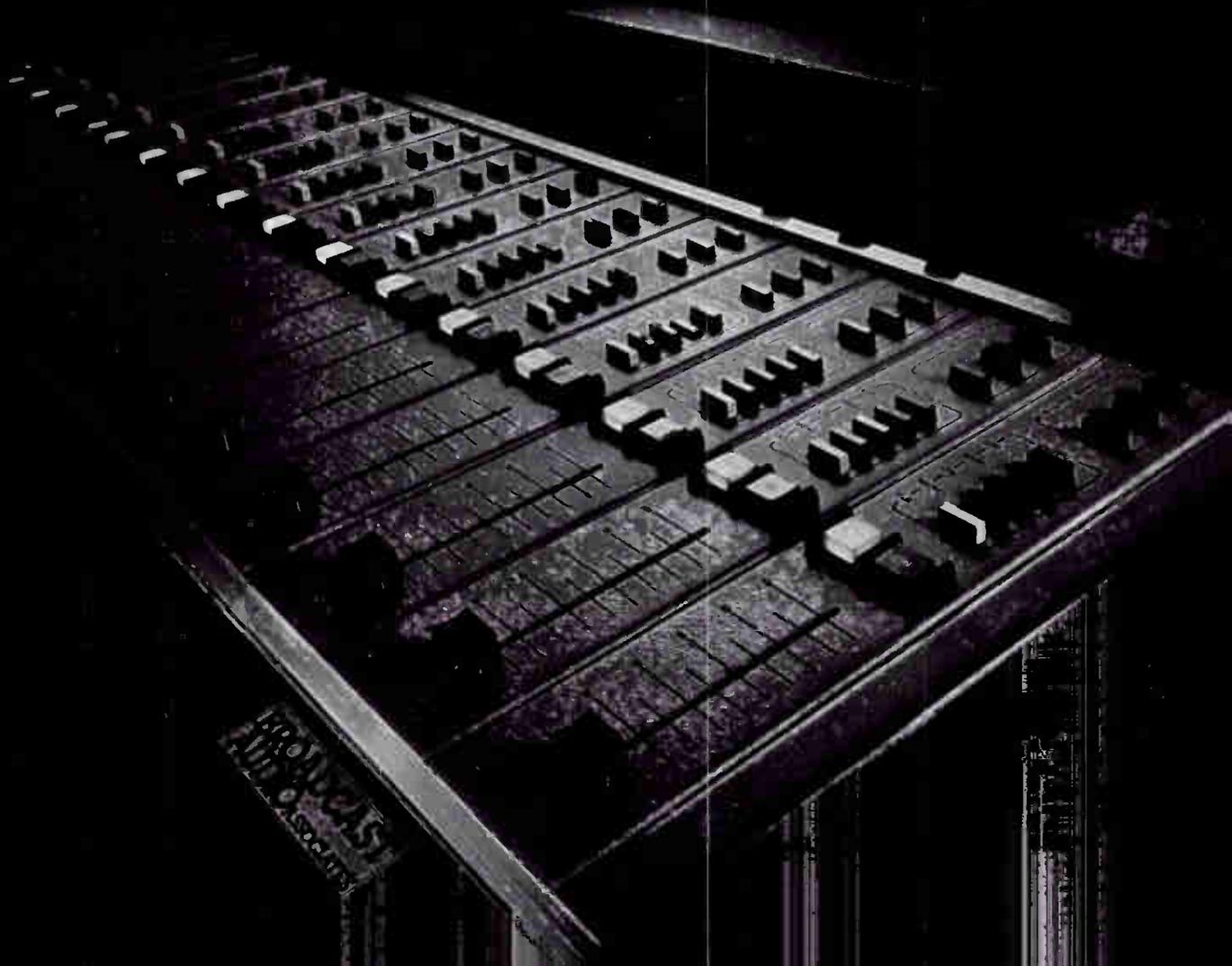


# SYSTEM 16

SERIES II



PRO 1122157  
1110-0-000-1113

## SYSTEM 16 BROADCAST MIXER



IT SOUNDS AS GREAT AS IT LOOKS!

### DESCRIPTION

SYSTEM 16 is an expandable, completely modular broadcast mixer, with unprecedented features and performance. It was designed exclusively for broadcast and is not a scaled down version of recording or sound reinforcement equipment, so it performs flawlessly even in high RF environments.

An elegant low profile appearance is accented by solid walnut end panels and armrest. This mixer sits on top of the desk and does not require recessed mounting, so it's easy to install, with all connections made from the top.

SYSTEM 16 is a model of engineering simplicity, using motherboard construction, with only 2 types of amplifier modules and plug-in interconnecting harness. Two independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof and an optional redundant supply is also available.

Operator conveniences include 4 inch log taper slide faders for extremely accurate tracking between channels. In addition to a cue detent position on the fader, there is a separate button for cueing when the fader is up. The stereo cue amplifier is an industry first! The panel layout is easily understood and a pleasure to operate.

SYSTEM 16 features DC audio switching, using LCR's for completely quiet audio control. This also enables each mixing channel to be turned off and on from a remote location, such as an announce studio or news booth. Ten plug-in relays, with switch selection of maintained or momentary contacts, can be used for muting or remote start from any combination of mixers.

### SPECIFICATIONS

**Mixers:** 8 standard, 16 maximum (log taper slider).

**Inputs:** 24 standard, 48 maximum (3 per mixer).

**Input Impedance:** 150 Ohms mic, 600 ohms line. Transformer balanced, switch selected.

**Input Levels:** -55 dBm mic, 0 dBm line (sensitivity adjustable  $\pm 10$  dB).

**Outputs:** 3 balanced stereo line, 1 balanced mono line, plus stereo cue, phone and monitor outputs.

**Output Levels:** Line Outputs 8 dBm into 600 ohms for 0 VU indication, 24 dBm maximum output. Phones 1 watt into 4 ohms. Cue 5 watts into 8 ohm external speakers. Monitor 0.5 volts into 10K load.

**Frequency Response:** Within 1 dB, 20-20,000 Hz, mic input to line output.

**Harmonic Distortion:** Line Outputs less than 0.15% THD 20-20,000 Hz (typically less than 0.05% at 1KHz).

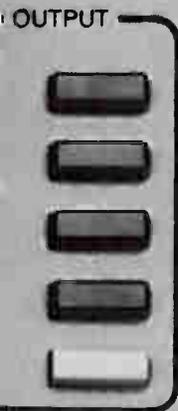
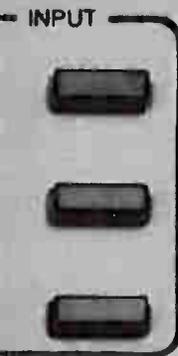
**IM Distortion:** Line Outputs less than 0.05% SMPTE.

**Noise:** 70 db below + 8 dBm output, referenced to -55 dBm input, 20-20,000 Hz unweighted. Equivalent input noise -125 dBm.

**Power:** 117 volts, 50/60 Hz (230 volts optional).

**Size:** 44W x 8.75H x 25D (inches).

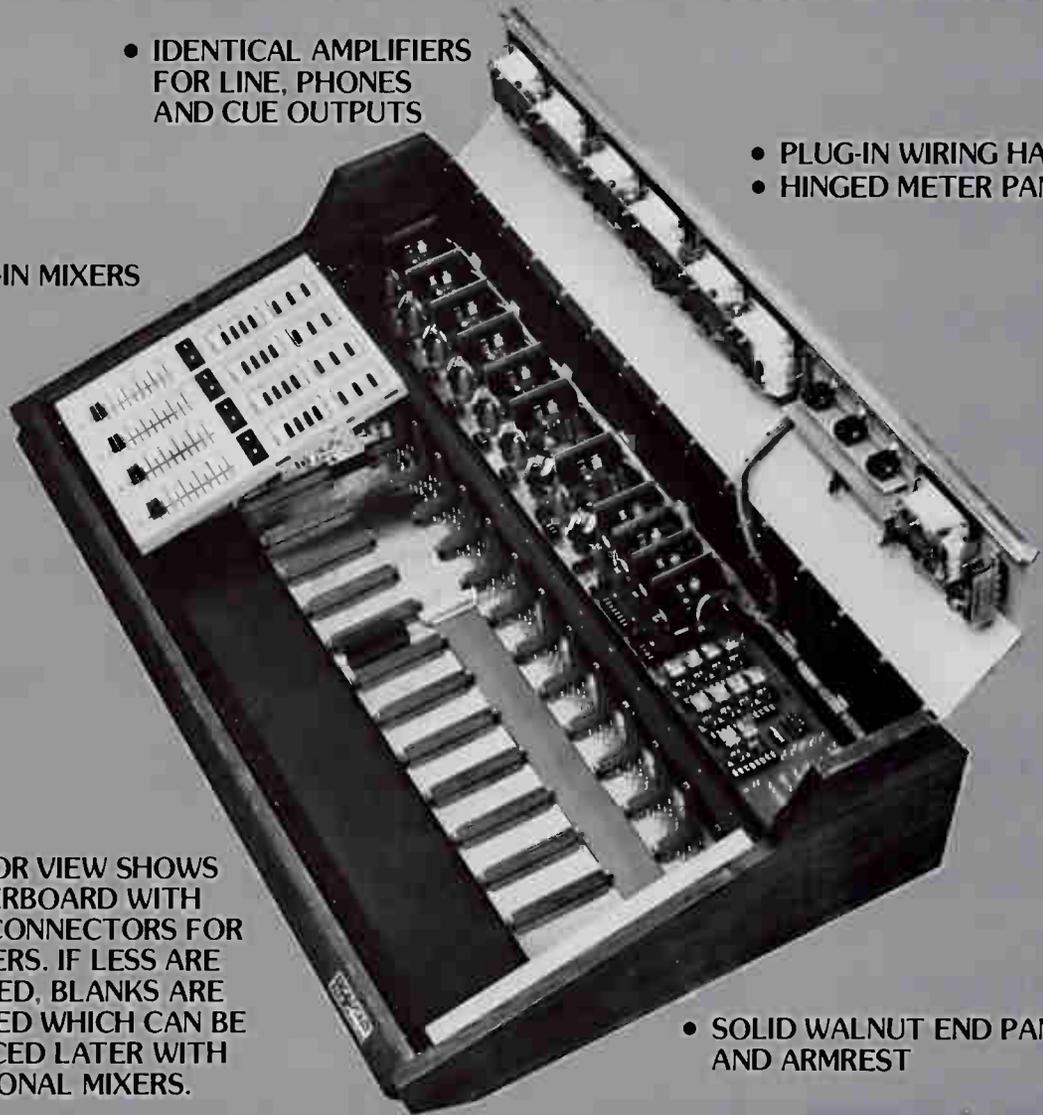
**Shipping Weight:** 120 pounds (2 containers).



- IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

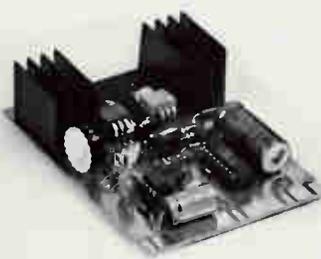
- PLUG-IN MIXERS

- PLUG-IN WIRING HARNESS
- HINGED METER PANEL

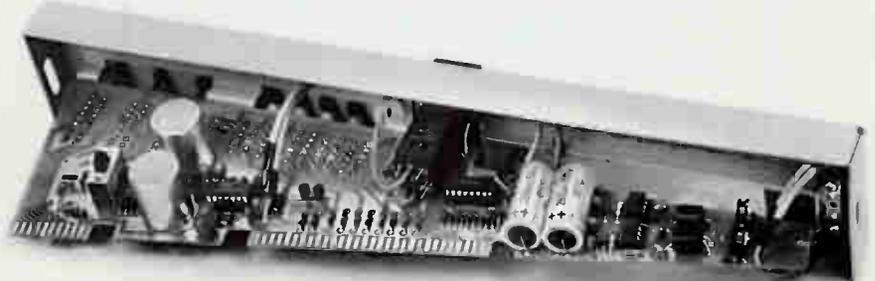


- INTERIOR VIEW SHOWS MOTHERBOARD WITH EDGE CONNECTORS FOR 16 MIXERS. IF LESS ARE ORDERED, BLANKS ARE SUPPLIED WHICH CAN BE REPLACED LATER WITH ADDITIONAL MIXERS.

- SOLID WALNUT END PANELS AND ARMREST



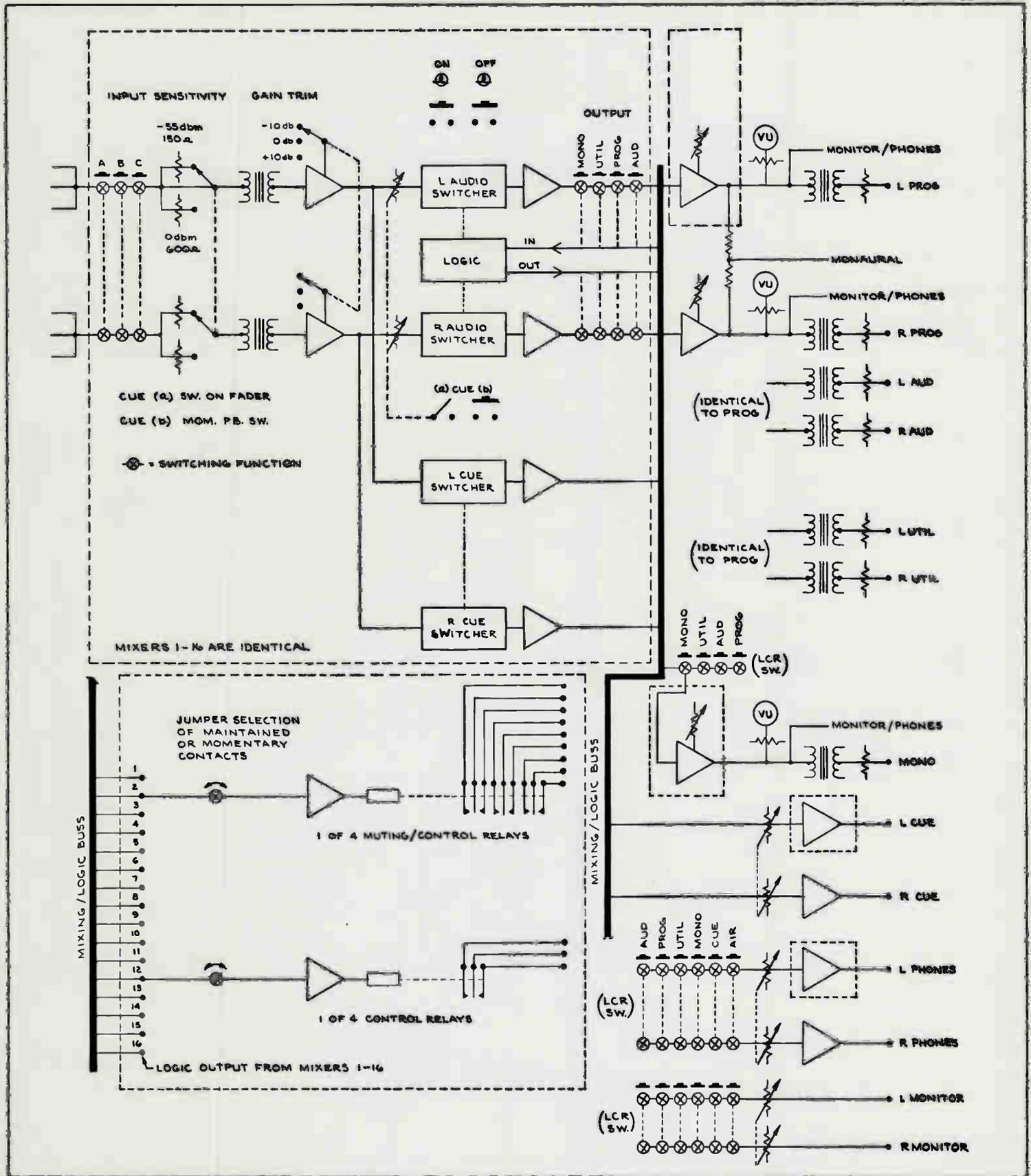
- OUTPUT AMPLIFIER



- MIC/LINE INPUT AMPLIFIER



# SYSTEM 16 FUNCTIONAL DRAWING



# SERIES IV

A NEW GENERATION OF AUDIO CONSOLES



- **SYSTEM 8**  
2 STEREO, 1 MONO OUTPUT



- **SYSTEM 16**  
3 STEREO, 1 MONO OUTPUT  
AUDITION/UTILITY VU METER SWITCH



- **SYSTEM 12**  
3 FULLY METERED STEREO, 1 MONO OUTPUT



## DESCRIPTION

**SERIES IV** is a new generation of the most popular audio consoles in the Broadcast Audio Corporation product line. All basic features, dimensions, and panel layouts of the **SYSTEM 8, 12, & 16** have been retained, so that virtually every new feature of **SERIES IV** can be retrofitted to any **SERIES II** or **UMC** console manufactured by Broadcast Audio Corporation.

**SERIES IV** utilizes a new ultra-low noise IC specifically designed for use as a microphone preamplifier. We've designed an improved mic transformer to fully utilize the IC, but also offer an optional active balanced mic

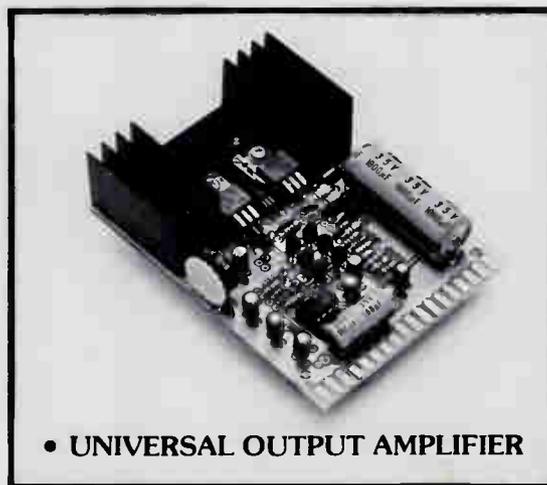
input. Green LED indicators show which input has been selected. We've upgraded to P&G's 4000 audio fader with cue detent and externally mounted cue switch, and, for an added touch, the amber LED indicates the cue mode.

An optional Peak Overload Indicator uses high brightness focused LED's to illuminate the red area of the VU meters. Meter isolation drive amplifiers are included. All **SERIES IV** PC boards are solder masked and have computer designed ground planes for RFI rejection and reduced noise and crosstalk.

All Broadcast Audio Corporation consoles sit on top of the desk, requiring no cutouts, and feature selectively illuminated VU meters, plus solid oak or walnut end panels and armrests. Each mixer module can be turned on or off from a remote location and relays are provided to start audio sources when mixer modules are turned on. A studio monitor option allows a studio operator or announcer to select an audio source and adjust the monitor level. The mixer modules and universal output amplifiers are the only electronics used, for the ultimate in redundancy and reliability.



- **PEAK OVERLOAD INDICATOR**

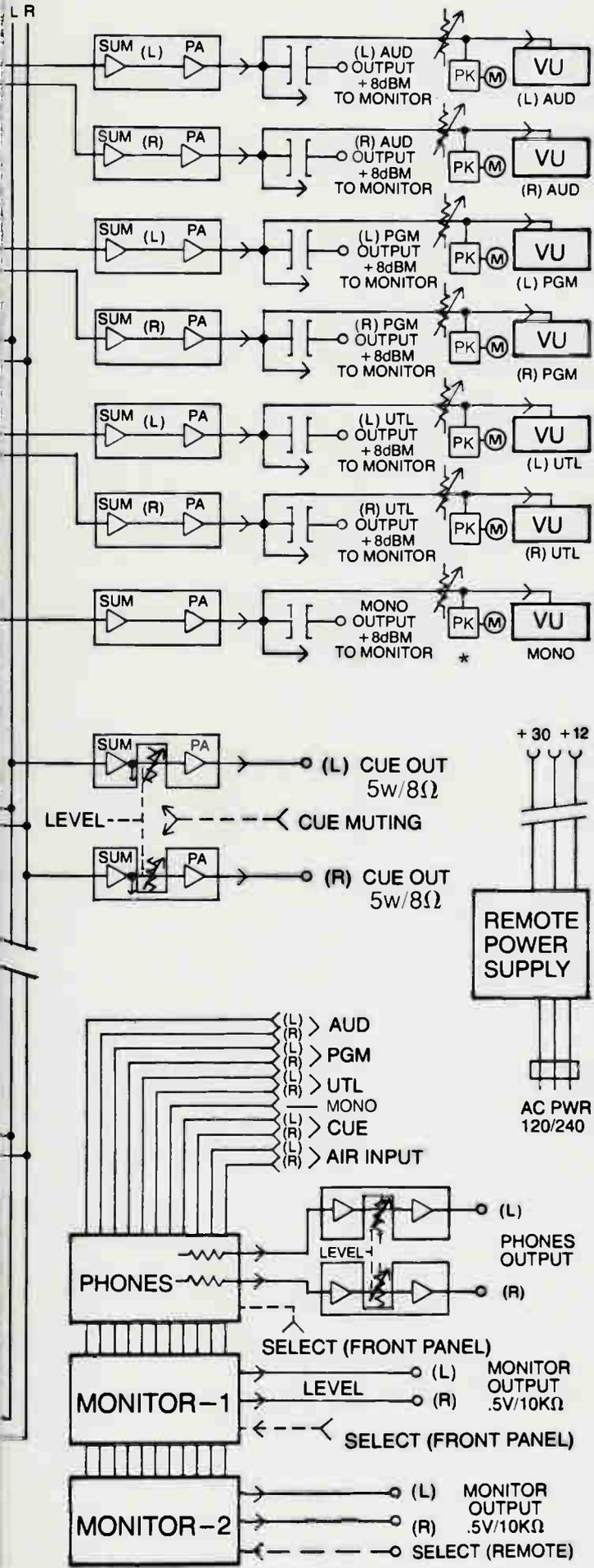


- **UNIVERSAL OUTPUT AMPLIFIER**



- **STANDARD**

CUE  
L R



## FACILITIES



Broadcast Audio Corporation's manufacturing and sales office are in a modern 20,000 square foot building owned by our stockholders. We are located in Rancho Cordova, California, just outside the state capital of Sacramento, on an historic gold dredging site.

## AVAILABILITY

Normally 1-3 weeks after credit approval. SYSTEM 14 and SYSTEM 20 slightly longer, depending on options. 25% down payment required; balance 30 days from date of invoice, 5% discount for cash with order.

# BROADCAST AUDIO CORPORATION

11306 SUNCO DR., RANCHO CORDOVA, CA 95670  
(916) 635-1048

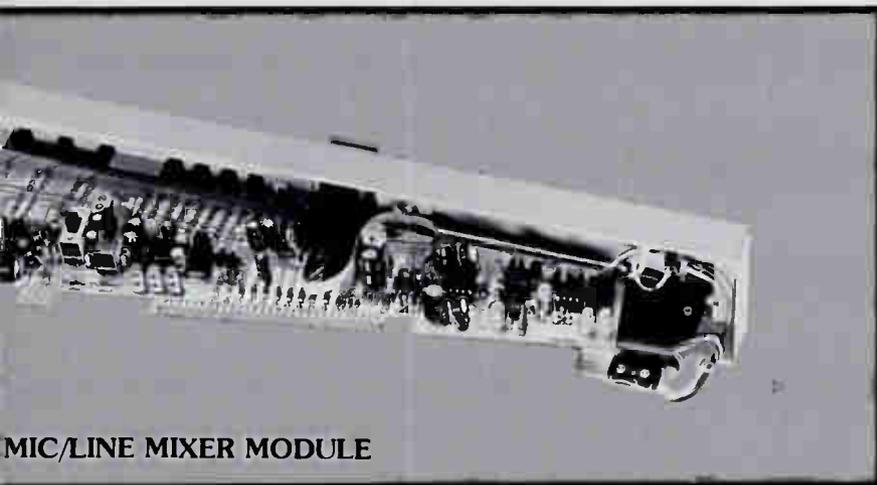
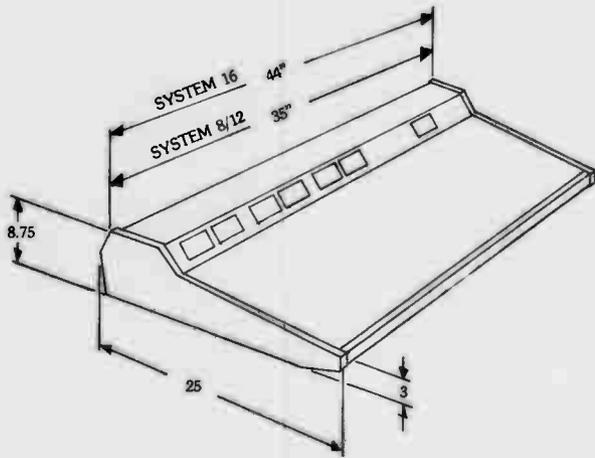
# MODULE SPECIFICS AND PARTICULARS

**SERIES IV** stereo audio consoles are available with 2 kinds of plug-in mixers — Standard and Equalized. They are interchangeable and have mic/line sensitivity switches and  $\pm 10$ dB gain trim switches, not accessible from the front panel. The mic input feeds a single mic transformer with an input impedance of 1500 ohms (source 150 ohms). The stereo line input bypasses the transformer and feeds the left and right preamplifiers through an appropriate network with an input impedance of 20,000 ohms, balanced and floating. The EQ Mixer has 5 available frequencies, an EQ in/out switch, and a Pan Pot. The Standard Mixer has a 3-input selector switch with LED's to indicate the input selected. A Pan Pot

is optional. Pressure sensitive sheets, color matched, with dozens of broadcast terms are provided with each console to identify inputs or mixer functions.

