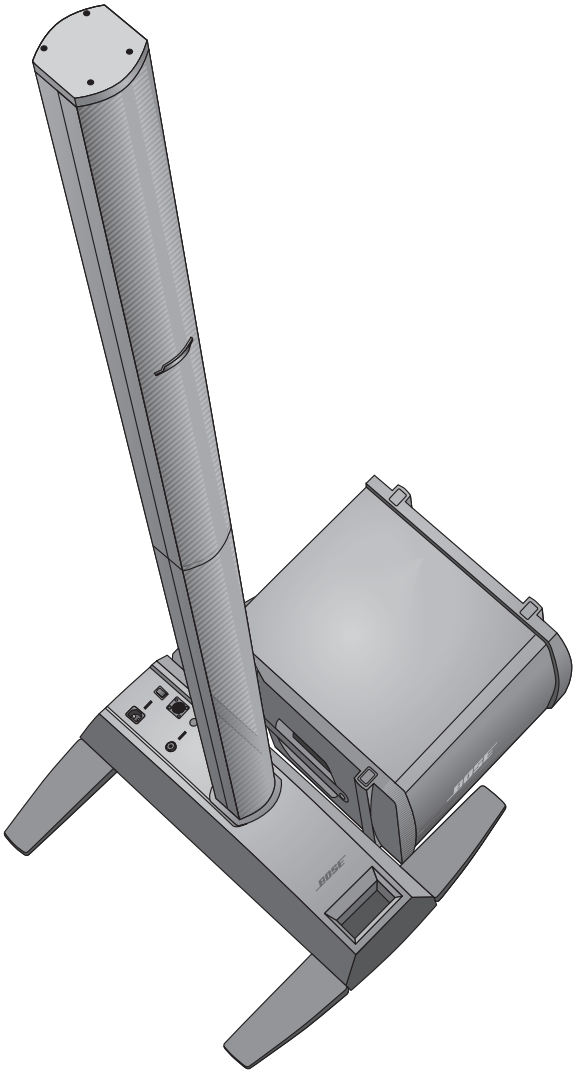
BOSE®
Better sound through research®

L1® Model 1S System

Power Stand, Cylindrical Radiator® and B1 and B2 Bass Modules
US/Canada, European and UK Versions



Service Manual

Reference Number 353918-SM Rev. 04

Contents

Safety Information

1. Parts that have special safety characteristics are identified by the ⚠ symbol on schematics or by special notes on the parts list. Use only replacement parts that have critical characteristics recommended by the manufacturer.

2. Safety Testing – See Hi Pot and Ground Bond Test information on pages 56 & 57 for details.

CAUTION: The Bose® L1® Model 1S system and B2 bass module contain no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

Warranty

The Bose L1 Model 1S Power Stand is covered by a limited 2-year transferable warranty. The L1 Model II Cylindrical Radiator® and the B1 and B2 bass modules are covered by a 5-year limited warranty.

Electrostatic Discharge Sensitive (ESDS) Device Handling

This unit contains ESDS devices. We recommend the following precautions when repairing, replacing or transporting ESDS devices:

- Perform work at an electrically grounded work station.
- Wear wrist straps that connect to the station or heel straps that connect to conductive floor mats.
- Avoid touching the leads or contacts of ESDS devices or PC boards even if properly grounded. Handle boards by the edges only.
- Transport or store ESDS devices in ESD protective bags, bins, or totes. Do not insert unprotected devices into materials such as plastic, polystyrene foam, clear plastic bags, bubble wrap or plastic trays.

Specifications

External Dimensions

Cylindrical Line Array:	Height: 2070 mm ± 30 mm. Width: 89 mm ± 5 mm. Depth: 120 mm ± 5 mm
Line Array Extension:	Height: 978 mm ± 30 mm. Width: 89 mm ± 5 mm. Depth: 120 mm ± 5 mm
Power Stand:	Height: 110 mm ± 20mm. Width: 200 mm ± 10mm Depth: 660 mm ± 10mm (Legs Folded Closed)
Bass Module:	Height: 628 mm ± 10 mm Width: 342 mm ± 10 Depth: 460 mm ± 10 mm

Weight

Cylindrical Line Array:	16 lbs ±2 lbs. (7.3 kg ± 0.9 kg).
Line Array Extension:	8.0 lbs ±2 lbs. (3.6 kg ± 0.9 kg).
Power Stand:	20 lbs ± 2 lbs. (9.1 kg ± 0.9 kg)
Bass Module:	45 lbs

Note: PS15 + L15 Line Array + L15 Extension - 44 lbs

Input / Output Panel Connections

Line-level Inputs:	(1) Input (1/4in" TRS)
Speaker Outputs:	(1) Bass Out (Neutrik NL4)
Data In & Power:	(1) Ethercon / RJ45
Power Input:	(1) IEC Connector - recessed

Input/Output Panel Controls

Input Trim	(1) Input trim knob - adjusts analog input level
Display	(1) LED for Preamp signal present and clipping on the Power Stand. (1) LED of Power On and Fault Condition Display

Note: All measurements are made in "Debug" mode [No EQ or Limiting]

Electrical Specifications

Description	System State	Specification
Output Power	4 Ohm Load, L15 Speaker out and Bass speaker output	Line Array – 125W Bass Module - 250W
S/N Ratio, A-wtd. re Max Output, Nominal Settings, Line Input	Trim @ 12:00, Adj. Vin for 250W, L2 and bass spkr outputs	90dB Min
S/N Ratio, A-wtd. re Max Output, Nominal Settings, S/PDIF Input 1 or 2	Adj. S/PDIF for 250W (-18 dBFS input) , L2 and bass spkr outputs	90dB Min
Frequency Response, any input to any output	Trim @ 12:00, -20 dBV Line input, or -38 dBFS S/PDIF input	20Hz to 20kHz +/- 1dB

