

AMPLIFIER SPECIFICATIONS: MS2125 & MPS2500

- ❑ Continuous Output Power per channel with both channels driven:

	MS2125	MPS2500
Into 4 ohms @ 13.8V DC.....	160 WRMS	85 WRMS
Into 2 ohms @ 13.8V DC.....	255 WRMS	155 WRMS
Bridged Power into 4 ohms.....	510 WRMS	290 WRMS
Bridged Power into 2 ohms.....	(Not Rated)	505 WRMS
- ❑ THD at rated power 4 ohms.....<0.05%
- ❑ SMPTE at rated power 4 ohms.....<0.03%
- ❑ DIM at rated power 4 ohms.....<0.01%
- ❑ Frequency response.....15Hz to 20KHz +/-1dB
- ❑ Signal to Noise Ratio.....> 100dB (20 to 20kHz)
- ❑ Input Sensitivity.....200mV to 2V
- ❑ Input Impedance.....10K ohms
- ❑ Typical Idle Current.....3 Amps
- ❑ Power Supply Efficiency.....> 80%
- ❑ Damping Factor @ (60Hz).....>300
- ❑ Maximum Battery Voltage.....15.5V DC
- ❑ Dimensions.....17" L X 11.4" W X 2.4" H

Due to ongoing research and development, specifications subject to change without notice. 7.24.95

Pulls 60 amps at 4 ohm bridged

The logo for Phoenix Gold, featuring the words "PHOENIX GOLD" in a stylized, handwritten font. The letters are thick and black, with some white highlights and shadows, giving it a three-dimensional, metallic appearance. The word "PHOENIX" is on the top line and "GOLD" is on the bottom line, both slanted upwards to the right.

