BOSE®
Better sound through research®

802® Series IV Loudspeaker

Service Manual

Reference Number 739058-SM Rev. 01

CONTENTS

WARRANTY: The Bose 802® Series IV Loudspeaker is covered by a 5 year limited warranty

SPECIFICATIONS

External dimensions:
Single speaker: 13.5" H x 20.5" W x 13.0" D (34.3 x 52.1 x 33.0)cm
Packed system: 14.4" H x 21.8" W x 18.3" D (36.6 x 55.4 x 46.4)cm

Weight:
Single speaker: 29.3 lbs (13.29 kg)
Packed system: 32 lbs (14.5 kg)

Transducer: Eight 4.5" environmental drivers per enclosure

Internal cabinet volume: 3,020.7 cu. In. (49.5 liters)

Port:
Type: Two round ports located central to each four speaker pattern.
Total port area: 6.0 sq. in. (38.9 sq. cm)
Port length: 7.5" (19.0 cm)
Resonance frequency: 50 Hz

Impedance: 8 ± 2 Ohm

Power handling: 240W continuous per IEC-268-5

Sensitivity: 91 dB SPL, 1W, 1m

PRODUCT DESCRIPTION

The 802® Series IV loudspeaker is a continuing engineering update to the 802 Series III to transition it from a Pro Portable product to a Pro Installed product. The loudspeaker enclosure has been re-designed to include two additional inserts per side in order to better facilitate hanging them in system installs using the newly designed U-bracket from Bose®.

The drivers, grille, logo are the same as the 802 Series III. The crossover PCB is new to the Series IV due to RoHS updates, but uses the same value components as the Series III crossover PCB.

The 802 Series IV does not have a front cover available as an accessory, like the Series III does. The Series 802 III front cover will not fit on the Series IV loudspeaker.

Loudspeaker and Accessory information is available at the Pro Products web site at http://pro.bose.com.

Accessories:

New Bracket for 802 Series IV only	**Description**	**Material Master Number**
802 IV	PANARAY 802 IV U-BRACKET BLK	746686-0110 - Black

Existing Accessories Compatible with 802 Series IV	**Description**	**Product Code**
802 III	Speaker Stand	027343 - Black
802 III	SB-8 Flying Bracket	027062 – Black
802 III	WBP-8 Bi-pivot Wall Bracket	027061 - Black

Existing Accessories that ARE NOT compatible with the 802 Series IV	**Description**	**Product Code**
802 III	SB-82 – Flying Bracket for Stacked Pair	027063 – Black

PACKAGING PART LIST

Item Number	Description	Part Number	Qty.	Note
1	CARTON, RSC, 275DW, 802 SERIES IV	738289-0010	1	
2	PACKING, ASSY, DC, PE, 275C, 802 SERIES IV	738288-0010	1	
3	PACKING, INSERT, DC, 802 SERIES IV	739762-0010	1	
4	PACKING, PAD, DIE CUT	191669	1	
5	GUIDE, INSTALL, 802-IV LOUDSPEAKER	747959-0010	1	
6	BAG, POLY, LDPE, 24.00X10.00X36.00X3 MIL	760066-0010	1	
-	AU/NZ WARR SLIP SHEET 8.5 X 5.5	355731-0010	1	