Balanced ¼" Line Input

Description	System State	Specification
Input Impedance (Unbal)		10 kOhm +/- 10%
Maximum Input Voltage	Trim @ Min, 20 Vpp input	<1% THD, all outputs

Specifications

Power Amplifiers *(All measured using AES17 20kHz Filter Line Input 1,2)*

Acoustic Specifications

Description	System State	Specification
Power Handling; Line Array Bass Module	IEC-265-5 100 Hours	 125W 250W
Frequency Response, System	With system EQ	40Hz to 15kHz +/-3dB
Sensitivity: Line Array Bass Module	1W @ 1M	 87dB 93dB
Maximum Output SPL: Line Array Bass Module	Measured at 1M 250W into LS 125W into BM	 111dB 110dB
Distortion: Line Array Bass Module	@ -3dB from full power 150Hz to 15kHz (125W) 40Hz to 200Hz (62.5W)	 < 1% THD < 1% THD
Impedance: Line Array Bass Module	Sub-System, Nominal	 8 Ohms 8 Ohms
Transducer Impedance; Line Array Driver Bass Module Driver		 6 Ohms - each 4 Ohms - each
Enclosure Volume; Line Array Bass Module		 = 0.75*L1 = 3459 cu inches
Enclosure Port Tuning; Line Array Bass Module	 Close Box Design Same as B1	 NA 45 Hz

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.

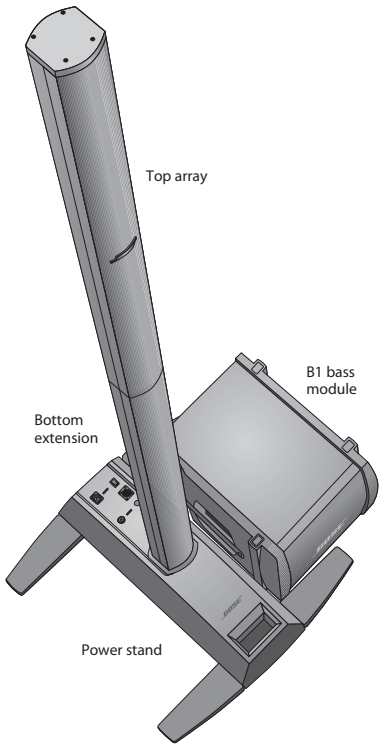
Product Description

The L1® Model 1S system – with ToneMatch® port consists of the L1 model 1S power stand, the L1 model 1S Cylindrical Radiator® loudspeaker, and a B1 or B2 bass module. The L1 model IS system comes with a padded carrying bag for each of its parts.

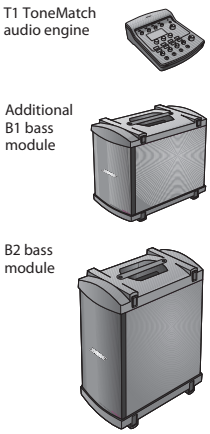
To expand your system and enhance performance, you can add:

- A second B1 bass module for bass guitar, kick drum, or organ. Each power stand can power up to two B1 bass modules.
- A T1 ToneMatch audio engine for digital signal processing, additional inputs and user-interface control.
- A PackLite® power amplifier model A1 for adding up to two more B1 bass modules to your system.

L1 model 1S system with ToneMatch port and B1 bass module

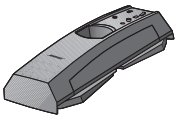
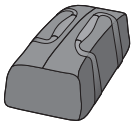
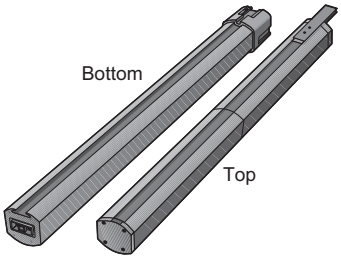
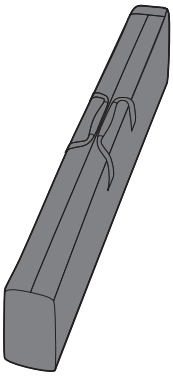
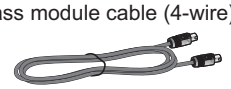


Optional equipment



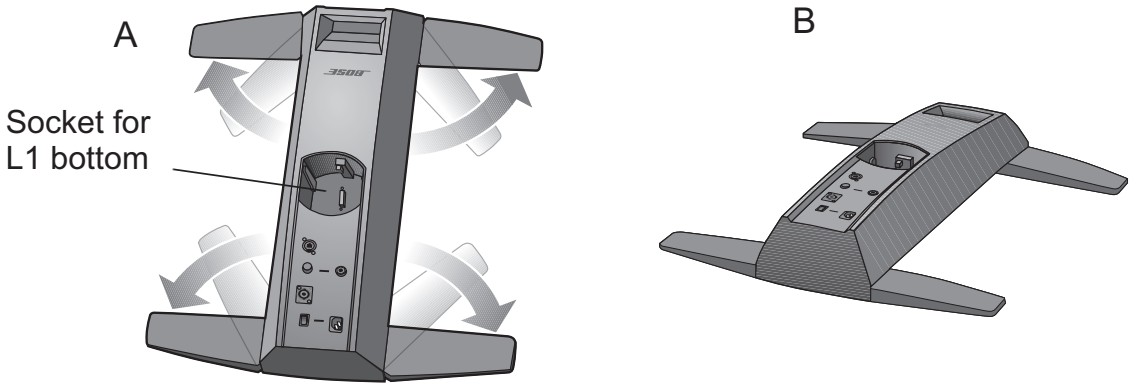
System Components

The L1 Model 1S system is shipped in three separate cartons. Refer to the figure below.

