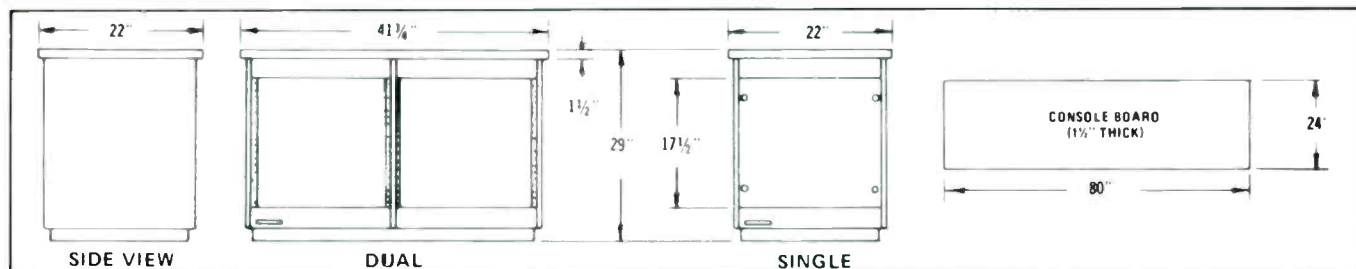
**DESCRIPTION**

A new look is offered in this modular control room furniture. This modular design provides a unique solution to the problem of providing functional workspace in the

broadcast studio. Turntables, tape cartridge machines, cueing, and switching control panels may all be located within arms reach of the main control board. This "human engineered" system provides almost ultimate flexibility in a group of off the shelf components used to make your custom studio installations.

Durable, color keyed, suede formica covered side panels (in a summer pecan wood grain finish) and tops (in French Blue) create an exciting attractiveness. Formica, with its inherent resistance to damage from coffee stains, cigarette burns, and the like insures that your furniture will maintain its initial beauty for many years. (Special colors available at extra cost.)

**OUTLINE DIMENSIONS**



**SPECIFICATIONS**

**Dual Turntable Cabinet**

**Size:** 41-3/4" wide x 22" deep x 29" high

**Finish:** "Summer Pecan" wood grain formica on vertical surfaces, French Blue formica on cabinet top. (Special colors available on order at extra cost.)

**Construction:** Panels fabricated from high density particle board 3/4" thick (front and rear closure panels 5/8" thick) with formica press bonded using urea type heat activated adhesive.

**Panel Space:** Two 17-1/2" high panel openings front and rear to accommodate standard 19" E.I.A. style equipment panels on steel mounting rails.

**Weight:** 117 lbs. Includes complete cabinet with wood grained closure panels for front and rear openings.

**Single Turntable Cabinet**

**Size:** 22" wide x 22" deep x 29" high

**Finish:** "Summer Pecan" wood grain formica on vertical surfaces, French Blue formica on cabinet top. (Special colors available on order at extra cost.)

**Construction:** Panels fabricated from high density particle board 3/4" thick (front and rear closure panels 5/8" thick) with formica press bonded using urea type heat activated adhesive.

**Weight:** 66 lbs. Includes complete cabinet with wood grained closure panels for front and rear openings.

**Desk Top**

**Size:** 80" wide x 24" deep x 1-1/2" high; 100 lbs.

**Finish:** French Blue formica

**Mounting:** Mounts on top of single or double bay cabinets or separate bright metal legs.

**Height Mounted:** (On cabinets or legs) 32"

**ORDERING INFORMATION**

STOCK NO.	DESCRIPTION
833-0001	Single Turntable Floor Cabinet (22"W x 22"D x 29"H)
833-0002	Dual Section Floor Cabinet (42"W x 22"D x 29"H)
833-0003	Console Desk Top (80"W x 24"D x 1 1/2"H)
833-0101	Leg, chrome, tapered, adjustable to 32", (4 req'd. for free-standing console section)
833-0103	Spacer block to mount desk top to floor cabinet, includes hardware.

Note: Other models of control room furniture available.

**Quartzmatic Studio Clock**

**FEATURES**

- Large 12" diameter face (glass lens protected) with 1-1/2" numerals, red sweep second hand
- Precision accuracy ±1 minute in one year
- Powered by 2" batteries for 1 year battery life
- White or tan face with charcoal numerals in woodhue case 2-7/8" deep × 14-1/8" diameter

Combines quartz crystal technology with sophisticated electronic circuitry to create one of the world's most accurate clocks.



**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
BECL-100	835-0100	Quartzmatic, white face
BECL-200	835-0100A	Quartzmatic, tan face

**Warning Light**

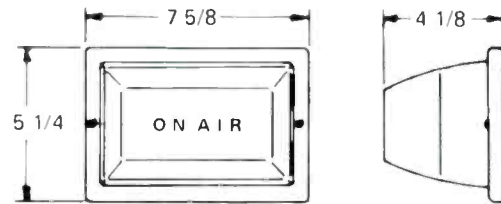
- Horizontal or vertical formats
- Unique design—readily adaptable to any office/studio decor



The STUDIO WARNING LIGHT is designed to mount to a flush wall or ceiling surface in a vertical or horizontal plane. The silkscreened globe housing fastens to a steel mounting plate. Ideally suited for control rooms, studios and above restricted entrances to live studios. Supplied complete with 25 watt red bulb and "Attention-Getter" flasher. Rated at 120V, 100 watts; UL approved. Available in Spanish, Portuguese or other languages. Also, special lettering available.

**ORDERING INFORMATION**

STOCK NO.	DESCRIPTION
835-0001	ON-AIR Light, Vertical Format
835-0002	ON-AIR Light, Horizontal Format
835-0003	AUDITION Light, Vertical Format
835-0004	AUDITION Light, Horizontal Format
835-0006	En Aire Light, Vertical Format
835-0009	En Aire Light, Horizontal Format
835-0007	Rehearsal Light, Vertical Format
835-0008	Rehearsal Light, Horizontal Format
835-0005	Record Light, Vertical Format
835-0010	Record Light, Horizontal Format



**Digital Cue Clock**

The Cue Clock is a digital timing unit with a capacity of 99 minutes and 59 seconds count down or count to time. Thumbwheel switches let you select the preset time while a separate selector indicates count up or count down.

Four push-button selectable inputs let you choose the source of the remote signal used to start the clock. Once started, the digital timer displays the count down or to the preset time. When the CUE light illuminates, a signal is sent to the 18 pin connector on the rear panel for use as a triggering signal to any external circuit function.

The Cue Clock's versatility makes it an ideal tool for many time related tasks including record intro's for Disc Jockeys, time delay or delayed start of program material



and as a standard electronic stop watch for timing commercials or announcements.

Simple, rugged construction, integrated circuits, self-contained power supply and no relays make this unit a dependable part of any system.

**SPECIFICATIONS**

**Max. Time:**  
99 min. 59 sec.

**Freq. Std.:**  
120 VAC/60 Hz Line

**Controls:**  
Count Up/Count Down  
Start  
Stop  
Set

Remote Start Selector  
Thumbwheel Sw. Array to Program  
Start/Stop Info.

**Readouts:**  
Four Digit Readouts for Time. GREEN LED for SET Indication RED LED for CUE Indications.

**Outputs:**  
1 Hz Clock Pulse  
60 Hz Clock Pulse  
Equipment Start Signal  
Equipment Stop Signal  
+ 18 VDC  
+5 VDC  
GRD  
Remote "SET" Indicator Signal  
Remote "CUE" Indicator Signal

**Timer Start Input Levels:**  
Accepts up to four "START" signals independently. These can be from 5V AC/DC to 120V AC/DC with the proper attenuator (2 Attenuator for 120 VAC supplied).

**Power Source:**  
120 Volts, 60 Hz, 10 Watts.

**Circuitry:**  
Solid State  
NO RELAYS

**Size:**  
9 1/2" Deep × 4 1/2" High × 10" Wide

**Weight:**  
6 1/2 lbs.

**ORDERING INFORMATION**

STOCK NO.	DESCRIPTION
829-1000	Digital Cue Clock



**ELECTRO-VOICE MICROPHONES**

**RE10:** Similar in design and construction to RE15, but for applications with slightly less rigid performance tolerances. Response: 90 - 13 kHz. Impedance: Lo-Z. Output: -56 dB. Weight: 6 oz. (170 g).

**635A:** Smooth, carefully shaped response yields "flat effect" when used close up. Built-in four-stage pop and breath blast filter. Cable and mounting clamp furnished. Response: 80 to 13,000 Hz. Lo-Z. Output level: -55 dB. Weight: 6 oz. (170 g).

**DO54:** Excellent professional recording, broadcast, and sound reinforcement — including band, orchestra, piano, vocal music, and speech with outstanding uniformity between microphones of the same model. Frequency response: 50 to 15,000 Hz. Dynamic element: -58 dB output. Weight: 6.5 oz. (184 g).

**RE15:** Highest quality professional super cardioid. Most uniform polar pattern at all frequencies ever offered in a cardioid microphone. Integral bass compensation switch. Cable and mounting clamp furnished. Response: 80 to 15,000 Hz. Impedance: Lo-Z. Output level: -56 dB. Finish: Fawn beige Micomatte. Weight: 6 oz. (170 g).

**RE85:** Quiet Lavalier — extremely free from friction or shock noise. Internal element suspended in compliant rubber. Response in chest-lavalier position: 90 to 10,000 Hz. Output: -61 dB. Omnidirectional. Lo-Z. 30' cable. Finish: Non-reflecting champagne. Length, 2-3/8". Dia., 1/16". Neck cord assembly, tie clasp assembly, belt clip, and zipper pouch furnished. Weight: 8 oz. (229 g).

**649B:** Smallest dynamic lavalier only 2-1/4" L., 3/4" dia. Response is carefully tailored to compensate for lavalier acoustic conditions so resulting signal perfectly matches signal from other microphones. Response: 70 to 10,000 Hz. Impedance: 150 ohms. Output level: -61 dB. 30' cable. Finish: Non-reflecting gray. With neck cord, belt clip, mounting clamp, and suede pouch. Weight: 1.1 oz. (31 g).

**NOTE:** Other Electro-voice models available.



**SHURE MICROPHONES**

**SM7:** The SM7 features a wide-range, very smooth frequency response, with graphic response-tailoring switches that allow the user to select four different microphone response curves: (1) extremely flat response; (2) low-frequency roll-off; (3) mid-frequency boost; and (4) a combination of both low-frequency roll-off and mid-frequency boost. Weight: 1 lb., 11 oz. (764 g).

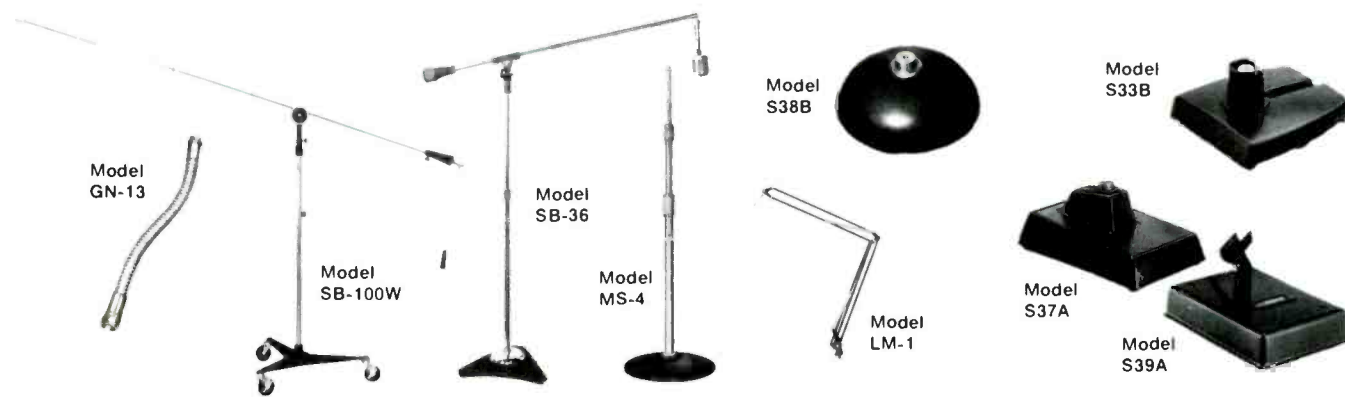
**SM61:** Combines outstanding noise isolation with a small, lightweight, handsome design especially for hand held applications in which mechanical shock, wind and cable noises must be controlled. A built-in shock mount reduces cable handling and mechanically induced noise to a negligible minimum. Model A57D Swivel Adapter included. Frequency Response: 50 to 14,000 Hz. Weight: 5.6 oz. (159 g).

**SM81:** The Shure SM81 cardioid condenser microphone is exceptionally well-suited to the critical requirements of professional broadcast, recording and motion picture usage and is highly reliable for field use. Features include wide range (20Hz to 20kHz Flat Frequency Response);

Precise cardioid polar pattern; Low noise level (16dBA); ultra-low distortion over the entire audio spectrum; and rugged, heavy-wall steel construction. Weight: 8 oz. (230 g).

**NOTE:** Other Shure models available.




**MICROPHONE STANDS**

**ATLAS MODEL SB-100W.** Mobile boom stand. Boom length 110". Adjustable vertical height from 61.5" to 92.5". Rugged cast steel base is equipped with swivel casters and 4" diameter wheels. Cable hangers provided for guiding mike cable. Weight: 47 lbs.

**ATLAS MODEL SB-36.** Professional boom stand. Boom length 62". Adjustable vertical height from 48" to 72". With cable hangers for guiding mike cable. Weight: 36 lbs.

**ATLAS MODEL SB-36W.** Same as Model SB-36 but with rubber casters for mobility. Weight: 40 lbs.

**ATLAS FLEXIBLE GOOSENECK.** Attach to any Atlas stand or adaptor. 5/8"-27 male and female threads. Chrome finish. GN-6, 6" long. GN-13, 13" long. GN-19, 19" long.

**ATLAS MODEL MS-4.** Special height stand, adjusts from standard to extra low heights for seated performers or children. Height: 25"-65". Weight: 11 lbs.

**LUXO MIKE ARMS**

**MODEL LM-1.** For mikes weighing up to 1 lb. Two extension arms for 41" length. Weight: 2.5 lb.

**MODEL LM-3.** For mikes weighing up to 1 lb. Three extension arms for 56" length. Weight: 2.5 lb.


**SHURE MICROPHONE MIXERS**

**M67.** For recording, studio or remote broadcasting amplification. Provides 4 balanced mike inputs, one line input. Headphone monitor jack, illuminated VU. AC or battery power. Noiseless, automatic switchover to battery if AC fails. Frequency response: 20 - 20,000 Hz  $\pm 2$  dB. Noise: -125 dBV. Distortion: less than 1%. Weight: 4 lbs., 7 oz.

**M68 SERIES.** Separate volume controls for each input, plus a master control for gain of all inputs. Frequency response: 30 - 20,000 Hz. Noise: -70 dB.

**MODEL M68.** Male Cannon XLR-3-14 type input connections.

**MODEL M68P.** Phone jack microphone inputs for high impedance microphones.

**MODEL M68FC.** Female Cannon XLR-3-13 type input connections.

**MODEL M68RM.** Provides adjustable reverberation to simulate large concert hall, etc.

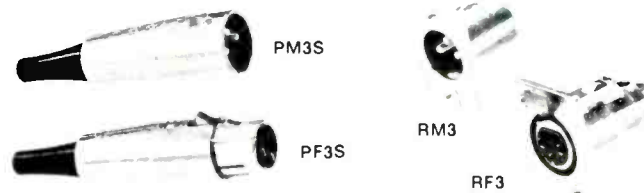
**SHURE DESK STANDS**

**MODEL S33B MODERN DESK STAND.** Black finish. For use with Microphone Models 330, 415, 430, 533, 545, 546, 548, 556S, 566, 571, 576, 578, 579, 580, 585, and 588. Weight: 2.5 lb.

**MODEL S37A MODERN DESK STAND.** Non-reflective, textured gray finish. For use with all microphones with swivel connector assemblies. Weight: 1.5 lb.

**MODEL S38B ROUND STAND.** Black finish. For use with Models 245, 275, 415, 430, 515, 533, 545, 546, 548, 565, 566, 575, 579, 580, 585, and 588 series. Weight: .625 lb.

**MODEL S39A VIBRATION-ISOLATION STAND.** For all applications where vibration is a problem. Fits all Shure microphones. Weight: 2.125 lb.


**ADC AUDIO CONNECTORS**

**PM3S.** Male Plug 3-Pin Connector with small grommet. Accepts up to .220" diameter cable.

**PM3 (XLR-3-11C).** Male Plug 3-Pin Connector with standard grommet. Accepts .220" to .270" diameter cable.

**PF3S.** Female Plug Connector with small grommet. Accepts up to .220" diameter cable. This plug features three contacts and a positive latch lock.

**PF3 (XLR-3-12C).** Female Plug with standard grommet. Accepts .220" to .270" diameter cable. This plug features three contacts and a positive latch lock.

**RM3 (XLR-3-32).** Receptacle Shell, Male 3-Pin Connector. Two mounting holes accept #4 screws. (Mounting hardware not supplied.)

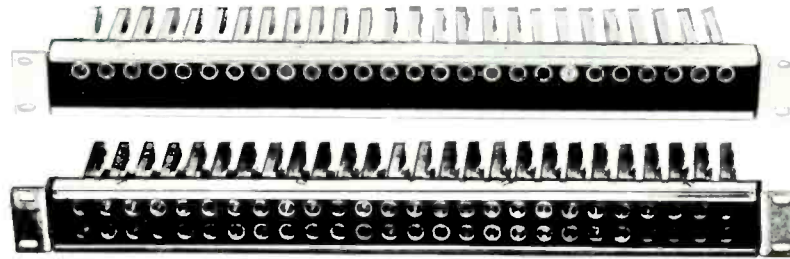
**CM3 (XLR-3-14).** Receptacle Shell, Male 3-Pin Connector. Three mounting holes accept #4 screws. (Mounting hardware not supplied.)

**RF3 (XLR-3-31).** Receptacle Shell, Female Connector. This receptacle features three contacts and a positive latch lock. Two mounting holes accept #4 screws. (Mounting hardware not supplied.)

**CF3 (XLR-3-13).** Receptacle Shell, Female Connector. Features three contacts and a positive latch lock. Three mounting holes accept #4 screws. (Mounting hardware not supplied.)

Single Jack Panel

Double Jack Panel



**ADC JACK PANELS**

Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 3/8" spacing. Mounting brackets furnished with each panel.

**Specifications**

**Panel:** Molded, thermoset plastic per Mil-M-14F, Type CFG, black.

**PJ-343 (PJ-33 Equipped with PJ-318 Jacks).** Single Panel. Holds 24 jacks — requires 1 3/4" panel space. Mounts on 19" rack. Weight 5 lb.

**PJ-341 (PJ-31 Equipped with PJ-318 Jacks).** Double Panel. Holds 48 jacks — requires 1 3/4" panel space. Mounts on 19" rack. Weight: 8 lb.

**PJ-393 (PJ-33 Equipped with PJ-339 Jacks).** Single Panel. Holds 24 jacks — requires 1 3/4" panel space. Mounts in 19" rack. Weight: 6 lb.

**PJ-391 (PJ-31 Equipped with PJ-339 Jacks).** Double Panel. Holds 48 jacks — requires 2 1/8" panel space. Mounts in 19" rack. Weight: 9 lb.

**ADC PATCH CORDS**

Length	Cord w/ PJ-1 Plugs
1 foot	PJ-11
2 feet	PJ-12
3 feet	PJ-13
4 feet	PJ-14
6 feet	PJ-16

**TWO CONDUCTOR SHIELDED,  
 DOUBLE PLUG  
 CORD ASSEMBLIES**

Two tinsel wire conductors plus a braided shield. Overall jacket braided nylon. Black nylon standard. Double PJ-1 plug on each end of cord.

**THREE CONDUCTOR SHIELDED,  
 SINGLE PLUG  
 CORD ASSEMBLIES**

Two tinsel wire conductors plus a braided shield. Overall jacket braided nylon. Black nylon standard. Single PJ-2 plug on each end of cord.

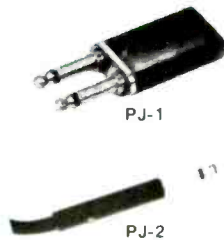
Length	Cord w/ PJ-2 Plugs
1 foot	PJ-71
2 feet	PJ-72
3 feet	PJ-73
4 feet	PJ-74
6 feet	PJ-76

**ADC PLUGS**

**TWO & THREE CONDUCTOR**

**PJ-1 — Equivalent WE-241.** Two conductor. Heavy duty die cast frame. Black phenolic shell. Has self-aligning plug sleeves on 3/8" centers for use with all standard jack panels. Double jack.

**PJ-2 — Equivalent WE-291A.** Three conductor. Cone shaped tip prevents momentary tip/ring shorting of jack during insertion. Mates w/all 3 conductor jacks, single jack.



**ADC JACKS**

**TWO & THREE CONDUCTOR**

**PJ-318 — Equivalent WE-218A.** Two conductor. Coin silver contacts welded to nickel silver springs. High grade phenolic insulation.

**PJ-339 — Equivalent WE-239A.** Three conductor. Coin silver contacts welded to nickel silver springs. High grade phenolic insulation.

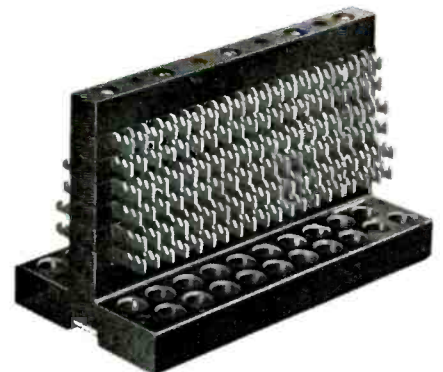


PJ-318

**ADC MOLDED TERMINAL BLOCKS**

Catalog No.	No. Rows	No. Terminals	Height
PJ-102	2	40	2.250
PJ-103	3	60	2.593
PJ-104	4	80	2.937
PJ-106	6	120	3.625
PJ-108	8	160	4.312

The ADC 20-Pin Terminal Blocks are molded of durable, black, thermoset plastic per Military specifications MIL-F-14F. Terminals are brass with a tin alloy plating for lasting solderability. The PJ-101 series blocks have terminals graduated in length for ease of wiring. All Terminal Blocks are numbered along the top row for easy terminal identification.



**MICROPHONE AND  
 AUDIO WIRE**



MODEL NO.
8412
8428
8437
8450
8451

STOCK NO.
829-4200
829-4201
829-4202
829-4203
829-4204

**DESCRIPTION**

Microphone cable, 2 conductor, stranded, 20 AWG braided shield, cotton wrap, heavy rubber jacket, 500 ft. roll. Weight 25 lb.

Microphone cable, 2 conductor, stranded, 18 AWG braided shield, heavy duty neoprene jacketed, 500 ft. roll. Weight 35 lb.

Audio Wire, 2 conductor, solid, 22 AWG w/drain wire and braided shield, black vinyl jacket, 500 ft. roll. Weight 14 lb.

Audio wire, 2 conductor, solid, 22 AWG w/drain wire, foil shield, vinyl jacket, 500 ft. roll. Weight 12 lb.

Audio wire, 2 conductor, miniature, 22 AWG, stranded, w/drain wire, foil shield, vinyl jacket, 500 ft. roll. Weight 14 lb.



**THINLINE WALL BAFFLES** — Attractive, wider, but a third thinner wall baffles with heavy-duty PA-quality speaker installed and wired; screw terminals. Top, sides and bottom covered in heavy wood-grained vinyl; specify blond or walnut. Cane grille. Front angle 10°. Impedance: 8 ohms.

**WITH 8" HIGH PERFORMANCE SPEAKER** — Rated 10 watts. 6.0 oz. ceramic magnet. Size: 12-1/4" wide × 4-3/8" deep × 9-3/4" high. Argos No. WB-408CS — With speaker. Argos No. WB-408CST — With 70.7 volt transformer.

**WITH 12" SPEAKER** — Rated 15 watts; 10 oz. ceramic magnet. Size: 16-1/4" wide × 6-1/4" deep × 14" high. Argos No. WB-212CS — With speaker. Argos No. WB-212CSV — Same, but with L-pad. Argos No. WB-212CST — With 70.7 volt transformer. Argos No. WB-212CSVT — Speaker, volume control and 70.7 volt transformer included. Argos No. WB-212C — Baffle only; for speaker 12"D.

**Headphones**

**HD 430** — An exclusive design advance with adjustable suspension strap for custom fit and comfort...and unique ear cushions which separate the ear from contact with the pad, yet permit a total open-air environment. Frequency range: 16 - 20,000 Hz. Distortion: less than 0.5%. Impedance: 600 ohms per channel. Weight 7 oz.

**HD 420** — Unbelievable combination of comfort and sound. Frequency range: 18 - 20,000 Hz. Harmonic Distortion: Less than 1%. Impedance: Less than 600 ohms per channel. Weight: 4 oz.

**HD 424 DELUXE** — Frequency Range: 15 - 20,000 Hz. Distortion at 1,000 Hz; less than 1% at a sound pressure level of 126 dB. Impedance: 2000 ohms per channel.

**HD 414** — Frequency Range: 20 - 20,000 Hz. Distortion at 1000 Hz; less than 1% at a sound pressure level of 126 dB. Impedance: 2000 ohms per channel. Weight: 5 oz.

**HD 400** — Frequency Range: 20 - 18,000 Hz. Impedance: 600 ohms per channel. Weight: 5 oz.

NOTE: Other models of headphones available.

**SENTRY V TWO-WAY MONITOR SYSTEM** — A new loudspeaker system designed to replace Sentry IA and IIA. The Thiele-tuned low-frequency section permits a reduction in overall size of more than 30% and extends low-frequency performance more than 15 Hz relative to the Sentry IA and IIA. The low-frequency section is driven by a new 10-inch direct cone radiator installed in a vented enclosure. Frequency Response: 32 - 18,000 Hz when using the SEQ equalizer; 45 - 18,000 without equalizer. Impedance: 6 ohms, nom.; 4 ohms. min. Power Handling Capacity: 30 watts. Size: 28 - 1/2" high × 20" wide × 11-3/4" deep. Weight: 52 lbs.

**EVS-13B, 8" 2-WAY** — Acoustic suspension system delivers outstanding bass for a system of diminutive size. A two-way design with separate 2-1/2 inch tweeter divides the audible spectrum, further reducing distortion and improving high-frequency dispersion. Continuously variable level control for tweeter. The enclosure is constructed of high-density panels permanently laminated to a quality vinyl covering. Response: 50 - 18,000 Hz. Crossover Frequency: 1500 Hz. Impedance: 8 Ohms. Power Handling Capacity: 70 Watts peak. Dimensions: 10" × 19"; 8 1/2" deep.

**MODEL MCA 8" LOUDSPEAKER** — Radax™ design provides extended highs and wider dispersion. Frequency Response: 50 - 13,000 Hz. Resonance: 75 Hz nom. Crossover: Mechanical, at 6000 Hz. Impedance: 8 ohms. Program Capacity: 24 watts peak. Size: 8-1/4" dia. × 3-1/16" deep behind panel; fits 7" baffle opening. Shipping Weight: 5 lbs.

**MODEL MC12A 12" LOUDSPEAKER** — Disperses crisp, clear highs and powerful bass, yet is shallow enough for wall mounting. Frequency Response: 40 - 14,000 Hz. Resonance: 60 Hz nom. Program Capacity: 40 watts peak. Impedance: 8 ohms. Size: 12-1/4" dia. × 3 1/2" deep behind panel; fits 11" baffle opening. Shipping Weight: 6 lbs.

NOTE: Other models of speakers available.



Thinline Baffles



HD 430



HD 420



HD 424



HD 414



D-150A



DC-300A



D-75

**POWER AMPLIFIERS**

**MODEL D-150A STEREO POWER AMPLIFIER** — Single or dual channel. Extremely low harmonic and intermodulation distortion with very low noise. Capable of a 50-volt balanced line output in mono mode. Output completely protected against shorted, mismatched or open loads. Cabinet optional. Packed weight: 29 lb. Power source: 120-240V, 50-400 Hz.

**MODEL DC-300A STEREO POWER AMPLIFIER** — Single or dual channel. Capable of 70-volt balanced line output in mono mode. Extremely low harmonic and I.M. distortion with very low noise. Output completely protected against shorted, mismatched or open loads. Cabinet optional. Packed weight: 55 lb. Power source: 120-256V, 50-400 Hz.

**MODEL D-75 STEREO POWER AMPLIFIER** — Extremely compact; fits into only 1 3/4" of rack space. Amplifier is invulnerable to short or open circuits, mismatch and RF energy. Power Output: 35 Watts RMS per channel at 8 ohms. Frequency Response: ±0.1 dB, 20 - 20,000 Hz at 1 Watt into 8 ohms (stereo). Harmonic Distortion: Below 0.05%. 20 - 20,000 Hz. Cabinet optional. Packed weight: 15 lb. Power source: 100-240V, 50-400 Hz.

**ESE DIGITAL TIMERS**

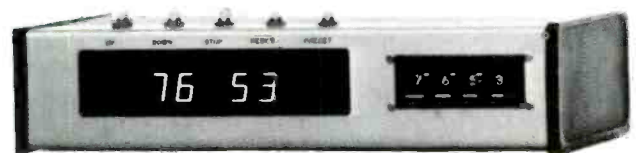
**ES 142/144 DIGITAL CLOCK/THERMOMETERS** — ES 142 (12 hr.) and ES 144 (24 hr.) are MOS. solid state digital clock/thermometers. Display simultaneously: 6 digits of time (hours, minutes, seconds) and 3 digits of temperature (-50°F to +150°F or -45°C to +66°C) in planar, gas discharge displays. 5 1/2" high. Attractive aluminum case with top and sides simulated walnut. Temperature sensor on 25 ft. cable included; attaches to rear-mounted connector. Dimensions: 2 1/2"H x 10"W x 6"D. Electrical: 12 W max. 117 VAC, 60 Hz. (220 V, 50 Hz optional.) Weight: 3.5 Lb.

**ES 302 TIMER** — Elapsed time indicator and can count both down and up. The ES 302 user can preset times with lever-wheel type switches. Dimensions: ES 302: 2 1/2"H x 10"W x 6"D. Case: Etched anodized aluminum w/simulated walnut sides and top. Electrical: 117 VAC, 60 Hz, 7 W max. (220 V, 50 Hz optional.) Weight: 3.5 lb.

**ES 510 SIXTY MINUTE TIMER** — A four digit, sixty minute timer (59 - 59) with start, stop and reset controls (single pole, momentary push-button). Runs continuously unless stopped or reset. If stopped, display will hold time reading and when restarted will continue with next count from last displayed figure. Reset returns display to all zeros. Can reset while running or stopped. Dimensions: 2-1/2"H x 6"W x 5-5/8"D. Case: Etched Aluminum. Electrical: 117 VAC, 60 Hz, 10 W max. (220 V, 50 Hz optional.) Weight: 3.5 lb.



ES142/144



ES302



ES510


**OTARI MX-5050-B**

**OTARI Mark II-2**

**MX-5050-B.** This compact 1 1/4", two channel recorder has all the proven features of the pace-setting MX-5050, such as front adjustable bias and record EQ, selective reproduce, edit and cue, test oscillator, plus: TTL/IC logic for noise free punch-in and punch-out; Three speeds in field selectable speed pairs of 15/7 1/2 or 7 1/2/3 3/4 ips; 24 dBm headroom, 28 dBm output; Dc capstan servo standard, with  $\pm 7\%$  speed control in record and reproduce; Peak reading LED's plus standard VU meter; and return to zero memory feature for production use.

All input and output connectors are three-pin XLR. Wow and Flutter: (NAB weighted) less than 0.06% at 7 1/2 ips. Frequency response: (overall record/playback)  $\pm 2$  dB, 30Hz to 23kHz measured at 15 ips at 0VU, + 4 dBm. Distortion: less than 0.7% at 1000Hz at 250 nWb/m. 117/220/240 volts, 50/60Hz. Output: + 28 dBm at 600 ohms balanced. Vinyl covered wooden cabinet standard. Portable case, floor console, or rack mounting adaptor optional. Weight: 53 lbs. (cabinet), 62 lbs. (portable case). Specifications at other tape speeds available on request.

**MX-5050-BF.** This recorder/reproducer is the same basic machine as the Model MX-5050-B but in a one-channel full track recorder/reproducer configuration with two-channel half-track reproduce capability.

**MX-5050-QXD.** A quarter-inch four-channel recorder with full professional performance and production features. Perfect for the small broadcast station, studio, educational or AV facility, and for serious audiophiles. The MX-5050-QXD features: exceptional signal-to-noise and crosstalk; front panel edit and adjustable cue; punch-in and punch-out record without clicks or pops; motion sensing control logic to prevent tape damage; 600 ohm output, variable or fixed level; plug-in boards and head assembly; test and cue oscillator; 15 and 7 1/2 ips tape speeds.

The transport and electronics are contained in separate cases to provide maximum versatility in mounting and installation. Vinyl covered wood cases are standard. Optional front and rear covers, rack mounting adaptors and a floor console with wheels are available as options. Weight: transport: 64 lbs; electronics: 33 lbs. (See Mark II Series for 1/2 inch, 4 channel machine.)

**MX-5050-8D.** This compact eight channel, half-inch recorder brings the benefits of multi-channel recording to small studios at an affordable price. Separate transport and electronics provide maximum installation flexibility. 15 and 7 1/2 ips tape speeds. Variable speed ( $\pm 7\%$ ) Dc capstan servo standard. Selective reproduce on all eight channels. Vinyl covered wood case standard. Rack mounting kit and floor console optional.

**OTHER OTARI TAPE RECORDERS AND ACCESSORIES AVAILABLE.**

**Mark II Series.** The Mark II series of compact professional recorders includes two versions — Mark II - 2, two channel, quarter-inch tape; and Mark II - 4, four channel, half-inch tape for production. In addition, the two channel version has an extra reproduce head for quarter-track stereo tapes. The main features of the Mark II series include: plug-in head assemblies; 7 1/2 and 15 ips tape speeds; separate transport and electronics for convenient table top, console or floor console mounting; Dc servo standard with  $\pm 7\%$  pitch control. The Mark II-2 is supplied as table top console; Mark II-4 is supplied in two vinyl-covered wood cases. Full range of options and accessories available.

### ORDERING INFORMATION

MODEL	STOCK NO.	DESCRIPTION
MX-5050-BF	822-5050	Mono one-channel full-track recorder / reproducer with two-channel half-track reproduce capability. Dc capstan servo. Three speeds in speed pairs of 15/7 1/2 or 7 1/2/3 3/4 ips, field selectable. 600 ohm balanced output. Vinyl covered wood cabinet.
MX-5050-B	822-5056	Stereo two-channel half-track recorder / reproducer with quarter-track reproduce capability. Dc capstan servo. Three speeds in speed pairs of 15/7 1/2 or 7 1/2/3 3/4 ips, field selectable. 600 ohm balanced output. Vinyl covered wood cabinet.
MX-5050-QXD	822-5051	Four-channel, quarter-track, quarter-inch tape recorder / reproducer. 15/7 1/2 ips. Dc capstan-servo system. 600 ohm unbalanced output. Two black vinyl-covered wood cabinets.
MX-5050-8D	822-5053	Eight-channel, half-inch tape recorder / reproducer. 15/7 1/2 ips. 600 ohm unbalanced output. Two vinyl-covered wood cabinets.
Mark II-2	822-5055	Two-channel, quarter-inch tape recorder / reproducer. 15/7 1/2 ips. Dc capstan-servo system. 600 ohm balanced output. Table top console.
Mark II-4	822-5057	Four-channel, half-inch tape recorder / reproducer. 15/7 1/2 ips. Dc capstan-servo system. 600 ohm balanced output. Two vinyl-covered wood cabinets.
ARS-1000-DC	822-5058	Two speed (7 1/2/3 3/4 ips), two-channel reproducer. 25 Hz sensor. Variable time delay. 19-inch rack mounting. For automation systems and other reproduce-only applications.
DP-4050-OCF	822-5059	8: 1 in-cassette duplicator. Open reel master (for 7 1/2 or 3 3/4 ips originals) with six cassette slaves.
DP-4050-CCF	822-5060	8: 1 in-cassette duplicator with cassette master and five slaves.

