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MB201 200 Watt MOSFET Power Amplifier

200W + 200W into 4 Ohm

125W + 125W into 8 Ohm



Features

The MB201 is a stereo MOSFET power amplifier for high quality audio reproduction. The construction is all heavy-duty. The amplifier is housed in an aluminum chassis. Heatsinks on the side of the unit provide the cooling. Inside is a toroidal power transformer and power supply with large storage capacitors. The amplifier is designed for use with a 4 or 8 Ohm load, but it is stable with any output load. The MB201 is also available in a mono configuration.

XLR Balanced inputs	Balanced inputs for high noise immunity
RCA	Standard line level inputs
Selector switch	Switch between balanced and standard inputs
Phase switch	Inverts the phase
Binding Posts	Connection for the loudspeakers
Circuit breaker	Protects the amplifier in case of overload
Thermal cutout	Protects the amplifier in case it gets too hot
Power entry connector	Standard line cord for 120V AC 1-phase operation.

Specifications.

Dimensions:	
Frequency response:	6 Hz - 20KHz +/- 1 dB
Harmonic Distortion @ 1KHz, 10W	0.02% or better
Voltage gain	26 dB (20X)
Input impedance:	25 KOhm
Short circuit output current	15A
Output load	8 or 4 Ohm, stable with any load
Max power output	200W+200W into 4 Ohm, 125W+125W into 8 Ohm
Power requirement	120VAC, 6A breaker; 240 VAC available
Construction	All metal cabinet, black with white legend