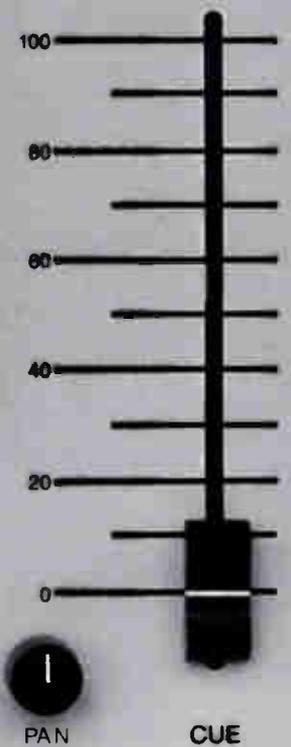
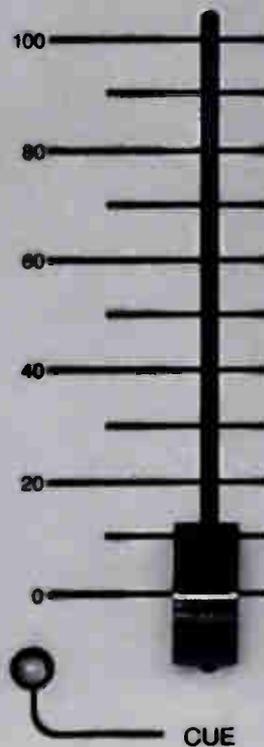
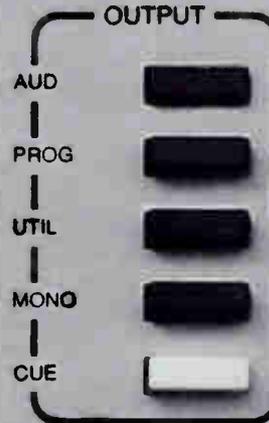
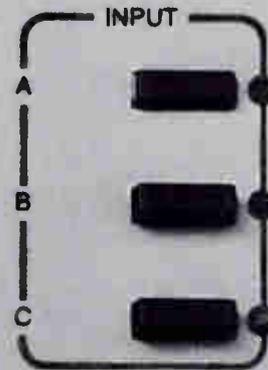
**SERIES IV** mixers have 2 cue modes — a momentary switch below the Buss Assign switches — which feeds the cue amplifier with the slide pot at its normal level setting, and a cue detent position when the slider is all the way down. Because of the mixer's "soft" audio switching, the slide pot can normally be left up, except for fades.

**SERIES IV** consoles are both elegant and sturdy, with solid oak or walnut end panels and armrest, plus the finest and most reliable electronic components available.



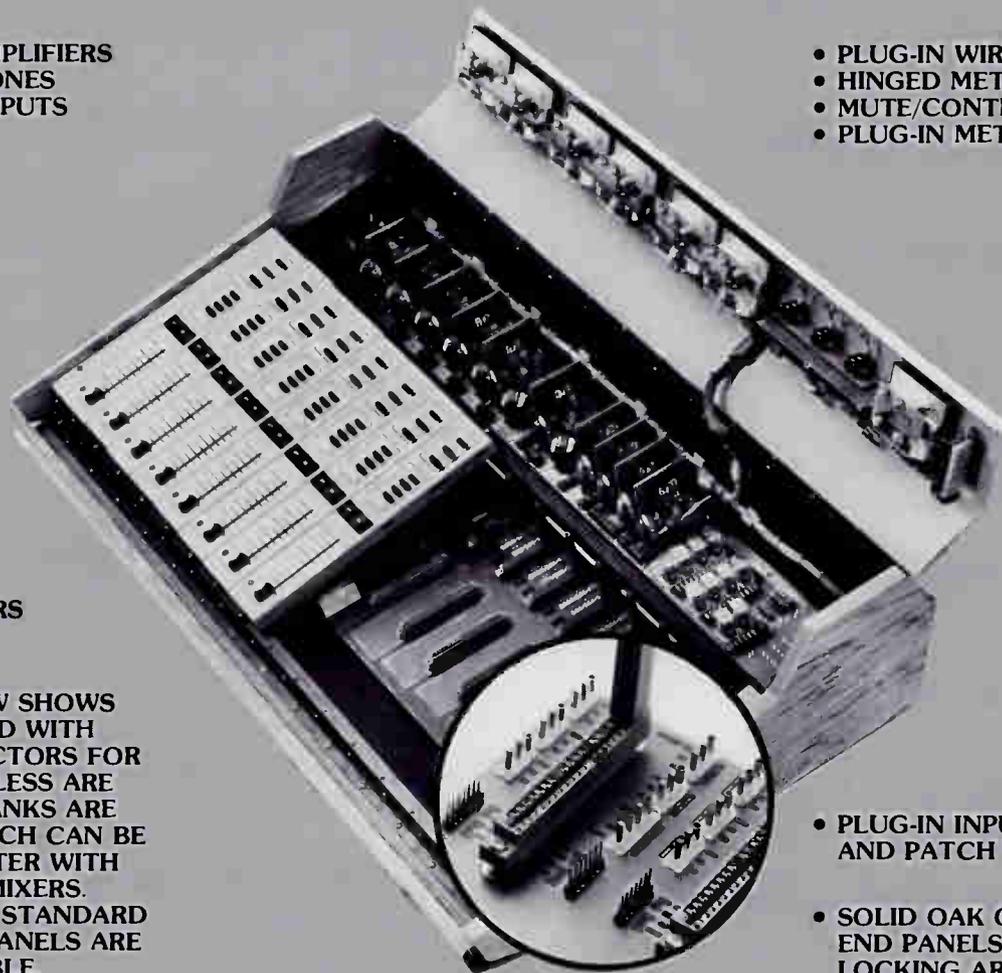
## STANDARD MIXER

## EQ AND PAN POT



- IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

- PLUG-IN WIRING HARNESS
- HINGED METER PANEL
- MUTE/CONTROL RELAYS
- PLUG-IN METER LAMPS



- PLUG-IN MIXERS
- SYSTEM 16 INTERIOR VIEW SHOWS MOTHERBOARD WITH EDGE CONNECTORS FOR 16 MIXERS. IF LESS ARE ORDERED, BLANKS ARE SUPPLIED WHICH CAN BE REPLACED LATER WITH ADDITIONAL MIXERS. CUSTOM AND STANDARD ACCESSORY PANELS ARE ALSO AVAILABLE.

- PLUG-IN INPUTS AND PATCH POINTS
- SOLID OAK OR WALNUT END PANELS AND LOCKING ARMREST

## GENERAL SPECIFICATIONS

**Operating Mode:** Three stereo outputs, plus mono/sum.

**Mixing Channels:** Up to 16 mixers, each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 48 stereo inputs — 3 inputs per mixer.

**Audio Outputs:** Total of 8 — stereo Program, stereo Audition, stereo Utility, Mono/Sum, stereo Monitor, stereo Headphones, stereo Cue and stereo auxiliary (studio) Monitor. Program, Audition, and Utility outputs are +8dBm transformer balanced. Note: Utility output not available on SYSTEM 8.

**Source Impedance:** Microphone — 150 ohms transformer balanced and floating — input impedance 1500 ohms. Optional active balanced mic input. Line — 20,000 ohms active balanced and floating. Output source impedance — 150 ohms.

**Patch Points:** Prefader, with connectors on mixer motherboard. Connector also provided for phantom power supply.

**Remote Control:** Each mixer can be turned on/off with momentary contact to ground. Relays are assignable to any combination of mixers. Two 2-Form B (mute) eight 1-Form C, momentary or maintained (start).

**Power:** 105 - 125 volts a-c 50/60 Hz, 250 VA maximum. 210 - 250 volts a-c 50/60 Hz optional.

**Size:** SYSTEM 16 — 44W x 8.75H x 25D (inches).  
SYS 8/12 — 35W x 8.75H x 25D (inches).

**Shipping Weight:** 115 - 150 pounds, depending on model and configuration. Air only.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm 0.5$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec line input to any program output, less than 10  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.15% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs — 125dBv equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBv input level to one active mixer input. Line Inputs — 90dBm equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBm level to one active mixer input.

**Crosstalk:** Better than 80dB between any adjacent program or cue bus, 20 - 15,000 Hz.

**Gain:** Mic Inputs 90dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

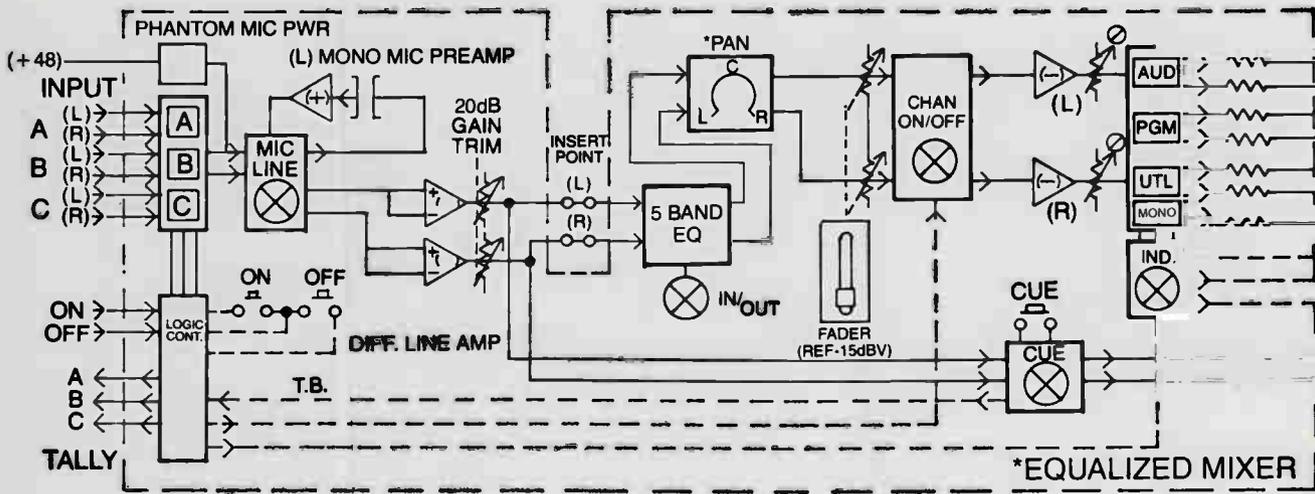
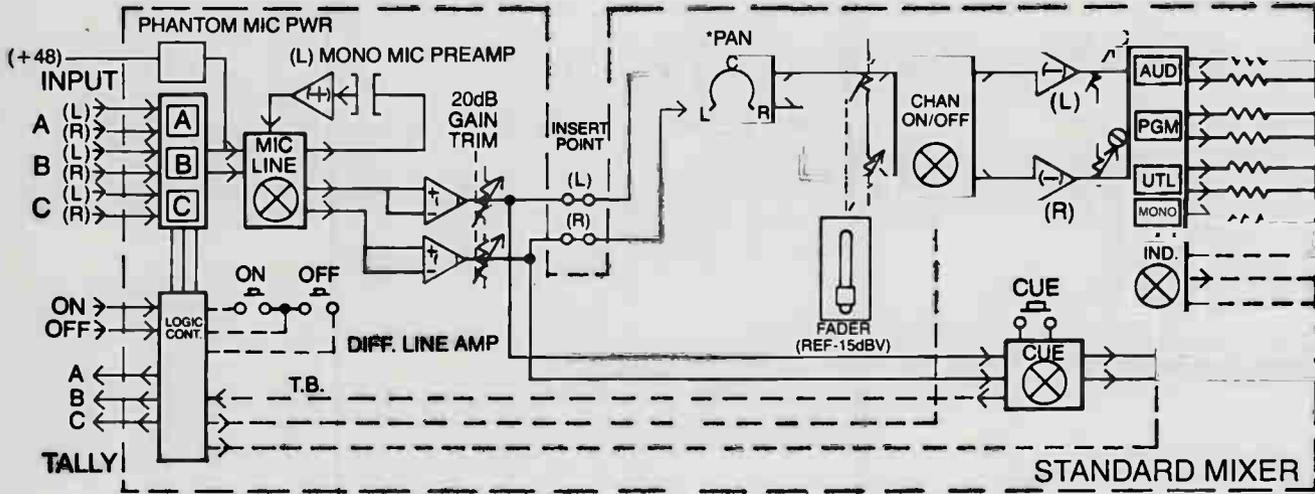
**Input Headroom:** 30dB with nominal gain setting..

**Output Headroom:** 20dB above +8dBm.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; stereo cue — 5 watts into 8 ohms; stereo control room and aux Monitor outputs — 0.5 volts into 10k ohm load, unbalanced.

# SERIES IV FUNCTIONAL DIAGRAM

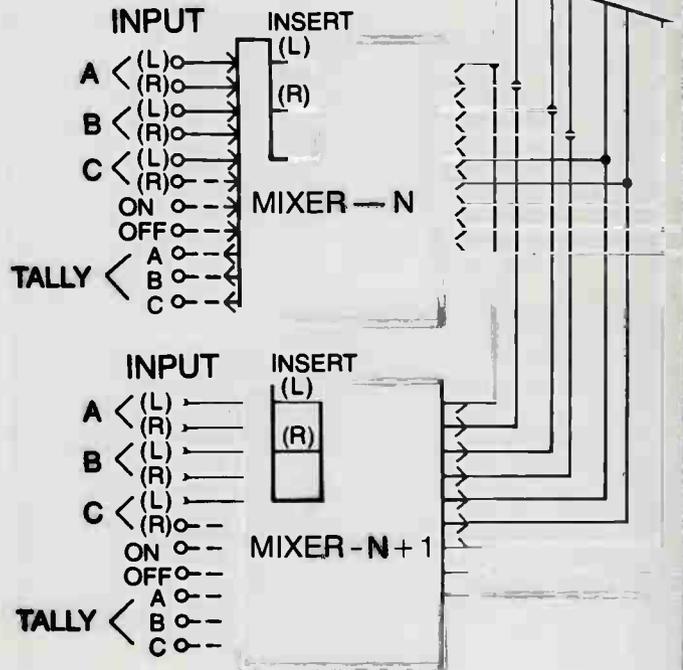
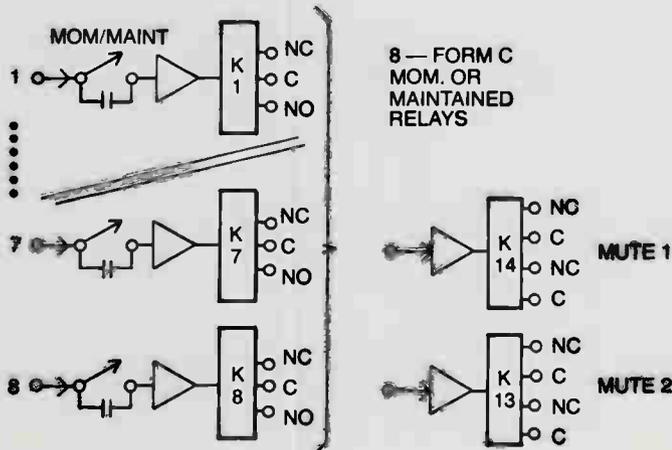
AUD PGM UTL  
LR LR LR M



**\*OPTIONAL**

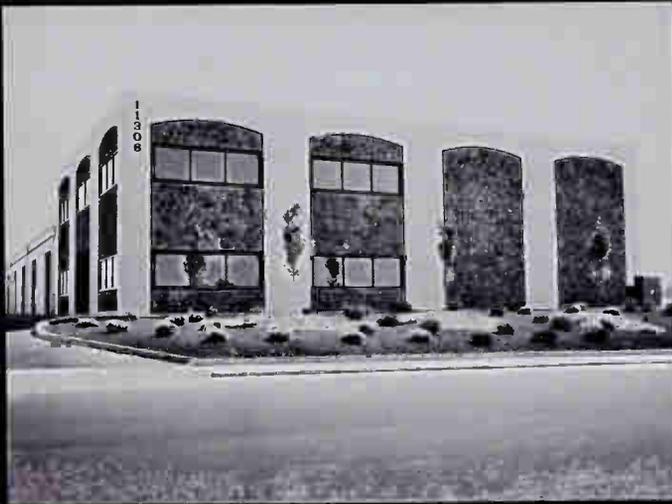
- 1 — PAN CONTROL
- 2 — EQUALIZER "EQ" TYPE MIXER
- 3 — VU METER DRIVER & ADJUSTABLE PRESET PEAK LEVEL INDICATOR

**RELAY LOGIC**



Quick  
Reference  
Guide

# BROADCAST AUDIO CORPORATION



## FACILITIES

Broadcast Audio Corporation's manufacturing and sales offices are in a modern 20,000 square foot building owned by our stockholders. We are located in Rancho Cordova, California, just outside the state capital of Sacramento, on an historic gold dredging site.

## AVAILABILITY

Normally 1 - 3 weeks after credit approval. SYSTEM 14 and SYSTEM 20 slightly longer, depending on options. 25% down payment required; balance 30 days from date of invoice; 5% discount for cash with order.

**BROADCAST  
AUDIO CORPORATION**

11306 SUNCO DR., RANCHO CORDOVA, CA 95670 (916) 635-1048

**(916) 635-1048**

## SYSTEM 14



*Digitally Controlled Audio Console*

**SYSTEM 14** is the latest and most technically sophisticated member of the Broadcast Audio Corporation family of fine audio consoles. A digital slide fader and digitally controlled CMOS high resolution logarithmic audio attenuator significantly reduce signal paths. Three plug-in mixers are available:

Type A has output selectors, 5-frequency equalizer, stereo/mono mode switch and pan pot; Type B has in/out selectors, stereo/mono mode switch and pan pot; Type C has in/out selectors. Each mixer has a transformer balanced mic input *and* a differential balanced line level input.

Noiseless d-c audio switching is used for all program and monitor functions, which also enables each mixing channel to be turned off and on from a remote location, such as an announce studio, news booth, or video switcher. Options include Remote Line Selector, Talkback, Test Oscillator, Tape Controls and Clock/Timer.

**SYSTEM 14** combines digital technology with the operator conveniences and absolute reliability which exemplify BAC audio consoles.

**Mixers:** Up to 14 mixers, each with separate mono mic and stereo high level inputs.

**Inputs:** Up to 42 stereo inputs.

**Size:** 41W x 28D x 10H (inches).

## ACCESSORY AMPLIFIERS

**GENERAL DESCRIPTION:** All four BAC amplifiers share the same 1 $\frac{3}{4}$ " enclosure, which can be rack or table mounted. The amplifier circuits are on individual plug-in cards, which are inserted at the rear of the enclosure, and can be removed or installed with power on. Each amplifier has recessed front panel gain controls.

**BA-235/435 MONITOR AMPLIFIER:** Two or four 35 watt amplifiers, with internal bridging switch. Torroid power transformer eliminates buzz or vibration. MOSFET transistors used as output power amplifiers. Absolutely the finest broadcast monitor amplifier in this power range.

**BA-6x4 DISTRIBUTION AMPLIFIER:** Accepts up to 6 amplifier cards, each with active balanced inputs and 4 transformer balanced outputs. LED bar level indicator with 7-position switch. Maximum output of +30dBm, with superb isolation and ultra-low distortion.

**BA-205/405 PHONO PREAMPLIFIER:** Two or four plug-in amplifier cards, with passive RIAA equalization. Internal switches adjust loading for specific cartridges. Subsonic rumble filter. Automatic redundant power supply.



**SERIES IV****Price List September 1, 1965**

SYSTEM 16-IV STEREO BROADCAST CONSOLE. Includes heavy duty regulated power supply and 8 mixers, expandable to 16. Two muting and eight control relays. Walnut or oak trim.	<b>\$10,950.00</b>
SYSTEM 12-IV STEREO BROADCAST CONSOLE. Includes heavy duty regulated power supply and 8 mixers, expandable to 12. Two muting and eight control relays. Walnut or oak trim.	<b>9,950.00</b>
SYSTEM 8-IV STEREO BROADCAST CONSOLE. Includes heavy duty regulated power supply and 6 mixers, expandable to 8. Two muting and three control relays. Walnut or oak trim.	<b>7,550.00</b>

Console prices include pressure-sensitive matched color in/out labels, blank panels as required, plus MOLEX crimping tool and input connectors.

**Accessories: (Most will retrofit to Series II)**

Additional Stereo Mixer Modules. Plug into existing connectors, replacing blank panels supplied in unused mixer positions.	<b>550.00</b>
Equalized Stereo Mixer Modules, with 5-frequency EQ and Pan-Pot, replacing 3-input selector switch. If substituted, add \$200.00 per EQ Mixer Module to base price.	<b>750.00</b>
Pan Pot Option on Standard Series IV Mixer.	<b>50.00</b>
Peak Level Indicating System with high brightness focused LED's behind meter to illuminate red area. Price includes meter buffer amplifiers.	
SYSTEM 8/12 - SERIES II OR SERIES IV.	<b>250.00</b>
SYSTEM 16 - SERIES IV.	<b>350.00</b>
SYSTEM 16 - SERIES II (includes new higher current 12V power supply module).	<b>450.00</b>
Studio Monitor Control, for remote selection of monitor output to studio speakers (requires additional monitor amplifier). Includes panel or table top enclosure with 6-position switch and level control. 25 foot cable is provided (will not retrofit to Series II).	<b>350.00</b>
Remote Input/Output Panel. Mounts in unused mixer position. Two 4-position selector switches, to add additional audio inputs or feed output of console to multiple locations.	<b>350.00</b>
Remote Input/Output Panel, as above, but including a single reel/reel control.	<b>450.00</b>
Remote Input/Output Panel, as above, but including a dual reel/reel control.	<b>550.00</b>
Dual reel/reel control. Mounts in unused mixer position.	<b>235.00</b>
Redundant Power Supply. Two independent systems in 5-1/4" rack space. Order with console.	<b>450.00</b>
Spare Power Supply. Requires 5-1/4" rack space.	<b>600.00</b>
Fixed copy stand. Tinted plexiglass with walnut or oak base. Mounts on top of console meter panel. 17W x 12H (inches).	<b>55.00</b>

Free Standing Sliding Copy Stand. Tinted plexiglass with walnut or oak base.	
SYSTEM 8/12 - 37W x 20H (inches).	\$150.00
SYSTEM 16 - 46W x 20H (inches).	200.00
Overbridge. 5-1/4 inch panel space. Includes blank panels.	425.00
Stereo Cue Speakers, mounted in overbridge.	200.00
LED Digital Clock, mounted in overbridge.	350.00

**Additional Products:**

BA-235 MOS FET MONITOR AMPLIFIER. Two 35 watt RMS <u>plug-in</u> cards in 1-3/4 inch rack mount or table top enclosure.	595.00
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BA-435 MOS FET MONITOR AMPLIFIER. Four 35 watt RMS <u>plug-in</u> cards in 1-3/4 inch rack mount or table top enclosure, dual power supply. Ideal for use with Studio Monitor Control.	995.00
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Spare Monitor Card.	180.00
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**Note:** BA-235 will deliver 90 watts into single 8 ohm load, using internal bridging switch. BA-435 will deliver 90 watts into two 8 ohm loads for stereo applications.

BA-405 DUAL STEREO PHONO PREAMPLIFIER. Four <u>plug-in</u> cards with automatic redundant power supply, passive equalization network, in 1-3/4 inch rack mount or table top enclosure.	995.00
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BA-205 STEREO PHONO PREAMP with two <u>plug-in</u> cards, single power supply, passive equalization network, 1-3/4 inch rack mount or table top enclosure.	695.00
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Spare Phono Card.	185.00
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BA-6x4 DISTRIBUTION AMPLIFIER. Up to six single-channel <u>plug-in</u> cards with 4 transformer balanced outputs, in 1-3/4 inch rack mount or table top enclosure. Features selectable LED metering. Mainframe with two cards.	1,175.00
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Additional DA Cards.	175.00
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**Terms:**

25% down payment required. Balance 30 days from date of invoice with credit approval. 5% discount for cash with order. BAC reserves the right to request payment in advance, or to ship C.O.D. if credit cannot be approved with available information.

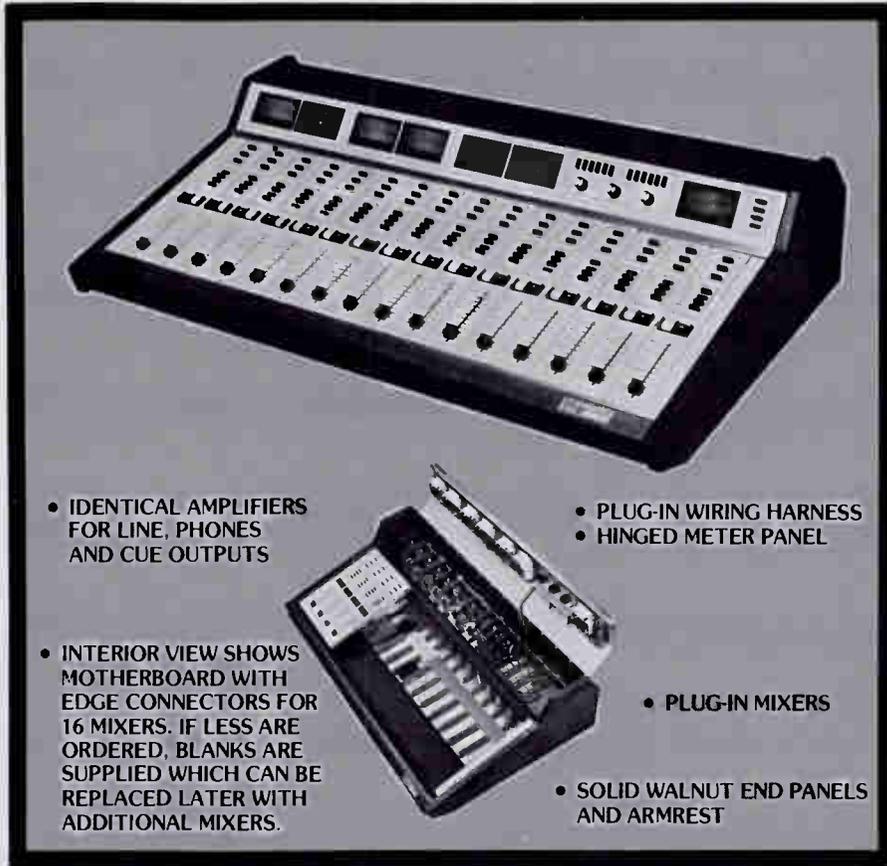
**Availability:**

Normally 2 to 4 weeks, following credit approval or receipt of cash.

**Warranty:**

BAC products are warranted to be free of defects in parts and labor for a period of one year from date of invoice. Returns must be factory authorized, and sent prepaid insured.

## SYSTEM 16



**SYSTEM 16** features DC audio switching, using LCR's for completely quiet audio control. This also enables each mixing channel to be turned off and on from a remote location, such as an announce studio or news booth. Ten plug-in relays, with switch selection of maintained or momentary contacts, can be used for muting or remote start from any combination of mixers.

