

AMX



PACIFIC RECORDERS & ENGINEERING CORPORATION

AMX FEATURES . . .

- Three main stereo mix buses
- Distribution line amplifiers on each main output
- Two effect/foldback send mix buses, each with remote control logic
- Stereo cue system with automatic console headphone monitor switching
- Stereo solo-in-place monitoring system
- Multifunction metering with automatic cue and solo level display
- Stereo reverb/effects return with remote control logic
- Monaural equalizer with filters
- Stereo tracking equalizers
- Monaural equalizers with gate, compressor, de-esser
- Monitor system provides independent and unique outputs for console, host, co-host, and guest headphone feeds
- Monitor facilities for two studios
- Multi-way intercommunication system, including producer and external feeds
- Multi-frequency low distortion test oscillator
- Voice slate system with identification tone
- Four telephone mix-minus feeds plus telephone monitor mix
- Full and independent remote control logic on each input of microphone and line modules
- Fully regulated, independent supplies for audio, logic and phantom power
- On-board audio supply regulation on each module
- Mainframe fully wired for all present and future inputs, outputs, patch points and logic
- Connector panel silkscreened with clear, functional designations
- Audio and logic interconnection system is compatible with BMX and ABX series consoles
- Mainframes for 14, 18, 22, 26, 30, 34 inputs positions, larger frame sizes available upon request
- Console supplied with installation connectors and tools, service tool kit and spare parts kit

The AMX combines the features of an advanced broadcast On-Air console with a versatile stereo production console. AMX was designed with the capacity to handle a talk show with four separate telephone mixes, equalize and/or process all inputs, send and mix effects, record a stereo feed for later broadcast, plus the capability to work with two studios and a remote, all at the same time. This outstanding capacity has not been gained at the expense of simplicity. The AMX is a clean, uncluttered design which is very easy to understand and operate.

As you look through this brochure, note the attention to detail, the thoughtful selection of components, and most importantly the thorough consideration of broadcasters needs, that will give the AMX a reputation for service and reliability equal to its sister consoles the BMX and ABX.

First-quality components, the basis for a high performance product, are featured throughout the AMX design. Advanced discrete and integrated circuitry yields very low noise and distortion and provides excellent frequency response and headroom/overload capability. At least 30 dB of microphone and line input headroom is maintained to provide that extra margin for hot levels and "operator error". Mixers are full-travel Penny & Giles conductive plastic faders. Push buttons are Honeywell, EAO and Schadow, chosen for their extended life ratings. Audio transformers, where used, are by Deane Jensen. The VU meters conform fully to American National Standard C16.5-1954 and are driven by bridging buffer amplifiers. Optional Peak Program Meters (PPM) conform to British Standard 4297:1969.

The sophisticated control logic of the AMX utilizes CMOS integrated circuits. Operating on 12 volt low current power, CMOS provides silent and flexible control, and is very immune to electrical noise and strong RF fields. The AMX logic circuits generate little electrical noise, so you won't hear "chirps" or "clicks" as the logic operates. Analog FET switches invariably introduce a form of non-linear distortion, even if slight, and the AMX is so clean that you might hear the difference. Therefore, we go a step further and use miniature, sealed gold-contact relays for all logic controlled switching except for the side chains. The relays are quiet, reliable and cannot degrade the audio performance. The CMOS control logic is also easy to interface to external equipment. Logic interface/translator units are available with the AMX from Pacific Recorders & Engineering. The outputs of the control logic are buffered by short-proof discrete transistor circuitry.

The AMX is a low profile design. Plenty of room is available for the broadcaster to arrange his peripheral equipment. Careful attention has been paid to human engineering needs in the logical placement of switches and controls. All active electronics are accessible from the face of the console. Panel modules simply unplug from the housing. The separate power supply is rack mountable and comes supplied with a six foot interconnecting cable. All audio input/output and logic wiring between the console and external equipment is done with easy to use connectors. Time consuming hand-wiring to terminal blocks is eliminated. Console mating connectors, pins and tools are supplied with the AMX. By pre-wiring the studio connectors, an AMX console can be installed and on the air in a few hours.

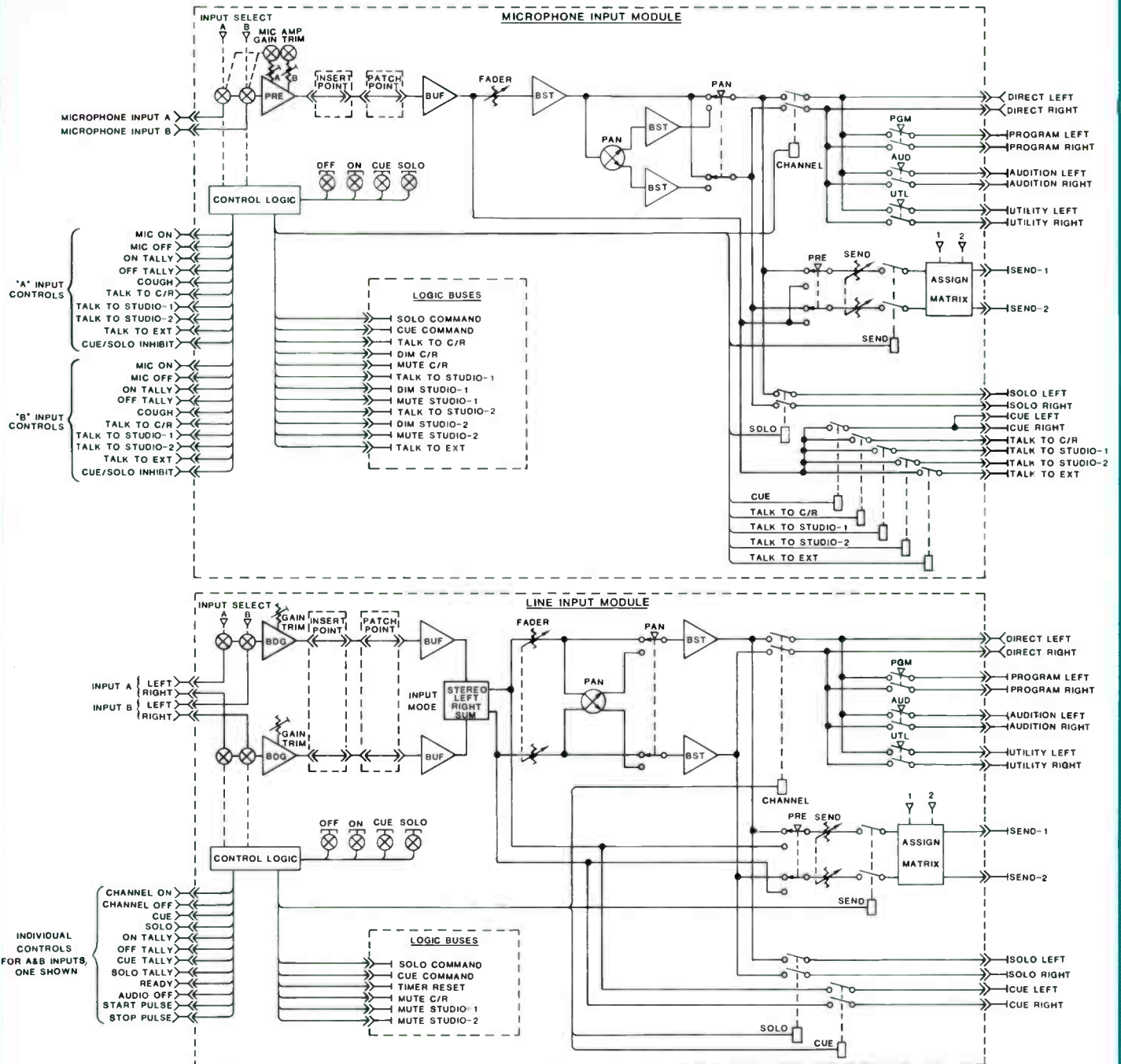
Reliability starts with a sturdy housing. The AMX is fabricated from aerospace materials and methods. Heavy gauge aluminum alloy end panels are fabricated on CNC mills for the ultimate in dimensional accuracy. Shaped, formed and riveted sheet metal chassis are then fastened to these end panels providing "skin tensioning" for the mainframe housing. This housing does not twist or flex and, therefore, will not degrade card edge contacts or strain circuit traces. Hand-wiring is minimized through the use of plug-in circuit boards and "mother boards". The main bus board is strengthened and shielded by being fully enclosed by a continuous ground plane for the ultimate in RF and noise isolation. The mainframe design is complimented by solid oak trim which provides an attractive appearance that will also withstand the rigors of continuous professional use.

