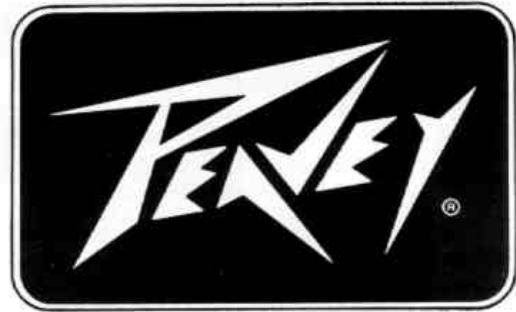
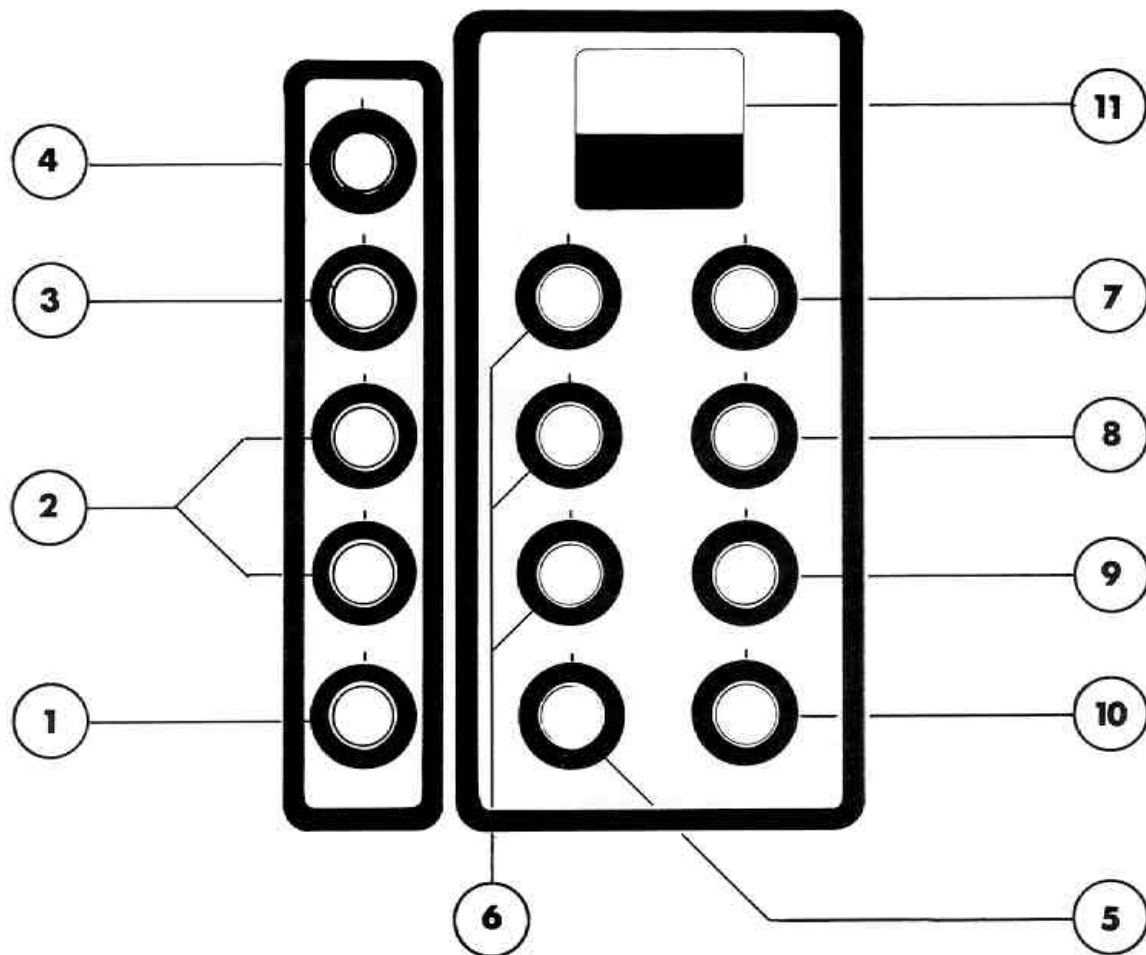

