

BOSE
Better sound through research®

Panaray® MB4 Modular Bass Loudspeaker System



Contents

Warranty	2
Specifications	3
Product Description	3
Part List Notes	3
Packaging Part List, Panaray® MB4 Bass Loudspeaker (see Figure 1)	4
Figure 1. Panaray MB4 Bass Loudspeaker Packaging View	4
Main Part List, Panaray MB4 Bass Loudspeaker System (see Figure 2)	5
Figure 2. Panaray MB4 Bass Loudspeaker Exploded View	5
Disassembly Procedures	6
Test Procedures	7
Figure 3. Panaray MB4 Test Setup Diagram	7
Part List, Panaray MB4 Bass Loudspeaker Protection Circuit Board (see Figure 3)	8
Figure 4. MB4 Bass Loudspeaker Protection Board Layout	8
Figure 5. Panaray MB4 Bass Loudspeaker Wiring Diagram	9
Service Manual Revision History	10

IMPORTANT SAFETY NOTICE: Do not attempt to remove the inserts holding the bass module handle in place. These are held in place with a thread locking adhesive and ensure the integrity of the mounting system. Any attempt to disassemble these parts will void the warranty. For this reason the handle, end caps and inserts are not available as service parts.

CAUTION: The Bose® Panaray MB4 Modular Bass Loudspeaker System contains no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

PROPRIETARY INFORMATION

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF BOSE CORPORATION WHICH IS BEING FURNISHED ONLY FOR THE PURPOSE OF SERVICING THE IDENTIFIED BOSE PRODUCT BY AN AUTHORIZED BOSE SERVICE CENTER OR OWNER OF THE BOSE PRODUCT, AND SHALL NOT BE REPRODUCED OR USED FOR ANY OTHER PURPOSE.

Warranty

The Bose Panaray MB4 Modular Bass Loudspeaker System is covered by a limited 5-year transferable limited warranty.

Specifications

External Dimensions:	26.7 x 10.2 x 18.1 in. (677 x 260 x 459 mm)
Weight:	Single Speaker: 55 lb (25 kg) Packed System: 62 lb (28 kg)
Sensitivity:	87 dB SPL, 40 - 300 Hz (1W, 1m free space)
System Protection:	PTC, Lamp
Impedance:	8 Ohms nominal, 6.2 Ohms minimum
Power Handling:	200 Watts continuous per IEC-268 for 96 hours

Product Description

The Bose® Panaray® MB4 Modular Bass Loudspeaker System is a modular, low frequency loudspeaker component that can be used in small, medium and large venues. It has a long-term power rating of 200W. It uses four 5.25 inch bass drivers and has a bandwidth that extends from 40 to 300 Hz. Its output, bandwidth and physical size makes it a useful unit quantity of bass for use in singles and in multiples as a building block for any professional system.

The Bose Panaray MB4 Modular Bass Loudspeaker System has two standard colors: black and white. The Panaray MB4 Modular Bass Loudspeaker can be installed using an accessory wall mount bracket.

Part List Notes

1. This part is not normally available from Customer Service. Approval from the Field Service Manager is required before ordering.
2. The individual parts located on the PCBs are listed in the Electrical Part List.
3.  This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.
4. This part is referenced for informational purposes only. It is not stocked as a repair part. Refer to the next higher assembly for a replacement part.

Packaging Part List

Panaray® MB4 Bass Loudspeaker (see Figure 1)

Item Number	Description	Bose® Part Number	Vendor Part Number	Qty.	Note
1	PACKING FOAM	259317	145A-7570-0	2	
2	OWNER'S MANUAL	259162	4301-5189-1	1	
3	POLYBAG, 12" x 16" x 49"	N/A	1497-4552-0	1	
4	MB4 BASS MODULE, BLACK MB4 BASS MODULE, WHITE	027054 027055	FM000C FM001C	1	
5	CARTON	259316	145A-7590-0	1	