Only glass epoxy double-sided circuit boards are used. Double-sided boards allow the layout of components for optimum performance and support the use of ground plane shielding which further reduces susceptibility to RF interference, noise and crosstalk. For added service convenience, the components on each board are identified with silkscreened designations. All circuit card fingers and mating connectors are gold plated. Front panels are constructed on anodized aluminum extrusions. Aluminum inlays are coated with durable polyurethane paint and epoxy silkscreened with clearly labeled nomenclature. The rack mount power supply is constructed in a rugged steel chassis and features massive regulator heat sinks. The audio, logic and phantom supply voltages are individually regulated and switched with magnetic circuit breakers.

The AMX is available in several mainframe sizes to accommodate each broadcast requirement. Every AMX mainframe is factory wired and tested for the full compliment of modules. You may order the console with fewer than capacity and then add modules as needs arise by simply plugging in the extra modules. Universal layout enables any input position to accept any input module. Simply select the microphone, line and optional modules your application requires to configure the console as you wish.

Thoughtful design, utilizing state of the art technology and advanced construction techniques, and a sensitivity to the needs of the user, results in a high-performance, human-engineered console that broadcasters will soon accept as the new standard of comparison. AMX, easy to install and easy to use, with reliability and performance that has become a Pacific Recorders & Engineering trademark.





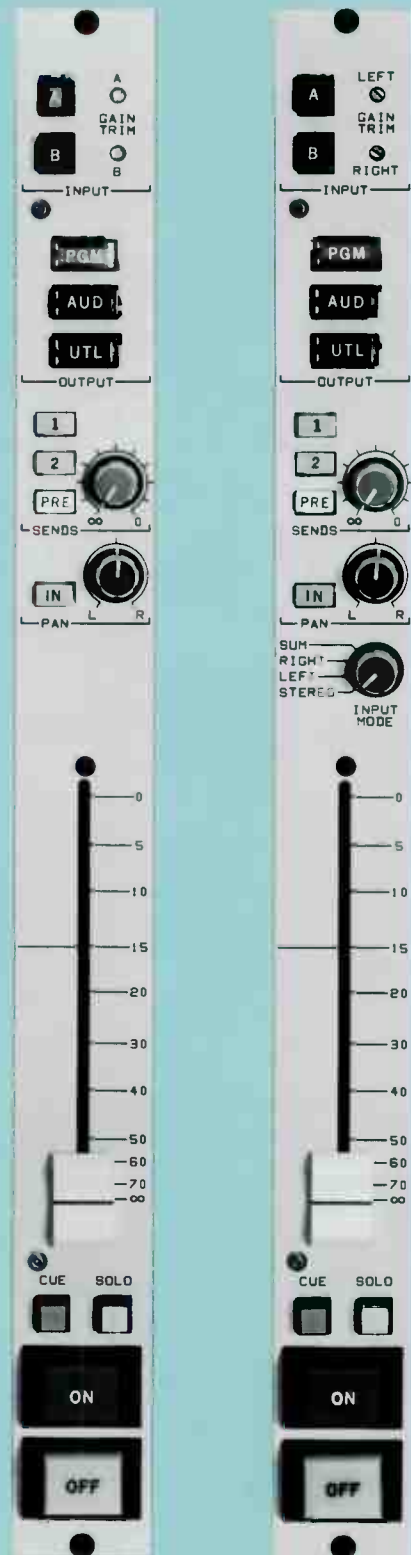
MICROPHONE INPUT MODULE

The microphone input module accommodates a wide range of input levels to permit use of all contemporary microphones. Input preamplifier gain is adjustable for nominal inputs of -60 dBu to -35 dBu. The A/B input selector provides two microphone inputs per module, each with programmable monitor mute selection for control room or either of two studios. The mute circuitry incorporates an automatic 40 millisecond delay before the microphone is turned on to permit "room reverb" to decay off-mic. Each microphone input is provided with separate remote control capability for ON/OFF, COUGH and multiple TALKBACK functions. The PAN control may be inserted with the IN button to provide positioning of the microphone signal in the stereo image. The SEND control may be assigned to either or both of two send busses and is provided with a PRE/post-fader button switch. Stereo send is possible as a user option; assigning the send to either send bus results in a mono-mix signal to that bus, however, the send will be stereo when both bus assignment buttons are engaged. The module output may be assigned to any combination of PROGRAM, AUDITION, and UTILITY, by the self-indicating OUTPUT buttons. The illuminated CUE button provides stereo pre-fader cue monitoring. The illuminated SOLO button provides monitoring of solo-in-place which is post-fader and pan. The channel ON/OFF buttons are illuminated to indicate the status of the channel. In addition, the ON button may be programmed so that momentary depression provides cough muting. Phantom power circuitry for condenser microphones is user assignable for both the A and B inputs.

LINE INPUT MODULE

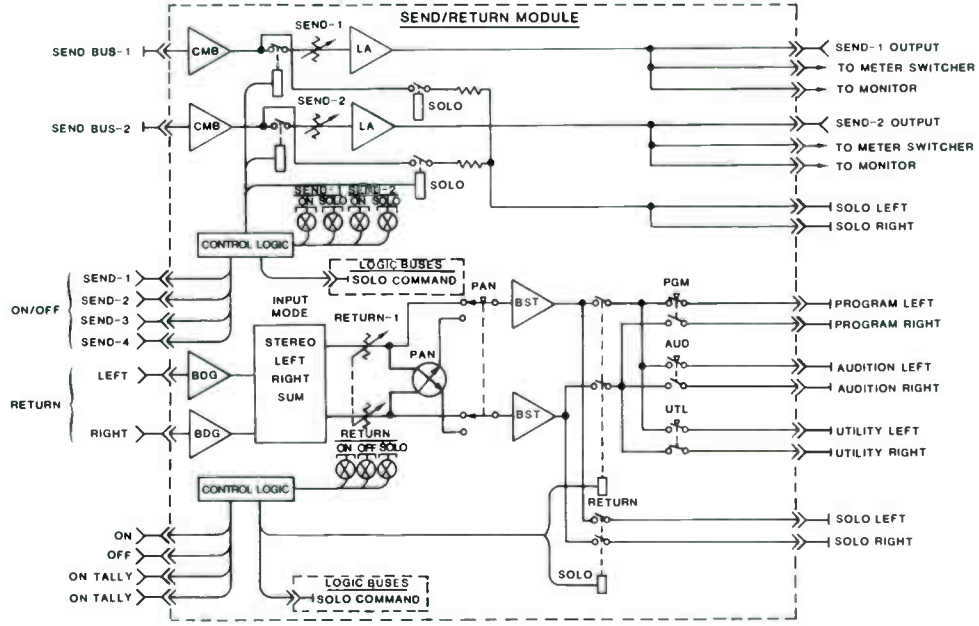
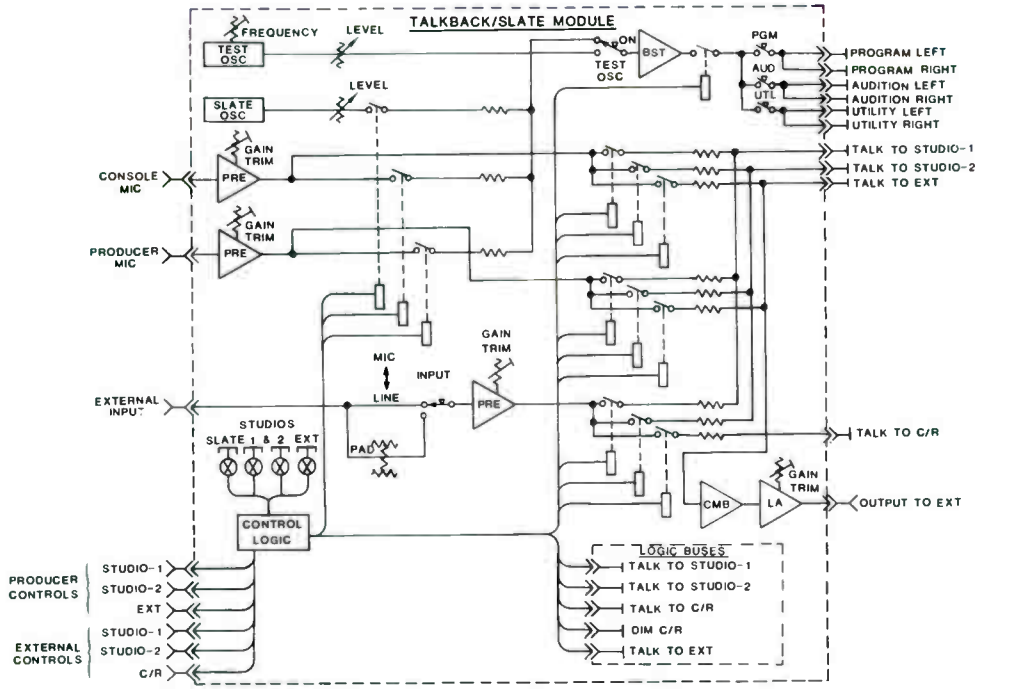
The stereo line input module will accommodate nominal input levels from -12 dBu to $+8$ dBu. The A/B input switch selects either of two stereo inputs. Separate control logic is available on each input for the remote control of tape machines and/or other sources by the module. The PAN control may be used to balance a stereo signal source or to position a mono signal in the stereo image. An INPUT MODE switch allows input selection of stereo, left channel only, right channel only or the sum of left and right channels. The SEND control is provided with a PRE/post-fader switch and may assign a mono-mix of the signal to either or both of two send busses. The user option for stereo send is available as described for the microphone input module. The module output may be assigned to any combination of PROGRAM, AUDITION and UTILITY by the self-indicating OUTPUT buttons. The illuminated CUE button provides stereo pre-fader cue monitoring. The illuminated SOLO button provides monitoring of solo-in-place which is post-fader and pan. The channel ON/OFF buttons are illuminated to indicate the status of the channel.