**REVOX MODEL B 77**

The Revox B 77 is built to provide superb performance tomorrow as well as today—and for many years to come.

The new B 77 incorporates a number of new features, including full logic tape transport control, coupled with tape-motion sensing, which enables the user to select any transport function without fear of tape damage. All operating modes, including pause, are actuated by feather-touch, contactless Triac switches. In addition, the electronics have been completely redesigned to give increased headroom (18 dB above 0 VU) to accommodate today's new generation of tapes, with a margin to allow for even hotter tapes yet to come.

The B 77 also features new larger VU meters with LED peak overload indicators, high-torque spooling motors, toggle switches for record pre-selection, and a new erase head for a full 75 dB of erasure.

For the broadcaster or serious audiophile, the B 77 offers easier access for exact editing of the tape, plus a built-in splicing block with self-sharpening cutter. The optional remote control duplicates all front-panel functions, with the added feature of a locking pause button. A variable speed control unit is also available as a user plug-in option, featuring both coarse and fine speed adjustments.

**SPECIFICATIONS**

**Tape transport mechanism:** 3-motor tape drive; 2 AC driven spooling motors; 1 AC driven capstan motor, electronically regulated.

**Tape speeds:** 3.75 ips and 7.5 ips, electronic change-over.

**Wow and flutter:** At 7.5 ips less than 0.08%.

**Frequency response (measured via tape, at -20 VU):** at 3.75 ips 30 Hz... 16 kHz +2/-3 dB; at 7.5 ips 50 Hz... 15 kHz ±1.5 dB.

**Signal to noise ratio:** Half track at 3.75 ips better than 63 dB; at 7.5 ips better than 66 dB.

**Crosstalk (at 1000 Hz):** Stereophonic - better than 45 dB.

**Weight:** 37 lb.



Revox Model B 77

**ORDERING INFORMATION**

MODEL	STOCK NO.	DESCRIPTION
14102	822-4102	Revox B 77 10 1/2" Recorder/Playback, 3.75-7.5 ips, mounted in walnut plastic case, Stereo half track
14302	822-4302	Same as Model 14102, except in metal cage for rack mount
14106	822-4106	Revox B 77 10 1/2" recorder/playback, 7 1/2 - 15 IPS, mounted in walnut plastic case, Stereo half track
14306	822-4306	Same as Model 14106, except in metal cage for rack mount
14143	822-4143	Revox B 77 10 1/2" recorder/playback, 7 1/2 - 15 IPS, with self sync
14342	822-4342	Same as Model 14143 except in metal cage for rack mount
14112	822-4112	Revox B 77 10 1/2" recorder/playback, 3.75 - 7.5 IPS, mounted in walnut case, Stereo half track, with self sync
14312	822-4312	Same as Model 14112 except in metal cage for rack mount

**NOTE:** Other models of tape recorders available

**UHER TAPE RECORDERS**


**UHER 4000 Report IC (Mono)** — This is the world-famous battery-operated, portable hi-fi open-reel tape recorder (DIN 45 500), of proven excellence even under extremely adverse operating conditions. Has rugged, reliable construction. Frequency response 35-20,000 Hz. Wow and flutter 0.2%. The machine is equipped with longlife Recovac tape head (triple life). 2-track mono operation. Compact housing of diecast aluminum. Metal knob and

aluminum piano-key controls. 4 tape speeds. Tape tension regulation, IC power stage, index counter. Power supply may be from A. C. mains as well as from single-cell, car or rechargeable battery. Weight: 8 lb. Carrying case for mobile use available.

**UHER 4200 Report Stereo IC** — With separate level controls and peak-reading record level meter for each channel, this is the perfect portable machine for high-quality stereo recording. Its performance also makes it ideal to add to hi-fi sound systems. The UHER 4200 Report is equipped for half-track operation.

Enthusiastic film-makers will be interested to learn that this machine may also be used for film dubbing. Weight: 8.4 lb. Carrying case for mobile use available.


**ORDERING INFORMATION**

MODEL	DESCRIPTION
4000 IC	UHER Report 4000 IC, 2-track mono.
4200 IC	UHER Report 4200 IC, half-track stereo.

**NOTE:** Other models of tape recorders available.

**PROFESSIONAL STUDIO EQUIPMENT BY TECHNICS**


**Direct Drive Turntables Without Tone Arm**



**SP-10MK11**

SP-10MK11. • 33 $\frac{1}{2}$ , 45 and 78 RPM Speeds • Full speed at 33 $\frac{1}{2}$  in 0.25 second (25° rotation) • Brake to standstill in 0.3 sec. (30° rotation) at 33 $\frac{1}{2}$  • Quartz controlled phase-locked servo circuit for  $\pm 0.002\%$  speed stability ( $\pm 0.036$  second in 30-minute segment) • Start-up torque: 6 kg/cm • Wow flutter: 0.025% WRMS • Rumble: 50 db (DIN A); 70 db (DIN B) • Brushless DC motor • Weight 21 lb.

**SH-10B-3**      SH-10B-3. • Base for SP-10MK11 • Includes dust cover



**SP-15**

SP-15. • 33 $\frac{1}{2}$ , 45 and 78 RPM speeds • Full speed at 33 $\frac{1}{2}$  in 0.4 second • Brake to standstill in 0.4 second at 33 $\frac{1}{2}$  • Quartz controlled phase-locked servo circuit for  $\pm 0.002\%$  speed stability • Quartz synthesizer pitch adjustment up to  $\pm 9.9\%$  deviation from norm. • Digital speed readout • Wow and flutter 0.025% WRMS • Rumble -78dB DIN B • Weight 14 lb.

**SH-15 B2/15B3**      SH-15 B2/15B3. • Base for SP-15 • B2 finished in simulated rose wood veneer • B3 finished in black • Includes dust cover

**Direct Drive Turntable Without Tone Arm**




**SP-25**

SP-25. • 33 $\frac{1}{2}$  and 45 RPM • Quartz synthesizer control governs platter speed in 33 $\frac{1}{2}$  and 45 RPM, and in pitch altered modes within  $\pm 6\%$  of standard speeds • High torque • Electronic braking system stops platter quickly • Wow and flutter 0.025% WRMS • Rumble 78 DIN B • Weight 11 lbs.

**SH-15 B2/15B3**      SH-15 B2/15B3. • Base for SP-25 • B2 finished in simulated rose wood veneer • B3 finished in black • Includes dust cover

**Direct Drive Turntable With Tone Arm**



**SL-1200MK2**

SL-1200MK2. • 33 $\frac{1}{2}$  and 45 RPM • Designed especially for disco installations • Slider control provides up to  $\pm 8\%$  speed increase or decrease • High torque for stability of platter speed • Pop-up light illuminates surface of disc in low light environment • High sensitivity, low mass. Gimballed suspension tone arm • Extensive anti-feedback features • Wow and flutter 0.025% WRMS • Rumble -78 dB DIN B • Weight 25 lbs.

**Professional Hi-Fidelity Speakers**



**SB-7070**

SB-7070. • Linear-phase, 4-way, tube vented speaker system • Phase compensated crossover network • High efficiency • 13 $\frac{1}{2}$ " woofer • 6 $\frac{1}{4}$ " mid-low driver • 4" mid-high driver • 1" dome tweeter • 8-ohm impedance • 180 watts music power • Response 30-32,000 Hz • Simulated wood cabinet



**SB-6060**

SB-6060. • Linear Phase, 3-way, tube vented speaker system • Phase compensated crossover network • High efficiency • 12" woofer • 4" midrange unit • 1" soft dome tweeter • 150 watts music power • Response 32-32,000 Hz • 8-ohm impedance • Simulated wood cabinet

NOTE: Other models of Technics turntables, speakers and accessories available.





**AT-51 AUDIO TEST SYSTEM** — Consists of AG-51 Audio Generator and AA-51 Audio Analyzer. Measures harmonic distortion, intermodulation distortion, voltage, dB, signal + noise/noise ratio, wow and flutter, stereo phasing, and differential gain in stereo channels. Features transformerless stereo outputs (balanced or unbalanced), source resistance of 150 or 600 ohms, automatic signal leveling, precision step attenuators, RFI shielding, automatic "set level" and "balance" circuits, scope display of distortion products and output level monitor. Weight: 24 lb. Power source: 117 V (230 V optional), 50 or 60 Hz as specified.

**MODEL 210 AUDIO OSCILLATOR** — A source for low distortion signals from 10 to 100,000 cycles. Frequency response is  $\pm 1$  dB over entire range when connected to 600 ohm load, referenced at 5 KC. Other specifications are: calibration:  $\pm 2\%$  over entire range; power output: up to 10 V into 600 ohms; waveform distortion: less than .2% at 5 volts output from 50-20,000 cps. Weight: 11 lbs.



Model 210 Audio Oscillator



Model 410 Distortion Meter

**MODEL 410 DISTORTION METER** — Measures audio distortion, noise level, audio gain or loss in dB and ac voltages. Distortion ranges provided are: 1% full scale, 3%, 10%, 30% and 100%. Calibration is in 1 dB steps from 0 dB to -15 dB. Attenuator provides additional ranges from -60 dB to +50 dB in 10 dB steps. Weight: 12 lbs.



**MODEL 1760 AM/FM AUDIO STEP GENERATOR** — Nine precise crystal-controlled frequencies instantly available for use in proof of performance measurements. Frequencies may be stepped manually or automatically, making possible one-man line checks. Features very low distortion, precision output attenuator and front panel output jack. The Model 1760 AM/FM provides frequencies extending to 15 kHz for FM checks, and may be limited to 7.5 kHz for AM checks. Weight: 10 lb. Power source: 117 V, 60 Hz (220 V, 50 Hz optional).



**TWO TONE EBS GENERATOR** — Provides two tone attenuation signals (853 Hz and 960 Hz) for the Emergency Broadcast System. Tones are generated by digital division and filtering of two highly stable crystal oscillators. The 960 Hz tone is divided and gated to give an accurate 22.5 second timing interval. Accuracy is better than 0.5 Hz and distortion is less than 5%. Features include compact 1-3/4" panel height, positive action reed relay switching, heavy rf shielding for use at transmitter sites, and individual level controls. Available units: a. Two-tone encoder; b. Matching decoder; c. Encoder and decoder. Weight: 10 lb. Power source: 117 V, 60 Hz (220 V, 50 Hz optional).



**MODEL 65-390 WOW & FLUTTER METER** — This compact, lightweight, solid-state portable test instrument is indispensable for accurately measuring the wow and flutter components in all types of recording and playback devices, such as cartridge, reel-to-reel and cassette recorders, VTR's, and turntables. Single meter readout indicates the deviation from true speed of a device within a 5% range by the use of a precision zero-center drift meter. Features an internal 3,150 Hz reference oscillator, self-contained switchable weighting filter and a standard phone output jack for oscilloscope connection. All metal interlocked construction assures immunity to EMI and RFI. Weight: 4 lb. Power source: 110 V or 220 V, 50 or 60 Hz.

### Marti STL Equipment

**STL-8F Transmitter** — The Marti STL-8F, one of a series of two models designed to meet the exacting requirements of aural links, is ideal for the FM broadcaster requiring either mono or stereo operation. All solid-state, the unit has a direct FM modulator, a field-proven varactor final, solid-state ovens and high-accuracy crystals providing a frequency stability of  $\pm 0.0005\%$ . The 8-watt system operates in the 94.2– to 96.0-MHz range. Automatic switchover circuits are provided for a standby transmitter and RF sensing is built in for "out of status" alarm indication. Two of these units may easily be strapped together for stereo operation. The transmitter is available in either vertical ( $\frac{1}{2}$ -rack width) or horizontal (full rack width) configurations. Weight: Vertical, 15.5 lb.; Horizontal, 20 lb.

**R200/950F Receiver** — The Marti R200/950 series of receivers is the companion line for the STL-8 transmitters. The R200/950F model, designed for FM reception, is all solid-state with plug-in modular construction. A solid-state oven and high accuracy crystal provides frequency stability of  $\pm 0.0005\%$ . Automatic switchover circuitry for a standby receiver is provided. Audio output is 600 ohms balanced with a maximum level of 18 dB mW. Multiplex output provides for subcarrier and/or remote control signals. Like the transmitters, both vertical and horizontal configurations are available. Weight: Vertical, 9 lb.; Horizontal, 16 lb.

**NOTE:** Other Marti equipment available. See price list for pricing information.



STL-8F Transmitter



R-200/950 Receiver

### Marti Remote Pickup Equipment

**RPT-40 Transmitter** — The Marti RPT-40 Remote Pickup Transmitter is designed for continuous duty in the field. Its all solid-state construction features a direct FM modulator, four audio mixing channels with individual level controls, built-in compressor/limiter for modulation control, and taut band circuit meter. Designed to operate in the 150- to 172-MHz range, the RPT-40 has a maximum output of 40 watts, frequency stability of  $\pm 0.0005\%$ , and capability to operate from either 115/230 volts ac or 13.6 volts dc. Weight: 20 lb.

**RPT-25 Transmitter** — The RPT-25 is similar in appearance to, and has many of the features of, the RPT-40. The RPT-25 is designed to operate in the 450- to 470-MHz spectrum. Output power is 25 watts, maximum. The unit is compatible with unattended automatic relay devices. Weight: 20 lb.

**R-30/150 Receiver** — The rack-mounted R-30/150 Receiver mates with the RPT-40 Transmitter. An IF crystal filter provides maximum selectivity: 6 dB at  $\pm 17.5$  kHz with a 10.7/F30 filter module (optional filters are available). Audio output is 600 ohms at a  $+10$ -dB mW level. Weight: 16 lb.



PCL-505 Transmitter



PCL-505 Receiver

### Moseley STL Equipment

**PCL-505 and PCL-505/C** — This STL provides a high-quality audio channel between a broadcast studio and a remote transmitter site. Alternatively, it provides for studio-to-studio, intercity, network, and similar program audio feeds. Design is for continuous service in accordance with FCC requirements and licensing in most other countries. True direct FM offers superior sound and flat frequency response over a wider range with low distortion. Frequency range is 148 to 174 MHz, 215 to 240 MHz, 300 to 330 MHz, 450 to 470 MHz, and 890 to 960 MHz. Modulation capability is one program and two subcarrier channels.

**PCL-101 System** — This transmitter and companion receiver are designed to meet requirements of international AM broadcasting. The transmitter employs direct FM and maximum power output is 15 watts. It is available in 150, 220, 300, 450 or 950 MHz. Other frequencies in the 148- to 470-MHz spectrum are available on special order. For use in the United States, the PCL-101 is available for operation in the 950-MHz band only.

### Moseley Remote Pickup Equipment

**RPL-3/4 Remote Pickup Links** — Compactness and portability characterize the Moseley Associates RPL Series of remote pickup links. The RPL-3 is designed for 148- to 174-MHz operation; the RPL-4, 450- to 470-MHz. Each consists of a transmitter and receiver. The transmitters feature all solid-state circuitry, 3-channel audio mixer, built-in power supplies (either 120/240 volts ac or 13.5 dc), built-in peak audio limiter, 15 watts maximum output, and full metering functions of all important parameters. The companion receivers occupy only  $\frac{1}{4}$  inches of standard 19-inch rack space. System specifications are: audio response— $\pm 1.5$  dB, 30 Hz to 10 kHz; distortion—less than 1.3%; signal-to-noise ratio—55 dB below 100%. Weight: Transmitter, 16 lb.; Receiver, 10 lb.

**NOTE:** Other Moseley equipment available. See price list for pricing information.

# BROADCAST ELECTRONICS, INC.

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## DPL-105C EQUIPMENT PRICE LIST (WORLDWIDE)

EFFECTIVE JANUARY 1, 1991

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#### NOTES:

R = Revised from DPL-105B  
P = Protected Product

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**NOTES:**

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# TAPE CARTRIDGE EQUIPMENT

CATALOG 105 NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
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## PHASE TRAK 90 TAPE CARTRIDGE MACHINES

(Long Life Head(s), three cue tones and fast forward standard)

(Uses DC Servo Motor)

4	117/220 Vac, 50/60 Hz TABLE TOP MOUNTING, 7.5 IPS (3.75 and 15 IPS selectable)				
	PT 90P	900-9000-000	Mono Playback, (A and AA Size Carts) -----	2,550.00	AR
	PT 90PS	900-9002-000	Stereo Playback, (A and AA Size Carts) -----	2,750.00	AR
	PT 90RPS	900-9003-000	Stereo Record/Playback, (A, AA, B and BB Size Carts) -----	4,550.00	AR

*NOTE: For 220 Vac, 50 Hz models, change last three digits of stock number to "300".*

*NOTE: All models include timer, P/N 900-9016, as standard equipment.*

### 6, 9 PT 90 OPTIONS AND ACCESSORIES

	900-9013	Rack Shelf for 19" EIA rack, 7.0" H. (recommended) -----	200.00	A
	900-9113	Rack Shelf for 19" EIA rack, requires 5.25" H. -----	200.00	A
	900-9014	Rack Shelf Filler Panel, 1/3 Rack, for 900-9013 -----	30.00	A
	900-9015	Rack Shelf Filler Panel, 1/2 Rack, for 900-9013 -----	40.00	A
	900-9017	Rack Shelf Filler Panel, 1/6 Rack, for 900-9013 -----	30.00	A
	970-9000	Encode software-for direct connection of PT 90RPS to IBM ----- Compatible PC. Requires computer with RS-232C port.	139.00	A
	970-0099	Tape Sensor Foil Tab Kit (package of 100) -----	15.00	AR
	950-0105	Extender Card, 50 pin, PT 90P/PS, PT 90RPS (Playback) -----	130.00	AR
	950-0106	Extender Card, 60 pin, PT 90RPS (Record) -----	155.00	AR
	597-9000	Service Manual for Phase Trak 90 (one manual shipped with each unit) -----	50.00	C

## DURA-TRAK 90A TAPE CARTRIDGE MACHINES

(Includes Long Life Head(s), three cue tones and fast forward)

(Uses DC Servo Motor)

117/220 Vac, 50/60 Hz SERVICE. 7.5 IPS (3.75 and 15 IPS SELECTABLE)

	DT 90AP	900-9100-001	Mono playback only -----	1,750.00	AR
	DT 90ARP	900-9101-001	Mono record/playback -----	2,600.00	AR
	DT 90APS	900-9102-001	Stereo playback only -----	1,900.00	AR
	DT 90ARPS	900-9103-001	Stereo record/playback -----	2,850.00	AR

*NOTE: For 220 Vac, 50 Hz models, change last three digits of stock number to "301".*

### DT 90A OPTIONS AND ACCESSORIES

*NOTE: May be used with the PT 90 rack mounts and 113 width panel blanks. Uses 970-0101 pressure roller kit. Uses Phase-Lok V Headblock and Long Life, flat response heads.*

	900-9013	Rack Shelf for 19" EIA rack, 7.0" H. (recommended) -----	200.00	AR
	900-9113	Rack Shelf for 19" EIA rack, requires 5.25" H. -----	200.00	AR
	900-9014	Rack Shelf Filler Panel, 1/3 Rack width for PT 90, DT 90A and ST 90 ----- Series for 900-9013 Rack Shelf.	30.00	AR
	941-0017	Test extender card for DT 90A -----	140.00	AR
	970-0118	Mono play to record/play conversion kit for DT 90AP -----	950.00	A
	970-0119	Stereo play to record/play conversion kit for DT 90 APS -----	1,050.00	A
	597-9100	Service Manual for DT 90A (one manual shipped with each unit) -----	45.00	CR

## SPLICE-TRAK 90 TAPE CARTRIDGE SPLICE FINDER

	ST 90	900-9120-000	Splice finder/tape eraser for A and AA carts, 117 Vac, 50/60 Hz -----	1,150.00	AR
	ST 90	900-9120-300	Same as 900-9120-000 except for use with 230 Vac, 50/60 Hz -----	1,150.00	AR
		597-9120	Service Manual for ST 90 (one manual shipped with each unit) -----	35.00	C

*NOTE: May be mounted in 900-9013 rack shelf used for PT 90 and DT 90A*

# BE<sup>®</sup> TAPE CARTRIDGE EQUIPMENT

CATALOG

105

NO.

MODEL

STOCK NO.

DESCRIPTION

PROFESSIONAL

NET

CODE

## SERIES 2100C TAPE CARTRIDGE MACHINES

(A and AA Size Cartridges)

(Long Life Head(s) and two cue tones standard)

<b>10</b>	<b>117/220 Vac, 60 Hz TABLE TOP MOUNTING</b>				
	2100CP	900-2110-001	Mono Playback Only .....	1,550.00	AR
	2100CRP	900-2111-001	Mono Record/Playback .....	2,250.00	AR
	2100CPS	900-2112-001	Stereo Playback Only .....	1,650.00	AR
	2100CRPS	900-2113-001	Stereo Record/Playback .....	2,550.00	AR
	2100CPA	900-2114-001	Mono Playback with Audition/Speaker .....	1,800.00	AR
<b>10</b>	<b>117/220 Vac, 50 Hz TABLE TOP MOUNTING</b>				
	2100CP	900-2110-301	Mono Playback Only .....	1,650.00	AR
	2100CRP	900-2111-301	Mono Record/Playback .....	2,350.00	AR
	2100CPS	900-2112-301	Stereo Playback Only .....	1,750.00	AR
	2100CRPS	900-2113-301	Stereo Record/Playback .....	2,650.00	AR
	2100CPA	900-2114-301	Mono Playback with Audition/Speaker .....	1,900.00	AR

### SERIES 2100C OPTIONS AND ACCESSORIES

*NOTE: Factory options cannot be installed after equipment has been manufactured and shipped.*

	900-2013	Rack Mount Shelf for EIA 19" Rack 5-1/4" high, holds up to (3) Series 2100C .....	150.00	A
	900-2010	Top Cover for 2013 Shelf .....	50.00	A
	900-2014	Rack Shelf Filler Panel, 1/3 Rack for 2013 Shelf .....	26.00	A
	900-2016	Rack Shelf Filler Panel, 2/3 Rack for 2013 Shelf .....	38.00	A
	919-2100	Test Extender PC Board .....	85.00	AR
	900-2002	Adjustment for Equalization to IEC/CCIR, Mono, factory installed .....	N/C	
	900-2003	Adjustment for Equalization to IEC/CCIR, Stereo, factory installed .....	N/C	
	900-2104	Adjustment for Equalization to NAB 1964 .....	N/C	
	900-2009	Additional cost for 3.75 IPS. Factory Installed .....	500.00	A
	597-2100-001	Service Manual for Series 2100C (one manual shipped with each unit) .....	30.00	C

## SERIES 5300C, THREE-DECK TAPE CARTRIDGE MACHINES

(A, AA, B and BB Size Carts)

(Long Life Head(s) Standard)

<b>21</b>	<b>117 Vac, 60 Hz TABLE TOP MOUNTING (220 Vac, 60 Hz Available)</b>				
	5301C	900-5301-001	Mono Playback .....	3,800.00	A
	5302C	900-5302-011	Mono Playback with Cue Tones .....	4,000.00	A
	5303C	900-5303-001	Stereo Playback .....	4,300.00	A
	5304C	900-5304-011	Stereo Playback with Cue Tones .....	4,500.00	A
<b>21</b>	<b>220 Vac, 50 Hz TABLE TOP MOUNTING (117 Vac, 50 Hz Available)</b>				
	5301C	900-5301-301	Mono Playback .....	3,900.00	A
	5302C	900-5302-311	Mono Playback with Cue Tones .....	4,100.00	A
	5303C	900-5303-301	Stereo Playback .....	4,400.00	A
	5304C	900-5304-311	Stereo Playback with Cue Tones .....	4,600.00	A

# TAPE CARTRIDGE EQUIPMENT

CATALOG

105 NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE	
<b>SERIES 5400C THREE-DECK TAPE CARTRIDGE MACHINES</b>						
(A and AA Size Carts)						
(Long Life Head(s) Standard)						
18	117 Vac, 60 Hz TABLE TOP MOUNTING (220 Vac, 60 Hz Available)					
	5401C	900-5401-001	Mono Playback .....	3,900.00	A	
	5402C	900-5402-011	Mono Playback with Cue Tones .....	4,100.00	A	
	5403C	900-5403-001	Stereo Playback .....	4,400.00	A	
	5404C	900-5404-011	Stereo Playback with Cue Tones .....	4,600.00	A	
18	220 Vac, 50 Hz TABLE TOP MOUNTING (117 Vac, 50 Hz Available)					
	5401C	900-5401-301	Mono Playback .....	4,000.00	A	
	5402C	900-5402-311	Mono Playback with Cue Tones .....	4,200.00	A	
	5403C	900-5403-301	Stereo Playback .....	4,500.00	A	
	5404C	900-5404-311	Stereo Playback with Cue Tones .....	4,700.00	A	

## ACCESSORIES (FOR SERIES 5300 and 5400)

23	<b>RECORDERS (Long Life Heads and Three Cue Tones Standard)</b>					
	<b>Series 5300 (For use with Series 5300 Playback Cartridge Machines)</b>					
	5309C	900-5309-011	Recorder, Mono with Q Trip, 117 Vac, 60 Hz .....	1,350.00	A	
	5310C	900-5310-011	Recorder, Stereo with Q Trip, 117 Vac, 60 Hz .....	1,450.00	A	
	5309C	900-5309-311	Recorder, Mono with Q Trip, 220 Vac, 50 Hz .....	1,450.00	A	
	5310C	900-5310-311	Recorder, Stereo with Q Trip, 220 Vac, 50 Hz .....	1,550.00	A	
20, 24	<b>Series 5400 (For use with Series 5400C Playback Cartridge Machines)</b>					
	5409C	900-5409-011	Recorder, Mono with Q Trip, 117 Vac, 60 Hz .....	1,295.00	A	
	5410C	900-5410-011	Recorder, Stereo with Q Trip, 117 Vac, 60 Hz .....	1,395.00	A	
	5409C	900-5409-311	Recorder, Mono with Q Trip, 220 Vac, 50 Hz .....	1,395.00	A	
	5410C	900-5410-311	Recorder, Stereo with Q Trip, 220 Vac, 50 Hz .....	1,495.00	A	
	<b>MOUNTING SUPPORTS</b>					
		900-5406	Rack Shelf for 19" EIA Rack, 12-1/4" high for mounting (1) or (2) units. 5300 Series or (1) to (3) 5400 Series .....	300.00	A	
		900-5415	1/2 Rack Filler Panel for 5406 Shelf .....	40.00	A	
		900-5408	1/3 Rack Filler Panel for 5406 Shelf .....	40.00	A	
		900-5405	Four Position cart storage rack for 5406 Rack Shelf .....	175.00	A	
		900-5407	Ten position cart storage rack for 5406 Rack Shelf .....	200.00	A	
		919-1806	Test Extender P.C. Board, 5000 Series .....	85.00	AR	
	<b>SERVICE MANUALS</b>					
	<i>Note: One manual shipped with each unit. To order additional manuals, please order by part numbers listed below.</i>					
		597-5000-001	Service Manual for Series 5400C .....	50.00	C	
		597-5300-001	Service Manual for Series 5300C .....	60.00	C	
		597-5351-001	Service Manual for Series 5309C/5310C Record Amp .....	50.00	C	
		597-0097-001	Service Manual for Series 5409C/5410C Record Amp .....	50.00	C	

# BE<sup>®</sup> TAPE CARTRIDGE EQUIPMENT

CATALOG

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NO.

MODEL

STOCK NO.

DESCRIPTION

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## CARTRIDGE MACHINE REPLACEMENT PARTS

### RECOMMENDED SPARE PARTS KIT FOR CARTRIDGE MACHINES

*NOTE: Recommended Spare Parts Kits do not include HEADS, MOTORS, plug-in PC BOARDS OR MODULES. These should be selected elsewhere in the price list.*

970-0091	Recommended Spare Semiconductor Kit for Series 2100C -----	229.00	AR
970-0092	Recommended Spare Semiconductor Kit for Series 3000A -----	273.00	AR
970-0093	Recommended Spare Semiconductor Kit for Series 5000C -----	297.00	AR
970-0095	Semiconductor Kit for Series 5400 Rec Amps -----	100.00	AR
970-0121	Recommended spare parts and semiconductors for ST 90 -----	213.00	AR
970-0117	Recommended spare parts and semiconductors for DT 90A -----	201.00	AR
970-0107	Module level, light PCB support kit for PT 90P Mono -----	1,680.00	AR
970-0108	Module level, light PCB support kit for PT 90PS Stereo -----	1,910.00	AR
970-0111	Component Level, Light Support Kit for PT 90P/PS -----	115.00	AR
970-0112	Component Level, Heavy Support Kit for PT 90P/PS -----	219.00	AR
970-0113	Semiconductor/Light Support Kit for PT 90RPS -----	247.00	AR
970-0114	Semiconductor/Heavy Support Kit for PT 90RPS -----	553.00	AR

### SPARE P.C. BOARDS AND MODULES FOR AUDIO CARTRIDGE MACHINES

#### SERIES 2100C

914-2100	Playback logic board for all mono Series 2100C -----	165.00	C
914-2101-001	Record amp for mono 2100CRP -----	295.00	C
914-2103	Motherboard for all playback Series 2100C -----	195.00	CR
914-2110	Playback logic board for stereo Series 2100C -----	181.00	C
914-2111-001	Record amp for stereo 2100CRPS -----	337.00	C
914-2113	Motherboard for all Series 2100C rec/play models -----	215.00	CR
910-2124	Amplifier board for 2100CPA -----	140.00	CR

#### SERIES 3000A

914-1531	Playback amp for mono Series 3000A -----	183.00	C
910-1049	Record amp for all mono record/play Series 3000A -----	255.00	C
914-1513	Record/control for mono record/play Series 3000A -----	168.00	C
914-1571	Playback amp for stereo Series 3000A -----	213.00	C
910-1050	Record amp for all stereo record/play Series 3000A -----	325.00	C
914-1533	Record/control for all stereo record/play Series 3000A -----	185.00	C
914-1535-1	Power supply for all mono and stereo Series 3000A -----	195.00	C

#### SERIES 5300C/5400C/5500C

910-0109	Control board with cues for all Series 5300C, 5400C and 5500C -----	225.00	C
910-0108	Control board without cues for all Series 5300C, 5400C and 5500C -----	105.00	C
914-1804	Motherboard assembly for Series 5300 -----	255.00	C
910-0091-001	Motherboard assembly for Series 5400 -----	200.00	C
914-1808	Motherboard assembly for Series 5500 -----	400.00	C
914-1809	Power supply for Series 5400 and Series 5500 -----	130.00	C
910-0092-001	Audio amp for all stereo Series 5300C, 5400C and 5500C -----	195.00	C
910-0092	Audio amp for all mono Series 5300C, 5400C and 5500C -----	160.00	C

#### SERIES 5309C/5310C, 5409C/5410C, 5509C/5510C

910-1049-001	Mono record amp bias PCB for 5309C -----	330.00	C
910-1050-001	Stereo record amp bias PCB for 5310C -----	400.00	C
910-1820	Power Supply PCB for 5409C, 5410C, 5509C, 5510C -----	125.00	C
914-1820	Power Supply for 5309C, 5310C -----	100.00	C
914-1513	Record/control for mono recorder with cues, 5309C, 5409C, 5509C -----	168.00	C
914-1533	Record/control for stereo recorder with cues, 5310C, 5410C, 5510C -----	185.00	C



# TAPE CARTRIDGE EQUIPMENT

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105				NET	
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## CARTRIDGE MACHINE REPLACEMENT PARTS - CONT'D

### PHASE-TRAK 90

950-0033	Audio amp module for mono PT 90 -----	315.00		C
950-0032-001	Power supply module for PT 90 -----	450.00		C
950-0035	Logic module for PT 90 -----	520.00		C
910-9005	Motor control PCB for PT 90 -----	275.00		C
950-0034	Audio amp module for stereo PT 90 -----	545.00		C
910-9003	Front Panel Status PC Board, w/o timer for PT 90P -----	120.00		C
950-0101	CPU Board for PT 90RPS -----	420.00		C
950-0102	Record Bias Board for PT 90RPS -----	385.00		C
950-0104	Record Preamp for PT 90RPS -----	390.00		C
910-9011	Front Panel Board for PT 90RPS -----	350.00		C
910-9006	Mother Board for PT 90 -----	100.00		C

### DURA-TRAK 90

910-9005	Motor control PCB for DT 90A -----	275.00		C
910-0112-001	Audio/logic PC board assembly for DT 90AP and DT 90ARP (mono playback board) -----	205.00		C
910-0113-001	Record PC board assembly for DT 90ARP (mono record board) -----	305.00		C
910-0112	Audio/Logic PC board assembly for DT 90APS (stereo playback board) -----	245.00		C
910-0113	Record PC board assembly for DT 90ARPS (stereo record board) -----	345.00		C
910-0115	Motherboard assembly for DT 90ARPS -----	230.00		CR

### SPLICE-TRAK 90

950-9020	Electronics module for ST 90 -----	295.00		C
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### HEAD BRACKETS

#### PHASE-LOK IV HEAD BRACKET (For Series 2100, 5300, and 5400)

952-7721	For mounting one head with tape guides and hold down spring (heads not included) -----	48.00		C
952-7722	For mounting two heads with tape guides and hold down spring (heads not included) -----	77.00		CR

#### PHASE-LOK V HEAD BRACKET ASSEMBLY (For Series 2100C, 5300C, 5400C, DT 90A and PT 90)

950-0302	For mounting two heads with tape guide (heads not included) -----	138.00		CR
970-0097	Head Bracket Kit, Playback Mono, includes Phase-Lok V Head Box, Tape Guides, Dummy Record Head, 250-0006 Mono Playback Long Life Flat Response Head, factory tested. -----	345.00		C
970-0098	Head Bracket Kit, Playback Stereo, includes Phase-Lok V Head Box, Tape Guides, Dummy Record Head, 250-0007 Stereo Playback Long Life Flat Response Head, factory tested. -----	360.00		C

### PLAYBACK AND RECORD HEADS

#### STANDARD LIFE FOR SERIES 300, 400, 500, 600, 1000, 2000

DM1B	252-0001	Mono Playback Head -----	70.00	CR
DM2RB	252-0003	Mono Record Head -----	85.00	CR
DM3RB	253-0001	Stereo Record Head -----	95.00	C
D1SA	253-0002	Stereo Playback Head -----	95.00	C
DL2C	259-0005	Mono Erase/Record Head -----	300.00	C

#### LONG LIFE, FLAT RESPONSE FOR SERIES 2100C, 3000A, 5300C, 5400C, 5500C, DT 90 and PT 90

	250-0006	Mono Playback Head (Replaces 252-0017 and 252-0007) -----	95.00	C
	250-0007	Stereo Playback Head (Replaces 253-0014 and 253-0004) -----	120.00	CR
	252-0018	Mono Record Head (Replaces 252-0008) -----	60.00	C
	253-0015	Stereo Record Head (replaces 253-0005) -----	120.00	CR
	250-0010	Stereo Record Head, PT 90 and DT 90 only -----	120.00	CR
	250-0012	Mono Record Head, PT 90 and DT 90 only -----	95.00	CR



# TAPE CARTRIDGE EQUIPMENT

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## CARTRIDGE MACHINE REPLACEMENT PARTS - CONT'D

### OTHER HEADS

407-0001	Dummy Head	10.00	CR
252-0009	Mono Erase/Record Head for delay machines	385.00	CR
250-0011	Erase head for ST 90	110.00	CR