Operator conveniences include 4 inch long taper slide faders for extremely accurate tracking between channels. In addition to a cue detent position on the fader, there is a separate button for cueing when the fader is up. The stereo cue amplifier is an industry first! The panel layout is easily understood and a pleasure to operate.

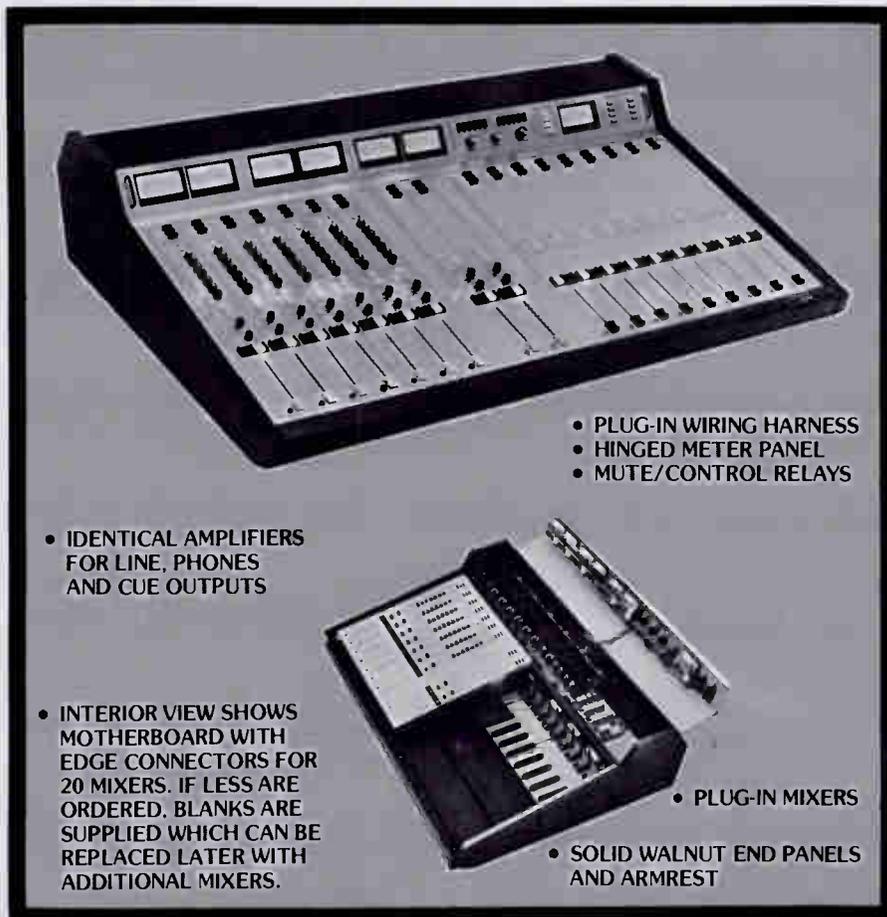
**Mixers:** 8 standard, 16 maximum (log taper slider).

**Inputs:** 24 standard, 48 maximum (3 per mixer).

**Size:** 44W x 8.75H x 25D (inches).

**BROADCAST  
AUDIO CORPORATION**

## SYSTEM 20



**SYSTEM 20** has options that enable you to virtually design your own audio console, for on-air use or production. Three plug-in mixers are available: Type A has in/out selectors, 7-frequency graphic equalizer, low-cut filter, stereo/mono mode switch and pan pot; Type B has in/out selectors, stereo/mono mode switch and pan pot; Type C has in/out selectors only. Each mixer has a transformer balanced mic input *and* a differential balanced line level input.

Motherboards and mixers are all double-sided with extensive ground planes for optimum noise and crosstalk, plus RFI rejection. All integrated circuits have sockets and are brand name off-the-shelf devices.

**SYSTEM 20** is rugged *and* beautiful, with welded frame construction, solid walnut end panels and armrest, plus extruded aluminum mixer panels with mylar overlays silk-screened on the reverse side.

**Mixers:** 20 maximum (log taper slider).

**Inputs:** 66 stereo inputs (3 per mixer) plus two 4-position remote input switches, user assigned to mixer inputs.

**Size:** 50.25W x 33.5D x 10.5H (inches).

*Introducing the Broadcast Audio Corporation family of fine audio consoles and accessory amplifiers. Expanded product literature is also available for each product, so after selecting the console that looks best for your application, please call or write for detailed information. These consoles not only look great . . . they sound great!*

## **SYSTEM 8** Compact, Broadcast Mixer



sounds as great as it looks.

**SYSTEM 8** is an expandable, completely modular broadcast mixer, with unprecedented features and performance. It was designed exclusively for broadcast and is not a scaled down version of recording or sound reinforcement equipment, so it performs flawlessly even in high RF environments.

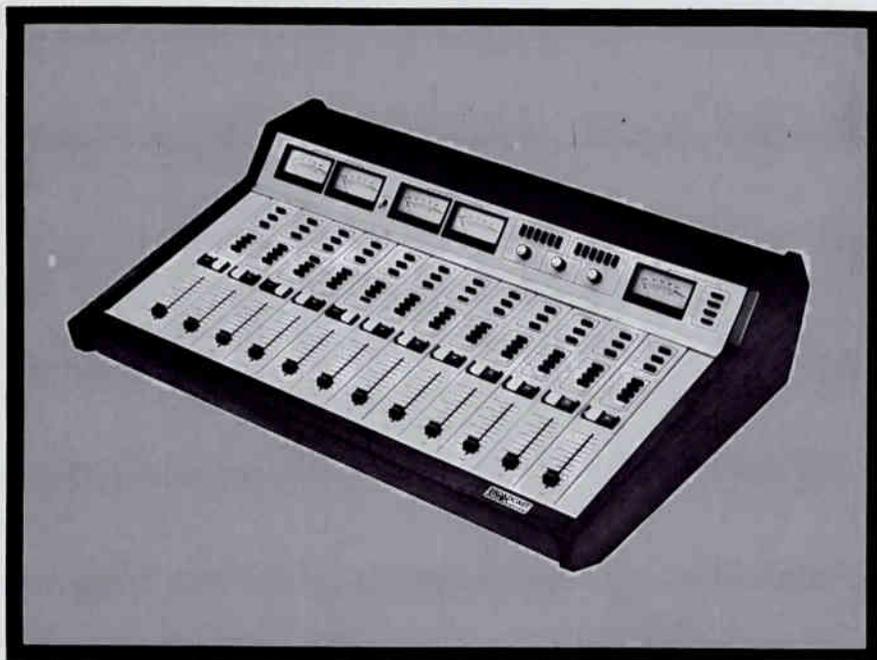
An elegant low profile appearance is accented by solid walnut end panels and armrest. This mixer sits on top of the desk and does not require recessed mounting, so it's easy to install, with all connections made from the top.

**Mixers:** 6 standard, 8 maximum (log taper slider).

**Inputs:** 18 standard, 24 maximum (3 per mixer).

**Size:** 35W x 8.75H x 25D (inches).

## **SYSTEM 12** Compact, Broadcast Mixer.



**SYSTEM 12** is a model of engineering simplicity, using motherboard construction, with only 2 types of amplifier modules and a plug-in interconnecting harness. Two independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof and an optional redundant supply is also available.

Operator conveniences include 4 inch log taper slide faders for extremely accurate tracking between channels. In addition to a cue detent position on the fader, there is a separate button for cueing when the fader is up. The stereo cue amplifier is an industry first! The panel layout is easily understood and a pleasure to operate.

**Mixers:** 8 standard, 12 maximum (log taper slider).

**Inputs:** 24 standard, 36 maximum (3 per mixer).

**Size:** 35W x 8.75H x 25D (inches).

**BROADCAST  
AUDIO CORPORATION**

# SYSTEM 6

SERIES IV COMPACT BROADCAST MIXER



11306 SUNCO DR., RANCHO CORDOVA, CA 95670 (916) 635-1048

**SYSTEM 6** is a modular audio console, utilizing the same electronic modules as the larger **SERIES IV** consoles. The concept is to offer a premium quality console for newsrooms and production, which is totally compatible with our other consoles. Monitor and Cue muting is

## GENERAL SPECIFICATIONS

**Operating Mode:** One stereo output, plus mono/sum.

**Mixing Channels:** Up to 6 mixers each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 18 stereo inputs — 3 inputs per mixer.

**Audio Outputs:** Total of 8 — stereo Program, Mono/Sum, stereo Monitor, stereo Headphones, and cue. Program and Mono outputs are +8dBm transformer balanced.

**Source Impedance:** Microphone — 150 ohms transformer balanced and floating — input impedance 1500 ohms. Optional active balanced mic input. Line — 20,000 ohms active balanced and floating. Output source impedance — 150 ohms.

**Patch Points:** Prefader, with connectors on mixer motherboard. Connector also provided for phantom power supply.

**Remote Control:** Extra Form C contacts are available on each on/off switch for start/stop functions (mating connectors available). All logic functions are accessible on 40 pin ribbon connector, including remote control of mixer on/off. Remote control card available.

**Power:** 105 - 125 volts a-c 50/60 Hz, 125 VA maximum. 210 - 250 volts a-c 50/60 Hz optional. Supply is rack mounted.

**Size:** SYSTEM 6 — 22.5W x 8.75H x 25D (inches).

**Shipping Weight:** 75 pounds. Air only.

standard. Extra on/off contacts are provided for remote control, or an optional relay board is available. **SYSTEM 6** is also available as a low-cost console extender, without the output amplifiers, meters, and monitor controls.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm .5$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec. line input to any program output, less than 10  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.15% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs — 125dBu equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBu input level to one active mixer input. Line Inputs — 90dBu equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBu level to one active mixer input.

**Crosstalk:** Better than 80dB between any adjacent program or cue bus, 20 - 15,000 Hz.

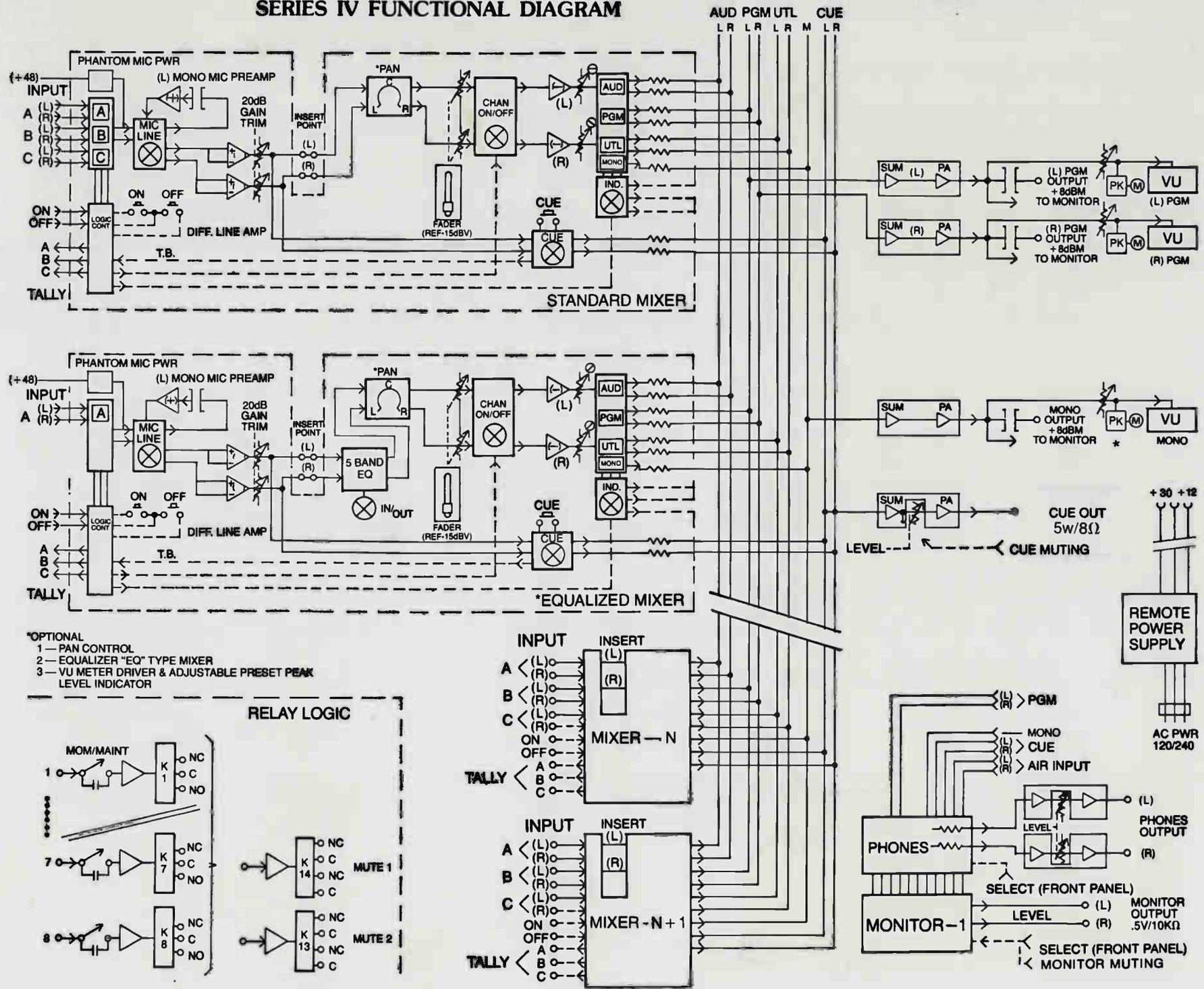
**Gain:** Mic Inputs 90dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

**Input Headroom:** 30dB with nominal gain setting.

**Output Headroom:** 20dB above +8dBm.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; Cue — 5 watts into 8 ohms; stereo Monitor output — 0.5 volts into 10k ohm load, unbalanced.

# SERIES IV FUNCTIONAL DIAGRAM



- \*OPTIONAL
- 1 - PAN CONTROL
  - 2 - EQUALIZER "EQ" TYPE MIXER
  - 3 - VU METER DRIVER & ADJUSTABLE PRESET PEAK LEVEL INDICATOR



# SERIES IV

A NEW GENERATION OF AUDIO CONSOLES

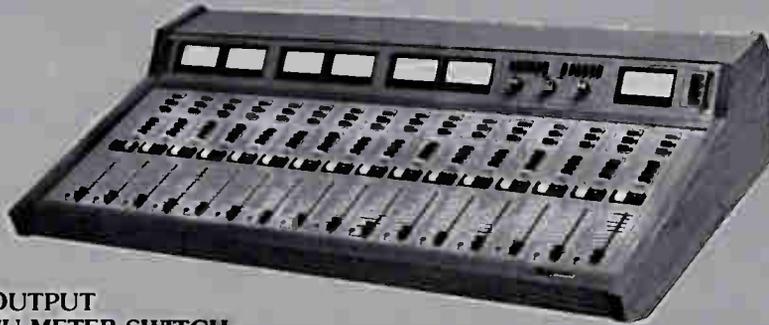
- **SYSTEM 8**  
2 STEREO, 1 MONO OUTPUT



- **SYSTEM 12**  
3 FULLY METERED STEREO, 1 MONO OUTPUT



- **SYSTEM 16**  
3 STEREO, 1 MONO OUTPUT  
AUDITION/UTILITY VU METER SWITCH



## DESCRIPTION

**SERIES IV** is a new generation of the most popular audio consoles in the Broadcast Audio Corporation product line. All basic features, dimensions, and panel layouts of the **SYSTEM 8, 12, & 16** have been retained, so that virtually every new feature of **SERIES IV** can be retrofitted to any **SERIES II** or **UMC** console manufactured by Broadcast Audio Corporation.

**SERIES IV** utilizes a new ultra-low noise IC specifically designed for use as a microphone preamplifier. We've designed an improved mic transformer to fully utilize the IC, but also offer an optional active balanced mic

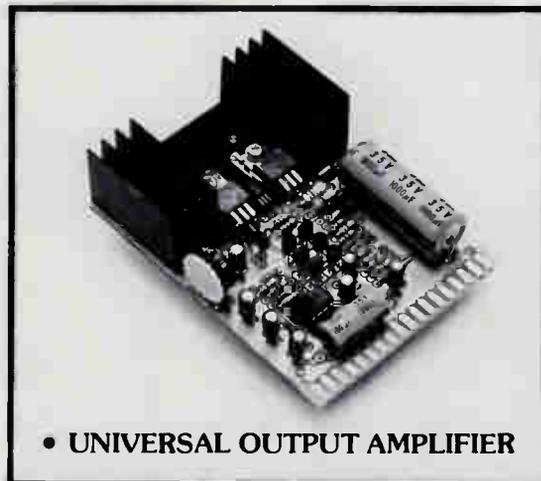
input. Green LED indicators show which input has been selected. We've upgraded to P&G's 4000 audio fader with cue detent and externally mounted cue switch, and, for an added touch, the amber LED indicates the cue mode.

An optional Peak Overload Indicator uses high brightness focused LED's to illuminate the red area of the VU meters. Meter isolation drive amplifiers are included. All **SERIES IV** PC boards are solder masked and have computer designed ground planes for RFI rejection and reduced noise and crosstalk.

All Broadcast Audio Corporation consoles sit on top of the desk, requiring no cutouts, and feature selectively illuminated VU meters, plus solid oak or walnut end panels and armrests. Each mixer module can be turned on or off from a remote location and relays are provided to start audio sources when mixer modules are turned on. A studio monitor option allows a studio operator or announcer to select an audio source and adjust the monitor level. The mixer modules and universal output amplifiers are the only electronics used, for the ultimate in redundancy and reliability.



• **PEAK OVERLOAD INDICATOR**



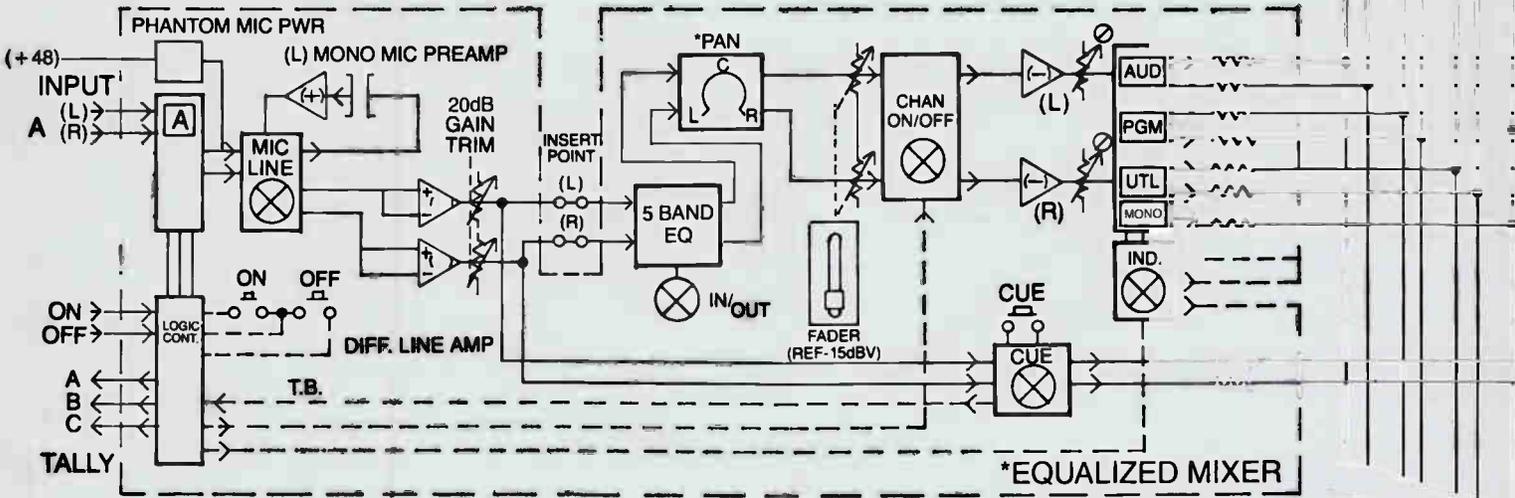
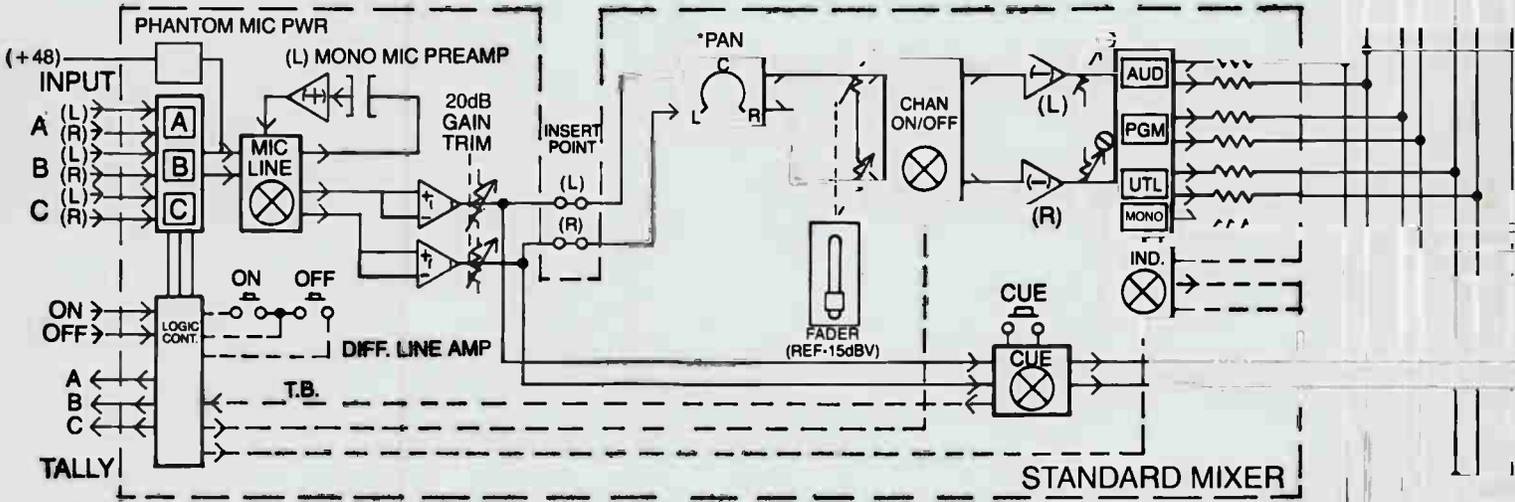
• **UNIVERSAL OUTPUT AMPLIFIER**



• **STANDARD**

# SERIES IV FUNCTIONAL DIAGRAM

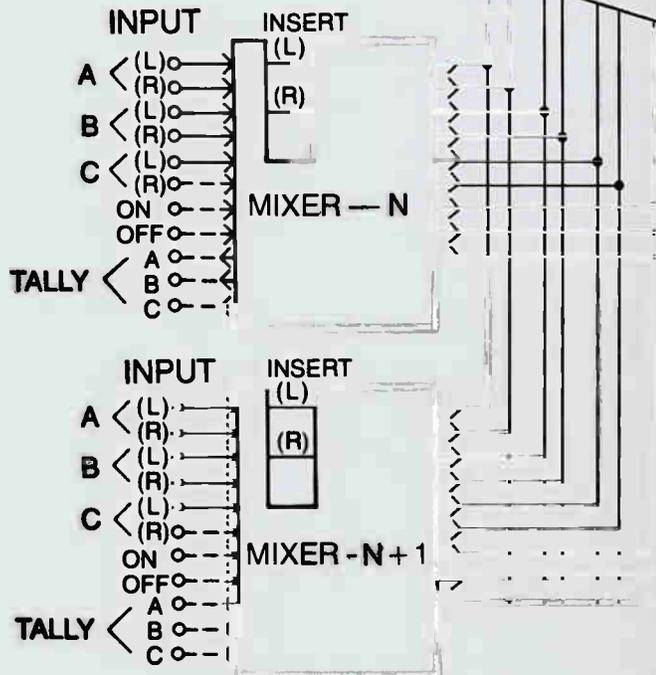
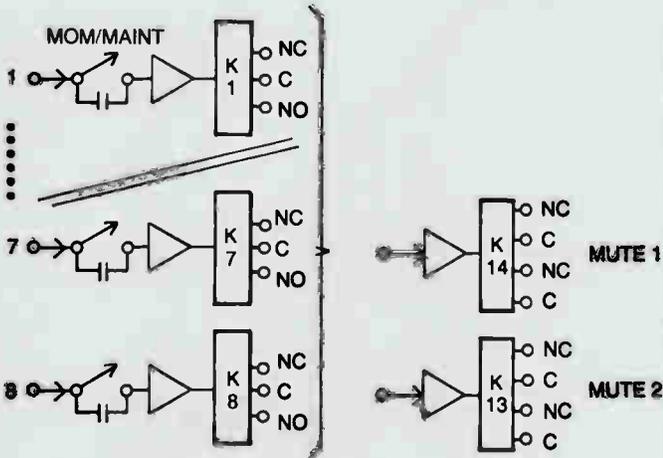
AUD PGM UTL  
LR LR LR M



**\*OPTIONAL**

- 1 — PAN CONTROL
- 2 — EQUALIZER "EQ" TYPE MIXER
- 3 — VU METER DRIVER & ADJUSTABLE PRESET PEAK LEVEL INDICATOR

**RELAY LOGIC**



- IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

- PLUG-IN WIRING HARNESS
- HINGED METER PANEL
- MUTE/CONTROL RELAYS
- PLUG-IN METER LAMPS

- PLUG-IN MIXERS
- SYSTEM 16 INTERIOR VIEW SHOWS MOTHERBOARD WITH EDGE CONNECTORS FOR 16 MIXERS. IF LESS ARE ORDERED, BLANKS ARE SUPPLIED WHICH CAN BE REPLACED LATER WITH ADDITIONAL MIXERS. CUSTOM AND STANDARD ACCESSORY PANELS ARE ALSO AVAILABLE.

- PLUG-IN INPUTS AND PATCH POINTS

- SOLID OAK OR WALNUT END PANELS AND LOCKING ARMREST

## GENERAL SPECIFICATIONS

**Operating Mode:** Three stereo outputs, plus mono/sum.

**Mixing Channels:** Up to 16 mixers, each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 48 stereo inputs — 3 inputs per mixer.

