

# Professional Series

## Model 5600-2B

### Mixer/Preamplifier



The JBL 5600-2B is a solid-state mixer/preamplifier capable of combining four microphone and two program channels. It can be expanded to six microphone and two program inputs, and any microphone channel may be converted to a program channel by installing optional plug-in accessories. The unit features controls designed for ease of operation, wide dynamic range, extended frequency response, very low noise and low distortion.

Each microphone channel is an unbalanced high impedance input, and can be converted to accept a low impedance microphone by insertion of a 5901 accessory transformer in a

socket provided for that purpose. Two microphone channels can be added by installing the 5190B microphone preamp expander module on the main chassis of the mixer. The two added microphone channels have the same performance characteristics and will accept the same accessories as the original microphone inputs. Installation of the expander is simple, since the audio output and power connections are routed through a single five-pin plug, and labeled cutouts for the added microphone level controls are concealed behind a removable plate at the upper left-hand corner of the front panel. Input to each microphone channel is through a three-pin female XLR receptacle.

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The two program channels are each wired for 50,000-ohm unbalanced operation, and equipped with both screw terminals and an alternate phono jack for input connection. Each program channel may be converted to a 15,000-ohm balanced bridging input by insertion of a 5195 accessory matching/bridging transformer. A minor wiring modification will further convert the socket so that the 5195 provides a 600-ohm balanced matching input.

Any of the microphone channels may be converted to an unbalanced 50,000-ohm program input, with the same sensitivity as the standard program channels, by insertion of an accessory T-pad, model 5904. Added program flexibility is provided by the 5191, an accessory plug-in magnetic phono/tapehead preamplifier.

Individual level controls permit precise balancing of the various inputs, and a Master Gain control determines the overall program and monitor volume levels. The mixer output is designed to drive a 600-ohm line and is available at a phono jack on the rear panel of the unit. The output can be converted to a 600-ohm balanced line by insertion of a 5195 transformer in the socket provided. With the 5195 installed, the balanced output will be available on screw terminals and the original unbalanced output can be used to drive loads greater than 10,000 ohms.

A Cue/Normal control permits the program output to be turned on and off without disruption of the monitor. This feature allows auditioning a mix prior to program feed. The monitor output, available at a phone jack on the front panel, can be used for



Installation of the 5190B. Front panel cutouts are labeled "MIC 5" and "MIC 6."

headphones or to drive an auxiliary amplifier. The tone controls offer cut at 150 Hz and boost or cut at 7 kHz; midrange material is not affected. The controls affect both the main program and monitor outputs. The entire mixer, including accessories, mounts in three EIA standard rack spaces.

## Architectural Specifications

The mixer shall have an output of +18 dBm with less than 0.25% THD and shall have a frequency response of 20 to 20,000 Hz,  $\pm 1.0$  dB at +18 dBm. It shall have four microphone and two program inputs as standard equipment. The mixer shall also accept an expander module which provides two additional microphone channels and mounts on the mixer chassis. All microphone inputs, including the expander inputs, shall be identical.

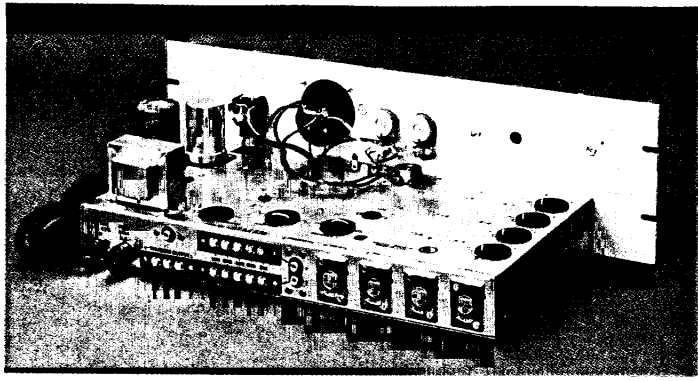
The microphone circuits shall be equipped with sockets for mounting optional plug-in transformers to permit the use of low impedance microphones, or for plug-in T-pads to accommodate high level sources. Three-pin female XLR receptacles shall be provided for the microphone channels. The high impedance program inputs shall be provided with sockets to accommodate accessories so that they will accept a tuner, magnetic phono or tapehead and shall be capable of matching a telephone line. Each program channel shall be equipped with a phono jack and screw terminals, so that each can be used for one of the inputs from a stereo source.