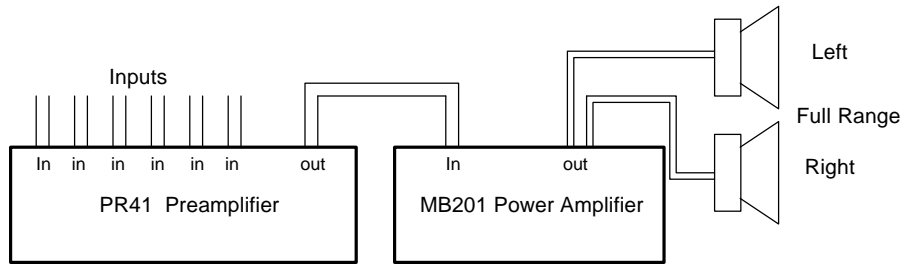


Figure 1 Typical Sound System

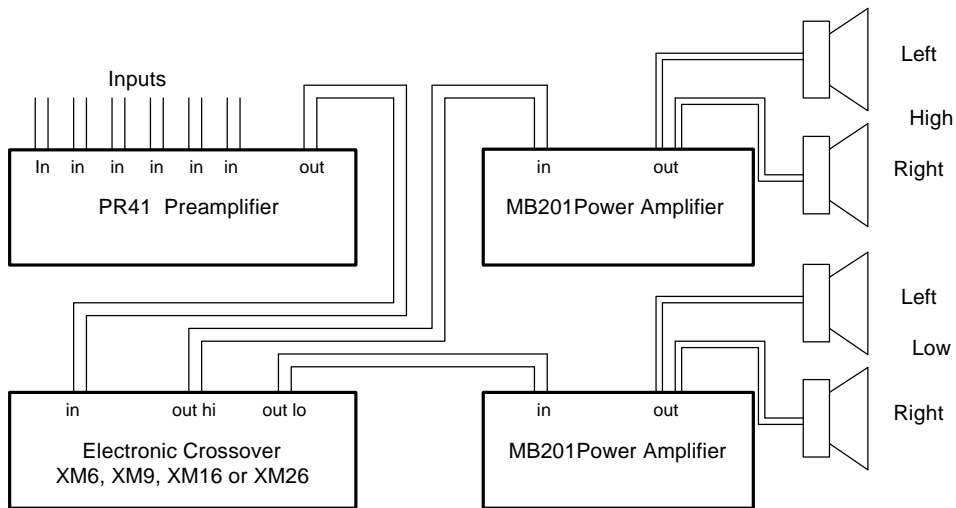


Figure 2 Sound System with Electronic Crossover Network

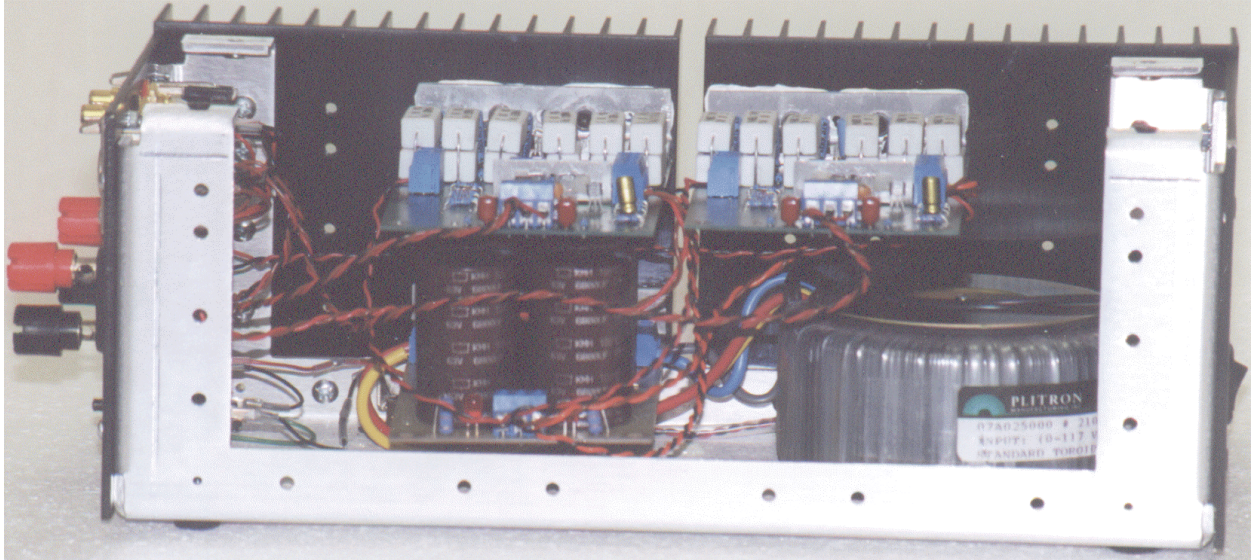


Figure 3: Inside view. Note the placement of the power amplifier modules; these are mounted onto the heatsink on the side of the unit. The PS11 power supply board is mounted on the baseplate using 4 hex standoffs. (Note: the picture shows a different power supply than the one provided with the kit). The toroidal power transformer is mounted near the front of the unit on the baseplate.



Figure 4 Rear view of the amplifier.