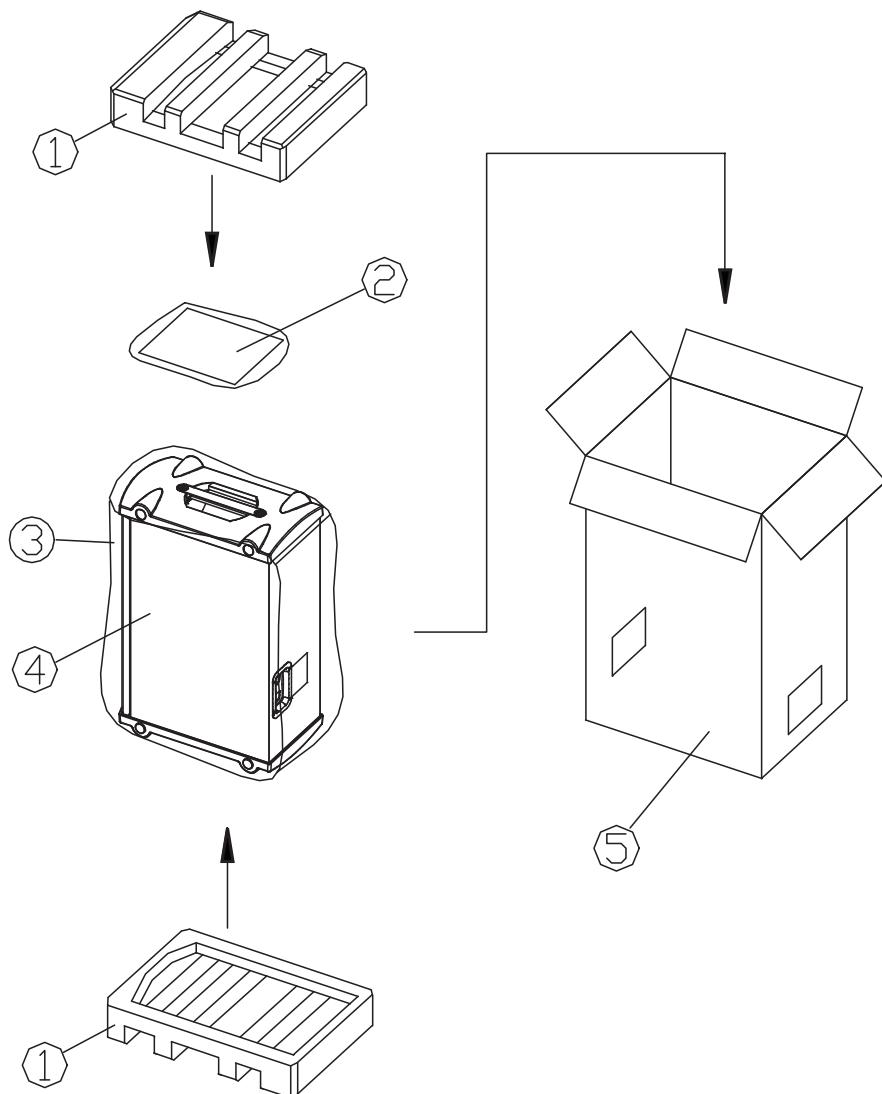


Figure 1. Panaray MB4 Bass Loudspeaker Packaging View

Main Part List

Panaray® MB4 Bass Loudspeaker System (see Figure 2)

Item Number	Description	Part Number		Qty	Note
		Black	White		
1	LOCKWASHER, LOGO	-	-	1	
2	SPRING, LOGO	-	-	1	
3	CUP WASHER, LOGO	-	-	1	
4	GRILLE GASKET	-	-	1	
5	GRILLE ASSY (WITH ITEMS 1, 2, 3 & 4)	298571	298572	1	
6	SCREW, GRILLE, M4x28	298573	298573	4	
7	PROTECTION CKT ASSY	298574	298575	1	
8	TERMINAL PANEL	259193-1	259193-1	1	
9	CONNECTOR, NEUTRIK	298548	298548	2	
10	SCREW, NEUTRIK CONN, M3x12	-	-	4	
11	SCREW, TERMINAL PANEL, M4x16	-	-	4	
12	GASKET, WOOFER	298576	298576	4	
13	WOOFER ASSEMBLY	298577	298577	4	
14	SCREW, WOOFER, M4x16	-	-	16	
15	LOGO ASSY (WITH ITEMS 1, 2 & 3)	298578-001	298578-002	1	
16	SCRIM FOR WHITE VERSION SPKR	-	-	1	

