# MOD ONE
## AM & FM BROADCAST CONSOLES

**MODELS**
**110 MONO,**
**210 STEREO**

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Mod One is all that the name implies: The **one** MODERN, MODULAR broadcast audio console system. While utilizing design concepts developed for contemporary recording studio consoles, Mod One is specifically radio oriented — physically, electronically and humanly engineered for AM and FM broadcasting.

Modular, printed circuit board construction provides extreme flexibility at lowest cost. All solid-state-of-the-art, Mod One exceeds all FCC proof-of-performance requirements. Plug-in modules and amplifiers make format changes simple — start with only the modules you need, and expand or change to meet new requirements.

Basic console housing and printed-circuit mother- board is identical for all configurations. A wide selection of input modules and plug-in amplifier cards permits customizing your Mod One to exactly suit your present or future requirements — AM or FM, monaural, stereo or quadraphonic.

Compare features — compare specifications — compare prices. Look into the future with Mod One!

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MODELS
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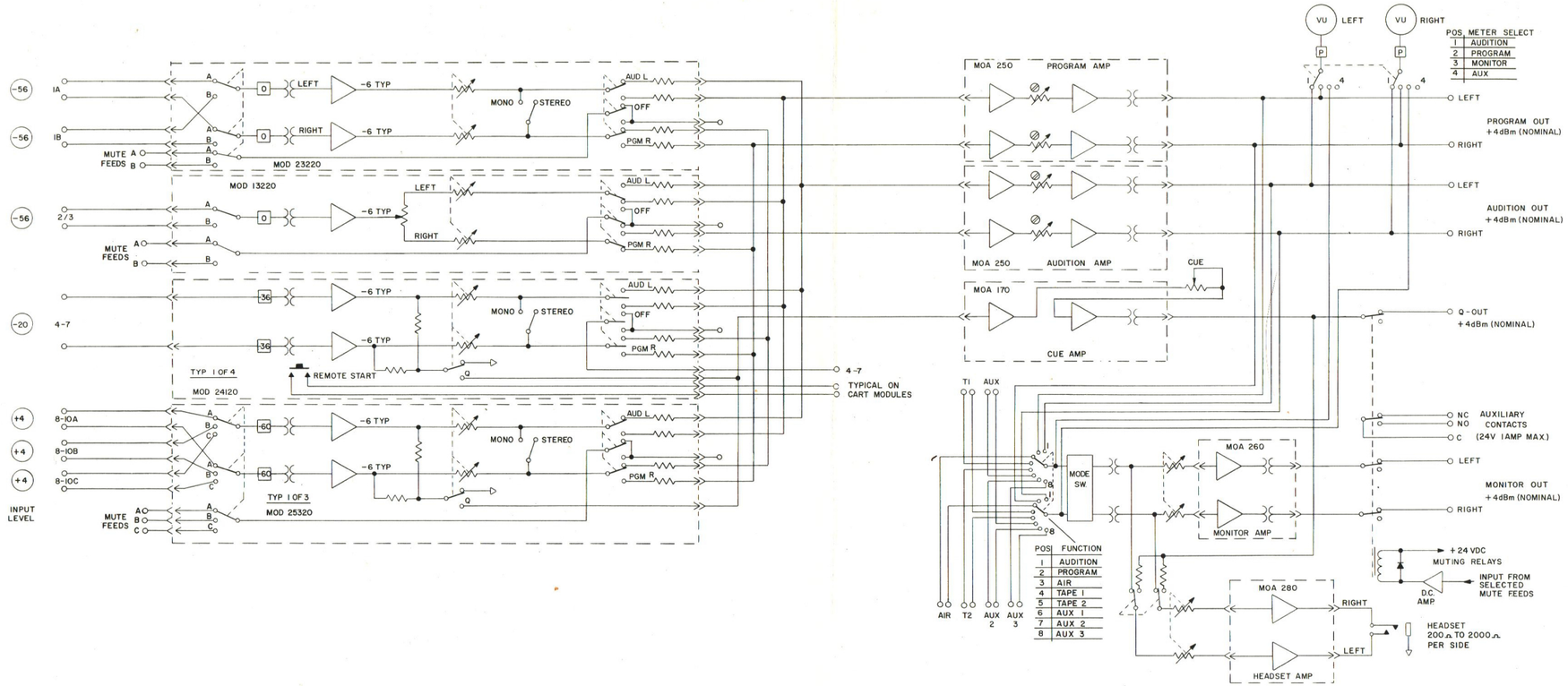


