AFFORDABLE QUALITY BY DESIGN

PR&E has always built consoles to one level of quality: the finest. As a result, our BMX on-air and ABX production consoles are used by the majority of major-market leaders throughout the USA. Now, the PR&E console design team has created the very affordable Radiomixer and Productionmixer series. Consoles to satisfy today's demanding on-air and production needs without compromise, yet fit within the real-world budgets of professional broadcasters.

This was not an easy engineering assignment. But Radiomixer and Productionmixer prove again that PR&E stands alone in setting design standards for radio broadcast consoles. The human engineered layouts place an extensive array of functions, plus full metering and flexible signal routing, in a format that is easy to learn and easy to use. As always, we've selected only the finest and most durable components, such as Penny & Giles faders and Honeywell switches. Construction details like gold-plated circuit board

connectors, sealed nitrogen-filled gold-contact relays, and precision machined quarter-inch thick mainframe end-plates reflect PR&E's continuing commitment to long-term value.

Yet Radiomixer and Productionmixer cost no more than ordinary consoles. We achieved this unequalled synthesis of quality and value by investing in new machinery and tooling which adds efficiency to the production process, and by offering these consoles equipped as standard with our most-requested features. These consoles are fully equipped to meet all the on-air and production needs of most stations.

Radiomixer and Productionmixer are "companion" console designs; both based upon a standardized and "intuitive" operational platform. This eliminates the need for operators to memorize the various layout and functional peculiarities found in unrelated designs. When an operator knows one PR&E console, he or she can sit down at any other model and get right to work. As a result, Radiomixer is a very fast,

accurate and efficient on-air console; Productionmixer retains these on-air qualities while adding impressive multitrack production power.

Because many major market leaders and national networks rely on PR&E's large consoles and our total systems experience for their "showcase" studios, some stations assume that PR&E durability, flexibility and performance are out of their range. Radiomixer and Productionmixer are proof that is just not so. With Radiomixer and Productionmixer, now any station can acquire the long-term value of genuine PR&E consoles.
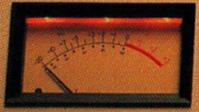
RADIOMIXER FEATURES

An intuitive on-air console which is easy to learn and easy to use, Radiomixer contains a wide range of sophisticated features behind a clean and uncluttered control surface.

■ Console is supplied standard with Telco Mix System, Monaural Output, Program Output and Control Room Monitor modules; digital clock, timer and timer control panel.

■ Available in 12, 20, and 28 input module capacity mainframes, accommodating any combination of mic and line input modules.

■ True modularity with all mainframe positions fully wired and tested.

■ Centered mixing section provides equal reach access to console controls and the surrounding peripheral equipment.

■ Microphone input modules with A & B inputs, transformerless preamp, phantom power, processing patch point, pan control and full-featured CMOS remote control logic.

■ Stereo line input modules with A & B inputs, transformerless instrumentation preamplifiers, processing patch points, input mode selector and powerful CMOS logic for remote, timer, and machine control.

■ High-performance VCA fader design utilizing the Aphex differential VCA along with a fail-safe controller/driver incorporating a refined attenuation characteristic.

■ 30 dB of input, mix, interstage and patch-point headroom.

■ In-phase, balanced processing patch points on all input modules.

■ Low-noise, RFI immune, 12-volt CMOS control logic with short-circuit protected outputs.

■ Two stereo Program outputs, PGM-1 and PGM-2, each with balanced, transformerless, distribution power amplifiers.

■ Off-Line and Live telco mix system with manual and automatic mode selection, two telephone hybrid outputs, split-track outputs for tape, plus telco-mix monitor and Cue feeds.

■ Monaural output, with balanced transformerless distribution power amplifier, selectable from either of the two Program outputs.

■ Control Monitor module with six external inputs, monitor mode selector, operator headphone Auto-Cue and buffered outputs for guest headphones.

■ Studio Monitor module provides monitor, headphone and talkback facilities for a voice/announce booth or studio.

■ Precision, temperature compensated, time-of-day digital clock which may also be slaved to ESE-type master time code.

■ Digital event timer including control panel with Auto-Reset selection.

■ Built-in CUE speaker.

■ Up to four machine remote control panels may be accommodated for control of tape, cassette and cart decks.

■ Heavy-duty construction, quarter-inch thick, precision machined end plates for precise registration of the steel mainframe structure.

■ Extra-rigid mainframe motherboard with heavy copper plating for low-impedance power, ground and signal bus distribution.

■ Extensive use of ground plane printed circuit shielding and RFI decoupling techniques.

■ Superior quality components including Penny & Giles faders, full-spec Sifam VU meters, gold-plated connectors, relays, and switches, and the highly reliable Honeywell ON and OFF module command buttons.

■ Heavy-duty power supply, incorporating a massive toroidal transformer, with fully regulated audio, logic and phantom power outputs.

■ Easy to wire connector panel utilizes individual input, output and logic connectors with functions designated by connector type.

■ Connector kit, tool kit, spare parts kit and comprehensive technical manual.

REAL VU METERS

Genuine Sifam R32 VU meters - not just "audio level indicators" equipped with VU scales.

CLOCK & TIMER

Built-in digital event timer and high-accuracy time-of-day clock which may also be slaved to ESE-type master time code.

TELCO MIX/MONAURAL OUTPUT MODULE

One of the most advanced and easy to use telephone mix-minus systems in the industry, the Telco Mix System handles any phone situation, from talk radio to contests, with elegant simplicity.

STEREO PROGRAM OUTPUT MODULE

Contains the bus summing and distribution output amplifiers for the two stereo program channels, PGM-1 and PGM-2.

MACHINE REMOTE CONTROLS

Conveniently control the transport functions of outboard tape decks: cassette, cart, or open reel.

MICROPHONE INPUT MODULE

Featuring two inputs per module, transformerless preamp, phantom power, processing patch point, and pan control. Output may be assigned to PGM-1, PGM-2, and the Telephone System (Off line Mix) bus. Full-featured CMOS remote control logic follows input selection.

