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PM31 Installation Instructions

General

The PM31 is a 150W MOSFET power amplifier. It can be installed directly into a cutout in a loudspeaker cabinet.

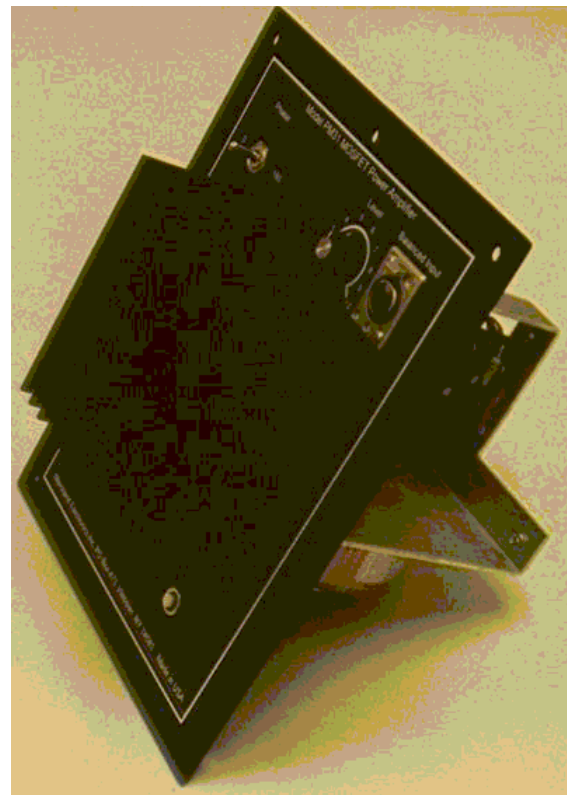
Specifications

PM31 Parts List

The PM31 kit contains the following parts:

Qu. Description

1	8.5" x 11" mounting plate
1	Transformer mounting bracket
1	Toroidal power transformer, D4043, 220VA, Dual 40V secondary
1	Transformer mounting hardware
1	Heat sink
2	Power entry module
3	Dual 10K potentiometer
4	DPDT switch
5	4A circuit breaker
6	XLR connector, female
7	Knob for potentiometer
8	Thermal cutout (70°C)
1	Bag with heatsink compound
9	PS25 power supply kit
10	PM24 MOSFET power amplifier kit
4'	Red wire
4'	Black wire
4'	Orange wire
1'	Heat shrink tubing
11	8/32 x 1/2" machine screw
6	4/40 x 1/2" machine screw
6	8/32 nut
6	4/40 nut



Assembly Instructions

Use the picture as a reference when assembling the PM31. It is best to assemble the amplifier in the order the steps are written below.

Transformer mounting bracket: Bolt the transformer mounting bracket to the large mounting plate using a 8/32 screw and nut. Insert the 8/32 screw through the small hole in the mounting plate that is located between the volume control and the phase switch, from the side of the plate that has the lettering. Now place the hole in the narrow leg of the transformer mounting bracket onto the 8/32 screw. Install nut but do not tighten yet. Note that the 4 holes in the other (wide) leg of the mounting bracket will align with 4 holes in the mounting plate.

Heat Sink: Align the heat sink onto the front of the mounting panel so that all holes in the panel align up with the tapped holes in the heatsink. The heatsink will be fastened to the panel and bracket with 4 8/32 screws. But first apply some white silicone heatsink compound over the full inside of the heatsink. This will promote good transfer of heat to the heatsink. Only a thin layer of compound is needed.

Power entry module: Use two 4/40 screws and nuts.

Circuit Breaker: Use two 4/40 screws and nuts.

Power on/off switch: Use the large nuts provided.

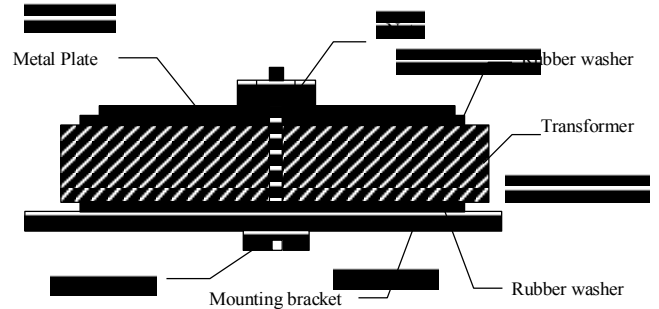
XLR connector: Use two 4/40 screws and nuts.

Volume control potentiometer: Install with large nut provided. Mount knob onto shaft.

Phase switch: Install with large nut provided.

Thermal cutout: Install onto transformer mounting bracket. Use two 4/40 screws and nuts.

Transformer: Install the toroidal power transformer onto the mounting bracket using the hardware provided.