Above is a functional block diagram of a stereo configuration of the Mod One console, as pictured on the front of this brochure. Four different types of input modules are illustrated, and these are available in either monaural or stereo configuration. Any input module may be plugged into the housing in any of 10 positions — all interfacing between the module and the console housing is via a single printed circuit edge connector on the module which mates with any of 10 identical sockets on the console mother board. Program, audition, monitor booster, cue booster and headphone amplifiers are plug-in cards located under the hinged top of the meter panel.

All input and output connections to the console are made to numbered solder terminals inside the rear of the cabinet. Convenient provision has been made for the installation of the input pads indicated on the block schematic. Two pairs of terminals (plus shield ground) are provided for each input of each module position. An external source is connected to one pair of terminals, and ¼ watt resistors are installed between terminals in accordance with a pad loss chart and instructions furnished with the console. Pads may subsequently be changed, if desired, without disturbing the external wire pairs. For ease of wiring, the hinged top above the meter panel, and a portion of the rear cabinet and metal chassis may be removed in one piece by removing four machine screws.

The Mod One console is all steel, with solid walnut trim. When all module spaces are filled (either by input modules or blanks) complete RF shielding is effected. All inputs and outputs are balanced and transformer isolated for best hum and RFI rejection. External power supply is furnished, and DC connection is through a Jones-type plug in the rear of the console. Monitor and cue power amplifiers not included.

The Mod One may be installed on top of a 30" deep table top, leaving 10 inches of table space in front for log keeping and arm rest.

Module width is 2⅛", and represents an optimum compromise between the usual 2½" to 3" spacing required on broadcast consoles using rotary attenuators, and the 1½" spacing which has become standard on recording consoles using vertical faders. Total console width is only 24¾ inches, permitting location of turntables or cartridge players within easy reach. Height is less than 10 inches, allowing a copy board to be placed comfortably without obscuring meters or controls.

**FEATURES:**

- Up to 10 input modules. Will provide maximum of 30 inputs, high level or microphone, monaural or stereo.
- Silent action switches for all on-air functions. Illuminated PGM-OFF-AUDITION lever switches.
- Longlife conductive plastic vertical faders, with detented cue position (line & cartridge modules.)
- Automatic muting of monitor & cue speakers
- Monitor Select Switch with aux. & tape inputs.
- VU meter switching
- Built-in headphone amplifier
- Highest quality components throughout for troublefree service
- Easy installation — easily expandable.
- Modern, attractive styling.

Program and Audition outputs are identical in specification and levels, so that the "audition" channels may be used for tracks 3 and 4 in Quadraphonic broadcasting. (Special Quad meter panels with four meters are available on special order.)

Only the meter panel layout differs between the standard MOH 110 (monaural) and MOH 210 (stereo) console housings. In the MOH 110, the right-hand meter is always PROGRAM, and is not switchable. The left-hand meter is switchable between AUDITION and MON. and the MODE switch is omitted.

System electrical specifications are listed on Page 4, and represent worst-case condition, with all 10 input modules operative.

Details and specifications of the various optional input modules and plug-in amplifiers are on separate data sheets.

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# SPECIFICATIONS

| | | |
|---|---|---|
| **Input Levels** | : | −50 to +4 dBm (selectable by input pads at each input). |
| **Nominal Gain** | : | 54 dB (allowing "normal" settings faders & submasters). |
| **Maximum Gain** | : | 80 dB, (faders & submasters maximum). |
| **Output Levels** | : | All channels +4 dBm nominal (may be optionally +8). |
| **Frequency Response** | : | ±1 dB 30 Hz to 20 kHz. |
| **Distortion (THD)** | : | Less than 0.5%, +20 dBm, 30 Hz to 20 kHz. |
| **Signal-to-noise ratio** | : | Better than 70 dB (15.7 kHz Noise Bandwidth). |
| **Cross Talk (stereo)** | : | 60 dBm (minimum) to 10 kHz, 50 dB to 20 kHz. |
| **Power Supply** | : | ±24 VDC (bi-polar) 1.5 A maximum (actual current depends on number and type of amplifiers and modules). Operates from 110-120 VAC mains, 50/60 Hz. |
| **Dimensions** | : | Width 24.75 inches. |
| | | Depth 19.75 inches. |
| | | Height 9.40 inches. |

Option: On special order, at additional cost, meter panel is available with four meters. In this Quad configuration two meters are permanently assigned to PROGRAM outputs; the other two are switchable between AUDITION output and the remaining meter functions.