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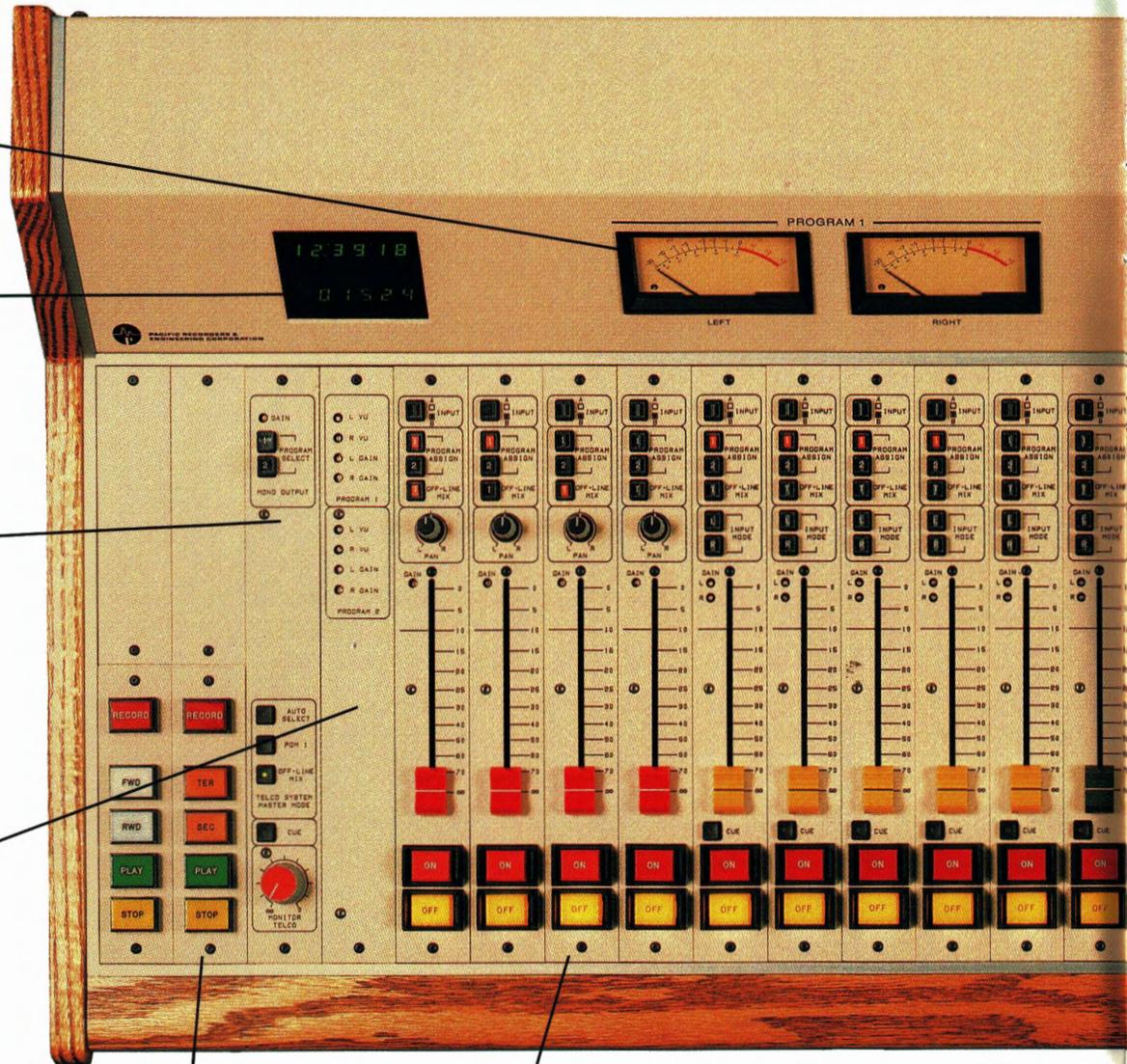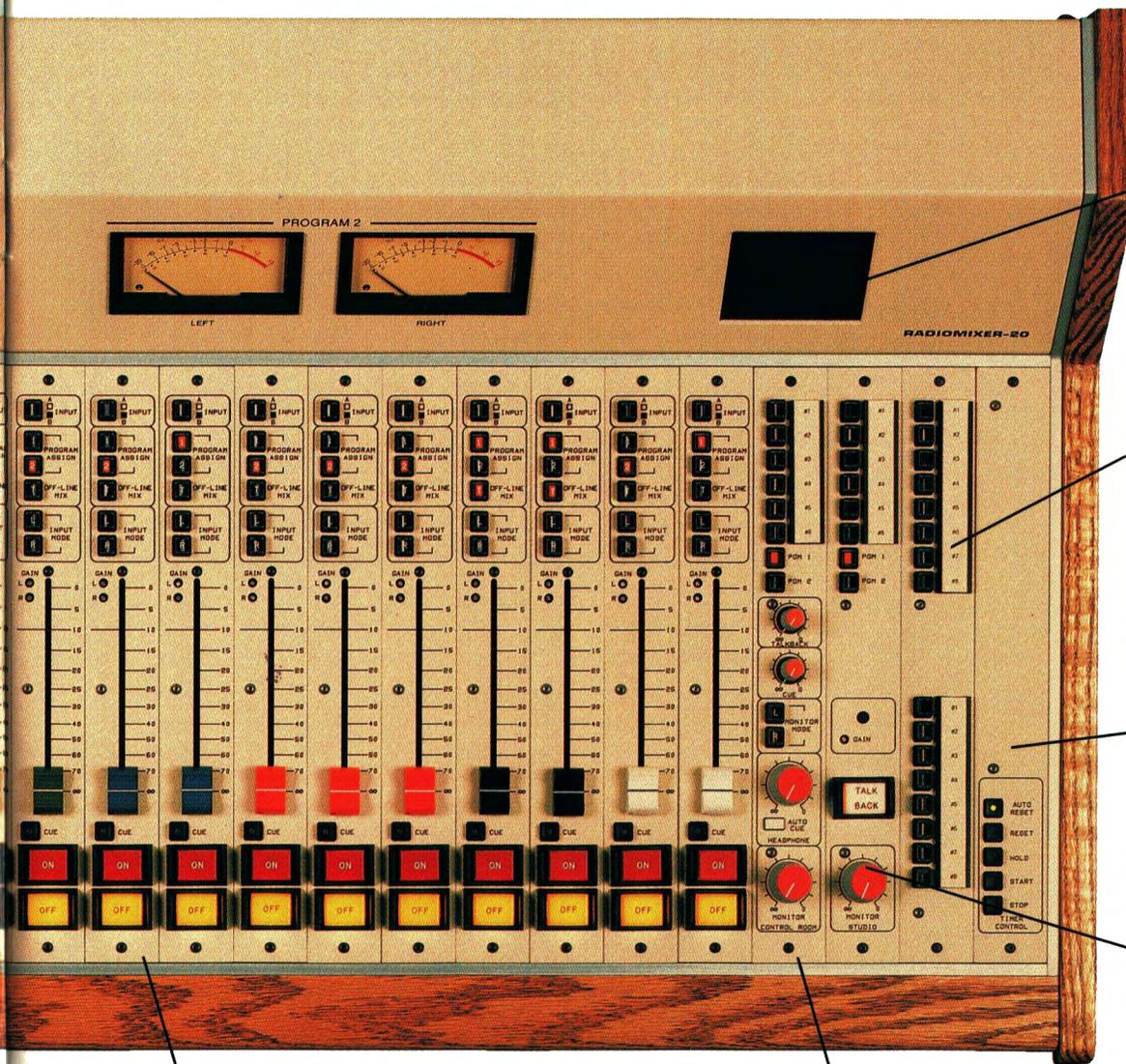
BUILT-IN CUE SPEAKER

Used for input module cue, talkback to console and telco mix monitoring.

DUAL REMOTE LINE SELECTOR MODULE

Provides for the choice of up to eight external stereo sources by two selectors. Typical applications: selecting remote lines for stereo input modules, or extending the input selection capability of the monitor system.

TIMER CONTROL MODULE

For manual and automatic control of the digital timer - Start, Stop, Reset and Hold (display freeze). The Auto button allows the console to reset the timer for automatic uptiming of selected events.

STUDIO MONITOR MODULE

Provides monitor, talent headphone, guest headphone and talkback facilities for a voice booth or studio.

STEREO LINE INPUT MODULE

Two stereo inputs per module, transformerless instrumentation preamplifiers, stereo processing patch points, input mode selector, and cue. Assignable to PGM-1, PGM-2, and Telephone System bus. Powerful CMOS logic for remote, timer, and machine control follows input selection.

CONTROL ROOM MONITOR MODULE

Monitors PGM-1, PGM-2, or any of six external signals. Features include: monitor mode selector, operator's headphone Auto-Cue, guest headphone feed and remote control dim and mute.

MICROPHONE INPUT MODULE

The transformerless microphone preamplifier is adjustable over the nominal input level range of -70 to -35 dBu, accommodating a wide range of professional microphones. A preamplifier patch output, with balanced return, is available for connection to external processing and special effects equipment. Phantom power for condenser microphones is assignable to each input.

