McCORMACK

POWER DRIVE DNA-1

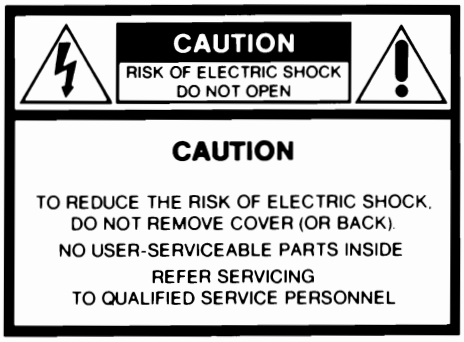
001257

Stereo Power Amplifier

The Mod Squad

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



This symbol is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably
- and clearly, and without distortion.

Once you have established a comfortable sound level:
- Set the dial and leave it there.

Taking the time to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

INTRODUCTION

Thank you for purchasing the Power Drive. This amplifier was handcrafted with top quality, highly reliable components. We are confident that you will be well satisfied with its sonic performance and find pleasure in its functional beauty.

Before you enjoy these experiences, however, please take a few minutes to read this Owner's Manual and acquaint yourself with the instructions for optimal operation. This will ensure your listening pleasure today, and for many years to come.

OPERATING INSTRUCTIONS

UNPACKING—Be sure to save the Power Drive's box and packing materials. Store them in a dry environment. It is best to use the original package should you need to transport the Power Drive, or to return it to the factory to be upgraded to mono operation.

INSTALLATION—Place your Power Drive on a stable surface in a location which allows adequate ventilation. If it is sitting on a carpet, use either a flat board or Tiptoes underneath to keep the ventilation slots unobstructed. Do not locate it in direct sunlight or expose it to extremely high temperatures (above 70 degrees centigrade/154 degrees Fahrenheit). Allow at least four inches of open space on each side, and six inches of open space both above and behind. In a stack of components, place it only at the top or the bottom. Do not block the ventilation slots on the top or bottom, or the heat sinks on each side.

1.) Position the Power Drive as closely as possible to its final installation location, while allowing access to the back panel connectors.

2.) Check to be certain the power switch on the front panel is turned off, and that your system's volume control is turned down all the way.

3.) The Power Drive uses a 3-wire grounded AC power cord. Plug the AC power cord into the Power Drive, then plug the other end into an appropriate wall socket. Minimum hum is achieved in most systems when only the amplifier is grounded since it is the least sensitive and has the largest ground current. If your system produces audible hum, try installing two-prong adapters on any components with three-prong plugs, except the amplifier, to float their grounds.

CONNECTIONS—The Power Drive uses standard RCA phono jacks for input connectors, and gives you the option of using the barrier strip or the binding posts for output connectors. While this allows you great flexibility in choosing cables, please remember that selecting high quality cables for use with this revealing component will result in superior sonic performance from your system.

IMPORTANT! Always install the interconnect cables first when connecting an amplifier, and remove them last when disconnecting an amplifier. This will prevent potential damage to the loudspeaker in case the power supply has not fully discharged.

1.) Install interconnect cables from the main output of your preamplifier to the input RCA jacks located at the top center of the rear panel. Please note the channel designators, and be certain the plugs are fully inserted, making a tight connection.

2.) Check again to be certain the Power Drive's power switch is turned off.

3.) Install speaker cables from your speaker's input connectors to the output connectors located on either side of the rear panel. Note the channel and polarity designators. Choose either the barrier strip or the binding posts. Use both, if desired, for bi-wiring. (The two types of output connectors are wired in parallel.) When finished, recheck all your connections to be certain they are correct and tight.

4.) Install the mechanical grounding spike. (While this step is optional, we strongly recommend it because of the improved performance it produces.) This threaded spike screws into a threaded hole located on the bottom of the chassis, in the center at the rear. Install it point down, so that it touches the surface the Power Drive sits on. Thread the knurled lock nut over the ground spike until it locks against the chassis. It is alright for the

rear Soft Shoes (damping feet) to be raised slightly when the spike is down. You can use a coin under the spike to protect the surface beneath it, if your desire.

5.) Move the Power Drive to its permanent location. Check again to be certain your system's volume control is turned down all the way. Turn on the front panel power switch. The POWER and PROTECT indicators should light. After five or ten seconds, the PROTECT indicator should turn off, and your Power Drive is ready for operation. If your PROTECT indicator does not turn off, refer to the troubleshooting guide at the end of this manual.

BREAK-IN AND WARM-UP PERIODS—Your Power Drive has already been burned in at the factory. However, like all high quality components, it will still require a break-in period of approximately 50 hours before it will sound its best. The Power Drive is always immediately ready to play when turned on, but it will not settle into optimal operation for at least 30 minutes. It is perfectly alright to leave your Power Drive on all the time, but always be certain to turn down your system's volume control all the way, and turn your mode selector to mute between listening sessions.

POWER SWITCH—This switch is located on the right side of the front panel.

POWER INDICATOR—This light is located above the power switch on the front panel. When lit, it indicates that the Power Drive is turned on.