**Audio Outputs:** Total of 8 — stereo Program, stereo Audition, stereo Utility, Mono/Sum, stereo Monitor, stereo Headphones, stereo Cue and stereo auxiliary (studio) Monitor. Program, Audition, and Utility outputs are +8dBm transformer balanced. Note: Utility output not available on SYSTEM 8.

**Source Impedance:** Microphone — 150 ohms transformer balanced and floating — input impedance 1500 ohms. Optional active balanced mic input. Line — 20,000 ohms active balanced and floating. Output source impedance — 150 ohms.

**Patch Points:** Prefader, with connectors on mixer motherboard. Connector also provided for phantom power supply.

**Remote Control:** Each mixer can be turned on/off with momentary contact to ground. Relays are assignable to any combination of mixers. Two 2-Form B (mute) Three Form C (start) on SYS 8; eight on SYS 12/16, mom. or maint.

**Power:** 105 - 125 volts a-c 50/60 Hz, 250 VA maximum. 210 - 250 volts a-c 50/60 Hz optional.

**Size:** SYSTEM 16 — 44W x 8.75H x 25D (inches).  
SYS 8/12 — 35W x 8.75H x 25D (inches).

**Shipping Weight:** 115 - 150 pounds, depending on model and configuration. Air only.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm 0.5$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec line input to any program output, less than 10  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.15% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs — 125dBv equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBv input level to one active mixer input. Line Inputs — 90dBm equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBm level to one active mixer input.

**Crosstalk:** Better than 80dB between any adjacent program or cue bus, 20 - 15,000 Hz.

**Gain:** Mic Inputs 90dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

**Input Headroom:** 30dB with nominal gain setting.

**Output Headroom:** 20dB above +8dBm.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; stereo cue — 5 watts into 8 ohms; stereo control room and aux Monitor outputs — 0.5 volts into 10k ohm load, unbalanced.

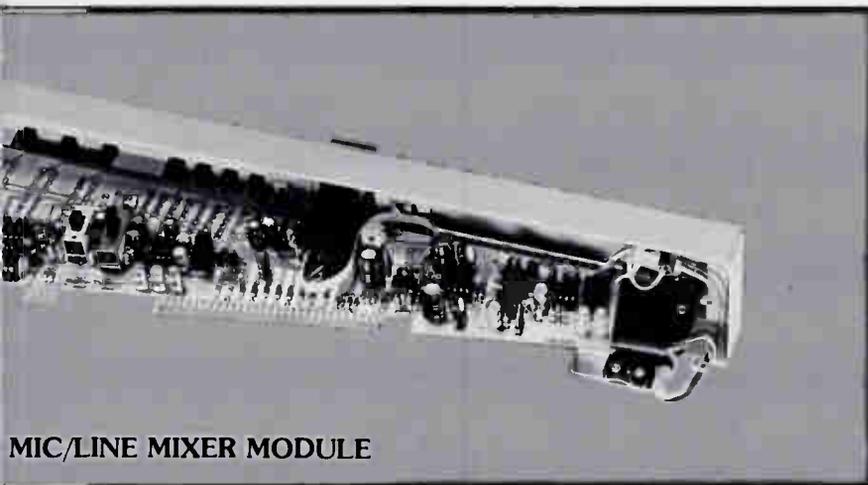
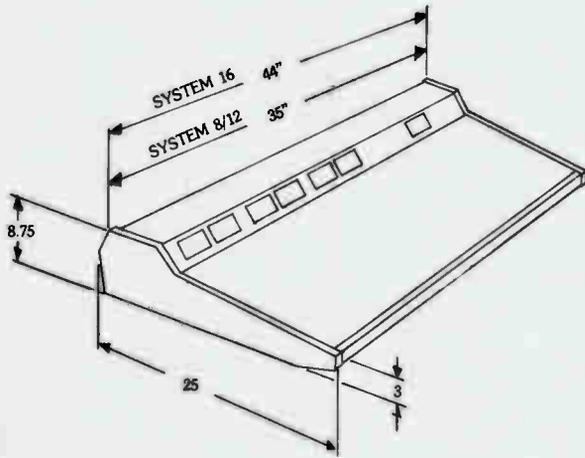
# MODULE SPECIFICS AND PARTICULARS

**SERIES IV** stereo audio consoles are available with 2 kinds of plug-in mixers — Standard and Equalized. They are interchangeable and have mic/line sensitivity switches and  $\pm 10\text{dB}$  gain trim switches, not accessible from the front panel. The mic input feeds a single mic transformer with an input impedance of 1500 ohms (source 150 ohms). The stereo line input bypasses the transformer and feeds the left and right preamplifiers through an appropriate network with an input impedance of 20,000 ohms, balanced and floating. The EQ Mixer has 5 available frequencies, an EQ in/out switch, and a Pan Pot. The Standard Mixer has a 3-input selector switch with LED's to indicate the input selected. A Pan Pot

is optional. Pressure sensitive sheets, color matched, with dozens of broadcast terms are provided with each console to identify inputs or mixer functions.

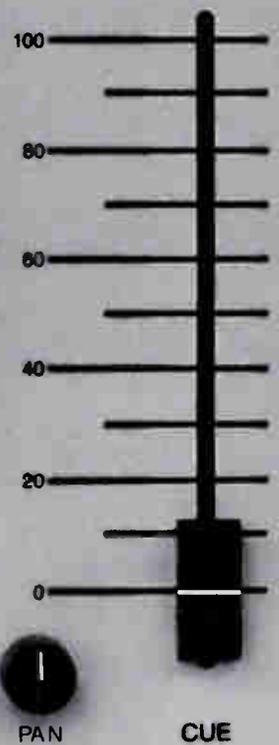
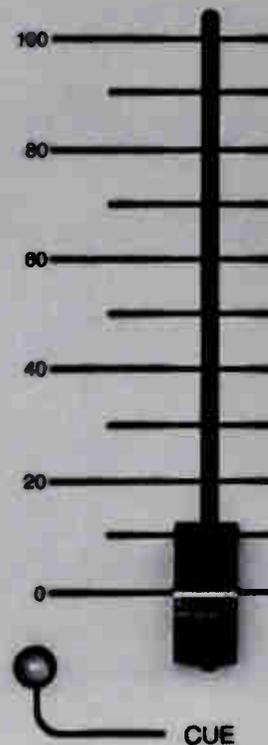
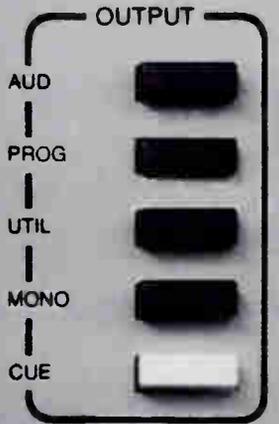
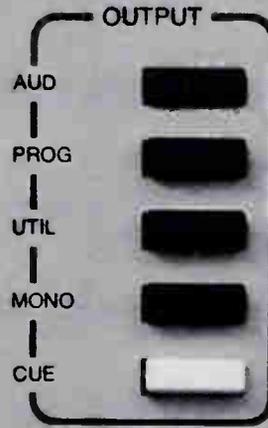
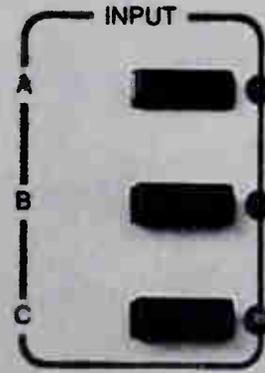
**SERIES IV** mixers have 2 cue modes — a momentary switch below the Bus Assign switches — which feeds the cue amplifier with the slide pot at its normal level setting, and a cue detent position when the slider is all the way down. Because of the mixer's "soft" audio switching, the slide pot can normally be left up, except for fades.

**SERIES IV** consoles are both elegant and sturdy, with solid oak or walnut end panels and armrest, plus the finest and most reliable electronic components available.



## STANDARD MIXER

## EQ AND PAN POT



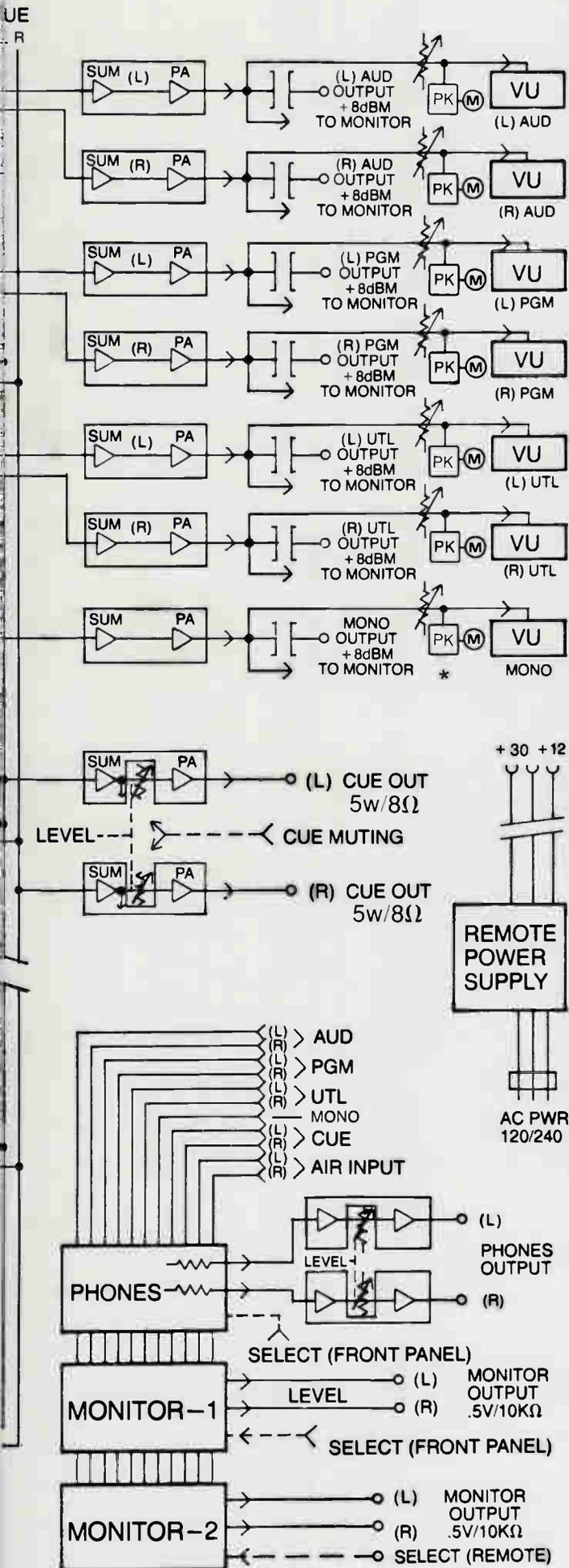
# FACILITIES



Broadcast Audio Corporation's manufacturing and sales office are in a modern 20,000 square foot building owned by our stockholders. We are located in Rancho Cordova, California, just outside the state capital of Sacramento, on an historic gold dredging site.

# AVAILABILITY

Normally 1-3 weeks after credit approval. SYSTEM 14 and SYSTEM 20 slightly longer, depending on options. 25% down payment required; balance 30 days from date of invoice, 5% discount for cash with order.



11306 SUNCO DR., RANCHO CORDOVA, CA 95670  
 (916) 635-1048

# SYSTEM 8

COMPACT BROADCAST MIXER



IT SOUNDS AS GREAT AS IT LOOKS!

## DESCRIPTION

**SYSTEM 8** is an expandable, completely modular broadcast mixer, with unprecedented features and performance. It was designed exclusively for broadcast and is not a scaled down version of recording or sound reinforcement equipment, so it performs flawlessly even in high RF environments.

An elegant low profile appearance is accented by solid walnut end panels and armrest. This mixer sits on top of the desk and does not require recessed mounting, so it's easy to install, with all connections made from the top.

**SYSTEM 8** is a model of engineering simplicity, using motherboard construction, with only 2 types of amplifier modules and a plug-in interconnecting harness. Two independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof and an optional redundant supply is also available.

Operator conveniences include 4 inch log taper slide faders for extremely accurate tracking between channels. In addition to a cue detent position on the fader, there is a separate button for cueing when the fader is up. The stereo cue amplifier is an industry first! The panel layout is easily understood and a pleasure to operate.

**SYSTEM 8** features DC audio switching, using LCR's for completely quiet audio control. This also enables each mixing channel to be turned off and on from a remote location, such as an announce studio or news booth. Ten plug-in relays, with switch selection of maintained or momentary contacts, can be used for muting or remote start from any combination of mixers.

**Mixers:** 6 standard, 8 maximum (log taper slider).

**Inputs:** 18 standard, 24 maximum (3 per mixer).

**Input Impedance:** 150 Ohms mic, 600 ohms line. Transformer balanced, switch selected.

**Input Levels:** -55 dBm mic, 0 dBm line (sensitivity adjustable  $\pm 10$  dB).

**Outputs:** 2 balanced stereo line, 1 balanced mono line, plus stereo cue, phone and monitor outputs.

**Output Levels:** Line Outputs 8 dBm into 600 ohms for 0 VU indication, 24 dBm maximum output. Phones 1 watt into 4 ohms. Cue 5 watts into 8 ohm external speakers. Monitor 0.5 volts into 10K load.

**Frequency Response:** Within 1 dB, 20-20,000 Hz, mic input to line output.

**Harmonic Distortion:** Line Outputs less than 0.15% THD 20-20,000 Hz (typically less than 0.05% at 1KHz).

**IM Distortion:** Line Outputs less than 0.05% SMPTE.

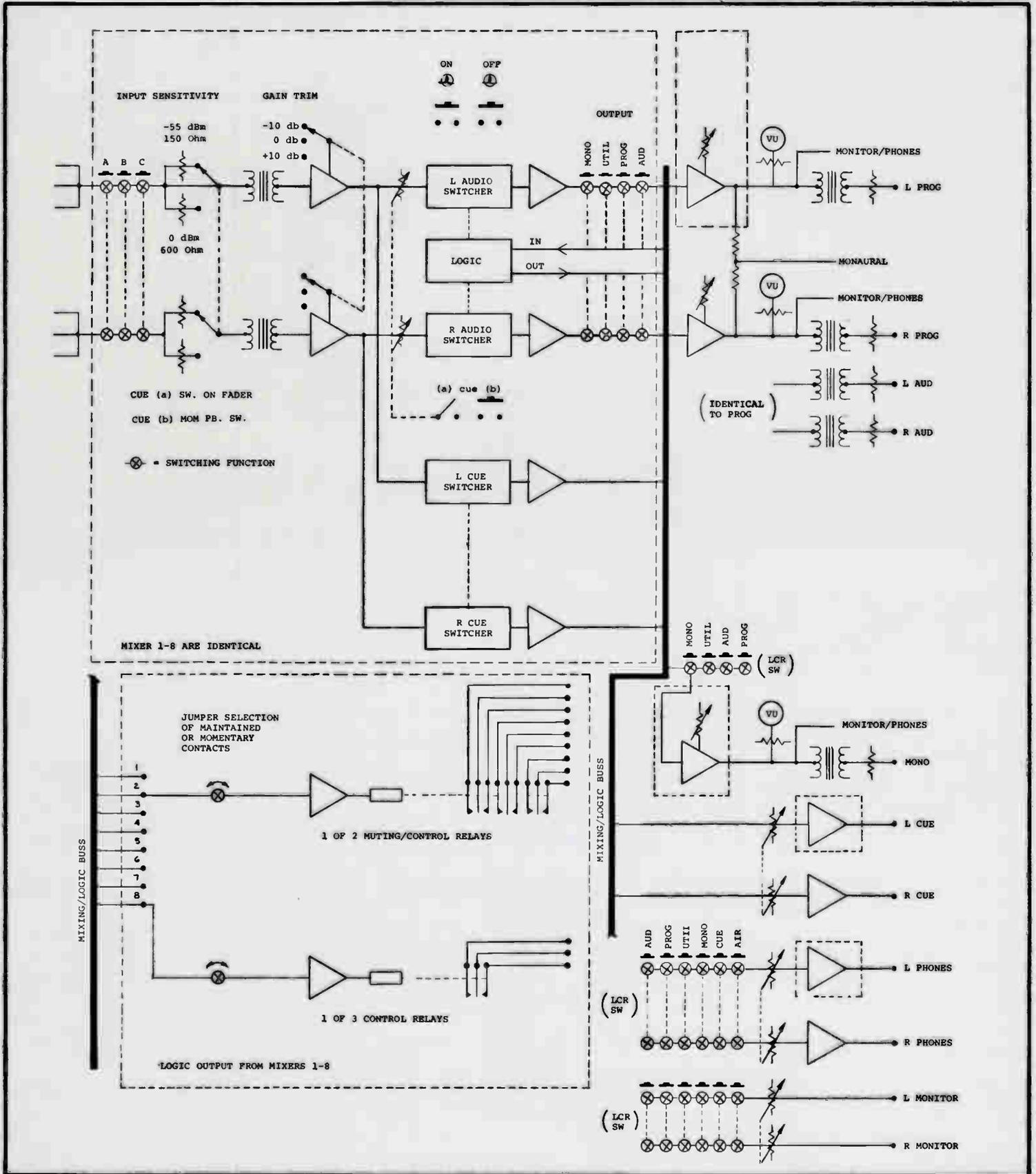
**Noise:** 70 dB below +8 dBm output, referenced to -55 dBm input, 20-20,000 Hz unweighted. Equivalent input noise - 125 dBm.

**Power:** 117 volts, 50/60 Hz (230 volts optional).

**Size:** 35W x 8.75H x 25D (inches).

**Shipping Weight:** 100 pounds.

# SYSTEM 8 FUNCTIONAL DRAWING

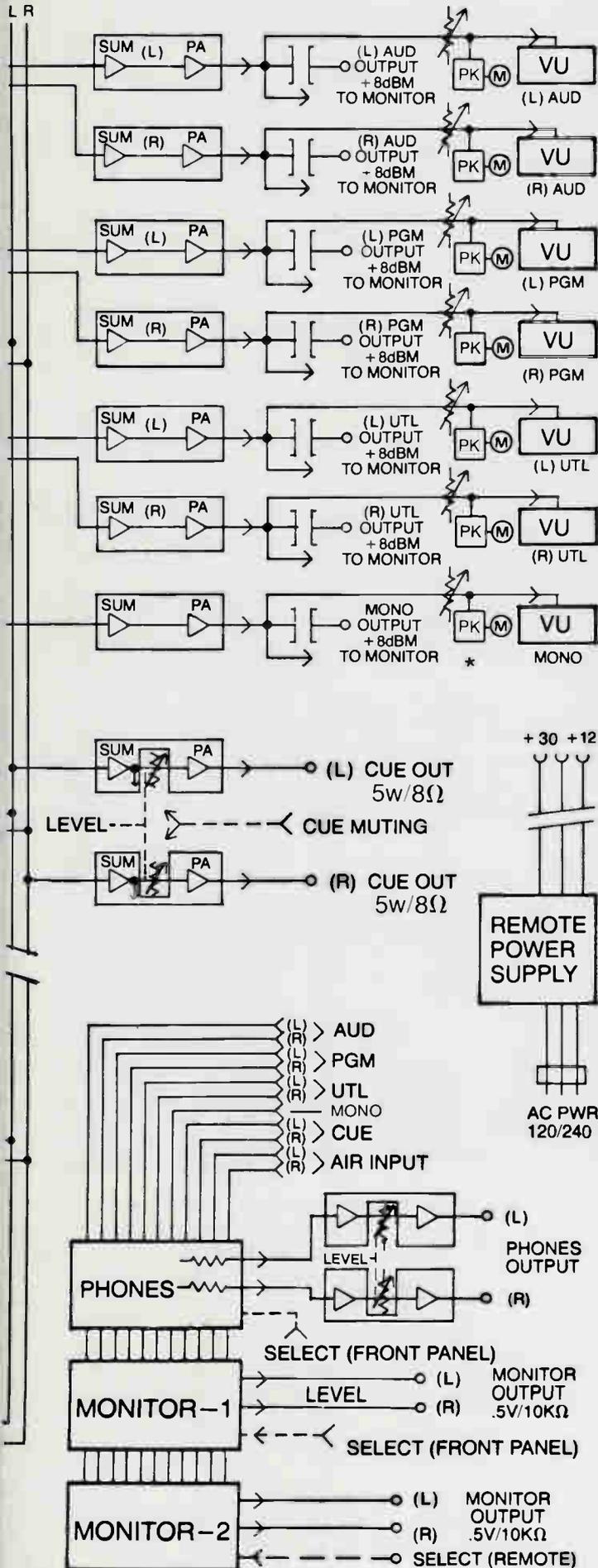


# SERIES IV

CUSTOM AUDIO CONSOLES



CUE  
L R



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# BROADCAST AUDIO CORPORATION

11306 SUNCO DR., RANCHO CORDOVA, CA 95670  
(916) 635-1048

# SERIES IV

CUSTOM AUDIO CONSOLES



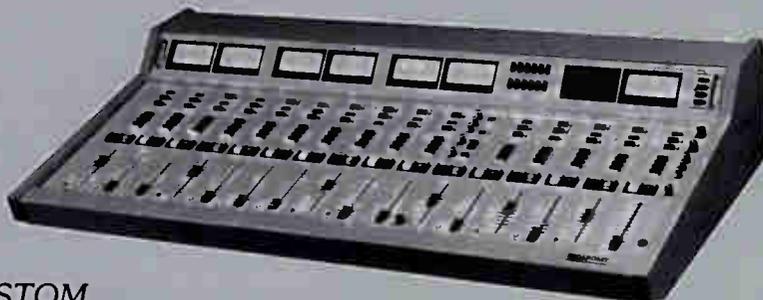
- **SYSTEM 8 STANDARD**  
2 STEREO, 1 MONO OUTPUT



- **SYSTEM 12 STANDARD**  
3 STEREO, 1 MONO OUTPUT  
AUDITION/UTILITY VU METER SWITCH



- **SYSTEM 16 CUSTOM**  
3 FULLY METERED STEREO, 1 MONO OUTPUT



## DESCRIPTION

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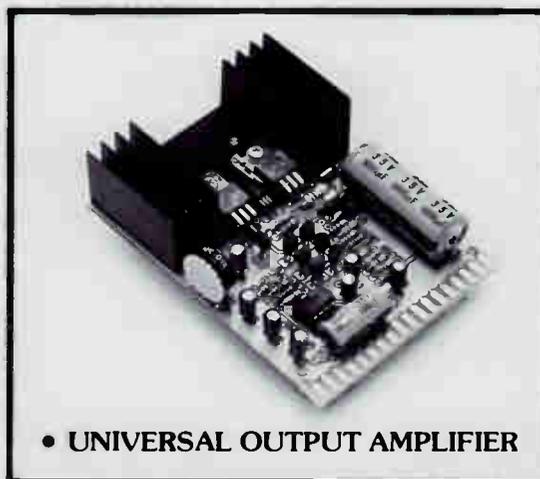
input. Green LED indicators show which input has been selected. We've upgraded to P&G's 4000 audio fader with cue detent and externally mounted cue switch, and, for an added touch, the amber LED indicates the cue mode.

An optional Peak Overload Indicator uses high brightness focused LED's to illuminate the red area of the VU meters. Meter isolation drive amplifiers are included. All **SERIES IV** PC boards are solder masked and have computer designed ground planes for RFI rejection and reduced noise and crosstalk.

All Broadcast Audio Corporation consoles sit on top of the desk, requiring no cutouts, and feature selectively illuminated VU meters, plus solid oak or walnut end panels and armrests. Each mixer module can be turned on or off from a remote location and relays are provided to start audio sources when mixer modules are turned on. A studio monitor option allows a studio operator or announcer to select an audio source and adjust the monitor level. The mixer modules and universal output amplifiers are the only electronics used, for the ultimate in redundancy and reliability.



• PEAK OVERLOAD INDICATOR



• UNIVERSAL OUTPUT AMPLIFIER



• STANDARD

SERIES IV



AUDIO DESIGN & MANUFACTURING

Price List April 10, 1987

SYSTEM 16-IV STEREO BROADCAST CONSOLE. Includes heavy duty regulated power supply and 8 mixers, expandable to 16. Two muting and eight control relays. Walnut or oak trim.	\$11,350.00
SYSTEM 12-IV STEREO BROADCAST CONSOLE. Includes heavy duty power supply and 8 mixers, expandable to 12. Two muting and eight control relays. Walnut or oak trim.	10,250.00
SYSTEM 8-IV STEREO BROADCAST CONSOLE. Includes heavy duty regulated power supply and 6 mixers, expandable to 8. Two muting and three control relays. Walnut or oak trim.	7,750.00
SERIES IV Custom Version. As above, but also includes front panel LED digital countup timer, and Control Room Monitor Panel with 3-frequency Headphone EQ and phones jack. Add to base price.	750.00
SYSTEM 6-IV STEREO BROADCAST CONSOLE. Includes rack mount power supply and 4 mixers, expandable to 6. Walnut or oak.	4,550.00
SERIES IV Extender with 4 mixers, expandable to 6.	2,850.00
SYSTEM 6 RM MODULAR RACK MOUNT CONSOLE. Includes internal power supply and monitor amplifier.	4,950.00

Console prices include pressure-sensitive matched color in/out labels, blank panels, plus MOLEX crimping tool and input connectors (ELECTROVERT connectors on 6 RM).