The module's output is assignable to the stereo PGM-1 and PGM-2 buses, and telephone mix system via the Off Line Mix button. The PAN control allows positioning of the microphone in the stereo image.

The P&G fader controls a differential-mode VCA by means of unique circuitry which provides real fader "feel" and maintains optimum headroom throughout the control range.

Remote control logic for each input, A & B, includes:

- ON with tally
- OFF with tally
- COUGH (momentary mute)
- TALKBACK (to console)

Programmable control room and studio monitor muting incorporates a 40 msec delay

STEREO LINE INPUT MODULE

The stereo instrumentation input preamplifiers will accommodate nominal input levels from -12 dBu to +8 dBu. Instrumentation amps were chosen for their true input symmetry plus very high common-mode headroom capability, features which single-stage differential amplifier circuits cannot provide. Preamplifier patch outputs, and balanced returns, provide a convenient connection point for external processing equipment.

The module's output is assignable to the stereo PGM-1 and PGM-2 buses, and telephone mix system via the Off Line Mix button.

INPUT MODE selection is provided by the L and R button switches. The signal mode is stereo with both buttons released; pressing L sources the left input; pressing R sources the right input and engaging both buttons sums left and right into a mono signal.

The P&G fader controls a stereo pair of VCA's with the same unique circuitry used in the mic input module.

Remote control logic for each input, A & B, includes:

- ON with tally
- OFF with tally
- CUE with tally
- READY (source)
- AUDIO RESET (to OFF)
- START pulse
- STOP pulse

Console event timer RESET/RESTART is also assignable for each input selection.

TELCO MIX/MONAURAL OUTPUT MODULE

This module contains two completely independent sections, the Telco Mix System, and the Monaural Output System. The monaural section provides a mono sum of either Program-1 or Program-2, and is equipped with a distribution amplifier providing three main outputs and a monitor output which may be routed to the monitor selector.

The Telco Mix System is one of the most flexible, yet easy to use mix-minus systems ever designed for a broadcast console. The system is designed to quickly and efficiently accommodate the telephone feed and recording requirements of an "Off-Line" contest mix as well as traditional "On-Air" talk radio. In addition, the system can automatically switch from one mix-minus format to the other; an especially handy feature for taking the "winning caller" directly to air, and back to "Off-Line" if desired.

The Telco Mix System uses four different categories of source signals from the console's input modules:

- Microphones (main DJ, etc.)
- Lines (contest carts, etc.)
- Caller #1
- Caller #2 (if used)

  And produces five unique mix-minus outputs to:

- Telephone hybrid #1
- Telephone hybrid #2 (if used)
- Tape (composite mono mix of mics, lines and callers)
- Tape (split-track mix: #1=mics & lines; #2=callers only)
- Monitor Mix (external amp and speaker: callers only)

The Telco Monitor Mix may also be assigned to the console's cue speaker with the CUE button.

The Telco System Master Mode buttons set up the console for:

- OFF-LINE MIX for working with and recording mics, contest carts and callers off-line
- PGM-1 for working with and recording standard on-air talk radio
- AUTO SELECT automatically switches between OFF-LINE and PGM-1 modes as determined by the caller's input module ON/OFF status

CONTROL ROOM MONITOR MODULE

Monitoring of PGM-1, PGM-2 plus six external signals is provided by the monitor selector. A buffered selector output is available for feeding guest headphone circuits.

MONITOR MODE switching provides monitoring a selected source in stereo, left-mono, right-mono and left-right sum.

The AUTO CUE system provides one of two internally selected monitoring options to the console operator's head-phones when an input module's CUE button is engaged:

- cue in both phones, or
- split monitor and cue

The CUE control adjusts the Cue volume and the TALKBACK control sets the incoming Talkback volume to the Cue loudspeaker. An external input to the Cue system is provided with muting optional.

In addition to the standard Warning Light command output, the module logic includes inputs and outputs outputs supporting talent control turrets and even remote control of monitor Dim and Mute. The remote Dim function is often connected to a door-jamb or telephone cradle microswitch to provide automatic monitor dimming whenever the control room door is opened or the telephone handset is picked up.
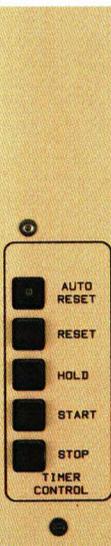
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PGM-1 & PGM-2 OUTPUT MODULE

This module contains the summing, distribution and meter amplifiers for both of the stereo program buses: Program-1 and Program-2. The line output power amplifiers themselves are a high reliability design constructed on individual plug-in circuit boards.
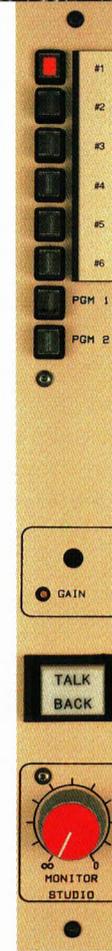
TIMER CONTROL MODULE

Manual control of the meter panel mounted digital timer is provided by the START, STOP, RESET & HOLD (display freeze) buttons. The AUTO button engages the console's timer reset bus for the automatic up-timing of selected input events.

REMOTE LINE SELECTOR MODULE

The Remote Line Selector module provides for the choice of up to eight external stereo sources by the two selectors. Typical applications include the selection of remote lines for stereo line input modules or extending the input selection capability of the monitor system. The outputs of the selectors are brought out to a connector for user routing to the appropriate line or monitor input positions.

STUDIO MONITOR MODULE

The Studio Monitor provides both monitor and communication facilities for a separate voice booth or conference studio. The input selector duplicates the sources of the Control Room Monitor module.

Communication to the studio is provided by a built-in electret condenser microphone eliminating the need to use the console position's mic input module for this duty.

Four types of outputs meet most any combination of studio monitoring and communication requirements:

■ Main - level may be fixed or locally controlled, as required, for the studio monitor amplifier and speaker system. Includes talkback insertion with monitor dim.

■ Talent Headphones - fixed level output, includes talkback insertion with monitor dim.

■ Guest Headphones - fixed level output, does not include talkback.

■ Talkback - audio and logic signal for connection to a host's monitor selector and control turret.