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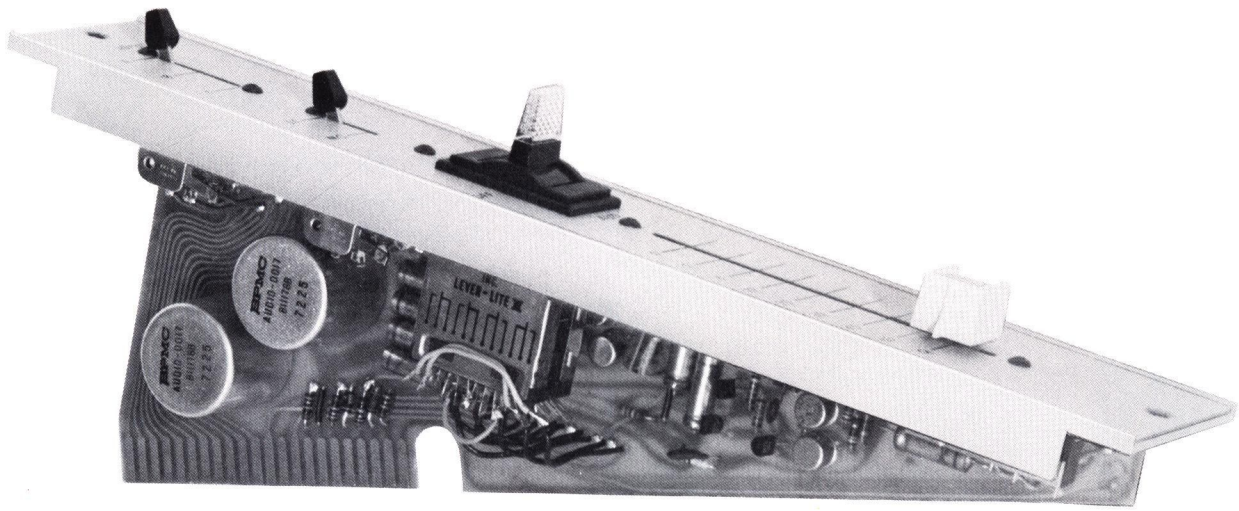
# MOD ONE
## INPUT MODULES

**FOR MOH 110, MOH 210 BROADCAST CONSOLES**



The modern, modular design of UREI's Mod One broadcast consoles provides a wide choice of plug-in input modules to meet specific requirements in AM and FM broadcasting. All modules mate automatically in any of the 10 module positions of the MOH-110 or MOH-210 consoles, allowing optional organization of console functions with minimum installation labor. Blank modules may be installed in unused positions, and used for custom controls, etc., or future expansion.

All modules have a rugged extruded aluminum frame, overlaid with a pale green vinyl-clad steel faceplate. Designations are permanent black. Circuitry is on military-grade glass-epoxy printed circuit boards, with gold plated edge contacts which mate with a gold-plated connector on the console mother board. Two Allen-head screws attach the module to the chassis frame.

Switches are silent-action. PGM-OFF-AUD switches are illuminated Switchcraft Lever-Lite type. Vertical faders are long-life, smooth, conductive plastic, with cue switches (where applicable) operated when the fader is below the detented OFF position.

All modules have high quality input transformer isolation for balanced (floating) or unbalanced sources.