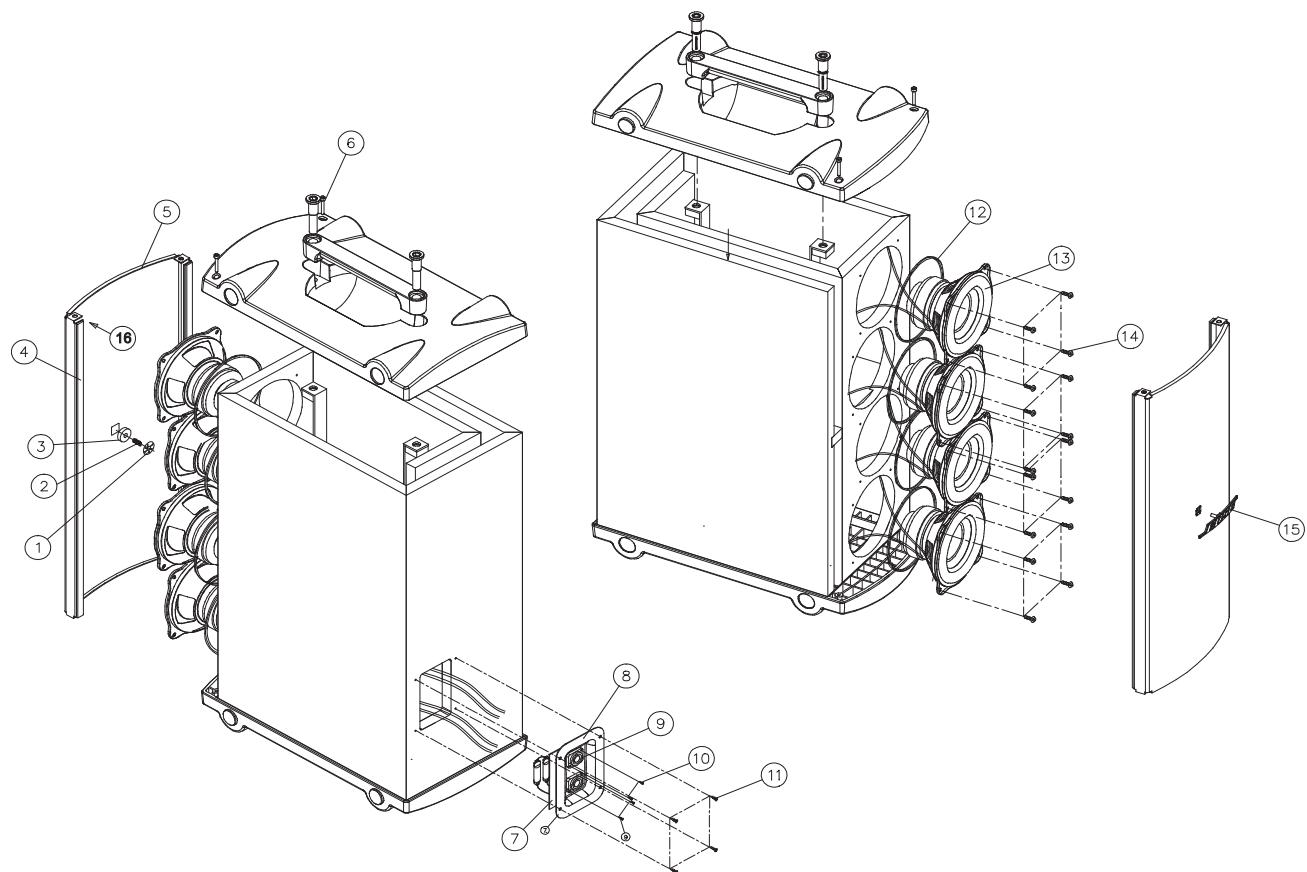


Figure 2. Panaray® MB4 Bass Loudspeaker Exploded View

Disassembly Procedures

Note: Refer to the figure below for the following procedures.

