McMartin®

Transistor Audio/PA Amplifier

Model LT-80A

Instruction Manual

DESCRIPTION

The McMartin LT-80A is a conservatively rated 8 watt audio/PA type amplifier specifically designed for commercial applications. Transistor design is lightweight and compact while still providing rugged dependability and exceptional performance. High quality music handling capabilities were particularly kept in mind as can be seen from the specifications and noticed when your LT-80A has been placed in service. A high or low impedance microphone circuit and a wide range of inputs and outputs are provided for maximum versatility.

McMartin Industries, Inc.

605 N. 13TH STREET, OMAHA, NEBRASKA

SPECIFICATIONS

Power Output	8 watts rms @ 1000 cps	
	12 watts music power	
	20 watts peak power	
Frequency Response	30 to 15,000 cps ±2 db	
	20 to 20,000 cps ±3 db	
Distortion	Less than 1% 50 to 15,000 cps @ 1 watt	
	Less than 1% @ 1000 cps @ 8 watts	
Hum & Noise		
Microphone	–60 db below 8 watts	
Program	–70 db below 8 watts	
Phono (with PH-6A)	–60 db below 8 watts	
Inputs		
Microphone	Hi-Z; 150 K ohms, .008 v for 8 watts	
Program	Bridging; 10 K ohms, 0.8 v for 8 watts	
Phono (with PH-6A)	Magnetic, ceramic, crystal cartridge	
600 ohm (with MT-6)	Balanced; –10 dbm for 8 watts	
Tuner (with PH-7)	HiZ; 270 K ohms, + 5 db gain increase	
Outputs	4, 8, 16, 150 ohms; 70.7 v/600 ohms	
Controls	Microphone Gain	
	Program Gain	
	Tone (cut to –20 db @ 10,000 cps)	
	Power ON-OFF switch	
Semi-conductors	Q-1	2N508/T2391
	Q-2, Q-3	2N508/SA400
	Q-4	2N1371/R691
	Q-5	2N508/C1136
	Q-6	2N1102
	Q-7, Q-8	2N1501
	SR-1, SR-2	1N1693
Power Supply	120 VAC, 50/60 cps, fused, 18 watts max	
Ambient Temperature	Full performance to 130°F	
Dimensions & Finish	9″ w x 7″ d x 4½″ h, Black & Natural Gray	
Shipping Weight	6 lbs.	

Note: • The program Bridging Input may be connected directly to a low impedance or telephone line without loss of gain or response characteristics.

• The tone control does not affect the microphone circuit.

WARRANTY

McMartin Broadcast and Audio Products are warranted to be free from defects in workmanship — FOREVER.

At our discretion, we will exchange or repair any defective unit or component, at any time, without charge. Material and components are guaranteed for a minimum period of 90 days from the date of original purchase. Transportation charges must be prepaid on equipment returned for warranty service.

This warranty does not extend to any of our products which have been subjected to misuse, neglect, accidents, incorrect wiring not our own, improper installation, or to use in violation of the instructions furnished by us; nor to units that have been altered outside our factory.

CONNECTIONS

Care should be taken to see that input and output connections are made properly and securely. Adequate shielded cable should be used especially with a microphone or phonograph. Preferably use spade lugs for connection to all screw terminals. To provide maximum versatility consistent with minimum cost, the circuitry of the LT-80A is arranged so that only one (1) of four (4) available program inputs can be used simultaneously with the microphone input at any one time.

1) **10 K ohm Bridging Input:** Connection is made to the labeled screw terminal across any low or medium impedance source. With a very high impedance there may be some loading effect. In this case, use the PH-7°.
2) **600 ohm Balanced Input:** For 600 ohms, insert the plug-in Model MT-6° transformer into the 9-pin socket and connect the line to the labeled screw terminals. Either side may be grounded if unbalanced line is desired.
3) **Phonograph:** For a magnetic, ceramic, or crystal phono input, insert the plug-in Model PH-6A° Phono Preamp into the 9-pin socket and connect a shielded cable from the cartridge to the phono jack.
4) **Hi Z (Tuner):** A 5 db gain increase and 270 K ohm input impedance is available by inserting the PH-7° Preamp into the 9-pin socket. The input connection is then made by shielded cable to the **phono jack.**

°Optionally available

Microphone

High Impedance: The microphone input circuit is factory wired for operation with any high impedance microphone. The microphone connector is the shorting type.

Low Impedance: If operation with a low impedance microphone is desired, modification at the input circuitry is simple. Refer to the schematic indicating the "Changes for Low Z Microphone."

OPERATION

A special feedback circuit is incorporated in the amplifier to protect the transistors in case the speaker load is accidentally removed or shorted.

The power transistors are externally fused for protection against overload.

No warm-up time is necessary. Sufficient space should be allowed around the amplifier for air circulation. After volume and tone controls are set to the desired levels, the knobs may be removed and replaced with the plastic Control Guards (supplied with your amplifier) to prevent tampering.

SERVICE

Maximum power output with a sine wave signal may be checked at any frequency up to 10,000 cps. A sustained tone above approximately 5000 cps should not be applied for more than a few minutes or excessive transistor heating will result. This condition will blow the protective fuse (rear chassis). High frequencies at low power output will have no adverse effect. The LT-80A will supply full power continuously with normal program material.

Damage to transistors may result if any wiring is shorted while servicing or circuit tracing. Avoid removing transistors from their sockets while the power is turned on. If replacement of either power transistor is necessary, be sure to coat both sides of the mica insulator with Silicone Jel. A power line fuse is located under the chassis and is accessible by removing the bottom cover.