



# **AddVerb™**

DIGITAL STEREO REVERB/DELAY PROCESSOR

## OPERATING GUIDE

WARNING: TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ BACK COVER FOR FURTHER WARNINGS.

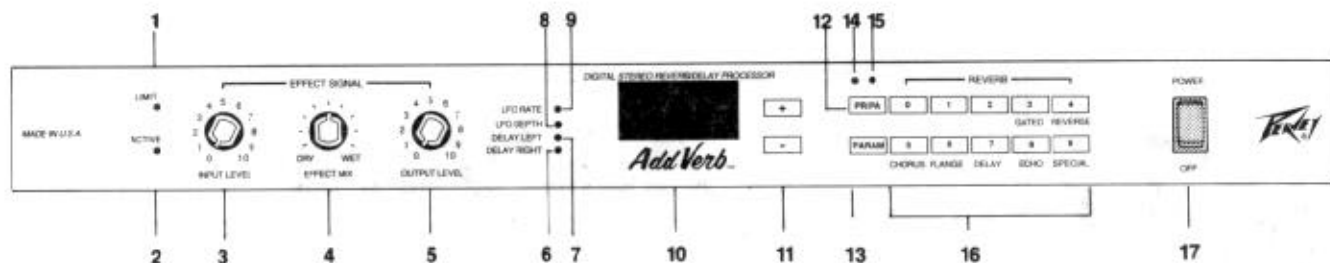
*The Peavey AddVerb™ is a powerful Reverb/Multieffect Processor with MIDI control convenience. Some of its many capabilities are not readily apparent from studying the front panel controls. These include:*

- *User programmability of Chorus, Flange, Delay and Echo effects*
- *Special combination effects*
- *MIDI Program/Effect remapping*
- *MIDI channel assignment*
- *Front panel bypass*
- *Battery backup for parameter presets and mapping*
- *Mono source to stereo effect processing*

*To receive maximum benefit from the features of the AddVerb, please take time to read and study this entire manual before beginning use.*

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## FRONT PANEL



**Important Note:** This processor features internal battery back-up for factory programs and your custom delay parameter and Preset/Patch mapping selections. Excessive battery drain during shipping and storage time may result in an erratic display in the LED window upon initial power-up. If this should occur, please see operation note under "Factory Program Presets" on page 5.

### LIMIT LED (1)

Illuminates to indicate that the effect computation is within 6 dB of limiting. Adjust the source signal and the Input Level control to allow illumination of this LED only on program peaks. Continuous illumination means there is risk of distortion and/or reduced signal processing performance.

### ACTIVE LED (2)

Provides an indication of the minimum recommended signal level necessary for operation of the processor. The LED illuminates approximately 20 dB below the onset of clipping, and should illuminate frequently during a performance.

### INPUT LEVEL CONTROL (3)

Adjusts the input sensitivity for optimum matching with the input signal. The control should be adjusted to a level that allows the Limit LED to light occasionally on program peaks. Failure to adjust the Input Level control correctly may cause increased distortion and degrade the signal-to-noise performance of the unit.

### EFFECT MIX (4)

Sets the mix ratio for the Effect/Dry signals at the outputs. Range is from dry, unprocessed signal only (full counterclockwise position), to wet, effect only signal (full clockwise position.) The 12 o'clock position yields a 1:1 mix ratio.

Note that an audible drop in signal level may occur at the 1:1 mix ratio position (12 o'clock control position) due to cancellation of certain frequencies corresponding to 180° phase shifts.

### OUTPUT LEVEL (5)

Adjusts the overall signal level available at the Left and Right outputs.

### DELAY RIGHT LED (6)

Indicates that the value displayed in the LED window is the delay time for the Right Output. This parameter may be altered only when this LED is on and is accessible only for effects 70-89. Range is 0 to 2750 milliseconds.

### DELAY LEFT LED (7)

Indicates that the value displayed in the LED window is the delay time for the Left Output. This parameter may be altered only when this LED is on and is accessible only for effects 70-89. Range is 0 to 2750 milliseconds.

### LFO DEPTH LED (8)

Indicates that the value displayed in the LED window is the Low Frequency Oscillator depth. This parameter may be altered only when this LED is on and is accessible only for effects 50-69. Range is from 0% to 100% (0 to 255).

### LFO RATE LED (9)

Indicates that the value displayed in the LED window is the Low Frequency Oscillator rate. This parameter may be altered only when this LED is on and is accessible only for effects 50-69. Range is from 0.1 Hz to 10 Hz (0 to 255).