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MS2125

Power Amplifier

MPS2500

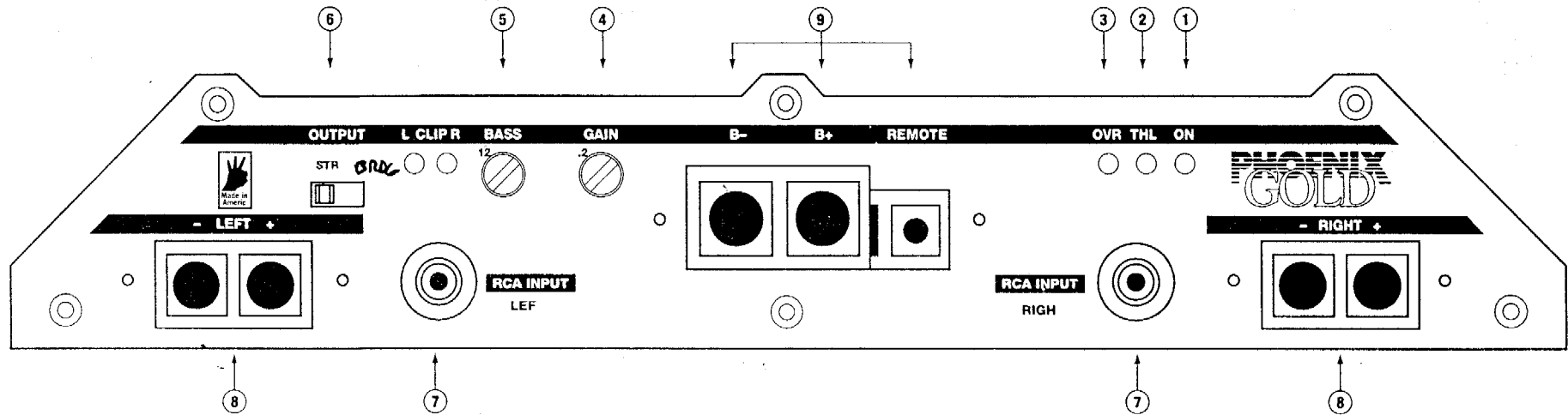
Power Amplifier

CONCISE OWNER'S MANUAL

AMPLIFIER FEATURES: MS2125 & MPS2500

- ❑ MS2125: 2 x 125 watts per channel
MPS-2500: 2 x 50 watts per channel
- ❑ Bridgeable Outputs
- ❑ Tri-Linear™ output capability, stereo and bridged mono simultaneously
- ❑ Adjustable Bass EQ 0 to +12dB below 30Hz
- ❑ Pulse Width Modulated MOSFET Switching Power Supply
- ❑ Ribbon Winding™ of Power Toroid
- ❑ MS2125: Stable into 2 ohm stereo loads
MPS2500: Stable into 1/4 ohm stereo loads
- ❑ High-Current Triple-Darlington Output Design
- ❑ Gold Plated, Double-Sided 2 oz. G10 Glass Epoxy PCB
- ❑ Variable input sensitivity from .2V to 2V
- ❑ Fully muted turn-on / turn-off circuitry
- ❑ Optically isolated Battery and Signal grounds
- ❑ Protection circuitry with Status LED's
- ❑ Extensive burn-in and QC testing for the ultimate in reliability
- ❑ Made in the good ol' USA!

AMPLIFIER CONTROLS AND FUNCTIONS



1. **Power On LED Indicator**

Indicates proper amplifier function.

2. **THL LED indicator**

This LED lights up if the amplifier has shut itself down because the temperature of the heatsink has reached a temperature of 90°C (200°F). In simple terms, the amplifier is **extremely hot!**

3. **Overload LED indicator**

This LED lights up if the amplifier has shut itself down because of an extremely low impedance load or short connected to the speaker outputs.

4. **Gain Adjustment**

Allows correct matching of the line output from a CD player, cassette deck, processor, etc. to the input of the MS2125 or MPS2500.

5. **Bass Adjustment**

Control for bass equalizer circuit which increases output levels below 30Hz.

6. **Output (STR/BRDG) switch**

Switches the MS2125 and MPS2500 to stereo (STR) or bridged (BRDG) mode. In the bridged mode, the left input jack drives both channels for

bridged mono operation. If the amplifier is to be operated in the **Tri-Linear** mode, leave switch in stereo mode with both left and right RCAs connected.

7. **RCA Connectors**

The MS2125 and MPS2500 are designed to accept audio input from any source unit or signal processor with RCA preamp (line level) outputs.

8. **Speaker Connectors**

This specially tooled connector is designed to accommodate up to a 7 gauge speaker cable. Be sure to connect positive and negative leads correctly!

9. **Power Connectors**

This specially tooled connector is designed to accommodate up to a 2 gauge power cable. Connect the B- terminal to battery negative and the B+ terminal to battery positive. Connect the Remote terminal to a switched +12V DC source to allow the amplifier to be turned off and on by the source unit.

AMPLIFIER LOCATION

The MS275/MPS2240 has been designed to dissipate heat more efficiently than any other amplifier manufactured today. However, prolonged operation at high volumes or extremely low impedances without the aid of a **fan shroud** can cause the unit to overheat and protect itself. Regardless of where you decide to mount the MS275/MPS2240, make sure that there is at least a 2" clearance above and around the amplifier.

The amplifier may be mounted either upright (Figure 1) or horizontally (Figure 2), but **never** upside down (Figure 3); that causes the rising heat to “feed back” into the amplifier, causing a premature system shut down.

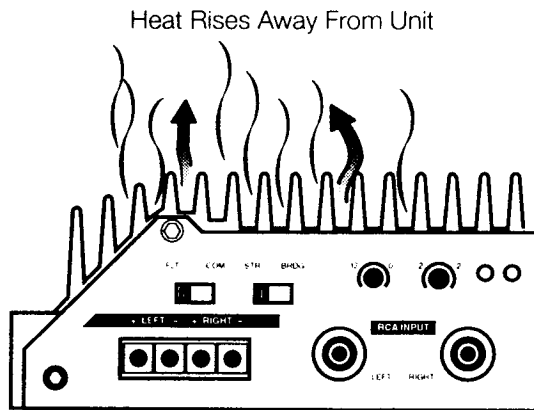


Figure 1

Heat Rises Through Heatsink Causing Each Fin To Heat More Rapidly.