Each line input module is equipped with a comprehensive family of control logic capability which includes the remote control of module ON, OFF, CUE and SOLO functions with status tally lights. Also provided are ready status and start/stop command pulses for turntables, cartridge and reel-to-reel tape machines. The ready status illuminates the channel OFF button whenever a tape is threaded or cartridge is loaded and ready for play. The ON button starts the remote controlled equipment as well as turning the channel on. The module audio is automatically turned off upon the receipt of a cartridge fast wind or end of tape command. In addition, the module may be set to control the console mounted timer system for the automatic up-time of events.



Microphone
Input
Module

Line
Input
Module



SLATE/TALKBACK/TEST MODULE

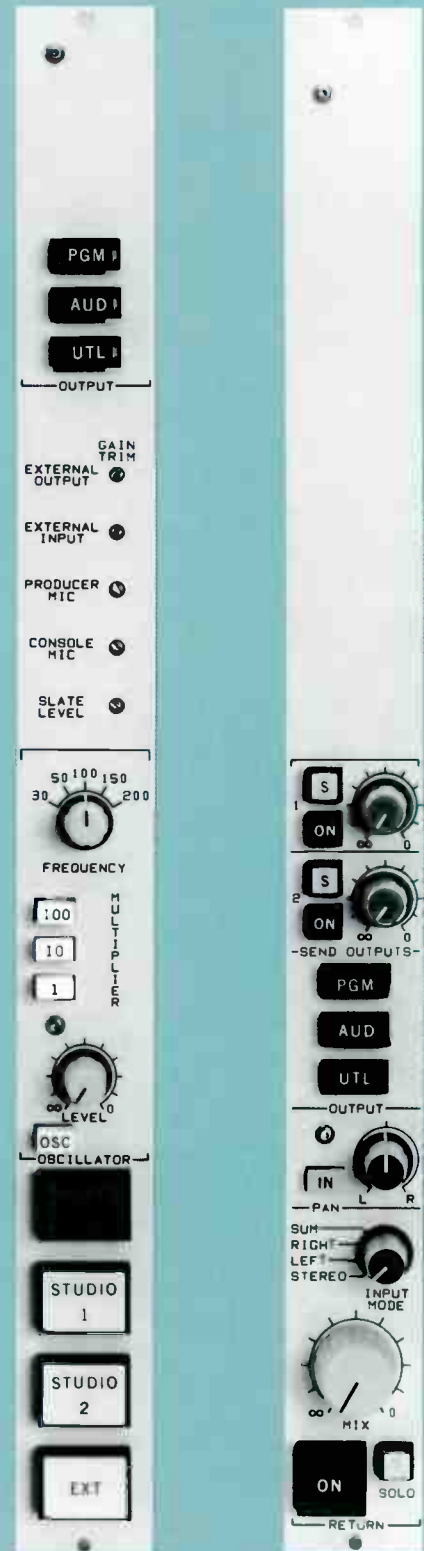
The slate/talkback/test module provides a test oscillator, a slate tone oscillator and talkback facilities for the AMX console. The test oscillator generates low-distortion, stable amplitude tones to allow system test and line-up with any of 15 frequencies. The tones may be assigned to any combination of the PROGRAM, AUDITION and UTILITY mix busses.

SLATE commentary may be added to a tape recording by the console mounted electret microphone and/or from an external producer's microphone. A low distortion spotter tone (nominally 30 Hz, adjustable) with carefully controlled envelope rise and fall times may be recorded with the commentary for ease of fast-wind identification of the cuts on a track.

The console and producer microphones can talk to any of two studios plus a remote or external location, such as a screener booth, 2-way, etc. The external location can also talk back to the studios as well as the control room. The frequency response of all the talk microphone preamplifiers has been carefully shaped to favor speech communication.

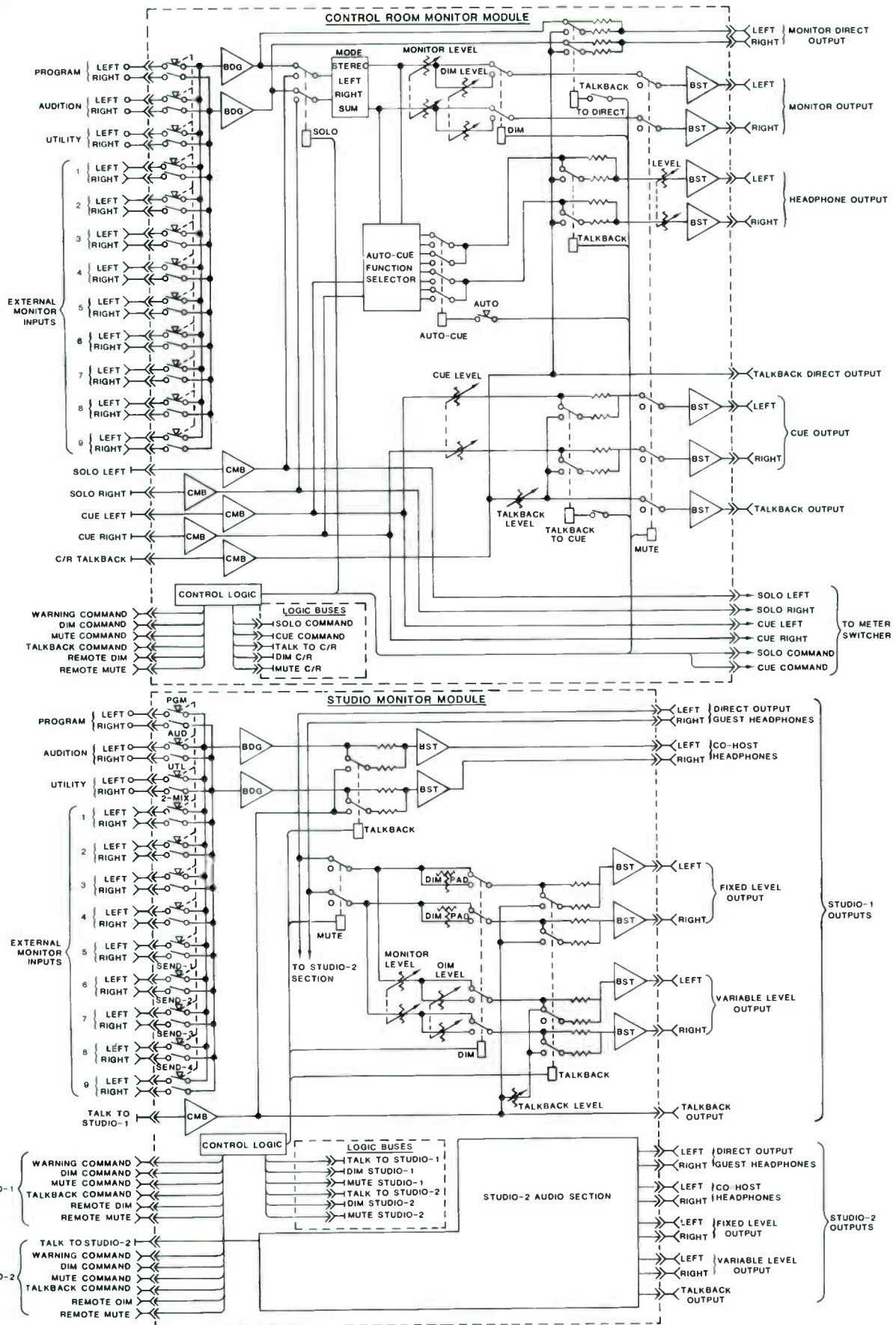
SEND/RETURN MODULE

The send/return module contains both the send amplifiers and the stereo return circuits. The send portion of the module contains the mixing and output amplifiers for the two effects/foldback channels. Each of these has a variable LEVEL control with ON/OFF and SOLO facilities. The stereo effects return section of the module is equipped with a conductive plastic fader, MODE selector, PAN control, ON/OFF/SOLO buttons and output assignment buttons. Logic circuitry is provided for the remote ON/OFF control of both of the send circuits and the return channel.