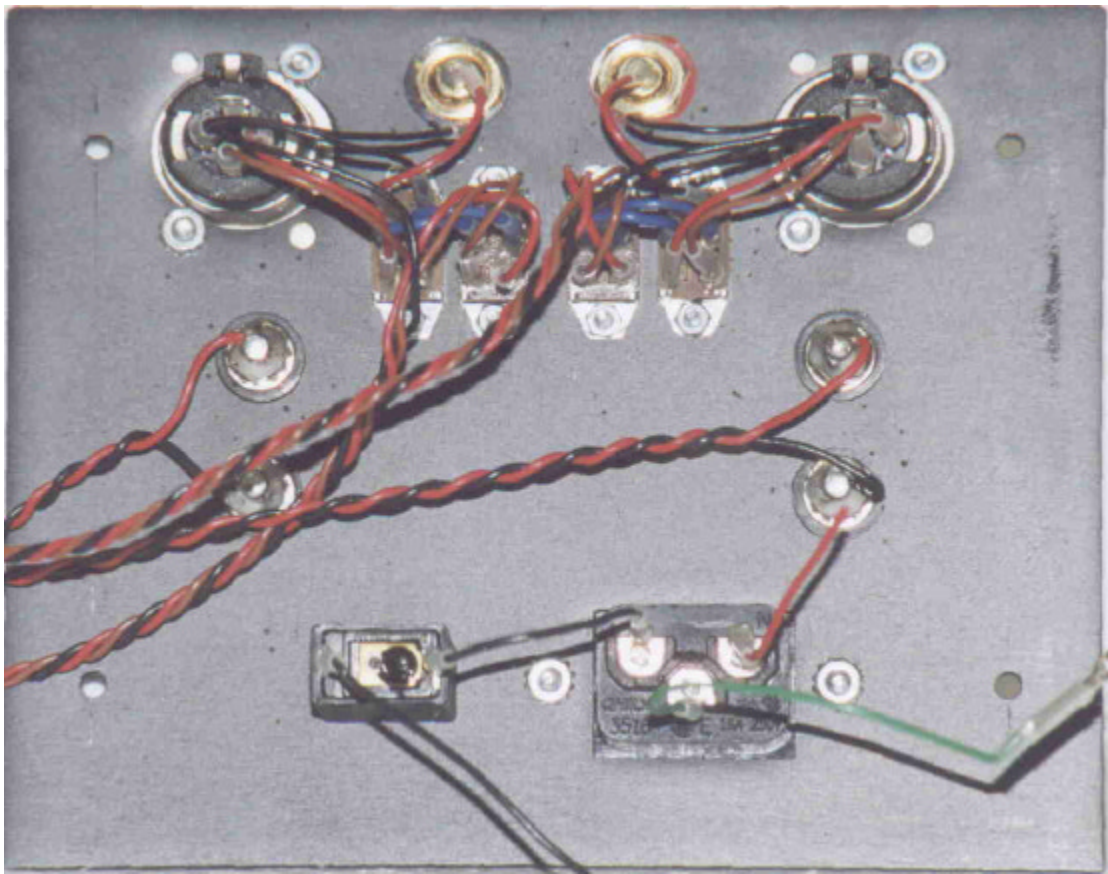


Figure 5 Inside view of the rear panel.

Assembly Instructions for the MB201 Kit.

Parts list.

Qu.	Description
2	PM124 Kit, Power Amplifier+manual
1	PS11 Kit, power supply+manual
1	MB201 Cabinet
	base cover
	front panel rear panel
	2 heatsinks
1	500VA power transformer, 45V+45V secondary
1	Transformer bracket & hardware
1	DPDT AC Power switch
2	XLR connector,female
2	RCA connector, red & black
4	DPDT slide switch
2	Dual binding post w. spacer
1	6 A circuit breaker
1	Power entry connector
1	Thermal cutout
1	Resistor, 10K, 2W
5'	AWG22 hookup wire, red
5'	AWG22 hookup wire, orange
5'	AWG22 hookup wire, black
1'	AWG22 hookup wire, green
5'	AWG20 hookup wire, red
5'	AWG20 hookup wire, orange
5'	AWG20 hookup wire, black
1	100 Ohm, 1W resistor
2	solder lug
9	8/32 Hex head bolt
9	#8 split lock washer
8	6/32 x 1/4" Machine Screw
4	1/2" Hex Treaded Standoff
2	6/32 x 1/2" Machine Screw
2	6/32 lock nut
6	4/40 x 1/2" Machine Screw
6	4/40 lock nut
8	2/56 x 1/2" Machine Screw
8	2/56 lock nut
1	heatsink compound

Assembly instructions.

Before assembling the MB201 amplifier complete the assembly of the two PM124 power amplifier boards and the PS11 power supply board.

Rear panel: Remove the rear panel from the cabinet before starting this assembly. Mount the following parts to the rear panel:

4 DPDT switches using 2/56 hardware.
2 XLR connectors using 4/40 hardware.
2 RCA connectors, one red, one black.
2 Pair of binding posts
Circuit breaker
Power entry module.

Use Figure 5 as a guide when wiring up above parts according to the wiring diagrams. The wires going to the binding posts should be twisted. The wires going to the inputs of the PM124 modules should be twisted together in two pairs of three. Leave plenty of wire length for those wires going from the rear panel to internal components. They will be trimmed to length later.

After the assembly is completed the rear panel can be bolted to the rear of the chassis using 6/32 machine screws and locknuts.

Thermal cutout: Mount the thermal cutout onto the base plate of the cabinet using 6/32 hardware.

Power Switch: Install the power switch to the front panel. Leave the front panel off for now.

Transformer: Install the toroidal power transformer onto the baseplate of the cabinet near the front. Use the mounting dish and the two rubber washers. See Figure 6

Wiring note: Use the heavy gauge wire for the AC wiring to and from the power transformer and for the DC power supply wiring from the PS25. Use the smaller gauge wire for all other interconnect.