RADIOMIXER
FUNCTIONAL BLOCK DIAGRAM
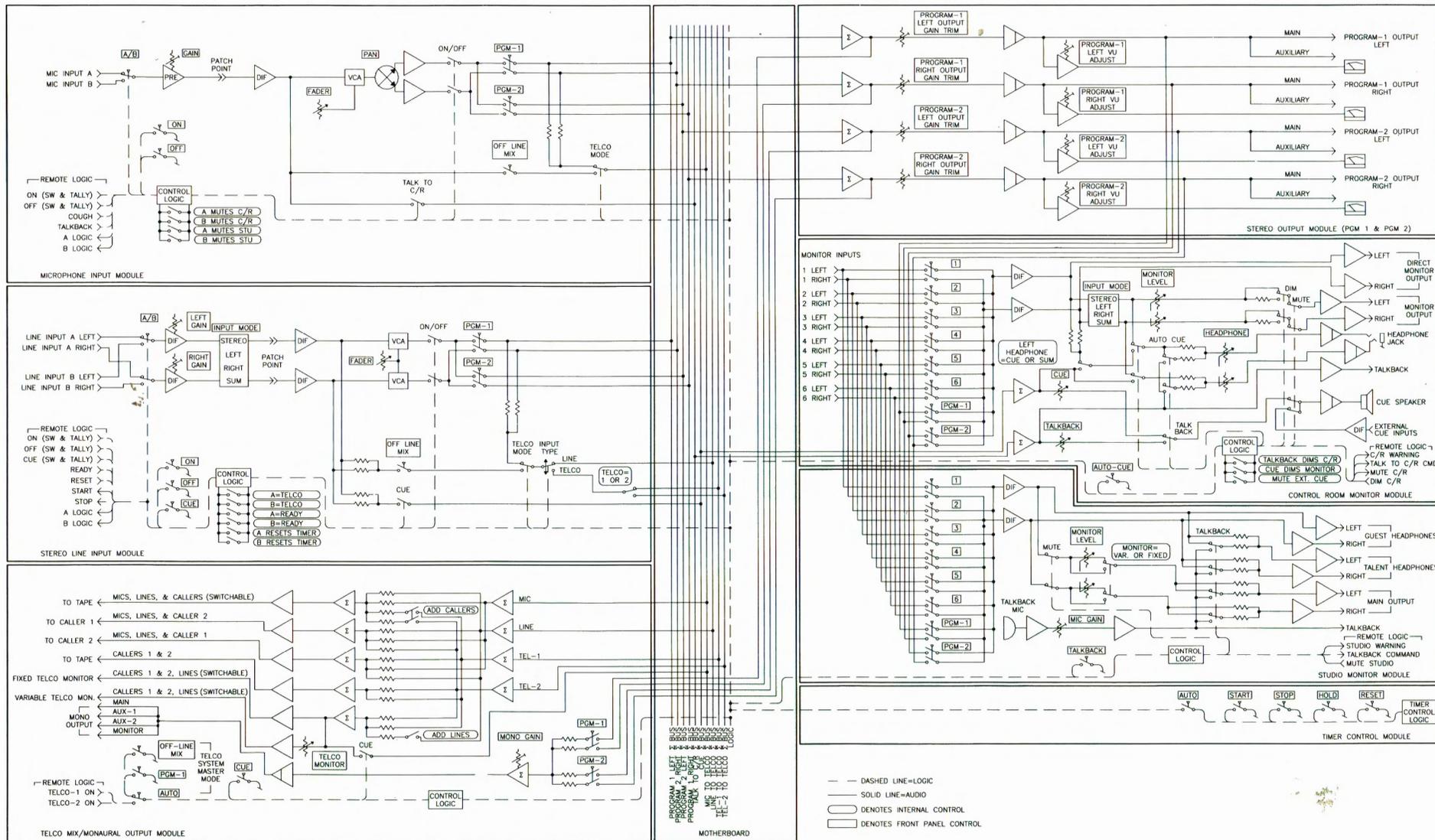
PRODUCTIONMIXER FEATURES

Productionmixer retains all of Radiomixer's powerful on-air facilities while adding impressive production capability, making Productionmixer an ideal back-up air console. These features in common, plus the standardized control layout, make it very easy for operators to efficiently move from one activity to the other.

■ Easy to learn and use, containing a wide range of sophisticated features behind a clean and uncluttered control surface.

■ Console is supplied standard with Telco Mix System, Monaural Output, Program Output, Send Output, Effects Return Mix, Control Room Monitor and Meter Switcher modules; digital clock, timer and timer control panel.

■ 28 input position mainframe accommodates any configuration of microphone, line and multitrack modules.

■ True modularity with all mainframe positions fully wired and tested.

■ Centered mixing section provides equal reach access to console controls and the surrounding peripheral equipment.

■ Microphone input modules with A & B inputs, transformerless preamp, phantom power, processing patch point, 3-band parametric EQ with auto-Q, two stereo effects/auxiliary sends with pre/post fader switching, pan, cue, stereo solo and full-featured CMOS remote control logic.

■ Line input modules with A & B inputs, transformerless instrumentation preamplifier, stereo processing patch points, 3-band parametric EQ with auto-Q, 2 stereo effects/auxiliary sends with pre/post fader switching, input mode selector, pan/balance, stereo cue, stereo solo, and powerful CMOS logic for remote, timer, and machine control.

■ Multitrack input/output modules are equipped with bus/tape switching, processing patch point, 3-band parametric EQ with auto-Q, two stereo effects/auxiliary sends with pre/post fader switching, pan and stereo solo. The output may be also assigned back to the multitrack buses for track bouncing.

■ High-performance VCA fader design utilizing the Aphex differential VCA along

with a fail-safe controller/driver incorporating a refined attenuation characteristic.

■ 30 dB of input, mix, interstage and patch-point headroom.

■ In-phase, balanced processing patch points on all input modules.

■ Low-noise, RFI immune, 12-volt CMOS control logic with short-circuit protected outputs.

■ Two stereo Program outputs, PGM-1 and PGM-2, each with balanced, transformerless, distribution power amplifiers.

■ Program-2 features an insertable master fader for mix-downs, plus a balanced stereo processing patch point.

■ Off-Line and Live telco mix system with manual and automatic mode selection, two telephone hybrid outputs, split-track outputs for tape, plus

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voice/announce booth or studio as well as the ability for the console operator to talk to the two Sends buses or to voice and tone slate the Program or multitrack buses.

■ Precision, temperature compensated, time-of-day digital clock which may also be slaved to ESE-type master time code.

■ Digital event timer including control panel with Auto-Reset selection.

■ Built-in stereo cue speakers.

■ Meter Switcher and stereo Auxiliary VU meters to monitor the Monaural and Send output levels. Meter switcher also provides the automatic stereo level display of any engaged CUE and SOLO points.

■ Up to six machine remote control modules may be accommodated for control of tape, cassette and cart decks.

■ Heavy-duty construction, quarter-inch thick, precision machined end panels for precise registration of the steel mainframe structure.

■ Extra-rigid mainframe motherboard with heavy copper plating for low imped-ance power, ground and signal

bus distribution.

■ Extensive use of ground plane printed circuit shielding and RFI decoupling tech-niques.

■ Superior quality compo-nents including Penny & Giles faders, full-spec Sifam VU meters, gold plated connectors, relays, and switches, and the highly reliable Honeywell ON and OFF module command buttons.

■ Heavy-duty power supply, incorporating a massive toroidal transformer, with fully regulated audio, logic and phantom power outputs.

■ Easy to wire connector panel utilizes individual input, output and logic connectors with functions designated by connector type.

telco-mix monitor and Cue feeds.

■ Monaural output, with balanced transformerless distribution power amplifier, selectable from either of the two Program outputs.

■ Two stereo Send mix outputs, each with master level

control and Solo facilities.

■ Two stereo effects mix returns, each with stereo solo and assignable to PGM-1 and PGM-2. Return-1 may also be assigned to any of the multi-track buses and contains input mode switching and pan/balance control.

■ Control Monitor module with six external inputs, monitor mode selector, operator headphone Auto-Cue and buffered outputs for guest headphones.

■ Studio Monitor module provides monitor, headphone and talkback facilities to a

REAL VU METERS

Genuine Sifam R32 VU meters - not just "audio level indicators" equipped with VU scales.

CLOCK & TIMER

Built-in digital event timer and high-accuracy time-of-day clock which may also be slaved to ESE-type master time code.

TELCO MIX/MONAURAL OUTPUT MODULE

One of the most advanced and easy to use telephone mix-minus systems in the industry, the Telco Mix System handles any phone situation, from talk radio to contests, with elegant simplicity.

MACHINE REMOTE CONTROLS

Conveniently control the transport functions of outboard tape decks: cassette, cart, or open reel. Productionmixer can accommodate up to ten remote control panels.

SEND & RETURN MODULE

Contains the master output level controls for the two stereo send buses as well as two effects return inputs. Return-1 features on/off and level controls, input mode switching and pan/balance. Output may be assigned to the main program buses or any of the multitrack buses. Return-2 contains on/off and level controls and is assignable to either of the two program channels. Stereo solo is provided on each of the send outputs and return inputs.