### MOTORS FOR CARTRIDGE MACHINES

#### DIRECT DRIVE MOTORS

950-2070-001	For Series 2100, single speed, 117 Vac, 60 Hz	400.00	CR
950-2080-001	For Series 2100, single speed, 220 Vac, 50 Hz	500.00	CR
950-2070	For Series 3000/4000/ dual speed, 117 Vac, 60 Hz	400.00	CR
950-1000	For Series 3000/4000, single speed, 117 Vac, 60 Hz	400.00	CR
950-2080	For Series 3000/4000/ single or dual speed, 220 Vac, 50 Hz	500.00	CR
950-0207	For Series DT 90, dual speed, 117 Vac, 60 Hz	400.00	CR
950-0208	For Series DT 90, dual speed, 220 Vac, 50 Hz	500.00	CR
950-1311	For Series 5300 and 5400, single speed, 117 Vac, 60 Hz	550.00	C
950-1371	For Series 5300 and 5400, single speed, 220 Vac, 50 Hz	600.00	C
970-0054	For older Series 5300, single speed, 117 Vac, 60 Hz	600.00	CR
950-1511	For Series 5500, single speed, 117 Vac, 60 Hz	750.00	C
950-1571	For Series 5500, single speed, 220 Vac, 50 Hz	800.00	C
954-0013	For Series 1070, single speed, 117 Vac, 60 Hz	700.00	CR
384-0001-20	For Model ST 90, single speed, 117/234Vac, 50/60 Hz	200.00	CR

#### INDIRECT DRIVE MOTORS

970-1052	For Series 400/500/2000, single speed, 117 Vac, 50/60 Hz	320.00	C
384-1054	For Series 400/500/2000, single speed, 220 Vac, 50 Hz	315.00	C
384-0645-001	For Series 605C/610, single speed, 117 Vac, 50/60 Hz	425.00	C

#### DC SERVO MOTORS

950-0037	For PT 90/DT 90A, multi-speed, 117/220 Vac, 50/60 Hz	420.00	C
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### CARTRIDGE MACHINE ALIGNMENT GAUGES

970-0102	Head and tape alignment gauge, for A and C Series single deck cart machines	40.00	CR
970-0103	Pressure roller to capstan alignment gauge for 2100C, 3000A, PT 90, DT 90A	7.00	C
970-0104	Pressure roller to capstan gauge for Series 5000C	12.00	CR
970-0105	Head and Tape Alignment gauge for 5000C Test	35.00	C
836-0005	Pressure Roller to capstan alignment gauge for 2100, 3000	19.00	CR
836-0007	Pressure Roller to capstan alignment gauge for 5300, 5500	19.00	CR
300-0011	Pressure Roller to capstan align. gauge for ST 90	10.00	C
300-0013	Pressure Roller indentation gauge for 2100C, 3000A, PT 90, DT 90A, 5000C	15.00	C
300-0014	Pressure Roller indentation gauge for ST 90	15.00	C
710-0132	Cut away test cartridge for head alignment	40.00	C

### PRESSURE ROLLERS FOR CARTRIDGE MACHINES

830-0014	Pressure Roller Kit for Series 2100, 3000, 4000, 5000, including washer and E ring (Uses clear roller 444-0795)	15.00	CR
970-0101	Pressure Roller Kit for Series 2100C, 3000A, 5000C, DT 90A and PT 90 (uses small roller 444-0700)	15.00	C
444-0008	Pressure roller for ST 90 (Red)	23.00	C
970-0122	Pressure roller kit for Series 300, 400, 600, 1000, 2000, 2100, 3000, 4000, 5000, including washer and E ring (uses black roller 404-0001)	14.00	C

# TAPE CARTRIDGE EQUIPMENT

CATALOG 105 NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
<b>25</b>					
<b>DIGITAL SOURCE PRODUCTS</b>					
	DV-2A	900-1000-001	Solid State Recorder/Reproducer -----	3,295.00	B
		900-1000-301	Solid State Recorder/Reproducer, 220 Vac, 50 Hz -----	3,295.00	B
		970-0096	Spare Parts Kit -----	373.00	AR
		597-0110	Service Manual for DV-2/DV-2A (one manual shipped with each unit) -----	50.00	CR

## STUDIO AND CARTRIDGE ACCESSORIES

<b>27</b>					
<b>INTERFACE SYSTEMS FOR USE WITH BROADCAST QUALITY TAPE CARTRIDGE MACHINES</b>					
	PC-1	900-0010	Coupler for Series 2100, 3000, 5000 and PT 90 Cart Machines. ----- for use with Telco systems	225.00	A
		597-0047	Service Manual for PC-1 (one manual shipped with each unit) -----	7.00	C
	TC-4	290-0404	Automatic counter for use with Telco systems. -----	225.00	CR

<b>28</b>					
<b>AUDIOSWITCHERS</b>					
	SW5F	904-5001	Audio Switcher for all cartridge machines, 1 to 5 decks -----	295.00	B
	SW5E/F	597-5350	Service Manual for SW5E/F (one manual shipped with each unit) -----	15.00	C

<b>28</b>					
<b>REMOTE CONTROL PANELS FOR CARTRIDGE MACHINES</b>					
	RC5300	927-0047	Remote Control Panel for Series 5300A/B/C -----	135.00	B
	RC5300	927-0048	Remote Control Panel for Series 5300A/B/C with Companion Record Amplifier -----	195.00	B
	BE-210	907-2115-001	Remote Control Panel for Series 2100C -----	250.00	B

<b>29</b>					
<b>CARTRIDGE WINDERS</b>					
	TW-120	900-0100	Tape Cartridge Winder, 117 Vac, 50/60 Hz -----	395.00	B
	TW-240	900-0200	Tape Cartridge Winder, 220 Vac, 50 Hz -----	445.00	B
		597-0120	Service Manual for TW-120/240 (one manual shipped with each unit) -----	15.00	C
		449-0023-001	Adapter hub for Fidelipac Mastercart Cartridge -----	39.00	C
		467-0111	Adapter hub for 3M Scotchcart Cartridge -----	35.00	C
		449-0023-2	Adapter hub for Audiopak -----	26.00	B
		449-0023-1	Adapter hub for Aristocart -----	56.00	B
		449-0023	Adapter hub for Fidelipac 300, 600, 1200 -----	11.00	B

<b>29</b>					
<b>DEMAGNETIZERS AND ERASERS</b>					
	200-3T	820-0200	Momag Bulk Tape Eraser, hand held 115 Vac, 50/60 Hz -----	115.00	B
	220-3T	820-0220	Momag Bulk Tape Eraser, hand held 220 Vac, 50/60 Hz -----	125.00	B
	TD1B	820-0300	Audiolab Bulk Tape Eraser, heavy duty, table top, 115 Vac, 50/60 Hz -----	132.00	CR
	TD1BF	820-0301	Audiolab Bulk Tape Eraser, heavy duty, table top, 220 Vac, 50/60 Hz -----	142.00	CR
		597-0029	Service Manual for TD1B (one manual shipped with each unit) -----	3.00	C
	K20/115S	800-3000	Annis Standard Han-D-Kit. Pocket Magnetometer, test strips and clip on ----- extension probe and Han-D-Mag demagnetizer, 115 Vac, 50/60 Hz	52.00	CR
	K25/115S	800-3001	Annis Deluxe Han-D-Kit, same as above, except with larger ----- Model 25 jewelled demagnetizer, 115 Vac, 50/60 Hz	83.00	CR
	PF-380	800-3002	Nontronics Carbide Head Degausser, 117 Vac, 60 Hz only -----	63.00	BR

# BE<sup>®</sup> TAPE CARTRIDGE EQUIPMENT

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## STUDIO AND CARTRIDGE ACCESSORIES - CONT'D

### 30 AUDIOPAK CARTRIDGES A2, AA3, AA4, SERIES LOADED CARTRIDGES (AT 7.5 IPS)

#### A2 SERIES, A Size

Group 1	800-1006	10 Seconds (6.5')	4.80	A
	800-1013	20 Seconds (13')	4.80	A
	800-1022	35 Seconds (22')	4.80	A
	800-1025	40 Seconds (25')	4.80	A
	800-1041	65 Seconds (41')	4.80	A
	800-1044	70 Seconds (44')	4.80	A
	800-1057	90 Seconds (57')	4.80	A
	800-1063	100 Seconds (63')	4.80	A
Group 2	800-1088	140 Seconds (88')	5.40	A
	800-1094	2.5 Minutes (94')	5.40	A
	800-1113	3.0 Minutes (113')	5.40	A
	800-1132	3.5 Minutes (132')	5.40	A
	800-1150	4.0 Minutes (150')	5.40	A
	800-1169	4.5 Minutes (169')	5.40	A
Group 3	800-1188	5.0 Minutes (188')	6.00	A
	800-1207	5.5 Minutes (207')	6.00	A
	800-1282	7.5 Minutes (282')	6.00	A
	800-1319	8.5 Minutes (319')	6.00	A
	800-1394	10.5 Minutes (394')	6.00	A

#### AA-3 SERIES (HOLN), AA SIZE

Group 1	800-3006	10 Seconds (6.5')	5.80	A
	800-3013	20 Seconds (13')	5.80	A
	800-3022	35 Seconds (22')	5.80	A
	800-3025	40 Seconds (25')	5.80	A
	800-3041	65 Seconds (41')	5.80	A
	800-3044	70 Seconds (44')	5.80	A
	800-3057	90 Seconds (57')	5.80	A
	800-3063	100 Seconds (63')	5.80	A
Group 2	800-3088	140 Seconds (88')	6.50	A
	800-3094	2.5 Minutes (94')	6.50	A
	800-3113	3.0 Minutes (113')	6.50	A
	800-3132	3.5 Minutes (132')	6.50	A
	800-3150	4.0 Minutes (150')	6.50	A
	800-3169	4.5 Minutes (169')	6.50	A
Group 3	800-3188	5.0 Minutes (188')	7.50	A
	800-3207	5.5 Minutes (207')	7.50	A
	800-1045	6.5 Minutes (244')	7.50	A
	800-3282	7.5 Minutes (282')	7.50	A
	800-3319	8.5 Minutes (319')	7.50	A
	800-3394	10.5 Minutes (394')	7.50	A

# TAPE CARTRIDGE EQUIPMENT

CATALOG 105 NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
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## STUDIO AND CARTRIDGE ACCESSORIES - CONT'D

### AA-4 SERIES (HOLN), AA SIZE

Group 1	800-1064	10 Seconds (6.5')	6.65	A
	800-1065	20 Seconds (13')	6.65	A
	800-1066	35 Seconds (22')	6.65	A
	800-1067	40 Seconds (25')	6.65	A
	800-1068	50 Seconds (32')	6.65	A
	800-1069	65 Seconds (41')	6.65	A
	800-1070	70 Seconds (44')	6.65	A
	800-1071	90 Seconds (57')	6.65	A
Group 2	800-1072	100 Seconds (63')	6.65	A
	800-1073	140 Seconds (88')	7.40	A
	800-1074	2.5 Minutes (94')	7.40	A
	800-1075	3.0 Minutes (113')	7.40	A
	800-1076	3.5 Minutes (132')	7.40	A
	800-1077	4.0 Minutes (150')	7.40	A
Group 3	800-1078	4.5 Minutes (169')	7.40	A
	800-1079	5.0 Minutes (188')	8.55	A
	800-1080	5.5 Minutes (207')	8.55	A
	800-1081	6.0 Minutes (225')	8.55	A
	800-1082	6.5 Minutes (244')	8.55	A
	800-1083	7.5 Minutes (282')	8.55	A
	800-1084	8.5 Minutes (319')	8.55	A
	800-1085	9.5 Minutes (357')	8.55	A
	800-1086	10.5 Minutes (394')	8.55	A

*NOTE: 5% discount on quantities of 96 or more cartridges, one type or mixed in multiples of 24. Minimum order of 24 of each type.*

### EMPTY CARTRIDGES

800-1000	A2 Series, A Size Unloaded Cartridge	4.00	A
800-1151	AA-3/AA-4 Series A size unloaded cartridges	5.00	A

### REPLACEMENT PARTS FOR CARTRIDGES - (Price is for package of 100)

800-1024	Pressure pad for AP, A2 Series	17.00	A
800-1007	Front pressure pad for AP, AA3 Series	26.00	A
800-1008	Side pressure pad for AP, AA3 Series	20.00	A

### CARTRIDGE SPLICING ACCESSORIES

3M	800-4003	Mylar Splicing Tape (7/32" X 66')	3.00	B
QM-311	809-0009	Nortronics 1/4" splicing block	35.00	B
26-048	800-4004	Benjamin Professional inchGibson Girl" Splicer 1/4"	125.00	B
Q17	808-0013	Audiopak lubricated tape, 7" x 1800' reel (for cartridges)	16.00	B
3M	800-1049	Scotch reel-to-reel 1/4" 1 mil polyester, low noise, on 2500 HPB	35.00	B

### 30 TEST CARTRIDGES (7.5 IPS)

STL-C0031-AF	808-0004	Reproduce alignment test cartridge, frequency response, distortion. 3180-50 microsecond, NAB mono/stereo compatible, NAB 1965 Standard	80.00	C
STL-0234-2-AF	808-0005	Reproduce Alignment test cartridge, level, CCI-IEC	80.00	C
STL-X-1235-AF	808-0008	Wow and flutter test cartridge, 3150 Hz, mono or stereo, NAB	75.00	C
STL-L0095-AF	800-1095	Cue tone calibration cartridge, NAB (replaces 808-0011)	80.00	C
STL-C0034-2-AF	800-1005	Reproduce alignment test cartridge, NAB76, stereo	85.00	C
STL-C0034-1-AF	800-1005-001	Reproduce alignment test cartridge, NAB76, mono	90.00	C

*NOTE: 3.75 IPS test cartridges and single cue tone (7.5 IPS) test cartridges are available on request.*

# BE<sup>®</sup> TAPE CARTRIDGE EQUIPMENT

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## STUDIO AND CARTRIDGE ACCESSORIES - CONT'D

### CARTRIDGE IDENTIFICATION LABELS (MINIMUM ORDER 100 SHEETS) (8 per sheet) Specify Color by Part Number

		Price Per Sheet	
834-0000	Black	.15	B
834-0001	Brown	.15	B
834-0002	Red	.15	B
834-0003	Orange	.15	B
834-0004	Yellow	.15	B
834-0005	Green	.15	B
834-0006	Blue	.15	B
834-0007	Purple	.15	B

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### CARTRIDGE RETAINERS

RM20H-001	818-0020-001	Stores 20, A size cartridges, rack mounting (5 1/4" high)	95.00	B
RS25	816-0025	Wire Storage Unit, holds 25 A size cartridges	45.00	B
RM100	810-0100	Wall mounting, formica covered, holds 100 A size cartridges	125.00	B
DM20	812-0655	Wall or table mounting; walnut storage unit, holds 20 A size cartridges	25.00	B
DZ20	800-2000	Lazy susan, table top, wood/formica, holds 20 A Size cartridges	45.00	B
DM40	812-0650	Table top lazy susan, walnut finish storage unit, holds 40 A size cartridges	35.00	B
DM72	812-0072	Lazy susan module, formica covered for table top use, holds 72 A size cartridges	150.00	B
DM200	812-0200	As per above, holds 200 A size cartridges	230.00	B
LS200	814-0200	Lazy susan wire unit, floor stand w/heavy duty casters, holds 200 A size cartridges	350.00	B

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<b>MIX-TRAK 90 MODULAR CONSOLE</b>					
(For On-Air Use)					
<b>32</b>	<b>CONSOLE MAINFRAMES*</b>				
	MT 90-12	901-9012-001*	12 input mixer mainframe with 4 VU meters (2 program and 2 utility) and 8 accessory module slots	6,300.00	AR
	MT 90-18	901-9018-001*	18 input mixer mainframe with 6 VU meters (2 program, 2 audition and 2 utility) and 8 accessory module slots.	7,500.00	AR
	MT 90-21	901-9021-001*	21 input mixer mainframe with 6 VU meters (2 program, 2 audition, and 2 utility) 2 LED Peak VU Meters and 8 accessory module slots.	8,700.00	AR
*Mainframe includes:					
(2) 911-0016 stereo line output cards for program and audition					
(1) 951-0027 control room monitor/headphone module					
(1) 911-0065 cue speaker/headphone amplifier card.					
(1) 951-0006 power supply module, 115/230 Vac, 50/60 Hz, with phantom power					
(1) 951-0037 installation connector kit					
(2) 941-0016 module extender cable, 40 pin					
(1) 941-0017 module extender cable, 50 pin					
(1) 971-0024 recommended basic spare parts kit					
(1) 971-9012 instruction manual					
(1) 951-0030 clock/timer					
(1) 951-0035 timer control module					
(**) 951-0021 blank panels					
(**) 951-0022 blank panels					
** As needed.					
<b>INPUT MODULES (17")</b>					
		951-0014	Mic input module - mono (17")	695.00	AR
		951-0016	Mic input transformer option	110.00	AR
		951-0015	Line input module - stereo (17")	750.00	AR
		911-0019	Remote control card (for use with either mic module or line module)	55.00	AR
		911-0020	Source remote control card (for use with line module)	80.00	AR
<b>ACCESSORY MODULES (17" and 8-1/2")</b>					
		951-0027	Control room monitor module (17"). Spare	685.00	AR
		951-0028	Studio/Talkback monitor module for 2 studios (17")	585.00	AR
		951-0024	Mono output module (8-1/2"). NOTE: Add VU meter.	320.00	AR
		951-0017	Tape (reel to reel) source remote switch module (8-1/2")	155.00	AR
		951-0019	Cart source remote switch module (8-1/2")	155.00	AR
		951-0018	Input expander module - 8 in x 1 out, stereo or mono (8-1/2")	170.00	AR
		951-0020	FSK data decoder module (8-1/2")	230.00	AR
		951-0026	Stereo Equalizer Module	675.00	AR
		951-0033	Parametric Equalizer Module	635.00	AR
		951-0040	Mic Processor remote control module for Orban 787 mic processor	480.00	AR
		951-0021	Blank Panel, spare (8-1/2")	45.00	AR
		951-0022	Blank Panel, spare (17")	80.00	AR
<b>ACCESSORIES</b>					
		951-0030	Clock/Timer (meter bridge mount), spare or slave	370.00	AR
		951-0044	VU Meter Kit, spare or for mono output	130.00	AR
		971-0025	VU meter (meter bridge mount) (spare or mono output)	100.00	AR
		951-0029	LED Dual Bargraph Meter (meter bridge mount in VU meter space)	195.00	AR
		911-0016	Stereo line amp output card (mounts internal)	180.00	AR
<b>NOTE: Two included with mainframe for program and audition busses. (Can accept two additional: one for mono bus and aux bus 3, and one card for aux busses 1 and 2)</b>					
		951-0048	Line level headphone option, factory installed	75.00	AR
		901-0023	Studio remote panel (to be located in remote studio) (8-1/2" x 2")	225.00	AR
		951-0006	Power supply (rack mount 19"W x 7-1/4" H) with phantom power include	1,190.00	AR
		951-0032	Power supply automatic switcher panel for redundant power supply	430.00	AR
		951-0038	Mounting Adaptor, allows (2) 8-1/2" modules to mount in (1) 17" slot	50.00	AR

# **BE**® AUDIO CONSOLES

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## MIX-TRAK 90 MODULAR CONSOLE - CONT'D

### SPARE PARTS

941-0016	40 pin extender cable assembly (spare) -----	70.00	AR
941-0017	50 pin extender cable assembly (spare) -----	140.00	AR
911-0065	Cue/headphone amplifier card (mounts internal) (spare) -----	165.00	AR
911-0062	Summing amplifier card (mounts internal) (spare) -----	240.00	AR
951-0036	Relay on air warning light (mounts external) -----	25.00	AR
911-0064	Power supply PC board with phantom power (spare) -----	130.00	AR
971-0024	Spare Parts Kit for MT 90 -----	80.00	AR
971-0027	Spare Parts Kit, Component, Light, for MT 90 -----	230.00	AR
971-0028	Spare Parts Kit, Component, Heavy, for MT 90 -----	1,046.00	AR
971-0029	Spare Parts Kit, Board, Light -----	3,726.00	AR
971-0030	Spare Parts Kit, Board, Heavy -----	6,436.00	AR
911-0031	Meter switch PC board, spare -----	115.00	AR
911-0101	Monitor input amp PC board -----	210.00	AR
951-0038	Module mounting adapter -----	50.00	AR
971-0023	Installation kit for 12 channel (included with mainframe) -----	905.00	AR
971-0026	Installation kit for 18 channel (included with mainframe) -----	950.00	AR
941-0018	Prefabricated cable, 10 feet, 3 conductor -----	30.00	AR
941-0019	Prefabricated cable, 20 feet, 3 conductor -----	40.00	AR
941-0020	Prefabricated cable, 10 feet, 20 conductor -----	77.00	AR
941-0021	Prefabricated cable, 20 feet, 20 conductor -----	120.00	AR
941-0047	MT 90 cable assembly, 25 feet, remote cable assy. for Denon Model DN-950FA CD cart player. -----	50.00	AR
941-0048	Prefabricated cable, 25 feet, remote cable assembly for PT 90RPS -----	50.00	AR
941-0049	MT 90 cable assembly, 25 feet, remote cable assembly for Otari MX-5050B-III reel to reel -----	50.00	AR
971-9012	Technical manual for MT 90 (One manual shipped with each mainframe) -----	300.00	AR

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## SERIES 350A SLIDE MIXER AUDIO CONSOLES

10M350A	901-1051-000	10-Mixer, Slider-Fader, Dual-Channel, mono -----	5,350.00	AR
10S350A	901-1050-000	10-Mixer, Slider-Fader, Dual-Channel, stereo -----	6,350.00	AR

### OPTIONS AND ACCESSORIES

918-3602	Mono Matrix PC Board for 10S350A -----	130.00	C
597-0013-001	Service Manual for Series 350 (one manual shipped with each unit) -----	75.00	C

*NOTE: For 220 Vac. 50 Hz. specify last three digits as "300".*

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## \*SERIES 250A AUDIO CONSOLES

### MONO - DUAL CHANNEL

5M250A	901-0541-000	5-Mixer, Deluxe, step type attenuators -----	3,050.00	AR
8M250A	901-0841-000	8-Mixer, Deluxe, step type attenuators -----	3,950.00	AR
10M250A	901-1041-000	10-Mixer, Deluxe, step type attenuators -----	5,050.00	AR

### STEREO - DUAL CHANNEL

5S250A	901-0540-000	5-Mixer Deluxe, step type attenuators -----	3,950.00	AR
8S250A	901-0840-000	8-Mixer Deluxe, step type attenuators -----	5,050.00	AR
10S250A	901-1040-000	10-Mixer Deluxe, step type attenuators -----	6,150.00	AR

### OPTIONS AND ACCESSORIES

918-3602	Mono Matrix PC Board for 5S250A, 8S250A, 10S250A -----	130.00	C
597-0018-001	Service Manual for Series 250 (one manual shipped with each unit.) -----	50.00	C

*NOTE: For 220 Vac. 50 Hz. specify last three digits as "300".*

\*Supplied with 3 muting relays



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### \*SERIES 150A AUDIO CONSOLES

**MONO - DUAL CHANNEL**

5M150A	901-0531-000	5-Mixer, sealed pots -----	2,650.00	AR
8M150A	901-0831-000	8-Mixer, sealed pots -----	3,150.00	AR
10M150A	901-1033-000	10-Mixer, sealed pots -----	4,550.00	AR

**STEREO - DUAL CHANNEL**

5S150A	901-0530-000	5-Mixer, sealed pots -----	3,150.00	AR
8S150A	901-0830-000	8-Mixer, sealed pots -----	3,850.00	AR
10S150A	901-1032-000	10-Mixer, sealed pots -----	5,450.00	AR

**OPTIONS AND ACCESSORIES**

	971-0021	Additional Muting Relay -----	30.00	C
	918-3604	Line Amplifier for Stereo Audition Channel 5S150A and 8S150A (2 required) for dual channel operation. -----	135.00	C
	918-3602	Mono Matrix PC Board for 5S150A and 8S150A -----	130.00	C
	597-0011-001	Service Manual for Series 150 (One manual shipped with each unit) -----	50.00	C

*NOTE: For 220 Vac. 50 Hz. specify last three digits as "300".*

\*Supplied with one muting relay

### SERIES 50A CONSOLES

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**MONO**

4M50A	901-0450-000	4-Mixer -----	1,350.00	AR
4M50AR	901-0451-000	Rack Mount 4-Mixer -----	1,450.00	AR
4M50AP	901-0450-021	4-Mixer with rear panel plug-in connectors -----	1,550.00	AR

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**STEREO**

4S50A	901-0452-000	4-Mixer -----	2,250.00	AR
4S50AR	901-0453-000	Rack Mount 4-Mixer -----	2,350.00	AR
4S50AP	901-0452-021	4-Mixer with rear panel plug-in connectors -----	2,450.00	AR

**FACTORY INSTALLED OPTIONS**

	901-0002-001	Rear panel plug-in connector panel assembly for 4S50A -----	150.00	A
	901-0003-001	Rear panel plug-in connector panel assembly for 4M50A -----	150.00	A
	597-0450-001	Service Manual for 4S50A (one manual shipped with each unit) -----	40.00	C
	597-0451-001	Service Manual for 4M50A (one manual shipped with each unit) -----	40.00	C

*NOTE: For 220 Vac. 50 Hz. specify last three digits as "300".*

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**RACK MOUNT AUDIO CONSOLE**

4R50	901-2000-000	4-Mixer Mono Rack Mount Console -----	1,750.00	AR
	597-0453	Service Manual for 4R50 (one manual shipped with each unit) -----	40.00	C

*NOTE: For 220 Vac. 50 Hz. specify last three digits as "300".*

## REPLACEMENT PARTS FOR AUDIO CONSOLES

### SPARE P.C. BOARDS AND MODULES FOR AUDIO CONSOLES - SERIES 150, 250 AND 350 CONSOLES

918-3600	Mono Preamplifier Module -----	100.00	C
918-3601	Stereo Preamplifier Module -----	125.00	C
918-3602	Mono Matrix Card -----	130.00	C
918-3603	Stereo Monitor Amplifier Module for 5S150/8S150 -----	115.00	C
918-3604	Line Drive Amplifier Module -----	135.00	C
918-3605	Mono Cue/Headphone Amplifier Module -----	125.00	C
918-3606	Stereo Cue/Headphone Amplifier Module -----	140.00	C
918-3709	Mono Monitor Amplifier Module -----	115.00	C
918-4002	Power Supply Module, Series 350 -----	215.00	C
918-4003	Power Supply Module, Series 150 and 250 -----	140.00	C
918-7018	Cue-Intercom Module, Series 350 -----	225.00	C
918-3706	Stereo Cue Headphone Module, 10S250 -----	160.00	C
919-3000	PC Board Test Extender for 3600 Series PC Boards -----	75.00	C

## SPARE PARTS KITS FOR CONSOLES

### SERIES 50

830-0080	Recommended Spare Semiconductor Kit for Model 4S50A -----	223.00	AR
830-0081	Recommended Spare Semiconductor Kit for Model 4M50A -----	154.00	AR
971-0022	Recommended Spare Semiconductor Kit for Model 450A -----	172.00	AR

### SERIES 150

830-0083	Recommended Spare Semiconductor Kit for Model 5M150A -----	304.00	AR
830-0084	Recommended Spare Semiconductor Kit for Model 5S150A -----	328.00	AR
830-0085	Recommended Spare Semiconductor Kit for Model 8M150A -----	343.00	AR
830-0086	Recommended Spare Semiconductor Kit for Model 8S150A -----	409.00	AR

### SERIES 250

830-0087	Recommended Spare Semiconductor Kit for Model 5M250A -----	330.00	AR
830-0088	Recommended Spare Semiconductor Kit for Model 5S250A -----	426.00	AR
830-0089	Recommended Spare Semiconductor Kit for Model 8M250A -----	371.00	AR
830-0090	Recommended Spare Semiconductor Kit for Model 8S250A -----	509.00	AR
971-0001	Recommended Spare Semiconductor Kit for Model 10M250A -----	542.00	AR
830-0126	Recommended Spare Semiconductor Kit for Model 10S250A -----	620.00	AR

### SERIES 350

830-0091	Recommended Spare Semiconductor Kit for Model 10M350A -----	581.00	AR
830-0092	Recommended Spare Semiconductor Kit for Model 10S350A -----	638.00	AR

*NOTE: Recommended spare parts kits for audio consoles do not include plug-in boards and modules. Please select these from Spare PC Board section of the Price List.*

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105 NO.	MODEL	STOCK NO.	DESCRIPTION	NET	PROFESSIONAL CODE
<b>TURNTABLE PRODUCTS - BE/REK-O-KUT</b>					
<b>62</b>	<b>TURNTABLES - 12", 3-Speed - 33-1/3, 45, 78</b>				
	12C/U	902-0008	Undrilled, AC Motor, 117 Vac, 60 Hz -----	450.00	A
	12C/320	902-0009	Same as 902-0008 except drilled for S-320 -----	450.00	A
	12C/O	902-0010	Same as 902-0008 except drilled for other brand tone arm (specify brand arm) -----	465.00	A
	12C/U	902-0011	Undrilled, AC Motor, 220/240 Vac, 50 Hz -----	465.00	A
	12C/320	902-0012	Same as 902-0011 except drilled for S-320 -----	465.00	A
	12C/O	902-0013	Same as 902-0011 except drilled for other brand tone arm (specify brand arm) -----	480.00	A
	12C/U	902-0001	Undrilled, AC Motor, 117 Vac, 50 Hz -----	450.00	A
	12C/320	902-0002	Same as 902-0001 except drilled for S-320 -----	450.00	A
	12C/O	902-0003	Same as 902-0001 except drilled for other brand tone arm (specify brand arm) -----	465.00	A
<b>63</b>	<b>TURNTABLES - 12", 2-Speed - 33-1/3 and 45</b>				
	12C2/U	902-0063	2 speed, undrilled, AC Motor, 117 Vac, 60 Hz -----	450.00	A
	12C2/320	902-0064	Same as 902-0063 except drilled for S-320 -----	450.00	A
	12C2/O	902-0065	Same as 902-0063 except drilled for other brand tone arm (specify brand arm) -----	465.00	A
	12C2/U	902-0066	Undrilled, AC Motor, 220/240 Vac, 50 Hz -----	465.00	A
	12C2/320	902-0067	Same as 902-0066 except drilled for S-320 -----	465.00	A
	12C2/O	902-0068	Same as 902-0066 except drilled for other brand tone arm (specify brand arm) -----	480.00	A
<b>62</b>	<b>TURNTABLES - 16", 3-Speed - 33-1/3, 45, 78</b>				
	16C/U	902-0069	Undrilled AC Motor, 117 Vac, 60 Hz -----	995.00	A
	16C/260	902-0070	Same as 902-0069 except drilled for S-260 -----	995.00	A
	16C/O	902-0071	Same as 902-0069 except drilled for other brand tone arm (specify brand arm) -----	1010.00	A
	16C/U	902-0073	Undrilled AC Motor, 220/240 Vac, 50 Hz -----	995.00	A
	16C/260	902-0074	Same as 902-0073 except drilled for S-260 -----	995.00	A
	16C/O	902-0075	Same as 902-0073 except drilled for other brand tone arm (specify brand arm) -----	1010.00	A
		597-0089	Service Manual for 12C/16C. (One manual is shipped with each unit) -----	10.00	C
<i>NOTE 1: All turntables painted BE charcoal gray with black felt.</i>					
<i>NOTE 2: For flat platter, no extra charge, specify and add -010 to part number.</i>					
<b>64</b>	<b>TONE ARMS</b>				
	S-320	950-0061	Rek-O-Kut 12" Tone Arm, Chrome plated -----	200.00	B
	S-260	950-0062	Rek-O-Kut 16" Tone Arm, Chrome plated -----	250.00	B
	PS-20L	830-0222	Spare Headshell for S-320 and S-260 Tone Arms -----	70.00	CR
		597-0017	Service Manual for S-320/S-260 (one manual shipped with each unit) -----	5.00	C
<b>65</b>	<b>TURNTABLE PREAMPLIFIERS</b>				
	EP-1	903-0020	Equalized turntable preamplifier, RFI protected 117/220/240 Vac, 50/60 Hz -----	450.00	A
	EP-2	903-0021	Equalized turntable preamplifier, RFI protected w/transformer output, ----- 117/220/240 Vac, 50/60 Hz	475.00	A
		973-0010	Recommended spare parts kit for EP-1/EP-2 -----	120.00	C
		597-0083	Service Manual for EP-1/EP-2, (one manual shipped with each unit) -----	12.00	C
<b>TURNTABLE REPLACEMENT PARTS</b>					
		972-0007	Rec. spare parts kit for Series 12C Turntables -----	129.00	AR
		972-0008	Rec. spare parts kit for Series 16C Turntables -----	142.00	AR
		972-0003	Motor and hanger kit for 12C, 220/240 Vac, 50 Hz -----	256.00	AR
		972-0005	Motor and hanger kit for 12C, 117 Vac, 60 Hz -----	235.00	AR
		972-0006	Motor and hanger kit for 12C, 117 Vac, 50 Hz -----	386.00	AR
		830-0047	Idler wheel kit for BE/QRK 12C, Galaxy II, 16C and 1271 Turntables -----	27.00	CR
		972-0218	Shock Mount Kit for QRK 12C Turntables -----	22.00	AR
		830-0218	Shock Mount Kit for BE 12C Turntables -----	23.00	AR
		407-0109	Black felt for 12C Turntable -----	6.00	C

## TURNTABLE PRODUCTS - BE/REK-O-KUT - CONT'D

### TURNTABLE TEST RECORDS

CTC-350	802-1009	Turntable/Tone Arm test record	50.00	C
NAB	802-1001	NAB test record for turntables, stereo/mono level, spot frequency, rumble, wow and flutter, phase separation	50.00	C

### CARTRIDGES FOR TONEARMS

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#### SERIES P

500AL	821-5000	Cartridge .7 mil (extra heavy duty) spherical stylus	20.00	CR
D5107AL	821-5001	Stylus for 500AL cartridge	9.00	CR
500AMKII	802-1004	Cartridge .7 mil spherical stylus	17.00	CR
D50AMKII	802-1008	Replacement stylus for 500AMKII cartridge	12.00	C

#### SERIES S

SC35C	821-4350	Professional broadcast cartridge	50.00	BR
SS35C	821-4352	Spherical stylus for SC35C	19.00	B
M44-7	821-4470	Stereo broadcast cartridge with N44-7 spherical .7 mil stylus	57.00	BR
N44-7	821-4471	Replacement .7 mil stylus for M44-7	26.00	BR
SS39B	802-1015	Cartridge, .7 mil spherical	29.00	BR
SC39EJ	802-1014	Cartridge, .4 x .7 mil elliptical	78.00	BR
SS78E	821-0032	Stylus, elliptical for 78 RPM	25.00	BR

#### SERIES ATP

ATP-1	821-0051	Cartridge, .6 spherical	45.00	B
ATP-2	821-0052	Cartridges, .4 x .7 elliptical	60.00	B
ATP-3	821-0053	Cartridges, .3 x .7 nude elliptical	80.00	B
ATP-N1	821-0054	Replacement stylus for ATP-1	25.00	B
ATP-N2	821-0055	Replacement stylus for ATP-2	35.00	B
ATP-N3	821-0056	Replacement stylus for ATP-3	50.00	B

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## CONSOLE AND TURNTABLE MOUNTING SUPPORTS

### SERIES 80 - (All Tops are Beige) (Specify if cutout for 12C Turntable is required)

SP-80-S2	802-2000	Single pedestal for one turntable, 22"x24"x29" H, 21" front rack space	394.00	ER
DP-80-S3	802-2001	Double pedestal for two turntables, 24"x42"x29" H, 21" front rack space	647.00	ER
BP-80-S21	801-2000	Blank front panel to fit rack space 19"x21"	48.00	ER
CT-80-S1	801-2001	Console support, top size 32" x 96" with formica top and 2 sets console base panel supports, size 24" x 29" high	770.00	ER
VS-80-S4	801-2002	Vanity shield for console, 12" wide	43.00	ER
SB-1	830-0042	Shelf base for 12C turntable	55.00	B
SB-3	821-0047	Shelf base for 16C turntable	60.00	B