Accessories: (Most will retrofit to Series II)

Additional Stereo Mixer Modules. Plug into existing connectors, replacing blank panels supplied in unused mixer positions.	550.00
Pan Pot Option on Standard Series IV Mixer.	50.00
Equalized Stereo Mixer Modules, with 5-frequency EQ and Pan-Pot, replacing 3-input selector switch. If substituted, add \$200.00 per EQ Mixer Module to base price.	750.00
Aux Send Mixer Module, with EQ and Pan Pot. Includes Audition, Program, and Mono Outputs, plus 2 pre/post fader sends to L & R Utility.	850.00
Peak Level Indicating System with high brightness focused LED's behind meter to illuminate red area. Price includes meter buffer amplifiers.	
SYSTEM 8/12 - SERIES II OR SERIES IV.	275.00
SYSTEM 16 - SERIES IV.	375.00
SYSTEM 16 - SERIES II. Includes new 12V power supply module.	475.00
3-frequency Headphone EQ Panel for retrofit to all SYSTEM 6, 8, 12, and 16 consoles. Mounts in place of trim panel at right side of console.	375.00
Studio Monitor Control, for remote selection of monitor output to studio speakers (requires additional monitor amplifier). Includes panel with 6-position switch and level control. 25 foot cable is provided (will not retrofit to Series II consoles).	350.00
Remote Input/Output Panel. Mounts in unused mixer position. Two 4-position selector switches, to add additional audio inputs or feed output of console to multiple locations.	350.00
Remote Input/Output Panel, with a single reel/reel control.	450.00
Remote Input/Output Panel, with dual reel/reel control.	550.00

Single reel/reel control. Mounts in unused mixer position.	160.00
Dual reel/reel control. Mounts in unused mixer position.	235.00
Redundant Power Supply. Two independant systems in 5-1/4" rack space. Order with console.	450.00
Spare Power Supply. Requires 5-1/4" rack space.	600.00
Fixed copy stand. Tinted plexiglass with walnut or oak base. Mounts on top of console meter panel. 17W x 12H (inches).	55.00
Free Standing Sliding Copy Stand. Tinted plexiglass with walnut or oak base. Not for use with overbridge.	
SYSTEM 8/12 - 37W x 20H (inches).	150.00
SYSTEM 16 - 46W x 20H (inches).	200.00
Overbridge. 5-1/4 inch panel space (includes blank panels).	450.00
Stereo Cue Speakers, mounted in overbridge.	150.00
LED Digital Timer, with 16 reset inputs, mounted in overbridge.	350.00

#### Additional Products:

BA-235 MOS FET MONITOR AMPLIFIER. Two 35 watt RMS <u>plug-in</u> cards in 1-3/4 inch rack mount.	650.00
BA-235, with optional 5-frequency front panel tone controls.	750.00
BA-435 MOS FET MONITOR AMPLIFIER. Four 35 watt RMS <u>plug-in</u> cards in 1-3/4 inch rack mount. Dual power supply. <u>Ideal</u> for use with Studio Monitor Control.	1,050.00
Spare Monitor Card.	180.00
Note: BA-235 will deliver 90 watts into single 8 ohm load, using internal bridging switch. BA-435 will deliver 90 watts into two 8 ohm loads.	
BA-205 STEREO PHONO PREAMP with two <u>plug-in</u> cards, single power supply, passive EQ network, 1-3/4 inch rack mount.	750.00
BA-405 DUAL STEREO PHONO PREAMPLIFIER. Four <u>plug-in</u> cards with automatic redundant power supply, passive <u>equalization</u> network, in 1-3/4 inch rack mount.	1,050.00
Spare Phono Card.	185.00
BA-6x4 DISTRIBUTION AMPLIFIER. Up to six single-channel <u>plug-in</u> cards with 4 transformer balanced outputs, in 1-3/4 inch rack mount. Features selectable LED metering. Mainframe with two cards.	1,250.00
Additional DA Cards.	175.00

#### Terms:

25% down payment required. Balance 30 days from date of invoice with credit approval. 5% discount for cash with order. BAC reserves the right to request payment in advance, or to ship C.O.D. if credit cannot be approved with available information.

#### Availability:

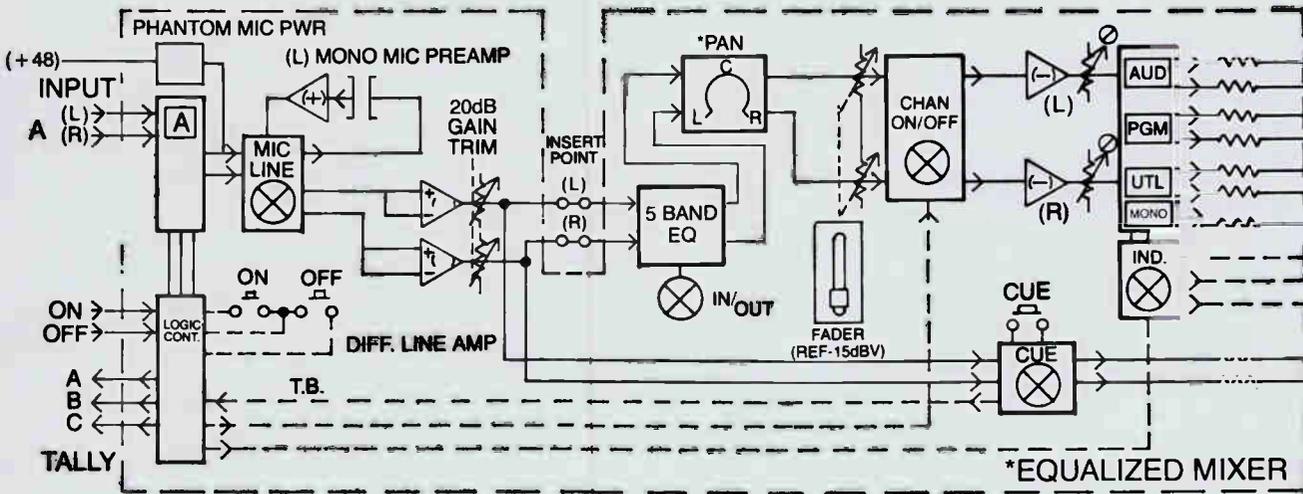
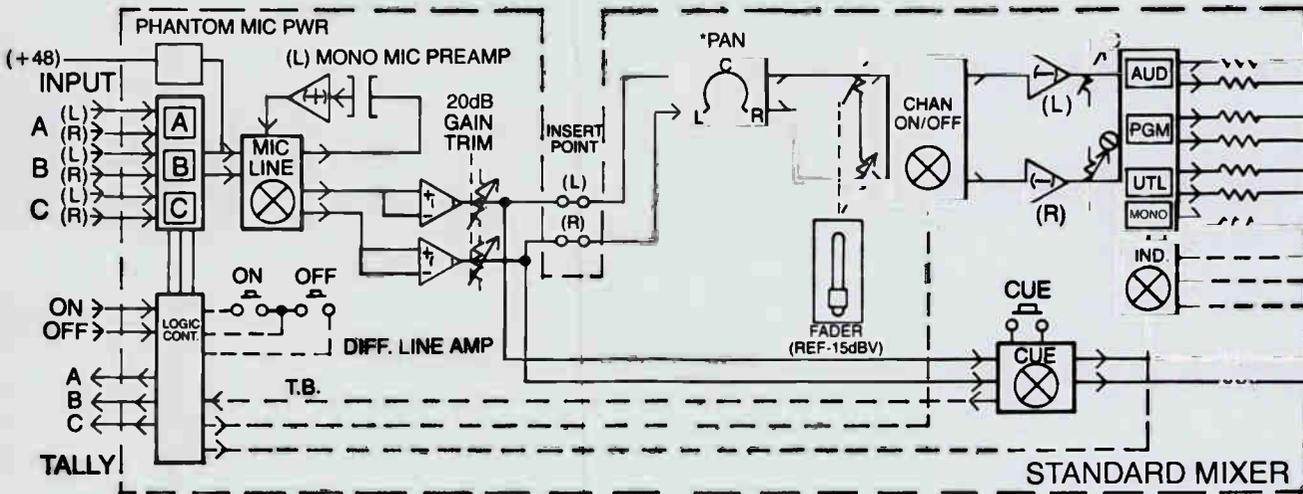
Normally 2 to 4 weeks, following credit approval or receipt of cash.

#### Warranty:

BAC products are warranted to be free of defects in parts and labor for a period of one year from date of invoice. Returns must be factory authorized, and sent prepaid insured.

# SERIES IV FUNCTIONAL DIAGRAM

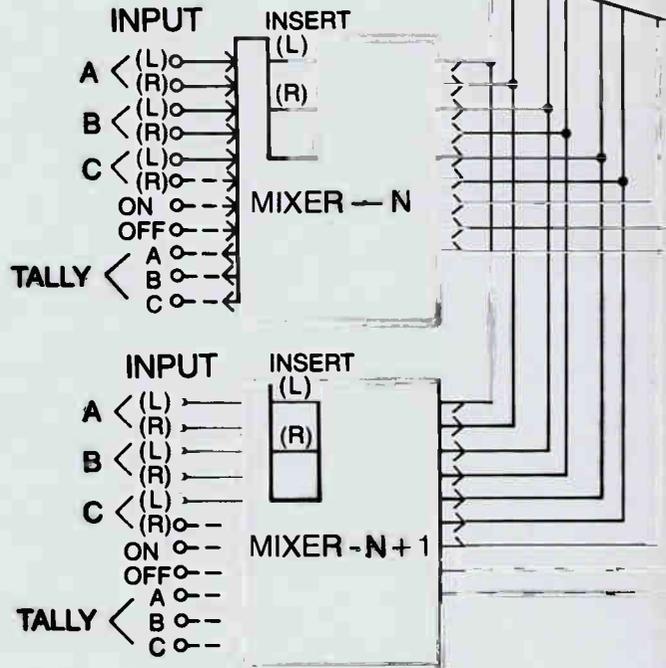
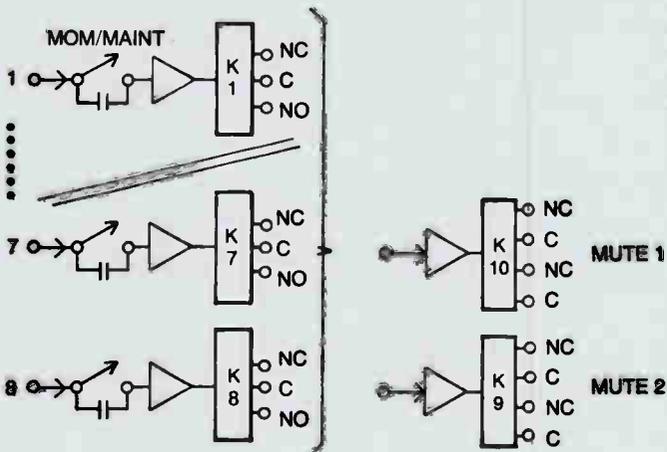
AUD PGM UTL  
LR LR LR M



**\*OPTIONAL**

- 1 - PAN CONTROL
- 2 - EQUALIZER "EQ" TYPE MIXER
- 3 - VU METER DRIVER & ADJUSTABLE PRESET PEAK LEVEL INDICATOR

**RELAY LOGIC**

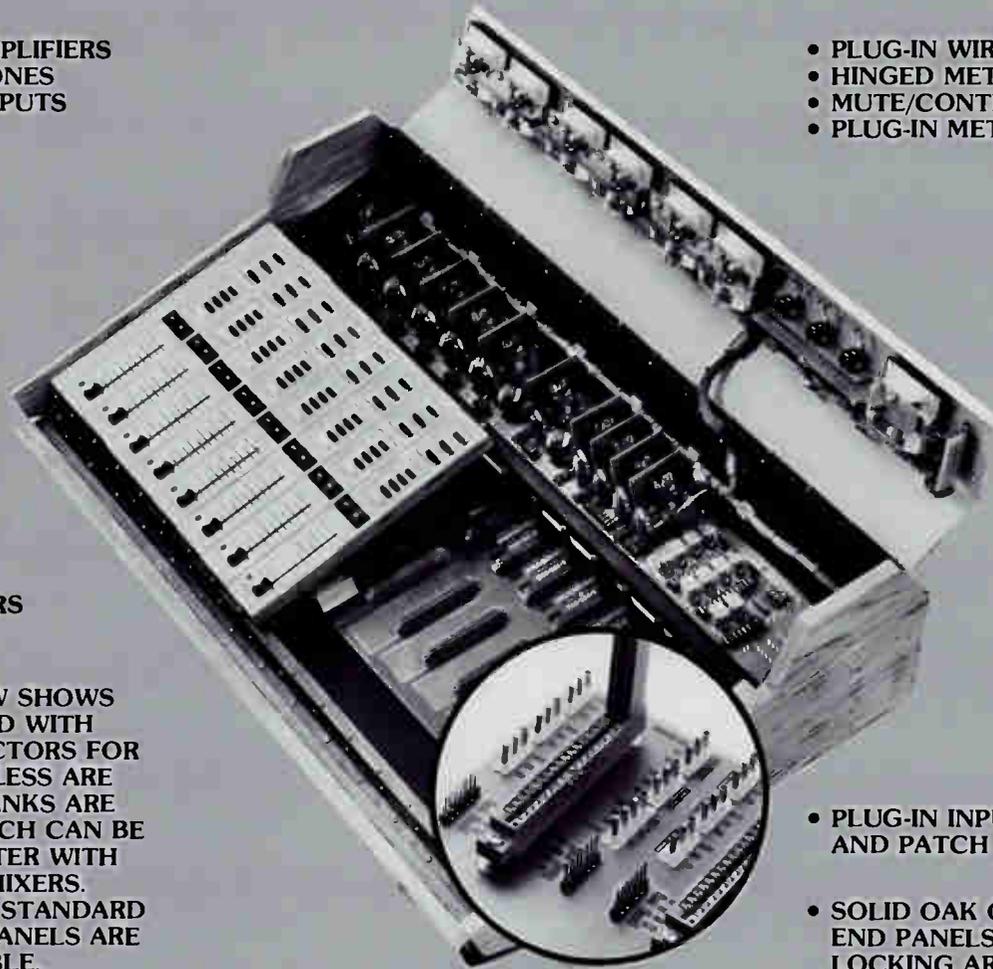


- IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

- PLUG-IN WIRING HARNESS
- HINGED METER PANEL
- MUTE/CONTROL RELAYS
- PLUG-IN METER LAMPS

- PLUG-IN MIXERS

- SYSTEM 16 INTERIOR VIEW SHOWS MOTHERBOARD WITH EDGE CONNECTORS FOR 16 MIXERS. IF LESS ARE ORDERED, BLANKS ARE SUPPLIED WHICH CAN BE REPLACED LATER WITH ADDITIONAL MIXERS. CUSTOM AND STANDARD ACCESSORY PANELS ARE ALSO AVAILABLE.



- PLUG-IN INPUTS AND PATCH POINTS

- SOLID OAK OR WALNUT END PANELS AND LOCKING ARMREST

## GENERAL SPECIFICATIONS

**Operating Mode:** Three stereo outputs, plus mono/sum.

**Mixing Channels:** Up to 16 mixers, each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 48 stereo inputs — 3 inputs per mixer.

**Audio Outputs:** Total of 8 — stereo Program, stereo Audition, stereo Utility, Mono/Sum, stereo Monitor, stereo Headphones, stereo Cue and stereo auxiliary (studio) Monitor. Program, Audition, and Utility outputs are +8dBm transformer balanced. Note: Utility output not available on SYSTEM 8.

**Source Impedance:** Microphone — 150 ohms transformer balanced and floating — input impedance 1500 ohms. Optional active balanced mic input. Line — 20,000 ohms active balanced and floating. Output source impedance — 150 ohms.

**Patch Points:** Prefader, with connectors on mixer motherboard. Connector also provided for phantom power supply.

**Remote Control:** Each mixer can be turned on/off with momentary contact to ground. Relays are assignable to any combination of mixers. Two 2-Form B (mute) Three Form C (start) on SYS 8; eight on SYS 12/16, mom. or maint.

**Power:** 105 - 125 volts a-c 50/60 Hz, 250 VA maximum. 210 - 250 volts a-c 50/60 Hz optional.

**Size:** SYSTEM 16 — 44W x 8.75H x 25D (inches).  
SYS 8/12 — 35W x 8.75H x 25D (inches).

**Shipping Weight:** 115 - 150 pounds, depending on model and configuration. Air only.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm 0.5$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec line input to any program output, less than 10  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.15% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs — 125dBv equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBv input level to one active mixer input. Line Inputs — 90dBm equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBm level to one active mixer input.

**Crosstalk:** Better than 80dB between any adjacent program or cue bus, 20 - 15,000 Hz.

**Gain:** Mic Inputs 90dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

**Input Headroom:** 30dB with nominal gain setting.

**Output Headroom:** 20dB above +8dBm.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; stereo cue — 5 watts into 8 ohms; stereo control room and aux Monitor outputs — 0.5 volts into 10k ohm load, unbalanced.

# MODULE SPECIFICS PARTICULARS.

**SERIES IV** Custom Audio Consoles are available with 3 kinds of interchangeable plug-in mixers: The Standard stereo mixer with optional pan pot; 5-frequency Equalized mixer with pan pot; and an Aux Send mixer with EQ and pan pot. The Aux Send mixer can be used as a regular mixer feeding Audition, Program, or Mono output busses. It also has 2 mono outputs—pre or post fader with gain controls—which feed the left and right Utility output bus for reverb and other effects. The Utility output can be fed back into another mixer module which then functions as a Sub-master.

All mixer modules have a transformer balanced mic input and an active balanced 20,000 ohm line input, switch selected. A Gain Trim switch is also provided to adjust the input sensitivity +10dB. Pressure sensitive sheets, color matched to the console paint, with dozens of broadcast terms are provided with each console to identify inputs or mixer functions.

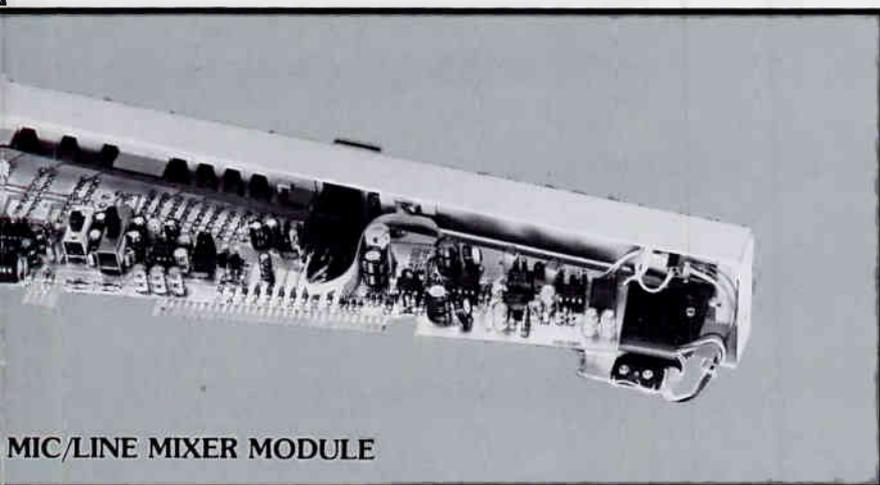
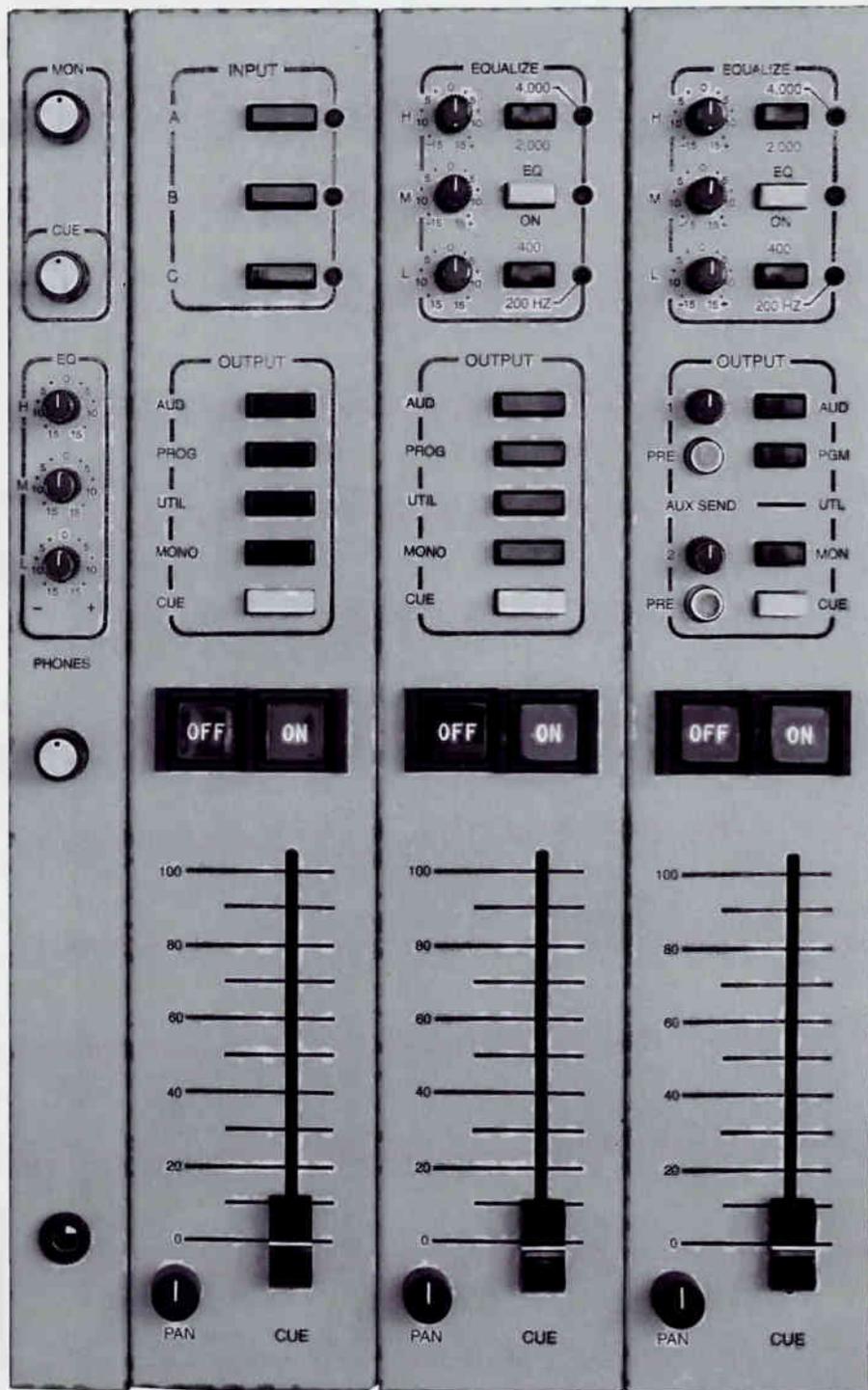
**SERIES IV** Custom Version audio consoles have a front panel digital up-timer, with 16 inputs, which can reset the clock from the console "on" logic, without requiring any relays to be used. A Control Room Monitor Module which includes a 3-frequency headphone equalizer is also included.

MONITOR MODULE

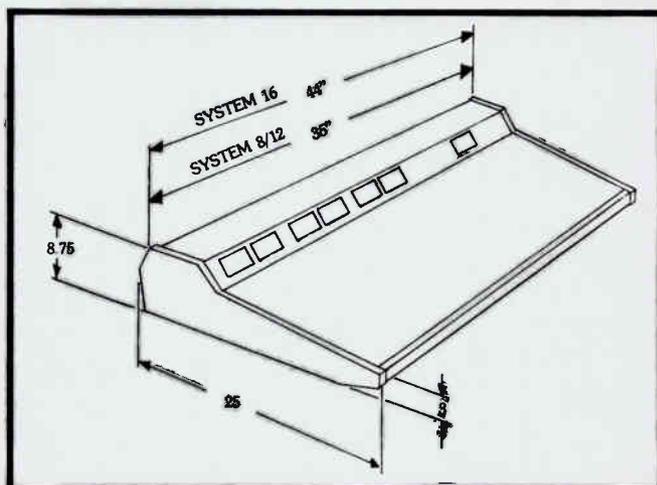
STANDARD MIXER MODULE

EQ MIXER MODULE

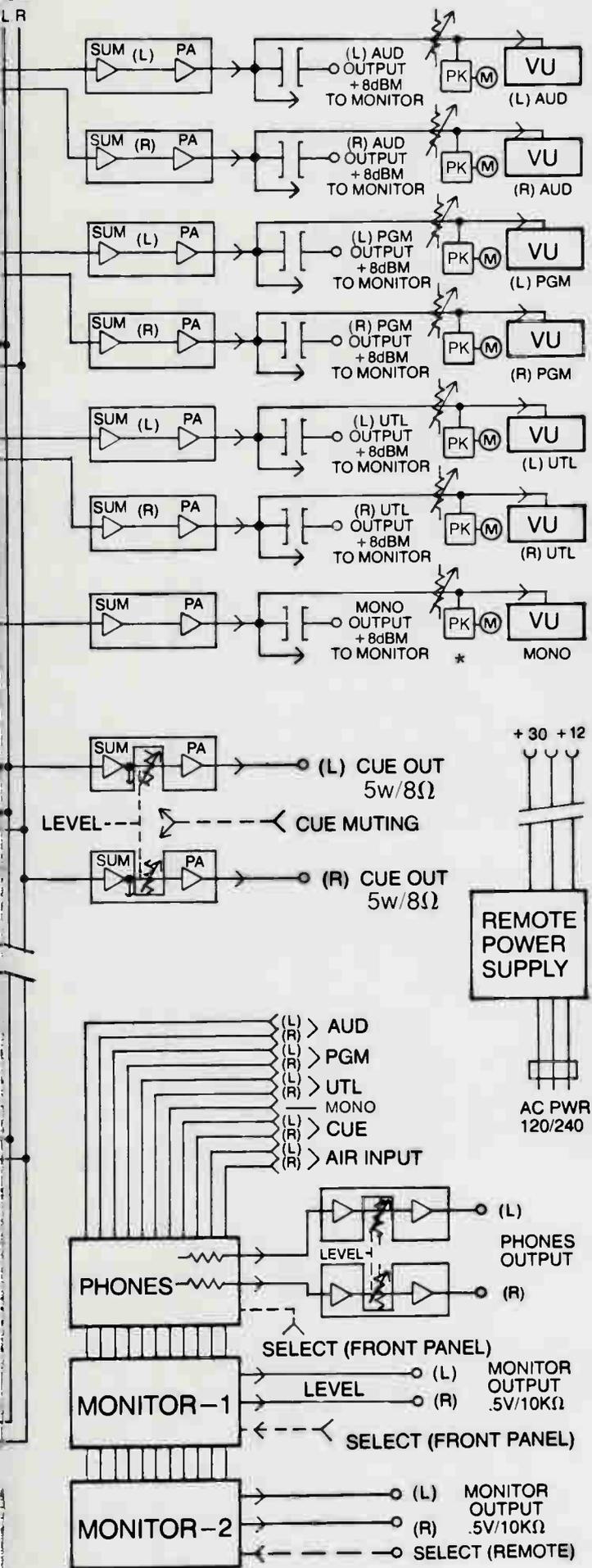
EQ MIXER W/AUX SEND



MIC/LINE MIXER MODULE



U  
L R



## FACILITIES



Broadcast Audio Corporation's manufacturing and sales office are in a modern 20,000 square foot building owned by our stockholders. We are located in Rancho Cordova, California, just outside the state capital of Sacramento, on an historic gold dredging site.