800 MIXER OWNER'S MANUAL





The 800 Mixer represents the latest developments in the state of the art of public address amplification, utilizing operational amplifier technology to give outstanding performance equal to the most expensive studio consoles. The noise, distortion, and frequency response of these units meet and are comparable with the standards which, up until now, were found only in top quality non-portable recording installations. These units offer maximum flexibility and make possible professional public address mixing and amplification in a portable package. To insure that you receive the best possible performance from your 800 Mixer, we suggest that you read thoroughly the explanation of each feature and become familiar with the operational characteristics of the unit.

The new 800 Mixer features input channels with the related controls for each arranged vertically. The control layout is identical for each channel of the mixer.

1 The knob at the bottom of each channel area is the level control for that particular channel. This control varies the amount of negative feedback around the input stage, thus varying the gain. The benefit of this type of level control is that it allows maximum performance from the input circuit by actually changing the amount of amplification instead of simply resistively dividing the signal down as conventional circuits do. Rotation of the level control in the clockwise direction increases gain, while counter-clockwise rotation yields decreased gain.

The channel level controls should be fully counter-clockwise on all channels not in use to achieve lowest noise performance.

2 The knobs immediately above the level control are the high and low equalization controls. High and low equalization is used to allow tonal balance and/or tailoring the frequency response of each input channel. The equalization circuitry of your mixer is of the latest variable feedback type and works slightly differently from conventional passive tone controls. The equalization circuits used in each channel actually are electronic crossovers with the low and high equalization controls actually operating as level controls for the low and high frequencies. By use of this active circuitry, we have made it possible to either boost or cut the highs or lows. Most conventional circuitry tends to give boost by eliminating some of the other frequency range, i.e., to get bass boost treble is sacrificed as in passive circuits. Our active equalization circuitry enables the operator to boost or cut and to blend any combination desired. The zero position (12 O'clock) is the flat setting giving no boost or cut. The tonal balance should begin with equalizers in this position. Clockwise will boost the respective frequency ranges, while counter-clockwise operation will cut the frequency response at either the high or low ranges.

3 The monitor send control is used to derive a separate monitor mix to enable the operator to achieve the desired mixing level for the stage monitor system. The channel monitor send control is located immediately above the high equalizer control. The amount of signal fed into the monitor mixing bus is determined by the setting of this control. The overall output of the monitor is determined by the Master monitor control located in the master section of the console. It should be remembered that the monitor send control is a sub-level control that is dependent on the setting of the individual channel level controls.

4 The effects/reverb send control is a new and unique solution to the problem of enabling variable signals to be fed to either the internal reverberation system or to the effects mixing bus for driving external effects or echo units. The Zero (center or 12 O'clock) position is the off setting. Clockwise rotation blends increasing signal levels into the internal reverb mixing bus system. The variation of signal is proportional to the degree of right rotation. This will allow selective blending of the signal from each channel to the effects/reverb systems. Counter-clockwise rotation of this control will send the channel signal to the effects mixing bus and will allow the output of each channel to be blended into a properly balanced signal for feeding external effects, monitor systems, or echo units.

The 800 Mixer features a complete brace of controls for the master section which are located on the right hand side of the console front panel. The signals from each channel are fed into the mixing amplifiers in varying amounts depending on the settings of the various individual channel level and send controls. These signals from the channels are fed into mixing amplifiers using the latest "active mixing" techniques. These active mixers utilize variable negative feedback circuitry to enable this console to achieve absolute lowest noise and distortion levels available with contemporary circuits. The dynamic range and freedom from overload are tremendously increased by the use of active mixing.

