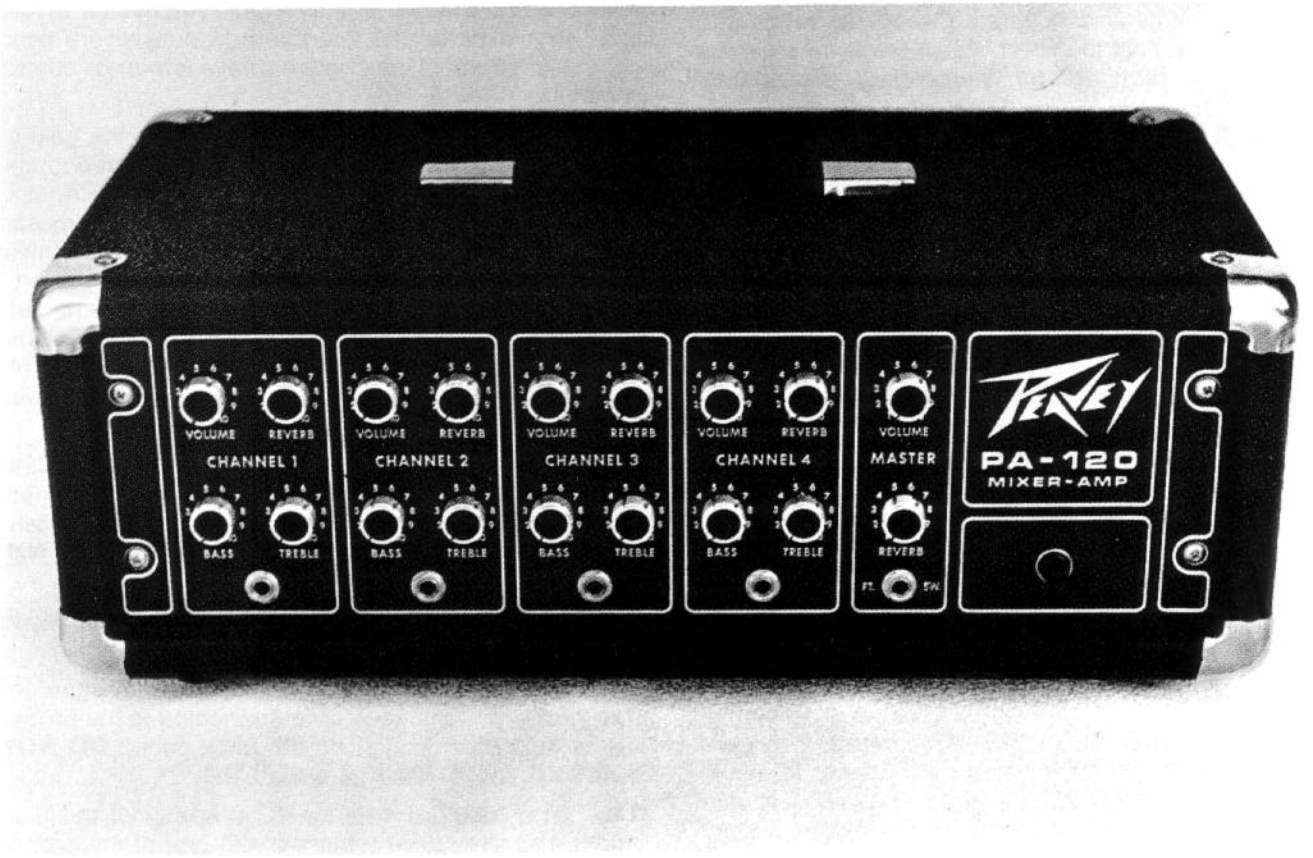
PA 120

OWNER'S MANUAL



PA 120

The new PA-120 is a compact portable sound reinforcement MIXER/AMPLIFIER featuring a rugged 100 Watt power stage. This compact but powerful unit is capable of handling most any club or lounge performance as well as the smaller concerts. Because of the super heavy duty silicon output devices and the large aluminum heat sink the PA-120 has the extra measure of durability required for demanding commercial applications.

The PA-120 is a four channel mixer/amplifier with the capability of handling up to four microphones or instruments because of its extremely wide dynamic range. Each channel of the 120 features separate volume, bass, treble, and reverb controls to enable the operator to control each microphone or instrument's tone and response characteristics. The master section of the PA-120 provides overall volume and main reverb controls for added flexibility. These master controls enable the operator to more fully control the output in order to create a more balanced sound. The reverb effect is controllable from the optional remote footswitch.