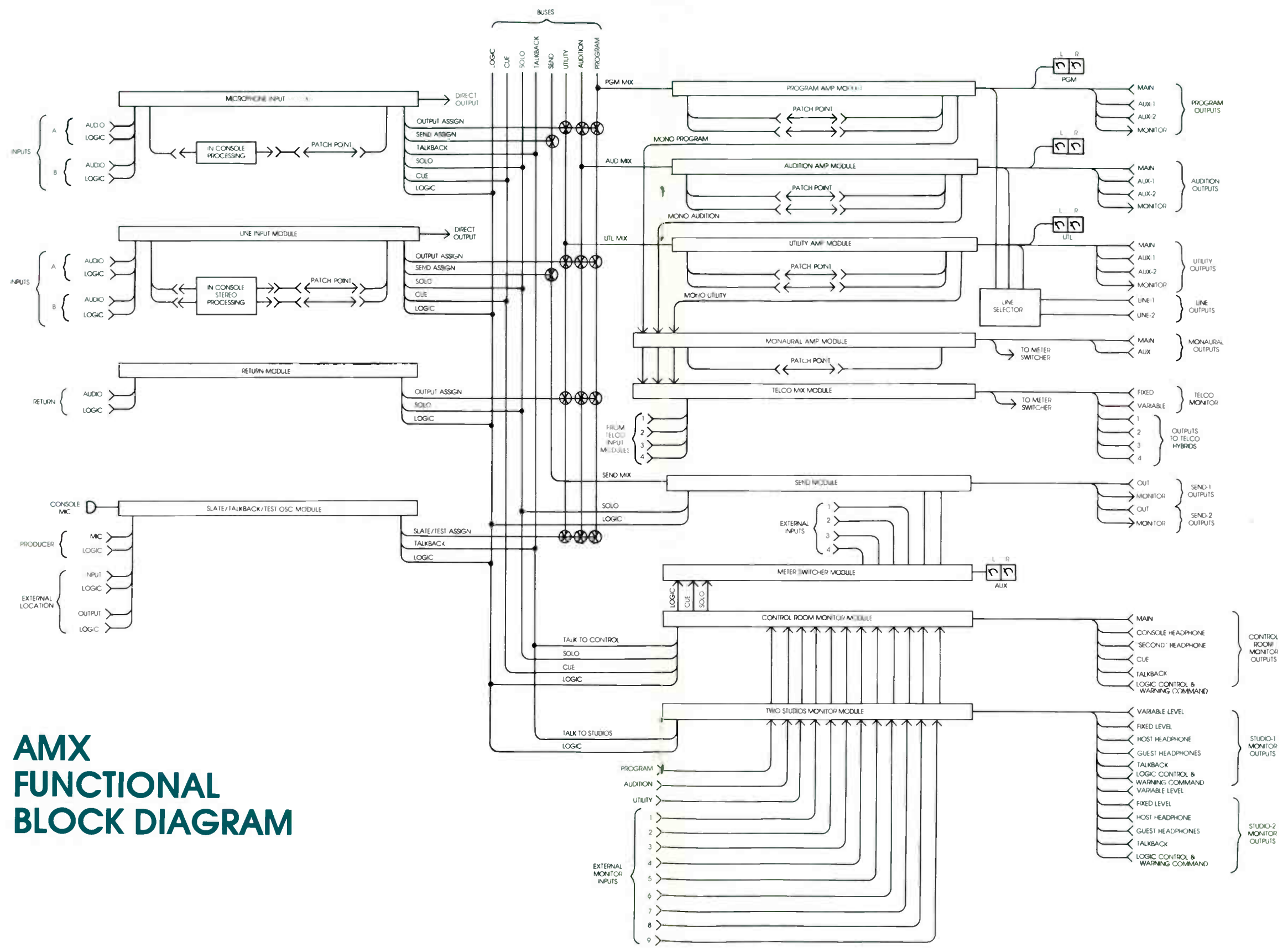


Slate/
Talkback/
Test
Module

Send/
Return
Module



AMX FUNCTIONAL BLOCK DIAGRAM



CONTROL ROOM MONITOR MODULE

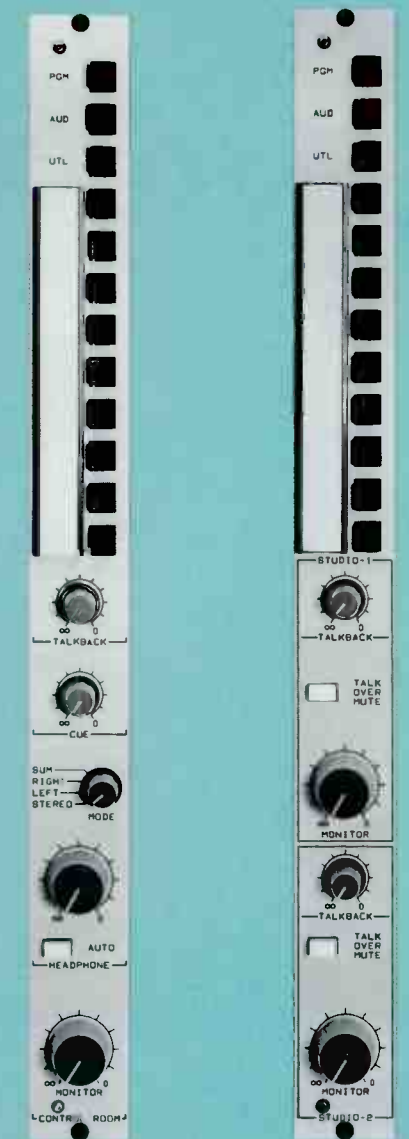
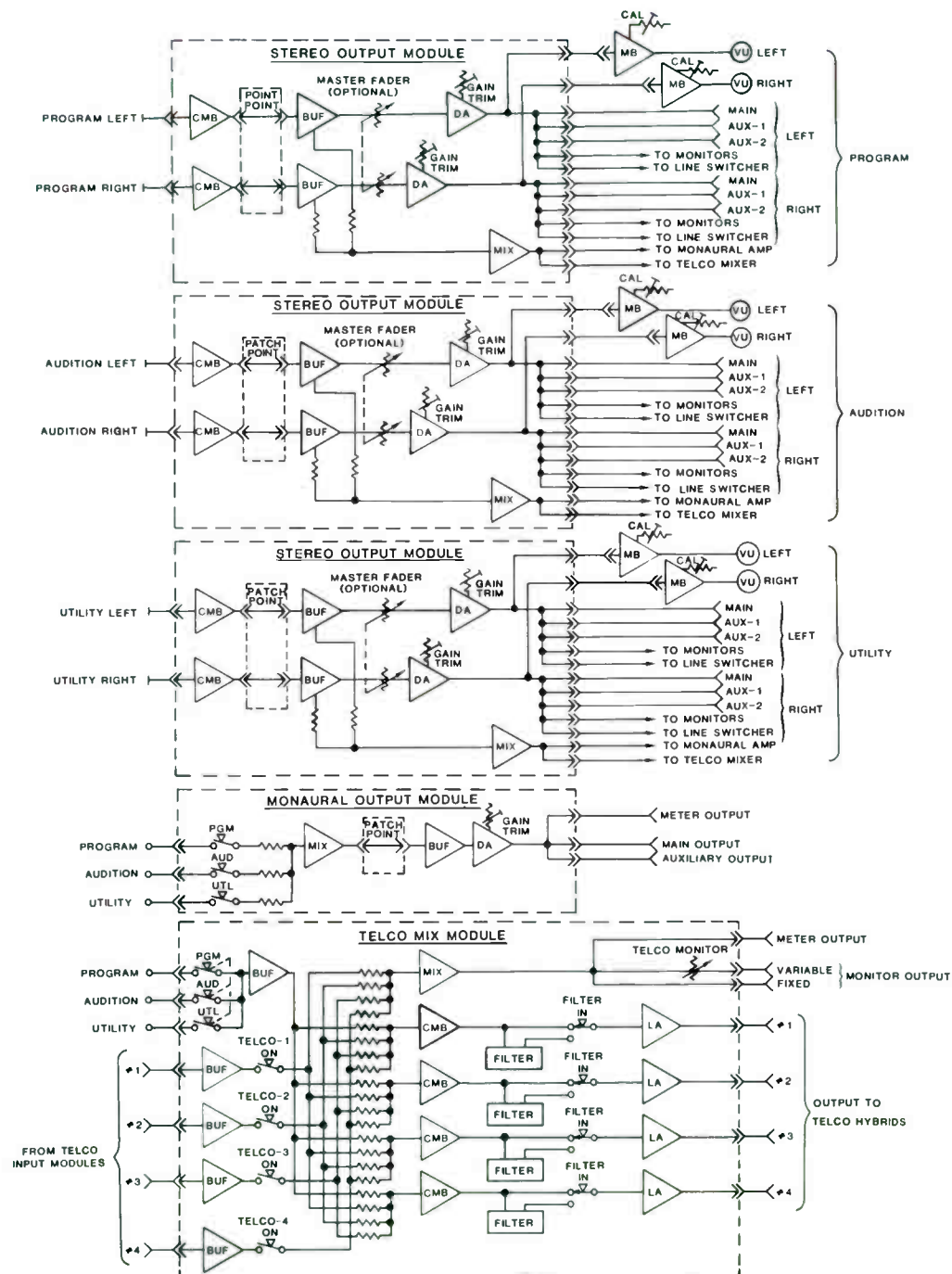
Monitoring of PROGRAM, AUDITION and UTILITY or any of nine external signals is provided by the interlocking monitor selector. The MONITOR and HEADPHONE potentiometers are sealed long-life conductive-plastic controls which were custom designed by Penny & Giles for the AMX and ABX consoles. The AUTO headphone monitoring facility has been derived from the ABX console and is unique in the industry. Whenever an input module CUE button is engaged, the console operator's headphones automatically switch from the normal stereo monitor mode to one of two user assignable states; these are stereo cue, or mono cue in one earphone and mono monitor in the other. The headphone feeds to a co-host and/or guests are not affected.