### SERIES 4000 - (All Tops are Black)

PTC	801-2003	Pedestal/Top/Center for consoles up to 43" wide (Specify console cutout size and location desired.)	1,995.00	C
PTC	801-2011	Pedestal/Top/Center for consoles over 43" wide (Specify console cutout size and location desired.)	2,495.00	C
URM	801-2004	Utility rack module	499.00	C
DTM	801-2005	Double turntable module (Specify turntable cutout)	1,349.00	C
STM	801-2006	Single turntable module (Specify turntable cutout)	789.00	C
CCP	801-2007	Countertop cart pod	599.00	C
ITM	801-2008	Interview table module	599.00	C
OCS	801-2009	Overbridge copy stand	300.00	C
FEP	801-2010	Finished end panel (two required)	200.00	C

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## TIMERS

71	<b>STUDIO TIMERS (Battery Powered - C Cell)</b>				
	BECL-100	835-0100	Quartzmatic, white face -----	45.00	B
	<b>DIGITAL TIMERS</b>				
	ES302AE	829-0302	ESE Timer, elapsed time indicator, 117 Vac, 60 Hz -----	365.00	ER
	ES302AEJ	801-8003	ESE Timer, elapsed time indicator, 220 Vac, 50 Hz -----	390.00	ER
	<b>CUE TIMERS</b>				
	ES751E	829-0104	ESE Cue clock, thumbwheel programmer, single event -----	382.00	ER
	ES754E	829-0103	ESE Cue clock, thumbwheel programmer, two event -----	457.00	ER

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## ON-AIR STUDIO LIGHTS

	835-0001	ON-AIR light, vertical format -----	60.00	AR
	835-0002	ON-AIR light, horizontal format -----	60.00	AR
	835-0003	AUDITION light, vertical format -----	60.00	AR
	835-0004	AUDITION light, horizontal format -----	60.00	AR
	835-0006	EN AIRE light, vertical format -----	60.00	AR
	835-0009	EN AIRE light, horizontal format -----	60.00	AR
	835-0007	REHEARSAL light, vertical format -----	60.00	AR
	835-0008	REHEARSAL light, horizontal format -----	60.00	AR
	835-0005	RECORD light, vertical format -----	60.00	AR
	835-0010	RECORD light, horizontal format -----	60.00	AR
	835-0013	Special lettering, specify horizontal or vertical (for one time set up, ----- add \$60.00 to above - total \$120.00 for first unit)	60.00	AR
	340-0001	Flasher for on-air lights -----	9.00	CR

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## POWER AMPLIFIERS

**CROWN**

	D-75	827-0075	Stereo Power Amplifier, 35 watts, 8 ohm, per channel -----	549.00	AR
	D-150	827-0150	Stereo Power Amplifier, 80 watts, 8 ohm, per channel -----	879.00	AR

**SYMETRIX**

	A-220	803-1005	Symetrix Stereo Monitor Amp 20 watts/channel -----	349.00	BR
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## STUDIO PROCESSING AND EFFECTS EQUIPMENT

**ORBAN**

	787A/U	801-1022	Mono Programmable digitally controlled voice processor ----- stores 32, set-ups in memory for instant recall.	1,595.00	BR
	787ASL/U	801-1023	Slave for stereo or dual mono operation. -----	1,295.00	BR
	787ARC	801-1032	Basic Remote Control for 787A/U. -----	295.00	BR

## AUDIO DISTRIBUTION AMPLIFIERS

**APHEX**

	120	803-1006	Model 120 Distribution Amplifier 1 x 4, servo balanced. -----	299.00	CR
	44-008	803-1007	Rack kit for Model 120 Distribution Amplifier, mounts two -----	25.00	CR

**ATI**

	DA1008-2	803-1008	Microamp Model DA1008-2, Distribution Amp, one input to 8 outputs, ----- includes individual output level control, VU meter and headphone amplifier. +22 dBm, balanced differential outputs.	795.00	BR
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**GENTNER**

	910-031-001	803-1010	Gentner Routing Distribution Amp 8 inputs to 28 outputs, switchable, ----- rack mount.	1,295.00	CR
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## TELEPHONE INTERFACE EQUIPMENT

### SYMETRIX

TI-101	803-1100	Model TI-101 Telephone Interface	549.00	BR
111	803-1101	Model 111 Adaptive Hybrid	1,695.00	BR
104A	803-1102	Model 104A, multi-line telephone interface	2,395.00	BR

## AUDIO SWITCHERS

### GENTNER

10	803-1200	910-016-001 Model 10, Stereo Signal Switcher, routes ten stereo inputs to one stereo output.	899.00	CR
20	803-1201	910-015-001 Model 20, Mono Signal Switcher, routes 20 mono inputs to one mono output.	899.00	CR

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## BROADCAST AND RECORDING MICROPHONES

### BEYER

M58	801-1650	M58N(C) Dynamic microphone, moving coil, omnidirectional, includes WS58 windscreen.	200.00	BR
M260	801-1651	M260N(C) Hypercardioid, dynamic ribbon, includes MKV8 clamp.	300.00	BR
MC734	801-1652	MC734N(C) P48 condensor microphone, phantom powered 48 V, cardioid	800.00	BR

### SERIES EV

635A	825-0635	Microphone, omnidirectional dynamic	139.00	AR
D056	825-0016	Microphone, shock mounted, dynamic omnidirectional	202.00	AR
649B	825-0649	Microphone, lavalier	202.00	AR
RE10	825-0010	Super cardioid (90 Hz - 13kHz)	234.00	AR
RE11	801-1018	150 ohms, 90-13000 Hz, super cardioid	249.00	AR
RE15	825-0015	Super cardioid, highest quality (80 Hz - 15 kHz)	349.00	AR
RE16	801-1108	Variable-D, supercardioid	365.00	AR
RE20	801-1017	150 ohms, 45-18000 Hz, cardioid	525.00	AR

### SERIES S

SM7	825-0007	Microphone, boom, selectable response	550.00	B
SM11CN	801-1015	Omnidirectional dynamic lavalier, prewired plug	108.00	B
SM57LC	801-1010	Unidirectional dynamic	137.00	B
SM58LC	801-1011	Unidirectional dynamic	176.00	B
SM63LC	801-1012	Omnidirectional dynamic	133.00	B
SM81LC	825-0018	Microphone, unidirectional condenser less cable	398.00	B
SM82LC	801-1013	Unidirectional condenser, line level	475.00	B

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## MICROPHONE ACCESSORIES

MS-4	825-0063	Atlas Mic floor stand, 25" to 65"	56.00	C
SB-36	825-0064	Atlas Mic boom stand, 62" boom, without wheels	255.00	C
GN-13	825-0019	Atlas flexible gooseneck, 13"	10.00	C
MKV8	801-1031	Beyer microphone stand mount	15.00	BR
422	825-0091	Electro-Voice Desk stand, clamp type for D054, E10, E15, 635A and 649B	25.00	AR
LM1-41A	825-0001	Luxo mic arm, for 2 lb. wt., "C" clamp mount, 41"	50.00	CR
LM1-41A	825-0003	Luxo mic arm, for 3 lb. wt., "C" clamp mount, 41"	50.00	CR
LM1-41C	825-0002	Luxo mic arm, for 2 lb. wt., screw down mount, 41"	50.00	CR
LM1-41C	825-0004	Luxo mic arm, for 3 lb. wt., screw down mount, 41"	50.00	CR
S37A	825-0107	Shure Mic desk stand	23.00	BR
S39A	825-0070	Shure Mic vibration-isolation stand	67.00	BR

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### SPEAKERS

**ELECTRO-VOICE**

Sentry 100EL	801-4011	Powered compact speaker, 50 watt	659.00	AR
Sentry 100A	829-2025	Loudspeaker, Compact, 30 watt, 6 ohm	317.00	AR
SRB7	829-0088	Mounting bracket for Sentry 100 speaker	32.00	AR
MC8A	829-2006	Speaker, 8", 12 watt, 8 ohm, less cabinet	53.00	A
MC12A	829-2007	Speaker, 12", 20 watt, 8 ohm, less cabinet	76.00	A

**JBL**

4406	801-1026	4406 Studio Monitor, 75 watt, 2 way, response 55 Hz - 20 kHz, 15-3/8" x 9-1/8" x 8-1/2", oiled walnut with blue grill	250.00	BR
4408	801-1027	4408 Studio Monitor, 100 watt, 2 way, response 50 Hz - 20 kHz, 17-1/2" x 12" x 11-5/8", oiled walnut with blue grill	325.00	BR
4410		4410 Studio Monitor, 125 watt, 3 way, response 45 Hz - 20 kHz, 23-1/2" x 14-1/4" x 11-1/4", oiled walnut, blue grill		
	801-1028	Left	495.00	BR
	801-1029	Right	495.00	BR
4412		4412 Studio Monitor, 150 watt, 3 way, response 45 Hz - 20 kHz, 14-1/4" X 23-1/2" X 11-1/4", oiled walnut, blue grill		
	801-1030	Left	750.00	BR
	801-1025	Right	750.00	BR

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### HEADPHONES

K240M	801-4016	AKG K240M, Stereo Headphones, 8' cable and standard stereo plug	120.00	BR
DT100	801-4017	Beyer DT100 Stereo Headphones, 600 ohm	150.00	BR
DT770	801-4018	Beyer DT770 Pro stereo headphones, 600 ohm	240.00	BR
DT990	801-4019	Beyer DT990 Pro stereo headphones, 600 ohm	260.00	BR
HD450	801-4014	Sennheiser 20-20 kHz 70 ohm	89.00	CR

### HEADPHONES WITH MICROPHONES

**BEYER**

DT109	801-4020	200 ohm dynamic microphone, 600 ohm headphones, black	210.00	BR
DT329	801-4021	Condensor microphone with stereo headphones.	400.00	BR

**TELEX**

PH-24	801-4013	Headset, 150 ohms, dynamic dual/mono	231.00	BR
PH-92	801-4012	Headset, 6000 ohm binaural headset	247.00	BR

### CONNECTORS

C3M	829-4212	Male receptacle assembly, circular housing (type XL-3-14)	5.00	C
D3M	829-4213	Male receptacle assembly, square housing (type XL-3-32)	4.00	C
D3F	829-4214	Female receptacle assembly, square housing (type XL-3-31)	6.00	C
C3F	829-4215	Female receptacle assembly, circular housing (type XL-3-13)	6.00	C
A3F	829-4216	Female plug assembly, standard grommet (type XL-3-11c)	5.00	C
A3M	829-4217	Male plug assembly, standard grommet (type XL-3-12c)	4.00	C

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## WIRE AND CABLE

8412	829-4200	Microphone cable, 2 conductor, stranded, 20 AWG braided shield, cotton wrap, heavy rubber jacket, 500 ft. roll	340.00	C
8428	829-4201	Microphone cable, 2 conductor, stranded, 18 AWG braided shield, heavy duty neoprene jacketed, 500 ft. roll	402.00	C
8437	829-4202	Audio wire, 2 conductor, solid, 22 AWG with drain wire and braided shield, black vinyl jacket, 500 ft. roll	165.00	CR
8450	829-4203	Audio wire, 2 conductor, solid, 22 AWG with drain wire, foil shield, vinyl jacket, 500 ft. roll	63.00	C

## PREWIRED AUDIO PATCH PANELS

801-7015	Gentner 48DR-TRS-AB-PU 48 jacks, double row, tip-ring sleeve, normals at bay, 3X50 punch block termination. For solid wire.	639.00	CR
801-7016	Gentner 48DR-TRS-AB-FB 48 jacks, double row, tip-ring sleeve, normals at bay, flex block termination.	659.00	CR
801-7029	Gentner 48SR-TRS-AB-XT, 48 jacks, double row, tip-ring sleeve, normals at bay, 6 x 26 "Christmas Tree" termination	659.00	CR
801-7017	Gentner 24SR-TRS-BO-PU 24 jacks, single row, tip-ring sleeve, normals brought out. 3 x 50 punch block termination.	469.00	CR
801-7018	Gentner 24SR-TRS-BO-XT 24 jacks, single row, tip-ring sleeve, normals brought out. 6 x 26 "Christmas tree" termination	529.00	CR
801-7019	Gentner 24SR-TRS-BO-ET/FB 24 jacks, single row, tip-ring sleeve, normals brought out	619.00	CR

## UNWIRED AUDIO JACK PANELS

801-7020	Gentner 48DR/TRS. 48 jacks, double row, tip-ring sleeve.	205.00	CR
801-7021	Gentner 24 SR/TRS. 24 jacks, single row, tip-ring sleeve.	119.00	CR

## AUDIO PATCH PANEL ACCESSORIES

801-7022	Gentner standard 2' tip-ring sleeve patch cord	25.00	CR
801-7023	Gentner standard 4' tip-ring sleeve patch cord	27.00	CR
801-7026	Gentner Flexitool punch tool for Flexiblock	64.00	CR
801-7027	Gentner blade for Flexitool	17.00	CR
801-7028	Gentner Designation kit includes 14 designation strips with Mylar protection covers.	14.00	CR

## REEL-TO-REEL TAPE RECORDERS/REPRODUCERS

### STUDER/REVOX

#### 78 MODEL PR99 MKIII SERIES FIELD SELECTABLE 117/230 Vac, 50/60 Hz

13600	808-1030	Recorder/Reproducer, 1/2 track, stereo, 3.75/7.5 IPS, chassis version for installation in cabinet or 19" rack	3,495.00	BR
13610	808-1031	Same as 13600 except 7.5/15 IPS	3,495.00	BR
13203	808-1026-010	Reproducer, 1/2 track, stereo, 3.75/7.5 IPS chassis version for mounting in cabinet or 19" rack	2,795.00	BR
13303	808-1026	Same as 13203 except 7.5/15 IPS	2,795.00	BR

### OPTIONS FOR PR99 SERIES

31310	808-1018	Carrying case	550.00	B
31315	808-1019	Console cabinet without utility shelf	825.00	BR
34509	808-1022	Monitor panel with speaker, stereo	342.00	B
34227	808-1023	Remote control w/32 ft. cable	175.00	BR



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## REEL-TO-REEL TAPE RECORDERS/REPRODUCERS - CONT'D

### STUDER/REVOX - CONT'D

**78 MODEL B77 SERIES FIELD SELECTABLE 117/230 Vac, 50/60 Hz**

14102	822-4102	10 1/2" Recorder/Playback, 3.75-7.5 IPS, mounted in black plastic cabinet, stereo half track -----	2,995.00	BR
14302	822-4302	10 1/2" Recorder/Playback, 3.75-7.5 IPS, in metal cage for rack mount, stereo half track. Does not include Revox 54099 rack attachment. -----	2,450.00	B
14106	822-4106	10 1/2" Recorder/Playback, 7.5-15 IPS, mounted in black plastic case, stereo half track -----	2,995.00	BR
14306	822-4306	Same as Model 14106, except in metal cage for rack mount, does not include Revox 54099 rack attachment -----	2,450.00	B

**OPTIONS FOR B-77 SERIES**

34237	822-4237	Vari speed control for B-77 -----	150.00	BR
34227	822-4227	Remote control for B-77 with 30-foot cable -----	175.00	BR
34099	822-1021	Rack mount adapter for B-77 (cage models) -----	65.00	B

**ACCESSORIES FOR B-77 SERIES**

45240	822-5240	Revox editing kit/splicing kit -----	50.00	B
39000	822-9000	Revox cleaning kit -----	12.00	B
9865	822-9865	Operating manual for B-77 -----	10.00	B
9860	822-9860	Service manual for B-77 -----	40.00	B

**MODEL C270 SERIES, FIELD SELECTABLE 117/230 Vac, 50/60 Hz**

11023	808-1035	Half track stereo recorder/reproducer, 7.5/15 IPS, 10-12", rack mount, includes 19" rack adapters, RS232 port, NAB hub adapters and manuals. -----	3,995.00	BR
11024	808-1036	Half track stereo recorder/reproducer, 3.75/7.5 IPS, 10-12", rack mount, includes 19" rack adapters, RS232 port, NAB hub adapters and manuals. -----	3,995.00	BR

**C270 OPTIONS and ACCESSORIES**

31320	808-1037	Floor console for C270 -----	825.00	BR
34610	808-1038	Transport remote control with counter reset and zero locate -----	245.00	BR
34620	808-1039	Autolocator, channel remote, transport remote w/15m cable and battery backup option -----	950.00	BR

**79 MODEL LJ SERIES**

LJ-10-1	822-2503	Mono reproducer, half-track, bi-directional, 25" tape, 14" reels, 3.75 - 7.5 IPS, 117 Vac, 60 Hz -----	5,850.00	C
LJ-10-2	822-2504	Stereo reproducer, two track, 25" tape, 14" reels, 3.75 - 7.5 IPS, 117 Vac, 60 Hz -----	5,850.00	C
LJ-10-4	822-2505	Stereo reproducer, quarter-track, bi-directional, 25" tape, 14" reels, 3.75 - 7.5 IPS, 117 Vac, 60 Hz -----	6,200.00	C
		220 Vac 50 Hz, 220 Vac modification plus 50 Hz modification -----	415.00	C
		115 Vac, 50 Hz, 50 Hz modification only -----	95.00	C

# BE<sup>®</sup> STUDIO EQUIPMENT

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## REEL-TO-REEL TAPE RECORDERS/REPRODUCERS - CON'TD

### OTARI

#### 80 MX-5050B SERIES

MX-5050B-III	822-5055	1/4" two-channel half-track recorder/reproducer with extra quarter-track reproduce head. DC- servo capstan, with +7% vari-speed, three speeds in pairs of 15/7.5 or 7.5/3.75 IPS field selectable. Transformerless balanced inputs and outputs, +4 or -10dB output level select, real time tape counter with LED display and integral splicing block.	3,295.00	CR
MX5050B-III-F	808-1027	1/4" one-channel, full-track recorder/reproducer with extra two-channel half-track reproduce head, otherwise identical to the B-III.	3,960.00	CR
MX5050B-MKIV-1	822-5051	1/4" two-channel, half-track recorder/reproducer with extra quarter-track playback head, includes microprocessor transport logic, and dynamic braking, zero return, external machine control interface connector for synchronizers or the option CB-116 auto locator. Otherwise identical to the B-III.	4,295.00	C

### ARS SERIES

ARS-1000	822-5058	1/4" two-channel, half-track reproducer with 25Hz tone sensor, end-of-message and cuttone relays with adjustable delay (100 ms to 15s), 7.5/3.75 IPS speeds, 19" rack mount with defeatable 25Hz tone sensor.	2,250.00	CR
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### MX-5050 OPTIONAL ACCESSORIES

RK-2B	822-5064	Rack mounting adapter for MX-5050B, BQ-III	63.00	CR
RK-32	822-5065	Rack mounting adapter for Mark IV-2	95.00	CR
ZA-52L	822-5085	Metal roll around floor stand for Otari reels to reels	368.00	CR
ZA-52Y	808-1029	7" reel hold down, EIA hub (set of two)	39.00	C
TW-670	822-5076	Reel hold down knobs, 1/4", each	20.00	C
TW-671	822-5077	Reel hold down knobs, 1/2", each	28.00	CR
CB-102	822-5070	Remote Control	210.00	CR
	822-5083	Extra service manual (One manual shipped with each unit)	33.00	C

### MX-50 SERIES

MX-50	808-1040	1/4" 2-channel recorder/reproducer	2,495.00	CR
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### MX-50 OPTIONAL ACCESSORIES

CB-127	808-1041	Remote transport control	263.00	CR
ZA-5EK	808-1042	Rack mount kit	58.00	CR
ZA-5EL	808-1043	Voice editing module (VEM)	263.00	CR
ZB-51M	808-1044	Metal roll-around floor stand	368.00	CR

### MX-55 SERIES

MX-55N	808-1045	1/4" 2-channel half-track mastering recorder/reproducer	4,295.00	CR
MX-55NM	808-1046	1/4" 2-channel half-track mastering recorder/reproducer with meterbridge console	5,495.00	CR

### MX-55 OPTIONAL ACCESSORIES

ZA-5CV	808-1047	Voice editing module (VEM)	263.00	CR
CB-119	808-1048	8-memory locator	1,775.00	CR
CB-127	808-1049	Remote transport control	263.00	CR
ZB-51A	808-1050	Rack mount kit for MX-55N	63.00	CR
ZB-51F	808-1051	Rack mount kit for MX-55NM	184.00	CR
ZB-51D	808-1052	Metal roll-around floor stand for MX-55N with skirt	520.00	CR
ZB-51E	808-1053	Metal roll-around floor stand for MX-55NM with skirt	520.00	CR

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<b>81</b>					
<b>COMPACT DISC PLAYERS</b>					
<b>STUDER/REVOX</b>					
	C-126	804-0107	Compact Disc Player, Revox 08021	1,275.00	B
	34102	804-0108	19" Rack Adapter for C-126, Revox	95.00	BR
	31011	804-0109	Broadcast remote control for C-126	595.00	CR
<b>DENON</b>					
	DN-950FA	804-0110	CD Cart Player	1,499.00	CR
	DN-970FA	804-0111	Production CD Cart Player (includes 25 pcs. of ACD-5B)	2,599.00	CR
	ACD-5B	804-1001	Cartridge for CD Cart Players	3.50	CR
<b>ACCESSORIES</b>					
	AMC-9	804-1002	Lens Cleaning Cartridge	19.95	ER
	38C39-7147	804-1003	Denon Audio Technical CD	19.95	ER
	DN950FATOOL	804-5001	Alignment Kit for DN-950FA	91.00	ER
	513 129 2009	804-1004	Extra Cartridge Labels	.50/sh	ER
	473 750 7021	804-1005	Extra Cartridge Screws	.10/ea	ER
	499 010 0003	804-0112	Optical Pickup Assembly (for DN-950FA or DN-970FA)	86.00	ER
		900-9020	Rack mount for Denon Model DN-950FA CD Player, space for (2) DN-950FA's, 19" rack mount, requires 7.0 inches of vertical rack space.	230.00	AR
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<b>82</b>					
<b>CASSETTE TAPE RECORDERS/REPRODUCERS</b>					
<b>STUDER/REVOX</b>					
	B215	808-8000	Cassette Tape recorder	2,600.00	BR
	34215	808-8016	Wired remote control for B215	175.00	BR
	34103	808-8015	19" Rack adapter for B215	125.00	BR
<b>TASCAM</b>					
	122MK11	808-8002	Studio Cassette recorder/reproducer	1,099.00	E
	133B	808-8003	Stereo Plus Cue Cassette recorder/reproducer	1,300.00	E
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<b>83</b>					
<b>STUDIO AND TRANSMITTER MOUNTING SUPPORTS</b>					
<i>(Heavy duty type, black frame, instrument gray rear door. Includes front and rear mounting rails. Order side panel set (painted instrument gray) separately. Order one side panel set per rack system.)</i>					
	809-2200		Single Rack, Less Sides, 35 R.U., 23-1/4" x 25" x 69-13/16" overall	745.00	E
	809-2201		Side Panel and Trim Set for 809-2200	225.00	ER
	809-2202		Single Rack, Less Sides, 35 R.U., 23-1/4" x 30" x 69-13/16" overall	815.00	E
	809-2203		Side Panel and Trim Set for 809-2202	250.00	ER
	809-2204		Single Rack, Less Sides, 35 R.U., 23-1/4" x 36" x 69-13/16" overall	875.00	E
	809-2205		Side Panel and Trim Set for 809-2204	275.00	ER
	809-2206		Single Rack, Less Side, 40 R.U., 23-1/4" x 25" x 78-9/16" overall	850.00	E
	809-2207		Side Panel and Trim Set for 809-2206	250.00	ER
<b>RACK ACCESSORIES - (Blank panels painted technical gray)</b>					
	506-0175-004		Blank Panel, 1 R.U. (1-3/4")	15.00	E
	506-0350-004		Blank Panel, 2 R.U. (3-1/2")	20.00	E
	506-0525-004		Blank Panel, 3 R.U. (5-1/4")	25.00	E
	506-0700-004		Blank Panel, 4 R.U. (7")	30.00	E
	506-0875-004		Blank Panel, 5 R.U. (8-3/4")	35.00	E
	420-0003		Screws 12/24 for rack mounting	25/6.00	E
	421-0002		Nuts for 420-0003	25/11.00	E
	840-0009		Amco "P" type side mounting channel, left side	40.00	ER
	840-0010		Amco "P" type side mounting channel, right side	40.00	ER
	840-4006		Amco "L" type rear mounting channels, P/N MXL-61, one pair.	42.00	ER
	978-0000		AC Plug Mold Kit for Amco Rack cabinets, 3' length with 6 AC outlets, includes mounting brackets.	55.00	ER
	978-0001		AC Plug Mold Kit for Amco Rack cabinets, 5' length with 10 AC outlets, includes mounting hardware.	75.00	ER



# PROGRAM AUTOMATION EQUIPMENT

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## AUDIO PROGRAM ORIENTATION EQUIPMENT

	VAN-90	908-9900	Mobile Audio Program Origination Van fully equipped and operating. (List of equipment included supplied on request.)	138,350.00	B
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## MICROPROCESSOR PROGRAM CONTROLLERS

84	C-16	960-1600	CONTROL 16x the "Intelligent One" microprocessor Program Controller for 115/240Vac, 50/60Hz	18,155.00	P
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Control 16x Program Controller includes the following units: Audio Control, Processor, Power Supply, Customer Panel (rear rack mounted), Video Monitor, Keyboard

87	EC-16	960-1605	ECONO 16 Microprocessor Program Controller for 115/240Vac, 50/60Hz.	12,695.00	P
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Econo 16 includes the following units: Audio Control, Customer Panel (rear rack mounted), Power Supply, Keyboard

The Econo 16 can be easily converted to the expanded capabilities of the full Control 16x simply by adding the Master Video Monitor, the Main Processor Chassis and by changing software in the Audio Control.

90	SAT-16	960-1610	SAT-16 Microprocessor Program Controller for 115/240Vac, 50/60Hz	13,190.00	P
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SAT-16 includes the following units: Audio Control, Customer Panel (rear rack mounted), Power Supply, Keyboard, Satellite Interface (rear rack mounted).

The SAT-16 can be easily converted to the expanded capabilities of the full Control 16x simply by adding the Master Video Monitor, the Main Processor Chassis and by changing out the software in the Audio Control.

*NOTE: A heavy duty 12V maintenance free type battery and automatic charger are recommended for memory backup.*

*NOTE: Broadcast Electronics does not assume any responsibility or obligation for customer furnished equipment which is intended to become a part of or interface with C16, EC16 and SAT16. This applies to all customer equipment regardless of origin of manufacture.*

*NOTE: Source Kit including Universal Source card and source cable. One Source Kit required for each reel to reel, multi-deck single cartridge machine, random access cartridge machine or studio network source.*

*NOTE: Program Controller includes one balanced 600ohm dedicated input for network without need for extra source card. Additional networks or studio input will require a source kit for each.*

			Checkout and training (not to exceed 5 days) by factory service representative after installation by customer, within contiguous 48 states of the USA.	2500.00*	X
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\*For export add \$960.00 plus air travel ticket cost.

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## AUTOMATION ACCESSORIES

TG-2	908-6860-001	Dual Tone Generator	895.00	B
AR-1	908-6850	Autorewind	495.00	B
	978-0008	PC Load/Dump Software Package for use with Control 16x	495.00	B
	908-0003	Live Assist Remote Control, with 50' of control cable, provides remote operation for 6 standard system functions (start, special event insertion, auto, manual, fade and alarm reset) plus 4 indicators for alert conditions (ABORTED EVENT, LOG PRINTER FAILURE, XMTRS SYSTEM OFF AIR, AND NEXT SOURCE NOT READY). Also includes 12 non-designated switches which may be used for customer selection of several of the system's control functions including "Direct Start" of any system source. 115/230Vac, 50/60Hz.	1,895.00	B
		Additional cable over 50ft. for Live Assist Remote Control	1.00/ft	B

# PROGRAM AUTOMATION EQUIPMENT

CATALOG

105

NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
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## AUTOMATION ACCESSORIES - CONT'D

### SPARE PARTS KITS

978-0009	Spare Parts Kit-Board Level, Heavy Support for Control 16x, Econo 16, SAT-16 includes spares for all of the major PC boards in the system for rapid trouble shooting and returning the system to the air in the least amount of time.	9,210.00	A
978-0010	Spare Parts Kit-Board Level, Light Support for Control 16x, Econo 16, SAT-16, includes spares for the most critical PC boards used in the system for fast repair of the majority of system failures.	2,905.00	A
978-0011	Spare Parts Kit-Component Level, Heavy Support for Control 16x, Econo 16, SAT-16, includes replacements for virtually every active component and all difficult to find items such as switches, transformers, and size-critical parts. Recommended for use with the Diagnostics/DBUG package.	3,982.00	A
978-0012	Spare Parts Kit-Component Level, Light Support for Control 16x, Econo 16, SAT 16, includes replacements for virtually all IC's, transistors, diodes, and other complete with FX 50 Exciter, used in the system; but does not include the expensive parts contained in the Heavy Support Kit. Recommended for use with the Diagnostic/DBUG package.	1,352.00	A
978-0013	Spare Semiconductor Kit for Control 16x, Econo 16, SAT 16, includes recommended replacements of IC's, transistors, diodes and other active components used in the system.	601.00	A

### FIELD SERVICE (Continental U.S.A.)

Field Service, 8 hour working day and travel days from factory and return. Does not include travel (ticket) expense, lodging, food or local transportation (rental car, taxi, etc. These expenses will be invoiced at cost.) -----400.00/day X

### FIELD SERVICE (International)

Field Service, 8 hour working day and travel days from factory and return. Does not include travel (ticket) expense, lodging, food or local transportation (rental car, taxi, etc. These expenses will be invoiced at cost.) -----480.00/day X

### SERVICE MANUALS

C-16x	597-1601	Vol. I, Book I, Installation (Spiral Bound)	75.00	C
C-16x	958-0004	Vol. I, Book II, Theory of Operation	125.00	C
C-16x	958-0005	Vol. I, Book III, Schematics and Drawings	200.00	C
C-16x	958-0010	Vol. II, (v. 6.0/later) Operations and Programming	175.00	C
E-16/SAT-16	597-1605	Vol. I, Book I, Installation (Spiral Bound)	75.00	C
E-16/SAT-16	958-0008	Vol. I, Book II, Theory of Operation	150.00	C
E-16/SAT-16	958-0005	Vol. I, Book III, Schematics and Drawings	200.00	CR
E-16/SAT-16	958-0007	Vol. II, Operations and Programming	150.00	C
AR-1	597-0007	Auto Rewind	25.00	C
TG-2	597-6861	Tone Generator	30.00	C
D-Bug	597-1607	Diagnostics/D-Bug	25.00	C
PC Load/Dump	597-1609	Used with C-16X, etc.	25.00	C
PC Load/Dump	598-0009	Binder for 597-1609	10.00	C

*NOTE: For automation systems refer to separate automation price list addendum or contact Quincy for a quotation.*

# BE<sup>®</sup> FM TRANSMITTING EQUIPMENT

CATALOG

105

PROFESSIONAL  
NET CODE

NO. MODEL STOCK NO. DESCRIPTION

## SINGLE FM BROADCAST TRANSMITTERS (87.5 MHz to 108 MHz)

### 35 KILOWATT FM TRANSMITTER

106	FM 35B	909-0035-204	35,000 watt FM Broadcast Transmitter, complete with FX 50 Exciter, output tube and low pass filter for operation from 208/240 Vac, 60 Hz 3 phase, power source. HV power supply cabinet in line with PA cabinet.	73,500.00	P
	FM 35B	909-0035-384	Same as 909-0035-204 (HV power supply in-line) except to operate from 380/415 Vac, 50 Hz, 3 phase power supply.	74,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### FACTORY INSTALLED OPTIONS

MVDS	909-0091-064	Microprocessor Video Diagnostic System for FM 35B	3,800.00	P
RC-1	909-0122-064	MVDS Remote Control for FM 35B	2,400.00	P
	909-0112	Filament voltage regulator for FM 35B, 60 Hz	2,000.00	P
	909-0112-300	Filament voltage regulator for FM 35B, 50 Hz	2,000.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes Exciter and includes blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b>	(4,000.00)	PR
	909-0134	Remote Power Supply option for FM 35B, includes side panels and 30' interconnecting harness.	600.00	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

### FM 35B SPARE PARTS KITS AND ACCESSORY PRODUCTS

	240-2000	4CX20000C spare tube for FM 35B	3,995.00	E
	979-0046-014	Recommended spare parts for the FM 35B, includes switches, relays, meters and spare parts. Does not include spare semiconductors, rectifiers, or FX 50 spare parts.	3,127.00	AR
	979-0047-014	Recommended spare semiconductor kit for the FM 35B, includes critical spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches or spare parts.	552.00	AR
	979-0130-014	50% HV rectifier kit for FM 35B	1,035.00	A
	979-0000-001	Service Manual for FM 35B and FM 30B with FX 50 (one Manual shipped with each unit)	300.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### 30 KILOWATT FM TRANSMITTER

110	FM 30B	909-0000-204	30,000 watt FM Broadcast Transmitter, complete with FX 50 Exciter, output tube and low pass filter for operation from 208/240 Vac, 60 Hz, 3 phase power source. HV power supply cabinet in line with PA cabinet.	67,500.00	P
	FM 30B	909-0000-384	Same as 909-0000-204 (HV power supply in-line) except to operate from 380/415 Vac, 50 Hz, 3 phase power supply.	68,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

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PROFESSIONAL

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NO.

MODEL

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DESCRIPTION

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## SINGLE FM BROADCAST TRANSMITTERS - CONT'D (87.5 mHz to 108 mHz)

### 30 KILOWATT FM TRANSMITTER - CONT'D

#### FACTORY INSTALLED OPTIONS

MVDS	909-0091-014	Microprocessor Video Diagnostic System for FM 30B -----	3,800.00	P
RC-1	909-0122-014	MVDS Remote Control for FM 30B -----	2,400.00	P
	909-0112	Filament voltage regulator for FM 30B, 60 Hz -----	2,000.00	P
	909-0112-300	Filament voltage regulator for FM 30B, 50 Hz -----	2,000.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes Exciter and includes blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b> -----	(4,000.00)	PR
	909-0134	Remote Power Supply option for FM 30B, includes side panels and 30' interconnecting harness. -----	600.00	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

#### FM 30B SPARE PARTS KITS AND ACCESSORY PRODUCTS

	243-0001	4CX20000A Spare Tube for FM 30B -----	3,750.00	E
	979-0051-014	Recommended spare parts kit for the FM 30B, includes switches, relays, meters, and spare parts. Does not include spare semi- conductors, rectifiers or FX 50 spare parts. -----	3,140.00	AR
	979-0059-014	Recommended spare semiconductor kit for the FM 30B, includes critical spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches, or spare parts. -----	552.00	AR
	979-0131-014	50% HV rectifier Kit for FM 30B -----	1,035.00	A
	979-0000-001	Service Manual for FM 35B and FM 30B with FX 50 ----- (one manual shipped with each unit.)	300.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### 20 KILOWATT FM TRANSMITTER

114	FM 20B	909-0020-204	20,000 watt FM Broadcast transmitter complete with FX 50 Exciter, output tube, and low pass filter for operation from a 208/240 Vac, 60 Hz, 3 phase power source. HV power supply cabinet in-line with PA cabinet. -----	58,500.00	P
	FM 20B	909-0020-384	Same as 909-0020-204 (HV power supply in-line) except to operate from a 380/415 Vac, 50 Hz, 3 phase power supply. -----	59,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

#### FACTORY INSTALLED OPTIONS

MVDS	909-0091-074	Microprocessor Video Diagnostic System for FM 20B -----	3,800.00	P
RC-1	909-0122-074	MVDS Remote Control for FM 20B -----	2,400.00	P
	909-0118	Filament voltage regulator for FM 20B, 60 Hz -----	1,650.00	P
	909-0118-300	Filament voltage regulator for FM 20B, 50 Hz -----	1,650.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and includes blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b> -----	(4,000.00)	PR
	909-0135	Remote Power Supply Option for FM 20B, includes side panels and interconnecting harness. -----	600.00	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*



# FM TRANSMITTING EQUIPMENT

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STOCK NO.