The mixer shall have an unbalanced 600-ohm output (+18 dBm maximum) available at a phono jack, and a socket shall be provided to accommodate a plug-in accessory transformer for a balanced output. Three screw terminals shall be provided to accommodate the balanced output and ground connections when the transformer is installed. With the output transformer installed, it shall be possible to use the unbalanced output to drive loads greater than 10,000 ohms.

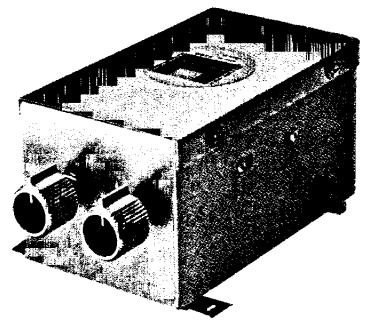
A jack shall be provided on the front panel to allow headset monitoring or connection to the 600-ohm input of an auxiliary amplifier. The monitor output shall not be affected by the Cue/Normal switch which turns the program output on and off.

The performance shall be as listed under SPECIFICATIONS and shall be met or exceeded.

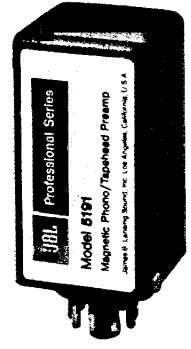
The mixer shall be JBL Model 5600-2B.



Input and output connections to the 5600-2B.



5190B Microphone Preamp Expander Module



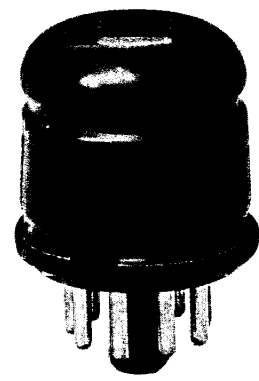
5191 Magnetic Phono/Tapehead Preamp



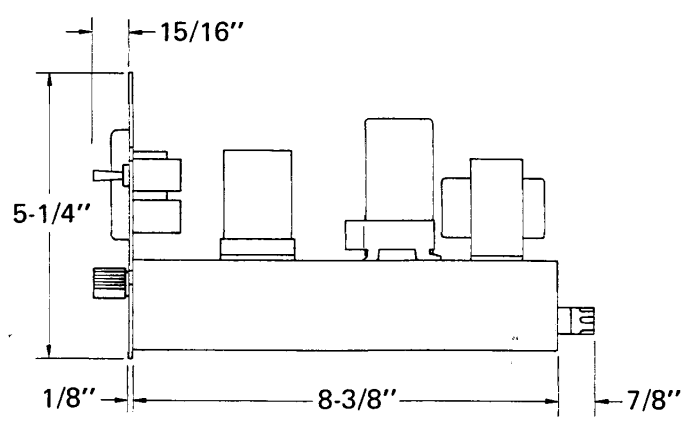
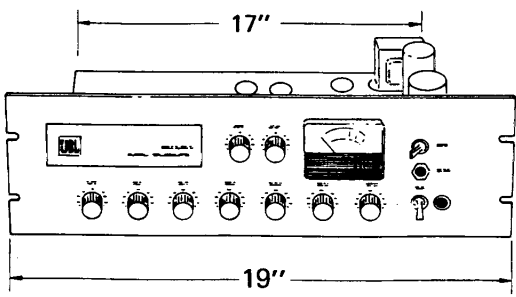
5195 Matching/Bridging Transformer