Level control is available for DIM, which provides an adjustable degree of monitor level reduction during talkback. The TALKBACK control adjusts the volume of incoming talk signals. Talkback may be monitored with an independent amplifier and loudspeaker, or through the stereo cue system. The CUE control adjusts the level of the cue system. Logic circuitry is provided for the remote control of monitor dim and mute.

STUDIO MONITOR MODULE

The studio monitor module is expressly designed for applications where separate voice/announce booths or conference studios are required. This module provides the monitor, headphone and talkback facilities for up to two studios. Monitoring of PROGRAM, AUDITION and UTILITY or any of nine external signals is provided by the interlocking monitor selector. MONITOR, DIM and TALKBACK level controls are provided along with a TALK OVER MUTE button for each studio. The mute override button enables talkback to a studio even when the monitor speakers are muted. This would normally be used when doing off-air production work and/or when the talent chooses to not wear headphones.

The module has several outputs to meet most any combination of monitoring requirements. The main output is adjustable along with the degree of dimming during talkback. Fixed level outputs are available for those situations where the studio personnel are provided their own monitor and headphone level controls. The output for talent headphones is provided with talkback and a preset dim, a second output is provided for guest headphones which contain neither talkback or dim. Logic circuitry is provided for the remote control of DIM and MUTE for each of the studio monitor sections.



Control Room Monitor Module

Studio Monitor Module



STEREO OUTPUT MODULE

The stereo output module contains the mixing and distribution amplifiers for a console line output. The console is supplied with three of these modules, one each for the PROGRAM, AUDITION and UTILITY buses. Each module supplies four stereo distribution outputs; each output is capable of supplying up to +28 dBm. Patch send and return points are available for the connection of external processing equipment and/or a patch field. The output is an active balanced design; output transformers are available as an option. A master fader may be installed as special option.

MONAURAL OUTPUT MODULE

The monaural output module provides a selection of the three main outputs. The module may select or mix any combination of the PROGRAM, AUDITION and UTILITY signals to derive a monaural output. A patch send and return point is available for the connection of external processing equipment and/or a patch field. The output is an active balanced design; an output transformer is available as an option.

TELCO MIX MODULE

The telco mix module derives five unique mixes of the signals from up to four telephone callers and a selection of the PROGRAM, AUDITION and UTILITY buses.

The telephone signals, which are to be broadcast, are selected and controlled by the input modules connected to the external hybrid systems. The telco mix module receives the audio from the input modules and sums them. This sum signal is routed to the metering system and to the monitor output. This telephone mix-monitor output is very useful when talk show talent and/or guests prefer to not use headphones.

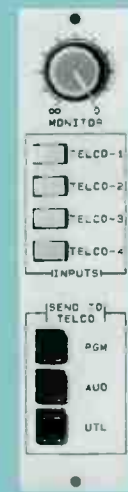
The module provides for the selection of the output bus which is to contain the "base-mix" to be fed back to all the callers so that they may hear what is transpiring, even before air time. The signal fed back to a given caller includes the selected bus plus all the other callers, except himself (mix-minus). The signals fed back to the callers may be passed through the on-board telephone bandpass filters for improved hybrid operation.



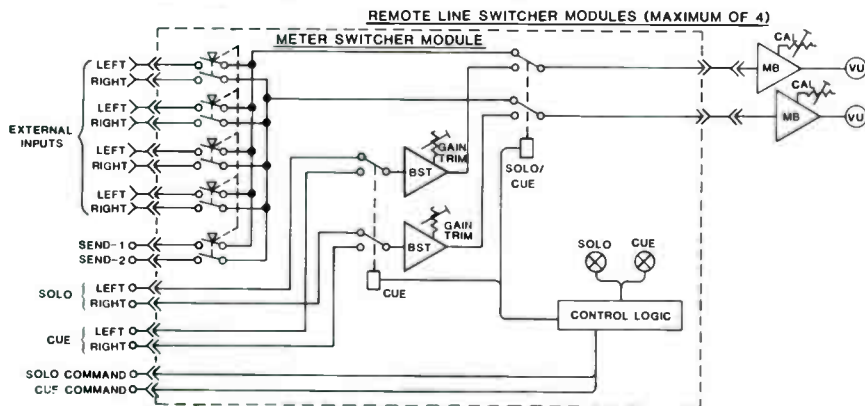
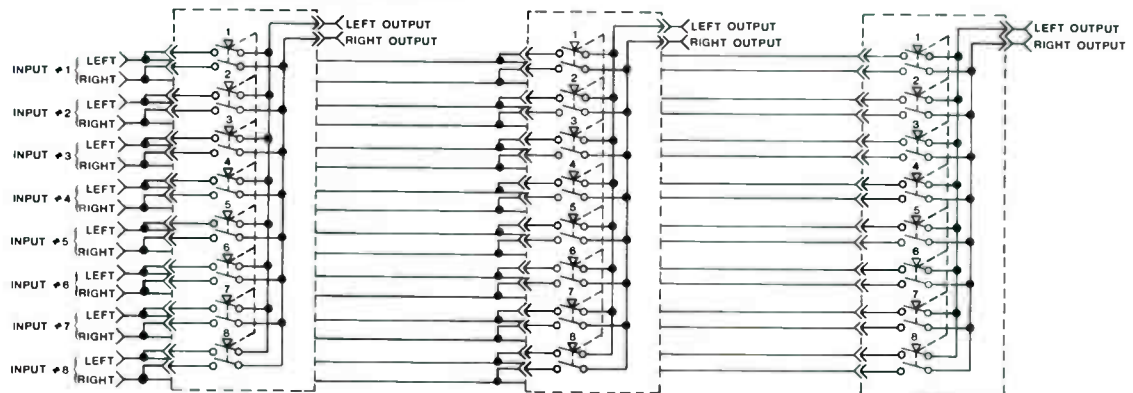
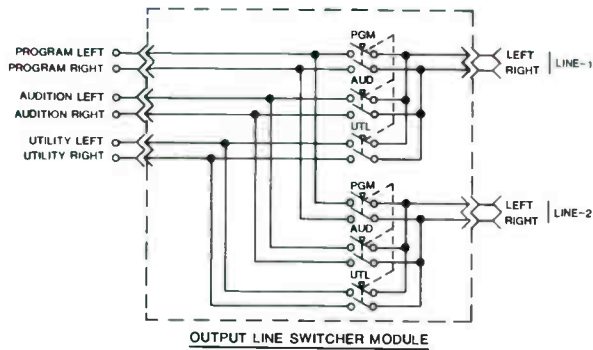
Monaural Output Module



Stereo Output Module



Telco Mix Module



OUTPUT LINE SWITCHER MODULE

The output line switcher module selects an independent output from the PROGRAM, AUDITION or UTILITY distribution amplifiers for each of two console output lines. The module may be used as a transmission line selector, a tape recorder input selector, etc.