1. The **volume control** serves to vary the gain of the preamp. The preamps of the new 120 PA are of the variable feedback type which allow lowest noise and maximum performance.

2. The **reverb control** is used to vary the amount of reverb signal from the individual channels. The continuously variable control allows the operator to mix in any amount of reverb desired. The reverb signal is mixed into the delay line by rotating the reverb control clockwise until adequate reverb is obtained. Remember that the master reverb control must be turned up before individual reverb takes effect.

3. The **bass control** determines the low frequency response of the individual channel. The 120 PA bass 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 both bass boost and cut. The vertical position (between 5 and 6) will yield a flat response. Clockwise operation results in a boost and counter-clockwise operation results in a cut.

4. The **treble control** determines the high frequency response of the individual channel. The treble control is part of an electronic crossover and functions as a volume control for the high frequencies. The vertical position (between 5 and 6) yields flat response, while clockwise settings boost highs and counter-clockwise settings yields a treble cut.

5. The **input jacks** are designed to accept a high impedance microphone or instrument.

MASTER SECTION

Field experience has proven that a professional PA mixer/amplifier must be equipped with a full set of master controls. While the bass, treble, and reverb controls enable good tonal mix in the individual channels, it is difficult to obtain a good overall balance unless the master controls are present.

6. The **master reverb** is the control that determines how much of the delayed (reverb) signal is blended back into the master mixer. The master reverb is a return level control and must be turned up before any reverb effect is heard at the output. The master reverb level should be set so that the individual reverb send controls on each of the channels have adequate control variation.

7. The **master volume control** controls the gain of the master mixer by use of variable negative feedback. The use of active mixing allows your 120 PA 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 lowest distortion and noise than any other method. The master volume sets the level for the entire system. The master volume 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.

8. The **reverb footswitch jack** provides a method for reverb cut off 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.

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

10. 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 GROUND PIN ON PLUG.**

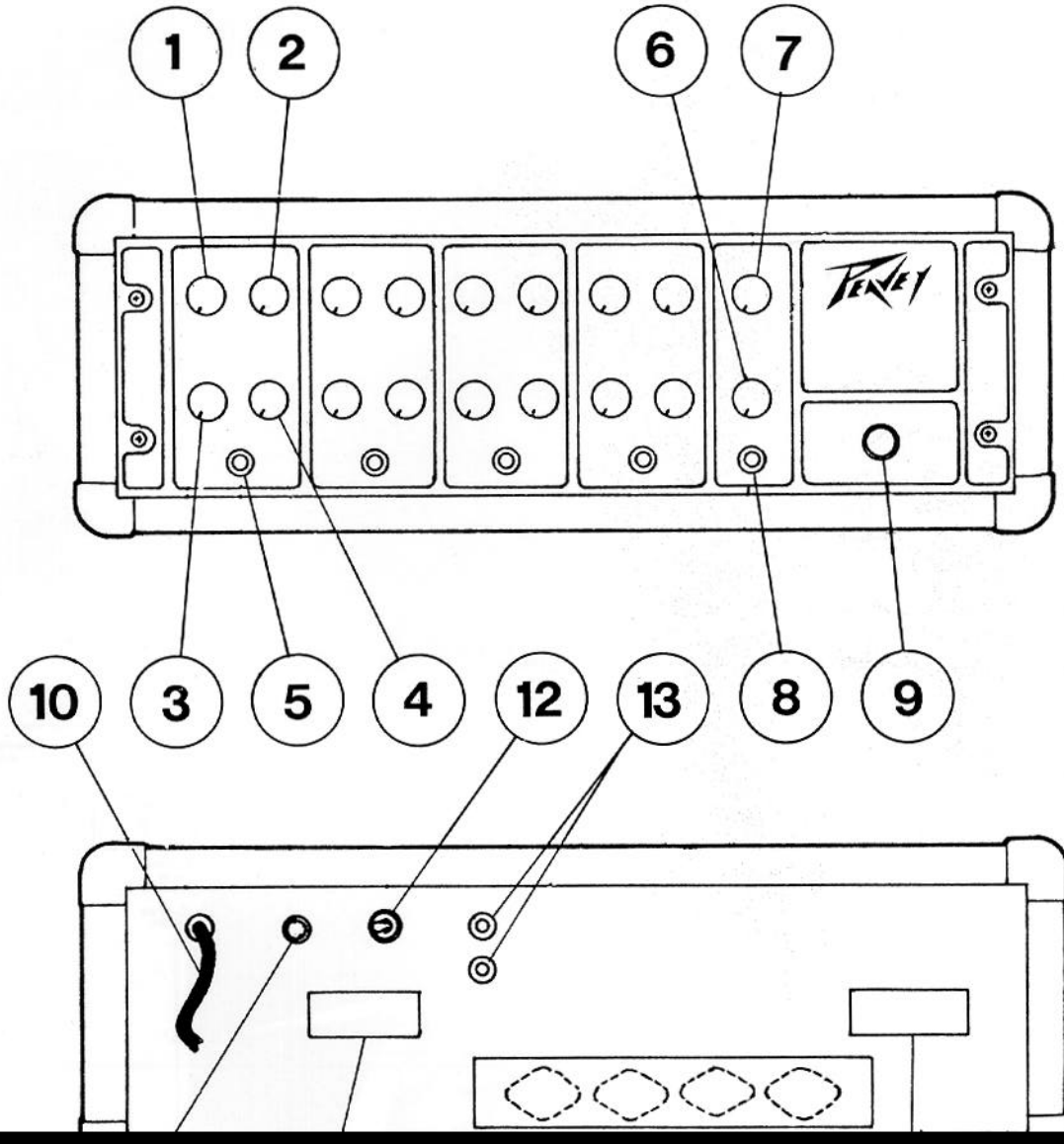
11. The **fuse** is located within the cap of the fuse holder and should be replaced with one of the proper value if it should fail. It is necessary that the proper value fuse be used to avoid damage to the equipment and to avoid voiding the warranty. Models that have circuit breakers can be reset by depressing the red button. If the breaker trips repeatedly, take the unit to a qualified service center for inspection.