### LED WINDOW (10)

Displays Effect Preset number, MIDI Patch number, Delay Time right, Delay Time left, LFO Depth and LFO Rate. Individual LED's on the front panel indicate which parameter is being displayed.

### PARAMETER INCREMENT (+) AND DECREMENT (-) KEYS (11)

Used to increase (+) or decrease (-) the displayed numerical parameter. A quick press-and-release of either key will change the displayed parameter by one increment. When adjusting modulation or delay settings, pressing and holding either key will continuously increase or decrease the displayed parameter value until released. Parameters affected include Preset Number, Patch Number, Delay Times, LFO Rate and Depth.

### PRESET/PATCH (PR/PA) KEY (12)

Selects either the Preset mode or the Patch mode. In the **Preset Mode**, Effect *Preset Numbers* are displayed in the LED window and key strokes (increment, decrement, or numeric keys) select Effect *Presets*. Range is 0 to 99.

In the **Patch Mode**, MIDI *Patch Numbers* are displayed in the LED window and keystrokes (increment, decrement, or numeric keys) select MIDI *Patches*. Range is from 1 to 128.

Note: On initial power-up (first time used), all MIDI *Patch numbers* correspond one-to-one with Effect *Preset numbers*. Since the *Effect Presets* may be "re-mapped" to any *Patch Number*, the one-to-one relationship can be altered. (See Effect Remapping elsewhere in this manual.)

### PARAM (PARAMETER) KEY (13)

Active when an Effect *Preset number* between 50 and 89 is selected. Pressing the parameter key while in one of these effect selections shifts to the program mode. For Chorus and Flange effects (preset numbers 50-69), the parameter key toggles between display of LFO Rate and LFO Depth. For Delay and Echo effects (preset numbers 70-89), the parameter key toggles between display of Delay Time Left and Delay Time Right. To exit the program mode, press PR/PA key (12).

### PRESET LED (14)

Indicates when in *Preset* mode.

### PATCH LED (15)

Indicates when in *Patch* mode.

### NUMERIC KEYS 0-9 (16)

Used to directly enter *Preset number* or *Patch number* selections. Effects Presets are categorized in 10 banks of 10 effects each.

<b>BANK 0-2</b>	<b>(0-29)</b>	REVERB EFFECTS (Zero is Bypass)
<b>BANK 3</b>	<b>(30-39)</b>	GATED REVERB EFFECTS
<b>BANK 4</b>	<b>(40-49)</b>	REVERSE REVERB EFFECTS
<b>BANK 5</b>	<b>(50-59)</b>	STEREO CHORUS EFFECTS
<b>BANK 6</b>	<b>(60-69)</b>	FLANGE EFFECTS
<b>BANK 7</b>	<b>(70-79)</b>	DELAY EFFECTS
<b>BANK 8</b>	<b>(80-89)</b>	ECHO EFFECTS
<b>BANK 9</b>	<b>(90-99)</b>	SPECIAL AND COMBINATION EFFECTS

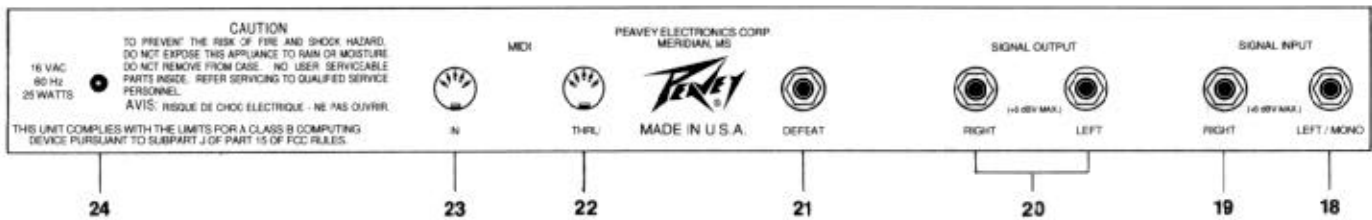
*For complete effect table, see appendix*

### POWER SWITCH (17)

Depress to "On" position to turn on. When off, the MIDI mapping and delay parameter values are stored in memory. When power is reapplied, the memory is recalled and the processor is configured as when it was turned off.

Note: To minimize turn on/turn off transient noises, set the Output Level control to "0" before switching on/off.