1. Terminal Panel Removal

1.1 Using a Phillips-head screwdriver, remove the four screws (11) that secure the terminal panel (8) to the loudspeaker cabinet.

1.2 Gently pull the terminal panel away from the cabinet. Be careful not to mark the surface of the terminal panel or the cabinet.

1.3 Unplug the wiring harness from the PCB.

2. Grille Assembly Removal

2.1 Using an M4 torx-head screwdriver, remove the four screws (6) that secure the grille assembly (5) to the plastic end caps.

2.2 Gently pull the grille assembly (5) off of the cabinet.

3. Woofer Assembly Removal

3.1 Perform procedure 2.

3.2 Using a Phillips-head screwdriver, remove the four screws (14) that secure the woofer assembly (13) that you wish to remove to the loudspeaker cabinet.

3.3 Lift the woofer assembly out of the cabinet and unplug the wires from the woofer terminals.

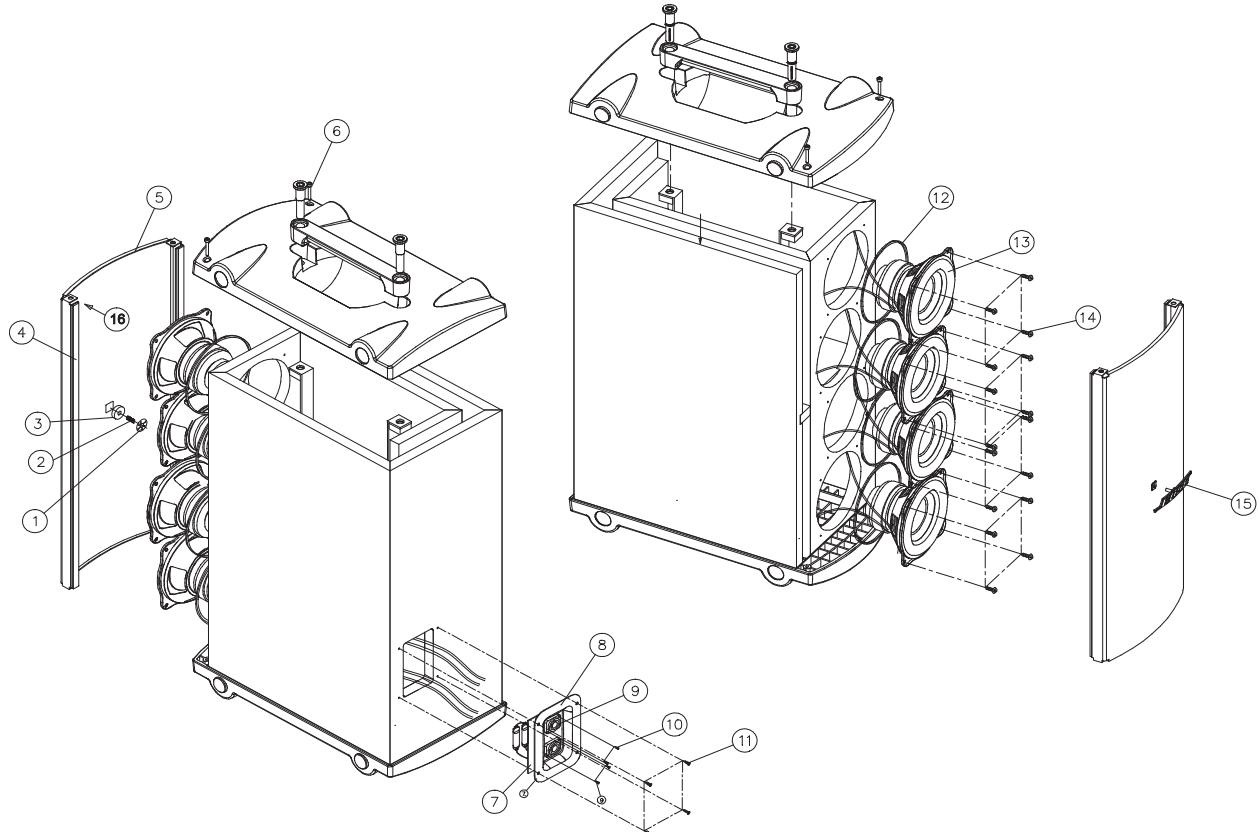
Note: Be sure to replace the woofer gasket (12) when you replace the woofer assembly.