Power stand carton	Array and extension carton	B1 or B2 bass module carton
L1 power stand  Carrying bag  AC power cord  Quick setup guide  Owner's guide  Product registration card 	L1 model 1S top array and bottom extension  Carrying bag 	B1 or B2 bass module  Cover  Bass module cable (4-wire)  B1 or B2 bass module owner's guide 

Setting up the L1® model 1S power stand

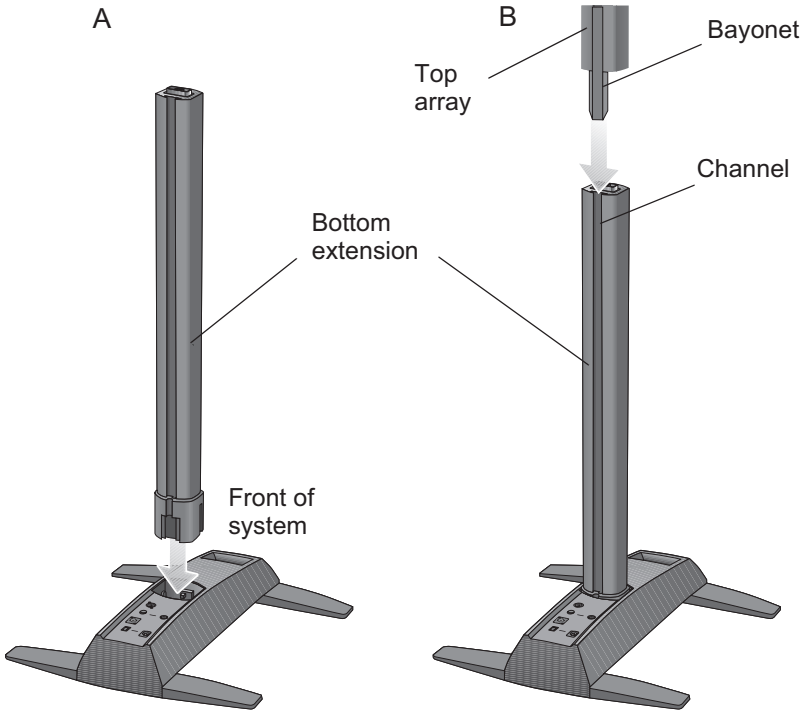
1. Holding the power stand vertically on the floor (Figure A), grasp one leg and swing it out as far as it will go. Notice that the other legs swing out automatically. **The legs must be fully open before you can plug the L1 Cylindrical Radiator® bottom section into the power stand.**
2. Lay the power stand flat on the floor in the desired position (Figure B).



WARNING: DO NOT move the completely assembled system as a unit. This could result in personal injury and/or damage to the product. Position the power stand on the floor in the chosen location before assembling the system.

Assembling the L1 model 1S Cylindrical Radiator® loudspeaker

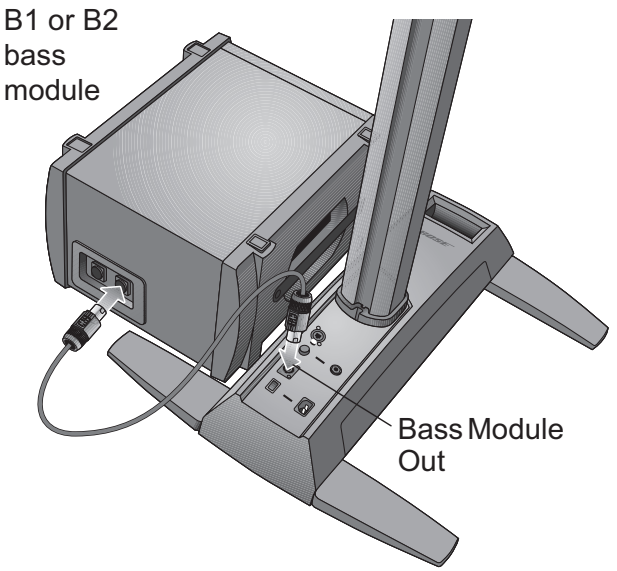
Note: If you plan to mount the T1 ToneMatch® audio engine on the L1 model 1S system, see "Adding a T1 ToneMatch audio engine" before installing the top section of the loudspeaker.
1. Hold the L1 bottom so that the grille faces front and plug it into the power stand (Figure A). Be sure to fully insert it into the socket to assure stability and a good connection.
2. Align the bayonet on the L1 top with the channel on the back of the L1 bottom, and lower the L1 top onto the L1 bottom until it is flush (Figure B).



Connecting the B1 or B2 bass module

You can place the bass module either vertically or horizontally on the floor. Normal placement is between the legs of the power stand.