5901 Universal Microphone Input Transformer



5904 T-Pad



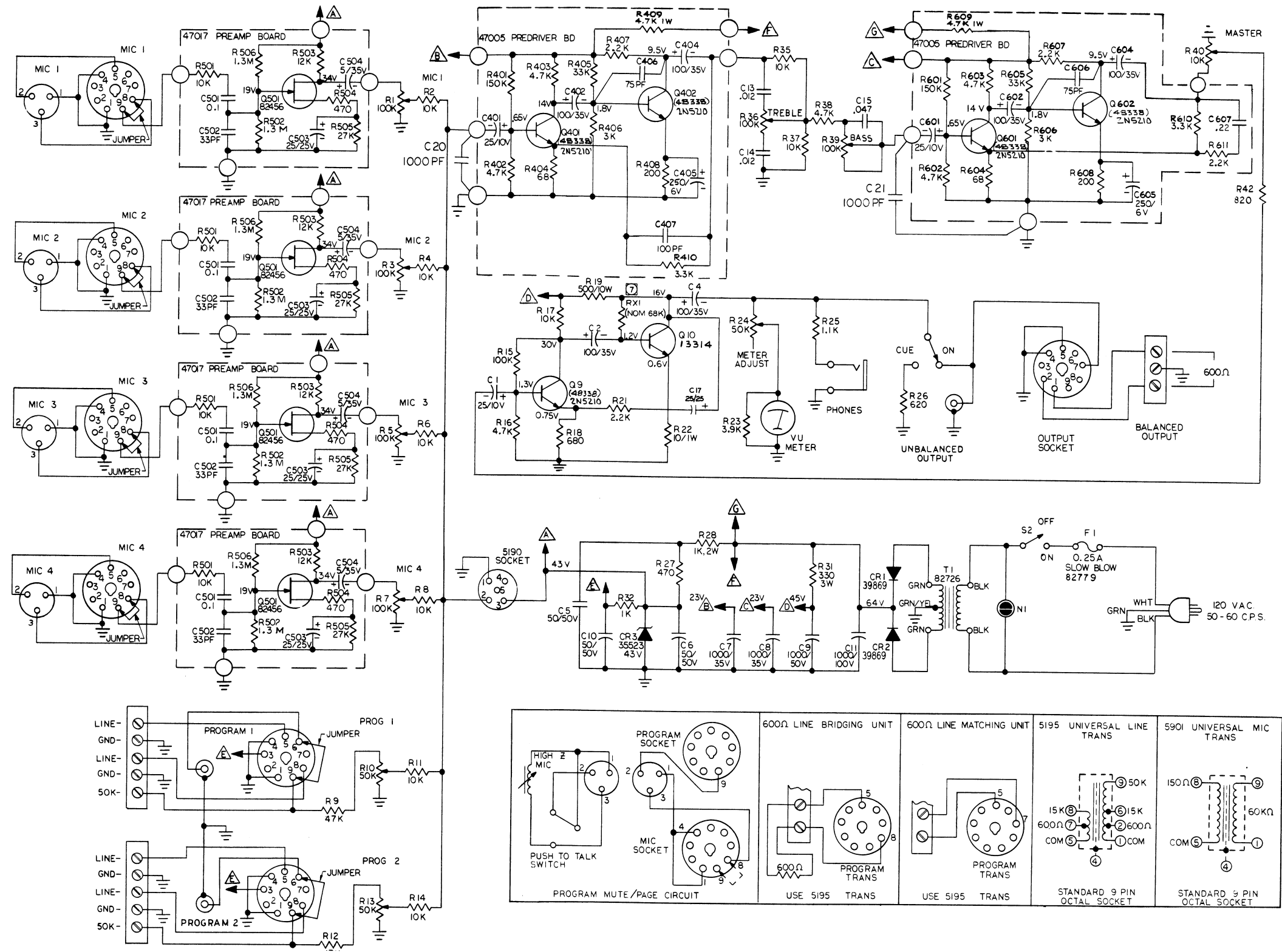
## Specifications

<b>Gain</b>			<b>Controls</b>	
Microphone (6 channels—expandable to 8 with 5190B)	57 dB high impedance 83 dB low impedance with 5901 transformer		Power	On-off toggle
Program (2 channels)	26 dB 30 dB with 5195, bridging 44 dB with 5195, matching		Microphone	Audio taper
			Program	Audio taper
			Master Gain	Audio taper
<b>Sensitivity</b>			Equalization	
Microphone	-51 dBm		Bass	Flat position at "7"
Program	-6 dBm		Treble	Flat position at "3"
Output Level	+18 dBm maximum, +8 dBm nominal		VU Meter Calibrate	Internal, continuously variable
<b>Output Impedance</b>			<b>Indicators</b>	
Unbalanced	600 ohms		Pilot	Green—power on
Balanced	600 ohms with 5195		VU Meter	0 VU factory set at +8 dBm
Frequency Response	20 to 20,000 Hz, ±1 dB (direct out)		Monitor	Headphone jack on front panel, can also be used to drive an auxiliary amplifier
Total Harmonic Distortion (Microphone and Program)	Less than 0.25% at +18 dBm, 30 to 20,000 Hz		<b>Connectors</b>	
Intermodulation Distortion	Less than 0.5%		Microphone	One 3-pin socket contact XLR receptacle per channel
Equivalent Input Noise	-122 dBm (20 kHz bandwidth)		Program	Phono jack and screw terminals for each channel
Output Noise	-85 dBm		Output, Unbalanced	Phono jack
Input Overloading (Microphone)	-27 dB at 1 kHz, 5% THD (controls at minimum usable setting, reference 0.775 volts)		Output, Balanced	Screw Terminals
Microphone Channel Isolation	60 dB		Semiconductors	All silicon,
Input Impedance			Power Requirement	120 VAC, 50/60 Hz, 10 Watts, fused