4. Logo Removal

4.1 Perform procedure 2.

4.2 Clip off the lock washer (1) from the logo assembly. Hold the spring (2) while clipping the lock washer as the spring may fly off.

4.3 Pull the logo (15), cup washer (3), spring and lock washer away from the grille.



Test Procedures

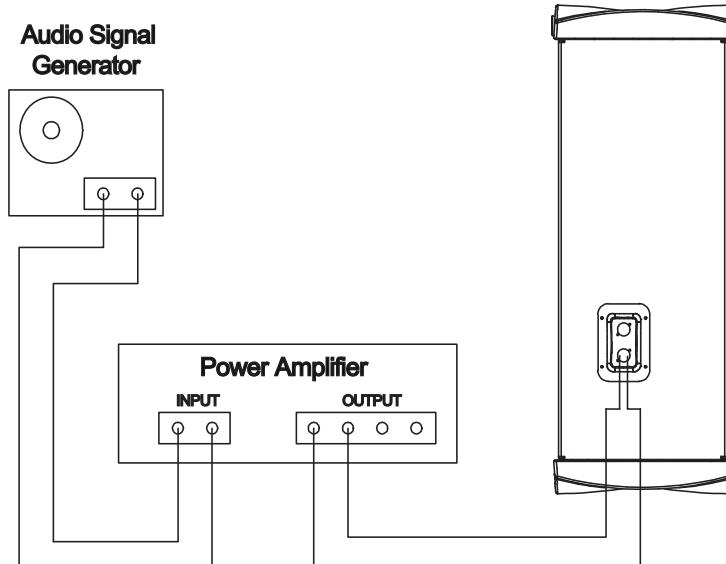


Figure 3. Panaray® MB4 Test Setup Diagram

1. Air Leak Test

1.1 Set up the system for test as shown in Figure 3.

1.2 Apply a 100 Hz, 10 Vrms sine wave to the input connectors.

1.3 Listen carefully for any air leaks from around the end cap, drivers and the baffle. Air leaks will be heard as a hissing or sputtering sound. All repairs must be hidden. Test duration should be 5 seconds minimum.

2. Rub and Tick Test

2.1 Perform disassembly procedure 3. It is not necessary to unplug the wires at the driver assembly terminals.

2.2 Connect a signal generator directly to the terminals of the driver under test.

2.3 Apply a 10 Hz, 10 Vrms sine wave to the driver assembly.

2.4 Listen carefully for any extraneous noises, such as rubbing, scraping or ticking.

Note: To distinguish between normal suspension noise and rubs or ticks, displace the cone slightly with your fingers.

If the noise stays the same, it is normal suspension noise and the driver is fine. Suspension noise will not be heard with program material.

3. Phase Test

3.1 Apply 10 VDC to the loudspeaker input connector. Apply the positive to pin "1+" and the negative to pin "1-" of the Neutrik® connector.

3.2 When applying the DC voltage level, observe the driver cones. They should all move outward when the DC level is applied.