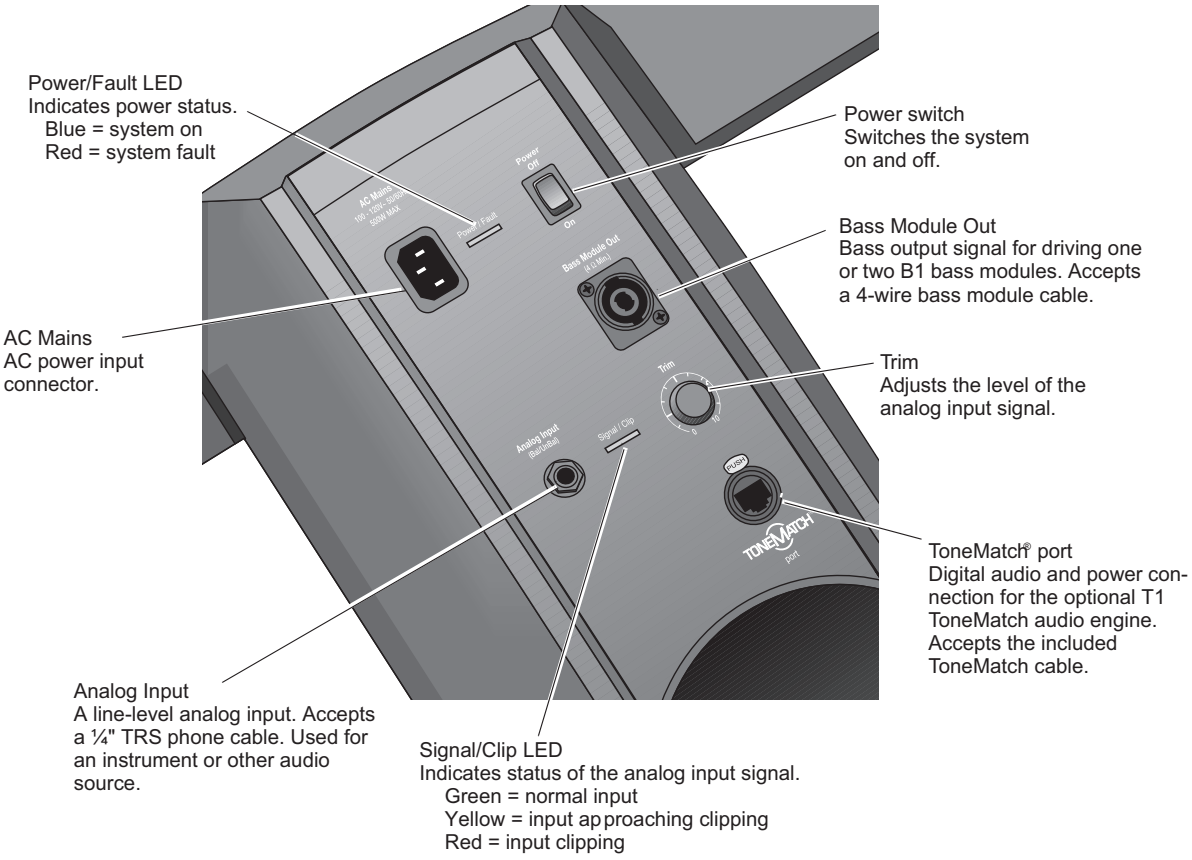
1. Plug one end of the bass module cable into one of the bass module connectors. Rotate the plug clockwise to lock it in place. You should hear a click as it locks.
2. Plug the other end of the cable into the Bass Module Out connector on the power stand. Rotate the plug clockwise to lock it. To disconnect a cable, slide back the metal tab on the body of the plug, rotate the plug counterclockwise, and pull it out of the connector.



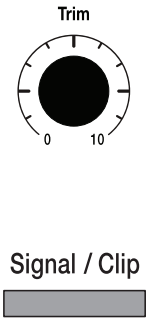
Note:

- DO NOT connect a bass module to two power stands at the same time.
- DO NOT connect any bass module other than the B1 or B2 to the power stand.
- DO NOT substitute the supplied cable with a 2-wire speaker cable. The power stand uses the signals on two of the wires to automatically sense how many bass modules are connected.

L1® Model 1S Power Stand Input and Output Connectors, Controls



Setting the Analog Input Level on the L1® Model 1S Power Stand



When connecting an audio source to the Analog Input, follow these steps to adjust the input Trim control.

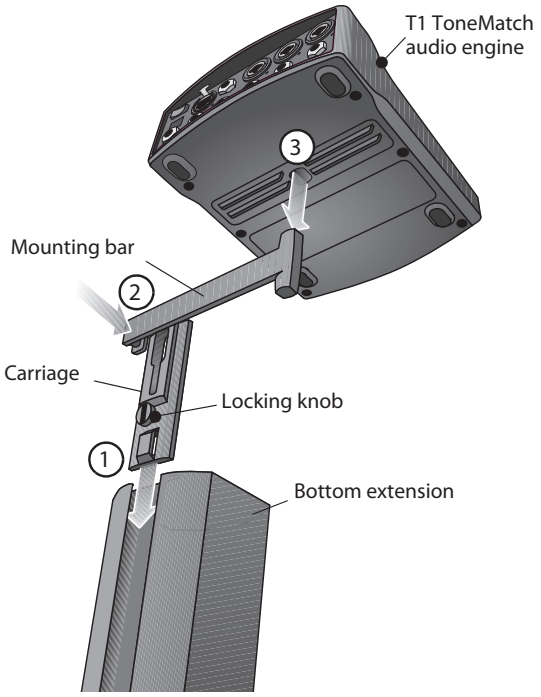
1. Set the Trim control on the power stand to the 0 (zero) position.
2. Connect the audio source to the Analog Input.
3. Adjust the volume of the audio source to the desired level.
4. While playing the source, increase the Trim level until the Signal/Clip indicator glows green or yellow.
5. If the Signal/Clip indicator glows red, decrease the Trim level so that it glows only green or yellow.

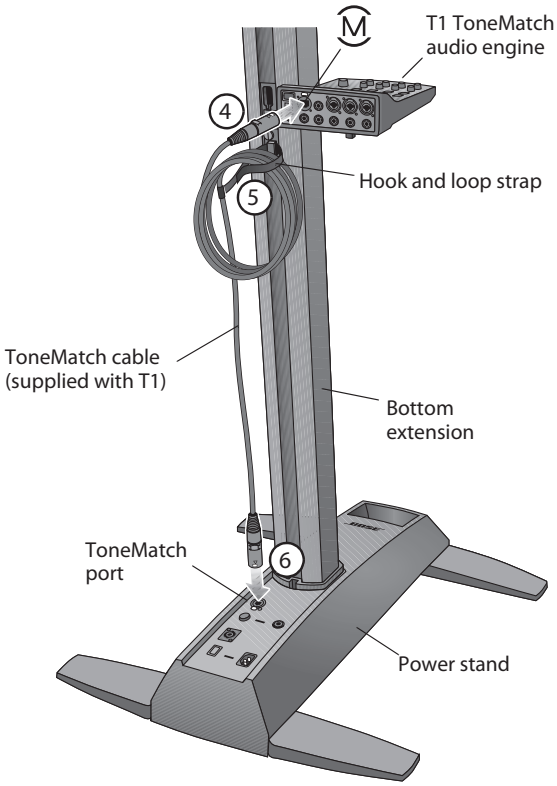
Adding a T1 ToneMatch® audio engine

The T1 ToneMatch audio engine provides additional input/output capabilities to your system, plus digital signal processing to customize the way you sound. The audio engine comes with hardware for mounting it on the left or right side of the L1 model 1S Cylindrical Radiator® loudspeaker.

