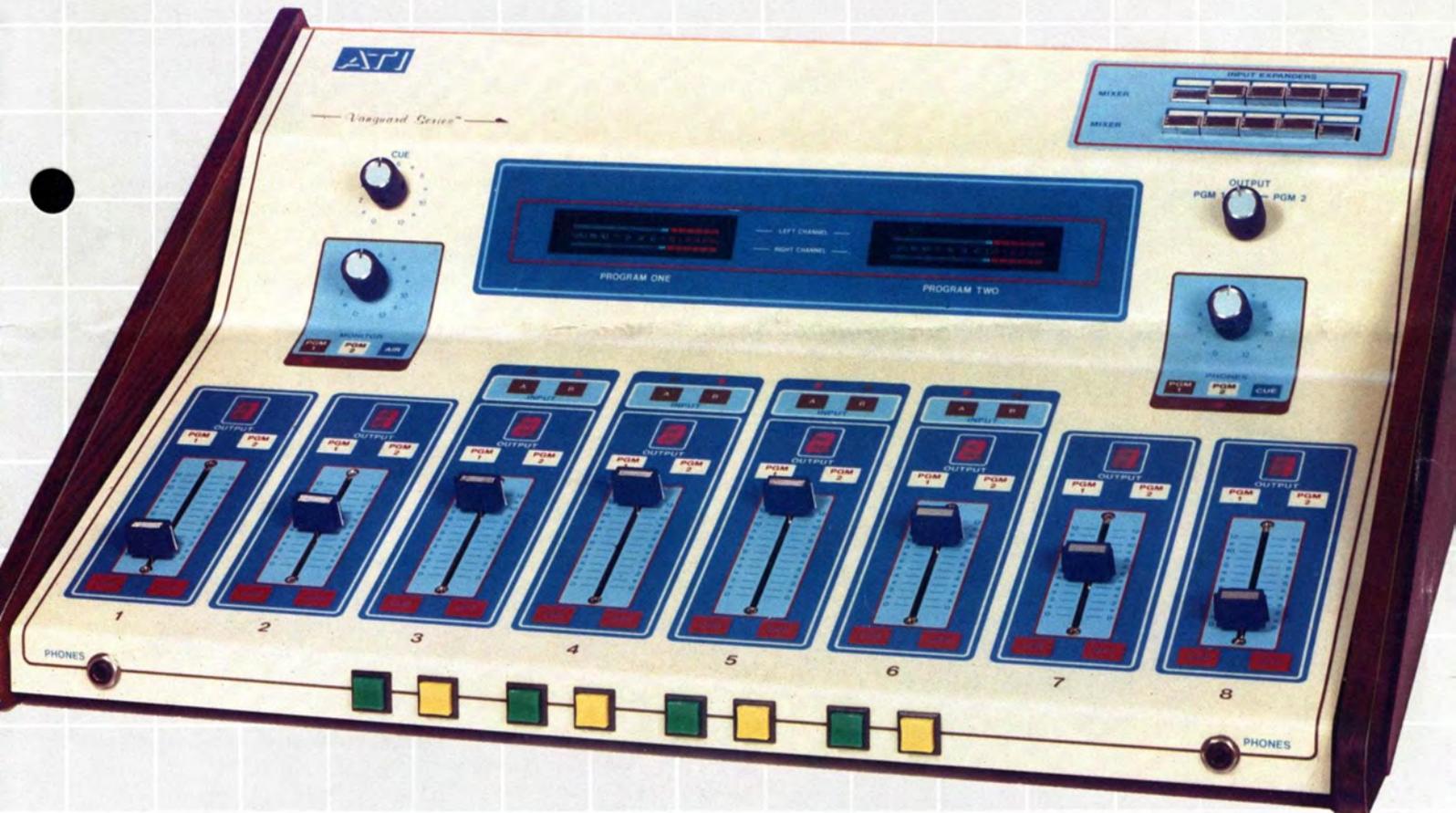


# Vanguard Series™

## Broadcast Consoles

Performance, Value and Reliability  
through Innovative Technology



**AUDIO  
TECHNOLOGIES  
INCORPORATED**  
Dedicated to sound engineering





BC8DSR



BC8DSL

# Vanguard Series™

## Consoles from ATI

Vanguard Series Consoles represent a unique value in broadcast boards. Starting with a clean slate, every aspect of the console design process has been rigorously evaluated to find better and more cost effective alternatives. A digitally scanned matrix of long life membrane switches replaces conventional trouble prone pushbutton and lever key switches for input selection and bus assignment. Logic controlled, current mode FETs switch all audio with no wearout, feedthru or noise. DC operated VCAs used for all level control functions eliminate the need for expensive audio faders.