AC Wiring: Complete the AC wiring according to the wiring diagram. Run the wires near the edge of the chassis closest to the thermal cutout. Use a length of green wire and a solder lug to install the chassis grounding wire. The solder lug should be placed under one of the 6/32 nuts that hold the rear panel.

PS11 Power supply: Install the power supply next to the power transformer using four hex threaded standoffs.

PM124 power amplifier: Before installing the power amplifier modules complete the wiring between the modules and the rest of the amp. After the wiring is complete install the modules onto the heatsink as shown in Figure 3. Use heat sink compound between the PM124 mounting bracket and the heatsink (this is important!). Use the 8/32 bolts with hex head for this. Use a lock washer with each bolt. Access to the mounting bolts is difficult. Use a long hex-wrench for this. It will be necessary to bend the power resistors on the PM124 modules out of the way during this step. After completion realign these power resistors.

Chassis Grounding. Solder the 10K, 2W resistor to the remaining solder lug. Solder a length of black wire to the other end of the resistor. Install solder lug under one of the 6/32 nuts of the rear panel. Connect the wire to one of the GROUND connections (terminal marked

G of the two position terminal block) of the PM124 amplifier board nearest the rear panel. This will connect the chassis of the amplifier to the DC ground of the power supply.

!!!! Assembly is now complete. !!!!

Initial power up.

The first time power is applied observe any unusual events, like smoke, etc. Turn the power off immediately if this happens and check for correct construction. It is best to power up initially using a variable power transformer (variac) and observe operation at about half line voltage.

The heatsinks will become warm during normal operation. When the amplifier is powered up but no power is delivered the heatsink should become just slightly warm to the touch. If the heatsinks become hot in this mode check (and possibly lower!) the bias current of the PM124 amplifier modules.