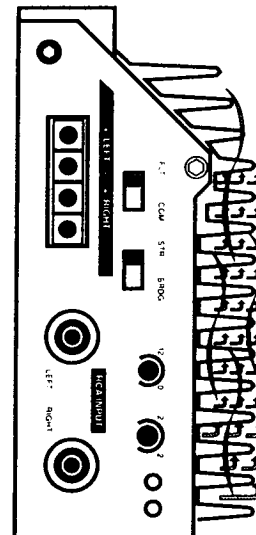


Figure 2

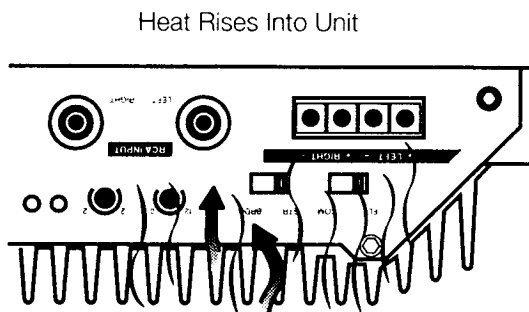


Figure 3

The MS275/MPS2240 should be protected from exposure to moisture. It is best to mount the amplifier:

1. On the floor or side panel of the trunk.
2. Under the seat.
3. Any other location where the amplifier has good ventilation for the heatsink.

Place amplifier in the position that you wish to use, making sure there is room for the amplifier cables to reach the amplifier's sockets.

AMPLIFIER MOUNTING

Mounting considerations:

- Is there enough space for the signal input plugs?
- Will the speaker and power cables be able to enter the terminal connectors straight?
- Will your mounting position allow easy viewing of indicator LEDs and amplifier controls?

Follow these steps to mount your new amplifier properly:

1. Use the MS275/MPS2240 as the template. Mark the mounting surface with a felt pen or pencil. Placing masking tape on the surface first will make these marks more visible.
2. Drill $\frac{1}{8}$ inch pilot holes.
3. Mount the amplifier with the four (4) #8 by $1\frac{1}{4}$ inch panhead phillips screws provided.

The mounting shown in Figure 4 is excellent; it allows the heat sink fins to act as a chimney, keeping the amplifier cool over longer periods on time.

Warning! Do not drill any holes while using the amplifier as a template! It is very easy to damage the amplifier's powder coated surface in this manner.

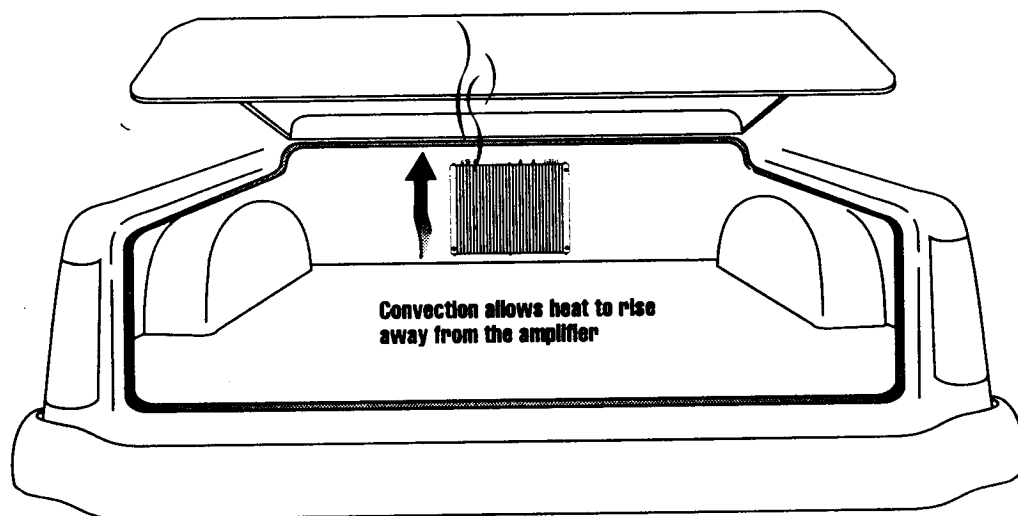


Figure 4: Trunk Mount

-- Phoenix Gold Tech Tips --

How to select the correct gauge power cable for single or multiple amplifier systems.