3.3 Rewire any incorrectly wired driver.

4. System Sweep Test

4.1 Set up the system for test as shown in Figure 3.

4.2 Apply a 10 Hz, 10 Vrms sine wave to the loudspeaker input connector.

4.3 While listening to the output of the system, sweep the input frequency slowly from 10 Hz to 400 Hz.

4.4 Listen carefully for any extraneous noises such as buzzing or ticking.

Part List

Panaray® MB4 Bass Loudspeaker Protection Circuit Board (see Figure 4)

Item Number	Description	Part Number	Qty.	Note
1	LAMP, GREEN DOT	298554	2	
2	POLYSWITCH, RXE075	298555-075	1	

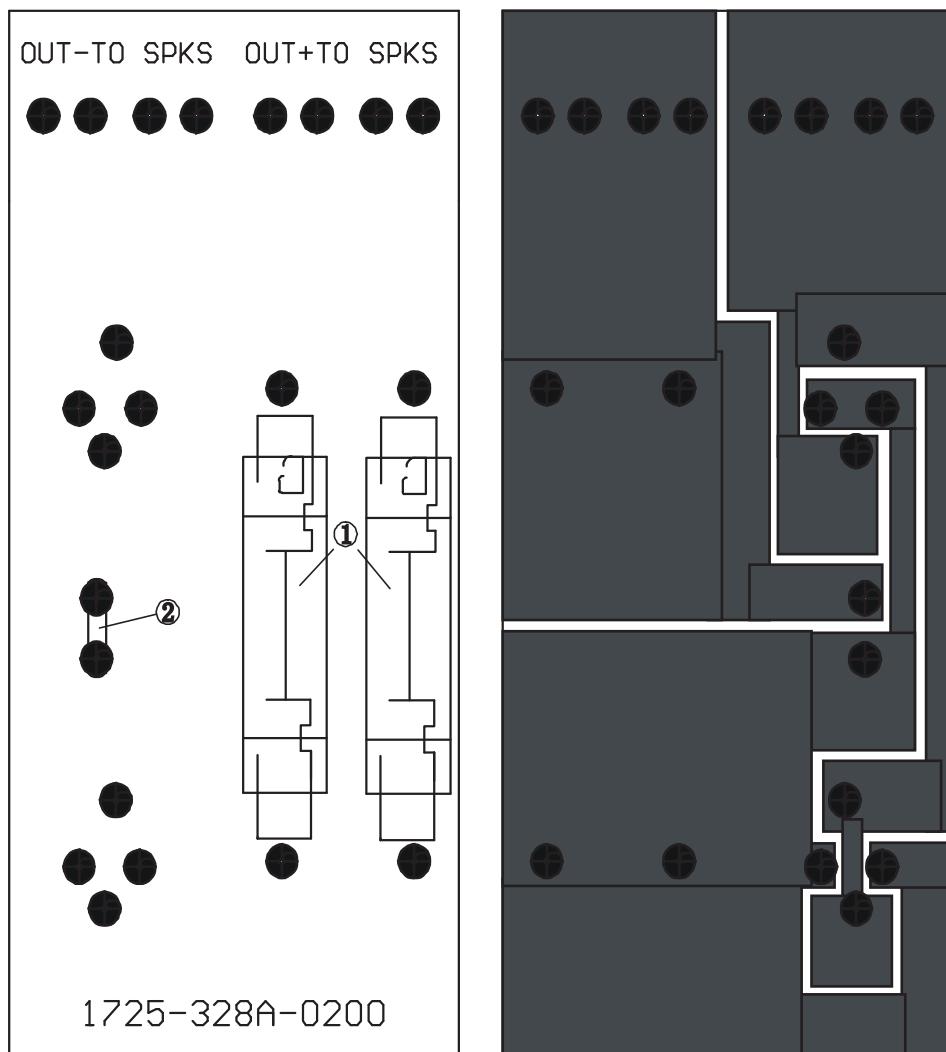