5 The Main mix level control, located in the lower left of the Master area, serves to determine the gain of the main mixing system and is the overall gain control for the console. The setting of this control will adjust the output level of the internal line amplifier. This main control should be operated within its center range to allow adequate variation in the individual channel level controls. The main signal level is monitored by the main VU meter on the front panel.

6 The Equalizer portion of the master panel features complete Equalization controls. This Equalization area is located immediately above the Master Main level control.

Generally, it is best to operate the equalizers in either a flat or a boost position (+0 to +10) for best performance unless the cut positions are needed for feedback suppression or other reasons. **The Vital Mid-range equalizer seems to give best results in the flat or cut position (+ 0 to -10) for most applications.** The effect of operating the mid-range equalizer in the "cut" position is to give the extremes of

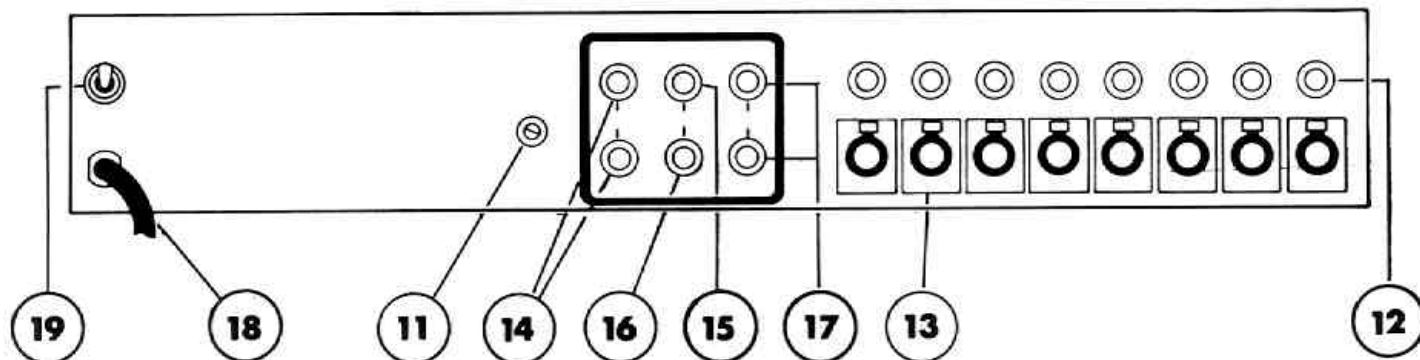
bass and treble a boost relative to the Mid-range frequencies. Operation in this mode yields a very crisp and articulate sounding system. There is sufficient variation built into the master equalizer to provide almost any conceivable range of tonality when used in conjunction with the individual channel high and low equalizers. Caution should be observed in using too much boost of the highs or lows to avoid an artificial boomy or strident sound. By the same token, when too much mid-range boost is used, a hollow sound may develop that greatly increases feedback. Excessive bass response tends to make any system sound "muffled" or mushy, while excessive treble boost tends to make the system feed back easily, as well as, harsh sounding. The operator should be aware that he has double control of equalization since the individual channels, as well as, the master section allow selective boosting or cutting of the various frequency ranges. Tonal balance should begin with all equalization controls set in the vertical (flat or + 0) position. The extremely effective action of the equalizers will allow the operator to achieve almost any combination of tonal balance. Experimentation with properly positioned speakers and microphones coupled with intelligent use of the equalizers will produce optimum results for almost any application.

7 The auxiliary input level control is located in the upper right hand portion of the master control area. This control is provided for varying the input level mixed into the main mixing bus from the main auxiliary input jack provided on the rear panel. The auxiliary input jacks allow signals from other consoles or effects units to be patched directly into the main or monitoring mixing busses. This control blends in the proper level to the mixing busses much the same as do the individual channel level controls. The Monitor Auxiliary input does not have an input level control and inputs are mixed directly into the monitor mixing bus.