DESCRIPTION

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CODE

## SINGLE FM BROADCAST TRANSMITTERS - CONT'D (87.5 MHz to 108 MHz)

### 20 KILOWATT FM TRANSMITTER - CONT'D

#### FM 20B SPARE PARTS KITS AND ACCESSORY PRODUCTS

	240-0012	Spare 4CX12000A output tube for FM 20B -----	2,855.00	E
	979-0070-014	Recommended Spare Parts Kit for the FM 20B, includes switches, relays, meters, and spare parts. Does not include spare semiconductors, rectifiers or FX 50 spare parts. -----	2,086.00	AR
	979-0075-014	Recommended Spare Semiconductor Kit for the FM 20B, includes critical spare semiconductors, IPA spare semiconductors, and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches, or spare parts. -----	551.00	AR
	979-0132-014	50% HV rectifier Kit for FM 20B -----	1,035.00	A
	979-0220-004	Service Manual for FM 20B and FX 50 (one manual shipped with each unit) -----	300.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### 10 KILOWATT FM TRANSMITTER

117	FM 10B	909-1110-204	10,000 FM Broadcast Transmitter complete with final tube, and FX 50 Exciter for operation from 208/240 Vac, 60 Hz, 3 phase, 3 wire power source. Power supply cabinet attached to RF cabinet. -----	44,500.00	P
	FM 10B	909-1110-384	Same as 909-1110-204 HV power supply in-line except to operate from 380/220 Vac, 50 Hz, 4 wire WYE, 3 phase power. -----	45,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

#### FACTORY INSTALLED OPTIONS

MVDS	909-0091-054	Microprocessor Video Diagnostic System for FM 10B -----	3,800.00	P
RC-1	909-0122-054	MVDS Remote Control for FM 10B -----	2,400.00	P
	909-0115	Filament voltage regulator for FM 10B, 60 Hz -----	1,650.00	P
	909-0115-300	Filament voltage regulator for FM 10B, 50 Hz -----	1,650.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and includes blank panels to fill empty rack space. ----- <b>Customer must supply FM Exciter.</b>	(4,000.00)	PR
	909-0136	Remote Power Supply option for FM 10B, includes side panels and interconnecting harness. -----	600.00	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

#### FM 10B SPARE PARTS KITS AND ACCESSORY PRODUCTS

	240-0001	Spare 4CX7500A output tube for FM 10B -----	2,470.00	E
	979-0044-014	Recommended Spare Parts Kit for the FM 10B includes switches, relays, meters, and spare parts. Does not include spare semiconductors, rectifiers or FX 50 spare parts. -----	3,025.00	AR
	979-0048-014	Recommended Spare Semiconductor kit for the FM 10B, includes critical spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches, or spare parts. -----	542.00	AR
	979-0133-014	50% HV rectifier Kit for FM 10B -----	249.00	AR
	979-1110-004	Service Manual for FM 10B and FX 50 (one manual shipped with each unit) -----	300.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*



# FM TRANSMITTING EQUIPMENT

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PROFESSIONAL  
NET CODE

105  
NO.

MODEL

STOCK NO.

DESCRIPTION

## SINGLE FM BROADCAST TRANSMITTERS - CONT'D (87.5 MHz to 108 MHz)

### 111 5 KILOWATT FM TRANSMITTER, THREE PHASE

FM 5B	909-5000-204	5000 watt FM transmitter complete with final tube and FX 50 Exciter -----	33,500.00	P
for operation from 208/240 Vac, 60 Hz, 3 phase power source				
FM 5B	909-5000-304	Same as 909-5000-204 except for operation from 50 Hz, 3 phase -----	34,500.00	P
power source				
FM 5B	909-5000-384	Same as 909-5000-204 except for operation from 380 Vac, 50 Hz, -----	34,500.00	P
3 phase power source				

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

### 5 KILOWATT FM TRANSMITTER, SINGLE PHASE

FM 5B/S	909-5000-254	5000 watt FM transmitter complete with final tube and FX 50 Exciter -----	34,000.00	P
for operation from 280/240 Vac, 60 Hz, single phase power source.				
FM 5B/S	909-5000-354	Same as 909-5000-254 except for operation from 50 Hz, -----	35,000.00	P
single phase power source.				

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

### FACTORY INSTALLED OPTIONS

909-0091-034	MVDS for FM 5B, 3 phase -----	3,800.00	B
909-0091-094	MVDS for FM 5B/S, single phase -----	3,800.00	B
909-0122-034	RC-1 MVDS remote control for FM 5B, 3 phase -----	2,400.00	B
909-0122-094	RC-1 MVDS remote control for FM 5B/S, single phase -----	2,400.00	B
909-0097	Filament voltage regulator, 60 Hz -----	1,250.00	C
909-0097-300	Filament voltage regulator, 50 Hz -----	1,250.00	C
909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and includes ----- blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b>	(4,000.00)	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

### FM 5B SPARE PARTS KITS AND ACCESSORY PRODUCTS

243-3500	Spare tube 4CX3500A for FM 5B -----	2,000.00	E
979-0035-014	Recommended Spare Parts Kit for the FM 5B(B/S). includes ----- switches, relays, meters, and spare parts. Does not include spare semiconductors, rectifiers or FX 50 spare parts. -----	2,008.00	AR
979-0037-014	Recommended Spare Semiconductor Kit for the FM 5B (5B/S). ----- includes critical spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches, or spare parts.	537.00	AR
979-0134-014	50% HV rectifier Kit for FM 5B (5B/S) -----	270.00	A
979-5000-004	Service manual for FM 5B and FX 50 (one manual shipped with each unit) -----	300.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### CONVERSION KIT

FM 5B	979-0089	FM 3.5 to FM 5 power upgrade conversion kit, increases ----- transmitter from 3500 watts to 5000 watts	4,855.00	PR
FM 5B	979-0089X	Same as 979-0089 except includes field service installation ----- supervision and checkout, in USA.	6,855.00	PR

# BE<sup>®</sup> FM TRANSMITTING EQUIPMENT

CATALOG

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NO. MODEL STOCK NO. DESCRIPTION PROFESSIONAL NET CODE

## SINGLE FM BROADCAST TRANSMITTERS - CONT'D

(87.5 MHz to 108 MHz)

### 3.5 KILOWATT FM TRANSMITTER

125	FM3.5B	909-3500-204	3500 watt FM Transmitter complete with final tube and FX 50 Exciter, ----- for operation on 208/240 Vac. 60 Hz. single phase power source.	30,500.00	P
	FM3.5B	909-3500-304	Same as 909-3500-204 except for operation from 50 Hz single ----- phase power source.	31,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### FACTORY INSTALLED OPTIONS

MVDS	909-0091-024	Microprocessor Video Diagnostic System for FM 3.5B -----	3,800.00	P
RC-1	909-0122-024	MVDS Remote Control for FM 3.5B -----	2,400.00	P
	909-0097	Filament voltage regulator for FM 3.5B, 60 Hz -----	1,250.00	P
	909-0097-300	Filament voltage regulator for FM 3.5B, 50 Hz -----	1,250.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and includes ----- blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b>	(4,000.00)	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

### FM 3.5B ACCESSORY PRODUCTS

	243-3500	Spare tube 4CX3500A for FM 3.5B -----	2,000.00	E
	979-0034-014	Recommended Spare Parts Kit for the FM 3.5B, includes ----- switches, relays, meters, and spare parts. Does not include spare semiconductors, rectifiers, or FX 50 spare parts.	2,485.00	AR
	979-0079-014	Recommended Spare Semiconductor Kit for the FM 3.5B, includes critical ----- spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors switches, or spare parts.	537.00	AR
	979-0135-014	100% HV rectifier Kit for FM 3.5B -----	315.00	AR
	979-3500-004	Service manual for FM 3.5B/FX 50 (one manual shipped with each unit) -----	225.00	CR

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### 1.5 KILOWATT FM TRANSMITTER

128	FM 1.5B	909-1500-204	1500 watt FM Transmitter complete with final tube and FX 50 Exciter, ----- for operation from 208/240 Vac, 60 Hz. single phase power source.	25,500.00	P
	FM 1.5B	909-1500-304	Same as 909-1500-204 except for operation from 50 Hz, ----- single phase power source.	26,500.00	P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### FACTORY INSTALLED OPTIONS

MVDS	909-0091-044	Microprocessor Video Diagnostic System for FM 1.5B -----	3,800.00	P
RC-1	909-0122-044	MVDS Remote Control for FM 1.5B -----	2,400.00	P
	909-0123	Filament Voltage regulator, for FM 1.5B, 60 Hz -----	1,060.00	P
	909-0123-300	Filament Voltage regulator, for FM 1.5B, 50 Hz -----	1,060.00	P
	909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and ----- includes blank panels to fill empty rack space. <b>Customer must supply FM Exciter.</b>	(4,000.00)	PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

# FM TRANSMITTING EQUIPMENT

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PROFESSIONAL  
NET CODE

NO.	MODEL	STOCK NO.	DESCRIPTION	NET	CODE
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## SINGLE FM BROADCAST TRANSMITTERS - CONT'D (87.5 MHz to 108 MHz)

### 1.5 KILOWATT FM TRANSMITTER - CONT'D

#### FM 1.5B SPARE PARTS KITS AND ACCESSORY PRODUCTS

	243-8877	3CX1500A7/8877 Tube for FM 1.5B -----	927.00		E
	979-0029-014	Recommended Spare Parts Kit for the FM 1.5B, includes switches, relays, meters and spare parts. Does not include spare semiconductors, rectifiers, or FX 50 spare parts. -----	1,830.00		AR
	979-0078-014	Recommended Spare Semiconductor Kit for the FM 1.5B, includes critical spare semiconductors, IPA spare semiconductors and RF power devices and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches or spare parts. -----	540.00		AR
	979-0136-014	100% HV rectifier Kit for FM 1.5B -----	315.00		AR
	979-1500-004	Service Manual for FM 1.5B and FX 50 (one manual shipped with each unit) -----	225.00		CR

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

### 1 KILOWATT FM TRANSMITTER

FM 1B	909-1000-204	1000 watt FM Transmitter complete with final tube and FX 50 Exciter, for operation from 208/240 Vac, 60 Hz, single phase power source. -----	23,500.00		P
FM 1B	909-1000-304	Same as 909-1000-204 except for operation from 50 Hz, single phase power source. -----	24,500.00		P

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

#### FACTORY INSTALLED OPTIONS

MVDS	909-0091-084	Microprocessor Video Diagnostic System for FM 1B -----	3,800.00		P
RC-1	909-0122-084	MVDS Remote Control for FM 1B -----	2,400.00		P
	909-0123	Filament voltage regulator, for FM 1B, 60 Hz -----	1,060.00		C
	909-0123-300	Filament voltage regulator, for FM 1B, 50 Hz -----	1,060.00		C
	909-0133	LESS FX 50 Exciter Kit, deletes FX 50 Exciter and includes blank panels to fill empty rack space. ----- <b>Customer must supply FX Exciter.</b>	(4,000.00)		PR

*NOTE: See page 40 for MVDS and RC-1 remote control options and spare parts kits.*

#### FM 1B ACCESSORY PRODUCTS

	243-8877	Spare tube 3CX1500A7/8877 for FM 1B -----	927.00		E
	979-0068-014	Recommended Spare Parts Kit for the FM 1B, includes switches, relays, meters and spare parts. Does not include spare semiconductors, rectifiers or FX 50 spare parts. -----	1,830.00		AR
	979-0073-014	Recommended Spare Semiconductor Kit for the FM 1B, includes critical spare semiconductors and low power rectifiers. Does not include HV rectifiers, FX 50 semiconductors, switches, or spare parts. -----	200.00		AR
	979-0137-014	100% HV rectifier Kit for FM 1B. -----	315.00		AR
	979-1500-004	Service Manual for FM 1B and FX 50 (one manual shipped with each unit) -----	225.00		CR

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

# BE<sup>®</sup> FM TRANSMITTING EQUIPMENT

CATALOG

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NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
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## LOW POWER SERIES TRANSMITTERS

### 300 WATT FM TRANSMITTER

131	FM 300B	909-0300-204	300 watt FM Transmitter, including FX 50 Exciter, dual 150 watt solid state output amplifiers, control and metering panel, A/C power panel, LPF and rack cabinet, 220 Vac, 60 Hz, single phase.	17,000.00	B
	FM 300B	909-0300-304	Same as 909-0300-204 except for 220 Vac, 50 Hz power source	17,500.00	B
	FM 300B	909-0300-274	Same as 909-0300-204 except with 70" cabinet	18,000.00	B

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### 250 WATT FM TRANSMITTER

133	FM 250B	909-0250-204	250 watt FM Transmitter including FX 50 Exciter, 250 watt solid state power amplifier control and metering panel, A/C tower panel, LPF and rack cabinet, 220 Vac, 60 Hz single phase.	13,500.00	B
	FM 250B	909-0250-304	Same as 909-0250-204 except for 220 Vac, 50 Hz power source	14,000.00	B
	FM 250B	909-0250-274	Same as 909-0250-204 except with 70" cabinet	14,500.00	B

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### 100 WATT FM TRANSMITTER

135	FM 100B	909-0100-204	100 watt FM Transmitter including FX 50 Exciter, 100 watt solid state power amplifier control and metering panel, A/C power panel, LPF and rack cabinet, 220 Vac, 60 Hz single phase.	11,500.00	B
	FM 100B	909-0100-304	Same as 909-0100-204 except for 220 Vac, 50 Hz power source	12,000.00	B
	FM 100B	909-0100-274	Same as 909-0100-204 except with 70" cabinet	12,500.00	B

*NOTE: Other AC input line voltage available. Contact factory for pricing.*

### FM 300B/300B M/A, FM 250B/250B M/A, FM 100B/100B M/A ACCESSORY PRODUCTS

	979-0024-004	Recommended spare parts kit for FM 100B, 200B, 300B M/A and FX 50	1,577.00	AR
	979-0026-004	Recommended spare semi-conductor kit for FM 100B, 200B, 300B M/A and FX 50	838.00	AR
	979-0100-004	Service Manual for FM 100/100M/A, 250/250M/A, 300/300MA "B" Series Low Power Transmitters (one manual shipped with each unit)	200.00	C

*NOTE: See page 41 for additional spare replacement parts, modules and accessories.*

# FM TRANSMITTING EQUIPMENT

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## MAIN/ALTERNATE MAIN FM TRANSMITTERS (87.5 mHz to 108 mHz)

### 35 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 35B M/A	909-2136-204	35,000 watt main/alternate transmitter consisting of: -----	170,000.00	P
<ul style="list-style-type: none"> <li>* (2) FM 35B Transmitters with (2) FX 50 Exciters</li> <li>* (1) FA6 control cabinet with automatic changeover</li> <li>* (1) set external equipment including RF switch and intra-transmitter plumbing</li> <li>* System assembly and test</li> </ul>				
220 volts, 60 Hz, 3 phase power, in-line power supply				

*NOTE: System price does not include dummy load, RF plumbing to load, or transmitter options.*

FM 35B M/A	909-2136-304	Same as 909-2136-204 except for 220 Vac, 50 Hz power source -----	172,000.00	P
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*NOTE: See FM 35B for factory installed options, accessories and spare parts kits.*

### 30 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 30B M/A	909-2130-204	30,000 watt main/alternate transmitter consisting of: -----	157,660.00	P
<ul style="list-style-type: none"> <li>* (2) FM 30B Transmitters with (2) FX 50 Exciters</li> <li>* (1) FA6 control cabinet with automatic changeover</li> <li>* (1) set external equipment including RF switch and intra-transmitter plumbing</li> <li>* System assembly and test</li> </ul>				
220 volts, 60 Hz, 3 phase				

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 30B M/A	909-2130-304	Same as 909-2130-204 except for 220 Vac, 50 Hz power source -----	159,660.00	P
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*NOTE: See FM 30B for factory installed options, accessories and spare parts kits.*

### 20 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 20B M/A	909-2120-204	20,000 watt main/alternate transmitter consisting of: -----	139,660.00	P
<ul style="list-style-type: none"> <li>* (2) FM 20B transmitters with (2) FX 50 Exciters</li> <li>* (1) FA6 control cabinet with automatic changeover</li> <li>* (1) set external equipment including RF switch and intra-transmitter plumbing</li> <li>* System assembly and test</li> </ul>				
220 volts, 60 Hz, 3 phase power source				

*NOTE: System price does not include dummy load, RF plumbing to load, or transmitter options.*

FM 20B M/A	909-2120-304	Same as 909-2120-204 except for 220 Vac, 50 Hz power source -----	141,660.00	P
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*NOTE: See FM 20B for factory installed options, accessories and spare parts kits.*

### 10 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 10B M/A	909-2110-204	10,000 watt main/alternate transmitter consisting of: -----	110,000.00	P
<ul style="list-style-type: none"> <li>* (2) FM 10B Transmitters with (2) FX 50 Exciters</li> <li>* (1) FA6 control cabinet with automatic changeover</li> <li>* (1) set external equipment including RF switch and intra-transmitter plumbing</li> <li>* System assembly and test</li> </ul>				
220 volts, 60 Hz, 3 phase power source				

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 10B M/A	909-2110-304	Same as 909-2110-204 except for 220 Vac, 50 Hz power source -----	112,000.00	P
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*NOTE: See FM 10B for factory installed options, accessories and spare parts kits.*

# BE<sup>®</sup> FM TRANSMITTING EQUIPMENT

CATALOG

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NO. MODEL STOCK NO. DESCRIPTION PROFESSIONAL NET CODE

## MAIN/ALTERNATE MAIN FM TRANSMITTERS - CONT'D (87.5 MHz to 108 MHz)

### 5 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 5B M/A 909-2105-204 5000 watt main/alternate transmitter for operation from ----- 87,150.00 P  
3 phase power consisting of:  
\* (2) FM 5B transmitters with (2) FX 50 Exciters  
\* (1) FA6 control cabinet with automatic changeover  
\* (1) set external equipment including RF switch and intra-transmitter plumbing  
\* System assembly and test  
220 volts, 60 Hz, 3 phase power source

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 5B M/A 909-2105-304 5000 watt main/alternate transmitter for operation from ----- 89,150.00 P  
3 phase power consisting of:  
\* (2) FM 5B Transmitters with (2) FX 50 Exciters  
\* (1) FA6 control cabinet with automatic changeover  
\* (1) set external equipment including RF switch and intra-transmitter plumbing  
\* System assembly and test  
220 volts, 50 Hz, 3 phase power source

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

*NOTE: See FM 5B for factory installed options, accessories and spare parts kits.*

### 5 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM, SINGLE PHASE

FM 5B/S M/A 909-2105-254 5000 watt main/alternate transmitter for operation from ----- 88,150.00 P  
single phase power consisting of:  
\* (2) FM 5B/S Transmitters with (2) FX 50 Exciters  
\* (1) FA6 control cabinet with automatic changeover  
\* (1) set external equipment including RF switch and intra-transmitter plumbing  
\* System assembly and test  
220 volts, 60 Hz, single phase power source

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 5B/S M/A 909-2105-354 5000 watt main/alternate transmitter for operation from ----- 90,150.00 P  
single phase power consisting of:  
\* (2) FM 5B/S Transmitters with (2) FX 50 Exciters  
\* (1) FA6 control cabinet with automatic changeover  
\* (1) set external equipment including RF switch and intra-transmitter plumbing  
\* System assembly and test  
220 volts, 50 Hz, single phase power source

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

*NOTE: See FM 5B for factory installed options, accessories and spare parts kits.*

### 3.5 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 3.5B M/A 909-2135-204 3500 watt main/alternate transmitter consisting of: ----- 81,150.00 P  
\* (2) FM 3.5B Transmitters with (2) FX 50 Exciters  
\* (1) FA6 control cabinet with automatic changeover  
\* (1) set external equipment including RF switch and intra-transmitter plumbing.  
\* System assembly and test  
220 volts, 60 Hz, single phase power source

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 3.5B M/A 909-2135-304 Same as 909-2105-204 except for 220 Vac, 50 Hz power source ----- 83,150.00 P

*NOTE: See FM 3.5B for factory installed options, accessories and spare parts kits.*

# FM TRANSMITTING EQUIPMENT

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## MAIN/ALTERNATE MAIN FM TRANSMITTERS - CONT'D (87.5 mHz to 108 mHz)

### 1.5 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 1.5B M/A	909-2115-204	1500 watt main/alternate transmitter consisting of: -----	71,000.00		P
		* (2) FM 1.5B Transmitters with (2) FX 50 Exciters			
		* (1) FA6 control cabinet with automatic changeover			
		* (1) set external equipment including RF switch and intra-transmitter plumbing.			
		* System assembly and test			
		220 volts, 60 Hz. single phase power source			

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 1.5B M/A	909-2115-304	Same as 909-2115-204 except for 220 Vac, 50 Hz power source -----	72,000.00		P
		<i>NOTE: See FM 1.5B for factory installed options, accessories and spare parts kits.</i>			

### 1 KILOWATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 1B M/A	909-2101-204	1000 watt main/alternate transmitter consisting of: -----	66,000.00		P
		* (2) FM 1B Transmitters with (2) FX 50 Exciters			
		* (1) FA6 control cabinet with automatic changeover			
		* (1) set external equipment including RF switch and intra-transmitter plumbing.			
		* System assembly and test			
		220 volts, 60 Hz. single phase power source			

*NOTE: System price does not include reject load, RF plumbing to load, or transmitter options.*

FM 1B M/A	909-2101-304	Same as 909-2101-204 except for 220 Vac, 50 Hz power source -----	68,000.00		P
		<i>NOTE: See FM 1B for factory installed options, accessories and spare parts kits.</i>			

### 300 WATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 300B M/A	909-2300-204	300 watt FM transmitter, main/alternate transmitter consisting of: -----	36,000.00		B
		(2) FM 300B Transmitters, with automatic transmitter switcher, RF switch, dummy load and rack cabinet, 220 Vac, 60 Hz. single phase.			
FM 300B M/A	909-2300-304	Same as 909-2300-204 except for 220 Vac, 50 Hz power source -----	37,000.00		B
	979-0100-004	Service Manual for FM 100/100MA, 250/250MA, 300A/300MA "B" Series Low Power Transmitters. (one manual shipped with each unit) -----	200.00		C

*NOTE: See FM 300B for factory installed options, accessories and spare parts kits.*

### 250 WATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 250B M/A	909-2250-204	250 watt FM transmitter, main/alternate main consisting of: -----	30,000.00		B
		(2) FM 250B transmitters, with automatic transmitter switcher, RF switch, dummy load and rack cabinet, 220 Vac, 60 Hz. single phase.			
FM 250B M/A	909-2250-304	Same as 909-2250-204 except for 220 Vac, 50 Hz power source -----	31,000.00		B

*NOTE: See FM 250B for factory installed options, accessories and spare parts kits.*

### 100 WATT MAIN/ALTERNATE MAIN TRANSMITTER SYSTEM

FM 100B M/A	909-2100-204	100 watt FM transmitter, main/alternate main consisting of: -----	26,000.00		B
		(2) FM 100B Transmitters, with automatic transmitter switcher, RF switch, dummy load and rack cabinet, 220 Vac, 60 Hz. single phase.			
FM 100B M/A	909-2100-304	Same as 909-2100-204 except for 220 Vac, 50 Hz power source -----	27,000.00		B
	979-0100-004	Service Manual for FM 100/100MA, 250/250MA, 300A/300MA "B" Series Low Power Transmitters. (one manual shipped with each unit) -----	200.00		C

*NOTE: See FM 100B for factory installed options, accessories and spare parts kits.*

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## DUAL-COMBINED FM BROADCAST TRANSMITTERS

(87.5 MHz to 108 MHz)

### 70 KILOWATT DUAL-COMBINED TRANSMITTER

103	FM 70B	909-2035-204	70,000 watt Dual FM Transmitter consisting of: ----- (2) FM 35B Transmitters with (1) FX 50 Exciter, 70 kW 3dB hybrid combiner, FA 8 Center control cabinet with 909-6001 dual transmitter control and metering panel, power output tubes, and 25 kW reject load. For operation from 208/240 Vac, 60 Hz, 3 phase power source, HV power supply cabinet in line with PA cabinet.	180,000.00	PR
103	FM 70B	909-2035-384	Same as 909-2035-204 (HV power supplies in-line) except to operate from 380/415 Vac, 50 Hz, 3 phase power source.	182,000.00	P
	OPT. 1		Optional automatic exciter switching for FM 70B, includes second FX 50 Exciter and FW 30 Automatic Exciter Switcher (mounts in FA 8 Center Control Cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FM 70B, includes OPTION 1, automatic exciter switching. DOES NOT include 70 kW system RF Load, required.	27,857.00	P
	OPT. 3		Optional automatic RF output patching for FM 70B, includes OPTION 1, automatic exciter switching. DOES NOT include 70 kW system RF load, required.	38,752.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 35B for factory installed options, accessories and spare parts kits.*

### 60 KILOWATT DUAL-COMBINED TRANSMITTER

103	FM 60B	909-2030-204	60,000 watt Dual FM Transmitter consisting of: ----- (2) FM 30B FM Transmitters (less FX 50 Exciters), (1) FX 50 Exciter, 60 kW 3db hybrid combiner, 15 kW reject load, FA 8 Center Control cabinet, one set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, 3 phase power source. HV power supply cabinets in-line with PA cabinets.	166,500.00	P
	FM 60B	909-2030-384	Same as 909-2030-204 (HV power supplies in-line) except to operate from 380/415 Vac, 50 Hz, 3 phase power source.	168,500.00	P
	OPT. 1		Optional automatic exciter switching for FM 60B, includes second FX 50 Exciter and FW 30 Automatic Exciter Switcher (mounts in FA 8 Center Control Cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FM 60B, includes OPTION 1, automatic exciter switching. DOES NOT include 60 kW system RF Load, required.	27,857.00	P
	OPT. 3		Optional automatic RF output patching for FM 60B, includes OPTION 1, automatic exciter switching. DOES NOT include 60 kW system RF load, required.	38,752.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 30B for factory installed options, accessories and spare parts kits.*



# FM TRANSMITTING EQUIPMENT

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## DUAL-COMBINED FM BROADCAST TRANSMITTERS - CONT'D

(87.5 mHz to 108 mHz)

### 40 KILOWATT DUAL-COMBINED TRANSMITTER

103	FMD 40B	909-2020-204	40,000 watt Dual FM Transmitter consisting of: ----- (2) FM 20B FM transmitters (less FX 50 Exciters), (1) FX 50 Exciter, 40 kW 3 db hybrid combiner, 10 kW reject load, FA 8 Center Control Cabinet, (1) set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, 3 phase power source. HV power supply cabinets in-line with PA Cabinets.	144,800.00	P
	FMD 40B	909-2020-384	Same as 909-2020-204 (HV power supplies in-line) except ----- to operation from 380/415 Vac, 50 Hz, 3 phase power source.	146,800.00	P
	OPT. 1		Optional automatic exciter switching for FMD 40B Transmitter, ----- includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FMD 40B Transmitter, ----- includes OPTION 1, automatic exciter switching. DOES NOT include 40 kW system RF Load, required.	22,473.00	P
	OPT. 3		Optional automatic RF output patching for FMD 40B Transmitter, ----- includes OPTION 1, automatic exciter switching. DOES NOT include 40 kW system RF load, required.	32,268.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 20B for factory installed options, accessories and spare parts kits.*

### 20 KILOWATT DUAL-COMBINED TRANSMITTER

	FMD 20B	909-2010-204	20,000 watt Dual FM transmitter, complete with (2) FM 10B ----- FM Transmitters (less FX 50 Exciters), (1) FX 50 Exciter, 20 kW 3 dB hybrid combiner, 5 kW reject load, FA 8 center control cabinet, (1) set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, 3 phase power source. HV power supply cabinets in-line with PA cabinets.	112,730.00	P
	FMD 20B	909-2010-384	Same as 909-2010-204 (HV power supplies in-line) except ----- to operate from 220/380 Vac, 50 Hz, 3 phase power source.	114,730.00	P
	OPT. 1		Optional automatic exciter switching for FMD 20B Transmitter, ----- includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FMD 20B Transmitter, ----- includes OPTION 1, automatic exciter switching. DOES NOT include 20 kW system RF Load, required.	21,292.00	P
	OPT. 3		Optional automatic RF output patching for FMD 20B Transmitter, ----- includes OPTION 1, automatic exciter switching. DOES NOT include 20 kW system RF load, required.	31,177.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 10B for factory installed options, accessories and spare parts kits.*



# FM TRANSMITTING EQUIPMENT

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## DUAL-COMBINED FM BROADCAST TRANSMITTERS - CONT'D

(87.5 mHz to 108 mHz)

### 10 KILOWATT DUAL-COMBINED TRANSMITTER

120	FMD 10B	909-2005-204	10,000 watt Dual FM Transmitter, complete with (2) FM 5B FM Transmitters (less FX 50 Exciters), (1) FX 50 Exciter, 20 kW 3 dB hybrid combiner, 5 kW reject load, FA 8 center control cabinet, (1) set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, 3 phase power source.	86,500.00	P
	FMD 10B	909-2005-384	Same as 909-2005-204 except to operate from 220/380 Vac, 50 Hz, 3 phase power source.	88,900.00	P
	FMD 10B/S	909-2005-254	Same as 909-2005-204 except for 208/240 Vac, 60 Hz, single phase power source.	87,500.00	P
	FMD 10B/S	909-2005-354	Same as 909-2005-384 except to operate from single phase power source, 208/240 Vac, 50 Hz	89,500.00	P
	OPT. 1		Optional automatic exciter switching for FMD 10B Transmitter, includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FMD 10B Transmitter, includes OPTION 1, automatic exciter switching. DOES NOT include 10 kW system RF Load, required.	18,752.00	P
	OPT. 3		Optional automatic RF output patching for FMD 10B Transmitter, includes OPTION 1, automatic exciter switching. DOES NOT include 10 kW system RF load, required.	28,817.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 5B for factory installed options, accessories and spare parts kits.*

### 7 KILOWATT DUAL-COMBINED TRANSMITTER

120	FMD 7B	909-2003-204	7,000 watt Dual FM Transmitter, complete with (2) FM 3.5B FM Transmitters (Less FX 50 exciters), (1) FX 50 Exciter, 7 kW 3 dB hybrid combiner, 2.5 kW reject load, FA 8 center control cabinet, (1) set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, single phase power source.	80,500.00	P
	FMD 7B	909-2003-304	Same as 909-2003-204 except to operate from 208/240 Vac, 50 Hz, single phase power source.	82,500.00	P
	OPT. 1		Optional automatic exciter switching for FMD 7B Transmitter, includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
	OPT. 2		Optional manual RF output patching for FMD 7B Transmitter, includes OPTION 1, automatic exciter switching. DOES NOT include 7 kW system RF Load, required.	18,752.00	P
	OPT. 3		Optional automatic RF output patching for FMD 7B Transmitter, includes OPTION 1, automatic exciter switching. DOES NOT include 7 kW system RF load, required.	28,817.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.*

*NOTE: See FM 3.5B for factory installed options, accessories and spare parts kits.*

# FM TRANSMITTING EQUIPMENT

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## DUAL-COMBINED FM BROADCAST TRANSMITTERS - CONT'D (87.5 mHz to 108 mHz)

### 3 KILOWATT DUAL-COMBINED TRANSMITTER

FMD 3B	909-2015-204	3,000 watt Dual FM Transmitter consisting of: (2) FM 1.5B (less FX 50 Exciters), (1) FX 50 Exciter, 3 kW 3 dB hybrid combiner, 750 watt reject load, FA 8 center control cabinet, one set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, single phase power source.	68,600.00	P
FMD 3B	909-2015-304	Same as 909-2015-204 except to operate from 208/240 Vac, 50 Hz.	70,600.00	P
OPT. 1		Optional automatic exciter switching for FMD 3B, includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
OPT. 2		Optional manual RF output patching for FMD 3B, includes OPTION 1, automatic exciter switching. DOES NOT include 3 kW system RF Load, required.	18,752.00	P
OPT. 3		Optional automatic RF output patching for FMD 3B, includes OPTION 1, automatic exciter switching. DOES NOT include 3 kW system RF load, required.	28,817.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.  
NOTE: See FM 1.5B for factory installed options, accessories and spare parts kits.*

### 2 KILOWATT DUAL-COMBINED TRANSMITTER

FMD-2B	909-2001-204	2,000 watt Dual FM Transmitter consisting of: (2) FM 1B FM Transmitters (less FX 50 Exciters), (1) FX 50 Exciter, 7 kW 3 dB hybrid combiner, 500 watt reject load, FA 8 center control cabinet, one set of operating tubes and instruction manual. For operation from 208/240 Vac, 60 Hz, single phase power source.	64,600.00	P
FMD-2B	909-2001-304	Same as 909-2001-204 except to operate from 208/240 Vac, 50 Hz,	66,600.00	P
OPT. 1		Optional automatic exciter switching for FMD 2B, includes second FX 50 Exciter and FW 30 automatic exciter switcher (mounts in FA 8 center control cabinet).	10,295.00	P
OPT. 2		Optional manual RF output patching for FMD 2B, includes OPTION 1, automatic exciter switching. DOES NOT include 3 kW system RF Load, required.	18,752.00	P
OPT. 3		Optional automatic RF output patching for FMD 2B, includes OPTION 1, automatic exciter switching. DOES NOT include 3 kW system RF Load, required.	28,817.00	P

*NOTE: Other AC input line voltages available. Contact factory for pricing.  
NOTE: See FM 1B for factory installed options, accessories and spare parts kits.*

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## FM ACCESSORY PRODUCTS

### FM EXCITER

98	FX 50	909-1050-204	FX 50 solid state 3-50 watt FM exciter, for wideband, composite, or mono operation. For single phase 97/133 Vac, 50/60 Hz power source, 19" rack mount, specify operating frequency with order.	6,295.00	B
	FX 50	909-1050-304	Same as 909-1050-204 except for use on 194/266 Vac, 50/60 Hz, specify frequency	6,295.00	B
		909-0124	Optional low pass filter assembly for FX 50, converts FX 50 Exciter to FX 50, 50 watt FM Transmitter, factory installed and tested.	150.00	B
		979-1051	Recommended Spare Parts Kit for the FX 50 Exciter, includes spare meters, switches, and relays. Does not include semiconductors, RF power FET's or IC's.	215.00	AR
		979-1052	Recommended Spare Semiconductor Kit for the FX 50 Exciter, includes critical semiconductors, FF power FET'S and IC's. Does not include meters, switches, or relays.	452.00	AR
		979-1053	100% Spare Semiconductor Kit for FX 50 Exciter, includes spare semiconductors, RF power FET's and IC's of each type used in FX 50 Exciter. Does not include spare meters, switches, or relays.	652.00	AR
	NPN		Frequency change, return to factory	100.00	X
		597-1050	Service Manual for FX 50 FM Exciter (one manual shipped with each unit)	100.00	C

### FM BOOSTER

		909-0131	MASTER Synchronous FM Booster Option for FX 50 Exciter, internally mounted, factory installed, requires 909-0132 for complete system.	675.00	B
		909-0132	SLAVESynchronous FM Booster Option for FX 50 Exciter internally mounted, factory installed, requires 909-0131 for complete system.	1,795.00	B