PROTECT INDICATOR—This light is located above the POWER indicator on the front panel. When lit, it indicates that the Power Drive's sophisticated protection circuitry has been activated. The music stops when it is illuminated and will not resume playing until the potentially dangerous condition has passed. If this light comes on while you are listening, turn off the Power Drive and refer to the troubleshooting guide at the end of this manual.

NOTE: It is normal for the PROTECT light to be on for five to ten seconds when the Power Drive is turned on. After this period, it indicates a fault condition.

AC MAINS FUSE—You have easy access to this fuse. It is located on the rear panel, above the AC cord. The correct fuse type and value are indicated on the rear panel. Only replace it with the correct type and value. A medium blade screwdriver is required to remove the fuse carrier. Be sure the POWER switch is off when replacing this fuse.

B + /B – POWER SUPPLY RAIL FUSES—These are eight amp, fast-blow fuses, mounted on the output circuit boards inside the chassis. The fuse clips will accommodate either the American 3AG type (1 ¼ ′ × ¼ ′), or the European 5 × 20mm type. There are two fuses per channel. To replace these fuses, first unplug the AC power cord from the Power Drive, then remove the 14 screws holding the top cover in place, and lift it off. The fuses are located at the front edge of the two output stage circuit boards, mounted on the left and right heatsink assemblies. Replace these fuses only with eight amp, fast-blow type fuses.

MONO UPGRADE: Power Drives can be returned to the factory for conversion to mono operation. Contact your Mod Squad/McCormack Dealer for details. After conversion, they can be run in either a balanced or an unbalanced input configuration. Power output is twice that of the stereo mode. Full instructions for all operation options are included when the upgraded Power Drives are returned to you.

TROUBLESHOOTING GUIDE:

Problem: Amplifier does not operate; POWER and PROTECT lights do not come on.

► Check AC power cord connections (both ends). Check AC outlet for power.

► If the AC connections and outlet are right, check the AC line fuse. Replace the fuse if necessary. Retest the amplifier. If the AC line fuse blows again, contact your dealer for servicing information.

Problem: Amplifier does not operate; POWER and PROTECT lights come on and stay on.

NOTE: It is normal for the PROTECT light to be on for five to ten seconds when the Power Drive is turned on. After this period, it indicates a fault condition.

► Turn off the amplifier and disconnect the input and speaker cables. Turn on the amplifier. If the PROTECT light goes out after the five to ten second turn-on period, the problem is excessive DC voltage from the preamplifier, or from a source component. You will need to correct this problem before continuing.

► If the PROTECT light stays on, check the condition of the B + /B – rail fuses. Replace any blown fuses. Turn on the amplifier. If the PROTECT light goes out, the problem is corrected. If the PROTECT light stays on, and the B + /B – rail fuses have blown again, contact your dealer for servicing information.

Problem: Amplifier turns on normally, but no sound is produced.

► Check all connections carefully. Check your preamplifier's input, mute, and volume settings.

Problem: The protection circuit activates during listening, muting the output and turning on the PROTECT light.

► If the PROTECT light cycles on and off every five to ten seconds, there is a persistent dangerous condition at the Power Drive's input, coming from the preamplifier, or a source component. This can be in the form of excessive DC voltage or high levels of infrasonic (very low frequency) noise, such as that caused by a badly warped record. The protection circuit will activate only when such information is potentially damaging to your speakers. Correcting the problem may be as simple as turning your volume control down, or, in the case of excessive DC leakage from a source component, service may be required.

► If the PROTECT light stays on, the B + /B – rail fuses may have blown. This may be caused by short-circuiting the output of the Power Drive while it is being played, or by excessively high drive levels into a very low impedance load. Check the condition of the rail fuses and replace as necessary. If the fuses blow again, check the speaker connections for a persistent short-circuit condition. If you are unsure, disconnect the speaker cables from the amplifier. Install new fuses as necessary and try again. If the fuses blow again, contact your dealer for servicing information. If they do not blow, and the amplifier restarts normally, there is a persistent fault condition in the speakers or in the speaker wiring. Correct this problem before continuing.

If you have any questions regarding the Power Drive amplifier, please contact your Mod Squad/McCormack Dealer.

SPECIFICATIONS

Output Power at Clipping, both channels driven
RMS Watts per channel: 150 W / 8 ohms
300 W / 4 ohms
500 W / 2 ohms
Output Current: 50 Amps peak, per channel
Input Impedance: 100 Kohm
Input Sensitivity: 1.2 Vrms
Frequency Response: – 3dB @ 0.5 Hz, 250 KHz
Risetime: <2μS
Slew Rate: 50V/μS
Signal-to-Noise: 88dB, "A" weighted
Damping Factor (1 KHz, 8 ohm load): >100
Output Impedance: <0.1 ohm
DC Offset (Servo-controlled): <5mV
Signal Polarity ("Absolute Phase"): Non-inverting
Power Requirements: 100-117 VAC/60 Hz
1.2 Amps/130 Watts @ idle
3.5 Amps/400 Watts @ clipping
220-240 VAC/50 Hz
.6 Amps/130 Watts @ idle
1.8 Amps/400 Watts @ clipping
Dimensions: 19′ W, 7′ H, 15′ D
Shipping Weight: 50 lbs.