REMOTE LINE SELECTOR MODULE

The remote line selector module provides a selection of eight stereo signals switched to one output. Up to four parallel-input selector modules may be installed in the AMX. The inputs and outputs for the modules are all brought out to the connector panel for ease of assignment. Typical applications include use as a line pre-selector ahead of input modules and tape recorders.

METER SWITCHER MODULE

The auxiliary meters in the AMX meter panel are driven by the meter switcher module. This module provides switchable metering facilities for the AUDITION and UTILITY outputs in the smaller mainframe sizes and for the two send outputs in all mainframe sizes. The unassigned inputs may be used to meter user determined external sources. The module automatically defaults from the selected status whenever a CUE or SOLO button is engaged on any module. The auxiliary meters will then display the nominal operating level at the CUE or SOLO point selected. This enables a quick input level check when displaying CUE, and very convenient level line-up when displaying SOLO. The SOLO metering function eliminates the need to use a console output bus for preview and level setting.



Output Line Switcher Module



Remote Line Selector Module



Meter Switcher Module

MONAURAL AND STEREO EQUALIZER MODULES

These modules allow alteration of the frequency response of an input channel, either for correction of deficiencies in the original signal or for creative reasons. The mono module provides tunable highpass and lowpass filters that correct many commonly encountered problems such as hum or hiss, and creation of effects such as a telephone-type response. The equalizer section, which may be switched in or out independently of the filter section, contains bass and treble equalizers which are each independently switchable from the shelving to the peaking modes. The midrange equalizer is tunable over a considerable range and is unique in that the Q of the boost or cut is very broad at modest levels of boost or cut and becomes higher in Q as boost and cut become greater. All of these have reciprocal boost and cut curves, although an internal switch allows the bass equalizer to always remain in the shelving mode during cut. The mono filter section contains separately-tunable sharp-cutoff highpass and lowpass filters. Special care has been taken to minimize noise when switching the equalization or filtering in or out. An overload sensor provides a front panel indication that the signal levels at key points within the module are nearing the clip point.

EQUALIZER/COMPRESSOR MODULE

The Equalizer/Compressor module is a monaural device containing two major blocks. The first block is a switch-insertable equalizer, which allows alteration of the frequency response of the audio channel, for deficiency correction or for creative reasons. The bass equalizer automatically switches from the shelving mode during cut to the peaking mode during boost. The treble equalizer is tunable in frequency; it is switchable from the peaking mode to the shelving mode. An overload sensor provides a front-panel indication that the signal levels at key points within the equalizer are nearing the clip point.

The second block is a switch-insertable high-performance compressor, which also contains a flexible expander and a de-esser, all of unusual sophistication. The compressor is not intended to be a "gain-rider," it is designed to produce an effect of signal smoothness and increased sound density. The compression and the expansion circuits both use advanced AGC-bus ripple-reduction techniques, which allow remarkably short recovery times. The de-esser senses and operates only upon the treble region. As a result of the techniques used, unwanted byproducts (both audible and measurable) have been held to uncommonly low levels. The LED gain-reduction display is unique: it indicates expansion in the dot mode and compression in the bar-graph mode. A separate LED monitors the degree of de-essing.

REMOTE CONTROL PANELS

Tape deck remote control panels are available for most professional reel-to-reel tape recorders. The engraved RWD, FWD, STOP, PLAY and RECord buttons are function color-coded to common industry practice and are supplied with tally lamps.

Cartridge deck remote control panels are available for TOMCAT, Micromax and ITC cartridge recorders. Engraved buttons for TERTiary tone, SECOndary tone, STOP, START and RECord are provided. The buttons are supplied with the appropriate tally lamps.

The timer control panel provides illuminated START, STOP, RESET and HOLD buttons for the meter panel mounted DT-4 digital timer. An AUTO button couples the timer's reset and restart functions to the console timer reset command bus for the automatic up-time of events, (start with module on).



Monaural Equalizer Module



Stereo Equalizer Module



Equalizer/Compressor Module



Tape Remote Control Panel



Cart Remote Control Panel



Timer Remote Control Panel

CLOCK

The TD-2 digital clock provides a functional and clear LED readout for time-of-day. The clock is set by using a small magnet tool, supplied, and Hall effect magnetic switches located just behind the bezel lens. This eliminates the possibility of unauthorized or accidental time set operation. The clock utilizes a quartz crystal time base and is constructed in a black aluminum case for electrostatic shielding. The beveled black anodized face panel compliments the style, size and color of the level display meters.

TIMER

The DT-4 digital clock is a style companion to the TD-2 digital clock and is also intended for use in the sometimes hostile broadcast RF environment. The timer has a five digit readout for minutes, seconds and tenth of seconds. A rear panel remote control connector provides START, STOP, DISPLAY HOLD, RESET and a strapping option to blank the tenth of second display in all operating modes except STOP and HOLD. The timer may be installed as a dedicated event start up-timer, a manual/automatic timer using the timer control panel shown, or two timers may be installed with one dedicated to up-timing and the other only manual using a control panel without the AUTOMATIC mode button.

VU METERS

The VU meters used in the AMX console are manufactured expressly for Pacific Recorders & Engineering by Sifam Limited of England. These meters fully conform to the technical requirements of American National Standard C16.5-1954. The very important "Dynamic Characteristics" clause within this standard states that if a sinusoidal voltage between 35 and 10,000 Hz of such amplitude to give reference deflection under steady-state conditions is suddenly applied, the meter pointer shall reach 99% of reference deflection in 0.3 seconds $\pm 10\%$ and then shall overswing reference deflection by at least 1% and not more than 1.5%. It is the compliance with this characteristic which provides the ABX operator with an exceptionally easy to read level display. The meters are driven by bridging buffer amplifiers to isolate the meter rectifiers from the audio line and to provide ease of reference calibration. Special attention has been made to provide uniform scale illumination without "hot spots."

PPM METERS

Optional Peak Program Meters may be supplied to replace or augment the VU meters in the AMX. These meters are manufactured for Pacific Recorders & Engineering by Sifam Limited of England and fully conform to British Standard 4297:1968. This standard specifies the characteristics for the meter movement and the overall performance when connected to the required drive circuitry. The dynamic characteristics of a PPM system are radically different from a VU meter and deserve special understanding from operators unfamiliar with them. The rise time is measured with isolated, variable length, tone bursts of 5 kHz sinusoidal voltage whose steady-state value will result in a "0" reference reading. The burst times and scale indications are as follows: 100 ms = 0 dB, 10 ms = -2.5 dB, 5 ms = -4 dB, 1.5 ms = -9 dB. The fall-back time is defined as between 2.5 seconds and 3.2 seconds for the pointer to fall from +4 to -20 (white dot) after the removal of a steady-state 1 kHz sinusoidal voltage.



TURRETS/PANELS

Turret cabinets are available in three standard sizes offering 18, 24, and 30 inches of horizontal panel space. Custom sizes are available on special order.

Microphone Control/Status Panels

The first two panels are identical except for the addition of the TALKBACK function. TALKBACK to console overrides the microphone ON/OFF status, muting the mic channel if ON, and "talks" to the console via the TALKBACK circuits. COUGH mutes the ON status of the microphone but does not unmute the studio monitor speakers.

The third panel was specifically designed for the host of a talk/public affairs show and provides the individual and group control of up to five "GUEST" microphone inputs. Selected inputs are turned ON and OFF as a group; however, any individual input may be added to or deleted from those already ON.

Monitoring Panels

The monitor control panel is designed to be connected between the console studio monitor output and the input of the studio monitor amplifier. The headphone control panel is designed to be connected at the output of a studio headphone amplifier. This panel is supplied with a separate, panel mounted, headphone jack which is usually installed in the apron of the studio furniture top.