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FOR MOH 110, MOH 210

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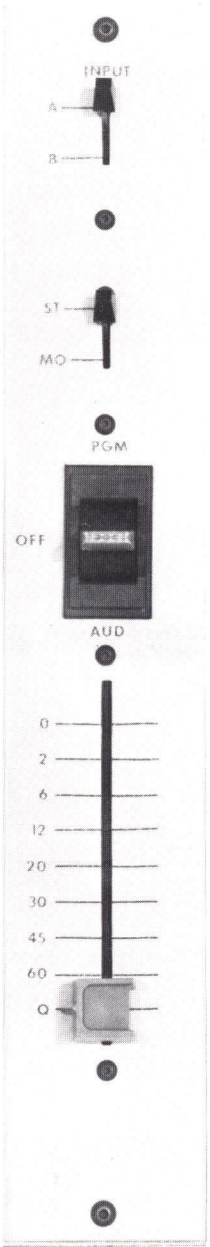



**MOD 23220 —**
**Stereo Microphone Module**

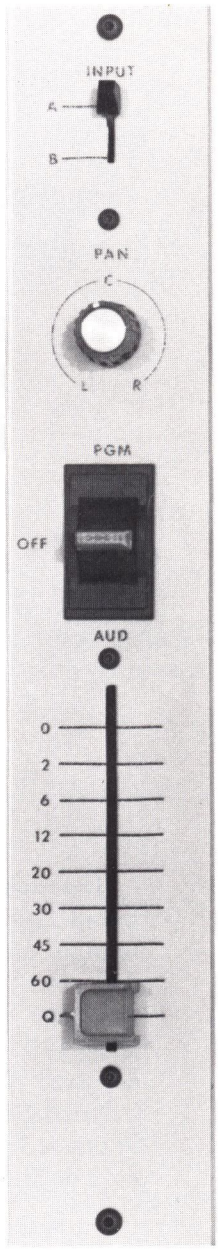
- Input selector switch for two alternate stereo microphone pairs (dual). Both pairs may be padded at console input terminals for high output mikes, or line.
- PGM-OFF-AUD. Switch, with muting contacts brought out to console terminals. Can supply NO/NC contacts or 24 vdc for external relay.
- Floating transformer inputs.
- Vertical fader (no cue switch).
- MONO/STEREO switch. Feeds both inputs to both outputs for single microphones.

**MOD 13210 —**
**Monaural Microphone Module**

- Same as 23220, except all functions monaural.
- No MONO/STEREO switch.

**MOD 13220 — Monaural Microphone Module with Stereo Panpot**

- Input selector switch for two monaural microphone inputs.
- Panpot — pans module output across two (stereo) buses. —3 dB on each bus at pot center, to full signal at either left or right.
- PGM-OFF-AUD switch. (Same as 23220)
- Floating transformer input.
- Vertical fader (no cue switch).
- No MONO/STEREO switch.

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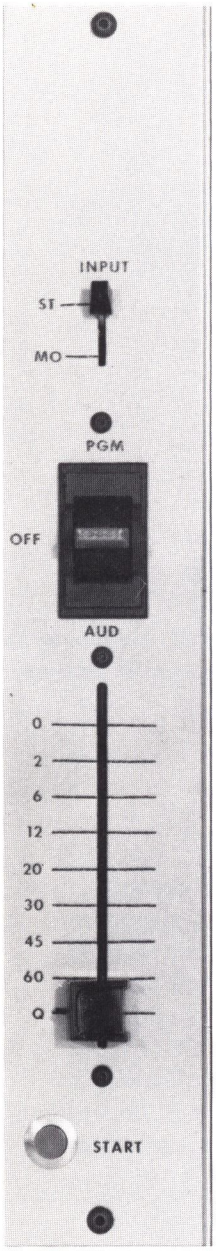



**MOD 24120 —**
**Stereo Cartridge Module**

- One stereo input only (no input switch). May be padded at console input terminals for any level −50 to +4 dBm, to terminate or bridge any stereo source.
- PGM-OFF-AUD switch, (Same as 23220)
- Floating transformer inputs.
- Vertical fader with cue switch.
- Momentary contact push button for remote start of source player. (N/O contacts brought out to console terminals.)
- MONO/STEREO switch (Same as 23220).