### 101 STEREO GENERATOR

	FS 30	909-0050-204	FM Stereo Generator, single phase 97/113 Vac, 50/60 Hz	2,595.00	B
	FS 30	909-0050-304	Same as 909-0050-204 except 194/266 Vac, 50/60 Hz	2,595.00	B
		979-0016-004	Recommended spare parts kit for FS30	209.00	AR
		597-0009-004	Service Manual for FS 30 Stereo Generator (one manual shipped with each unit)	50.00	C

### 102 SCA GENERATOR

	FC 30	909-0051-204	FM SCA Generator, single phase 97/133 Vac, 50/60 Hz. Standard available frequencies are 39, 41, 67, 92, 95 kHz.	1,495.00	B
	FC 30	909-0051-304	Same as 909-0051-204 except 194/266 Vac, 50/60 Hz	1,495.00	B
		979-0017-004	Recommended spare semi-conductor kit for FC 30	88.00	AR
		979-0011-004	Recommended spare parts kit for FC 30	127.00	AR
		597-0008-004	Service Manual for FC 30 SCA Generator (one manual shipped with each unit)	40.00	C

### OPTIONS FOR MVDS AND RC-1 REMOTE CONTROL FOR FM TRANSMITTERS

137	MT-3	909-0127-004	Broadcast Electronics MT-3 Second Transmitter Interface for RC MVDS Remote Control. Allows MVDS Remote Control to operate/monitor non-MVDS equipped transmitters, external sensors, or a second MVDS Remote Control equipped "B" Series Broadcast Electronics FM Transmitter. Provides 8 status channels, 8 analog telemetry channel, and 16 control channels (ON/OFF, RAISE/LOWER).	2,500.00	P
		506-2000	MVDS Keyboard tray, rack mount, for "B" Series Transmitter	125.00	B
		809-4059	4 wire dumb modem for MVDS use over STL/TSL.	435.00	CR
		809-4060	2 wire dumb modem for MVDS use over telephone line	435.00	CR

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## FM ACCESSORY PRODUCTS - CONT'D

### MVDS AND RC-1 REMOTE CONTROL SPARE PARTS KITS

	979-0041	Recommended spare parts for MVDS -----	361.00	AR
	979-0039	Recommended spare semi-conductors for MVDS -----	196.00	AR
	979-0080	Spare parts and 100% semi-conductors for MT-3 -----	176.00	AR
	979-0081	Spare parts and recommended semi-conductors for MT-3 -----	68.00	AR
	979-0082	Spare parts and 100% semi-conductors- No EPROM-for RC 1 -----	67.00	AR
	979-0083	Spare parts and recommended semi-conductors No EPROM- for RC-1 -----	55.00	AR

### SELECTED SPARE PARTS — "B" SERIES (60 Hz)

#### ALL FM TRANSMITTERS AND ACCESSORIES

	919-0019	Controller PC Board -----	455.00	C
	959-0133	Assy. IPA Control regulator module -----	640.00	C
	959-0132	Assy. IPA RF Amplifier module, 250 W -----	1,255.00	C
	959-0263	Drawer, IPA Amplifier, 250 W, "B" Series -----	3,655.00	CR
	959-0250	Kit, standalone IPA (110/220 Vac, 50/60 Hz) -----	4,050.00	C
	407-0062	Replacement Air Filter, 16" x 20" x 1" -----	5.00	C
	809-6006	Circuit Board Puller, CALMARK P/N 112, for use in extracting PC Boards from "B" Series Transmitter Controller. Not required, but is recommended, with MVDS. -----	25.00	BR

#### EXCITER SWITCHER

142	FW 30	909-0120-004	Automatic exciter switcher, for use with (2) FX 50 Exciters -----	3,295.00	B
		979-0054-004	Recommended spare parts kit for FW 30 -----	51.00	AR
		979-0307	Recommended spare semi-conductors for FW 30 -----	82.00	AR
		597-0101-004	Service Manual for FW 30 Exciter Switcher ----- (One manual shipped with each unit.)	75.00	C

#### TRANSMITTER OUTPUT SWITCH CONTROLLER

FA2		909-0200-004	Transmitter Output Switcher Controller with separate power supply for main/alternate transmitter configuration -----	2,195.00	B
		597-0107-004	Service Manual for FA 2 and FO 2 Output Switchers ----- (one manual shipped with each unit.)	50.00	C

#### FIELD SERVICE

Customer Service Engineering is available for installation supervision, equipment checkout, proof of performance and equipment training at a daily rate of \$400.00 per man day for domestic locations and \$480.00 man day for overseas locations. (Does not include travel (ticket) expense, lodging, food or local transportation (rented car, taxi, etc.) These expenses will be invoiced at cost. X

#### PRODUCT TRAINING

Product training at BEI factory for up to five persons @ \$1,000.00 for first day and \$500.00 for each additional day, up to five days. For each additional person, add \$100.00 per day per person. These rates are for a minimum of 2 days and a maximum of 5 days. These rates do not include local living, local transportation and air travel. X



# RF TRANSMITTING EQUIPMENT

CATALOG

105

NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
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## AM STEREO EQUIPMENT

143	AX 10P	NPN	AM Stereo Package consisting of: ----- (1) AX 10, 907-0010 AM Stereo Exciter for C-Quam system for operation on (specify frequency) kHz, in the 552-1620 kHz range, with dual equalization and dual outputs for for day/night patterns or two transmitters, from power source of (specify voltage/hertz), 117 or 220 Vac, 60 or 50 Hz. (1) AS 10, 907-0100-000 C-QUAM AM Stereo Modulation Monitor (specify frequency), and (specify voltage/hertz)	12,500.00*	B
			* For export add \$960.00 plus air travel ticket cost.		
			BEI Installation Service. Includes 3 days service engineering time, travel and local living expense for supervision of installation, adjustment and measurement data for FCC audio proof. Additional days available at current rates.		
	AX 10	907-0010-004	AX 10 AM Stereo Exciter for C-Quam system for operation on ----- (specify frequency) kHz, in the 552-1620 kHz range, with equalization for day/night or two transmitters, from power source of 117 Vac, 50/60 Hz.	5,700.00	B
	AX 10	907-0010-304	Same as above except for 220 Vac, 50/60 Hz -----	5,700.00	B
	907-0104	9KHz increment option -----	100.00	C	
	977-0002	Recommended semi-conductor kit for AX 10 -----	338.00	AR	
	977-0001	Recommended spare parts kit for AX 10 -----	177.00	AR	
	597-0095-004	Service Manual for AX 10. (One manual shipped with each unit.) -----	100.00	CR	
145	AS 10	907-0100-004	AM Stereo Modulation Monitor for operation on 117 Vac, 50/60 Hz -----	4,800.00	B
	AS 10	907-0100-304	Same as above except for 220 Vac, 50/60 Hz -----	4,800.00	B
		977-0004	Recommended spare parts kit for AS 10 -----	397.00	AR
		977-0005	Recommended spare semiconductor kit for AS 10 -----	242.00	AR
		597-0105-004	Service Manual for AS 10 (one manual shipped with each unit) -----	75.00	CR

## AM MONITORS

SM-11R(S)	807-7000	Potomac Instruments Rack mount version (requires 3-1/2" ----- of vertical space in a standard 19" equipment rack) includes two internal speakers - less antenna, includes C-QUAM AM Stereo Demodulator	2,700.00	ER
ANT-11	807-1006	Remote, tuneable ferrite rod antenna with internal, low noise ----- pre-amplifier - recommended for most SM-11 applications.	960.00	ER
WP-11	807-1005	Fiberglass weatherproof housing for ANT-11 -----	80.00	ER
SM-1	809-7077	Delta AM Splatter Monitor, 10 kHz, 120 Vac -----	2,500.00	ER

## TV STEREO EQUIPMENT

147	TZ 30	906-0030	TV Stereo Generator -----	5,500.00	A
		976-0002	Rec. semi-conductor kit for TZ 30 -----	158.00	AR
		597-0045	Service Manual for TZ 30 -----	50.00	C
151	TS 30	906-0031-000	TV SAP Second Audio Program Channel -----	2,500.00	A
		976-0000	Rec. spare parts kit for TS 30 -----	108.00	AR
		976-0001	Rec. semi-conductor kit for TS 30 -----	207.00	AR
		597-0046	Service Manual for TS 30 -----	40.00	C
153	TP 30	906-0032-000	TV PRO Professional Audio Program Channel -----	1,500.00	A
		597-0044	Service Manual for TP 30 -----	40.00	C

NOTE: One manual is shipped with each unit.

**CATALOG**
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**MODEL**
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**CODE**

### FM/TV AUDIO PROCESSING

**APHEX**

300	806-0016	Aphex "Compellor" Stereo Audio Compressor/Leveller/Peak Limiter audio signal processor from power source of (specify voltage/Hertz) 90/250 Vac, 50/60 Hz.	1,195.00	B
723	806-0014	Aphex "Dominor II" Stereo Tri-Band Peak Processor/Limiter for use with the TZ 30 from power source of (specify voltage/Hertz) 90/250 Vac, 50/60 Hz, with pre-emphasis.	1,495.00	BR

**CRL**

FM 2+	807-1003	FM 2+ Audio Processing System, Stereo, less stereo generator	7,250.00	ER
FM 2	803-1004	FM 2 Audio Processing System, Stereo, less stereo generator	4,900.00	ER
FM 3	809-7070	FM 3 Audio Processor, Stereo, less stereo generator	4,495.00	ER

**AUDIO SIGNATURE**

	809-7074	Digitally Remote Controlled AGC/Compressor.	5,995.00	E
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**159 ORBAN**

8100A/u75	829-0056	Optimod Model 8100A Stereo Generator and processor	5,550.00	BR
8100A/ST	809-7013	Optimod studio chassis assembly to house compressor stages of Optimod FM	1,000.00	BR
8100A/XT2	809-7014	Optimod 6 band limiter chassis, extends performance of 8100A/1 system	2,550.00	BR

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### TV MONITORING EQUIPMENT

TVM-101	809-7025	Belar Mono/Stereo Television Aural Modulation Monitor (specify channel and offset) for operation on (specify voltage/Hertz) 117/234 Vac, 50/60 Hz.	3,550.00	CR
	809-7030	Option 01: SAP and PRO injection board	525.00	CR
	809-7031	Option 02: Internal preamp	475.00	CR
TVM-200	809-7026	Belar Television Stereo Modulation Monitor (specify channel and offset) for operation on (specify voltage/Hertz) 117/234 Vac, 50/60 Hz. Necessary companion unit to the TVM-101 for BTSC Stereo Modulation Monitoring.	5,500.00	CR

### AM AUDIO PROCESSING

**158**
**CRL**

AM-4S	803-1003	AM-4 Audio Processing System, Stereo	6,395.00	E
AM-2S	807-1004	AM-2 Audio Processing System, Stereo	4,195.00	E

**ORBAN**

9100B/1	809-7017	Optimod AM (mono) audio processing system	4,550.00	BR
9100B/2C	809-7018	Optimod AM (Stereo) audio processing system (C-QUAM)	6,350.00	BR

### STEREO SYNTHESIZERS

**ORBAN**

275A/U	809-7073	Automatic stereo synthesizer detects mono and automatically blends to mono-compatible synthesized stereo.	2,400.00	ER
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# RF TRANSMITTING EQUIPMENT

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STOCK NO.

DESCRIPTION

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## FM MONITORING EQUIPMENT

### BELAR

FMM-2	829-0050	FM Modulation Monitor	1,590.00	CR
FMS-2	829-0049	Stereo Modulation Monitor	1,790.00	CR
SCM-2	809-7024	SCA Modulation Monitor	1,790.00	CR
RFA1	829-0034	FM RF Amplifier	650.00	CR

### TFT

844A	809-7019	Model 844A FM Stereo Modulation Monitor	4,920.00	CR
(7100-4184)	809-7056	Option 02, Spare Parts Kit for Model 844A	555.00	CR
884	809-7063	Model 884, FM Stereo Modulation Monitor	3,595.00	CR
845	809-7021	Model 845, SCA Monitor	2,610.00	CR
(7100-3880)	809-7059	Option 01, RF Module Preselector for Model 845	870.00	CR
(7100-3900)	809-7060	Option 02, SCA Channel (41 kHz) for Model 845	140.00	CR
(7100-3910)	809-7061	Option 03, SCA Channel (92 kHz) for Model 845	140.00	CR
(7100-3920)	809-7062	Option 04, Spare Parts Kit for Model 845	285.00	CR

## PROFESSIONAL AM/FM TUNERS

FT-101P-B19	809-7071	Magnum Dynalab "Pro 101" with black anod. 19" faceplate	1,500.00	CR
TU-660	809-7072	Denon AM/FM NRSC Tuner	330.00	ER

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## EBS MONITORS

### TFT

886	809-7076	AM EBS System	2,095.00	CR
887	809-7075	FM EBS System	2,095.00	CR

### GORMAN REDLICH

CE	809-7050	Encoder only	375.00	E
CE w/Stereo	809-7052	Encoder with stereo option	565.00	ER
CEB	809-7053	Encoder-Decoder	540.00	E
CD	809-7051	Decoder	320.00	E
	809-7054	Modified AM/FM tunable receiver	100.00	E

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## PROOF OF PERFORMANCE EQUIPMENT

### POTOMAC INSTRUMENTS

AT-51	829-0051	Audio test system, consists of AG-51 Audio Generator and AA-51 Audio Analyzer 115 Vac, 60 Hz	4,525.00	ER
AA-51	829-0087	Audio Analyzer only, 115 Vac, 60 Hz	2,830.00	ER
AG-51	829-0086	Audio Generator only, 115 Vac, 60 Hz	2,300.00	ER
DX-51	829-0094	Detector Attenuator (for AT-51 test set)	280.00	ER
IX-51	829-0093	Input transformer (for AT-51 test set)	290.00	ER

### BALD MOUNTAIN

1760FM/AM	829-1761	Audio Step Generator, FM, AM	1,995.00	ER
781	829-0052	Decibel Meter with frequency readout	1,995.00	ER

### QUANTICS

FMSIM	879-0151	Quantics "FMSIM" FM Simulation Software. PC software program that allows simulation and analysis of broadcast FM stereo transmission and reception systems. SPECIFY: _____ 5-1/4" Diskette. _____ 3-1/2" Diskette.	1,500.00	CR
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**CATALOG**
**PROFESSIONAL  
NET CODE**
**105  
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166**
**MODEL STOCK NO.**
**DESCRIPTION**
**REMOTE CONTROL**
**BURK TECHNOLOGY**
**Eight-Channel System**

TC-8	809-4017	8 Channel Remote Control (2 units) -----	2,495.00	C
CI-8	809-4019	Computer Interface for IBM-PC -----	495.00	C
DSU	809-4039	Telephone/Speech unit permits control from telephone using DTMF. Also call-out alarms. -----	795.00	C
SSI	809-4038	Studio Status Indicator -----	150.00	C
AMI	809-4036	Antenna Monitor Interface (6 towers on 2 channels) -----	350.00	C

**Sixteen-Channel System**

ARC-16	809-4025	16 Channel Remote Control (2 Units) -----	3,895.00	C
ARC-16SA	809-4026	16 Channel single unit configuration with Telco/Speech unit for control from any telephone -----	2,995.00	C
SIO	809-4037	Studio I/O unit -----	495.00	C
DSU/C1-16	809-4040	Combination speech/computer unit for ARC-16 -----	1,095.00	CR

**Options for 8 and 16 Channel System**

IP-8	809-4018	Relay Interface Panel (10 Amp) 8 each status, raise, lower + failsafe. Two units required for AC-16. -----	495.00	C
SCA-1	809-4035	Subcarrier Receiver-Specify FM frequency and 67 or 92 kHz. -----	179.00	CR
TSK-x	809-4041	Temperature Sensor. Provides linear analog output based on temperature. Specify "x" as "F" or "C" for Fahrenheit or Centigrade. Accommodates up to four (4) probes. Unit includes one (1) probe. -----	199.00	CR
TP-x	809-4042	Additional Temperature Probe. Additional probe for TSK-F or TSK-C temperature sensor. -----	49.00	CR
LVK-3	809-4043	Line Voltage Kit. Provides linear analog output based on line voltage sample from 120 to 400 Vac, 50-60 Hz. -----	175.00	CR
TLK-2	809-4044	Tower Light Kit. Provides current-sensed analog output for monitoring tower light operation. -----	275.00	CR
TE-2	809-4045	Transient Eliminator. Recommended for all telco wire modem connections, protects dedicated data or program lines from transients. Meets ANSI/IEEE C62.41. Includes barrier strip connections. -----	95.00	CR
TE-RJ	809-4046	Dial Line Transient Eliminator, similar to TE-2 above. Protects dial-up circuits from transients. Recommended for any DSU installation. Accepts RJ-11 or RJ-13 modular plugs. -----	139.00	CR

**MOSELEY**

MRC-1620	809-4002	MRC-1620 Microprocessor Control Terminal, consists of one lease line modem and one RS-232 connection for direct dial-up PC connection. -----	1,495.00	CR
MRC-1620	809-4005	MRC-1620 Remote Terminal. Consists of one lease line modem and one dial-up modem. Equipped with 32 command relays, 16 status and 16 digital telemetry channels. -----	2,995.00	CR
	809-4006	Taskmaster20 Software uses IBM AT, XT or compatible PC to emulate MRC-1620 Control Terminal. Smart operation. Multi-site capability. Scheduler for automatic dial-out. Stores site information on disk and automatically corrects for out-of-tolerance parameters. Does not include PC or modem. -----	595.00	CR

**OPTIONS**

	809-4003	Option for Subcarrier Generator Module for use with MRC-1620 Control or Remote Terminal. Displaces telco output module. Available at standard subcarrier frequencies between 26 - 185 kHz. Advise STL or radio link and subcarrier frequency when ordering. Per terminal, per module. Ordered with MRC-1620 system -----	N/C	
	809-4004	Option for Subcarrier Demodulator Module for use with MRC-1620 Control or Remote Terminal. Displaces telco input module. Available at standard subcarrier frequencies between 26 - 185 kHz. Advise STL or radio link and subcarrier frequency when ordering. Per terminal, per module. Ordered with MRC-1620 system -----	N/C	

# BE<sup>®</sup> RF TRANSMITTING EQUIPMENT

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## REMOTE CONTROL - CONT'D

### MOSELEY - REMOTE CONTROL ACCESSORIES

DCA-3A	809-4013	DC Amplifier provides low-level telemetry amplification and isolation. -----	695.00	CR
LVK-3	809-4015	Line Voltage Sampling Kit, 120-400 Vac, 50-60 Hz -----	175.00	CR
TLK-2	809-4033	TLK-2 Tower Light Sampling Kit -----	275.00	CR
TSK-4	809-4034	TSK-4 Temperature Sensing Kit, remoteable sensor, includes ----- power supply for operation from 120/240 Vac, 50-60 Hz.	275.00	CR

### GENTNER - Main Unit

VRC-2000	809-4061	VRC-2000 Remote Control Unit with telephone surge protector -----	2,995.00	CR
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### Communications Accessories

809-4062	Data Interface (Setup included) -----	995.00	CR
809-4063	2400 bps Standalone Hayes Modem -----	699.00	ER

### Special Purpose Accessories

809-4064	DC Isolation Amplifier -----	385.00	CR
809-4073	AC Current Sensor -----	165.00	CR
809-4067	Temperature Sensor Unit, includes power supply and one Fahrenheit probe -----	199.00	CR
809-4068	Temperature Probe (Fahrenheit) -----	49.00	CR
809-4069	Temperature Sensor Unit, includes power supply and one Celsius probe. -----	199.00	CR
809-4070	Temperature Probe (Celsius) -----	49.00	CR
809-4071	Command Relay Unit -----	549.00	CR
809-4072	Screw Barrier Strip Assembly -----	169.00	CR

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## STL EQUIPMENT

### MARTI SERIES

#### STL Systems - No Antennas

P50M	809-3026	Package 50M includes (1) STL-10/950 Transmitter ----- and (1) R-10/950 receiver for STL tuned to _____ mHz	3,250.00	C
P51S	809-3025	Package 51S includes (2) STL-10/950 Transmitters, ----- (2) R-10/950 receivers for STL. (1) HRC-10 Transmitter Combiner and (1) MTS-10 receiver Combiner tuned to _____ mHz For 809-960 mHz band only	6,925.00	C

#### STL Systems - With Antennas

P50MA	809-3028	Package 50MA includes (1) STL-10/950 Transmitter, (1) R-10/950 ----- receiver, (2) PA48 4' parabolic antennas, (2) K-1 weatherproofing kits, and (2) PG-1.7B jumper cables tuned to _____ mHz. For 809-960 mHz band only.	4,327.00	CR
P51SA	809-3029	Package 51SA includes (2) STL-10/950 Transmitters, (2) R-10/950 ----- receivers, (1) HRC-10 transmitter combiner, (1) MTS-1 receiver combiner, (2) PA48 4' parabolic antennas, (2) PG-1.7B jumper cables, and (2) K-1 weather-proofing kits tuned to _____ mHz. For 809-960 mHz band only.	8,002.00	CR

#### TSL Systems

TSL-15	809-3010	TSL-15 Package (15 watts) includes (1) RPT-30/450 Transmitter, ----- (1) CR-10/450 receiver, (1) Model 1300 station identifier and (1) RMH-3B rack shelf tuned to _____ mHz. For 450-456 mHz.	2,544.00	CR
	809-3018	TSL Antenna Package includes (2) YC-450 yagi gain antenna, ----- (1) PG-2A jumper cable, (1) PG-2B jumper cable and (1) K-1 weather-proofing kit tuned to _____ mHz.	404.00	CR

#### STL Subcarrier Equipment

SCG-10	809-3073	Subcarrier generator tuned to 26, 39, 41, 67 or 92 kHz, ----- rack mount, 120 Vac (220 Vac on request)	695.00	CR
SCD-10	809-3074	Subcarrier demodulator tuned to 26, 39, 41, 67 or 92 kHz, ----- rack mount, 120 Vac (220 Vac on request)	695.00	CR

# RF TRANSMITTING EQUIPMENT

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## STL EQUIPMENT - CONT'D

170 MOSELEY

**PCL-606 Series STL Systems**

PCL-606 829-0098 STL-ALL SOLID STATE transmitter and receiver system, ----- 10,700.00 C  
 mono tuned to \_\_\_\_\_ MHz. 300-330 MHz, 450-470 MHz.  
 890-960 MHz. This unit on 1.5 - 1.71 MHz are 15,200.00 per system.

PCL-606/C 829-0099 COMPOSITE STL - ALL SOLID STATE transmitter and receiver ----- 10,700.00 C  
 system tuned to \_\_\_\_\_ MHz. Transmits composite stereo waveform  
 over single STL. 300-330 MHz, 450-470 MHz, 890-960 MHz  
 This unit on 1.5 - 1.71 MHz are 15,200.00 per system.

**Factory Installed Options**

809-3062 Extended Baseband Module permits composite STL to carry 92 kHz SCA ----- 850.00 C  
 channel in baseband radio. Replaces standard baseband module.  
 NO CHARGE WHEN ORDERED WITH PCL-606/C SYSTEM  
*NOTE: 110 kHz SCA cannot be used with Extended Baseband.*

809-3061 IF repeater eliminates requirement to demodulate and ----- 1,250.00\*\* C  
 remodulate baseband audio in multi-hop configurations.  
 \*BUDGETARY PRICE ONLY - Contact factory for current price.

**PCL 6000 Series STL Systems**

PCL 6020 809-3052 Contains 6010 Transmitter and 6020 receiver with fully synthesized, ----- 7,800.00 C  
 selectable mono or composite operation. Double conversion receiver.  
 auto receiver transfer circuitry. Tuned and tested on operating  
 frequency of \_\_\_\_\_ MHz. 300-330 MHz, 450-470 MHz, 890-960 MHz.

PCL 6030 809-3053 Contains 6010 Transmitter and 6030 receiver with fully synthesized, ----- 8,800.00 C  
 selectable mono or composite operation. Triple conversion receiver,  
 auto receiver transfer circuitry. Tuned and tested on operating  
 frequency of \_\_\_\_\_ MHz. 300-330 MHz, 450-470 MHz, 890-960 MHz

**Factory Installed Options**

809-3062 Extended Baseband permits composite STL to carry 92 kHz SCA ----- 850.00\* C  
 channel in baseband radio, replaces standard baseband.  
 \*NO CHARGE WHEN ORDERED WITH PCL-6000 SYSTEM

809-3061 IF repeater eliminates requirement to demodulate and remodulate baseband ----- 1,250.00\*\* C  
 audio in multihop configurations. Available for 6020 and 6030 systems.  
 \* BUDGETARY ONLY - Contact factory for current price.

809-3064 Internal Stereo Decoder installs in 6000 Series receiver. Demodulates ----- 965.00\*\* C  
 composite stereo signal into discrete left and right channels.  
 \* BUDGETARY ONLY - Contact factory for current price.

**STL Accessories**

TPT-2 829-0057 Transfer Panel Transmitter provides automatic changeover to standby ----- 1,295.00 C  
 STL transmitter, carrier operated, includes coaxial relay to switch active  
 transmitter to single antenna. For use with PCL-505, PCL-600, PCL-606,  
 PCL 6000 Series. Supplied with two G-8/U pigtail assemblies.

TPR-2 829-0058 Transfer Panel receiver provides automatic changeover to standby STL ----- 700.00 C  
 receiver, carrier operated. Use with PD-1000 Power Divider.

TBD-800-2 809-3063 Transmitter Combiner (806-1000 MHz) Manufactured by Celwave ----- 2,015.00 CR  
 Associates. Facilitates coupling two STL transmitters to a  
 common antenna. Type N female connectors 4.2 dB insertion loss.

PD-1000 809-3057 Power Divider (10-1000 MHz). Manufactured by American ----- 350.00 C  
 Microwave. Broadband, in-phase two way with N type female  
 connectors. Facilitates coupling two receivers from a common  
 antenna. Supplied with two G-8/U pigtail assemblies, 3.5dB insertion loss.

ICU-1D 809-3058 Isocoupler 800-1000 MHz ----- 475.00 C

ICU-2D 809-3059 Isocoupler 410-530 MHz ----- 425.00 C

ICU-3D 809-3060 Isocoupler 145-180 MHz ----- 425.00 C

RG-8/U3 829-0071 3' Pigtail assembly, type N male connector on each end. ----- 75.00 E

# BE<sup>®</sup> RF TRANSMITTING EQUIPMENT

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## STL EQUIPMENT - CONT'D

### MOSELEY - CONT'D

#### CL Series - TRL LINK

CL-100 809-3045 Telemetry return link, All Solid-State transmitter and receiver. ----- 3,980.00 E  
Nominal one watt transmitter output. Tune to \_\_\_\_\_ MHz

CL-100 809-3044 Telemetry return link, All Solid-State transmitter and receiver. ----- 4,980.00 E  
Nominal ten watt transmitter output. Tune to \_\_\_\_\_ MHz

MCW 809-3018 Identifier Module. Installs internally to CL-100 transmitter. ----- 275.00 E  
Callsign \_\_\_\_\_

#### STL Subcarrier Equipment

SCD-8 829-0074 Subcarrier Demodulator, with automatic muting and front-panel ----- 1,490.00 E  
peak-deviation meter

SCG-8 829-0073 Subcarrier Generator with automatic muting and front-panel ----- 1,490.00 ER  
peak-deviation meter, includes self-contained power supply. Available  
for operation at any standard frequency in the 26-185 kHz spectrum.  
Specify operating frequency when ordering.

### TFT - STL Transmitters and Receivers

172 8300 809-3021 Composite STL transmitter, tune to \_\_\_\_\_ MHz ----- 5,065.00 CR  
(5116-8300)

8301B 809-3022 Composite STL receiver, tune to \_\_\_\_\_ MHz ----- 4,925.00 CR  
(5116-8301)

7700B 809-3054 All solid state transmitter including self-contained power supply and tested ----- 4,175.00 CR  
(5116-7700B) to customer specified operating frequency. For composite or monaural use.

7707 809-3055 All solid state composite receiver including self-contained power ----- 3,415.00 CR  
(5116-7707) supply and tested to customer specified operating frequency.

7705 809-3056 All solid state monaural receiver including self-contained power ----- 3,415.00 CR  
supply and tested to customer specified operating frequency.

8600A 809-3019 STL Transmitter, mono, tune to \_\_\_\_\_ MHz ----- 1,600.00 CR  
(5116-8600)

809-3085 SCA Generator for 8600A ----- 300.00 CR

8601A 809-3020 STL Receiver, mono, tune to \_\_\_\_\_ MHz ----- 1,440.00 CR  
(5116-8601)

809-3086 SCA Detector for 8601A ----- 300.00 CR

#### Factory Installed Options

(7100-3710) 809-3036 Option 15 Stereo Decoder Module, for composite receivers ----- 405.00 CR

(7100-3790) 809-3037 Option 16 Extended Baseband response ----- 475.00 CR

(7100-4070) 809-3038 Option 22A IF repeater circuits installed in 8300 STL Transmitter ----- 715.00 CR

809-3039 Option 22B 8301B STL Receiver ----- 680.00 CR

#### STL Accessories

7770 809-3033 Automatic Transmitter Changeover Unit, for hot-standby use. ----- 1,040.00 CR  
(5116-7770) Use with two STL transmitters. Contains coaxial changeover  
relay; power combiner not required. Self-contained power supply.

7773 809-3034 Automatic Receiver Changeover Unit, for hot-standby use with ----- 1,040.00 CR  
(5116-7773) two STL receivers; built-in power splitter. Unit derives DC  
power from STL receivers.

COMBINER 809-3068 Combines 2 transmitter outputs to one antenna ----- ON REQUEST  
(7100-4145) (80 dB isolation). Specify two operating frequencies.

SPLITTER 809-3069 2 way power splitter for 2 receivers using one antenna ----- 120.00 CR  
(3500-0021)

# RF TRANSMITTING EQUIPMENT

CATALOG

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## STL EQUIPMENT - CONT'D

### TFT - CONT'D

#### STL Subcarrier Equipment

SCA-1 (5116-SCA1)	809-3065	Stand-alone Subcarrier Generator for data transmission (specify operating frequency)	925.00	CR
SCA-2 (5116-SCA2)	809-3066	Stand-alone Subcarrier Detector for data reception (specify operating frequency)	925.00	CR
SCA-3 (5116-SCA3)	809-3067	Stand-alone Subcarrier Generator and Detector for data transmission and reception (specify two operating frequencies)	1,400.00	CR
<b>TSL Equipment</b>				
8700 (5116-8700)	809-3040	450 mHz Transmitter-Studio Voice/Data Link, specify FCC Group P frequency.	1,520.00	CR
8701 (5116-8701)	809-3041	450 mHz Receiver-Studio Voice/Data Link, specify FCC Group P frequency.	1,520.00	CR
(7100-3460)	809-3042	Automatic ID (specify ID code) for 8700	340.00	CR

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## STL/TSL ANTENNAS

P-9A48GN-1	809-1063	Mark 4' grid antenna, 19.1 dbi gain, N female connector, complete with hardware for mounting on a pole 1.9 to 3.5" in diameter. 940-960 mHz	1,050.00	C
P-9A72GN-1	809-3015	Mark 6' grid antenna, 22.6 dbi gain, N female connector, complete with hardware for mounting on a pole 1.9 to 3.5" in diameter. 940-960 mHz	1,380.00	C
P-9A96GN-1	809-3014	Mark 8' grid antenna, 25.1 dbi gain, N female connector, complete with hardware for mounting on a pole 1.9 to 3.5" in diameter. 940-960 mHz	2,100.00	C
P-9A120GN-1	809-3013	Mark 10' grid antenna, 27.0 dbi gain, N female connector, complete with hardware for mounting on a pole 1.9 to 3.5" in diameter. 940-960 mHz	2,700.00	C
PR-450U	829-0060	Paraflector antenna (20.1 dBd gain at 950 mHz), for 350 mHz to 1000 mHz, with type N female termination, universal mounting on 2 to 2 3/8" pole for horizontal or vertical polarization, fully anodized, for STL. Specify operating frequency. _____ mHz	580.00	E
MF-960	829-0061	Miniflector antenna (14 dBd gain at 950 mHz) for 940-960 mHz, with type N female termination, complete with brackets for horizontal or vertical polarization mounting on 2-2 3/8" pole. Specify operating frequency. _____ mHz	320.00	E
CA5-150H	829-0062	Five-element yagi antenna, horizontally polarized, 9 dBd gain, 140-230 MHz. N female connector (others available) _____ mHz	230.00	E
CA5-450	829-0064	Five-element yagi antenna, H or V polarization, 10 dBd gain, 216-512 MHz. N female connector (others available) _____ mHz	190.00	ER

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## IN-LINE RF WATTMETERS

### BIRD

#### 174 For 1-5/8" Line - High Power Rigid Line Series

4712	809-8033	.25-25 kW, single socket, EIA Flanged	640.00	ER
4715-200	809-8034	.25-25 kW, double socket, EIA Flanged	685.00	ER
4712-037	809-8037	.3-6 kW, single socket, EIA Flanged	565.00	ER
4715-300	809-8038	.3-6 kW, double socket, flanged	685.00	ER

#### 175 Plug-In Elements for 1-5/8"

250B1	809-8101	250W, 50-125 mHz	90.00	ER
300B1	809-8085	300W, 50-125 mHz	90.00	ER
500B1	809-8102	500W, 50-125 mHz	90.00	ER
600B1	809-8084	600W, 50-125 mHz	90.00	ER
1000B1	809-8100	1000W, 50-125 mHz	90.00	ER
1500B1	809-8083	1500W, 50-125 mHz	90.00	ER
2500B1	809-8099	2500W, 50-125 mHz	90.00	ER
3000B1	809-8082	3000W, 50-125 mHz	90.00	ER
5000B1	809-8098	5000W, 50-125 mHz	90.00	ER
6000B1	809-8081	6000W, 50-125 mHz	90.00	ER
10KB1	809-8097	10 kW, 50-125 mHz	90.00	ER

#### 174 For 3-1/8" Line - High Power Rigid Line Series

460	809-8039	1-100 kW, single socket, EIA Flanged	730.00	ER
4610-200	809-8040	1-100 kW, double socket, EIA Flanged	850.00	ER
4802-200	809-8042	1-100 kW, double socket, unflanged	705.00	ER
4805	809-8041	1-100 kW, single socket, unflanged	550.00	ER
4600-037	809-8043	1.5-30 kW, single socket, EIA Flanged	730.00	ER
4610-300	809-8044	1.5-30 kW, double socket, EIA Flanged	850.00	ER
4805-037	809-8045	1.5-30 kW, single socket, unflanged	555.00	ER
4802-300	809-8046	1.5-30 kW, double socket, unflanged	705.00	ER

#### 175 Plug-In Elements for 3-1/8"

1000B3	809-8096	1000W, 50-125 mHz	90.00	ER
1500B3	809-8080	1500W, 50-125 mHz	90.00	ER
2500B3	809-8095	2500W, 50-125 mHz	90.00	ER
3000B3	809-8078	3000W, 50-125 mHz	90.00	ER
5000B3	809-8094	5000W, 50-125 mHz	90.00	ER
6000B3	809-8079	6000W, 50-125 mHz	90.00	ER
10KB3	809-8093	10 kW, 50-125 mHz	90.00	ER
15KB3	809-8077	15 kW, 50-125 mHz	90.00	ER
25KB3	809-8092	25 kW, 50-125 mHz	90.00	ER
30KB3	809-8076	30 kW, 50-125 mHz	90.00	ER
50KB4	809-8091	50 kW, 50-125 mHz	90.00	ER