## REAR PANEL



### LEFT/MONO INPUT (18)

Use this input for processing mono sources or the "Left" program material from stereo sources. Mono sources input here are processed into "stereo" at the Left and Right outputs.

### MONO IN/STEREO OUT OPERATION

Mono signal sources should be connected to the Left/Mono input. Mono signals here are processed to generate "left" and "right" reverb images. Left reverberant signal is then re-mixed with the mono input signal for the Left output. Likewise, right reverberant signal is re-mixed with the mono input signal for the Right output. In this manner, a stereo reverb effect is processed from a mono source. The mix ratio of reverb-to-dry is adjusted via the Effect Mix control.

For mono output operation, either of the two outputs may be used with equally realistic reverb performance.

### RIGHT INPUT (19)

Use this input for processing "Right" program material from stereo sources.

### STEREO IN/STEREO OUT OPERATION

Stereo input signals at the Left and Right inputs are processed to generate stereo reverb images. The resultant left and right reverberant signals are then re-mixed with the original Left and Right input signals. Continuity and "imaging" of the original stereo program is maintained. The mix ratio of reverb-to-dry is adjusted via the Effect Mix control.

### SIGNAL OUTPUT (RIGHT & LEFT) (20)

Right and Left outputs are provided for stereo effects. For mono operation, either output may be used.

### DEFEAT SWITCH JACK (21)

Provided for connection of an optional footswitch for remote defeat (bypass) of the effect. With the Effect Mix control set fully to "wet", the bypass mode yields a no-output condition.

### MIDI THRU (22)

Provided to allow chaining of MIDI-capable devices. All MIDI data received at the MIDI In socket are echoed, unaltered to this socket.

### MIDI IN (23)

Allows for MIDI control interface. All patches in the processor may be selected via MIDI Program Change commands from a MIDI controller.

### POWER SUPPLY SOCKET (24)

Provided for connection of the external power supply. Insert the power supply jack fully into the socket before making the AC outlet connection.

**CAUTION:** Use only the power supply provided with this product. If the original power supply must be replaced, consult your dealer or the factory for assistance in obtaining the correct replacement.

Failure to use the correct power supply could result in fire or shock hazard, extensive circuit damage, decreased performance, or non-operation.

## PROGRAMMING AND OPERATIONAL PROCEDURES

### SETTING THE MIDI RECEIVE CHANNEL

1. Turn the unit off.
2. After a few seconds, turn the unit on again and observe the *MIDI Channel* number displayed in the LED window. During the first few seconds after power-up, the receive channel may be altered.
3. Use the Increment (+) and Decrement (-) keys to select the receive channel immediately after power-up.
4. If more time is needed to select the desired channel, simply repeat the off/on/adjust procedure.
5. Note that when MIDI channel #1 is selected, the processor is receiving in "omni mode" meaning it is receiving on all 16 MIDI channels simultaneously. When any other receive channel (2-16) is selected, the processor will receive on that channel only.

Note: Once the MIDI receive channel is selected, it will not change unless manually changed using this procedure.

### EFFECT REMAPPING

1. Select the **Patch mode** with the Preset/Patch (PR/PA) key (12).
2. Using the Numeric (16) or Increment/Decrement keys (11), select the desired Patch Number for mapping.
3. Press and hold the Preset/Patch key until both the Preset and Patch LED's illuminate. The *Effect Preset* to correspond to the previously selected *Patch Number* may now be entered. Remember: Preset range is 0 (bypass) thru 99.
4. Enter the desired Effect Preset Number using the Numeric keys.
5. Store the new Effect Patch/Preset Number map by again pressing the Preset/Patch key until the LED window (10) reads "CPL" (Complete), then release.

Note: When in **Patch Mode** (PA LED on), selecting the remapped Patch Number (using the Numeric, Increment/Decrement keys or via MIDI Program Change commands) will recall the new Effect Preset associated with the Patch Number. When in the **Preset Mode** (PR LED on), patch mapping is ignored and Effect Presets are addressed directly.

While any Effect Preset may be mapped to any combination of Patch Numbers, a Patch Number can only have one Effect Preset mapped to it at a time.