**MOD 14110 —**
**Monaural Cartridge Module**

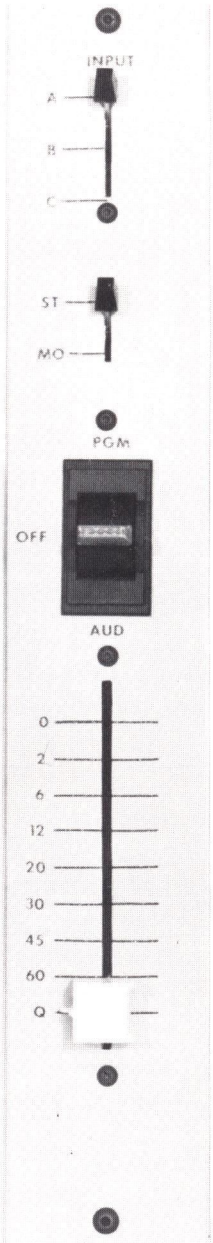
- Same as 24120, but all functions monaural.
- No MONO/STEREO switch.

**MOD 25320 —**
**Stereo Triple-Line Module**

- Input selector switch for three stereo inputs. (All inputs may be padded at console input terminals for any level −50 to +4 dBm.)
- MONO/STEREO switch. (Same as 23220)
- PGM-OFF-AUD switch. (Same as 23220)
- Floating transformer inputs.
- Vertical fader with cue switch.

**MOD 15310 —**
**Monaural Triple-Line Module**

- Same as 25320 except all functions monaural.
- No MONO/STEREO switch.




**MOD 00000 — Blank Module**

- Occupies unused positions in MOH-110 or MOH-210 console housings.
- May be used for custom additions.

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# GENERAL ELECTRICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Source Impedance** | : | 150 ohms bridging. |
| **Input Configuration** | : | Balanced — transformer coupled. |
| **Input Sensitivity** | : | --54B — nominal (—64 dB maximum). |
| **Frequency Response** | : | ±1 dB, 30 Hz to 20 kHz. |
| **Distortion** | : | Less than 0.25%, 30 Hz to 20 kHz. |
| **Noise Generation** | : | —124 dBm equivalent input signal. |
| **Power Required** | : | ±24 VDC @ 80mA (Supplied by Console). |

All modules have identical specifications, but different switching functions.

**USER OPTIONS**

All MOD input modules have identical gain structure. **Any** model may be used for various combinations of mic/line inputs. For example, MOD-15310 (monaural, triple-line) might be optionally used for one microphone and two line inputs, or vice-versa. "Microphone" modules may be ordered with cue switches, at extra cost, for optional line input usage.

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# MOD ONE
## PLUG-IN AMPLIFIER CARDS

Patents Pending

## MOA -- SERIES FOR MOH-110 AND MOH-210 BROADCAST CONSOLES

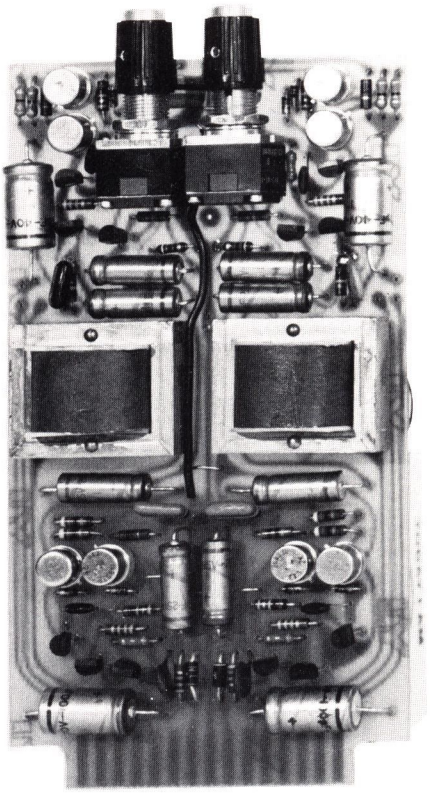
MOD ONE modular broadcast audio consoles from UREI employ all solid-state circuitry for ultimate reliability and performance. All active circuits are on plug-in printed circuit cards, or within the plug-in Input Modules — no active components are part of the console housing.