## AVAILABILITY

Normally 1-3 weeks after credit approval. SYSTEM 14 and SYSTEM 20 slightly longer, depending on options. 25% down payment required; balance 30 days from date of invoice, 5% discount for cash with order.

# BROADCAST AUDIO CORPORATION

11306 SUNCO DR., RANCHO CORDOVA, CA 95670  
(916) 635-1048

**BROADCAST  
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# SYSTEM 6

SERIES IV COMPACT BROADCAST MIXER



11306 SUNCO DR., RANCHO CORDOVA, CA 95670 (916) 635-1048

**SYSTEM 6** is a modular audio console, utilizing the same electronic modules as the larger **SERIES IV** consoles. The concept is to offer a premium quality console for newsrooms and production, which is totally compatible with our other consoles. Monitor and Cue muting is

standard. Extra on/off contacts are provided for remote control, or an optional relay board is available. **SYSTEM 6** is also available as a low-cost console extender, without the output amplifiers, meters, and monitor controls.

## GENERAL SPECIFICATIONS

**Operating Mode:** One stereo output, plus mono/sum.

**Mixing Channels:** Up to 6 mixers each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 18 stereo inputs — 3 inputs per mixer.

**Audio Outputs:** Total of 8 — stereo Program, Mono/Sum, stereo Monitor, stereo Headphones, and cue. Program and Mono outputs are +8dBm transformer balanced.

**Source Impedance:** Microphone — 150 ohms transformer balanced and floating — input impedance 1500 ohms. Optional active balanced mic input. Line — 20,000 ohms active balanced and floating. Output source impedance — 150 ohms.

**Patch Points:** Prefader, with connectors on mixer motherboard. Connector also provided for phantom power supply.

**Remote Control:** Extra Form C contacts are available on each on/off switch for start/stop functions (mating connectors available). All logic functions are accessible on 40 pin ribbon connector, including remote control of mixer on/off. Remote control card available.

**Power:** 105 - 125 volts a-c 50/60 Hz, 125 VA maximum. 210 - 250 volts a-c 50/60 Hz optional. Supply is rack mounted.

**Size:** **SYSTEM 6** — 22.5W x 8.75H x 25D (inches).

**Shipping Weight:** 75 pounds. Air only.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm .5$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec. line input to any program output, less than 10  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.15% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs — 125dBu equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBu input level to one active mixer input. Line Inputs — 90dBu equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBu level to one active mixer input.

**Crosstalk:** Better than 80dB between any adjacent program or cue bus, 20 - 15,000 Hz.

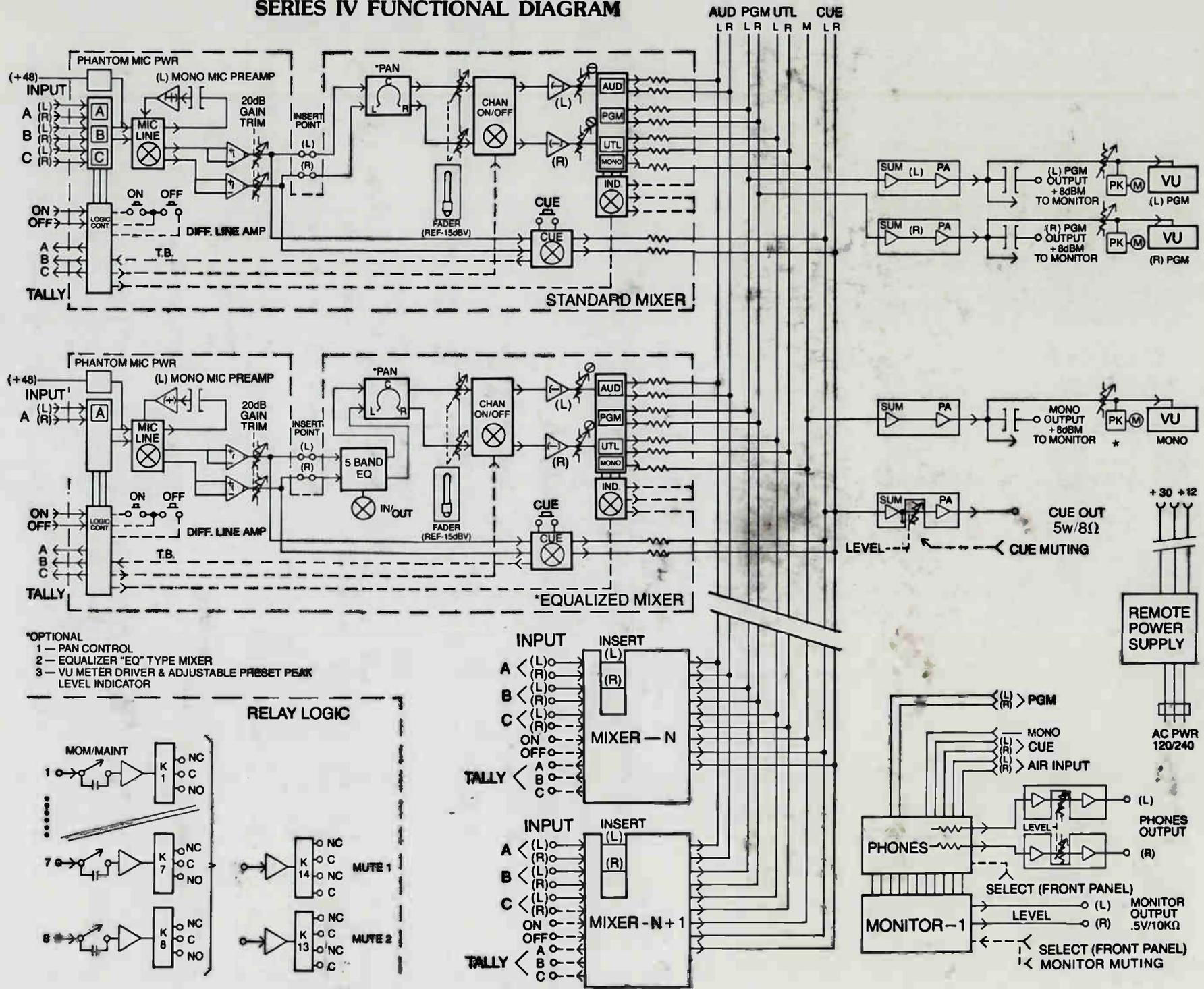
**Gain:** Mic Inputs 90dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

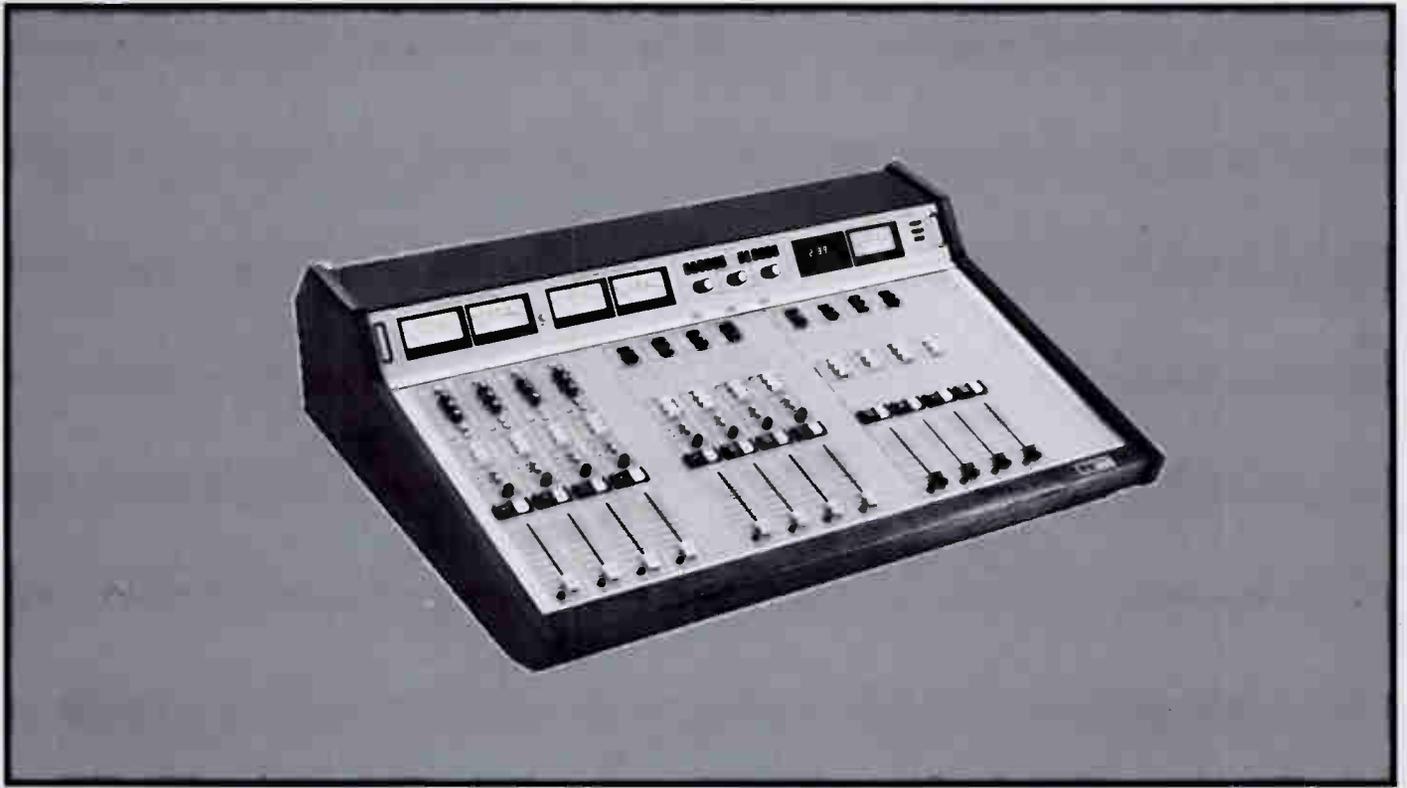
**Input Headroom:** 30dB with nominal gain setting.

**Output Headroom:** 20dB above +8dBm.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; Cue — 5 watts into 8 ohms; stereo Monitor output — 0.5 volts into 10k ohm load, unbalanced.

# SERIES IV FUNCTIONAL DIAGRAM





# SYSTEM 14

*Digitally Controlled Audio Console*

**SYSTEM 14** is the latest and most technically sophisticated member of the Broadcast Audio Corporation family of fine audio consoles. A digital slide fader and digitally controlled CMOS high resolution logarithmic audio attenuator significantly reduce signal paths, without the numerous disadvantages associated with VCA's.

**SYSTEM 14** has three available plug-in mixers: Type A has output selectors, 5-frequency equalizer, stereo/mono mode switch and pan pot; Type B has in/out selectors, stereo/mono mode switch and pan pot; Type C has in/out selectors. Each mixer has a transformer balanced mic input *and* a differential balanced line level input. A universal output amplifier is used as line amplifier, stereo headphone and stereo cue amplifier.

**SYSTEM 14** uses noiseless d-c audio switching of all program and monitor functions, which also enables each mixing channel to be turned off and on from a remote location, such as an announce studio, news booth, or video switcher. Muting relays are standard and an optional control board has 8 start and 4 stop relays for external start/stop. Other options include Remote Line Selector, Talkback, Test Oscillator, Tape Controls, and Clock/Timer.

**SYSTEM 14** combines digital technology with the operator conveniences and absolute reliability which exemplify BAC audio consoles.

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# SYSTEM 14 SPECIFICATIONS

## GENERAL

**Operating Mode:** Three stereo outputs, plus mono/sum.

**Mixing Channels:** Up to 14 mixers, each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 42 stereo inputs. Type A mixers have 1 input. Type B and C have 3 inputs each.

**Input Headroom:** 30dB with nominal gain setting.

**Audio Outputs:** Total of 8 — stereo Program, stereo Audition, stereo Utility, Mono/Sum, stereo Monitor, stereo Headphones, stereo Cue and stereo auxiliary (studio) Monitor.

**Source Impedance:** Microphone — 150/250 ohms transformer balanced. Line — 600 ohms differential balanced (20k ohms balanced bridging optional).

**Patch Points:** Balanced prefader in mixer and unbalanced in line amplifier.

**Remote Control:** Each mixer can be turned on/off with momentary contact to ground.

**Power:** 105 - 125 volts a-c 50/60 Hz, 250 VA maximum. 210 - 250 volts a-c 50/60 Hz optional.

**Size:** 41W x 28D x 10H (inches). 104W x 71D x 25H (centimeters).

**Shipping Weight:** 125 pounds, 335 kg. (typical). Two containers.

## PERFORMANCE

**Frequency Response:** Within  $\pm 0.3$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec. line input to any program output, less than 12  $\mu$  sec. microphone input to any program output.

**Harmonic Distortion:** Less than 0.09% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; stereo cue — 10 watts into 8 ohms; stereo control room and aux Monitor outputs — 0.5 volts into 10k ohm load.

## NOISE

**Microphone Inputs:** -125dBv equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBv input level to one active mixer input.

**Line Inputs:** -90dBm equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBm input level to one active mixer input.

**Crosstalk:** Signal to crosstalk greater than 70dB, 20 - 15,000 Hz, any program input to any program output.

## GAIN

**Microphone Inputs:** 91dB nominal at 0VU output (+8dBm).

**Line Inputs:** 38dB nominal at 0VU output (+8dBm).

**BROADCAST  
AUDIO CORPORATION**

# SYSTEM 5

ROTARY BROADCAST MIXER



IT SOUNDS AS GREAT AS IT LOOKS!

**SYSTEM 5** is recommended for both on-air and audio production applications, where the highest quality and absolute dependability are required. The console has been designed for simplicity of operation and ease of maintenance. All active circuits are on plug-in cards, and the faders are individual plug-in assemblies which can be changed in minutes. Identical and interchangeable output cards are used as Line, Cue, Monitor, and Headphone Amplifiers, providing the ultimate in simplicity and redundancy.

In its standard configuration, mixer 1 has a microphone preamplifier and mixers 2-5 are line level using 10,000 ohm bridging transformers. On special order, 20,000 ohm balanced differential active line inputs are available. The console can also be supplied with all mic or all line inputs or various combinations. Mixers 1-4 have 2 inputs each, selected by a switch above the fader. Mixer 5 has 4 inputs. Each fader has a cue detent switch.

**SYSTEM 5** front panel level controls are provided for Handphones, Cue, Monitor, and Program Master. An internal 5 inch cue speaker is standard. The Headphone Amplifier will drive stereo or mono headsets of high or low impedance. A 3-position switch selects Program, Cue, and Aux inputs to the Headphone Amplifier.

Cue and Monitor muting is electronic, but 2 relays are also provided for speaker muting or external control. A momentary pushbutton below each line level fader can be user wired to start external equipment.

**Mixers:** Five, with cue detent switches.

**Inputs:** Twelve, 2 mic 10 line standard.

**Input Impedances:** 150 ohms mic, 10,000 ohms line level transformer balanced (optional 20,000 ohms active balanced inputs).

**Input Levels (nominal):** 55 dBv mic, 10 dBm line.

**Outputs:** Balanced and unbalanced program output, plus Headphone, and Monitor speaker.

**Output Levels:** Line output, 8 dBm into 600 ohms for 0 VU indication, + 30 dBm maximum output. Headphone, one watt per channel into 8 ohms. Cue, 8 watts into 8 ohm internal speaker. Monitor, 8 watts into 8 ohm load.

**Frequency Response:** Within 1 dB, 20-20,000 Hz. at rated output (line outputs typically 3 dB down at 45,000 Hz.)

**Harmonic Distortion:** Line outputs, less than 0.2% THD 20-20,000 Hz. at rated output (typically less than 0.05 at 1,000 Hz.) Monitor outputs, less than 0.2% THD 20-20,000 Hz. at rated output.

**Intermodulation Distortion:** Line outputs, less than 0.05% at rated output (less than 0.2% at any operating level). Monitor outputs, less than 0.05% at rated output or less. SMPTE standards.

**Noise:** 72 dB below +8 dBm output, referenced to -55 dBv input, 20-20,000 Hz. unweighted. Equivalent input noise -127 dBm.

**Muting/Control:** Electronic Cue Muting, plus 2 plug-in 2 Form C relays. Four momentary pushbutton switches for remote start.

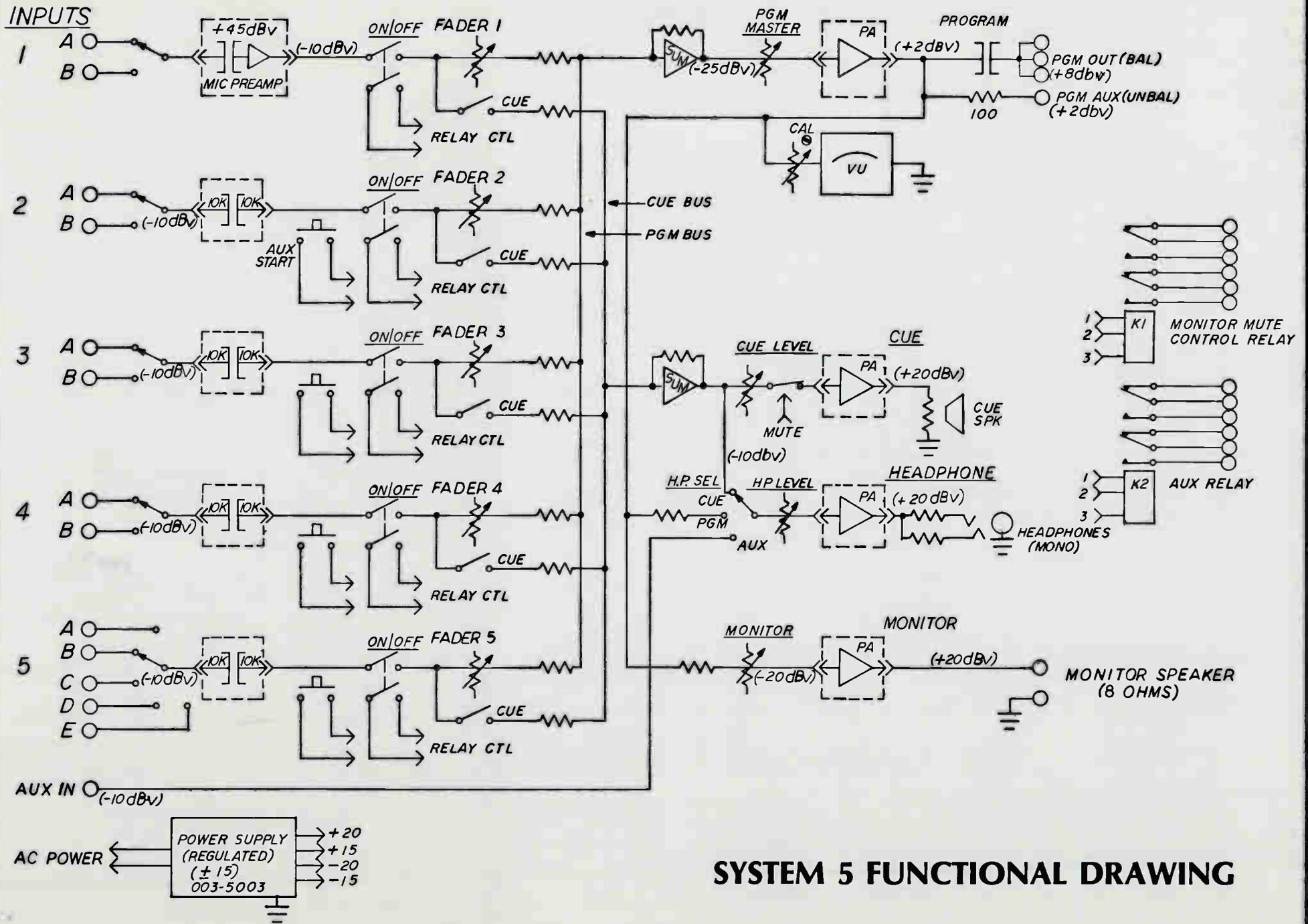
**Power:** 115 volts, 50/60 Hz. 56 VA max. (230 volts optional).

**Dimensions:** 7H x 21W x 21.50 (inches).

**Weight:** 38 pounds.

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**SYSTEM 5 FUNCTIONAL DRAWING**

# SYSTEM R

ROTARY BROADCAST MIXER



IT SOUNDS AS GREAT AS IT LOOKS!

## DESCRIPTION

**SYSTEM R** is a basic broadcast mixer, with unprecedented quality and performance. It was designed exclusively for broadcast and is not a scaled down version of recording or sound reinforcement equipment, so it performs flawlessly even in high RF environments.

An elegant low profile appearance is accented by solid walnut end panels and armrest. This mixer sits on top of the desk and does not require recessed mounting, so it's easy to install, with all connections made from the top.

**SYSTEM R** is a model of engineering simplicity, using motherboard construction, with only 3 types of amplifier modules and a plug-in interconnecting harness. Two independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof and an optional redundant supply is also available.

Operator conveniences include damped rotary faders, driving VCA's for extremely accurate tracking between channels. A cue detent position is provided on each fader. The panel layout is easily understood and a pleasure to operate.

**SYSTEM R** features DC audio switching and electronic muting for completely quiet audio control. Three optional plug-in relays, with switch selection of maintained or momentary contacts, can be used for muting or remote start from any combination of mixers. Additional contacts are available from the lever switches for control functions.

**Mixers:** 8 standard, damped rotary.

**Inputs:** 8 standard, 14 with remote option.

**Input Impedance:** 150 Ohms mic, 10k ohms line, active balanced (transformer optional).

**Input Levels:** -55 dBm mic, 0 dBm line.

**Outputs:** 2 balanced stereo line, plus cue, phone and monitor outputs.

**Output Levels:** Line Outputs 8 dBm into 600 ohms for 0 VU indication, 28 dBm maximum output. Phones 1 watt into 4 ohms. Cue 8 watts into 8 ohms. Monitor 10 watts into 8 ohms.

**Frequency Response:** Within  $\pm 0.5$ dB 20-20,000 Hz, mic input to line output.

**Harmonic Distortion:** Line Outputs less than 0.15% THD 20-20,000 Hz (typically less than 0.05% at 1KHz).

**IM Distortion:** Line Outputs less than 0.05% SMPTE.

**Noise:** 70 db below +8 dBm output, referenced to -55 dBm input, 20-20,000 Hz unweighted. Equivalent input noise -125 dBm.

**Power:** 117 volts, 50/60 Hz (230 volts optional).

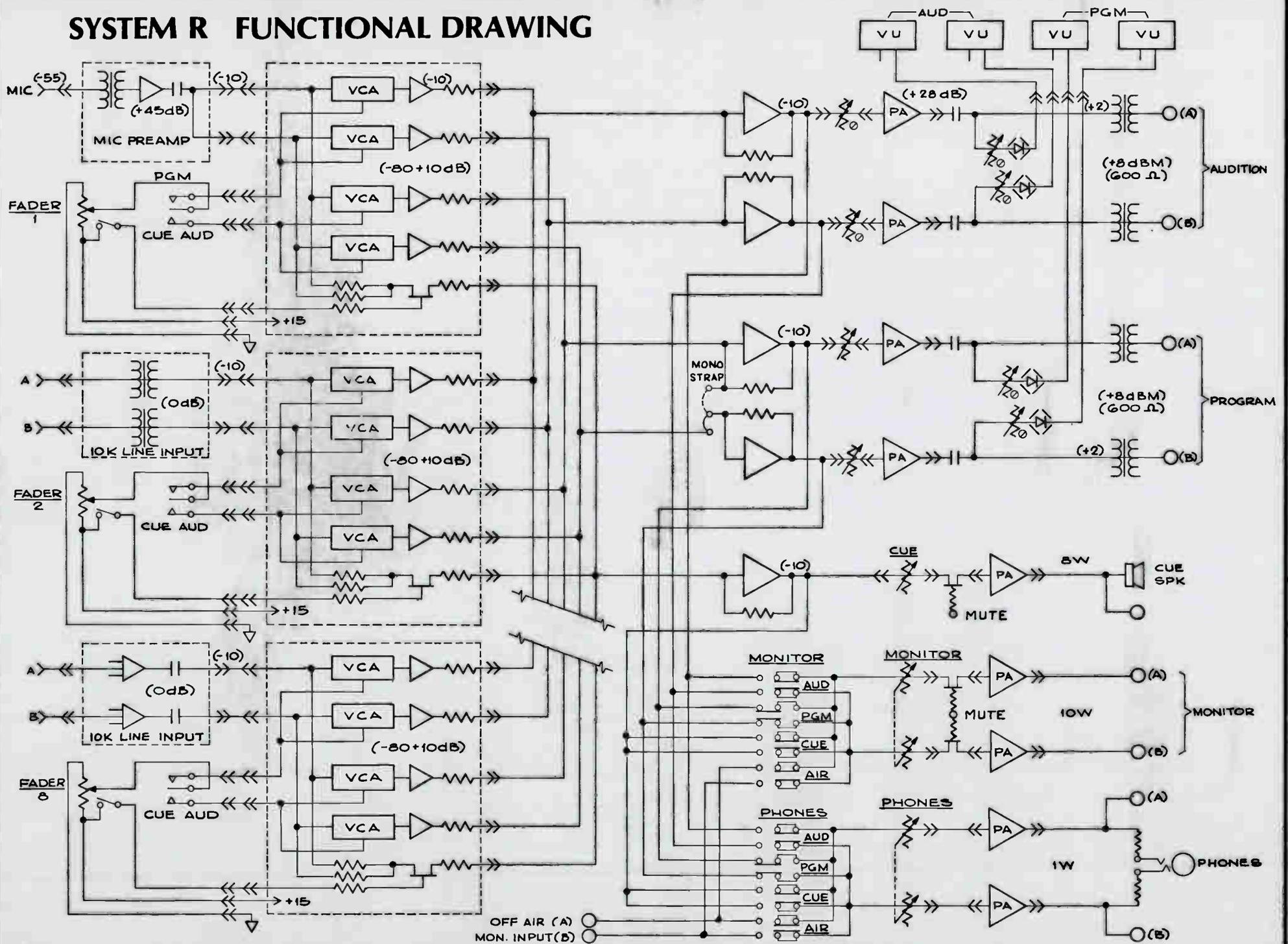
**Size:** 32W x 7.00H x 18D (inches).