### FACTORY PROGRAM PRESETS

This processor comes from the factory with all Preset and Patch numbers mapped one-to-one and delay/modulation parameters pre-established for specific effects characteristics. Factory mapping and delay/modulation programs may be restored as follows:

1. Turn the unit off.
  2. While pressing and holding the Decrement (-) key and the numeric "5" key simultaneously, turn the power switch on. Continue to press the two keys for two seconds or until the MIDI Receive channel number shows in the LED window.
- Note: If the internal battery backup supply is allowed to completely drain, the processor LED display may become erratic upon power up. (Characterized by unfamiliar or unrecognizable characters displayed.) To correct this condition, follow the above procedure for restoring Factory Program Presets. After completing this re-initialization procedure, recharge the internal battery by leaving the processor in the power-on mode for a few hours.

### MODIFYING MODULATION AND DELAY PARAMETERS

#### Chorus and Flange Effects (Preset numbers 50-69):

1. Press the Parameter (PARAM) key (13). The "LFO Rate" LED (9) will illuminate indicating the parameter being displayed in the LED window (10).
2. Use the Increment or Decrement key to select the desired value.
3. Once the desired value is selected, press and hold the Parameter key (13) until the LED window displays "CPL" indicating the new value is now stored.
4. Press the Parameter key again to select the next parameter, LFO Depth. The "LFO Depth" LED (8) will illuminate.
5. Repeat steps 2 and 3 to select and store a new value.
6. If preferred, both parameters may be selected and then stored simultaneously.
7. Parameter alteration is audible during the programming procedure. If the Increment/Decrement keys are pressed and held to speed to a new setting, the new value is not "recognized" until the button is released.

**Note: Delay times are not variable for Effects Presets 50-69.**

#### **Delay and Echo Effects (Preset Numbers 70-89):**

1. Press the parameter (PARAM) key (13). The "Delay Left " LED (7) will illuminate indicating the parameter being displayed in the LED window (10).
2. Use the Increment or Decrement key to select the desired value.
3. Once the desired value is selected, press and hold the Parameter key (13) until the LED window displays "CPL" indicating the new value is now stored.
4. Press the parameter key again to select the next parameter, "Delay Right". The Delay Right LED (6) will illuminate.
5. Repeat steps 2 and 3 above to select and store a new value.
6. If preferred, both parameters may be selected and then stored simultaneously.
7. Parameter alteration is audible during the programming procedure. If the Increment/Decrement keys are pressed and held to speed to a new setting, the new value is not "recognized" until the button is released.

**Note: LFO Rate and Depth parameters are not applicable to Effect Presets 70-89.**

Note: As soon as a parameter value is altered, the associated LED will begin to flash. This will continue flashing until a new, or the same, value is stored as in Step 3. If you prefer not to store a different value, the programming action may be aborted by first pressing the PR/PA key (12) ("PR" or "PA" LED will begin flashing), then selecting a Preset/Patch number with the numeric or +/- keys. The original parameter is retained.

#### **MIDI CONTROL OPERATION**

##### **Preset Mode:**

*Effect Presets* are numbered 0 thru 99 for a total of 100. Zero ("0") is Bypass. MIDI Program Change commands received in this mode will yield selection of Effect Preset numbers offset by minus one (-1), i.e. MIDI Program Change command #6 = Preset #5, Program Change #7 = Preset #6, etc. As there is no MIDI Program Change #0, this gives the capability of selecting the Bypass preset (0) via MIDI Program Change command #1.

MIDI Program Change commands 101-128 are ignored in this mode.

##### **Patch Mode:**

*Patch numbers* range from 1 to 128 and correspond directly to MIDI Program Change commands. I.E. a MIDI Program Change command #12 will yield Patch #12 in this mode. Since any **one** Effect Preset Number may be mapped to any Patch Number, calling up Patch #12 will not necessarily call up Effect Preset #12. To determine the Effect Preset mapped to a particular Patch Number first call up the Patch #, then press the PR/PA key (12). The Preset # corresponding to that Patch # will be displayed in the LED window.

Factory set-up includes one-to-one mapping of Preset to Patches. If no remapping has been done, Patch Numbers 1-99 will directly correspond to Effect Patch Numbers 1-99. Patch Numbers 100-128 will all yield Preset Number 99, as that is the highest possible Preset number. See "Factory Program Presets"