Figure 4. MB4 Bass Loudspeaker Protection Board Layout

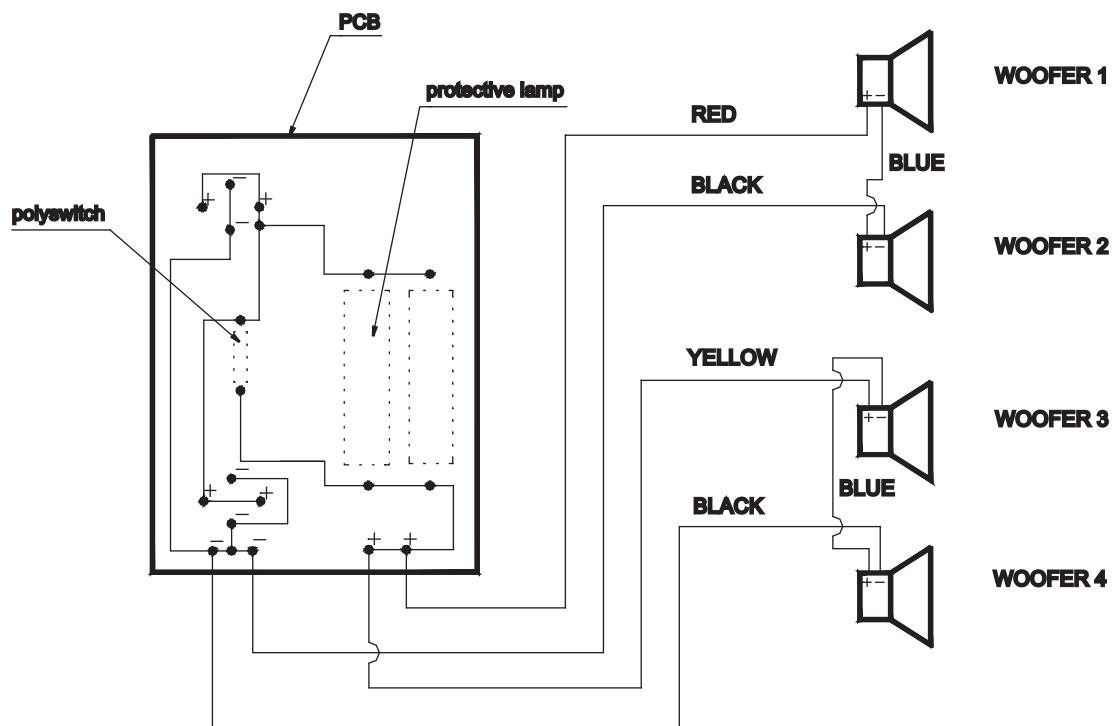
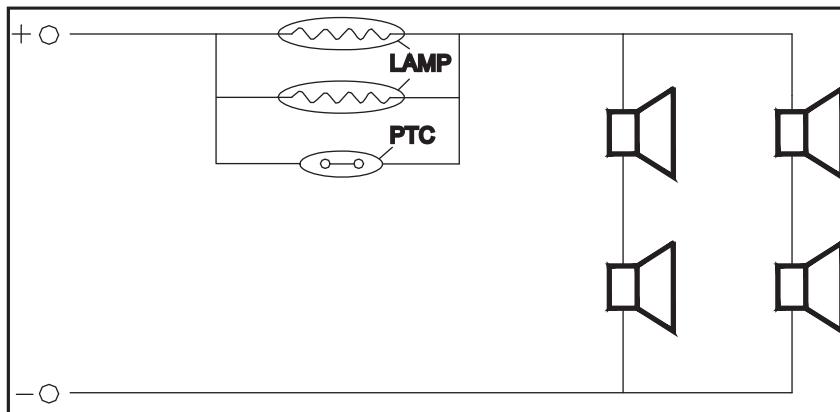


Figure 5. Panaray® MB4 Bass Loudspeaker Wiring Diagram

Service Manual Revision History

Date	Revision Level	Description of Change	Change Driven By	Pages Affected
1/02	00	Document released at revision 00.	Service manual release	All
10/06	01	Added RoHS compliant part numbers.	RoHS initiative	4, 5

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE



Bose Corporation
The Mountain
Framingham Massachusetts USA 01701

P/N: 259321-SM Rev. 01 10/2006 (P)
<http://serviceops.bose.com>