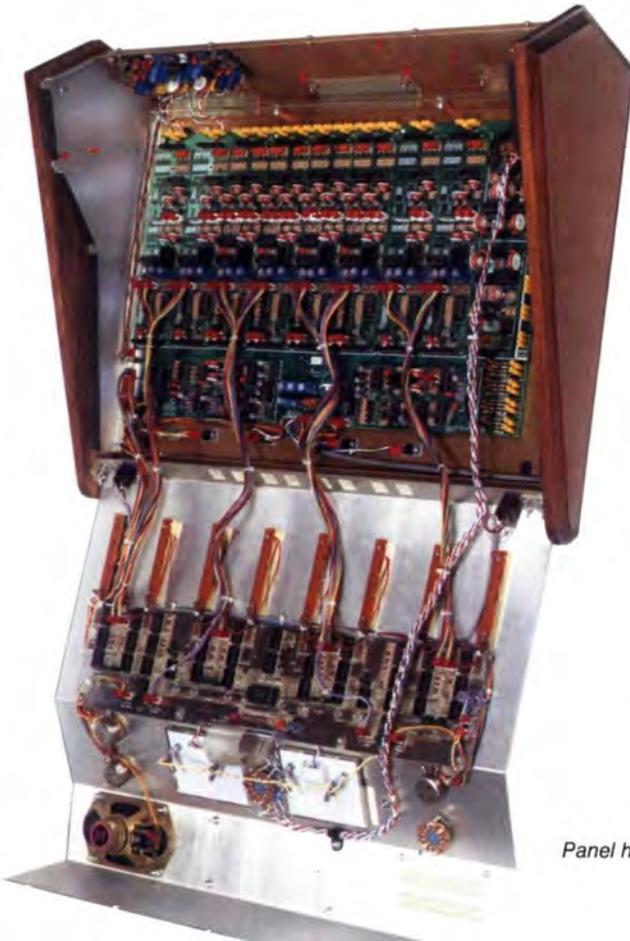
Unique circuit designs provide superior audio performance and allow jumper plug gain programming for optimum matching of input and output levels to your particular requirements.

The elimination of all program audio from the panel improves RF immunity and allows a compact and simple console package unmatched for accessibility and economy. A four layer mother-daughter circuit package with alternate layers of ground plane shielding forms a fully modular and repairable shielded audio system with none of the labor intensive and failure prone hand wiring of traditional consoles.