Note: The audio engine mounts on the bottom section of the loudspeaker and requires removal of the top section before starting this procedure.

1. Slide the carriage into the channel on the rear of the L1 bottom and turn the knob clockwise to lock it in place.
2. Insert the mounting bar into the slot in the carriage and push it downward.
3. Place the T1 on the mounting bar as shown.
4. Plug one end of the ToneMatch cable (supplied with the audio engine) into the ToneMatch output port (M) on the T1.
5. Using the hook and loop strap, secure the cable to the carriage.
6. Plug the other end of the cable into the ToneMatch port on the power stand.





Packaging Part List

L1® Model 1S Power Stand (see Figure 1)

Item Number	Description	Part Number	Qty.	Note
1	Carton Sheet, 770x340x6	304982	2	
2	Guide, Owner's, L1 Model 1S sys (AIM, 3 lang) Guide, Owner's, L1 Model 1S sys (EU/UK, 8 lang)	356144-0010 356145-0010	1	
3	Warranty Card	307430		
5	Poly Bag, Manual	-	1	
6	Poly Bag, 730x270x320	-	1	
7	Quick Start Guide	356229-0010	1	
8	L1 Model 1S Power Stand	REF	1	
9	Carry Bag, Power Stand	351511-0010	1	
10	Power Cord, 120V, US/Can Power Cord, 230V, Euro Power Cord, 230V, UK	350745-0010 350747-0010 350748-0010	1	3 ⚠
11	Filler, Corner, Card, 440x170x6	304981	4	
12	Carton, Printed, PS1.5, 770x340x190	354574-0010	1	

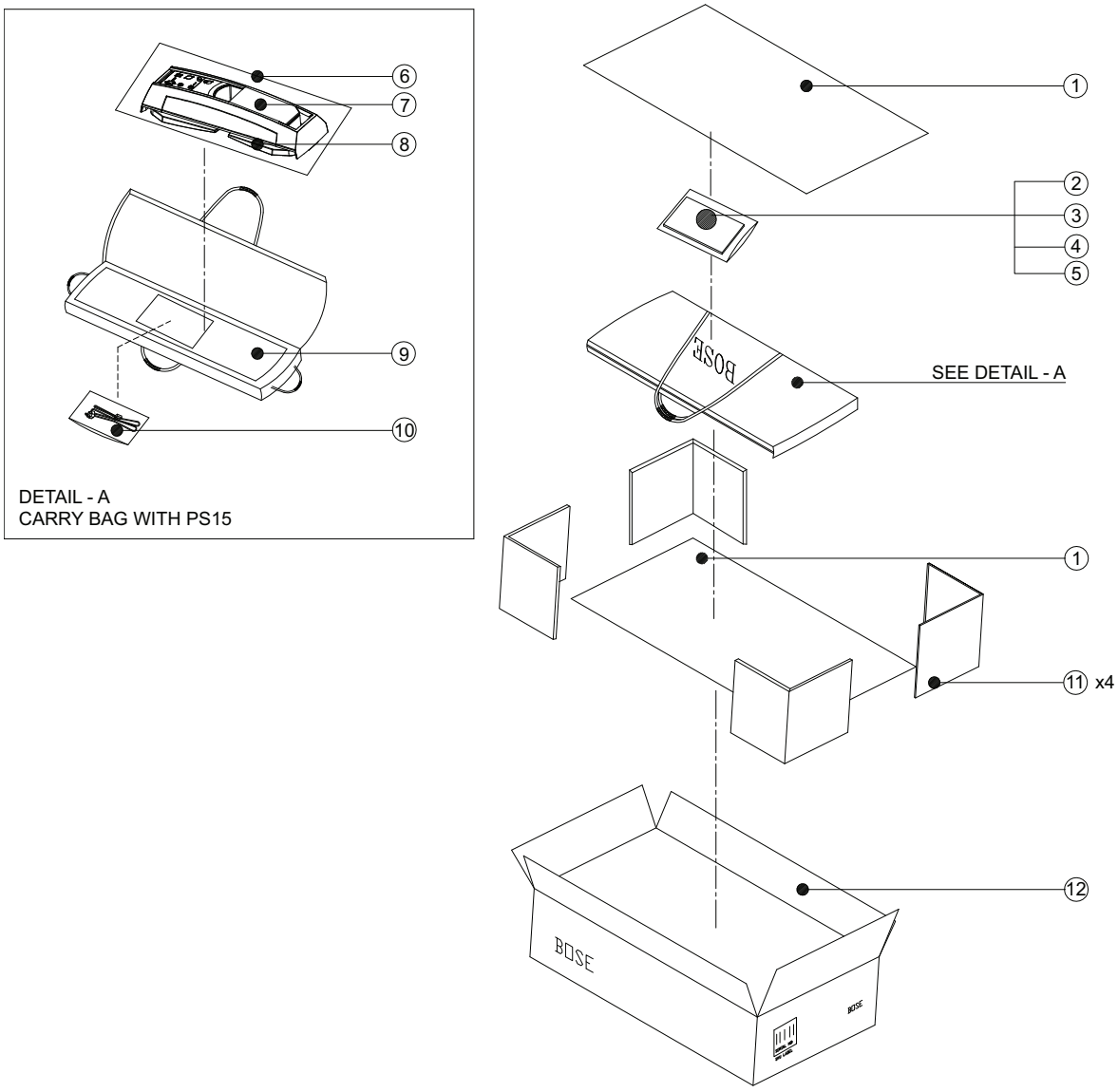


Figure 1. L1 Model 1S Power Stand Packaging View

Packaging Part List

L1® Model 1S Line Array (see Figure 2)