12. 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.

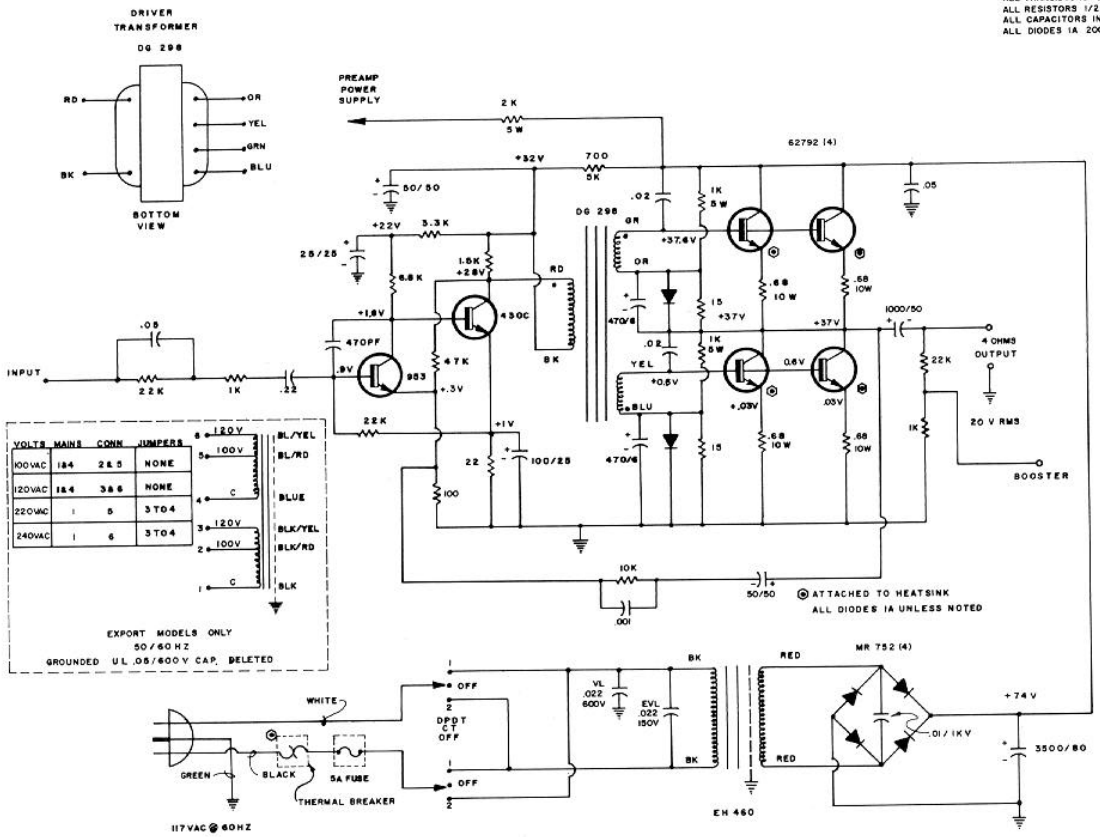
13. The **speaker output jacks** are designed to be used with a total load of **FOUR OHMS.** Speaker systems of higher impedance can be used with a slight loss in output power. Speaker systems with less than a total of four ohms can be used with the risk of overloading the power amplifier. Slightly less 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 re-setting 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. Never use less than a 4 ohm total load on the 120 module. The output voltage available from this unit is approximately 22 VRMS into 8 ohms with proper line input.