Various plug-in circuit cards are furnished with a Mod One console, or available as spares, or to modify your console for specific applications, whether Monaural, Stereo or Quadraphonic. Basic requirements for a complete MOH-110 (Monaural) or MOH-210 (Stereo) console are: 2 line amplifiers, 1 monitor booster amplifier, 1 cue amplifier and 1 headphone amplifier. Model numbers and specifications for each are listed below:

### MOA-150 MONAURAL LINE AMPLIFIER

Used for Program and Audition output amplifiers in MOH-110 console (2 required). Sub-master gain control provided on card for establishing optimum console gain structure. Specifications:

| | |
|---|---|
| Input Impedance: | Less than 10 ohms — designed as active summing amplifier, to operate from 10 k summing resistors. |
| Gain: | 20 dB nominal, 36 dB maximum. |
| Frequency Response: | ±0.5 dB, 30 Hz to 20 kHz. |
| Noise Generation: | Less than −124 dBm equivalent input signal. |
| Distortion: | Less than 0.5% THD @ +20 dBm output, 30 Hz to 20 kHz. |
| Output Impedance: | Designed to work into 600 ohm load. Transformer isolated (floating). |
| Output Level: | +4 dBm, nominal. |



### MOA-250 STEREO LINE AMPLIFIER

Used for Program and Audition output amplifiers in MOH-210 Stereo console (2 required).

**Specifications:**

Same as MOA-150, except dual channels
Stereo separation: Better than 60 dB, to 20 kHz

### MOA-170 MONAURAL CUE BOOSTER AMPLIFIER

Used for cue output of MOH-110 (Monaural) and MOH-210 (Stereo) consoles, to feed external cue speaker power amplifier, (1 required).

**Specifications:**

Same as MOA-150 Monaural Line Amplifier, except no internal gain control. Leads brought out through PC connector for Cue gain control in console front panel.

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FOR MOH 110, MOH 210

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## MOA-160 MONAURAL MONITOR BOOSTER

Used for monitor output of MOH-110 console (Monaural), to feed external speaker power amplifier (1 required).

**Specifications:**

| | |
|---|---|
| Input Impedance: | Designed to bridge 600Ω source through 10K series resistor (unbalanced). |
| Voltage Gain: | 26 dB (fixed). |
| Frequency Response: | ±0.5 dB, 30 Hz to 20 kHz. |
| Noise: | At least 98 dB below +4 output. |
| Distortion: | Less than 0.25% THD @ +20 dBm, 30 Hz to 20 kHz. |
| Output Impedance: | Designed to work into 600 ohm load. Transformer isolated (floating). |
| Output Level: | +4 dBm, nominal. |

## MOA-260 STEREO MONITOR BOOSTER

Used for monitor outputs of MOH-210 console (Stereo), to feed external speaker power amplifiers (1 required).

**Specifications:**

Same as MOA-160, except dual channels
Separation: Better than 60 dB to 20 kHz.

## MOA-180 MONAURAL HEADPHONE AMPLIFIER

Used as headphone driver amplifier in MOH-110 (Monaural) console, (1 required).

**Specifications:**

| | |
|---|---|
| Input Impedance: | To bridge 600 ohm source (unbalanced). |
| Voltage Gain: | 12 dB. |
| Frequency Response: | ±0.5 dB, 30 Hz to 20 kHz. |
| Signal-to-noise: | Greater than 80 dB @ 1 watt output. |
| Output: | 1 watt max. into 8 ohms, when bridging 600 ohm source @ +4 dBm. |
| Output Impedance: | To work into 8 ohm to 600 ohm load. |

## MOA-280 STEREO HEADPHONE AMPLIFIER

Used as headphone drive amplifier in MOH-210 (Stereo) console, (1 required).

**Specifications:**

Same as MOA-180, except dual channels.
Separation: Greater than 60 dB to 20 kHz.

## TYPICAL REQUIREMENTS AND ORDERING INFORMATION:

**FOR MOH-110 CONSOLE (Monaural)**

2 MOA-150 (Pgm., audition outputs)
1 MOA-160 (Monitor booster)
1 MOA-170 (Cue booster)
1 MOA-180 (Headphone amplifier)

**FOR MOH-210 CONSOLE (Stereo)**

2 MOA-250 (Pgm and audition outputs)
1 MOA-170 (Cue booster)
1 MOA-260 (Monitor booster)
1 MOA-280 (Headphone amplifier)

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