The third panel is a self contained monitoring system and includes an input selector, balanced bridging input buffer amplifiers and an input for console TALKBACK to MONITOR and HEADPHONE. The select buffers have a separate output, pre-talkback, to feed "GUEST" headphone amplifiers. There are two other versions of this panel which are used where the system requirements dictate separate selectors for the monitor and headphone feeds. The first version has only the selector and monitor level control while the second version has the selector and headphone control with TALKBACK override. These panels require an external bipolar 16-volt power supply.

Timers and Clocks

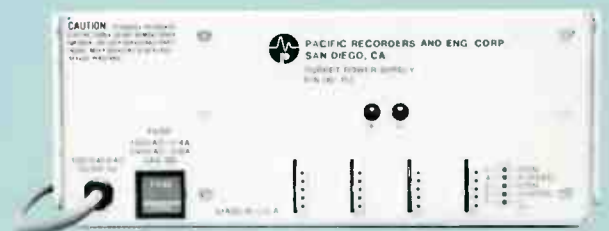
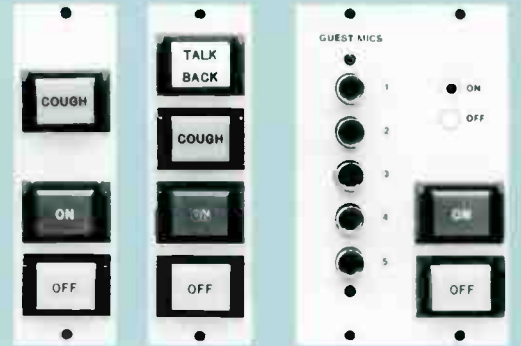
The DT-3 panel mounted digital timer is complimentary to the timer used in the console meter panel. The START, STOP, HOLD and RESET buttons provide local timer control while the AUTO button is used to link the RESET/START function to the console reset timer bus. This assembly is also available without the AUTO button, or without any of the control buttons for applications requiring just a display remoted from the console.

A panel mounted version of the TD-1 digital time of day clock is also available.

Power Supplies

The 12-volt logic and lamp power supply was designed for large studio systems where the installation of several clocks, timers and other peripherals is simplified by the use of one master power supply.

The bipolar 16-volt supply is used to power the audio circuitry in the full function studio monitor selector panels.

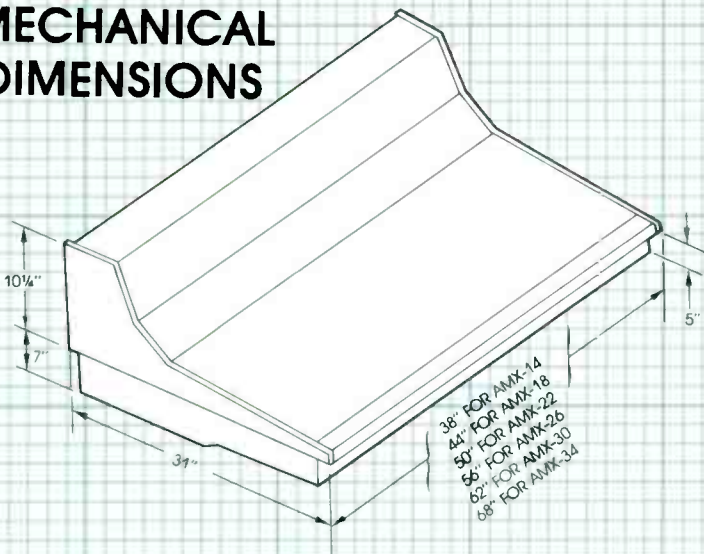


POWER SUPPLY

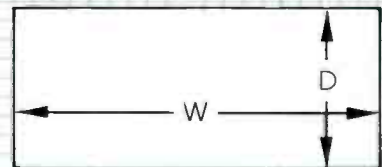
The power supply for the AMX console is a rugged assembly consisting of a set of three individual supplies, each of which is protected by its own individual magnetic circuit breaker, in addition to a master ON/OFF switch. The three supply power for the audio circuitry, the logic circuitry and the phantom supply for microphones. The power transformers each have a grounded interwinding electrostatic shield to minimize abnormal powerline transients from being coupled to the system electrostatically. Those transformers also feature a copper band to minimize stray radiated current. The various outputs are all fully regulated, although the individual plug-in modules in the console use local regulation to prevent inter-module coupling via the power supply. With the exception of the custom heavy-duty transformers, all active components are standard. The regulators are the latest of the adjustable-output integrated-circuit type, with internal current and temperature limiting, mounted on massive heatsinks. The filter capacitors are rated for high temperature operation, and are clamp-mounted and connected with screw terminals for simplified replacement. Test points are provided on the front panel for routine measurement purposes. Although over-designed for dependability, a second power supply assembly may be added with a power supply coupler/switcher for complete redundancy.



AMX MECHANICAL DIMENSIONS



CUTOUT DIMENSIONS (CUTOUTS ALLOW FOR 1/4" CLEARANCE)



MODEL	W WIDTH	D DEPTH
AMX-14	36 3/4	29 1/4
AMX-18	42 3/4	29 1/4
AMX-22	48 3/4	29 1/4
AMX-26	54 3/4	29 1/4
AMX-30	60 3/4	29 1/4
AMX-34	66 3/4	29 1/4

AMX PERFORMANCE SPECIFICATIONS

Microphone Input

Source Impedance	150 ohms
Input Impedance	1000 ohms minimum, balanced
Input Level Range	Adjustable from -60 dBu to -35 dBu
Input Headroom	Greater than 30 dB above nominal input

High Level Inputs

Source Impedance	600 ohms
Input Impedance	Greater than 40K ohms, balanced
Input Level Range	
Line Input	Adjustable from -12 dBu to +8 dBu
Reverb Return	Adjustable from -15 dBu to +8 dBu
Monitor Input	Nominal +4 dBu/+8 dBu
Patch Input	Nominal -10 dBu
Input Headroom	Greater than 30 dB above nominal input levels

Main Outputs

Load Impedance	600 ohms
Source Impedance	30 ohms
Nominal Output Level	+8 dBm, adjustable to +4 dBm
Maximum Output Level	
Line Amplifiers	+28 dBm, 600 ohm load
Send Module	+26 dBm, 600 ohm load

Monitor Outputs

Main Outputs	
Load Impedance	600 ohms or greater
Source Impedance	30 ohms, unbalanced
Output Level	0 dBu nominal, +20 dBu maximum

Headphone Outputs

Load Impedance	45 ohms or greater
Source Impedance	Less than 4 ohms
Output Level	0 dBu nominal, +20 dBu maximum

Frequency Response

Microphone Input to Program Output	+0 dB, -0.9 dB, 20 Hz to 20 kHz
Line Input to Program Output	+0 dB, -0.8 dB, 20 Hz to 20 kHz

Noise

Microphone Input Amplifier	-127 dBu RMS equivalent input noise, 150 ohm source, 20 kHz bandwidth
Line Input Amplifier	-88 dBu equivalent input noise, 600 ohm source, 20 kHz bandwidth
Output noise with one microphone channel ON fader at -15 dB, input sensitivity at -50 dBu	76 dB below output, reference +8 dB, 150 ohm source, 20 kHz bandwidth
Output noise with one line channel ON, fader at -15 dB, input sensitivity at +8 dBu	80 dB below output, reference +8 dB, 600 ohm source, 20 kHz bandwidth
Output noise with no input channels ON	82 dB below output, reference +8 dB, 20 kHz bandwidth

Distortion, T.H.D.

Microphone Input to Program Output	Less than 0.02%, 20 Hz to 20 kHz, -50 dBu input, +8 dBm output into 600 ohm load, 80 kHz meter bandwidth; less than 0.01% at 1 kHz, +28 dBm output
Line Input to Program Output	Less than 0.008%, 20 Hz to 20 kHz, +8 dBu input, +8 dBm output into 600 ohm load, 80 kHz meter bandwidth; less than 0.01% at 1 kHz, +28 dBm output

Distortion, I.M.