**APPENDIX:**

**AddVerb Effect Table**

EFFECT PRESET NUMBER	REVERB TIME	ROOM SIZE	TONALITY	NUMBER	EFFECT TYPE
01	0.2 Sec	Small	Bright	50	Chorus With Reverb
02	0.5 Sec	Small	Warm	51	Chorus
03	0.6 Sec	Small	Warm	52	Chorus
04	0.8 Sec	Small	Bright	53	Chorus
05	1.2 Sec	Small	Warm	54	Chorus
06	1.4 Sec	Small	Dark	55	Chorus
07	2.1 Sec	Small	Bright	56	Chorus
08	2.5 Sec	Small	Bright	57	Chorus
09	2.8 Sec	Small	Warm	58	Chorus
10	1.2 Sec	Medium	Warm	59	Chorus with Echo
11	1.3 Sec	Medium	Bright	60	Flange
12	1.4 Sec	Medium	Bright	61	Flange
13	1.5 Sec	Medium	Bright	62	Flange with a feedback of 0.5
14	2.0 Sec	Medium	Bright	63	Flange with a feedback of 0.5
15	2.2 Sec	Medium	Bright	64	Flange with a feedback of -0.5
16	2.4 Sec	Medium	Warm	65	Flange with a feedback of -0.5
17	2.8 Sec	Medium	Warm	66	Flange with a feedback of 0.75
18	3.8 Sec	Medium	Warm	67	Flange with a feedback of 0.75
19	4.0 Sec	Medium	Dark	68	Flange with a feedback of -0.75
20	1.5 Sec	Large	Dark	69	Flange with a feedback of -0.75
21	1.8 Sec	Large	Dark	70	Delay Effect
22	2.5 Sec	Large	Bright	71	Delay Effect
23	2.7 Sec	Large	Bright	72	Delay Effect
24	2.8 Sec	Large	Dark	73	Delay Effect
25	4.0 Sec	Large	Warm	74	Delay Effect
26	7.0 Sec	Large	Dark	75	Delay Effect
27	9.0 Sec	Large	Warm	76	Delay Effect
28	20 Sec	Large	Dark	77	Delay Effect
29	28 Sec	Ex. Large	Bright	78	Delay Effect
				79	Delay Effect
				80	Echo with a feedback of 1/8
				81	Echo with a feedback of 1/8
				82	Echo with a feedback of 1/4
				83	Echo with a feedback of 1/4
				84	Echo with a feedback of 1/2
				85	Echo with a feedback of 1/2
				86	Echo with a feedback of 3/4
				87	Echo with a feedback of 3/4
				88	Echo with a feedback of 7/8
				89	Echo with a feedback of 31/32
				90	Special Gated Reverb
				91	Reverb with echo feedback of 1/2
				92	Special effect echo
				93	Channel A - Reverb Channel B - Reverb with Pre-Delay
				94	Grand Canyon
				95	Echo with Reverb
				96	300 mSec. gated reverb with panning outputs
				97	Reverb with 150 mSec. of pre-delay
				98	Reverb with 250 mSec. of pre-delay
				99	Reverb with 500 mSec. of pre-delay
NUMBER	EFFECT TYPE	TIME			
30	Gated Reverb	150 mSec.			
31	Gated Reverb	200 mSec.			
32	Gated Reverb	225 mSec.			
33	Gated Reverb	250 mSec.			
34	Gated Reverb	300 mSec.			
35	Gated Reverb	350 mSec.			
36	Gated Reverb	400 mSec.			
37	Gated Reverb	500 mSec.			
38	Gated Reverb	600 mSec.			
39	Gated Reverb	400 mSec.			
40	Reverse Reverb	400 mSec.			
41	Reverse Reverb	500 mSec.			
42	Reverse Reverb	600 mSec.			
43	Reverse Reverb	300 mSec.			
44	Reverse Reverb	600 mSec.			
45	Reverse Reverb	500 mSec.			
46	Reverse Reverb	400 mSec.			
47	Reverse Reverb	300 mSec.			
48	Reverse Reverb	450 mSec.			
49	Reverse Reverb	500 mSec. with echo			

The speed and depth of these Presets are programmable

The speed and depth of these Presets are programmable

The left and right delay times are programmable up to 2.7seconds

The left and right output delays are programmable. The longer delay is fed back into the delay line.

# ADVERB SPECIFICATIONS

## MULTI-EFFECT SETTINGS:

- 50 Reverb Settings:
  - 30 Reverb
  - 10 Gated Reverbs
  - 10 Reverse Reverbs
- 10 Stereo Chorus Settings
  - 1 Chorus + Reverb
  - 8 Stereo Chorus
  - 1 Chorus + Echo
- 10 Stereo Flange Settings
- 10 Stereo Delay Settings
- 10 Stereo Echo Settings
- 10 Special Stereo Effects
  - Panned Effects
  - Combination Effects
  - Etc.