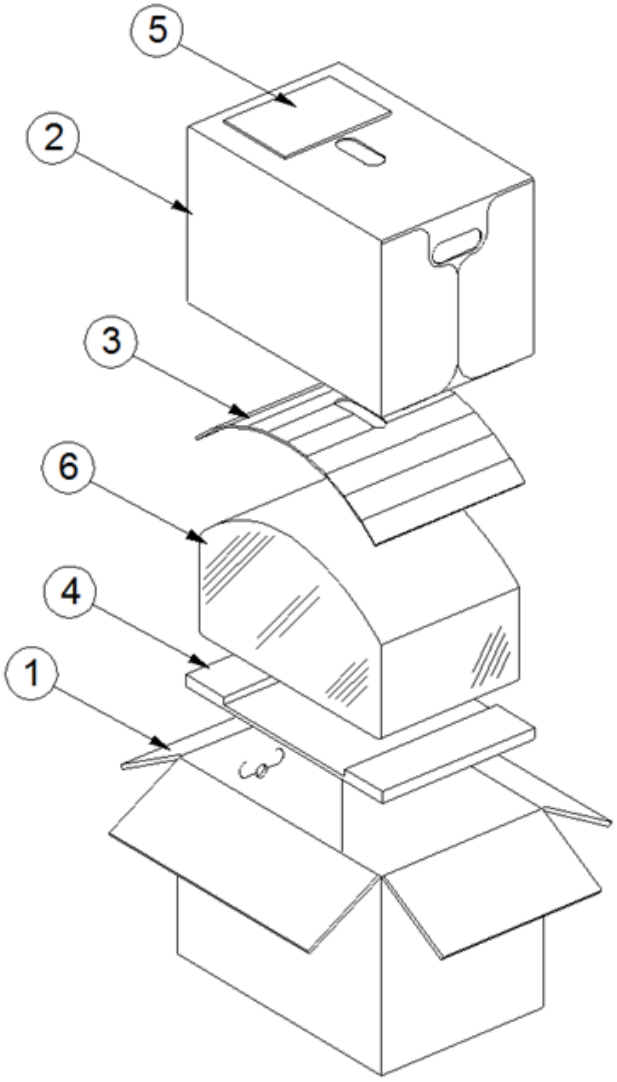


Figure 1. Packaging View

MAIN PART LIST

Item Number	Description	Part Number	Qty.	Note
1	CLIP, PUSH-ON, U-TYPE	290295-01	4	
2	SCREW, TAPP, 8-15, HEXW, SLOT	290290-12	32	
3	CONN, SPEAKON, PNL MNT, WIRE WRAP	258213-002	2	
4	COVER, NEUTRIK, SEALING	252384	2	
5	LABEL, INPUT, 802 IV	739072-0010	1	
6	CLIP, TINNERMAN	187943	2	
7	XOVER, W 802 HARNESS	752007-0010	1	
8	SCREW, TAPP, 6-13x.5, PAN, XREC/SQ	290294-08	4	
9	NUT, J-TYPE, 8-32	109481	24	
10	DRIVER ASSY, 4.5IN, 802, W/GASKET AND CLAMP RING	290722-002	8	
11	CLIP, PUSH-ON, DIA .375	252379	1	
12	GRILLE, 802 IV, BLACK	792240-0110	1	
13	NAMEPLATE, LOGO, BLK	254457-001	1	
14	RING TRIM, BLACK	256349-001	1	
15	TAPE, FOAM, 0.06 THK	277053-001	2	