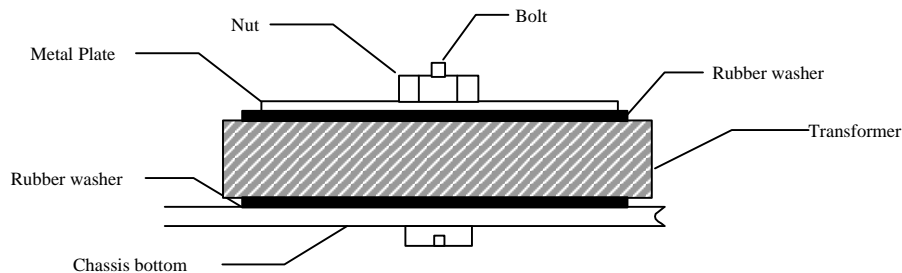
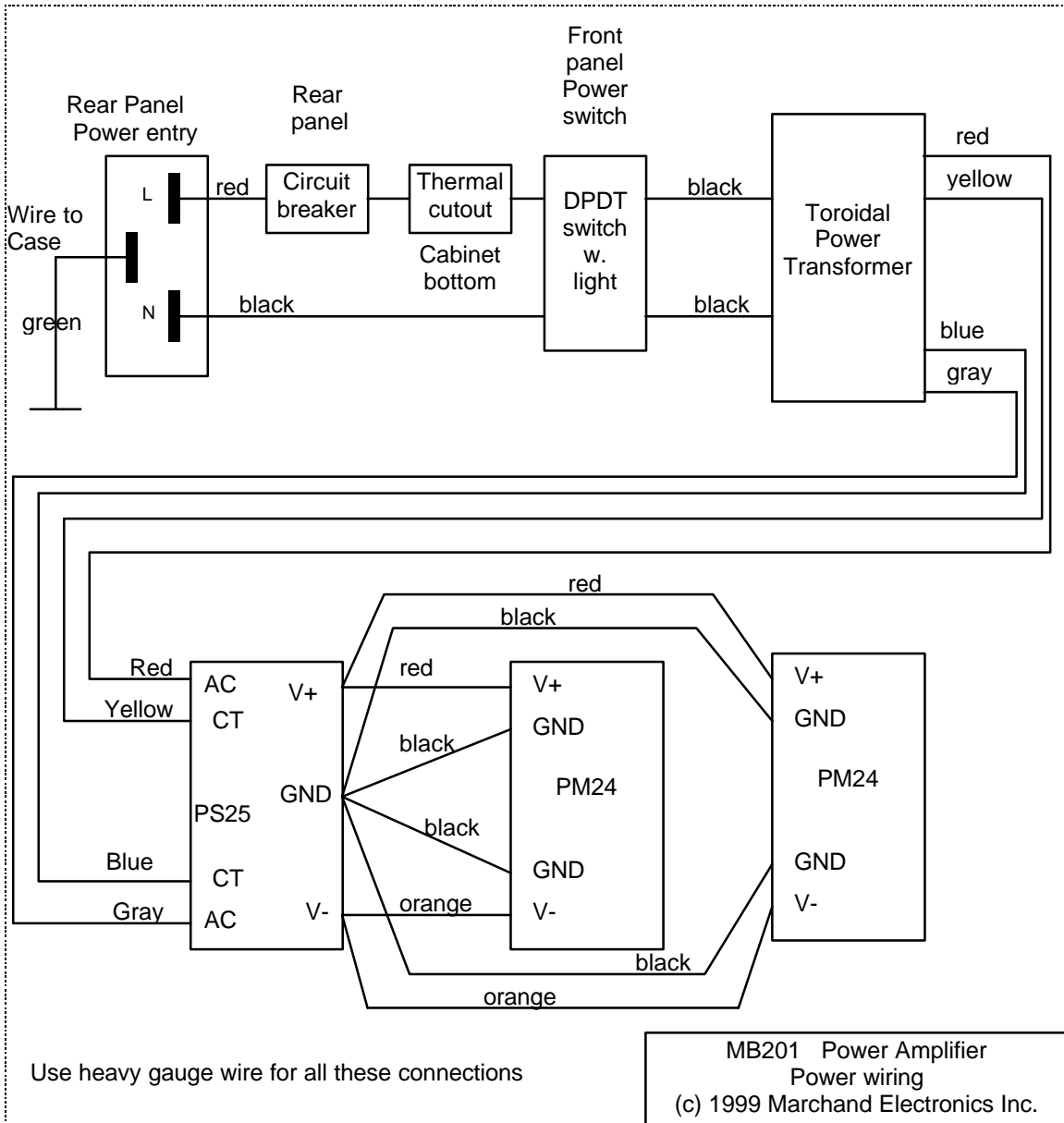
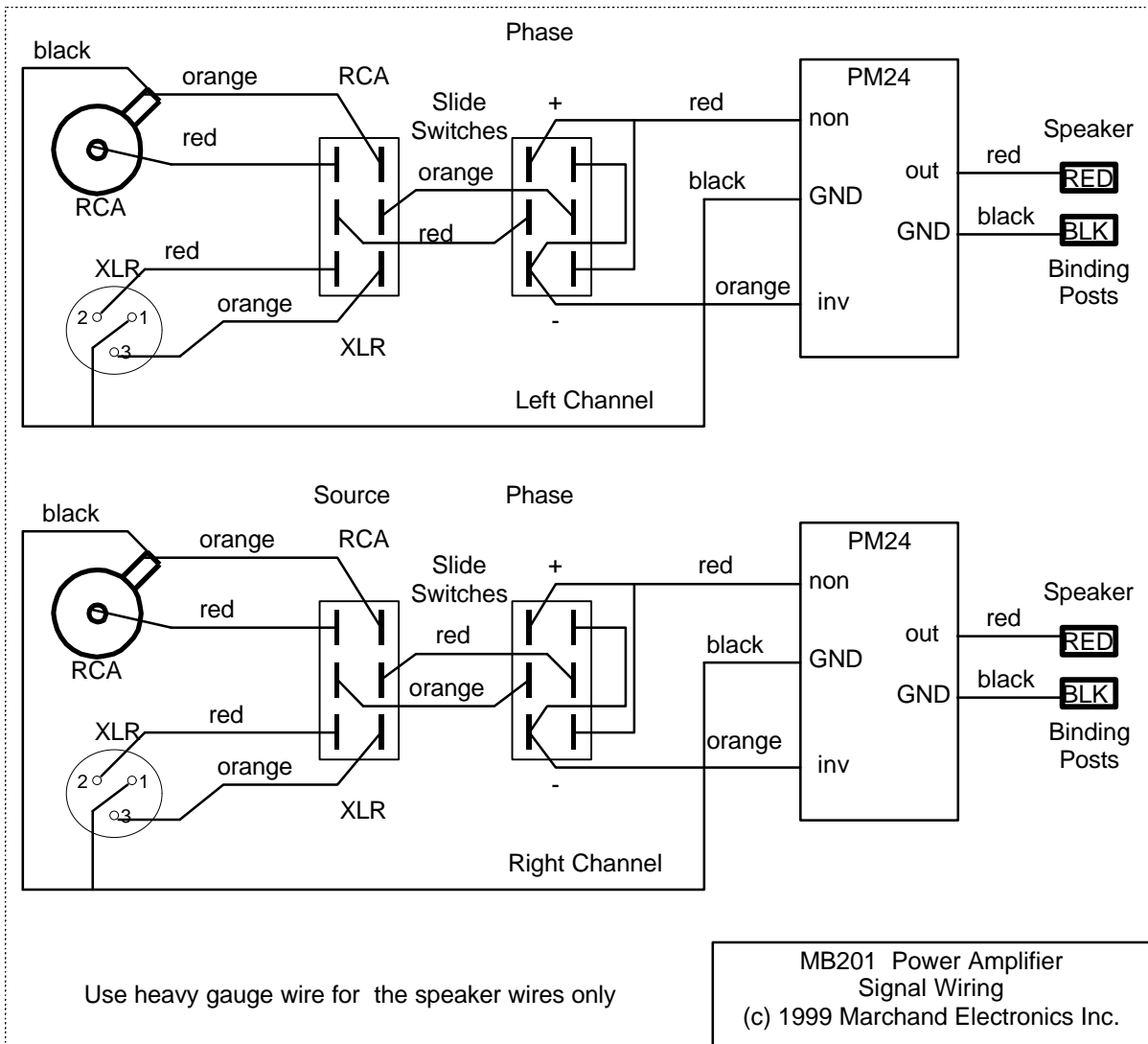