## DELAY RANGE:

- Left: 0.0 to 2.7 Seconds
- Right: 0.0 to 2.7 Seconds

## FREQUENCY RESPONSE:

- Dry Signal: 20 Hz to 20 kHz
- Effect Signal: 20 Hz to 12 kHz

## QUANTIZATION:

- 16-Bit Linear PCM

## SIGNAL-TO-NOISE RATIO:

- Dry Signal: 100 dB minimum
- Effect Signal: 96 dB minimum

## INPUTS:

- Left/Mono: -20 dBV minimum, +10 dBV maximum
- Right: -20 dBV minimum, +10 dBV maximum

## OUTPUTS:

- Left: +6 dBV maximum
- Right: +6 dBV maximum

## HEADROOM:

- Active: -20 dB down from maximum
- Limit: -6 dB down from maximum

## VCO MODULATION: Microprocessor Control

- LFO Rate: 0.1 Hz to 10 Hz (0 to 255)
- LFO Depth: 0% to 100% (0 to 255)
- LFO Waveshape: Sine Wave

## AUXILIARY FOOTSWITCH:

- Effect Defeat Switch (optional)

## MIDI SPECIFICATION:

- 16 MIDI Channels
- 128 MIDI Program Presets
- OMNI/POLY

## FRONT PANEL CONTROLS:

- Input Level Control
- Effect Mix Control
- Output Level Control
- Effect Select Switch Matrix
- Parameter Select Switch
- Preset/Patch Select Switch
- +/- Control Switches

## FRONT PANEL INDICATORS:

- Signal "Active"
- Processor "Limit"
- LFO Depth Parameter Active
- LFO Speed Parameter Active
- Delay Left Parameter Active
- Delay Right Parameter Active
- Parameter Display Window
- Preset/Patch/LFO Speed/LFO Depth/
- Delay Left/Delay Right/MIDI Channel/
- Status

## REAR PANEL CONNECTORS:

- Left/Mono Input Jack
- Right Input Jack
- Left Output Jack
- Right Output Jack
- Effect Defeat Jack
- MIDI In Connector
- MIDI Thru Connector
- AC Input Connector

## POWER SUPPLY REQUIREMENTS:

- Use only Peavey 16.5 VAC Power Supply

**DANGER**  
EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.  
THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL dBA SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
3/4	110
1/2 or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.  
EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

## CAUTION

THIS MIXING CONSOLE EFFECTS DEVICE/PREAMP HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE SIGNAL (VOLTAGE) FOR PLAYING MODERN MUSIC. IMPROPER USE OF THE GAIN/EQUALIZER CONTROLS AND/OR EXCESSIVE USE OF INTERNAL/EXTERNAL BUSES MAY CREATE CLIPPING (SQUARE WAVES) AND POSSIBLY CAUSE SUBSEQUENT DAMAGE TO THE LOUDSPEAKER SYSTEMS. EXTENDED OPERATION OF THE GAIN/EQUALIZATION CONTROLS IN THEIR MAXIMUM POSITIONS IS THEREFORE NOT RECOMMENDED PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN/EQUALIZATION CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

IT IS COMMON PRACTICE AMONG USERS OF SOUND REINFORCEMENT EQUIPMENT TO IDENTIFY THE INDIVIDUAL CHANNELS WITH A STRIP OF TAPE PLACED ABOVE OR BELOW THE ROW OF VOLUME FADERS. MANY TYPES OR BRANDS OF TAPE HAVE A VERY STRONG ADHESIVE WHICH CAN INHIBIT THE PAINT ON THE FACEPLATE AND ACTUALLY REMOVE THE PAINT WHEN THE TAPE IS REMOVED. WE STRONGLY RECOMMEND THAT SCOTCH TAPE NOT BE USED ON PAINTED SURFACES NOR ANY OTHER TAPE THAT IS NOT ESPECIALLY DESIGNED FOR SUCH APPLICATIONS. MIGHTY OR LIGHT ADHESIVE WASHING OR REMOVAL LABS TAPE IS RECOMMENDED IF TAPE IS USED. ANY TAPE LEFT ON PAINTED SURFACE FOR EXTENDED PERIODS WILL BE DIFFICULT TO REMOVE. NEVER USE OIL, GREASE OR SCOTCH TAPE FOR THESE APPLICATIONS.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, radiator or another heat producing appliance.
8. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding write for our free booklet "Shock Hazard and Grounding."
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag, or an ammonia based household cleaner if necessary.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
15. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen on or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
16. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