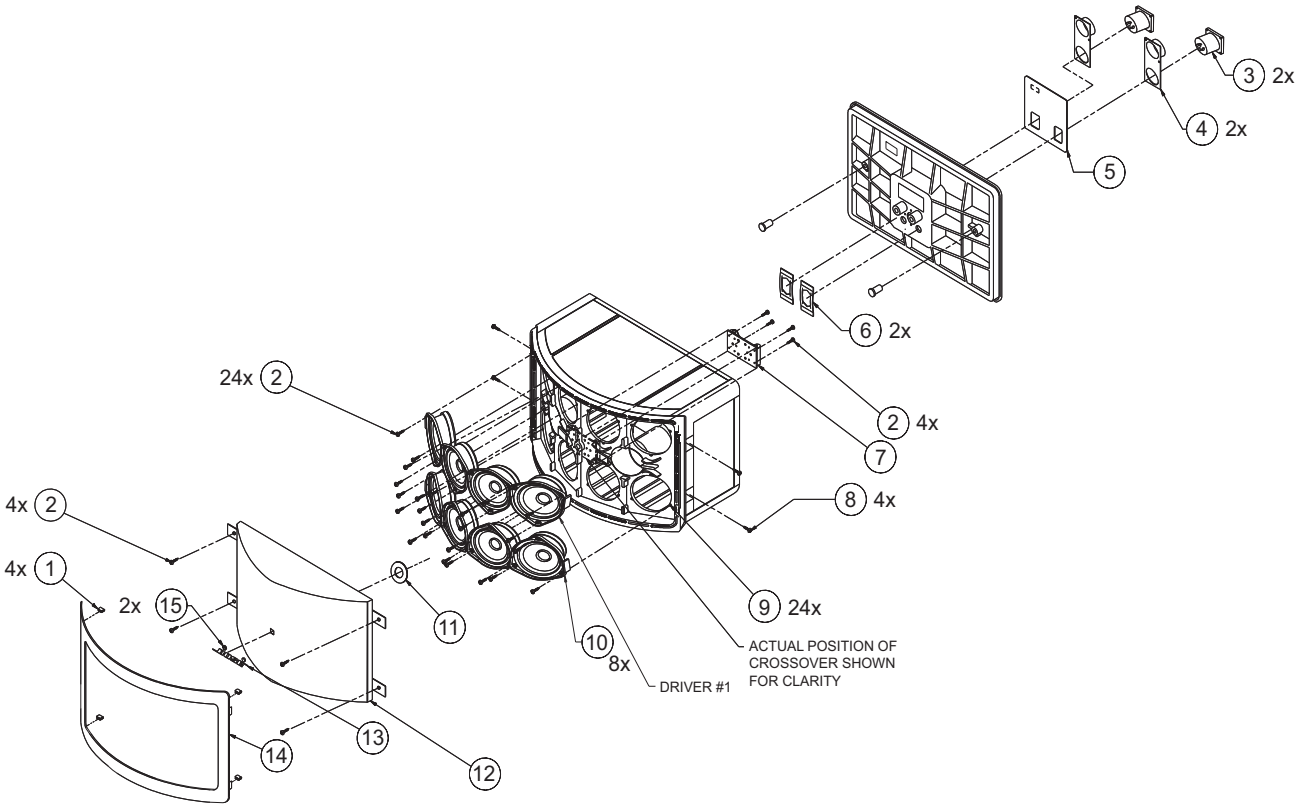


Figure 2. Exploded View

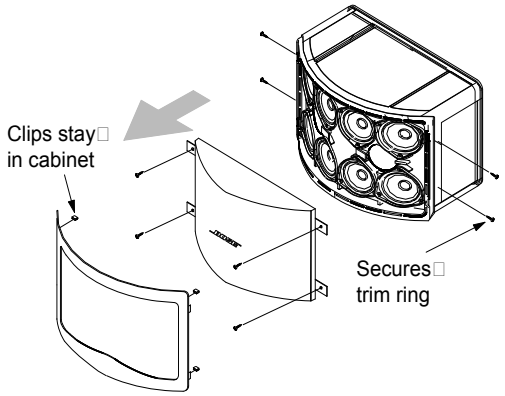
DISASSEMBLY PROCEDURES

Note: Refer to Figure 2 for the following procedures.

1. Grille Removal

1.1 Remove the four screws that secure the trim ring to the cabinet. Pull off the trim ring leaving the four clips in place on the cabinet.

1.2 Remove the four screws that secure to the grille to the cabinet. Pull off the grille.



2. Driver Removal

2.1 Perform procedure 1.

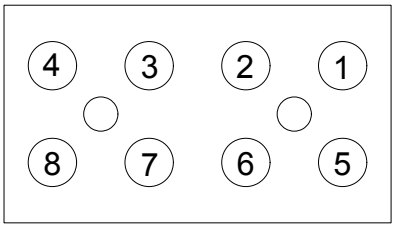
2.2 Remove the three screws that secure the driver to the cabinet. Lift out the driver.

2.3 Cut the wires as close as possible to the driver's wire terminal.
Re-assembly Note: Be sure to observe polarity when installing the new driver.