#### For 4-1/16" Line - Thru-line RF Directional Wattmeter

4641	809-8147	2.5-50 kW, single socket, 50-25 mHz, EIA Flanged	1,065.00	ER
4641-037	809-8145	3-60 kW, single socket, 50-750 mHz, EIA Flanged	1,065.00	ER
4641-080	809-8143	8-80 kW, single socket, 50-125 mHz, EIA Flanged	1,065.00	ER
4642-200	809-8146	2.5-50 kW, double socket, 50-250 mHz, EIA Flanged	1,225.00	ER
4642-300	809-8144	3-60 kW, double socket, 50-750 mHz, EIA Flanged	1,225.00	ER

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### IN-LINE RF WATTMETERS - CONT'D

**Plug-In Elements For 4-1/16"**

2500B5	809-8139	2500W, 50-125 mHz	90.00	ER
3000B5	809-8140	3000W, 50-125 mHz	90.00	ER
5000B5	809-8141	5000W, 50-125 mHz	90.00	ER
6000B5	809-8142	6000W, 50-125 mHz	90.00	ER
8KB5	809-8133	8 kW, 50-125 mHz	90.00	ER
25KB5	809-8138	25 kW, 50-125 mHz	90.00	ER
30KB5	809-8135	30 kW, 50-125 mHz	90.00	ER
50KB5	809-8134	50 kW, 50-125 mHz	90.00	ER
60KB5	809-8136	60 kW, 50-125 mHz	90.00	ER
80KB5	809-8137	80 kW, 50-125 mHz	90.00	ER

**174 FOR 6-1/8" LINE - High Power Rigid Line Series**

4902	809-8047	2.5-250 kW, single socket, EIA Flanged	1,235.00	ER
4909-200	809-8050	2.5-250 kW, double socket, unflanged	1,035.00	ER
4905-200	809-8048	2.5-25 kW, single socket, EIA Flanged	1,425.00	ER
4907	809-8049	2.5-25 kW, single socket, unflanged	850.00	ER
4902-037	809-8051	3-60 kW, single socket, EIA Flanged	1,235.00	ER
4905-300	809-8052	3-60 kW, double socket, EIA Flanged	1,425.00	ER
4902-080	809-8053	8-80 kW, single socket, EIA Flanged	1,235.00	ER
4907-080	809-8054	8-80 kW, single socket, unflanged	845.00	ER

**175 PLUG-IN ELEMENTS FOR 6-1/8"**

2500B6	809-8090	2500W, 50-125 mHz	90.00	ER
3000B6	809-8075	3000W, 50-125 mHz	90.00	ER
5000B6	809-8088	5000W, 50-125 mHz	90.00	ER
6000B6	809-8074	6000W, 50-125 mHz	90.00	ER
8KB6	809-8070	8 kW, 50-125 mHz	90.00	ER
10KB6	809-8089	10 kW, 50-125 mHz	90.00	ER
15KB6	809-8073	15 kW, 50-125 mHz	90.00	ER
25KB6	809-8087	25 kW, 50-125 mHz	90.00	ER
30KB6	809-8072	30 kW, 50-125 mHz	90.00	ER
50KB6	809-8086	50 kW, 50-125 mHz	90.00	ER
60KB6	809-8071	60 kW, 50-125 mHz	90.00	ER
80KB6	809-8069	80 kW, 50-125 mHz	90.00	ER

175 RF POWER MONITORS/ALARMS - (Call Broadcast Electronics for details)

175 MONITORING SYSTEMS - (Call Broadcast Electronics for details)

175 DC CABLE ASSEMBLIES - (Call Broadcast Electronics for details)

176 RACK MOUNTED WATTMETERS - (Call Broadcast Electronics for details)



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## RF METERING SYSTEMS

### COAXIAL DYNAMICS

81102-4035	809-8103	In-line RF wattmeter for the Broadcast Electronics FM 3.5B ----- and FM 5B, includes: - 88954A Meter and case, forward/reflected switch and 10' cables - 88514 1-5/8" EIA flanged line section with dual element sockets - 82117 element, 5kW, 50-125 mHz. - 82114 element 500 W, 50-125 mHz.	801.00	ER
81102-4035R	809-8104	Same as 809-8103 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	766.00	ER
81102-4100	809-8105	In-line RF wattmeter for the Broadcast Electronics FM 10B, includes: ----- - 88954A Meter and case, forward/reflected switch and 10' cables - 88514 1-5/8" EIA flanged line section with dual element sockets - 82118 element, 10kW, 50-125 mHz. - 82115 element, 1kW, 50-125 mHz.	801.00	ER
81102-4100R	809-8106	Same as 809-8105 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	766.00	ER
81102-4010	809-8201	In-line RF wattmeter for the Broadcast Electronics FM 10B, includes: ----- - 88954A Meter and case, forward/reflected switch and 10' cables - 88516 3-1/8" EIA flanged line section with dual element sockets - 82314 element)-10kW, 50-125 mHz. - 82311 element, 1kW, 50-125 mHz.	970.00	ER
81102-4010R	809-8108	Same as 809-8107 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	766.00	ER
81102-4200	809-8109	In-line wattmeter for the Broadcast Electronics FM 20B, includes: ----- - 88954A Meter and case, forward/reflected switch and 10' cables, - 88516 3-1/8" EIA flanged line section with dual element sockets - 82315 element, 2.5kW, 50-125 mHz. - 82312 element 2.5kW, 50-125 mHz.	970.00	ER
81102-4200R	809-8110	Same as 809-8109 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	935.00	ER
81102-4300	809-8203	In-line RF wattmeter for the Broadcast Electronics FM 30B, ----- FM 35B and FM 40B, includes: - 88954A Meter and case, forward/reflected switch and 10' cables - 88516 3-1/8 inch EIA flanged line section with dual element sockets - 82332 element, 50kW, 50-125 mHz. - 82313 element, 5kW, 50-125 mHz.	970.00	ER
81102-4300R	809-8204	Same as 809-8111 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	935.00	ER
81102-5600	809-8205	In-line RF wattmeter for the Broadcast Electronics FM 60B and ----- FM 70B includes: - 88954A Meter and case, forward/reflected switch and 10' cables - 885206-1/8" EIA flanged line section with dual element sockets - 82620 element, 100kW, 50-125 mHz. - 82617 element, 5kW, 50-125 mHz.	1,505.00	ER
81102-5600R	809-8206	Same as 809-8113 except includes 81004A 19" panel mount ----- meter instead of 88954A meter and case. Rack mounted.	935.00	ER

## RF DUMMY LOADS

### BIRD - Dry Load, Convention Air-Cooled

8166	809-8165	150 W, Termaline, w/female N connector -----	275.00	ER
8173	809-8158	300 W, w/female N connector -----	450.00	ER
8363NF	809-8159	50 W, broadband, w/female N connector -----	125.00	ER

### BIRD - Liquid Dielectric Air-Cooled

8862	809-8120	1.5 kW, 1-5/8" EIA Flange -----	900.00	ER
8922	809-8119	5 kW, 1-5/8" EIA Flange -----	2255.00	ER
8936-115	809-8118	10kW, 3-1/8" EIA Flange, 115 Vac, 50/60 Hz -----	3435.00	ER
8936-230	809-8117	10kW, 3-1/8" EIA Flange, 230 Vac, 50/60 Hz -----	3475.00	ER



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## RF DUMMY LOADS - CONT'D

### ELECTRO-IMPULSE - Dry Load, Air- Cooled

DPTC-10KFM	809-8002	Electro Impulse 10kW, Air-cooled dry dummy load, 3-1/8" EIA flange, 115 Vac, 60 Hz	2275.00	B
DPTC-10KFM	809-8166	Electro Impulse 10kW, Air-cooled dry dummy load, 1-5/8" EIA flange, 115 Vac, 60 Hz	2275.00	B
	809-8167	Electro Impulse 50 Hz option for DPTC-10KFM	200.00	B
DPTC-25KFM	809-8013	Electro Impulse 25 kW, Air-cooled dummy load 3-1/8" EIA flange, 115 Vac, 60 Hz	3850.00	B
	809-8169	Electro Impulse 50 Hz option for DPTC-25KFM	350.00	B
DPTC-50KFM	809-8014	Electro Impulse 50kW, Air-cooled dummy load, 3-1/8" EIA flange	6500.00	B
	809-8170	Electro Impulse 50 Hz option for DPTC-50KFM	400.00	B

### ALTRONIC

6705E1	809-8215	Altronic 5 kW, air cooled dummy load, 1-5/8" EIA Flange	2025.00	ER
6710E1	809-8216	Altronic 10 kW, air cooled dummy load, 1-5/8" EIA Flange	2995.00	ER
6710E3	809-8217	Altronic 10 kW, air cooled dummy load, 3-1/8" EIA Flange	3080.00	ER
6725E3-115	809-8012	Altronic 25 kW, air-cooled dummy load, 3-1/8" EIA flange	3980.00	ER
6735E3	809-8218	Altronic 35 kW, air cooled dummy load, 3-1/8" EIA Flange	5380.00	ER
6750E3	809-8219	Altronic 50 kW, air cooled dummy load, 3-1/8" EIA Flange	7080.00	ER
6750E6	809-8220	Altronic 50 kW, air cooled dummy load, 6-1/8" EIA Flange	7330.00	ER
6775E3	809-8221	Altronic 75 kW, air cooled dummy load, 3-1/8" EIA Flange	10,100.00	ER
6775E6	809-8224	Altronic 75 kW, air cooled dummy load, 6-1/8" EIA Flange	10,300.00	ER

### OPTIONS

	809-8225	AC Power Option, All Altronic Loads, 230 Vac	300.00	ER
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## AC ROTARY PHASE CONVERTERS

T-2500	801-9002	Phasemaster T-Series, 25 amps for FM 5B	2,770.00	C
T-5000	801-9010	Phasemaster T-Series, 48 amps for FM 10B	3,990.00	C
T-10000	801-9011	Phasemaster T-Series, 95 amps for FM 20B	6,561.00	C
T-12000	801-9008	Phasemaster T-Series, 115 amps for FM 30B	7,182.00	C
T-14000	801-9009	Phasemaster T-Series, 135 amps for FM 35B	8,505.00	C

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## AC LINE SURGE SUPPRESSORS

### NORTHERN TECHNOLOGIES

TCS100-C	809-9015	Individual Service Protector 208/120 Vac, 3 phase, 4 wire wye and ground, for FM 30, 20, 10, 5B requires LAP-C	2,495.00	BR
TCS100-E	809-9016	Individual Service Protector 240 Vac, 3 phase, 3 wire delta and ground, for FM 30, 20, 10, 5B except requires LAP-E	3,500.00	BR
TCS250-C	809-9017	Branch Service Protector 208/120 Vac, 3 phase, 4 wire wye and ground, for FM 35B, requires LAP-C	5,800.00	BR
TCS250-E	809-9018	Branch Service Protector 240 Vac, 3 phase, 3 wire delta and ground for FM 35B, requires LAP-E	7,210.00	BR
TCS50-HWA	809-9022	Individual Equipment Protector 208, 220, 240 Vac, single phase, 2 wire and ground (hardwire) for FM 1, 1.5, 3, 5B, requires LAP-B	1,250.00	BR
LAP-B	809-9021	High Energy Dissipation Protector, 240/120 Vac, single phase, 3 wire and ground	1,595.00	BR
LAP-C	809-9019	High Energy Dissipation Protector, 208/120 Vac, 3 phase, 4 wire and ground	1,995.00	BR
LAP-E	809-9020	High Energy Dissipation Protector, 240 Vac, 3 phase, 3 wire delta and ground	2,195.00	BR

### EAGLE HILL

M220	809-5000	AC Line Surge Suppressor for use on single phase 208/240 Vac balanced three wire main power.	1,080.00	E
M240	809-5001	AC Line Surge Suppressor for use on 3 phase mains from 208/240 Vac any type of service. Complete protection on all lines.	1,650.00	E

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## AC LINE SURGE SUPPRESSORS - CONT'D

### LEA (Without Diagnostics)

SE120/240-30-1	809-9000	120/240 Vac, 30 amp 3-wire single phase -----	2,048.00	CR
SE120/240-60-1	809-9001	120/240 Vac, 60 amp 3-wire single phase -----	2,819.00	CR
SE120/208-30-3Y	809-9002	120/208 Vac, 30 amp 4-5 wire three phase wye -----	3,780.00	CR
SE120/208-60-3Y	809-9003	120/208 Vac, 60 amp 4-5 wire three phase wye -----	5,639.00	CR
SE120/208-200-3Y	809-9004	120/208 Vac, 200 amp 4-5 wire three phase wye -----	9,072.00	CR
SE120/208-300-3Y	809-9005	120/208 Vac, 300 amp 4-5 wire three phase wye -----	11,750.00	CR
SE240-30-3D	809-9006	240 Vac, 30 amp 3-4 wire three phase Delta -----	3,780.00	CR
SE240-60-3D	809-9007	240 Vac, 60 amp 3-4 wire three phase Delta -----	5,631.00	CR
SE240-150-3D	809-9008	240 Vac, 150 amp 3-4 wire three phase Delta -----	8,258.00	CR
SE240-200-3D	809-9009	240 Vac, 200 amp 3-4 wire three phase Delta -----	9,072.00	CR

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## COAXIAL SWITCHES

All switches listed below have 117 Vac motors, 24 Vdc control voltages. Others available on request.

### DIELECTRIC

A50000-200	809-2131	Motorized coaxial switch for 1-5/8" line, 4 port, flanged, motor drive 120 Vac, Control relays 24 Vdc -----	4,120.00	C
A50000-300	809-2132	Motorized coaxial switch for 3-1/8" line, 4 port, flanged, motor drive 120 Vac, Control relays 24 Vdc -----	4,290.00	C
A50000-400	809-2133	Motorized coaxial switch for 4-1/16" line, 4 port, flanged, motor drive 120 Vac, Control relays 24 Vdc -----	5,150.00	C

## MANUAL RF PATCH PANELS

### MYAT

201-138-4	*809-2167	4 Pole 1-5/8" manual patch panel with 2 U links, 4 anchor insulators and 4 line clamps -----	910.00	C
301-138-4	*809-2166	4 Pole 3-1/8" manual patch panel with 2 U links, 4 anchor insulators and 4 line clamps -----	1,150.00	C

\* NOTE: Interlocks available at \$60.00 each. Specify number and position required.

## FM ANTENNAS

182 **BESP "A" Series, 3-1/8" Interbay Line, Super Power**

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on tapered towers are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotational brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation. Stem heaters - \$550.00 each.*

		809-1910	Anti-rotational mounting brackets to 52" face ----- (one required per bay)	92.00	PR
		809-1911	Anti-rotational mounting bracket 52+ to 96" ----- face (one required per bay)	173.00	PR
		809-1900	DC Shorting Stub for lightning protection -----	445.00	PR
		809-1907	Radome (per bay) -----	1,203.00	PR
		809-1904	Antenna de-icer (per bay) -----	1,365.00	PR
		809-1914	Beam tilt (specify degrees) -----	677.00	PR
		809-1912	First Null Fill (Specify %) -----	677.00	PR
		809-1913	Second Null Fill (Specify %) -----	1,021.00	PR
	BESP-1AE	809-1501-020	1 bay, 3-1/8" end feed, 32 kW input rating -----	3,087.00	PR
	BESP-2AE	809-1502-020	2 bay, 3-1/8" end feed, 32 kW input rating -----	6,174.00	PR
	BESP-2AC	809-1502-040	2 bay, 3-1/8" center feed, 39 kW input rating -----	7,264.00	PR
	BESP-2AC6	809-1502-080	2 bay, 6-1/8" center feed, 64 kW input rating -----	9,406.00	PR
	BESP-3AE	809-1503-020	3 bay, 3-1/8" end feed, 32 kW input rating -----	9,261.00	PR
	BESP-3AC	809-1503-050	3 bay, 3-1/8" off center feed, 39 kW input rating -----	10,351.00	PR
	BESP-4AE	809-1504-020	4 bay, 3-1/8" end feed, 32 kW input rating -----	12,348.00	PR
	BESP-4AC	809-1504-040	4 bay, 3-1/8" center feed, 39 kW input rating -----	13,437.00	PR
	BESP-4AC6	809-1504-080	4 bay, 6-1/8" center feed, 64 kW input rating -----	15,580.00	PR
	BESP-5AE	809-1505-020	5 bay, 3-1/8" end feed, 32 kW input rating -----	15,435.00	PR
	BESP-5AC	809-1505-050	5 bay, 3-1/8" off center feed, 39 kW input rating -----	16,525.00	PR
	BESP-5AC6	809-1505-090	5 bay, 6-1/8" off center feed, 64 kW input rating -----	18,072.00	PR
	BESP-6AE	809-1506-020	6 bay, 3-1/8" end feed, 32 kW input rating -----	18,522.00	PR
	BESP-6AC	809-1506-040	6 bay, 3-1/8" center feed, 39 kW input rating -----	19,612.00	PR
	BESP-6AC6	809-1506-080	6 bay, 6-1/8" center feed, 64 kW input rating -----	20,719.00	PR
	BESP-7AE	809-1507-020	7 bay, 3-1/8" end feed, 32 kW input rating -----	21,609.00	PR
	BESP-7AC	809-1507-050	7 bay, 3-1/8" off center feed, 39 kW input rating -----	22,698.00	PR
	BESP-8AE	809-1508-020	8 bay, 3-1/8" end feed, 32 kW input rating -----	24,696.00	PR
	BESP-8AC	809-1508-040	8 bay, 3-1/8" center feed, 39 kW input rating -----	25,186.00	PR
	BESP-8AC6	809-1508-080	8 bay, 6-1/8" center feed, 64 kW input rating -----	27,928.00	PR
	BESP-9AC	809-1509-050	9 bay, 3-1/8" off center feed, 39 kW input rating -----	28,873.00	PR
	BESP-10AC	809-1510-040	10 bay, 3-1/8" center feed, 39 kW input rating -----	31,959.00	PR
	BESP-10AC6	809-1510-080	10 bay, 6-1/8" center feed, 64 kW input rating -----	33,507.00	PR
	BESP-11AC	809-1511-050	11 bay, 3-1/8" off center feed, 39 kW input rating -----	35,047.00	PR
	BESP-12AC	809-1512-040	12 bay, 3-1/8" center feed, 39 kW input rating -----	38,134.00	PR
	BESP-12AC6	809-1512-080	12 bay, 6-1/8" center feed, 64 kW input rating -----	40,277.00	PR
	BESP-13AC	809-1513-050	13 bay, 3-1/8" off center feed, 39 kW input rating -----	41,220.00	PR
	BESP-14AC	809-1514-040	14 bay, 3-1/8" center feed, 39 kW input rating -----	44,308.00	PR
	BESP-14AC6	809-1514-080	14 bay, 6-1/8" center feed, 64 kW input rating -----	46,450.00	PR
	BESP-15AC	809-1515-050	15 bay, 3-1/8" off center feed, 39 kW input rating -----	47,395.00	PR
	BESP-16AC	809-1516-040	16 bay, 3-1/8" center feed, 39 kW input rating -----	50,481.00	PR
	BESP-16AC6	809-1516-080	16 bay, 6-1/8" center feed, 64 kW input rating -----	52,624.00	PR

# BE<sup>®</sup> RF TRANSMITTING EQUIPMENT

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## FM ANTENNAS - CONT'D

182 BESP "B" Series, 4-1/8" Interbay Line, Super Power

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotational brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation. Stem heaters - \$550.00 ea.*

	809-1910	Anti-rotational mounting brackets to 52" face (one required per bay) -----	92.00	PR
	809-1911	Anti-rotational mounting bracket 52+" to 96" face (one required per bay) -----	173.00	PR
	809-1903	DC Shorting Stub for lightning protection -----	445.00	PR
	809-1907	Radome (per bay) -----	1,203.00	PR
	809-1904	Antenna de-icer (per bay) -----	1,365.00	PR
	809-1914	Boom tilt (specify degrees) -----	677.00	PR
	809-1912	First Null Fill (specify %) -----	677.00	PR
	809-1913	Second Null Fill (specify %) -----	1,021.00	PR
BESP-1BE	809-1601-060	1 bay, 6-1/8" end feed, 40 kW input rating -----	4,312.00	PR
BESP-2BE	809-1602-060	2 bay, 6-1/8" end feed, 56 kW input rating -----	8,624.00	PR
BESP-2BC	809-1602-080	2 bay, 6-1/8" center feed, 80 kW input rating -----	12,117.00	PR
BESP-3BE	809-1603-060	3 bay, 6-1/8" end feed, 56 kW input rating -----	12,937.00	PR
BESP-3BC	809-1603-090	3 bay, 6-1/8" off center feed, 112 kW input rating -----	16,429.00	PR
BESP-4BE	809-1604-060	4 bay, 6-1/8" end feed, 56 kW input rating -----	17,248.00	PR
BESP-4BC	809-1604-080	4 bay, 6-1/8" center feed, 112 kW input rating -----	20,742.00	PR
BESP-5BE	809-1605-060	5 bay, 6-1/8" end feed, 56 kW input rating -----	21,561.00	PR
BESP-5BC	809-1605-090	5 bay, 6-1/8" off center feed, 112 kW input rating -----	25,053.00	PR
BESP-6BE	809-1606-060	6 bay, 6-1/8" end feed, 56 kW input rating -----	25,873.00	PR
BESP-6BC	809-1606-080	6 bay, 6-1/8" center feed, 112 kW input rating -----	29,365.00	PR
BESP-7BE	809-1607-060	7 bay, 6-1/8" end feed, 56 kW input rating -----	30,185.00	PR
BESP-7BC	809-1607-090	7 bay, 6-1/8" off center feed, 112 kW input rating -----	33,678.00	PR
BESP-8BE	809-1608-060	8 bay, 6-1/8" end feed, 56 kW input rating -----	34,498.00	PR
BESP-8BC	809-1608-080	8 bay, 6-1/8" center feed, 112 kW input rating -----	37,990.00	PR
BESP-9BC	809-1609-090	9 bay, 6-1/8" off center feed, 112 kW input rating -----	42,301.00	PR
BESP-10BC	809-1610-080	10 bay, 6-1/8" center feed, 112 kW input rating -----	46,611.00	PR
BESP-11BC	809-1611-090	11 bay, 6-1/8" off center feed, 112 kW input rating -----	50,927.00	PR
BESP-12BC	809-1612-080	12 bay, 6-1/8" center feed, 112 kW input rating -----	55,238.00	PR
BESP-13BC	809-1613-090	13 bay, 6-1/8" off center feed, 112 kW input rating -----	59,551.00	PR
BESP-14BC	809-1614-080	14 bay, 6-1/8" center feed, 112 kW input rating -----	63,862.00	PR
BESP-15BC	809-1615-090	15 bay, 6-1/8" off center feed, 112 kW input rating -----	68,175.00	PR
BESP-16BC	809-1616-080	16 bay, 6-1/8" center feed, 112 kW input rating -----	71,330.00	PR

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## FM ANTENNAS - CONT'D

**182    BESP "C" Series, 6-1/8" Interbay Line, Super Power**

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotation brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation.*

	809-1910	Anti-rotational mounting brackets (one required per bay) -----	92.00	
	809-1902	DC Shorting Stub for lightning protection -----	637.00	PR
	809-1907	Radome (per bay) -----	1,203.00	PR
	809-1904	Antenna de-icer (per bay) -----	1,365.00	PR
	N/A	Beam tilt (specify degrees) -----	N/A	
	N/A	First Null Fill (specify %) -----	N/A	
	N/A	Second Null Fill (specify %) -----	N/A	
BESP-1CE	809-1701-060	1 bay, 6-1/8" end feed, 40 kW input rating -----	4,930.00	PR
BESP-2CE	809-1702-060	2 bay, 6-1/8" end feed, 80 kW input rating -----	9,860.00	PR
BESP-3CE	809-1703-060	3 bay, 6-1/8" end feed, 120 kW input rating -----	14,789.00	PR
BESP-4CE	809-1704-060	4 bay, 6-1/8" end feed, 120 kW input rating -----	19,718.00	PR
BESP-5CE	809-1705-060	5 bay, 6-1/8" end feed, 120 kW input rating -----	24,649.00	PR
BESP-6CE	809-1706-060	6 bay, 6-1/8" end feed, 120 kW input rating -----	29,577.00	PR

**184    BEMP Series, 1-5/8" Interbay Line, Medium Power**

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotation brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation.*

	809-1910	Anti-rotational mounting brackets (one required per bay) -----	92.00	
	809-1911	Anti-rotational mounting bracket 52+" to 96" face ----- (one required per bay)	173.00	PR
	809-1901	DC Shorting Stub for lightning protection -----	404.00	PR
	809-1907	Radome (per bay) -----	1,203.00	PR
	809-1904	Antenna de-icer (per bay) -----	1,365.00	PR
	809-1914	Beam tilt (specify degrees) -----	677.00	PR
	809-1912	First Null Fill (specify %) -----	677.00	PR
	809-1913	Second Null Fill (specify %) -----	N/A	
BEMP-1E	809-1401-010	1 bay, 1-5/8" end feed, 9 kW input rating -----	2,133.00	PR
BEMP-2E	809-1402-010	2 bay, 1-5/8" end feed, 9 kW input rating -----	4,263.00	PR
BEMP-2C	809-1402-040	2 bay, 3-1/8" center feed, 12 kW input rating -----	5,354.00	PR
BEMP-3E	809-1403-010	3 bay, 1-5/8" end feed, 9 kW input rating -----	6,396.00	PR
BEMP-3C	809-1403-050	3 bay, 3-1/8" off center feed, 12 kW input rating -----	7,487.00	PR
BEMP-4E	809-1404-010	4 bay, 1-5/8" end feed, 9 kW input rating -----	8,528.00	PR
BEMP-4C	809-1404-040	4 bay, 3-1/8" center feed, 12 kW input rating -----	9,617.00	PR
BEMP-5E	809-1405-010	5 bay, 1-5/8" end feed, 9 kW input rating -----	10,659.00	PR
BEMP-5C	809-1405-050	5 bay, 3-1/8" off center feed, 12 kW input rating -----	11,751.00	PR
BEMP-6E	809-1406-010	6 bay, 1-5/8" end feed, 9 kW input rating -----	12,792.00	PR
BEMP-6C	809-1406-040	6 bay, 3-1/8" center feed, 12 kW input rating -----	13,883.00	PR

# BE<sup>®</sup> RF TRANSMITTING EQUIPMENT

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## FM ANTENNAS - CONT'D

### BEMP Series, 1-5/8" Interbay Line, Medium Power -Cont'd.

BEMP-7E	809-1407-010	7 bay, 1-5/8" end feed, 9 kW input rating -----	14,925.00	PR
BEMP-7C	809-1407-050	7 bay, 3-1/8" off center feed, 12 kW input -----	16,014.00	PR
BEMP-8E	809-1408-010	8 bay, 1-5/8" end feed, 9 kW input rating -----	17,056.00	PR
BEMP-8C	809-1408-040	8 bay, 3-1/8" center feed, 12 kW input rating -----	18,146.00	PR
BEMP-9C	809-1409-050	9 bay, 3-1/8" off center feed, 12 kW input rating -----	20,279.00	PR
BEMP-10C	809-1410-040	10 bay, 3-1/8" center feed, 12 kW input rating -----	22,409.00	PR
BEMP-11C	809-1411-050	11 bay, 3-1/8" off center feed, 12 kW input rating -----	24,542.00	PR
BEMP-12C	809-1412-040	12 bay, 3-1/8" center feed, 12 kW input rating -----	26,674.00	PR

### 186 BELP Series - Horizontally Polarized, Low Power

*NOTE: Includes brackets for mounting on a pole of 2-2 1/2 inch diameter.*

BELP-11A	809-1301	With single ring element -----	471.00	CR
BELP-22A	809-1302	With 2 ring elements -----	946.00	CR
BELP-33A	809-1303	With 3 ring elements -----	1,418.00	CR
BELP-44A	809-1304	With 4 ring elements -----	1,891.00	CR

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## ERI ANTENNAS

### 1100 Series- High Power Circularly Polarized

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotation brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation.*

	809-1910	Anti-rotational mounting brackets to 52" face (one required per bay) -----	92.00	CR
	809-1911	Anti-rotational mounting bracket 52+" to 96" face (one required per bay) -----	173.00	CR
	N/A	DC Shorting Stub for lightning protection -----	N/A	
	809-1908	Radome (per bay) -----	1,261.00	CR
	809-1905	Antenna de-icer (per bay) (specify 120 or 240 Vac, 300 or 500 watts) -----	550.00	CR
	809-1914	Beam fill (specify degrees) -----	677.00	CR
	809-1912	First Null Fill (specify %) -----	677.00	CR
	809-1913	Second Null Fill (specify %) -----	1,021.00	CR
1100-1E	809-1101-020	1 bay, 3-1/8" end feed, 5 kW input rating -----	2,335.00	CR
1100-2E	809-1102-020	2 bay, 3-1/8" end feed, 10 kW input rating -----	4,669.00	CR
1100-2C	809-1102-040	2 bay, 3-1/8" center feed, 10 kW input rating -----	5,759.00	CR
1100-3E	809-1103-020	3 bay, 3-1/8" end feed, 15 kW input rating -----	7,005.00	CR
1100-4E	809-1104-020	4 bay, 3-1/8" end feed, 20 kW input rating -----	9,339.00	CR
1100-4C	809-1104-040	4 bay, 3-1/8" center feed, 20 kW input rating -----	10,428.00	CR
1100-5E	809-1105-020	5 bay, 3-1/8" end feed, 25 kW input rating -----	11,672.00	CR
1100-6E	809-1106-020	6 bay, 3-1/8" end feed, 30 kW input rating -----	14,007.00	CR
1100-6C	809-1106-040	6 bay, 3-1/8" center feed, 30 kW input rating -----	15,098.00	CR
1100-7E	809-1107-020	7 bay, 3-1/8" end feed, 35 kW input rating -----	16,342.00	CR
1100-8E	809-1108-020	8 bay, 3-1/8" end feed, 40 kW input rating -----	18,676.00	CR
1100-8C	809-1108-040	8 bay, 3-1/8" center feed, 40 kW input rating -----	19,766.00	CR

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### ERI ANTENNAS - CONT'D

**1100 Series - High Power Circularly Polarized - Cont'd.**

1100-9C	809-1109-050	9 bay, 3-1/8" off center feed, 40 kW input rating -----	22,101.00	CR
1100-10C	809-1110-040	10 bay, 3-1/8" center feed, 40 kW input rating -----	24,417.00	CR
1100-11C	809-1111-050	11 bay, 3-1/8" off center feed, 40 kW input rating -----	26,770.00	CR
1100-12C	809-1112-040	12 bay, 3-1/8" center feed, 40 kW input rating -----	29,105.00	CR
1100-13C	809-1113-050	13 bay, 3-1/8" off center feed, 40 kW input rating -----	31,439.00	CR
1100-14C	809-1114-040	14 bay, 3-1/8" center feed, 40 kW input rating -----	33,774.00	CR
1100-15C	809-1115-050	15 bay, 3-1/8" off center feed, 40 kW input rating -----	36,110.00	CR
1100-16C	809-1116-040	16 bay, 3-1/8" center feed, 40 kW input rating -----	38,443.00	CR

**188 1105 Series - Circularly Polarized**

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotation brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation.*

	809-1910	Anti-rotational mounting brackets to 52" face (one required per bay) -----	92.00	CR
	809-1911	Anti-rotational mounting bracket 52" to 96" face (one required per bay) -----	173.00	CR
		DC Shorting Stub for lightning protection -----	N/A	
	809-1909	Radome (per bay) -----	1,203.00	CR
	809-1906	Antenna de-icer (per bay) (specify 120 or 240 volts, 300 or 500 watts) -----	525.00	CR
	809-1071	*Beam tilt (specify degrees) -----	677.00	CR
	809-1072	*First Null fill (specify %) -----	677.00	CR
		*NOTE: May reduce input power rating		
	N/A	Second Null fill (specify %) -----	N/A	
1105-1A	809-1151-010	1 bay, 1-5/8" end feed, 3 kW input rating -----	1,428.00	CR
1105-2A	809-1152-010	2 bay, 1-5/8" end feed, 6 kW input rating -----	2,856.00	CR
1105-3A	809-1153-010	3 bay, 1-5/8" end feed, 7.5 kW input rating -----	4,283.00	CR
1105-4A	809-1154-010	4 bay, 1-5/8" end feed, 7.5 kW input rating -----	5,711.00	CR
1105-4B	809-1154-040	4 bay, 3-1/8" center feed, 12 kW input rating -----	6,801.00	CR
1105-5A	809-1155-010	5 bay, 1-5/8" end feed, 7.5 kW input rating -----	7,139.00	CR
1105-5B	809-1155-040	5 bay, 3-1/8" center feed, 12 kW input rating -----	8,228.00	CR
1105-6A	809-1156-010	6 bay, 1-5/8" end feed, 7.5 kW input rating -----	8,489.00	CR
1105-6B	809-1156-040	6 bay, 3-1/8" center feed, 12 kW input rating -----	9,657.00	CR
1105-7A	809-1157-010	7 bay, 1-5/8" end feed, 7.5 kW input rating -----	9,994.00	CR
1105-7B	809-1157-040	7 bay, 3-1/8" center feed, 12 kW input rating -----	11,085.00	CR
1105-8A	809-1158-010	8 bay, 1-5/8" end feed, 7.5 kW input rating -----	11,422.00	CR
1105-8B	809-1158-040	8 bay, 3-1/8" center feed, 12 kW input rating -----	12,511.00	CR
1105-9B	809-1159-040	9 bay, 3-1/8" center feed, 12 kW input rating -----	13,940.00	CR
1105-10B	809-1160-040	10 bay, 3-1/8" center feed, 12 kW input rating -----	15,368.00	CR
1105-11B	809-1161-040	11 bay, 3-1/8" center feed, 12 kW input rating -----	16,795.00	CR
1105-12B	809-1162-040	12 bay, 3-1/8" center feed, 12 kW input rating -----	18,223.00	CR

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## ERI ANTENNAS - CONT'D

### 189 200 SERIES - CIRCULARLY POLARIZED

*NOTE: Advise if antenna is to be leg, face or pole mounted, tower manufacturer and model number, leg or pole diameter, face dimension on centers and operating frequency. Brackets for mounting on a tapered tower are an additional cost. Contact factory for details.*

*NOTE: If antenna is to be leg mounted on a member 3 inches or less in diameter (5 inches if radomes are used), anti-rotation brackets are required for each bay at additional cost.*

*NOTE: If antenna is to be face mounted on a face greater than 52" across, special brackets will be required at additional cost. Contact factory for quotation.*

	809-1910	Anti-rotational mounting brackets to 52" face (one required per bay) -----	92.00	CR
	809-1911	Anti-rotational mounting bracket 52+" to 96" face (one required per bay) -----	173.00	CR
	N/A	DC Shorting stub for lightning protection -----	N/A	
	N/A	Radome (per bay) -----	N/A	
	809-1904	Antenna deicer (per bay) -----	1,365.00	CR
	809-1914	Beam Tilt (specify degrees) -----	677.00	CR
	809-1912	First Null Tilt (Specify %) -----	677.00	CR
	809-1913	Second Null Fill (Specify %) -----	N/A	
200-1AE	809-1201-020	1 bay, 3-1/8" end feed, 10 kW input rating -----	3,734.00	CR
200-2AE	809-1202-020	2 bay, 3-1/8" end feed, 20 kW input rating -----	7,472.00	CR
200-2AC	809-1202-040	2 bay, 3-1/8" center feed, 20 kW input rating -----	8,791.00	CR
200-3AE	809-1203-020	3 bay, 3-1/8" end feed, 20 kW input rating -----	11,206.00	CR
200-4AE	809-1204-020	4 bay, 3-1/8" end feed, 30 kW input rating -----	14,940.00	CR
200-4AC	809-1204-040	4 bay, 3-1/8" center feed, 30 kW input rating -----	16,260.00	CR
200-5AE	809-1205-020	5 bay, 3-1/8" end feed, 32 kW input rating -----	18,677.00	CR
200-6AE	809-1206-020	6 bay, 3-1/8" end feed, 32 kW input rating -----	22,411.00	CR
200-6AC	809-1206-040	6 bay, 3-1/8" center feed, 39 kW input rating -----	23,735.00	CR
200-7AE	809-1207-020	7 bay, 3-1/8" end feed, 32 kW input rating -----	26,254.00	CR
200-8AE	809-1208-020	8 bay, 3-1/8" end feed, 32 kW input rating -----	29,883.00	CR
200-8AC	809-1208-040	8 bay, 3-1/8" center feed, 39 kW input rating -----	31,202.00	CR
200-10AC	809-1210-040	10 bay, 3-1/8" center feed, 39 kW input rating -----	38,673.00	CR
200-12AC	809-1212-040	12 bay, 3-1/8" center feed, 39 kW input rating -----	46,144.00	CR
200-14AC	809-1214-040	14 bay, 3-1/8" center feed, 39 kW input rating -----	53,613.00	CR