Microphone	High impedance 1000 ohms nominal with 5901 50,000 ohms unbalanced 15,000 ohms balanced with 5195, bridging 600 ohms balanced with 5195, matching		Fuse	0.25 amps, slow blow
Program			Operating Temperature	131° F 55° C
<b>Source Impedance</b>			Dimensions	5¼"x19"x10" deep
Microphone	High impedance (up to 500,000 ohms) unbalanced Low impedance (50-, 150-250-, and 600-ohm) balanced with 5901 50,000 ohms unbalanced program with 5904 Up to 50,000 ohms unbalanced Up to 15,000 ohms balanced with 5195, bridging 600 ohms balanced with 5195, matching Magnetic phono or tapehead (7½ ips) with 5191		(Including Controls)	13.3x48.3x25.4 cm deep
Program			Mounting	3 EIA standard rack spaces
			Panel Finish	Non-glare baked enamel, light gray
			Net Weight	12¼ lbs 5.6 kg
			Shipping Weight	15 lbs 6.8 kg
			Warranty	2 years
			Listing	Underwriters' Laboratories, Inc.
			<b>Accessories</b>	
				5190B Microphone Preamp Expander Module
				5191 Magnetic Phono/Tapehead Preamp
				5195 Matching/Bridging Transformer
				5901 Universal Microphone Input Transformer
				5904 T-Pad



### Professional Division

James B. Lansing Sound, Inc., 8500 Balboa Boulevard, Northridge, California 91329



7. SELECT RX1 TO GIVE DISTORTION LESS THAN .25% AT 1KHZ AND AT +18 DBM OUT.
6. SEE DWG. 47215 REF FOR TEST SPECIFICATIONS.
5. APPROVED PRODUCTION SAMPLE WITH CURRENT BILL OF MATERIALS MAINTAINED BY ENG DEPT.
4. ALL VOLTAGES ARE POSITIVE TAKEN FROM GROUND.
3. ALL CAPACITOR VALUES IN MICROFARADS. THOSE OVER 1 MFD ARE POLARIZED ELECTROLYTICS.
2. ALL RESISTOR VALUES IN OHMS, 1/2 WATT.
1. JBL RESERVES THE RIGHT TO MAKE MINOR COMPONENT CHANGES WITHOUT NOTICE.

NOTES: UNLESS OTHERWISE SPECIFIED



# SCHEMATIC — MODEL 5600-2B

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