STEREO PROGRAM OUTPUT MODULE

Contains the bus summing and distribution output amplifiers for the two stereo program channels, PGM-1 and PGM-2. A fader is provided which may be inserted into the Program-2 channel to serve as a stereo master fader during the mixdown of multitrack production work.

MICROPHONE INPUT MODULE

Features dual inputs, transformerless preamp, phantom power, processing patch point, 3-band parametric EQ with auto-Q, two stereo effects/auxiliary sends, pan, cue, and stereo solo. Output may be assigned to PGM-1, PGM-2, and the Telephone System (Off Line Mix) bus. Full-featured logic control follows input selection

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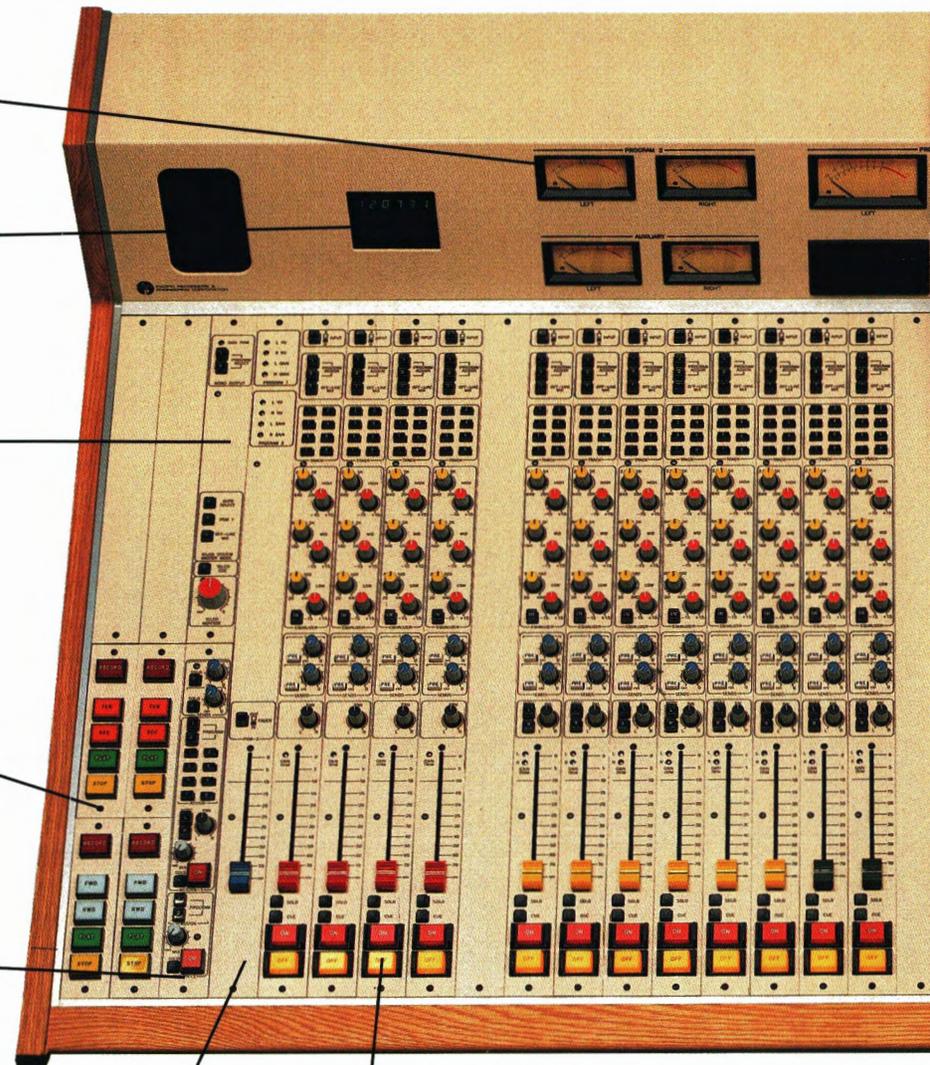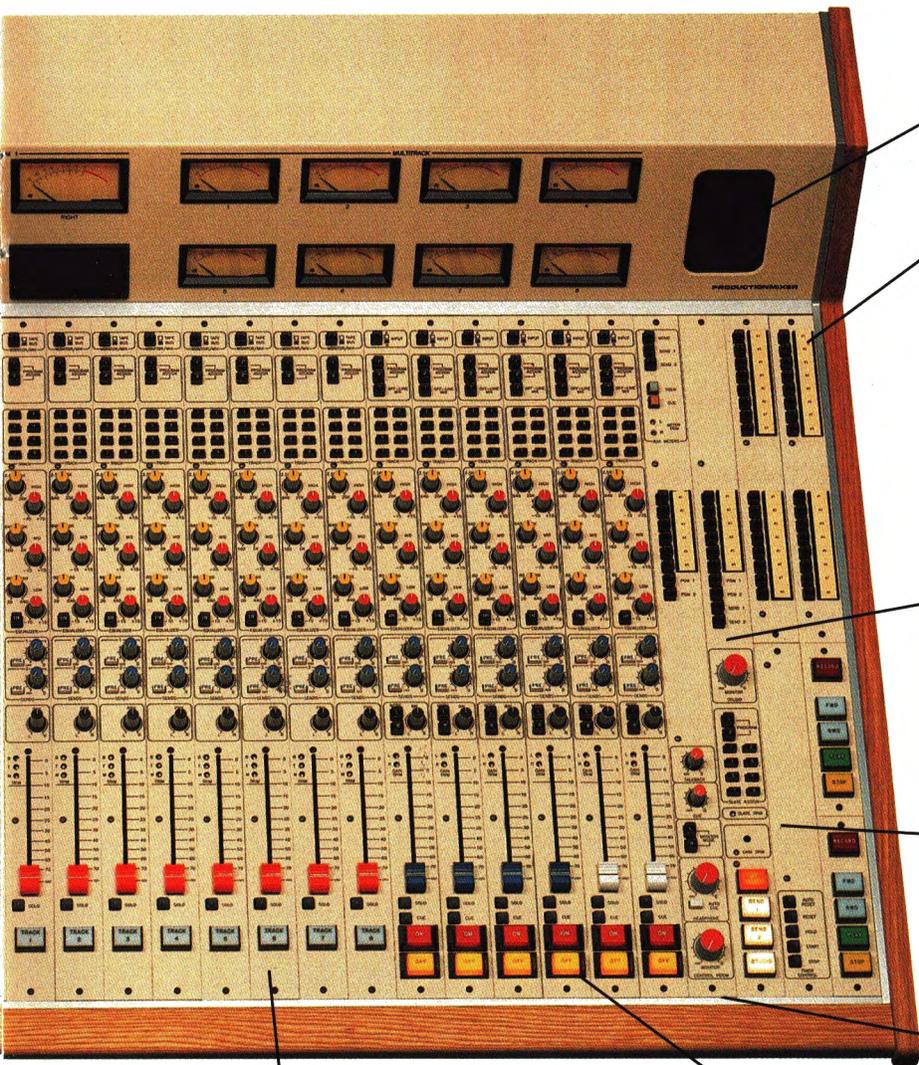
BUILT-IN STEREO CUE SPEAKERS

Used for input module stereo cue, talkback to console and telco mix monitoring.

DUAL REMOTE LINE SELECTOR MODULE

Provides for the choice of up to eight external stereo sources by two selectors. Typical applications: selecting remote lines for stereo input modules, or extending the input selection capability of the monitor system. Productionmixer will accommodate two of these modules.

STUDIO MONITOR MODULE

Studio Monitor module provides monitor, headphone and talkback facilities to a voice/announce booth or studio as well as the two Send buses, or to voice and tone slate the Program or multitrack buses.