Item Number	Description	Part Number	Qty.	Note
1	Carton Sheet	374346-0010	2	
2	PE Foam, Side	355204-0010	4	
3	PE Foam, Middle	355205-0010	2	
4	Carton	355165-0010	1	
5	L1.5 Array Extension (Lower Section)	REF	1	
6	Poly Bag, Line Array	-	1	4
7	L1.5 Line Array (Upper Section)	REF	1	
8	Carry Bag, Line Array	354530-0110	1	

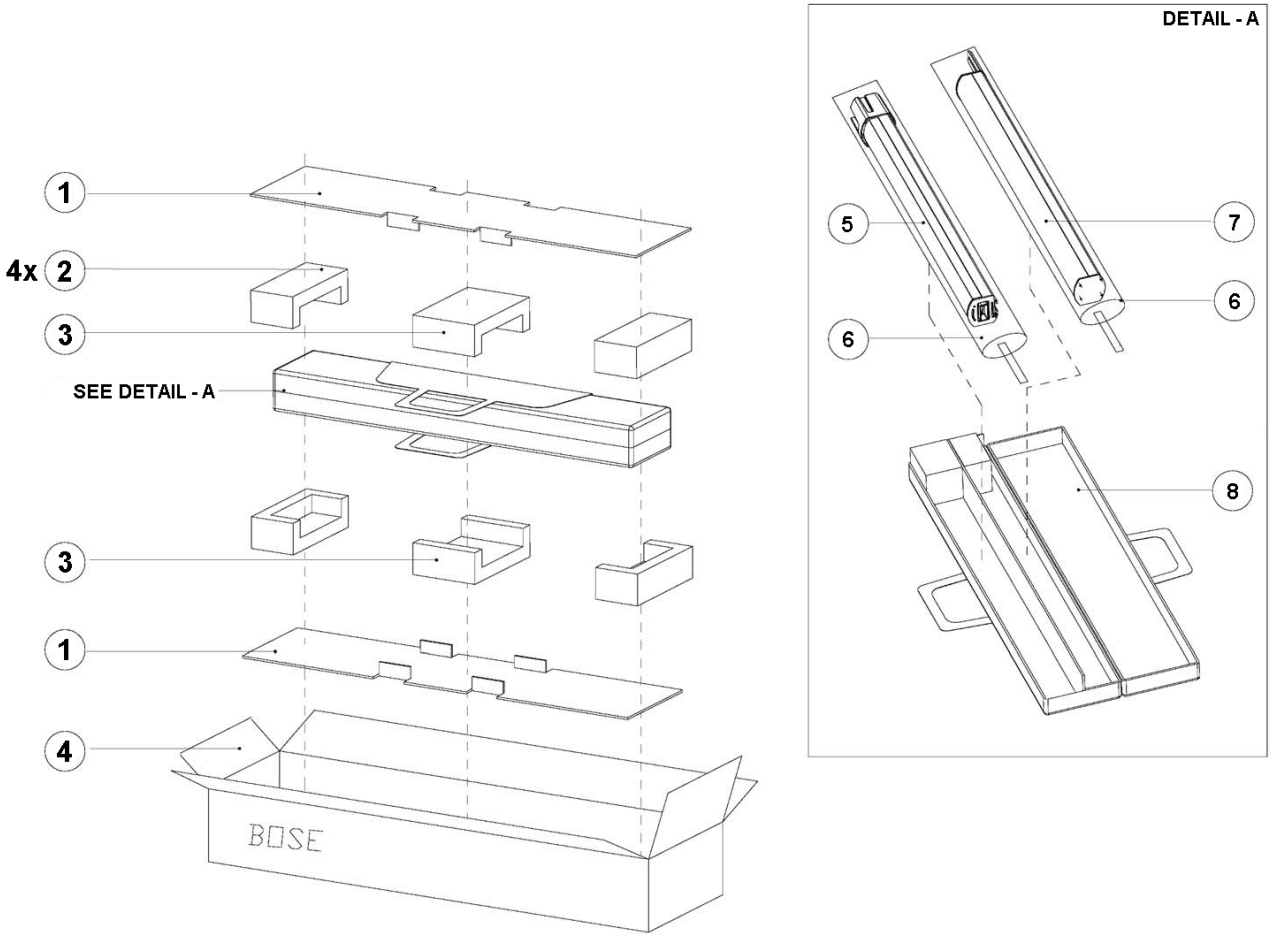


Figure 2. L1 Model 1S Line Array Packaging View

Packaging Part List

B1 Bass Module (see Figure 3)

Item Number	Description	Part Number	Qty	Note
1	CUSHION, PACKING	303838	2	
2	BAG, POLY, 12 X 16 X 49”	-	1	4
3	BASS MODULE	032494	1	
4	CARTON	303837	1	
5	BUBBLE BAG	-	1	4
6	SPEAKER CABLE, 1M	354990-0010	1	
7	POLYBAG (FOR MANUAL)	-	1	4
8	MANUAL, INSTRUCTION	303154	1	
9	CARRY BAG	035025	1	
10	SKU LABEL	-	2	4