**Shipping Weight:** 75 pounds.

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AUDIO CORPORATION**

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# SYSTEM R FUNCTIONAL DRAWING



**BROADCAST  
AUDIO CORPORATION**

# SYSTEM 6 RM

COMPACT RACK MOUNT AUDIO CONSOLE



11306 SUNCO DR., RANCHO CORDOVA, CA 95670 (916) 635-1048

## SYSTEM 6 RM AUDIO CONSOLE

SYSTEM 6 RM is a modular rack mount audio console, which uses many of the same circuits as our SERIES IV Consoles. The design goal was to produce the finest rack mount console in the industry, for ENG, mobile vans, newsrooms, and military applications.

Each mixing position can be turned on or off by a remote signal, and each mixer can start a tape cartridge machine or other audio device. Prefader patch points are provided, and all audio and control connec-

tions are "quick disconnect" on the rear panel. Audio levels can be preset, using a push button "preview" switch below the Audition VU meter.

The System 6 RM is completely self-contained, with a removeable internal power supply, plug-in mixer modules, and plug-in Cue, Headphone, and Monitor amplifier cards. It is absolutely the finest small rack mounted audio console available!

## GENERAL SPECIFICATIONS

**Operating Mode:** Two line outputs.

**Mixing Channels:** Six mixers, each with separate mic and high level inputs. Four position front panel sensitivity switch.

**Audio Inputs:** Total of 12, 2 inputs per mixer.

**Audio Outputs:** Two Program outputs (+8dBm —transformer balanced) with source impedance of 150 ohms, Headphones (2 watts into 10 ohms). Cue (5 watts into 8 ohms — front panel speaker).

**Source Impedance:** Microphone — 150 ohms transformer balanced with input impedance of 1500 ohms. Line — 600 ohms active balanced and floating with input impedance of 10,000 ohms.

**Patch Points:** Prefader, with 0dBm level.

**Remote Control:** Connectors provided for remote control of mixer on/off, and open collector outputs for external machine control. Electronic Cue and Monitor muting.

**Power:** 105-125 volts a-c 50/60 Hz or optional 210-250 volts. Supply is internal and removable.

**Size:** 19.0"W × 5.75"H × 14"D.

**Shipping Weight:** 30 pounds, air only.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** ±0.5dB, 20-20,000 Hz.

**Rise Time:** Less than 6  $\mu$  sec. line input to program output — less than 10  $\mu$  sec. mic input to program output.

**Slew rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.2% THD, 20-20,000 Hz with -60dBu to mic input. Less than 0.1% THD, 20-20,000 Hz with 0dBu to line input. All measurements at +8dBm output with 30 kHz measurement bandwidth.

**Intermodulation Distortion:** Less than 0.05% with -60dBu to mic input. Less than 0.03% with 0dBu to line input. SMPTE method at +8dBm output.

**Noise:** Mic input, -127dB EIN, 80kHz measurement bandwidth. Line input, -90 dBu, 30kHz measurement bandwidth.

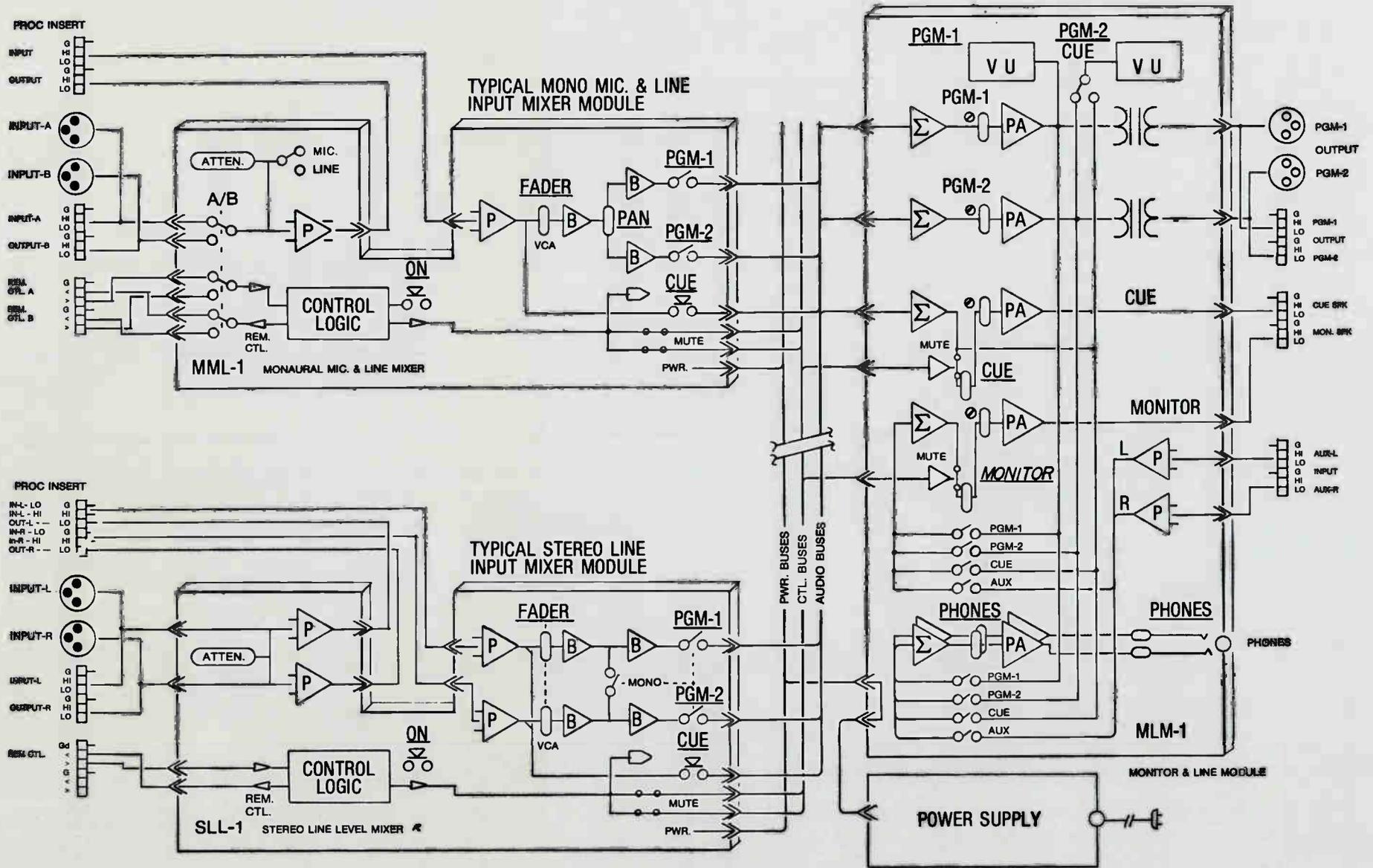
**Crosstalk:** Better than 80 dB, 20-20,000 Hz, adjacent buses.

**Input Sensitivity:** Mic -67dBu to -30dBu, Line -20 to +10dBu, front panel adjustable.

**Input Headroom:** 30dB with nominal gain setting.

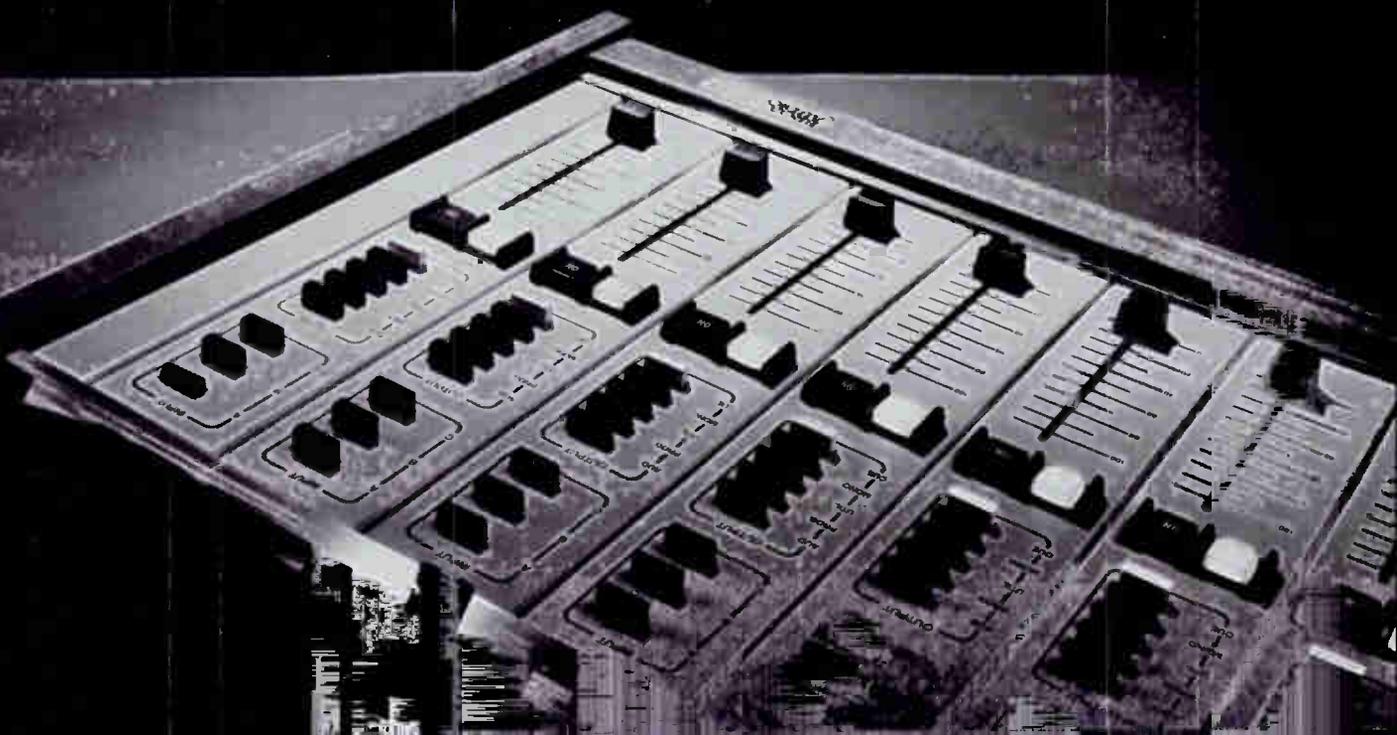
**Output Headroom:** 20dB above +8dBm.

# AUDIO & CONTROL BLOCK DIAGRAM RM-6



# SYSTEM 12

SERIES II



SYSTEM 12  
COMPACT BROADCAST MIXER



IT SOUNDS AS GREAT AS IT LOOKS!

## DESCRIPTION

**SYSTEM 12** is an expandable, completely modular broadcast mixer, with unprecedented features and performance. It was designed exclusively for broadcast and is not a scaled down version of recording or sound reinforcement equipment, so it performs flawlessly even in high RF environments.

An elegant low profile appearance is accented by solid walnut end panels and armrest. This mixer sits on top of the desk and does not require recessed mounting, so it's easy to install, with all connections made from the top.

**SYSTEM 12** is a model of engineering simplicity, using motherboard construction, with only 2 types of amplifier modules and a plug-in interconnecting harness. Two independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof and an optional redundant supply is also available.

Operator conveniences include 4 inch log taper slide faders for extremely accurate tracking between channels. In addition to a cue detent position on the fader, there is a separate button for cueing when the fader is up. The stereo cue amplifier is an industry first! The panel layout is easily understood and a pleasure to operate.

**SYSTEM 12** features DC audio switching, using LCR's for completely quiet audio control. This also enables each mixing channel to be turned off and on from a remote location, such as an announce studio or news booth. Ten plug-in relays, with switch selection of maintained or momentary contacts, can be used for muting or remote start from any combination of mixers.

**Mixers:** 8 standard, 12 maximum (log taper slider).

**Inputs:** 24 standard, 36 maximum (3 per mixer).

**Input Impedance:** 150 Ohms mic, 600 ohms line. Transformer balanced, switch selected.

**Input Levels:** -55 dBm mic, 0 dBm line (sensitivity adjustable  $\pm 10$  dB).

**Outputs:** 3 balanced stereo line, 1 balanced mono line, plus stereo cue, phone and monitor outputs.

**Output Levels:** Line Outputs 8 dBm into 600 ohms for 0 VU indication, 24 dBm maximum output. Phones 1 watt into 4 ohms. Cue 5 watts into 8 ohm external speakers. Monitor 0.5 volts into 10K load.

**Frequency Response:** Within 1 dB, 20-20,000 Hz, mic input to line output.

**Harmonic Distortion:** Line Outputs less than 0.15% THD 20-20,000 Hz (typically less than 0.05% at 1KHz).

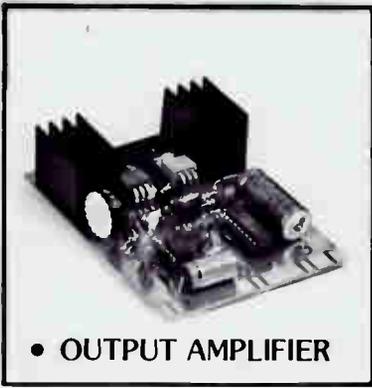
**IM Distortion:** Line Outputs less than 0.05% SMPTE.

**Noise:** 70 dB below +8 dBm output, referenced to -55 dBm input, 20-20,000 Hz unweighted. Equivalent input noise -125 dBm.

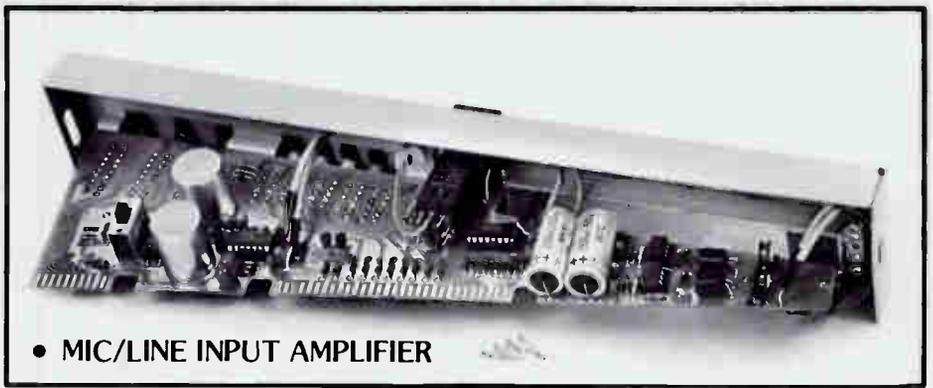
**Power:** 117 volts, 5/60 Hz (230 volts optional).

**Size:** 35W  $\times$  8.75H  $\times$  25D (inches).

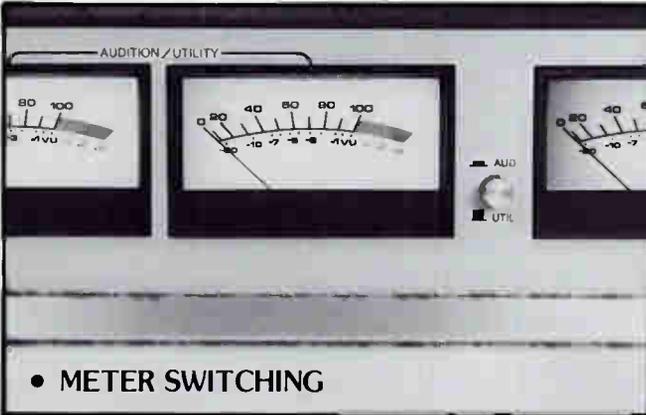
**Shipping Weight:** 110 pounds.



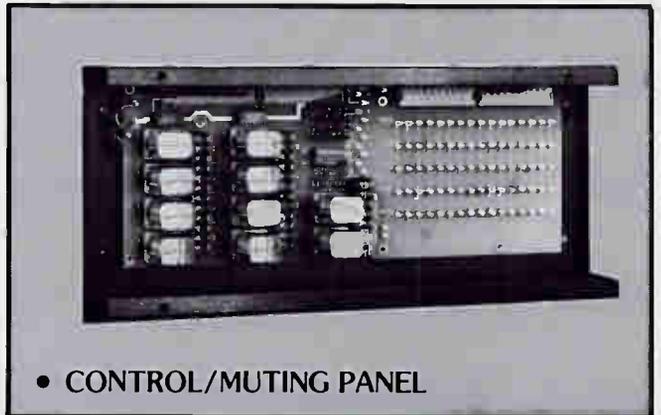
• OUTPUT AMPLIFIER



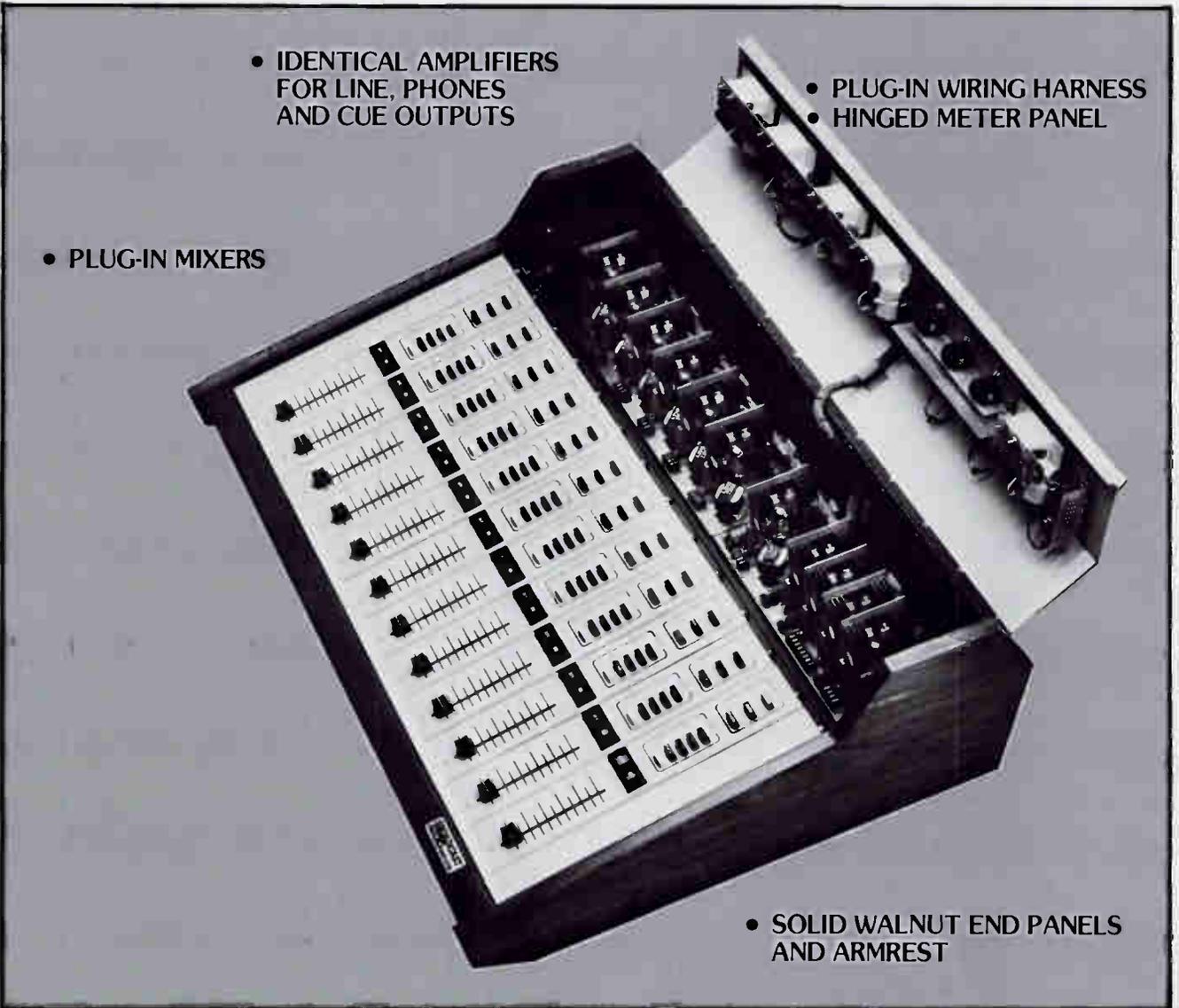
• MIC/LINE INPUT AMPLIFIER



• METER SWITCHING



• CONTROL/MUTING PANEL



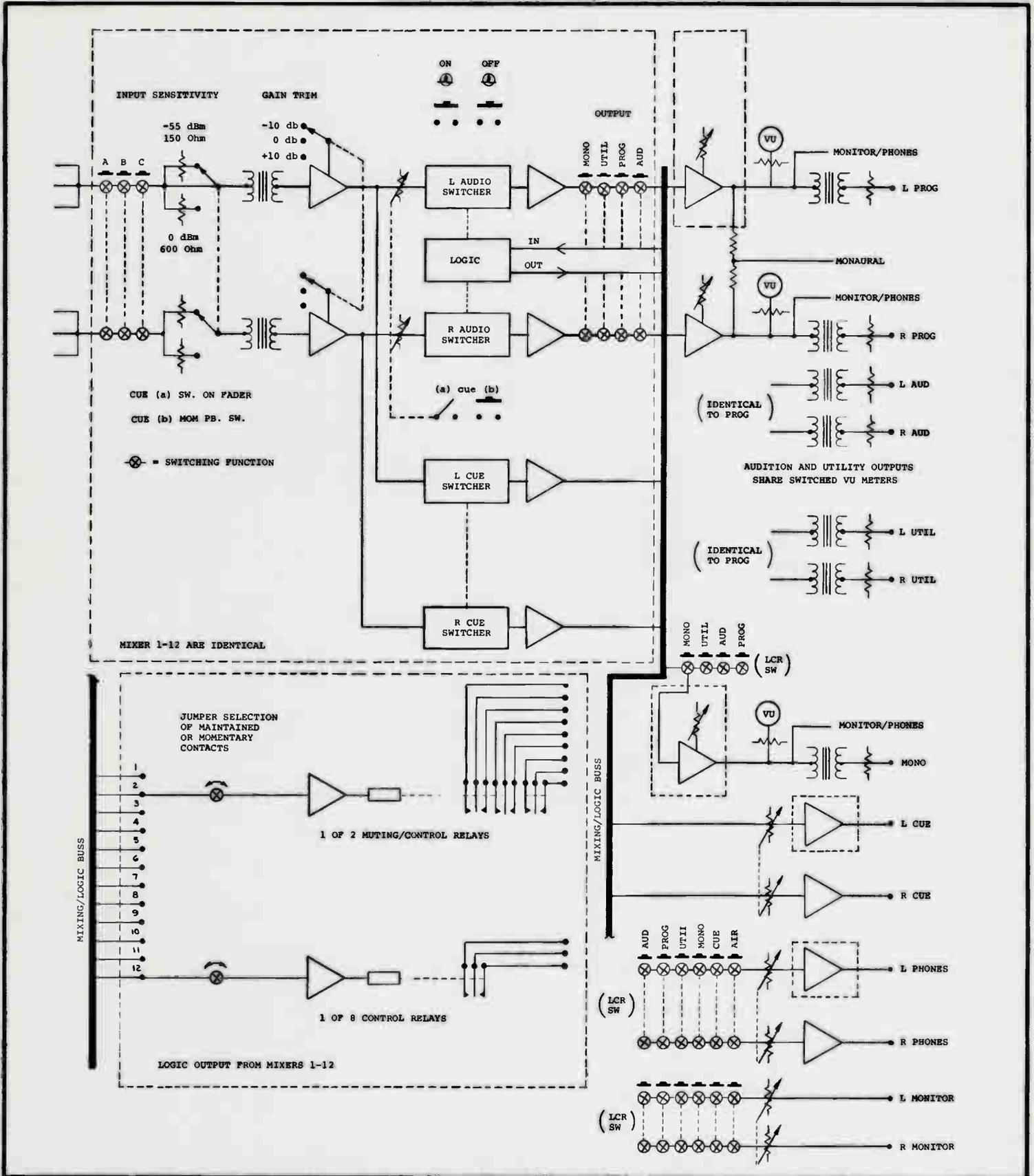
• IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

• PLUG-IN MIXERS

• PLUG-IN WIRING HARNESS  
• HINGED METER PANEL

• SOLID WALNUT END PANELS AND ARMREST

# SYSTEM 12 FUNCTIONAL DRAWING



# SYSTEM 20

**BROADCAST  
AUDIO** CORPORATION

11306 SUNCO DRIVE  
RANCHO CORDOVA, CA 95670  
(916) 635-1048

**SYSTEM 20  
ADVANCED  
AUDIO CONSOLE**



**IT SOUNDS AS GREAT AS IT LOOKS!**

**DESCRIPTION**

**SYSTEM 20** is the most sophisticated member of the Broadcast Audio Corporation family of fine mixers.

**SYSTEM 20** uses 100% new electronics, designed especially for this product. It does retain the elegant low profile appearance of our other audio consoles and is the only mixer in its class that sits on the top of the desk, without requiring recessed mounting. That makes it easy to install, with all in/out connections made from the top.

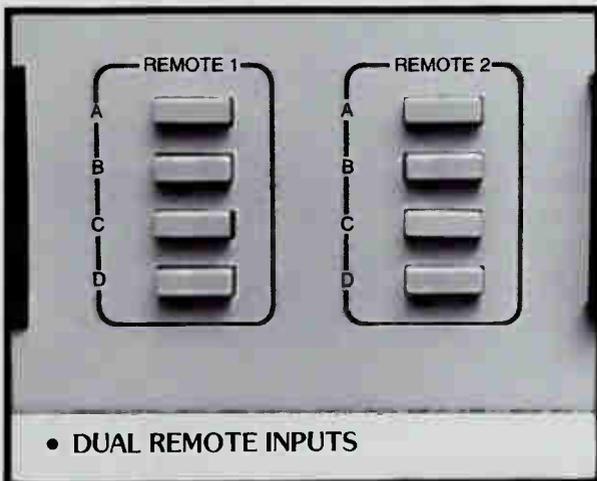
Operators will appreciate the smooth feel of Penny & Giles log taper slide faders

and the symmetrical panel layout that is easily understood at first glance.