3. Crossover PCB Removal/Access

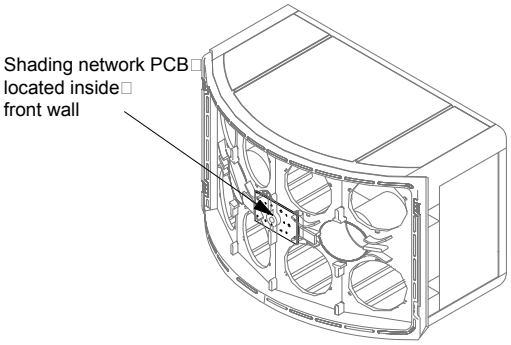
3.1 Remove the position 2, 3, 6, and 7 drivers from the cabinet using procedure 2.1 and 2.2.

Top of speaker



Driver location

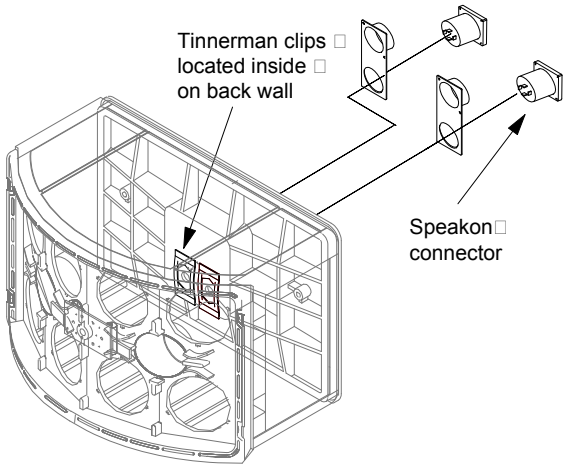
3.2 Using a short flat-blade screwdriver, remove the four screws that secure the crossover PCB to the inside wall of the cabinet. Make a note of the wiring and remove wires as needed.