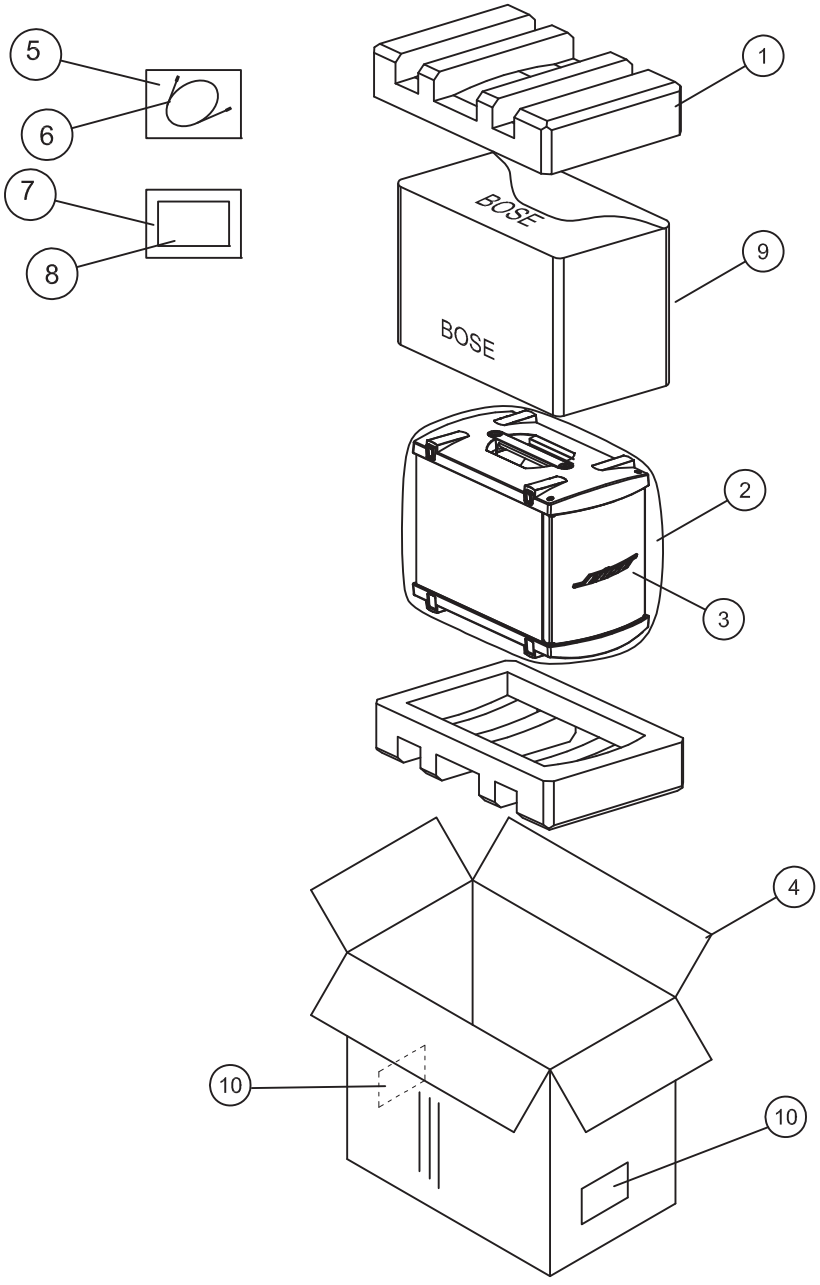


Figure 3. B1 Bass Module Packaging View

Packaging Part List

B2 Bass Module (see Figure 4)

Item Number	Description	Part Number	Qty	Note
1	CARTON SHEET, 445 x 578	357536-0010	2	
2	PE FOAM	355067-0010	2	
3	POLY BAG, 10” x 14”	-	3	
4	OWNER’S GUIDE	365143-0010	1	
5	CABLE, SPKR, BASS MODULE, 1M	354990-0010	1	
6	B2 CARRY BAG	354529-0110	1	
7	POLY BAG, 850 x 1000MM	-	1	
8	B2 BASS MODULE	REF	1	
9	CARTON	354575-0010	1	
10	RUBBER FEET	356067-0110	1	

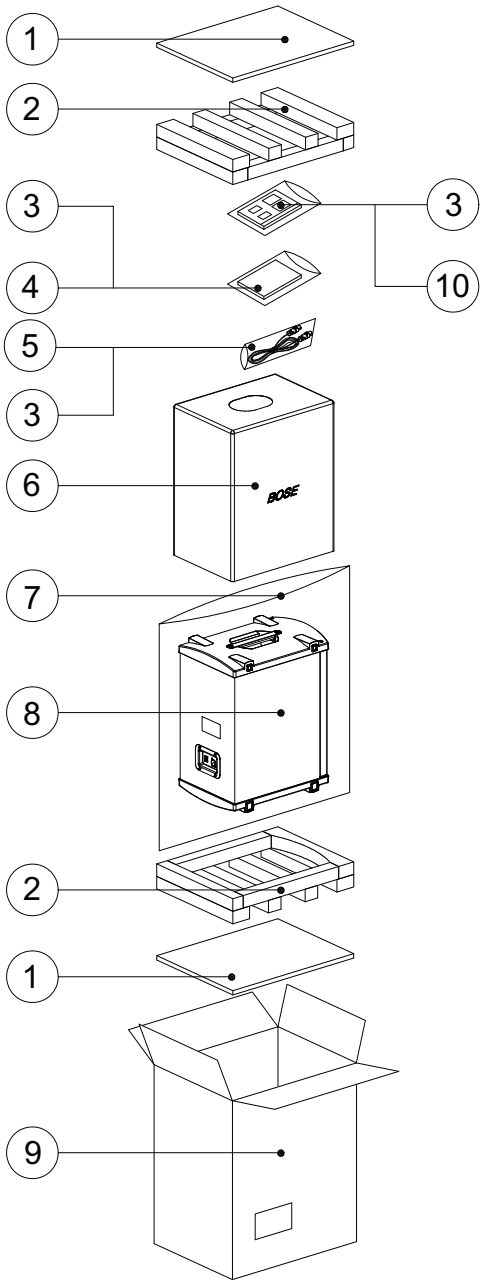


Figure 4. B2 Bass Module Packaging View

Main Part List

Upper Housing Assembly to Leg Assembly (see Figure 5)