Figure 6 : Mounting of power transformer





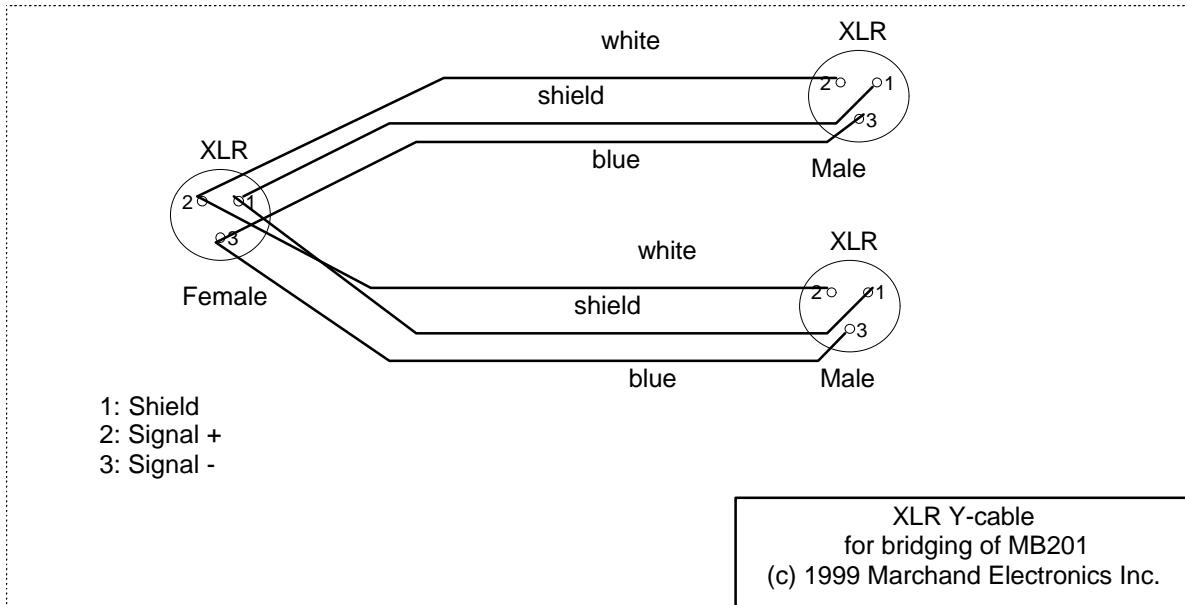


Figure 7 : Y cable is used for bridging of amplifier.