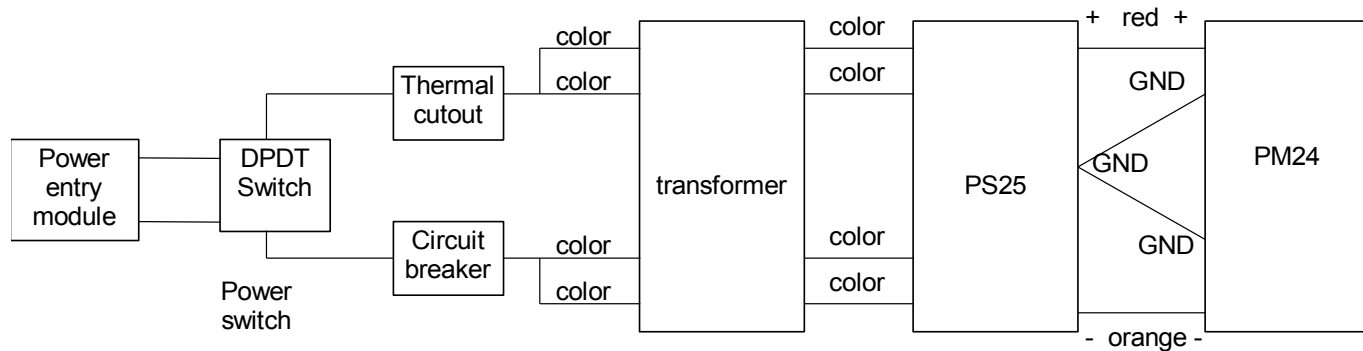
Mounting of transformer

PM24 power amplifier: Install the power amplifier module in the space under the transformer mounting bracket. Use 3 8/32 screws, threading directly into the heatsink. Do apply heatsink compound to the bracket of the PM24 before assembling.

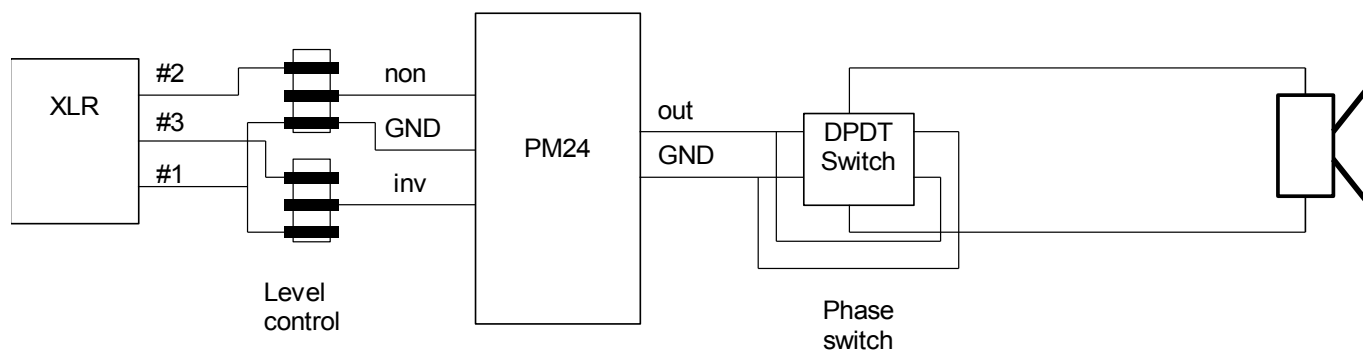
PS25 Power supply: Install the power supply next to the power amplifier.

Wiring: Connect wires according to schematic.

Assembly is now complete.



Power wiring



Signal wiring

PM31 Power Amplifier
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Mounting the XM9 crossover into the PM31 chassis.

Parts List

Qu. Description

1	Mounting bracket
2	6/32 x 1/2 machine screw
4	Fiber washer
2	6/32 Locknut
2	1N5351B 14V, 5W Zener diode
2	330 Ohm, 7W resistor

Installation

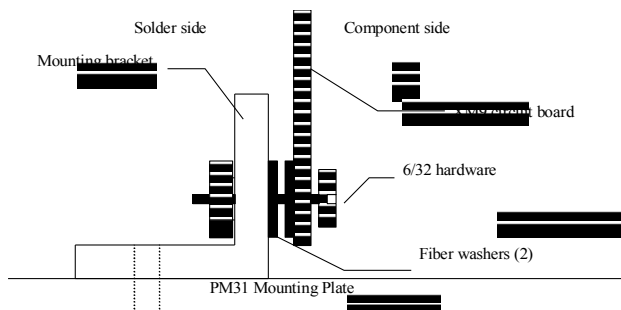
Zener Diodes

Mount one each of the 1N5351B zener diodes across C5 and C6, on the solder side of the circuit board. Install the diodes so that the CATHODE (band) is on the POSITIVE side of the electrolytic capacitor.

Power resistors.

The 330 Ohm power resistors are installed in place of the diodes D1 and D2. Make sure these diodes are removed! Note that the resistors are much larger than the diodes they replace. It is best to mount the resistors on the solder side of the board and dressing the leads so that the resistors are well spaced from the circuit board.

Mounting bracket.



Mounting of XM9 board