8 The effects level control is the master gain control for the effects bus which is fed from the individual channel effects/reverb send controls. This effects level control determines the signal level at the effects output jack located on the rear panel of the console.

9 The master reverb control is located immediately to the right of the middle control. The master reverb is the return gain control that is used to vary the amount of delayed (reverb) signal mixed back into the main mixing bus. This control may be considered a separate channel whose output is blended into the main mix just as the individual channels are. It is important to remember that the master reverb control is the reverb return and should be operated as low as possible to avoid mixing in undue reverb noise into the main output.

10 The monitor mix level control is located just to the right of the main level control and its function is to set the level of the Monitor output line amplifier. The master monitor control is used to control the overall level of the monitor system and should be operated near its center position to allow adequate variation of the individual channel monitor send controls.



11 The **output VU meter** is provided with a variable control to allow the operator to adjust the characteristics of the meter to suit the **power amps used**. The normal adjustment at the factory is set to indicate the overload of PEAVEY power amplifiers (.6 VRMS). The meter may be adjusted to suit the input requirements of other power amplifiers simply by re-adjusting the screwdriver level controls. **Caution should be used in adjusting these meter levels since proper equipment and technical knowledge is required to set them properly.**

The **800 Mixer rear panel** features a complete patching panel for various output and input functions, as well as, the microphone input connectors for each channel.

12 Each **channel's input connectors** are labeled with its identification number, as well as, an indication of whether the input is for high or low impedance. There are two inputs for each channel, one high and one low impedance connector. The high impedance are standard phone jacks and these are labeled Hi Z.

13 The **three conductor, low impedance connector** is used for low impedance microphones only, and will accept 150 to 600 ohm impedances.

Caution: Never use the low impedance input and the high impedance inputs of any one channel simultaneously.

The patching panel is provided to allow the operator to use the many facilities of these consoles in conjunction with external power amplifiers, other mixing consoles or effects units.

14 The **main output** is the console master line amplifier output for driving external mixers, power amplifiers, etc. The output level of these main output jacks is two volts R.M.S. at approximately 1,000 ohms. At higher load impedances, the output level will be appreciably higher (5V. RMS Max.)

15 The **monitor output** is the output of the monitor mixing bus and the level of the monitor output signal is controlled by the master monitor level control. The output level is approximately one volt R.M.S. at 1,000 ohms. Higher load impedances will result in appreciably higher output voltages.

16 The **effects output** is the connection from the effects mixing bus of the console and its level is controlled by the effects level which is located on the front panel. The signal output is one volt R.M.S. @ 1,000 ohms.

17 The **auxiliary inputs** provide for patching external signals directly into the main and monitor mixing busses. The input level of the auxiliary main signal is controlled by the main auxiliary input level control on the front panel. These auxiliary inputs can be regarded as additional channels and mixed into each bus as is done with the other individual main and monitor signals. This feature is especially useful when "paralleling" two mixing consoles for more channels.

18 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 pane. **DO NOT REMOVE GROUND PIN ON PLUG.**

19 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.

CAUTION

To avoid damage to your equipment or electrical shock when using your 800 Mixer with other consoles or effects units, all signal connections should be completed with shielded cable before power (mains) connection is made. The three wire power receptacles should be used, if possible.

INPUT CHARACTERISTICS:

Tone controls flat, volume max., master @ 12:00

HIGH IMPEDANCE INPUTS:

Sensitivity: 30mV @ 1 KHZ; Input Impedance: 150 K Ohms; Signal-to-noise ratio: 72 DB (50 K ohm source)

LOW IMPEDANCE INPUTS:

Sensitivity: 3mV @ 1 KHZ; Input Impedance: 600 ohms; Signal-to-noise Ratio: 68 DB (600 ohm source)

LINE OUTPUT:

2v RMS into 10 K ohms
1v RMS into 600 ohms