Microphone Input to Program Output	Less than 0.008%, -50 dBu input, +8 dBm output into 600 ohm load; less than 0.01% at +28 dBm into 600 ohm load
Line Input to Program Output	Less than 0.005%, +8 dBm input, +8 dBm output into 600 ohm load; less than 0.01% at +28 dBm into 600 ohm load

Crosstalk

Interchannel Crosstalk	Less than -85 dB at 1 kHz Less than -75 dB at 20 kHz
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Notes:

- 1.) These specifications are for the basic signal paths, per channel, with either or both channels of a stereo pair operating and with 600 ohm loads connected to the program outputs.
- 2.) 0 dBu corresponds to an amplitude of 0.775 volts RMS regardless of the impedance of the circuit. It is the same voltage value as 0 dBm measured in a 600 ohm circuit. This enables convenient level measurement with meters calibrated for 600 ohm circuits.
- 3.) Noise specifications are for a 26-input console (AMX-26); larger consoles will have slightly reduced signal-to-noise ratios due to increased summing amplifier gain. Noise specifications are based upon a 20 kHz bandwidth; the use of a meter with a 30 kHz bandwidth will result in a noise measurement increase of approximately 1.7 dB.

Specifications subject to change without notice or obligation as advances in technology are incorporated.

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Effective April 1, 1980

Spare Components

Part #		Qty.	Price	Extension
99-11-0	Control Room Monitor Module with meter switching		631.00	
99-11-2	Control Room Monitor Module without meter switching		631.00	
99-9-2	Stereo Line Output Amplifier Module		395.00	
99-8-4	Monaural Output Amplifier Module		263.00	
99-73	Power Supply with 6 foot cable		944.00	
99-104	VU Meter with Bezel and Meter Buffer Amp		165.00	
76-1-3	Connector Kit, 14-Input Mainframe		66.00	
76-1-5	Connector Kit, 22-Input Mainframe		78.00	
76-1-6	Connector Kit, 26-Input Mainframe		84.00	
76-3	Spare Parts Kit		80.00	
75-4	Owner's Manual		25.00	

SPARE COMPONENTS SUBTOTAL

All prices are in U.S. dollars, FOB Pacific Recorders and Engineering Plant in San Diego, California, U.S.A. Taxes, tariffs and freight charges are not included. All prices and specifications are subject to change without notice.

BMX

Series II

**Audio Control Console
 Professional Price List**

Mainframe: Includes housing, power supply, stereo program and audition output amplifiers, control room monitor module, cue speaker, connector kit, spare parts kit, owner's manual, extender module.

Part #		Qty.	Price	Extension
99-121	14-Input Mainframe, switchable Stereo Output Meters		5380.00	
99-122	22-Input Mainframe, Stereo Program & Audition Meters		6910.00	
99-123	26-Input Mainframe, Stereo Program & Audition Meters		7550.00	

Input Modules and Blank Panels: Please note: One blank panel required for each unused input position.

Part #		Qty.	Price	Extension
99-77	Microphone Input Module		488.00	
99-78	Line Input Module		598.00	
99-15	Blank Panel		25.00	

Options and Accessories: Please note: Meter panel has 3 unused cutouts for timers and the VU Meter for mono output.

Part #		Qty.	Price	Extension
99-124	Monaural Output with VU Meter & Meter Buffer Amp		428.00	
99-13	Studio Talkback Monitor Module		466.00	
99-14	Remote Line Selector Module		224.00	
99-17	DT-3 Digital Stopwatch		250.00	
99-27	Timer Control Button Panel		105.00	
99-56	TD- I Digital Time of Day Clock		250.00	
99-50-3	Copy Stand 14-Input Position Frame		145.00	
99-50-5	Copy Stand 22-Input Position Mainframe		160.00	
99-50-6	Copy Stand 26-Input Position Mainframe		170.00	

CONSOLE SUBTOTAL _____

Logic Interface Units: Please note: Each interface is supplied with its own mating connectors and pins. The TI-3 Turntable Interface is supplied with connectors, two 6 foot cables and instructions for the remote control modifications of the Technics model SP-IOMKII and SP-15 turntables.

Part #		Qty.	Price	Extension
99-109	TCI-1 – Interface for three TOMCAT cartridge recorders or reproducers		135.00	
99-110	TI-3 – Interface for two TECHNICS model SP-IOMKII or SP-15 turntables		140.00	
99-111	TI-2 – Interface for tape or cartridge recorder		115.00	
99-125	CI-2 – Interface for three cartridge play decks		135.00	

Prefabricated Logic Control Cables

BMX Console to any Interface Unit

Part #	Length	Qty.	Price	Ext.
99-38-1	3 feet		15.00	
99-38-2	6 feet		18.00	
99-38-3	9 feet		21.00	
99-38-4	12 feet		24.00	
99-38-5	15 feet		27.00	
99-38-6	18 feet		30.00	
99-38-7	21 feet		33.00	
99-38-8	24 feet		36.00	

TI-2 Interface to MCI Tape Recorder

Part #	Length	Qty.	Price	Ext.
99-127-1	3 feet		18.00	
99-127-2	6 feet		21.00	
99-127-3	9 feet		24.00	
99-127-4	12 feet		27.00	
99-127-5	15 feet		30.00	
99-127-6	18 feet		33.00	

TCI-1 Interface to TOMCAT Cartridge Recorder

Part #	Length	Qty.	Price	Ext.
99-126-1	3 feet		15.00	
99-126-2	6 feet		18.00	
99-126-3	9 feet		21.00	
99-126-4	12 feet		24.00	

TI-2 Interface to ITC RP Series Cartridge Recorder

Part #	Length	Qty.	Price	Ext.
99-128-1	3 feet		23.00	
99-128-2	6 feet		28.00	
99-128-3	9 feet		33.00	
99-128-4	12 feet		38.00	

CI-2 Interface to ITC 99 Series Cartridge Decks

Part #	Length	Qty.	Price	Ext.
99-130-1	3 feet		18.00	
99-130-2	6 feet		21.00	
99-130-3	9 feet		24.00	
99-130-4	12 feet		27.00	

CI-2 Interface to ITC SP & 3D Series Cartridge Players

Part #	Length	Qty.	Price	Ext.
99-125-1	3 feet		15.00	
99-125-2	6 feet		18.00	
99-125-3	9 feet		21.00	
99-125-4	12 feet		24.00	

LOGIC INTERFACE & CABLES SUBTOTAL

Console Overbridge Kit: Includes all parts, hardware, and pre-finished oak end panels to add overbridge to existing BMX series consoles. Overbridge assembly adds two inches to the overall front to back console dimension, but does not change the installation cut-out dimensions. Overbridge accepts accessory panels 4.75" high by multiples of 1.5" wide. Maximum depth behind panel is 4".

Part #		Qty.	Price	Extension
99-108-3	Overbridge for BMX-14 mainframe, 30" panel space		350.00	
99-108-5	Overbridge for BMX-22 mainframe, 30" panel space		365.00	
99-108-6	Overbridge for BMX-26 mainframe, 30" panel space		380.00	

Control Turrets: Designed to be attached to studio cabinetry, pre-finished with FORMICA brand laminate and oak end panels. Turret accepts accessory panels 4.75" high by multiples of 1.5" wide. Maximum depth behind panel is 4".

Part #		Qty.	Price	Extension
99-94-1	Turret, 18" panel space, 22" overall width		190.00	
99-94-2	Turret, 24" panel space, 28" overall width		195.00	
99-94-3	Turret, 30" panel space, 34" overall width		205.00	

Overbridge and Turret Accessories

Part #		Qty.	Price	Extension
99-95	DT-3 timer w/START, STOP, HOLD, RESET, AUTO buttons mounted on 4.5" wide panel		310.00	
99-96	DT-3 timer w/START, STOP, HOLD, RESET buttons mounted on 4.5" wide panel		300.00	
99-97	Timer/Clock mounting panel only, 4.5" wide		13.00	
99-98	Microphone control, ON, OFF, COUGH, TALK-BACK buttons, 1.5" wide		60.00	
99-106	Microphone control, ON, OFF, COUGH buttons, 1.5" wide		45.00	
99-99	Microphone control, 5 "GUESTS", ON, OFF w/5-selectors, 3" wide		75.00	
99-101	Stereo Monitor Level, 1.5" wide		58.00	
99-102	Stereo Headphone Level, 1.5" wide		63.00	
99-105-1	Blank Panel, 1.5" wide		5.30	
99-105-2	Blank Panel, 3" wide		6.25	
99-105-3	Blank Panel, 4.5" wide		7.75	
99-105-4	Blank Panel, 6" wide		10.30	
99-105-6	Blank Panel, 9" wide		12.50	
99-112	Power Supply, 12 volts at 3 amps, 6 outputs		115.00	
99-50-1	Copy Stand, 22" Turret		120.00	
99-50-2	Copy Stand, 28" Turret		133.00	
99-50-3	Copy Stand, 34" Turret		145.00	

TURRET/OVERBRIDGE SUBTOTAL _____