TIMER CONTROL MODULE

For manual and automatic control of the digital timer - Start, Stop, Reset and Hold (display freeze). The Auto button allows the console to reset the timer for automatic uptiming of selected input events.

CONTROL ROOM MONITOR MODULE

Monitors PGM-1, PGM-2, or any of six external signals. Features include: monitor mode selector, operator's headphone Auto-Cue, guest headphone feed and remote control dim and mute. The Meter Switching section provides for the metering of the Monaural output, Send, stereo Cue or Solo signals on the console's Auxiliary meters

MULTITRACK INPUT/OUTPUT MODULE

Contains bus/tape switching, processing patch point, 3-band parametric EQ with auto-Q, two stereo effects/auxiliary sends with pre/post fader switching, pan and stereo solo. The output may be assigned to PGM-1, PGM-2, and also back to the multitrack buses for track bouncing.

STEREO LINE INPUT MODULE

Two stereo inputs per module, transformerless instrumentation preamplifier, stereo processing patch points, 3-band parametric EQ with auto-Q, 2 stereo effects/auxiliary sends, input mode selector, pan/balance, stereo cue, and stereo solo. Output is assignable to PGM-1, PGM-2, and the Telephone System. Powerful CMOS logic for remote, timer, and machine control follows the input selection.

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MICROPHONE INPUT MODULE

The transformerless microphone preamplifier is adjustable over the nominal input level range of -70 to -35 dBu, accommodating a wide range of professional microphones. A preamplifier patch output, with balanced return, is available for connection to external processing and special effects equipment. Phantom power for condenser microphones is assignable to each input.

The module's output is assignable to the stereo PGM-1 and PGM-2 buses, the telephone mix system via the Off Line Mix button, and the eight Track buses: left channel to the odd-numbered buses, right channel to the even-numbered buses.

The three-band quasi parametric equalizer is equipped with Auto-Q. The "Q" is broad when using moderate levels of boost or cut, and increases in proportion with the amount of boost or cut applied. The boost and cut characteristics are fully reciprocal for all three bands.

Two effects/foldback Sends may be sourced before the mix fader with the independent PRE selectors.

The PAN control allows positioning of the microphone in the stereo image.

The P&G fader controls a differential-mode VCA by means of unique circuitry which provides real fader "feel" and maintains optimum headroom throughout the control range.

The illuminated CUE button provides cue monitor pre-fader (PFL), while the SOLO button provides stereo monitor after fader and pan control (AFL). Cue is routed to the meter panel mounted stereo cue speakers while Solo-In-Place interrupts the main monitor system.

Remote control logic for each input, A & B, includes:
- ON with tally
- OFF with tally
- COUGH (momentary mute)
- TALKBACK (to console)

Programmable control room and studio monitor muting incorporates a 40 msec delay before the mic channel is turned on, permitting "room reverb" to decay off mic. For talent operation, the module's channel ON button may be programmed to provide cough muting while held depressed.

STEREO LINE INPUT MODULE

The stereo instrumentation input preamplifiers will accommodate nominal input levels from -12 dBu to +8 dBu. Instrumentation amps were chosen for their true input symmetry plus very high common-mode headroom capability, features which single-stage differential amplifier circuits cannot provide. Preamplifier patch outputs, and balanced returns, provide a convenient connection point for external processing equipment.

The module's output is assignable to the stereo PGM-1 and PGM-2 buses, the telephone mix system via the Off Line Mix button, and the eight Track buses: left channel to the odd-numbered buses, right channel to the even-numbered buses.

The equalizer is a stereo tracking version of the three-band quasi-parametric equalizer used in the microphone input module.

Two effects/foldback Sends may be sourced before the mix fader with the independent PRE selectors.

INPUT MODE selection is provided by the L and R button switches. The signal mode is stereo with both buttons released; pressing L sources the left input; pressing R sources the right input and engaging both buttons sums left and right into a mono signal.

The BALANCE control provides pan positioning of a mono signal and balancing of a stereo signal.

The P&G fader controls a stereo pair of VCA's with the same unique circuitry used in the mic input module.

The CUE and SOLO buttons perform the same functions as on the microphone input module.

Remote control logic for each input, A & B, includes:
- ON with tally
- OFF with tally
- CUE with tally
- SOLO with tally
- READY (source)
- AUDIO RESET (to OFF)
- START pulse
- STOP pulse

Console event timer RESET/RESTART is also assignable for each input selection.

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MULTITRACK INPUT/ OUTPUT MODULE

Each multitrack module is a combination output and input module; representing one track of a multitrack tape recorder. The module provides line output to the track as well as stereo mixdown facilities for the bus (record mode) and tape (playback mode) signals. The BUS/TAPE button switch selects the source to be mixed by the module and displayed on the track meter.

The three-band equalizer is identical to the monaural equalizer used in the microphone input module.

The stereo outputs of the module may be assigned to PGM-1, PGM-2 and all of the Track buses excepting its own to prevent feedback. Each of the effects/foldback Sends is equipped with a level control and pre-fader PRE source button switch.

The SOLO button provides stereo monitor after fader and pan control. The channel ON/OFF button uses dual-level illumination, dim = Off and bright = On, to indicate channel status.
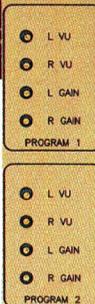
PGM-1 & PGM-2 OUTPUT MODULE

This module contains the summing, distribution and meter amplifiers for both of the stereo program buses: Program-1 and Program-2. The line output power amplifiers themselves are a high reliability design constructed on individual plug-in circuit boards.

The fader may be inserted into the Program-2 channel to serve as a stereo master fader during the mixdown of multitrack production work. The Program-2 channel also provides a balanced patch point for the insertion of external processing equipment into the master stereo mix.

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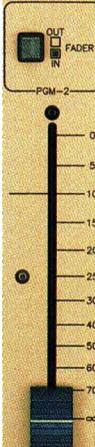
CONTROL ROOM MONITOR MODULE

The Meter Switcher drives the meter panel mounted Auxiliary VU meters to display a level selection of the console's Monaural Output, and the stereo outputs of Send-1 and Send-2. The Meter Switcher automatically switches 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 of the Cue or Solo point selected. This provides a quick input level check when displaying CUE, and a very convenient level line-up when displaying SOLO. This metering system eliminates any need to use a Program output bus to preview or audition input signals.

Monitoring of PGM-1, PGM-2 plus six external signals is provided by the monitor selector. A buffered selector output is available for feeding guest headphone circuits.

MONITOR MODE switching provides monitoring a selected source in stereo, left-mono, right-mono and left-right sum.

The AUTO CUE system provides one of two internally selected monitoring options to the console operator's headphones when an input module's CUE button is engaged:

■ stereo cue, or
■ split monaural monitor and cue

The CUE control adjusts the Cue volume and the TALKBACK control sets the incoming Talkback volume to the stereo Cue loudspeakers. An external monaural input to the Cue system is provided with muting optional.

In addition to the standard Warning Light command output, the module logic includes inputs and outputs outputs supporting talent control turrets and even remote control of monitor Dim and Mute. The remote Dim function is often connected to a door-jamb or telephone cradle microswitch to provide automatic monitor dimming whenever the control room door is opened or the telephone handset is picked up.

STUDIO MONITOR MODULE

The Studio Monitor provides both monitor and communication facilities for a separate voice booth or production studio. The monitor selector accesses both Program buses, the two effects/foldback Sends and up to six external signals.

Communication to the studio is provided by a built-in electret condenser microphone whose preamplifier response has been specifically tailored for speech communication. The built-in microphone system eliminates the need to use the console position's mic input module for this duty.