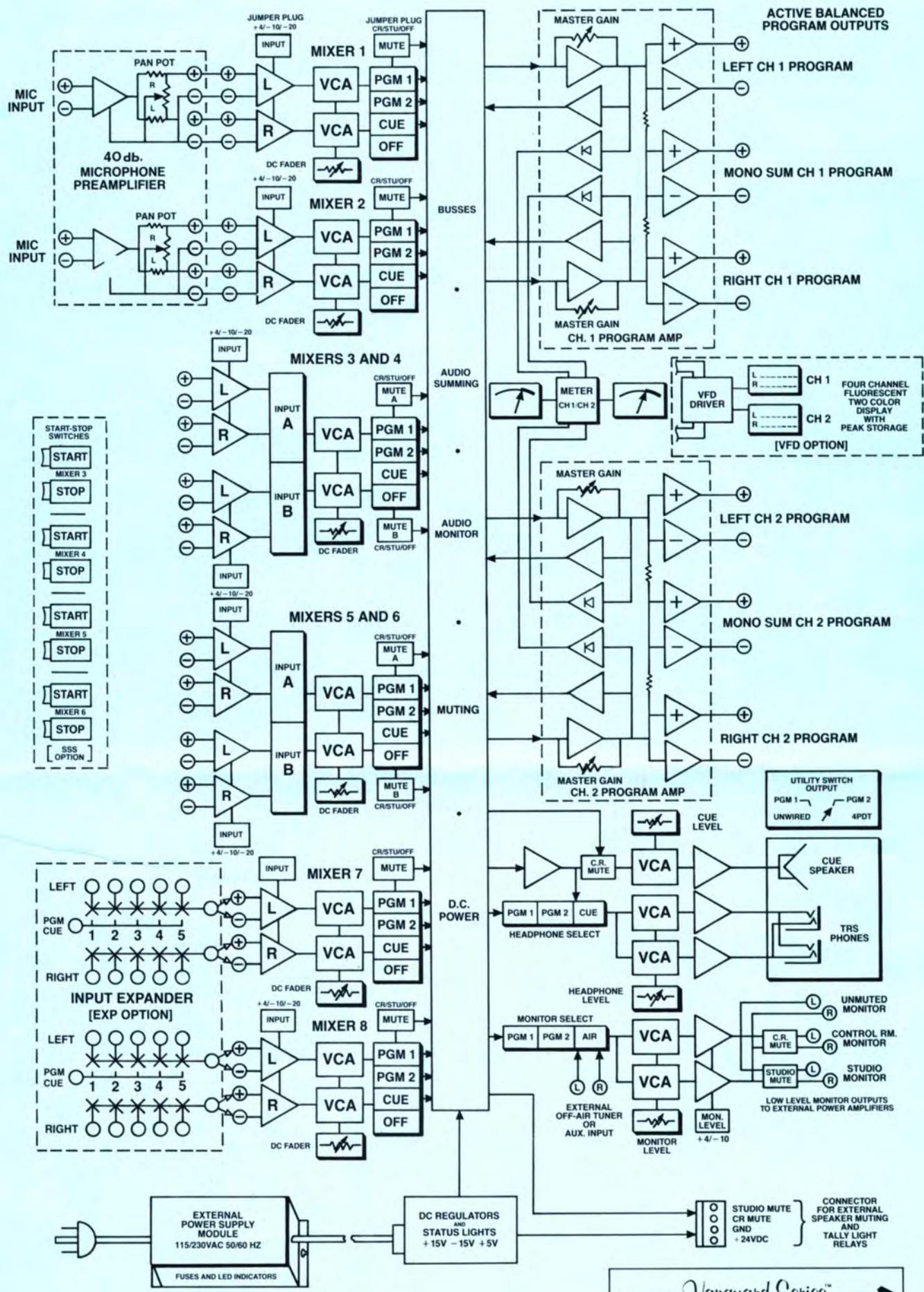
All studio wiring is made directly to the motherboard with high reliability, easy to use punch down type connectors which require only a phillips screwdriver to assure correct wire insertion.

A Vanguard Series console will provide you with exceptional performance and a long trouble-free life in the most demanding control room or production applications.

- Eight mixers, Rotary or Linear Faders.
- Dual Stereo plus Dual Mono Program Outputs.
- 12 Stereo inputs to 8 mixers plus optional 5 by 2 expander.
- Hi-Level instrumentation amplifiers accept  $-20$ ,  $-10$  or  $+4$ dBm inputs with excellent hum and RF rejection.
- Two mono microphone preamps with internal PAN pots standard. Low noise instrumentation amplifiers with DC servo stabilization. Additional preamps optional.
- Programmable muting for every input.
- Two switched analog VU meters standard. Optional four channel, two color vacuum fluorescent bar graphs.
- Three input monitor selector provides muted outputs for external optional power amplifiers.
- Three input headphone selector and amplifier.
- Built in cue amplifier and speaker.
- Membrane switch locations are raised by embossing to allow easy touch location in the dark. Stainless steel domes above each switch provide silent tactile feedback. Five color graphics are protected by a seamless, rugged polycarbonate overlay. LEDs indicate all operations.
- All faders and level controls drive DC operated VCAs. AB type J pots and smooth acting linear faders.
- Modular audio package of horizontal mother-daughter boards. Gold to gold AMP connectors. Three layer RF shielding.
- External unregulated power module isolates power line disturbances and blocks conducted RF. Power supply status indicators.



Panel hinges forward for maximum accessibility



Vanguard Series™  
**FUNCTIONAL BLOCK DIAGRAM**

## Specifications

**Mixers** Eight, rotary or linear faders, DC operated DBX VCAs, Digital output bus selection.

**Inputs** Twelve stereo hi-level inputs. Two mono microphone preamps with PAN pots are factory wired to the hi-level inputs of mixers 1 and 2. Additional pairs of microphone preamps available as MIC option to feed any other hi-level inputs. Muting available on all inputs with jumper plug programming. Input Expander option (EXP) increases input capacity to 20 stereo lines.

