

M-3000™

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.

GENERAL DESCRIPTION

The M-3000™ is a 300 watt monaural power amplifier designed for continuous duty at rated power with 2 ohm loads. Forced air fan cooling coupled with the now legendary DDT™ (U.S. Patent #4,318,053) makes the M-3000™ an excellent choice for stage monitoring applications, multi-way electronic crossover amplification, slave amplifier for musical instrument applications or medium powered full range speaker systems.

DDT Compression

The M-3000™ features Peavey's DDT™ Compression circuitry which enables the user to maximize the performance of the power amp with its associated speaker system. Our exclusive, patented Distortion Detection Technique (DDT™) electronically senses the onset of power amp clipping and automatically activates the compression circuitry to prevent clipping and distortion.

The compression circuitry is activated only when amplifier clipping is imminent, effectively utilizing every precious watt available from the power amp. When the clipping condition passes, the compression is released and the M-3000™ returns to normal operation.

Calibrated Tri-Color Level Indicator

The M-3000™ features a 10-segment LED level indicator that registers output power at 2 ohms in 3 dB increments from -27 dB to +0 dB. This tri-colored LED array utilizes four green, three amber, and three red LED's for ease of reading output status even off axis and from a distance.

Clipping/Compression LED Indicator

The LED (light emitting diode) is a visual indication of the operational status of the amplifier. Lighting of the LED when the compression defeat switch is in its "pushed in" (DDT™ operational) position, indicates that compression is taking place. Lighting of the LED when the switch is in the "pulled out" (compression defeated) position, indicates amplifier clipping. NOTE: Because of the dynamics and percussive nature of today's music, it is quite common for the compression indicator to flash rather frequently and sometimes almost constantly during normal operation of the amplifier. This merely indicates that the compression feature is operating as it is designed to do. However, if the LED remains steadily lighted, this is an indication that the power amp has run out of available headroom (reserve power), and quite possibly is underpowered for its intended application.

Level Control/Compression Defeat

The level control is similar to master volume in that it sets the input sensitivity of the power amp. For the majority of applications, the level control should be operated at its maximum (10) position. At the maximum setting, a 1 volt RMS input signal will drive the power amp to its rated 300 watt RMS output at 2 ohms.

The level control includes an integral portion/pull switch which controls the operation of the DDT™ compression circuitry. In the pushed in position, the DDT™ circuitry is operational. In the pulled out position, the DDT™ is removed from the internal circuitry of the power amp (defeated) and is **not** operational. NOTE: For maximum headroom, minimum distortion, and increased system reliability we recommend that the switches be left in their DDT™ operational (pushed in) positions at all times.

On/Off Switch

The two-position on/off switch features an integral pilot light which, when set, indicates that power is being supplied to the unit.

Channel Inputs

The power amp inputs are standard 1/4" phone jacks with a special "built-in" bridging function to allow various patching configurations with the M-3000™. This unique "bridging" feature enables the operator to introduce signal to one input jack and, because these inputs are in parallel, take the signal from the second jack to another power amp, signal processor, etc...

Speaker Outputs

The M-3000™ has two 1/4" speaker output jacks wired in parallel. The minimum amplifier load is 2 ohms (two 4 ohm speakers).

Line Cord

For your safety, we have incorporated a 3-wire line (mains) cable with proper grounding facilities.

CAUTION

IT IS NOT ADVISABLE TO REMOVE THE GROUND PIN UNDER ANY CIRCUMSTANCES. IF IT IS NECESSARY TO USE THE M-3000™ IN A 2-PIN PLUG SYSTEM WITHOUT PROPER GROUNDING FACILITIES, SUITABLE GROUNDING ADAPTORS SHOULD BE USED. MUCH LESS NOISE AND GREATLY REDUCED SHOCK HAZARD EXISTS WHEN THE UNIT IS OPERATED WITH PROPERLY GROUNDED RECEPTACLES.

Fuse

The fuse is located within the cap of the fuseholder at the extreme left of the M-3000™'s rear panel. If the fuse should fail, IT MUST BE REPLACED WITH THE SAME TYPE AND RATING TO AVOID DAMAGE TO THE UNIT AND TO PREVENT VOIDING THE WARRANTY. IF THE M-3000™ REPEATEDLY BLOWS FUSES, IT SHOULD BE TAKEN TO A QUALIFIED SERVICE CENTER FOR REPAIRS OR RETURNED TO THE PEAVEY FACTORY. BEFORE REPLACING THE FUSE, DISCONNECT THE M-3000™ FROM ITS POWER SUPPLY.

Features of the M-3000™

- 300 watts RMS
- 2 ohm operation
- DDT compression (U.S. Patent 4,318,053)
- Tri-color LED power indicator
- DDT /Clipping indicator (LED)

- Level control
- 19" rack mount
- Compression defeat switch
- Forced air fan cooling
- Low Impedance (XLR) Input
- Dual 1/4" high Z Inputs (bridged)

M-3000™ SPECS:

RATED POWER:

210 watts RMS into 4 ohms
300 watts RMS into 2 ohms

POWER @ CLIPPING:

(1% THD, 1 KHz, 120 VAC line)
Typically:

130 watts RMS into 8 ohms
225 watts RMS into 4 ohms
320 watts RMS into 2 ohms

FREQUENCY RESPONSE:

+0, -1 dB, 10 Hz to 30 KHz, 200 W RMS into 4 ohms

TOTAL HARMONIC DISTORTION:

Less than 0.1%, 200 mW to 200 W RMS,
60 Hz & 5 KHz, 4 ohms, typically below .05%

HUM & NOISE:

Greater than 90 dB below full power

SLEW RATE:

Greater than 15 volts per micro-second

LOAD IMPEDANCE:

2 ohms or greater (stable in any load configuration)

DAMPING FACTOR:

Greater than 100 @ 1 KHz, 4 ohms

INPUT SENSITIVITY:

1 V RMS for 200 W into 4 ohms

INPUT IMPEDANCE:

50K ohms (High impedance bridging inputs)
2.7K ohms (Low impedance bridging inputs)

INPUT DYNAMIC RANGE:

Greater than 30 V RMS
(Will accept speaker levels)

LOAD PROTECTION:

Short, mismatch, open circuit proof.
Voltage/current limiting instantaneous
with no thumps or cutoff

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
1/2	110
1/4 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 AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER TO HANDLE OCCASIONAL PEAK POWER. ADEQUATE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVELS IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN CONTROL IF THE INPUT SIGNAL IS VERY STRONG.

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, heater, radiator or another heat producing amplifier.
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. 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.
13. 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.
14. 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 or been spilled into the unit.
 - C. The unit does not operate correctly.
 - D. The unit has been dropped or the enclosure damaged.
15. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

Due to our efforts for constant improvement, features and specifications are subject to change without notice.



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