Talkback is directed to the studio monitor speaker and talent headphone systems; the guest headphone circuit is a clean-feed without talkback. The talkback microphone may also talk into either of the two Sends for applications where these are used as foldback circuits.

SLATE, using the talkback microphone in conjunction with a built-in 30 Hz slate tone oscillator, may be assigned to any combination of the Program and Track buses.

Four types of outputs meet most any combination of studio monitoring and communication requirements:

■ Main - level may be fixed or locally controlled, as required, for the studio monitor amplifier and speaker system. Includes talkback insertion with monitor dim.
■ Talent Headphones - fixed level output, includes talkback insertion with monitor dim.
■ Guest Headphones - fixed level output, does not include talkback.
■ Talkback - audio and logic signal for connection to a host's monitor selector and control turret.

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TELCO MIX/MONAURAL OUTPUT MODULE

This module contains two completely independent sections, the Telco Mix System, and the Monaural Output System. The monaural section provides a mono sum of either Program-1 or Program-2, and is equipped with a distribution amplifier providing three main outputs and a monitor output which may be routed to the monitor selector.

The Telco Mix System is one of the most flexible, yet easy to use mix-minus systems ever designed for a broadcast console. The system is designed to quickly and efficiently accommodate the telephone feed and recording requirements of an "Off-Line" contest mix as well as traditional "On-Air" talk radio. In addition, the system can automatically switch from one mix-minus format to the other; an especially handy feature for taking the "winning caller" directly to air, and back to "Off-Line" if desired.

The Telco Mix System uses four different categories of source signals from the console's input modules:

- Microphones (main DJ etc.)
- Lines (contest carts, etc.)
- Caller #1
- Caller #2 (if used)
  And produces five unique mix-minus outputs to:
- Telephone hybrid #1
- Telephone hybrid #2 (if used)
- Tape (composite mono mix of mics, lines and callers)
- Tape (split-track mix: #1=mics & lines; #2=callers only)
- Monitor Mix (external amp and speaker: callers only)

The Telco Monitor Mix may also be assigned to the console's cue speakers with the CUE button.

The Telco System Master Mode buttons set up the console for:

- OFF-LINE MIX for working with and recording mics, contest carts and callers off-line
- PGM-1 for working with and recording standard on-air talk radio
- AUTO SELECT automatically switches between OFF-LINE and PGM-1 modes as determined by the caller's input module ON/OFF status

SEND & RETURN MODULE

The Send & Return module contains two independent sections: the effects/foldback Send section, and the effects Return section.

The Send section of the module contains the bus summing amplifiers, master level controls, SOLO monitoring facilities and line output amplifiers for the two stereo effects/foldback Send channels.

Each of the two stereo effects Return inputs are equipped with a Mix level control, return ON/OFF button, stereo SOLO button, and may be assigned to the PGM-1 and PGM-2 mix buses. Return-1 is also equipped with an INPUT MODE selector, PAN control and has assignment buttons to the eight multitrack mix buses.

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REMOTE LINE SELECTOR MODULE

The Remote Line Selector module provides for the choice of up to eight external stereo sources by the two selectors. Typical applications include the selection of remote lines for stereo line input modules or extending the input selection capability of the monitor system. The outputs of the selectors are brought out to a connector for user routing to the appropriate line or monitor input positions. Productionmixer will accommodate up to two Remote Line selector modules.

TIMER CONTROL MODULE

Manual control of the meter panel mounted digital timer is provided by the START, STOP, RESET & HOLD (display freeze) buttons. The AUTO button engages the console's timer reset bus for the automatic up-timing of selected input events.

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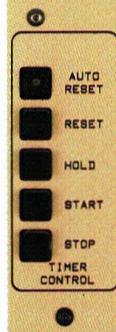
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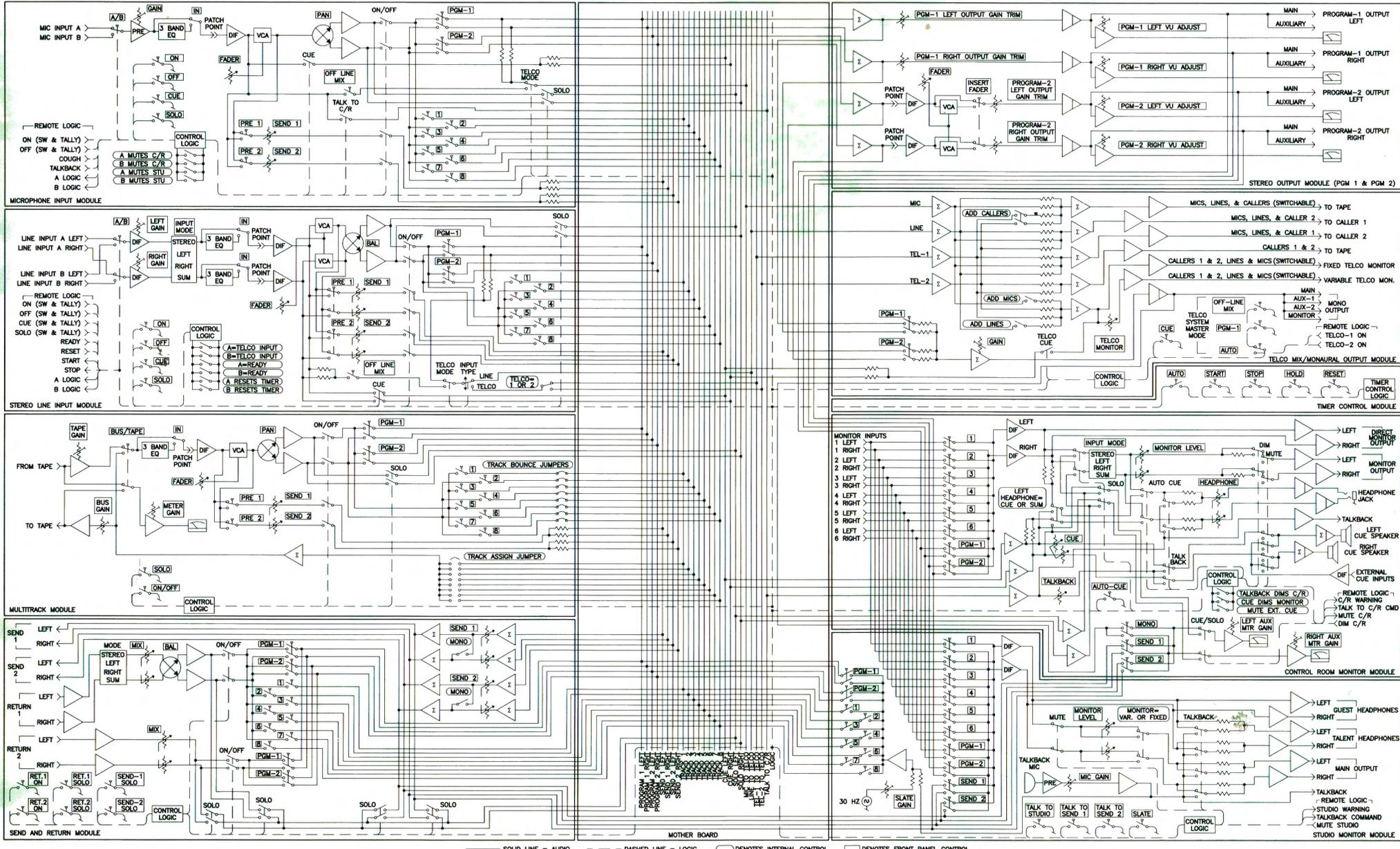
ACCESSORIES

A full range of accessories is available to tailor a Radiomixer or Productionmixer system to your requirements.