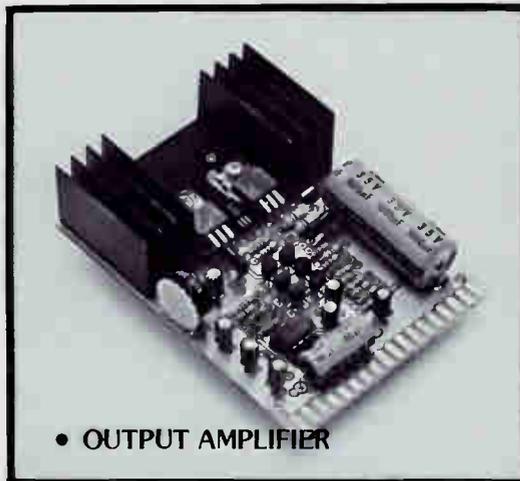
**SYSTEM 20** is a model of engineering simplicity, using motherboard construction, and a plug-in interconnecting harness. Three independent industrial grade power supplies are rack mounted in a common housing, with front panel AC and DC status indicators. The power supply is short circuit proof.

**SYSTEM 20** uses noiseless d-c audio switching of all program and monitor functions, which also enables each

mixing channel to be turned off and on from a remote location, such as an announce studio, news booth, or video switcher. Ten relays with either maintained or momentary contacts can be assigned for muting and remote start. Four additional relays give a momentary "stop" contact when an assigned mixer is turned off. Remote control of a second monitor output lets a studio announcer select his own monitor audio source. In fact, two entirely separate programs could be broadcast simultaneously, using the remote control and remote monitoring function.



• DUAL REMOTE INPUTS

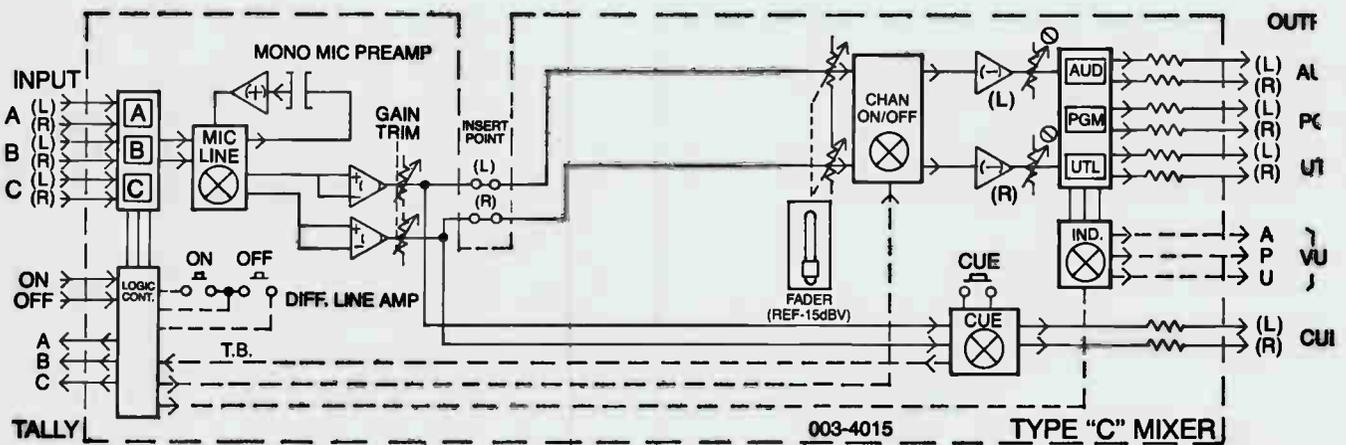
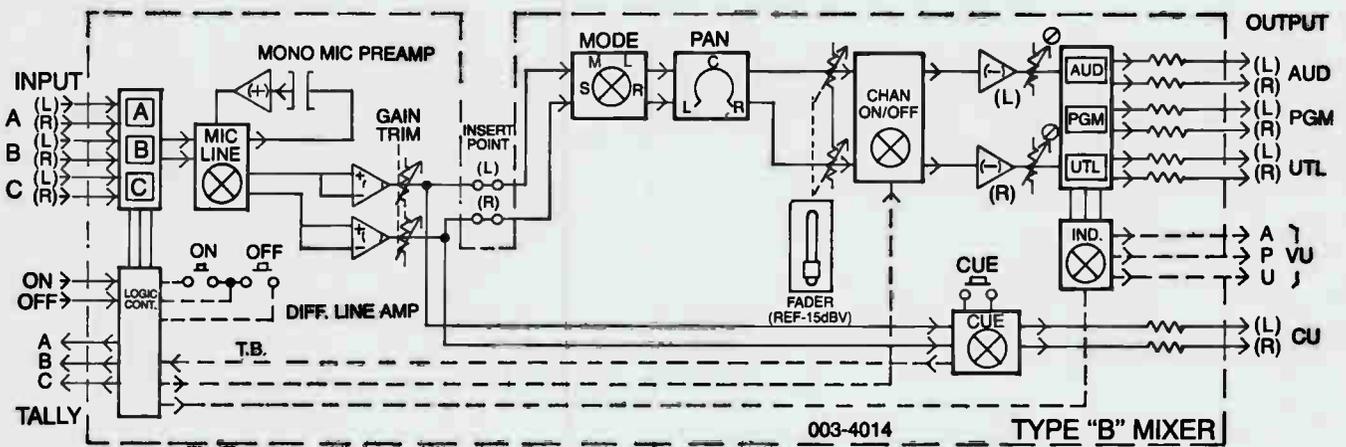
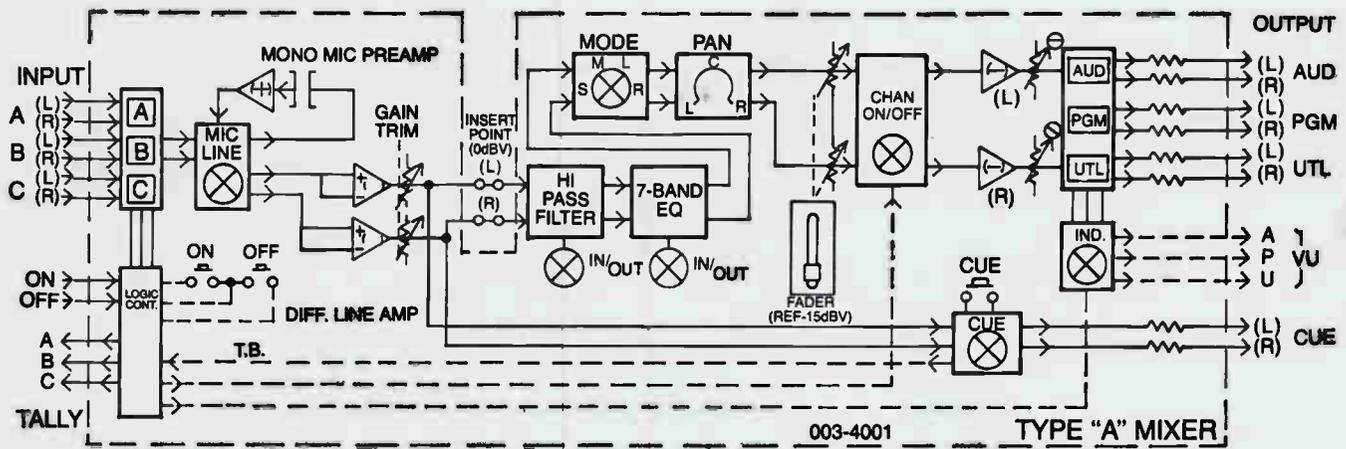


• OUTPUT AMPLIFIER

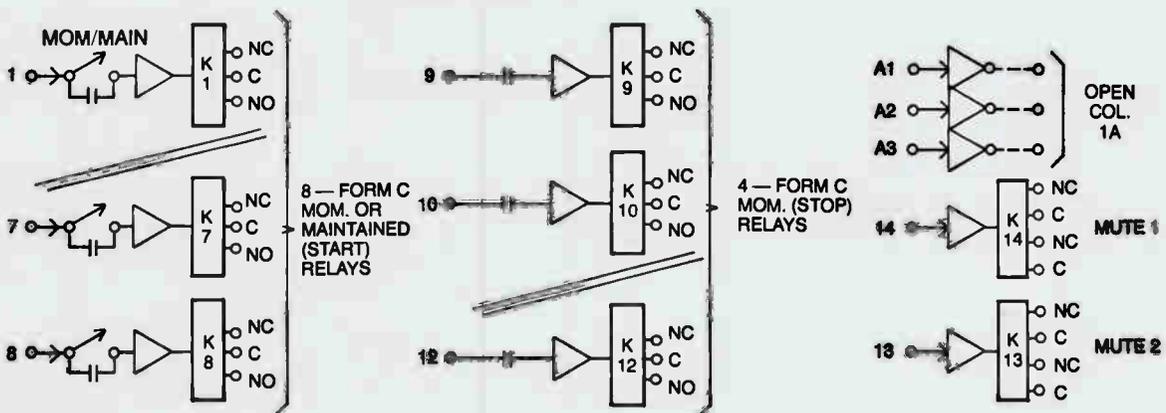


• MIC/LINE INPUT AMP

# MIXER FUNCTIONAL DIAGRAM TYPES A/B/C



## RELAY LOGIC



# MODULE SPECIFICS AND PARTICULARS.

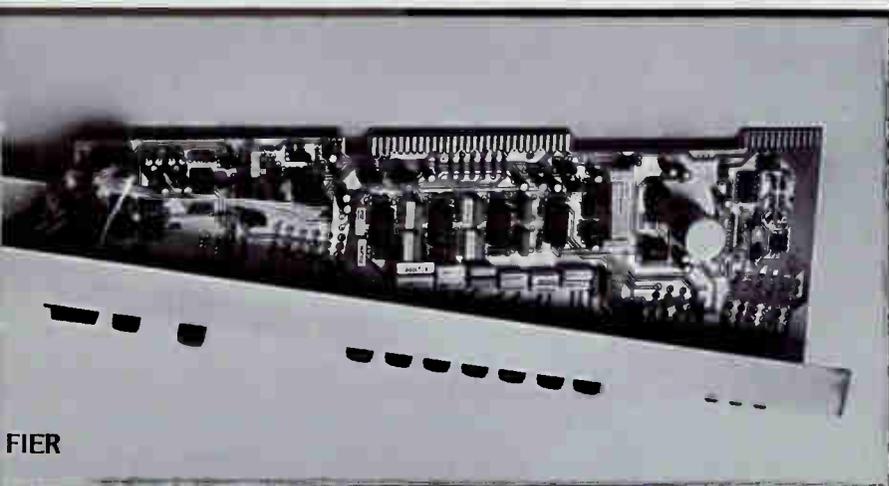
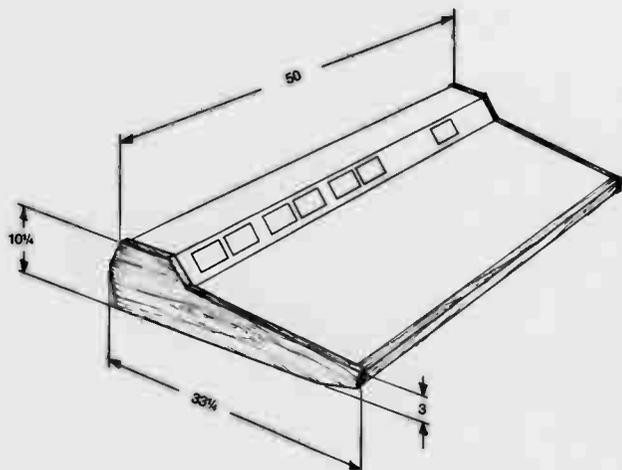
**SYSTEM 20** has options that enable you to virtually design your own audio console, for on-air use or production. Three plug-in mixers are available: Type A (left) has in/out selectors, 7-frequency graphic equalizer, low-cut filter, stereo/mono mode switch and pan pot; Type B (center) has in/out selectors, stereo/mono mode switch and pan pot; Type C (right) has in/out selectors only. Each mixer has a transformer balanced mic input and a differential balanced line level input. A universal output amplifier is used as line amplifier, stereo headphone and stereo cue amplifier.

**SYSTEM 20** is supplied with a 20-position mixer motherboard, for later expansion if less mixers are required initially. Blank panels are supplied

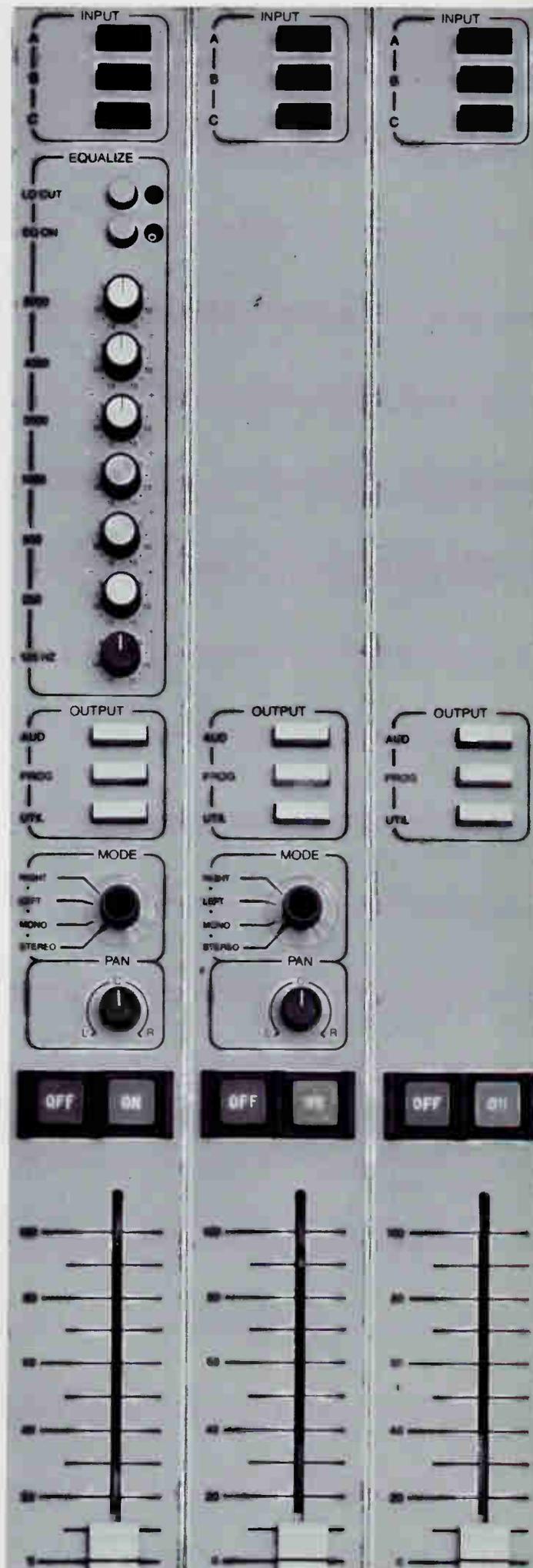
in unused positions. Motherboards and mixers are all double-sided with extensive ground planes for optimum noise and crosstalk, plus RFI rejection. All integrated circuits have sockets and are brand name off-the-shelf devices.

**SYSTEM 20** options include momentary or maintained cue switches, cue detents with indicator lights, reel or cartridge tape control panels, talkback, test oscillator; additional remote input switches and overbridge for custom installations.

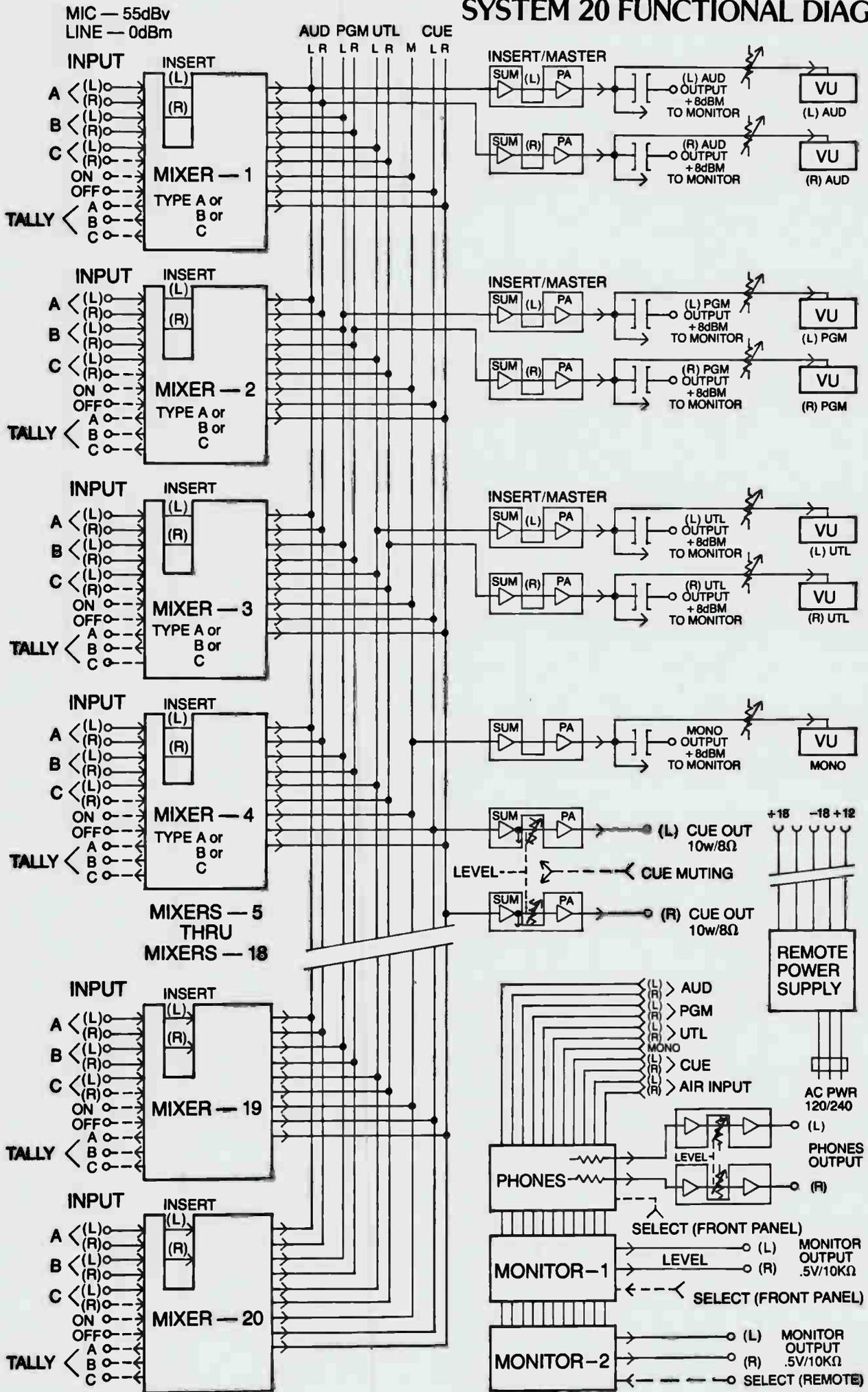
**SYSTEM 20** is rugged and beautiful, with welded frame construction, solid walnut end panels and armrest, plus extruded aluminum mixer panels with mylar overlays silk-screened on the reverse side.



FIER



# SYSTEM 20 FUNCTIONAL DIAGRAM

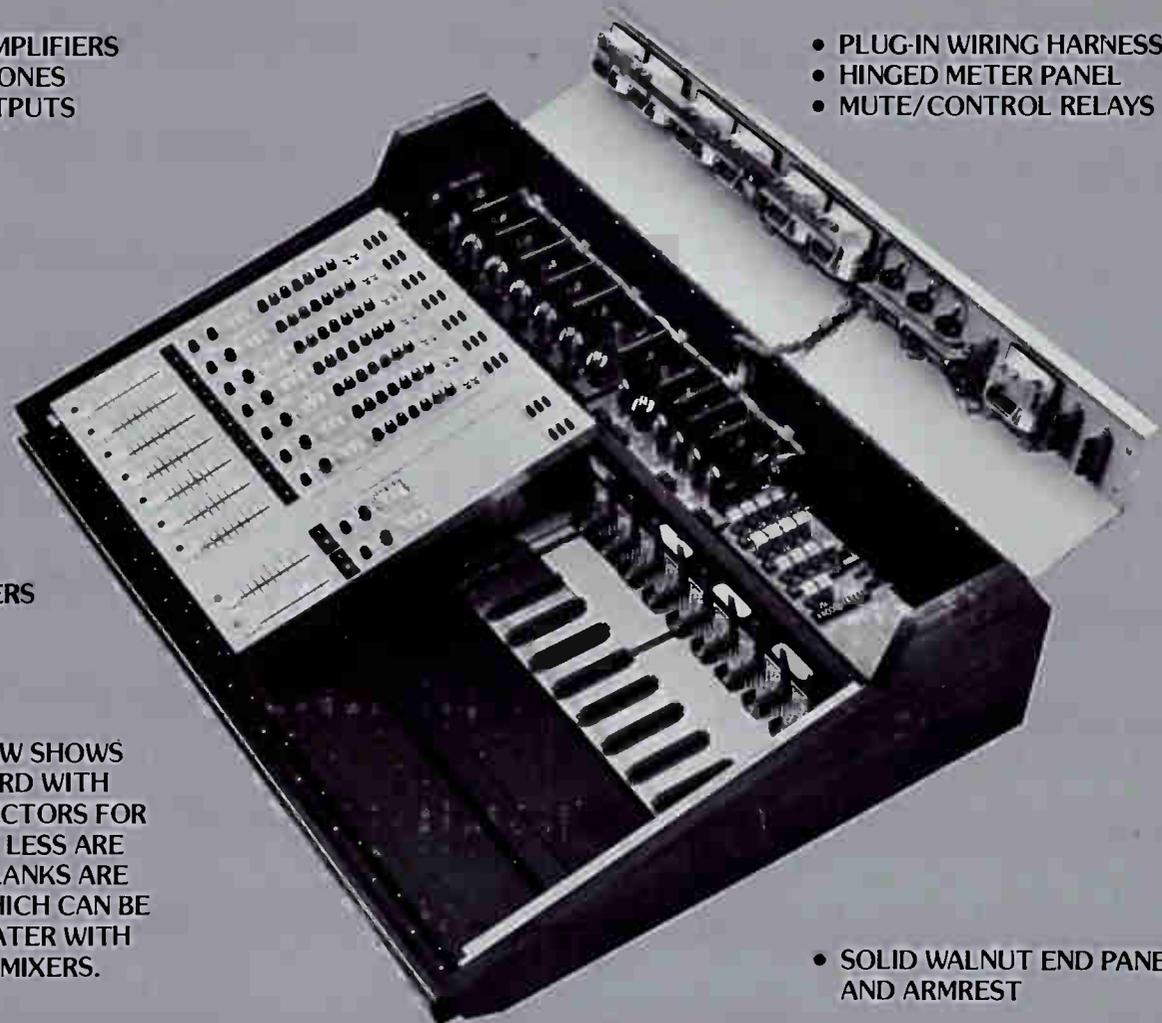


- IDENTICAL AMPLIFIERS FOR LINE, PHONES AND CUE OUTPUTS

- PLUG-IN WIRING HARNESS
- HINGED METER PANEL
- MUTE/CONTROL RELAYS

- PLUG-IN MIXERS

- INTERIOR VIEW SHOWS MOTHERBOARD WITH EDGE CONNECTORS FOR 20 MIXERS. IF LESS ARE ORDERED, BLANKS ARE SUPPLIED WHICH CAN BE REPLACED LATER WITH ADDITIONAL MIXERS.



- SOLID WALNUT END PANELS AND ARMREST

## GENERAL SPECIFICATIONS

**Operating Mode:** Three stereo outputs, plus mono/sum.

**Mixing Channels:** Up to 20 mixers, each with separate mono mic and stereo high level inputs.  $\pm 10$ dB gain trim switch for unusual input levels.

**Audio Inputs:** Up to 66 stereo inputs — 3 inputs per mixer plus two 4-position remote input switches, user assigned to mixer inputs. These can also be used for submaster assignments.

**Audio Outputs:** Total of 8 — stereo Program, stereo Audition, stereo Utility, Mono/Sum, stereo Monitor, stereo Headphones, stereo Cue and stereo auxiliary (studio) Monitor.

**Source Impedance:** Microphone — 150/250 ohms transformer balanced. Line — 600 ohms differential balanced (20k ohms balanced bridging optional).

**Patch Points:** Mixers — prefader; Line Amplifiers — between summing and output circuits.

**Remote Control:** Each mixer can be turned on/off with momentary contact to ground. Relays are assignable to any combination of mixers. Two 2-Form B (mute) eight 1-Form C, momentary or maintained (start) four 1-Form C, momentary (stop).

**Power:** 105 - 125 volts a-c 50/60 Hz, 250 VA maximum. 210 - 250 volts a-c 50/60 Hz optional.

**Size:** 50.25W x 33.5D x 10.5H (inches). 127.6W x 85.1D x 26.7H (centimeters).

**Shipping Weight:** 200 pounds, 535.9 kg. (typical). Two containers.

## PERFORMANCE SPECIFICATIONS

**Frequency Response:** Within  $\pm 0.3$ dB, 20 - 20,000 Hz, all program and monitor circuits.

**Rise Time:** Less than 6  $\mu$  sec line input to any program output, less than 12  $\mu$  sec. microphone input to any program output.

**Slew Rate:** 9 volts per microsecond.

**Harmonic Distortion:** Less than 0.09% THD 20 - 20,000 Hz at +8dBm output level. Less than 0.02% at 1,000 Hz, +28dBm.

**Intermodulation Distortion:** Less than 0.03% SMPTE at +28dBm or below.

**Noise:** Mic Inputs -125dBv equivalent input noise, 20 - 20,000 Hz, unweighted, with -55dBv input level to one active mixer input. Line Inputs -90dBm equivalent input noise, 20 - 20,000 Hz, unweighted, with 0dBm level to one active mixer input.

**Crosstalk:** Signal to crosstalk greater than 70dB, 20 - 15,000 Hz, any program input to any program output.

**Gain:** Mic Inputs 91dB nominal; Line Inputs 38dB nominal for OVU output (+8dBm).

**Input Headroom:** 30dB with nominal gain setting.

**Monitor Outputs:** Stereo Headphone — 4 volts into 10 ohms; stereo cue — 10 watts into 8 ohms; stereo control room and aux Monitor outputs — 0.5 volts into 10k ohm load.