**Outputs** Six active balanced program outputs; Left, Right and Mono Sum for both PGM1 and PGM2 busses. Nominal output +4dBm at OVU, adjustable 0 to +8dBm.

**Meters** Two analog VU meters standard, switchable between PGM1 and PGM2 stereo outputs. Vacuum fluorescent display option (VFD) monitors both stereo program outputs continuously on dual, stereo, 14 segment, two color displays with peak storage.

**Monitor** Stereo, muted monitoring outputs at +4dBm or -10dBu (.25V) drive optional external control room and studio speaker power amplifiers (MON). DC controlled selection of PGM1, PGM2 or external OFF-AIR input. VCA level control.

**Phones** Stereo headphone amplifier drives +22dBm into 600 ohm phones. DC controlled selection of PGM1, PGM2 or CUE. VCA level control.

**Cue** A mono-sum, post-fader cue output is available from all mixers to drive a muted 6 Watt amplifier and internal cue speaker. VCA level control.

## Input Levels and Impedances

**Hi-Level Inputs:** 12 active balanced instrumentation amplifiers, balanced 20,000 ohm impedance, RF bypassed and jumper plug programmable for nominal input levels of +4, -10 or -20dBm. Clipping input +26dBm, overdrive causes only clean clipping with no hang-up or phase reversal. CMR adjustments for 60dB hum nulls. Equivalent Input Noise (EIN) is -92dBm for a 20kHz bandwidth.

**Microphone Inputs:** Two active balanced, low noise instrumentation amplifiers with servo loop operating point stabilization. Inputs are balanced 10,000 ohms, AC coupled and protected from transients and RF with diode clippers, ferrite suppressors and capacitive bypasses. The two 40dB mono preamplifiers each feed PAN pots for adjustable L/R split to following stereo hi-level inputs. Nominal input -50 or -60dBm, dependent on gain setting of hi-level input. Maximum input is -21dBm. EIN is -124dBm for a 150 ohm source resistance and a 20,000 Hz measurement bandwidth.

**Off-Air Monitor:** Unbalanced, 10,000 ohms, -10dBu (.25V) nominal.

**Gain** MIC input to PGM output, 98dB minimum. HI-LEVEL input to PGM output, 58dB minimum.

**Output Level and Distortion** MIC or HI-LEVEL inputs to PGM output at +18dBm. THD .15% maximum, 20 to 20,000Hz. IMD .15% maximum, SMPTE method. Clipping outputs, +26dBm Stereo PGM, +20dBm Mono PGM.

**Frequency Response** MIC or HI-LEVEL inputs to PGM, Monitor or Phones  $\pm .25$ dB, 20 to 20,000Hz.

**Signal to Noise Ratio** MIC to PGM, 74dB min. below nominal +14dBm output with -50dBm

available power input for typical proof measurements with 20,000Hz measurement bandwidth.

HI-LEVEL to PGM, 95dB min. below nominal +14dBm output with +4dBm line input and normal control settings.

**Crosstalk** -74dB into any PGM output when driving any other PGM output to +14dBm output at 10,000Hz. Gain set for +14dBm out with -50dBm MIC input.

**Power** 115/230 VAC,  $\pm 10\%$ , 50/60Hz, 250 VA maximum. External fused power module feeds console regulators.

## SIZE

**Console** 23½"W by 18¾"D by 8"H, 16½ lbs.  
**Power Module** 8½"L by 7"W by 3"H, 7 lbs. 8" keyhole mounting centers, 8 ft. interconnecting cable. Total shipping weight 35 lbs.

## Ordering Information

Model	Description
BC8DSR	Console, Dual Stereo, Eight Rotary Mixers
BC8DSL	Console, Dual Stereo, Eight Linear Mixers
-VFD	Option, Dual Vacuum Fluorescent Displays
-EXP	Option, Input Expander Switches, 10 by 2
-SSS	Option, Start and Stop Switches, 4 each.
-MIC	Option, Dual Mono MIC preamplifier board.
-RLY	Option, Dual Tally and Muting relay board.

All Specifications subject to change at the discretion of the manufacturer.  
Equipment manufactured in U.S.A.  
One year limited warranty.



## AUDIO TECHNOLOGIES INCORPORATED

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Represented by:



Modular plug-in construction