14. 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.

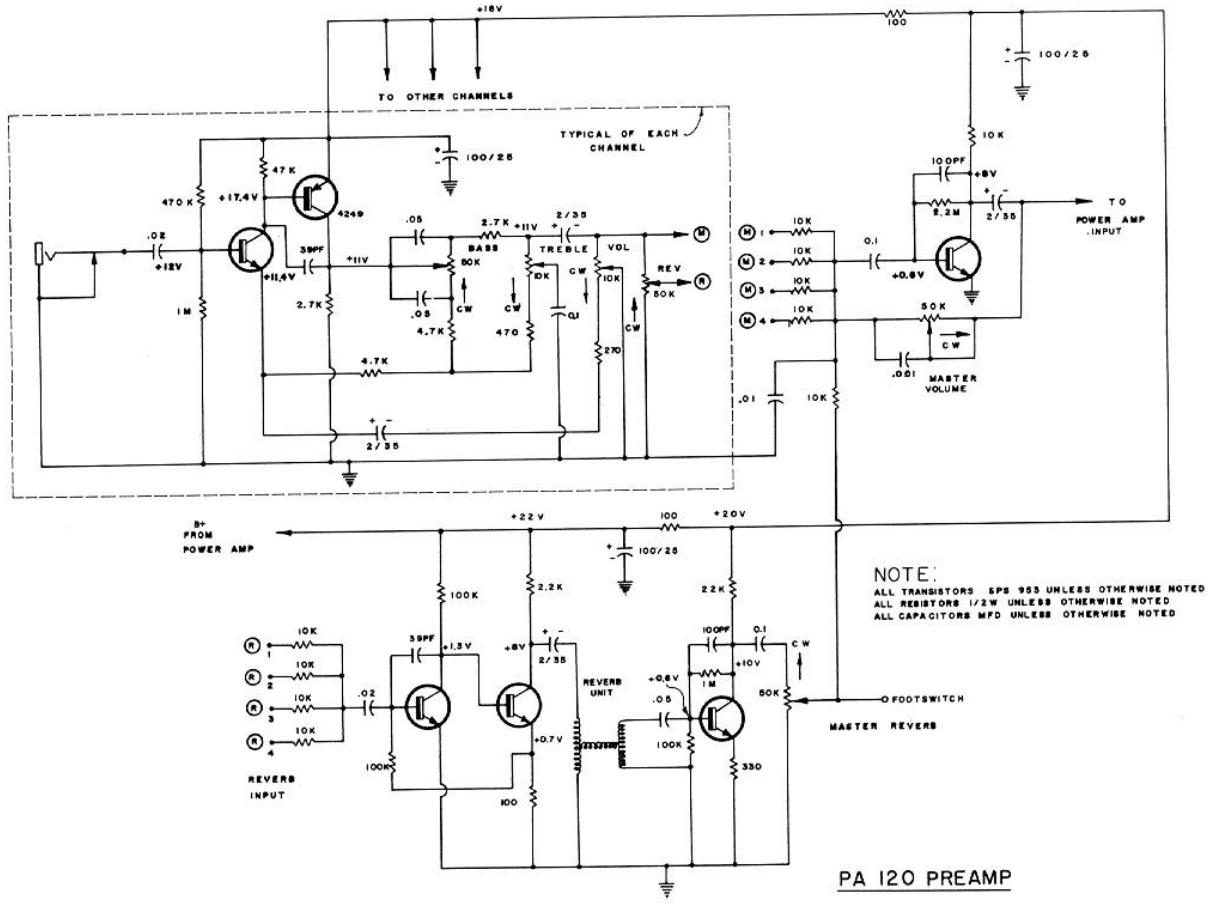


NOTE:
ALL TRANSISTORS SPS 953 UNLESS NOTED
ALL RESISTORS 1/2W UNLESS NOTED
ALL CAPACITORS IN MFD UNLESS NOTED
ALL DIODES 1A 200V PIV UNLESS NOTED



100 WATT POWER AMP

120 MODULE



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PA 120 PREAMP