

# PA 100

## OPERATING GUIDE

**WARNING:**  
To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture.



The PA 100 is a compact portable sound reinforcement mixer/amplifier featuring a rugged 45 Watt RMS @ 5% THD power stage. This compact but powerful unit is capable of handling club, lounge or small auditorium performances. Because of the super heavy duty silicon output devices and the large aluminum heatsinks, the PA 100 has the extra measure of durability required for demanding commercial applications. The PA 100 power amp has proven reliable over the past several years through use in both our Pacer and TNT models.

The mixer/amplifier is conveniently built into one of the speaker enclosures for more compactness and better portability. Each speaker enclosure contains one extremely heavy duty 12" wide range speaker and one Piezo electric tweeter.

The PA 100 is a four channel mixer/amplifier and speaker system featuring three inputs with reverb and one input which is "clear" (without reverb). The clear channel is especially useful for amplifying an instrument, effects unit, or pre-recorded background tape. Each channel of the PA 100 features an individual gain control which enables the operator to control each microphone or instrument's gain level.

A. The *gain control* serves to vary the gain of the preamp. The preamps of the PA 100 are of the variable feedback type which allows lowest noise and maximum performance.

B. The *low equalization control* determines the low frequency response of the preamp. The PA 100 low control is a type of electronic crossover which acts as a volume control for the low frequencies. Because of the design of this control, it is possible to obtain low boost and cut. The vertical position (0) will yield a flat response. Clockwise operation results in a boost and counter-clockwise operation results in a cut.

C. The *high equalization control* determines the high frequency response of the preamp. The high control is part of an electronic crossover and functions as a volume control for the high frequencies. The vertical (0) position yields flat response, while clockwise settings boost highs and counter-clockwise settings yield a high cut.



D. The *reverb level* is the control that determines how much of the delayed (reverb) signal is blended back into the master mixer. The reverb level control must be turned up before any reverb effect is heard at the output.

E. The *master gain control* controls the level of the master mixer by use of variable negative feedback. The use of active mixing allows your PA 100 mixer/amplifier to perform as well as many studio mixing consoles. This method is the same used on the latest recording mixers and yields the least distortion and noise of any currently available method. The master gain sets the level for the entire system. The master gain should be set approximately in the middle position (4-6), and fine adjustment in volume should be made with the individual controls on each channel.

F. The *reverb footswitch jack* provides a method for reverb cutoff by use of the optional remote footswitch. Any footswitch with the proper plug (standard phone plug) and a shielded cable will work with this jack.

G. The *pilot light* indicates when power is applied to the amplifier.

H. The *three-wire line cord* has been provided for your protection and should be connected to the proper line voltage as indicated on the back panel. **DO NOT REMOVE THE GROUND PIN ON PLUG.**

I. The *fuse* is located within the chassis and should be replaced with one of the proper value if it should fail. It is necessary that the proper value fuse be used to avoid damage to the equipment and to avoid voiding your warranty. If your amplifier blows fuses, the unit should be taken to a qualified service center for repair.

J. The *line power switch* is of the three-position type with the center position being *off*. The three-position switch has two *on* positions which are used to ground the amplifier properly. One of the *on* positions will yield the least hum or popping when the microphone is touched, and this is the position that should be used. Export models have two-position on/off switches and polarity information above is to be disregarded.

K. The PA 100 has a single *speaker output jack*. Note that it is labeled "External Speaker — 16 Ohms". The internal speaker is also 16 Ohms, thus the system (amplifier) is designed to operate into a total impedance load of 8 Ohms. Speaker systems with less than a total of 8 Ohms can be used with the risk of overloading the power amplifier. Slightly less power will be delivered to lower impedances because of the unique limiting action of our integral protection system. The power amplifier is built on a large aluminum heatsink to cool the output devices. A thermostat is connected to this heatsink to shut the system down in case of overheating. Low speaker impedances tend to cause the amp to run hotter than normal and could cause the automatic cutoff to operate if the output stage becomes hot enough to endanger the output devices. The thermostat is self-resetting and normal operation will be restored when the unit reaches safe operating temperatures. If thermal shutdown is apparent, then you are overloading the system and continued use in this manner will damage the system.

L. The large *line cord retainers* on the rear panel are provided for your convenience in storing the AC line cord during transport of the unit.

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### CAUTION!

TO PREVENT ELECTRICAL SHOCK, DO NOT REMOVE CHASSIS FROM CASE. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. SERVICEMAN MUST DISCONNECT LINE CORD BEFORE REMOVING CHASSIS.

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## SPECS

**Input Impedance:**

50.0 K Ohms

**Gain @ 1.0 kHz:**

63.0 dB

All controls maximum, EQ flat

**Signal-to-noise Ratio:**

70.0 dB

**Input Required for Full Output:**

0.15 V RMS

Input—3 o'clock

Master—3 o'clock

**Input Required for Full Output:**

0.0055 V RMS

All level controls maximum, EQ adjusted flat

**Distortion:**

0.15% THD @ 1.0 Watt RMS

5.0% THD @ 45 Watts RMS

**Recommended Total Load Impedance:**

8.0 Ohms

**Power Output into Rated Load:**

45 Watts RMS

**Equalizer Action:**

+12.0 dB @ 50.0 Hz and 10.0 kHz



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