4. Speakon Connector Removal

4.1 Perform procedures 2.1 and 2.2 to remove the position 2, 3, 6, and 7 drivers.

4.2 Using a flat-blade screwdriver, pry out the tinnerman clip that secures the Speakon connector to the cabinet.



4.3 Pull out the Speakon connector. Make a note of the wiring configuration and remove the wires.

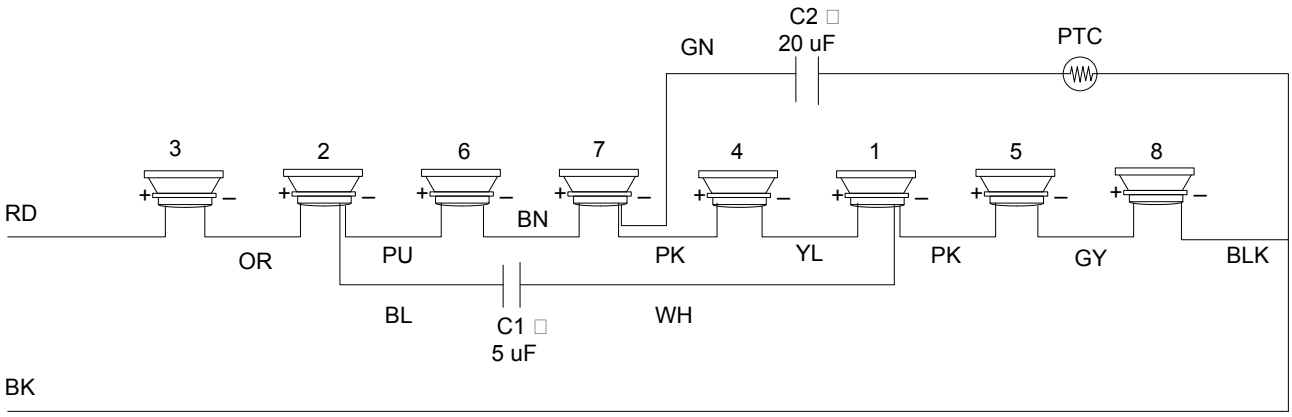


Figure 3. Schematic Diagram

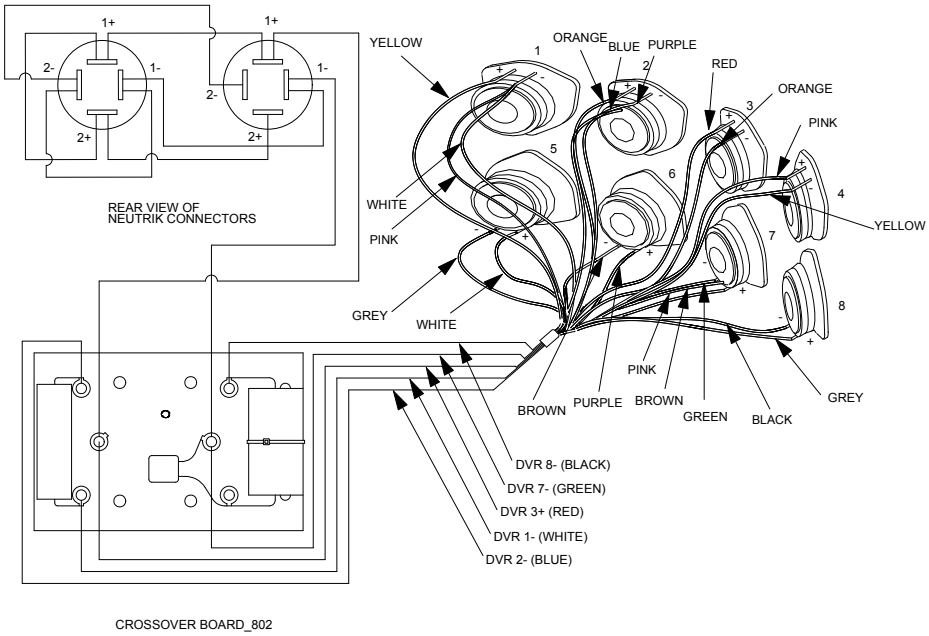


Figure 4. Wiring Diagram

Top of speaker

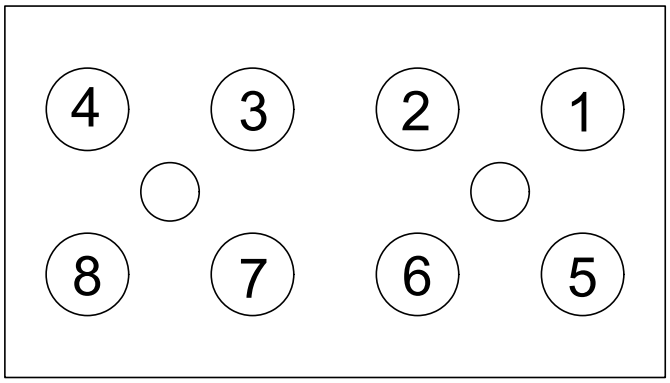


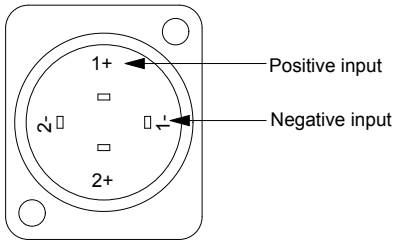
Figure 5. Driver Location Diagram

TEST PROCEDURES

1. Phase Test

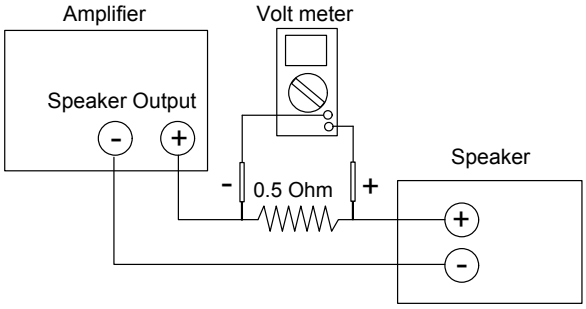
1.1 Observing polarity, apply 9 VDC to the input connector. Refer to the figure below.