### 191 ERI ACCESSORIES

AD5	809-1070	Male to male adaptor, 3-1/8", 5" long -----	108.00	CR
404	809-1069	Isolation transformer, 10 kW, 1-5/8" input -----	3,175.00	CR
404A	809-1068	Isolation transformer, 10 kW, 3-1/8" input -----	3,763.00	CR
425	809-1067	Isolation transformer, 25 kW, 3-1/8" input -----	7,875.00	CR
426	809-1066	Isolation transformer, 40 kW, 3-1/8" input -----	8,181.00	CR
427	809-1065	Isolation transformer, 50 kW, 4-1/8" input -----	10,319.00	CR



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## TRANSMISSION LINES AND ACCESSORIES

<b>193</b>	<b>1-5/8" RIGID LINE - MYAT (All flanged items include one inner connector, and one set of flange hardware and "O" rings except where noted)</b>			
201-001	809-2425	20' Line section, flanged both ends -----	310.00	C
201-006	809-2423	20' Line section, flanged one end -----	275.00	C
201-004	809-2424	20' Line section, unflanged -----	250.00	C
201-004	809-2163	Line section, unflanged, specify length in feet -----	12.50/ft	C
201-020	809-2415	Elbow, 90-degree, flanged -----	140.00	C
201-030	809-2414	Elbow, 45-degree, flanged -----	145.00	C
201-025	809-2614	Elbow, 90-deg, unflangd no coupler or inner connector -----	72.00	C
201-008	809-2422	Flange, fixed, silver solder type, no inner connector. O rings or hardware -----	21.00	C
201-009	809-2421	Flange, swivel, silver solder type, no inner connector. O rings or hardware -----	30.00	C
201-013	809-2417	Flange, field (soft solder), no inner connector. O rings or hardware -----	40.00	C
201-010	809-2420	Inner connector -----	28.00	C
201-014	809-2416	Flanged to unflanged adapter - clamp-type. No inner connector or hardware. Not pressure tight. -----	38.00	C
201-017	809-2615	Coupler, unflanged with inner connector -----	50.00	C
201-050	809-2412	Gas barrier -----	160.00	C
201-080	809-2405	End terminal -----	140.00	C
201-012	809-2418	Hardware set -----	8.00	C
201-011	809-2419	"O" ring gasket -----	2.00	C
201-042-1	809-2413	Fixed hanger -----	48.00	C
201-042-3	809-2408	Spring hanger -----	50.00	C
201-042-12	809-2411	Horizontal hanger -----	35.00	C
201-042-5	809-2409	Wall feed thru. Covers one side of wall only. -----	60.00	C
201-064	809-2407	Reducer, 1-5/8" to 7/8", (includes 7/8" inner connector, O rings and hardware) -----	135.00	C
301-064	809-2446	Reducer, 3-1/8" to 1-5/8", (includes 1-5/8" inner connector, O rings and hardware) -----	175.00	C
201-042-8	809-2410	Lateral brace -----	58.00	C
201-065	809-2499	1-5/8" to 7/8" quickstep adaptor -----	220.00	CR

**194      3-1/8" RIGID LINE - MYAT (Flanged items include an inner connector, "O" ring and hardware set except where noted)**

301-001	809-2406	20' Line section, flanged both ends -----	495.00	C
301-006	809-2404	20' Line section, flanged one end -----	470.00	C
301-004	809-2403	20' Line section, unflanged -----	420.00	C
301-004	809-2164	Line section, unflanged, specify length in feet -----	21.00/ft	C
301-020	809-2394	Elbow, 90-degree, flanged -----	254.00	C
301-030	809-2395	Elbow, 45-degree, flanged -----	255.00	C
301-017	427-0005	Coupler, unflanged with inner connector -----	74.00	C
301-008	809-2401	Flange, fixed (silver solder type, does not include inner connector, O ring or hardware) -----	28.00	C
301-009	809-2402	Flange, swivel (silver solder type, does not include inner connector, O ring or hardware) -----	40.00	C
301-013	809-2392	Flange, field (soft solder, does not include inner connector, O ring or hardware) -----	62.00	C
301-010	809-2635	Anchor inner connector -----	40.00	C
301-014	809-2393	Flange, unpressurized (does not include O ring or hardware) -----	54.00	C
301-025	427-0002	Elbow, unflgd, no coupler or inner connector -----	130.00	C
301-050	809-2444	Gas barrier -----	250.00	C
301-080	809-2443	End terminal -----	340.00	C
301-012	809-2391	Hardware set -----	10.00	C
301-011	809-2390	"O" ring gasket -----	3.00	C

# BE<sup>®</sup> RF TRANSMITTING EQUIPMENT

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## TRANSMISSION LINES AND ACCESSORIES - CONT'D

3-1/8" RIGID LINE - MYAT (Flanged items include an inner connector, "O" ring and hardware set except where noted)

CATALOG NO.	MODEL	STOCK NO.	DESCRIPTION	PROFESSIONAL NET	CODE
	301-042-1	809-2396	Fixed hanger -----	50.00	C
	301-042-3	809-2397	Spring hanger -----	69.00	C
	301-042-012	809-2335	Horizontal hanger -----	70.00	C
	301-042-5	809-2398	Wall feed thru (covers only one side of wall) -----	68.00	C
	601-064	809-2445	Reducer, 6-1/8" to 3-1/8" (includes 3-1/8" inner connector, O ring and hardware) -----	410.00	C
	301-064	809-2446	Reducer, 3-1/8" to 1-5/8" (includes 1-5/8" inner connector, O ring and hardware) -----	175.00	C
	301-042-8	809-2399	Lateral brace -----	72.00	C

## 195 4-1/16" RIGID LINE - MYAT (Flanged items include one inner connector, "O" ring and hardware except where noted)

	401-001	809-2442	20' Line section, flanged both ends -----	790.00	C
	401-004	809-2441	20' Line section, unflanged -----	675.00	C
	401-020	809-2428	Elbow, 90-degree, flanged -----	350.00	C
	401-008	809-2440	Flange, fixed, silver solder type. (does not include inner connector, O ring or hardware) -----	42.00	C
	401-009	809-2439	Flange, swivel, silver solder type. (does not include inner connector, O ring or hardware) -----	65.00	C
	401-013	809-2435	Flange, field, soft solder (does not include inner connector, O ring or hardware) -----	75.00	C
	401-014	809-2430	Flange, unpressurized (does not include inner connector, O ring or hardware) -----	75.00	C
	401-010	809-2438	Inner connector -----	82.00	C
	401-050	809-2426	Gas barrier -----	435.00	C
	401-012	809-2436	Hardware set -----	14.00	C
	401-011	809-2437	"O" ring gasket -----	3.00	C
	401-042-1	809-2434	Fixed hanger -----	60.00	C
	401-042-3	809-2433	Spring hanger -----	79.00	C
	401-042-5	809-2432	Wall feed thru -----	100.00	C
	601-067	809-2427	Reducer, 6-1/8" to 4-1/16" (includes 4-1/16" inner connector, O ring and hardware) -----	600.00	C
	401-042-8	809-2431	Lateral brace -----	75.00	C
	401-017	809-2429	Coupling, unpressurized (includes inner connector and line clamps) -----	90.00	C

## 192 1/2" FOAM DIELECTRIC CABLE - ANDREW

*NOTE: Lengths up to 3900' are shipped in disposable carton or reel.*

	LDF4-50A	809-2631	1/2" foam dielectric coaxial cable (see note above) -----	2.15/ft	AR
	L44R	809-2632	7/8" EIA flange, no gas barrier at interface -----	108.00	AR
	L44W	809-2630	N plug (male), mates with UG-23 -----	31.00	AR
	L44N	809-2629	N jack (female), mates with UG-21 -----	31.00	AR
	L44P	809-2628	UHF plug (male), mates with SO-239A -----	27.00	AR
	L44U	809-2633	UHF Jack (female), mates with PL-259A -----	27.00	AR
	43211	809-2019	Hanger kit (10 pieces) -----	31.00	AR
	34767A-27	809-2627	Connector reattachment kit -----	8.00	A
	43094	809-2023	Hoisting grip -----	29.00	AR
	204989-1	809-1025	Grounding kit -----	22.00	AR
	40656-3	809-2450	Wall/roof feed thru -----	49.00	AR

## TRANSMISSION LINES AND ACCESSORIES - CONT'D

### 7/8" FOAM DIELECTRIC CABLE - ANDREW

*NOTE: Lengths of 2600' or more are shipped on returnable reel. \$750.00 deposit required.*

LDF5-50A	809-2626	7/8" foam dielectric coaxial cable (see note above)	5.60/ft	AR
L45R	809-2625	7/8" EIA flange, no gas barrier at interface	112.00	AR
L45W	809-2624	N plug (male), mates with UG-23	74.00	AR
L45N	809-2623	N jack (female), mates with UG-21	74.00	AR
L45P	809-2622	UHF plug (male), mates with SO-239A	71.00	AR
L45U	809-2621	UHF jack (female), mates with PL-259A	71.00	AR
42396A-5	809-2020	Hanger kit (10 pieces)	41.00	AR
34767A-28	809-2620	Connector reattachment kit	9.00	A
19256B	809-2024	Hoisting grip	42.00	AR
204989-2	809-1026	Grounding kit	28.00	AR
40656-1	809-2035	Wall/roof feed thru	50.00	AR

### 192 1-1/4" FOAM DIELECTRIC CABLE - ANDREW

*NOTE: Lengths 3000' or more shipped on returnable reel, deposit of up to \$1300.00 required. Contact factory for details.*

LDF6-50	809-2470	1-1/4" foam dielectric coaxial cable. Allows pressurization of antenna through hollow inner conductor (see note above)	9.70/ft	A
L46R	809-2472	1-5/8" EIA flange, no gas barrier at interface	215.00	AR
1261B	809-2507	1-5/8" gas barrier	240.00	AR
L46S	809-2473	7/8" EIA flange, no gas barrier at interface	215.00	AR
1260A	809-2165	7/8" gas barrier	170.00	AR
L46W	809-2475	N plug (male), mates with UG-23	145.00	AR
L46N	809-2476	N jack (female), mates with UG-21	145.00	AR
L46Z	809-2481	Splice	230.00	AR
42396A-1	809-2482	Hanger kit (10 pieces)	41.00	AR
24312A	809-2025	Hoisting grip	45.00	AR
204989-3	809-2483	Grounding kit	29.00	AR
34767A-43	809-2484	Connector reattachment kit	13.00	A

### 192 1-5/8" FOAM DIELECTRIC CABLE - ANDREW

*NOTE: Lengths of 1600' or more shipped on returnable reel, deposit of up to \$1300.00 required. Contact factory for details.*

LDF7-50A	809-2485	1-5/8" foam dielectric coaxial cable (see note above)	13.20/ft	A
L47R	809-2487	1-5/8" EIA flange, no gas barrier at interface	270.00	AR
L47S	809-2488	7/8" EIA flange, no gas barrier at interface	300.00	AR
L47N	809-2491	N jack (female), mates with UG-21	260.00	AR
L47Z	809-2497	Splice	350.00	AR
42396A-2	809-2021	Hanger kit (10 pieces)	41.00	AR
24312A	809-2025	Hoisting grip	51.00	AR
204989-4	809-0024	Grounding kit	29.00	AR
34767A-35	809-2498	Connector reattachment kit	17.00	AR

### 196 7/8" AIR DIELECTRIC CABLE - ANDREW

*NOTE: Lengths of 2600' or more shipped on returnable reel. Deposit of up to \$3000.00 required. Contact factory for details.*

1115-50	809-2003	7/8" air dielectric coaxial cable (see note above)	6.67/ft	AA
75AR	809-2004	Flange, gas pass EIA	122.00	AAR
75AG	809-2005	Flange, gas barrier EIA	182.00	AAR
75AZ	809-2008	Splice	140.00	AAR
42396A-5	809-2020	Hanger Kit, non-insul., maximum spacing - 3 feet (10 pieces)	41.00	AAR
11662-2	809-2451	Insulated hanger (each)	22.00	AAR
19256B	809-2024	Hoisting grip	42.00	AAR

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### 7/8" AIR DIELECTRIC CABLE - ANDREW - CONT'D

40656-1	809-2035	Wall feed thru -----	50.00	AAR
204989-2	809-1026	Grounding Kit -----	28.00	AAR

### 196 1-5/8" AIR DIELECTRIC - ANDREW

*NOTE: Lengths of 1600' or more shipped on returnable reel. Deposit of up to \$1300.00 required. Contact factory for details.*

1117-50A	809-2009	1-5/8" air dielectric coaxial cable (see note above) -----	14.35/ft	AAR
87R	809-2010	Flange, gas pass EIA -----	248.00	AAR
87G	809-2011	Flange, gas barrier EIA -----	288.00	AAR
87Z	809-2013	Splice -----	360.00	AAR
42396A2	809-2021	Hanger kit, non-insul., maximum spacing - 3 feet (10 pieces) -----	41.00	AAR
24312A	809-2025	Hoisting grip -----	51.00	AAR
40656-2	809-1030	Wall feed thru -----	72.00	AAR
204989-4	809-0024	Grounding kit -----	29.00	AAR

### 2-1/4" AIR DIELECTRIC - ANDREW

*NOTE: Lengths of 1000' or more shipped on returnable reel. Deposit of up to \$1300.00 required. Contact factory for details.*

1112-50	809-2640	2-1/4" air dielectric coaxial cable (see note above) -----	20.90/ft	AAR
82R	809-2641	1-5/8" flange, gas pass, EIA, male -----	330.00	AAR
82RF	809-2644	3-1/8" EIA flange, gas pass, female -----	430.00	AAR
82GF	809-2645	3-1/8" EIA flange, gas barrier, female -----	450.00	AAR
15093A	809-2049	Inner connector -----	68.00	AAR
82Z	809-2642	Splice -----	450.00	AAR
42396A4	809-2643	Hanger Kit, non-insul., maximum spacing - 3 feet (10 pieces) -----	43.00	AAR
31535	809-2644	Hoisting grip -----	58.00	AAR
40656-6	809-2645	Wall feed thru -----	84.00	AAR
204989-5	809-2646	Grounding kit -----	30.00	AAR

### 197 3" AIR DIELECTRIC CABLE - ANDREW

*NOTE: Lengths of 200' or more shipped on returnable reel. Deposit of up to \$1300.00 is required. Contact factory for details.*

1118-50B	809-2014	3" air dielectric coaxial cable (see note above) -----	26.00/ft	AAR
78ARF	809-2456	3-1/8" EIA Flange, gas pass, female -----	420.00	AAR
78ARM	809-2015	3-1/8" Flange, gas pass, male -----	440.00	AAR
78AGF	809-2457	3-1/8" EIA Flange, gas barrier, female -----	445.00	AAR
78AGM	809-2016	3-1/8" Flange, gas barrier, male -----	465.00	AAR
78BZ	809-2018	Splice -----	560.00	AAR
31766A-11	809-2022	Hanger kit, maximum spacing 5', (10-pieces) -----	65.00	AAR
33948-2	809-2459	Insulated hanger (each) -----	60.00	AAR
26985A	809-2026	Hoisting grip -----	78.00	AA
40394-2	809-2033	Wall feed thru -----	135.00	AAR
204989-5	809-2460	Grounding kit -----	30.00	AAR
15093A	809-2049	Inner connector -----	68.00	AAR

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## TRANSMISSION LINES AND ACCESSORIES - CONT'D

198 4" AIR DIELECTRIC - ANDREW

*NOTE: Lengths of 19' or more shipped on returnable reel. Deposit of up to \$3000.00 required. Contact factory for details.*

1111-50	809-2045	4" air dielectric coaxial cable (see note above)	28.70/ft	AAR
81RF	809-2047	3-1/8" Flange, gas pass (female)	690.00	AAR
42826(6-1/8")	809-2050	6-1/8" Flange, gas pass (female)	1,790.00	AAR
81GF	809-2046	3-1/8" Flange, gas barrier (female)	1,720.00	AAR
42896(6-1/8")	809-2051	6-1/8" Flange, gas barrier (female)	1,750.00	AAR
15093A	809-2049	3-1/8" Inner Connector	66.00	AA
18902	809-2048	6-1/8" Inner Connector	338.00	AA
81Z	809-2462	Splice	840.00	AAR
33948-4	809-2463	Insulated hanger (each)	68.00	AAR
34759	809-1022	Hoisting Grip	86.00	AAR
40394-1	809-2464	Wall feed thru	145.00	AAR
204989-6	809-1027	Grounding kit	42.00	AAR

198 5" AIR DIELECTRIC CABLE - ANDREW

*NOTE: Lengths of 19' or more shipped on returnable reel. Deposit of up to \$3000.00 required. Contact factory for details.*

1119-50	809-2041	5" air dielectric coaxial cable (See note above)	41.20/ft	AAR
79AR	809-2042	6-1/8" Flange, gas pass	1,420.00	AAR
79AG	809-2465	6-1/8" EIA Flange, gas barrier	1,470.00	AAR
18902	809-2048	6-1/8" Inner Connector	338.00	AA
79AZ	809-2466	Splice	1,580.00	AAR
33598-5	809-1039	Hanger kit, max. spacing 5', (10-pieces), (use with hardware or standoffs)	90.00	AA
33948-1	809-2467	Insulated hanger (each)	84.00	AA
31031-1	809-2468	Hoisting grip	150.00	AAR
33938-5	809-2469	Wall feed thru	155.00	AAR
204989-7	809-1028	Grounding kit	45.00	AAR
31769-4	809-1038	Hardware kit, 1/2" x 1-1/4" (10 pieces)	36.00	AAR
33981A-1	809-1040	Angle adaptor kit (10 pieces)	100.00	AAR
43130-1	809-2087	Round member adaptor/tower standoff kit, 3-4" (10 pieces)	168.00	AAR
43130-2	809-2086	Round member adaptor/tower standoff kit, 4-5" (10 pieces)	168.00	AAR
43130-3	809-2085	Round member adaptor/tower standoff kit, 5-6" (10 pieces)	168.00	AAR

INSTALLATION ACCESSORIES\* - ANDREW

40417	809-1024	Nylon cable ties (50 pieces per kit)	35.00	BR
31769-5	809-1036	Hardware kit, 3/8" x 3/4" (10 pieces)	14.00	BR
31769-1	809-1037	Hardware kit, 3/8" x 1" (10 pieces)	13.00	B
31769-4	809-1038	Hardware kit, 1/2" x 1-1/4" (for 5" hangers) (10 pieces)	36.00	BR
31768A	809-2036	Angle adaptor kit (10 pieces)	65.00	BR
31670-1	809-1035	*Round member adaptor kit, 1-2" leg diameter (10 pieces)	23.00	BR
31670-2	809-1034	*Round member adaptor kit, 2-3" leg diameter (10 pieces)	25.00	B
31670-3	809-0025	*Round member adaptor kit, 3-4" leg diameter (10 pieces)	29.00	B
31670-4	809-1033	*Round member adaptor kit, 4-5" leg diameter (10 pieces)	30.00	BR
31670-5	809-1032	*Round member adaptor kit, 5-6" leg diameter (10 pieces)	31.00	BR

\*NOTE: Use 2 per hanger with 3" or 4" cable.

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## TRANSMISSION LINES AND ACCESSORIES - CONT'D

### +TOWER STANDOFF KITS FOR 1/2 - 4" HANGERS, ANDREW

41108A-1	809-1046	2.5" standoff, 3-4" leg diameter (10 pcs) -----	154.00	BR
41108A-2	809-1047	2.5" standoff, 4-5" leg diameter (10 pcs) -----	154.00	BR
41108A-3	809-1048	2.5" standoff, 5-6" leg diameter (10 pcs) -----	158.00	BR
30848-5	809-1041	1" standoff, .75-1.5" leg diameter (10 pcs) -----	110.00	BR
30848-4	809-1042	1" standoff, 1.5-3.0" leg diameter (10 pcs) -----	110.00	BR
30848-1	809-1043	1" standoff, 3-4" leg diameter (10 pcs) -----	138.00	BR
30848-2	809-1044	1" standoff, 4-5" leg diameter (10 pcs) -----	138.00	BR
30848-3	809-1045	1" standoff, 5-6" leg diameter (10 pcs) -----	143.00	BR

*+NOTE: Not used for 5" heliax*

### AUTOMATIC DEHYDRATORS

1920E	809-2052	Andrew, output 1.3 cu. ft./min., 120 Vac, 60 Hz -----	2110.00	BR
1921E	809-2152	Andrew, output 1.06 cu ft./min., 120 Vac, 50 Hz -----	2300.00	BR
1924E	809-2153	Andrew, output 1.06 cu ft./min., 230 Vac, 50 Hz -----	2383.00	BR
1930C	809-2053	Andrew, output 0.2 cu. ft./min., 120 Vac, 60 Hz -----	1522.00	BR
1931C	809-2150	Andrew, output 0.16 cu. ft./min., 120 Vac, 50 Hz -----	1722.00	BR
1934C	809-2151	Andrew, output 0.16 cu. ft./min., 230 Vac, 50 Hz -----	1736.00	BR

### PRESSURIZATION EQUIPMENT - ANDREW

858C	809-2027	Nitrogen Tank Fitting -----	278.00	BR
25435-4	809-2028	1/4" Polyethylene tubing -----	.30/ft	BR
878A	809-2055	Dry Air Hand Pump -----	407.00	BR

## HOW TO ORDER (INTERNATIONAL)

### ORDERING PROCEDURE:

All sales are made in accordance with Broadcast Electronics, Inc., Terms and Conditions of Sale. No order shall be binding upon Broadcast Electronics, Inc., until accepted by the company in writing at its home office in Quincy, Illinois. Please order by model, stock number and description as they appear in the price schedule.

### PRICES:

Broadcast Electronics, Inc. endeavors to keep published price lists current; however, prices listed herein are subject to change without prior notice. Prices are ex-factory, Quincy, Illinois. Prices do not include cost of special packing for land or air shipment. No applicable federal, state or local taxes or import excise or duties or charges are included. All transportation costs are the obligation of the buyer.

### METHOD OF PAYMENT:

When an order is to be placed, the customer should have issued an irrevocable Letter of Credit in favor of Broadcast Electronics, Inc., for the ex-factory order amount plus the cost for pickup and loading charge, inland transportation and insurance cost to airport or seaport of export, forwarding fees, consular fees and, the cost of packing for steamer shipment where such is required. The Credit should be advised through and confirmed by the Continental Bank, 231 South La Salle Street, Chicago, Illinois 60693, Attn: Letter of Credit Department.

Terms of the Letter of Credit should be "at sight". The cost of establishing the letter of credit or any amendments thereto shall be paid for by the customer, who should specify in the letter of credit the various documents to be furnished. Customer is to specify, in the letter of credit, the mode of transportation. The letter of credit should also specify whether partial shipments and transshipments are permitted. In the absence of specific instructions, the Uniform Customs and Practices for Documenting Credits (1962 revision) International Chamber of Commerce brochure 222 will apply.

### LICENSES AND PERMITS:

Prior to the anticipated shipping date, the customer should obtain and forward copies to BE of all required import licenses, letters of credit and other documents necessary to permit BE to ship and customer to receive delivery of the equipment ordered. All permits necessary for installation and operation of equipment covered by the order shall be the sole responsibility of the customer.

### INLAND CHARGES:

There is no method of providing proper documentation for international shipments in Quincy, Illinois, U.S.A. All prices listed are ex-factory and international shipments will have added inland freight charges to FOB Chicago Airport or FAS New York/Miami/San Francisco.

FOB/FAS inland charges include export crating, export packing, freight, insurance, forwarding fees, documentation fees, and special handling fees.

All international shipments should use Expeditors International as our freight forwarder, by company policy. Exceptions will require approval by the Vice President, Marketing.

The rates for adding inland charges and computing FOB and FAS prices for all products are covered below:

ORDER VALUE	ADD INLAND CHARGES	
	FOB CHICAGO	FAS OCEAN PORT
\$0.00 to \$19,000	\$50.00 plus 1.7% of ex-factory list price	\$100.00 plus 1.7% of ex-factory list price
\$20,000 and above	\$50.00 plus 3% of ex-factory list price	\$100.00 plus 4% of ex-factory list price

*The above rates are subject to change without notice.*

## HOW TO ORDER (DOMESTIC U.S.A.)

### ORDERING PROCEDURE:

All sales are made in accordance with Broadcast Electronics, Inc. Terms and Conditions of Sale. No order shall be binding upon Broadcast Electronics, Inc. until accepted by the company in writing at its home office in Quincy, Illinois. Please order by model, stock number and description as they appear in the price schedule. Orders placed by telephone should be confirmed in writing and must be clearly marked "confirming" or we cannot assume liability for duplicate shipments.

### PRICES:

Broadcast Electronics, Inc. endeavors to keep published price lists current; however, prices listed herein are subject to change without prior notice.

### F.O.B.:

Prices are FOB Quincy, Illinois, or point of shipment. No applicable federal, state or local taxes are included. All transportation costs are the obligation of the buyer, unless otherwise stated.

### PAYMENT TERMS:

Several methods of payment are available.

- (1) CASH - Full payment with the order.
- (2) COD - This method is recommended for small rush orders and emergency shipments.
- (3) OPEN ACCOUNT - Orders are accepted from customers with whom we have an established credit line or whose D&B rating is acceptable to Broadcast Electronics, Inc. Open account billing requires payment in full within 30 days of shipment.
- (4) FINANCE PLAN - On major purchases, time financing of the balance after a 25% down payment may be available. Lease plans may be available. Contact Broadcast Electronics, Inc. Sales Department for details.

## OTHER INFORMATION

### WARRANTY ADJUSTMENT:

Broadcast Electronics, Inc. warranty is included in the Terms and Conditions of Sale. In the event of a warranty claim, replacement or repair parts will be supplied FOB factory. At the discretion of Broadcast Electronics, Inc., the customer may be required to return the defective part or equipment to Broadcast Electronics, Inc. FOB Quincy, Illinois. Warranty replacements of defective merchandise will be billed to your account. This billing will be cleared by a credit issued upon return of the defective item.

### RETURN, REPAIR OR EXCHANGES:

Do not return any merchandise without our written approval and Return Authorization. We will provide special shipping instructions and a code number that will assure proper handling and prompt issuance of credit. Please furnish complete details as to circumstances and reasons when requesting return of merchandise. Custom built equipment or merchandise specially ordered for you is not returnable. Where return of unused merchandise is at the request of, or for the convenience of the customer, a restocking fee of 15% will be charged. No unused merchandise will be accepted for return later than 30 days after shipment. All returned merchandise must be sent freight prepaid and properly insured by the customer. When writing to Broadcast Electronics, Inc. about an order, it will be helpful if you specify the Broadcast Electronics, Inc. factory order number or invoice number.

### SHIPPING METHOD:

Unless specifically stated by the buyer, we will exercise our judgment as to method of shipment. A full range of shipping services is available. All goods are either insured or declared for full value and the cost thereof is included as part of the shipping charges. Purchaser assumes all responsibility for and risk of loss of, or damage to equipment upon shipment from Broadcast Electronics, Inc. shipping point(s). Should you receive merchandise damaged in shipment, it is your responsibility to file a damage claim immediately with the delivering carrier.



**AFTER SALE SERVICE:**

Broadcast Electronics, Inc. has supported its products with factory technical service since 1959. In addition to a technically qualified Customer Service Department at its factory, a coast to coast network of Broadcast Electronics Parts and Repair Service Centers are available to assist you. Technical assistance is available by letter, telephone or telegram. For equipment requiring repair or overhaul, arrangements must be made with the Customer Service Department for Return Authorization prior to shipping.

**PRODUCT CHANGES:**

Broadcast Electronics, Inc. reserves the right without advance notice to make engineering and production changes including substitution of vendor sources for components which may modify the design or specifications of its products, provided said modifications will not materially affect the performance of the product.

**OTHER:**

In no event is Broadcast Electronics, Inc. liable for consequential damage from late or non-delivery, or malfunction or failure of its products.

**ADDITIONAL INFORMATION:**

Additional information and product literature are available from your Broadcast Electronics Distributor or Broadcast Electronics, Inc.

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4100 N. 24th ST., P. O. BOX 3606, QUINCY, IL 62305-3606 U.S.A., PHONE (217) 224-9600, TELEX: 250142, FAX (217) 224-9607

## HOW TO ORDER (Domestic U.S.A.)

### ORDERING PROCEDURE:

All sales are made in accordance with Broadcast Electronics, Inc. Terms and Conditions of Sale. No order shall be binding upon Broadcast Electronics, Inc. until accepted by the company in writing at its home office in Quincy, Illinois. Please order by model, stock number and description as they appear in the price schedule. Orders placed by telephone should be confirmed in writing and must be clearly marked "confirming" or we cannot assume liability for duplicate shipments.

### PRICES:

Broadcast Electronics, Inc. endeavors to keep published price lists current; however, prices listed herein are subject to change without prior notice.

### F.O.B.:

Prices for "ship to" destinations in the USA are FOB Quincy, Illinois, or point of shipment. No applicable federal, state or local taxes are included. All transportation costs are the obligation of the buyer, unless otherwise stated. Shipments will be made with transportation costs collect.

### PAYMENT TERMS:

Several methods of payment are available.

- (1) CASH—Full payment with the order.
- (2) COD—This method is recommended for small rush orders and emergency shipments.
- (3) OPEN ACCOUNT—Orders are accepted from customers with whom we have an established credit line or whose D&B rating is acceptable to Broadcast Electronics, Inc. Open account billing requires payment in full within 30 days of shipment. A down payment of 25% is mandatory for automation system orders and may be required on large orders.
- (4) FINANCE PLAN—On major purchases, time financing of the balance after a 25% down payment may be available. Lease plans may be available. Contact Broadcast Electronics, Inc. Sales Department for details.

### WARRANTY ADJUSTMENT:

Broadcast Electronics, Inc. warranty is included in the Terms and Conditions of Sale. In the event of a warranty claim, replacement or repair parts will be supplied FOB factory. At the discretion of Broadcast Electronics, Inc., the customer may be required to return the defective part or equipment to Broadcast Electronics, Inc. FOB Quincy, Illinois or FOB a designated repair depot. Warranty replacements of defective merchandise will be billed to your account. This billing will be cleared by a credit issued upon return of the defective item.

### RETURN, REPAIR OR EXCHANGES:

Do not return any merchandise without our written approval and Return Authorization. We will provide special shipping instructions and a code number that will assure proper handling and prompt issuance of credit. Please furnish complete details as to circumstances and reasons when requesting return of merchandise. Custom built equipment or merchandise specially ordered for you is not returnable. Where return of unused merchandise is at the request of, or for the convenience of the customer, a restocking fee of 15% will be charged. No unused merchandise will be accepted for return later than 30 days after shipment. All returned merchandise must be sent freight prepaid and properly insured by the customer. When writing to Broadcast Electronics, Inc. about your order, it will be helpful if you specify the Broadcast Electronics, Inc. factory order number or invoice number.

### SHIPPING METHOD:

Unless specifically stated by the buyer, we will exercise our judgment as to method of shipment. A full range of shipping services is available. All goods are either insured or declared for full value and the cost thereof is included as part of shipping charges. Purchaser assumes all responsibility for and risk of loss of, or damage to equipment upon shipment from Broadcast Electronics, Inc. shipping point(s). Should you receive merchandise damaged in shipment, it is your responsibility to file a damage claim immediately with the delivering carrier.

### AFTER SALE SERVICE:

Broadcast Electronics, Inc. has supported its products with factory technical service since 1959. In addition to a technically qualified Customer Service Department at its factory, a coast to coast network of "Spotmaster Parts & Repair Depots" are available to assist you. Technical assistance is available by letter or telephone or telegram. For equipment requiring repair or overhaul, arrangements must be made with the Customer Service Department for Return Authorization prior to shipping.

### PRODUCT CHANGES:

Broadcast Electronics, Inc. reserves the right without advance notice to make engineering and production changes including substitution of vendor sources for components which may modify the design or specifications of its products, provided said modifications will not materially affect the performance of the product.

### OTHER:

In no event is Broadcast Electronics, Inc. liable for consequential damage from late or non delivery, or malfunction or failure of its products.

### ADDITIONAL INFORMATION

Additional information and product literature are available from your SPOTMASTER Distributor or Broadcast Electronics, Inc.

# AUTHORIZED SERVICE CENTERS

● Equipped to serve you with *Spotmaster*® parts and repairs — both in and out of warranty

● Regional depots reduce parts delivery time and repair turn-around time



## UNITED STATES

1. **Riggins Electronics**  
3272 E. Willow St.  
Long Beach, CA 90815  
Ph: (213) 598-7007

States Covered:  
Alaska  
Arizona  
California  
Hawaii  
Idaho  
Nevada  
Oregon  
Washington

2. **Dyma Engineering**  
213 Pueblo del Sur  
Taos, NM 87571  
Ph: (505) 758-2686

States Covered:  
Colorado  
New Mexico  
Oklahoma  
Texas  
Utah

3. **TV Engineering Corporation**  
519 Rudder Road  
Fenton, MO 63026  
Ph: (314) 343-5605

States Covered:  
Arkansas Missouri  
Kansas Mississippi  
Louisiana Nebraska

4. **Lebow Labs**  
424 Cambridge St.  
Allston, MA 02134  
Ph: (617) 782-0600

States Covered:  
Connecticut  
Maine  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Rhode Island  
Vermont

5. **Broadcast Services, Inc.**  
Micro Road  
Micro, NC 27555  
Ph: (919) 284-2102

States Covered:  
Alabama  
Florida  
Georgia  
North Carolina  
South Carolina  
Tennessee  
Virginia  
West Virginia

6. **Allied Broadcasting Equipment**  
635 South E. St.  
Richmond, IN 47374  
Ph: (317) 962-8596

States Covered:  
Illinois  
Indiana  
Kentucky  
Michigan  
Ohio

7. **Electronic Industries**  
19 East Irving St.  
Oshkosh, WI 54901  
Ph: (414) 235-8930

States Covered:  
Iowa  
Minnesota  
Montana  
North Dakota  
South Dakota  
Wisconsin  
Wyoming

8. **Midwest Telecommunications**  
4700 G. Boston Way  
Lanham (Wash. D.C.) MD 20801  
Ph: (301) 577-4903

States Covered:  
District of Columbia  
Delaware  
Maryland

## CANADA

9. **Nortec West, Ltd.**  
325 West Fifth Avenue  
Vancouver 10, B.C., Canada  
Ph: (604) 872-8525

Provinces Covered:  
British Columbia  
Yukon Territory

10. **Nortec West, Ltd.**  
7056B Farrell Road  
Calgary, Alta., Canada  
Ph: (403) 252-8141

Provinces Covered:  
Alberta  
Manitoba  
NW Territory  
Saskatchewan

11. **J-Mar Electronics, Ltd.**  
6 Banigan Drive  
Toronto 17, Ontario, Canada  
Ph: (416) 421-9080

Provinces Covered:  
New Brunswick  
Nova Scotia  
Ontario  
Quebec



**BROADCAST ELECTRONICS INC. *Spotmaster*® TAPE CARTRIDGE SYSTEMS**