The maximum continuous amplifier power and the distance of the cable run determine the correct power cable size.

Use the chart below to find the correct cable size

1. Find the distance (feet) of the cable run along the top.
2. Find the total continuous power (watts) the cable must support on the left.
3. Where the two meet indicates the proper gauge cable.

If the distance or power falls between two columns or rows, always round up to the next higher gauge.

Distance of cable run

		4 ft	8 ft	12 ft	16 ft	20 ft	24 ft
M a x i m u m C o n t i n u o u s p o w e r	100 w	10	10	8	8	4	4
	200 w	10	8	8	4	4	2
	400 w	8	8	4	4	2	2
	600 w	8	4	4	2	2	2
	800 w	4	4	2	2	2	2
	1000 w	4	2	2	2	2	1/0
	1400 w	2	2	2	2	1/0	1/0
	1800 w	2	2	2	1/0	1/0	1/0
	2200 w	2	2	1/0	1/0	1/0	1/0 x 2
	2600 w	2	1/0	1/0	1/0	1/0 x 2	1/0 x 2
	3000 w	1/0	1/0	1/0	1/0 x 2	1/0 x 2	1/0 x 3

Examples:

1. A system with one ZX450. The amplifier is mounted in the trunk and the battery is 18 feet away in the engine compartment. The amplifier can produce up to 500 watts. The chart above shows the need for a 2 cable.

2. A system with a ZPA0.5 for bass and a . The amplifier is mounted in the trunk and the battery is 18 feet away in the engine compartment. The amplifier can produce up to 500 watts. The chart above shows the need for a 2 cable.



ELECTRICAL INSTALLATION (CONT.)

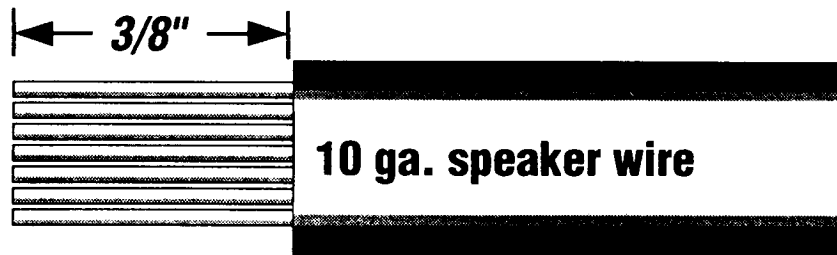


Figure 6: Wire Stripping

3. Always use the largest gauge speaker wire possible, to get the highest possible “damping factor” for the tightest, most accurate bass. The speaker terminal accepts up to 10 gauge cable.
4. Strip each cable approximately $\frac{3}{8}$ inches (see Figure 6) and twist the exposed wire together.
5. Insert the twisted wire end into the connector. Tighten the set screw firmly. Avoid loose connections, as they have high contact resistance.
Note: For **bridged mono** operation, connect the speaker to the **left+** and **right –** terminals.
6. Make sure to run your audio cables AWAY from your power wires. This reduces noise caused by the power wire radiating into the audio cables.
For audio connections, we **strongly** recommend using high-quality audio interconnects like our STS (Super Triple Shielded) or Compact STS cables. The Triple-Shielded cables are the ultimate in sound quality and for eliminating unwanted “radiated noise” from your system.
 - The Green LED lights when the amplifier is **on**.
 - The Yellow LED lights when the amplifier has “thermaled”: the heatsink has reached 200°F and the amplifier has shut off to protect itself.
 - The Red LED lights if the speaker impedance is too low to allow safe operation, or if there is a wiring fault.
 - When the protective circuitry engages, the green LED flashes for a second, then the red LED will stay lit. The lights may recycle several times. This is the result of a short in the system. Make sure that none of the speakers are shorted. Having a shorted output will not damage your MS275/MPS2240, but it will cause the protection circuitry to engage. This condition is indicated by the green Power LED and the red Protection LED alternately cycling on and off.