■ Logic translator interfaces and pre-wired cables for controlling most professional-grade source equipment.

■ Solid-state warning light interface for driving AC powered "ON-AIR" lights.

■ Wide selection of console and machine remote control panels, including:

Mic Input: ON, OFF, COUGH & TALKBACK (optional)

Line Input: ON, OFF & CUE

Tape: PLAY, STOP, FAST FORWARD, RE-WIND, RECORD

Cart: PLAY, STOP, SECONDARY, TERTIARY, RECORD

■ Radiomixer can be equipped with an overbridge to house user defined panels

■ Sliding copystands, finished to match the console wood trim.

■ Primeline studio cabinetry series offers functional utility plus the style of fine custom furniture at affordable pricing.

■ Control turrets for host, guest, producer and screener positions with a complete selection of remote, monitor, clock, timer and many other modular control panels.

■ Heavy-duty mic arms, with sturdy matching mic arm posts.

■ Custom engineered audio and logic wiring packages, including patch fields, to customize your Radiomixer or Productionmixer and integrate all the various components of your system together.

■ Redundant power supply system, with supply monitor warning tally, for critical applications.
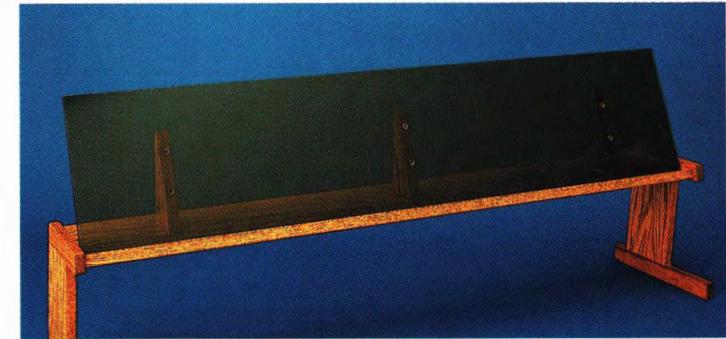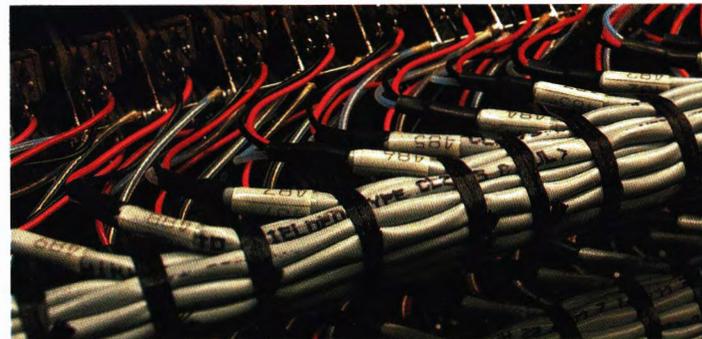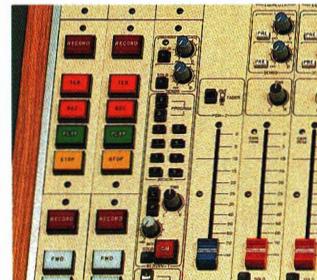
SPECIFICATIONS

MICROPHONE INPUTS:

Source Impedance	150 ohms
Input Impedance	30K ohms minimum, balanced
Input Level Range	Adjustable from -70 dBu to -35 dBu
Input Headroom	Greater than 30 dB above nominal input

HIGH LEVEL INPUTS:

Source Impedance	600 ohms or less
Input Impedance	Greater than 40K ohms, balanced
Input Level Range:	
Line Input Module	Adjustable from -12 dBu to +9 dBu
Effects Return	Nominal -10 dBu
Patch Return	Nominal -10 dBu
External Cue	Nominal 0 dBu
Monitor	System reference level (+4 or +8 dBu)
Input Headroom	Greater than 30 dB above nominal input

MAIN OUTPUTS:

Load Impedance	600 ohms minimum
Source Impedance	80 ohms, balanced
Nominal Output Levels:	
Program & Monaural	+4 dBu to +8 dBu, adjustable
Multitrack & Send	+4 dBu to +8 dBu, adjustable
Telephone Mix-Minus	0 dBu
Tape Mix-Minus	System reference level (+4 or +8 dBu)
Maximum Output Levels:	
Program & Monaural	+26 dBm, 600 ohm load
Multitrack & Send	+24 dBm, 600 ohm load
Telephone Mix-Minus	+24 dBm, 600 ohm load
Tape Mix-Minus	+24 dBm, 600 ohm load

MONITOR OUTPUTS:

Main Outputs:	
Load Impedance	600 ohms or greater
Source Impedance	40 ohms, unbalanced
Output Level	0 dBu nominal, +20 dBu maximum
Headphone Outputs:	
Load Impedance	8 ohms or greater
Source Impedance	100 ohms
Output level	0 dBu nominal, +20 dBu maximum

FREQUENCY RESPONSE:

Mic Input to Program Output	+0, -0.7 dB, from 20 Hz to 20 kHz
Line Input to Program Output	+0, -0.7 dB, from 20 Hz to 20 kHz

NOISE:

Microphone Input Amplifier	-128 dBu 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 microphone channel ON, fader at -10 dB, input sensitivity at -50 dBu	75 dB below output, reference +8 dBu 150 ohm source, 20 kHz bandwidth
Output Noise with one line channel ON, fader at -10 dB, input sensitivity at +8 dBu	80 dB below output, reference +8 dBu 600 ohm source, 20 kHz bandwidth
Output Noise with no input channels ON	82 dB below output, reference +8 dBu, 20 kHz bandwidth

DISTORTION, T.H.D.:

Mic Input to Program Output	Less than 0.01%, 20 Hz to 20 kHz, -38 dBu input, +18 dBm output into 600 ohm load, 80 kHz meter bandwidth
Line Input to Program Output	Less than 0.01%, 20 Hz to 20 kHz, +18 dBu input, +18 dBm output into 600 ohm load, 80 kHz meter bandwidth

DISTORTION, I.M.D.:

Mic Input to Program Output	Less than 0.01%, -38 dBu input, +18 dBm output into 600 ohm load
Line Input to Program Output	Less than 0.01%, +18 dBu input, +18 dBm output into 600 ohm load

BUS CROSSTALK:

Program-1 to Program-2	Less than -80 dB at 1 kHz
	Less than -70 dB at 20 kHz
Program-2 to Program-1	Less than -80 dB at 1 kHz
	Less than -70 dB at 20 kHz
Multitrack buses	Less than -80 dB at 1 kHz
	Less than -70 dB at 20 kHz

STEREO SEPARATION:

Program Outputs	Less than -70 dB at 1 kHz
	Less than -60 dB at 20 kHz

POWER REQUIREMENTS:

Fully configured:	
Radiomixer-12	350 watts @ 117 VAC, ±10%, 60 Hz
Radiomixer-20	425 watts @ 117 VAC, ±10%, 60 Hz
Radiomixer-28	500 watts @ 117 VAC, ±10%, 60 Hz
Productionmixer-28	650 watts @ 117 VAC, ±10%, 60 Hz

NOTES:

1) These specifications are for the basic signal paths, per channel, 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 fully equipped Radiomixer-20. Noise specifications are based upon a 20 kHz measurement bandwidth; the use of a meter with 30 kHz bandwidth will result in a noise measurement increase of approximately 1.7 dB.

Radiomixer and Productionmixer are registered trademarks of Pacific Recorders & Engineering Corp.

Features and specifications subject to change without notice.