1.2 All driver cones should move outward. Referring to figure 1, rewire any driver that moves inward.



2. Crossover Test

2.1 Connect a 0.5 Ohm resistor and amplifier to the speaker input connector as shown in the diagram below.



2.2 Apply a 2 Vrms signal to the speaker input connector at the frequencies listed in the table below.

2.3 Measure the voltage across the 0.5 Ohm resistor comparing the results to the table below. If the voltage is out of range, check the crossover components and wiring.

Frequency	Min	Max
8 kHz	104 mVrns	141 mVrms
12 kHz	77 mVrms	120 mVrms

3. Rub and Tick Test

3.1 Apply a 10 Vrms, 10 Hz signal to the speaker input connector.

3.2 No extraneous noises such as rubbing, scraping or ticking should be heard.
Note: To distinguish between normal suspension noise and rubs or ticks, slightly displace
the cone of the driver with your fingers. If the noise can be made to go away or get worse, it is a rub or tick and the driver should be replaced. If the noise stays the same, it is normal suspension noise and the driver is fine. Suspension noises will not be heard with program material.

4. Air Leak Test

4.1 Apply a 15 Vrms, 65 Hz signal to the speaker input connector.

4.2 Listen for air leaks around the drivers and cabinet seam. Reposition or replace any gasket found to leak. Repairs made to the cabinet seam should not be visible from the exterior of the speaker.

5. Sweep Test

5.1 Apply a 10 Vrms, 10 Hz signal to the speaker input connector.

5.2 Sweep the signal generator from 10 Hz to 500 Hz.

5.3 Apply a 500 Hz, 5 Vrms signal to the speaker input connector.

5.4 Sweep the signal generator from 500 Hz to 5 kHz.

5.5 Listen for buzzes, rattles or other noises. Redress any wire that buzzes; replace any driver that is found to be defective.
Note: A whooshing noise from the port at its resonance frequency of 50 Hz is acceptable.

CROSSOVER PCB PART LIST

Item Number	Description	Part Number	Qty.	Note
1	20uF, FILM, 75V, 10%	119026	1	
2	5.0uF, MYLAR, 100V, 10%	102770	1	
3	POLYSWITCH, 50V, 31mm	175233-2	1	

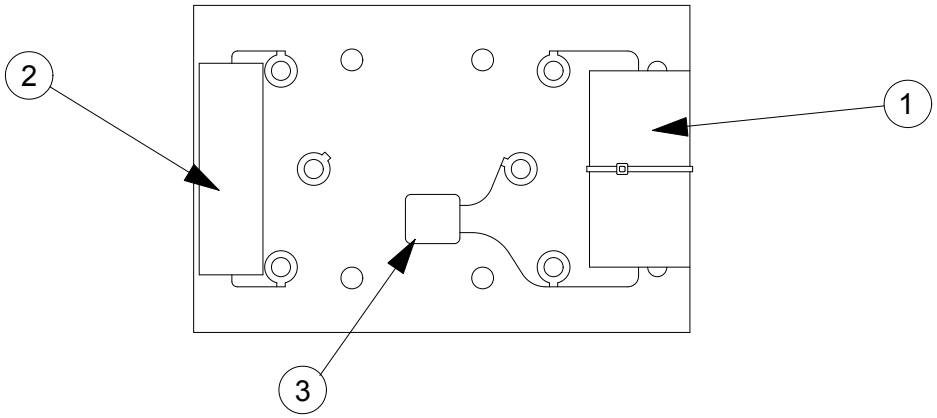


Figure 6. Crossover PCB Layout Diagram

SERVICE MANUAL REVISION HISTORY

Date	Revision Level	Description of Change	Change Driven By	Pages Affected
9/15	00	Document release revision 00	Service manual release	All

8/2022, rev 1, update grille part number

Specifications and Features Subject to Change Without Notice

BOSE®

Better sound through research®

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