Item Number	Description	Part Number	Qty.	Note
1	UPPER HOUSING (PLASTIC HOUSING ONLY)	298051	1	
2	LEG ASSEMBLY (INCLUDES CAVITY WIRING HARNESS)	361795-001S	1	
3	SCREW, MACHINE, FLAT-CS, M4X12, BZ	-	20	4
4	LABEL, PRODUCT	-	1	4
5	LEG BUMPER, RUBBER	-	4	4

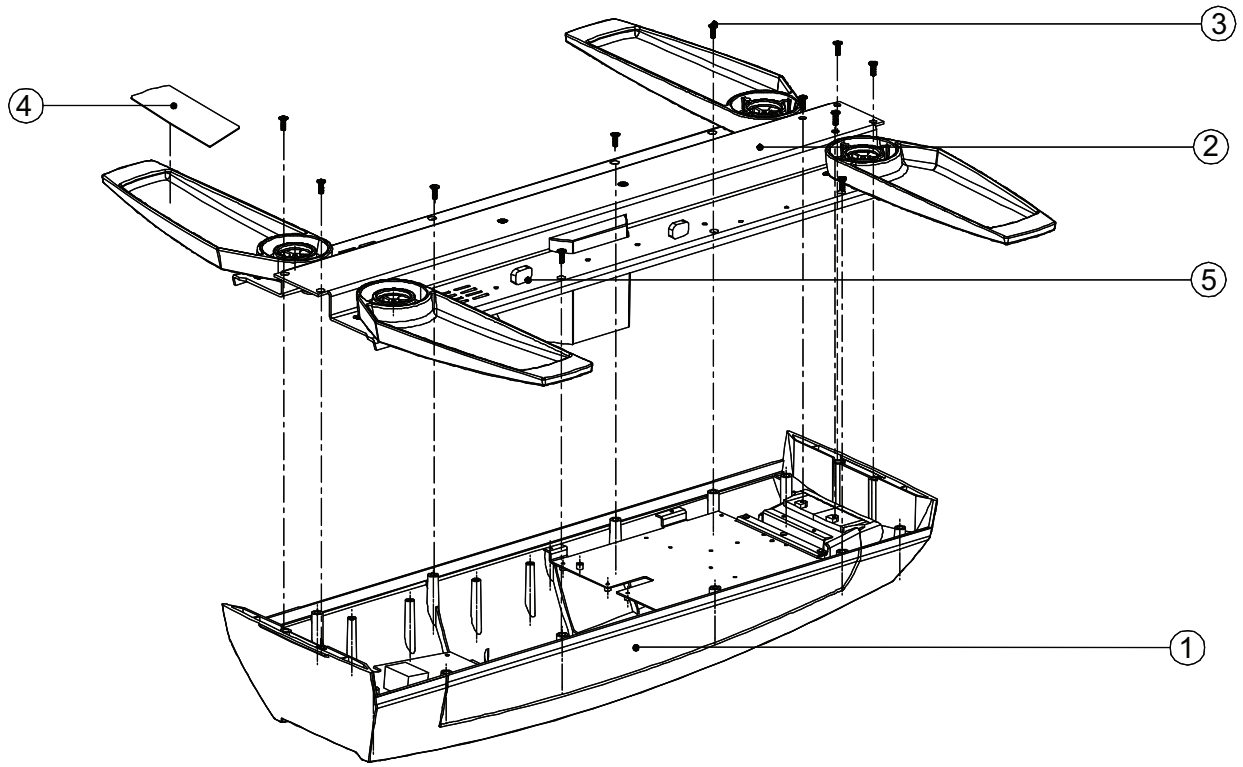


Figure 5. Power Stand to Leg Assembly Exploded View

Main Part List

L1® Model 1S Power Stand Upper Housing (see Figure 6)

Item Number	Description	Part Number	Qty.	Note
1	HOUSING, UPPER (PLASTIC HOUSING ONLY)	298051	1	
2	SWITCH, AC POWER, ROCKER, 2P1T	304984	1	3 ⚠
3	SCREW, M3X12, CSH, BK	-	2	4
4	SCREW, M3X12, CSH, BK	-	2	4
5	SCREW, B-TITE, FLAT-CS, M3X10, BZ	-	2	4
6	I/O PANEL COVER, US/CAN I/O PANEL COVER, EU/AUS	354557-0110 354941-0110	1 1	
7	SCREW, M4X12, PH, BK	-	6	4
8	LED LIGHTPIPE #2	298381	1	
9	LED LIGHTPIPE #1	298380	1	
10	AC POWER SOCKET	304131	1	3 ⚠
11	BRACKET, AC INLET	298383	1	
12	AC PRIMARY PCB ASSEMBLY	304983	1	2
13	I/O-DSP PCB ASSY, SERVICE	355471-001S	1	2
14	SHIELD, COVER	-	1	
15	SCREW, B-TITE, BIND, M3X8	-	8	4
16	SCREW, 3*8, 5.2MM, BK, ZINC	-	2	4
17	WASHER, METAL, ID 3.3, OD 8, T=0.5	-	2	4
18	HANDLE	298054	1	
19	SCREW, D3X5, B-TITE, YEL ZN	-	2	4
20	FAN GRILLE	298058	1	
21	SCREW, MACHINE, FLAT-CS, M3X6, BZ	-	3	4
22	PCB BRACKET	298067	1	
23	FAN BRACKET	-	1	4
24	SCREW, M4X6, P/M, BLK	-	4	4
25	FAN, DC, 12V, 5500 RPM	See service bulletin 296133-B1	2	3 ⚠
26	SCREW, MACHINE, M3X12, B/H, BLACK, ZINC	-	4	4
27	PCB SHIELD SHEET	-	1	
28	MICA INSULATING SHEET	304986	2	
29	HEAT SINK, PCB BRACKET	298073	2	
30	SMPS/PWR AMP PCB ASSY US/CANADA EURO/AUS	 358960-111S 358961-211S	 2 2	2
31	SCREW, MACHINE, M3X5, BH, Y-ZINC	-	14	4
32	KNOB, VR	298382	1	

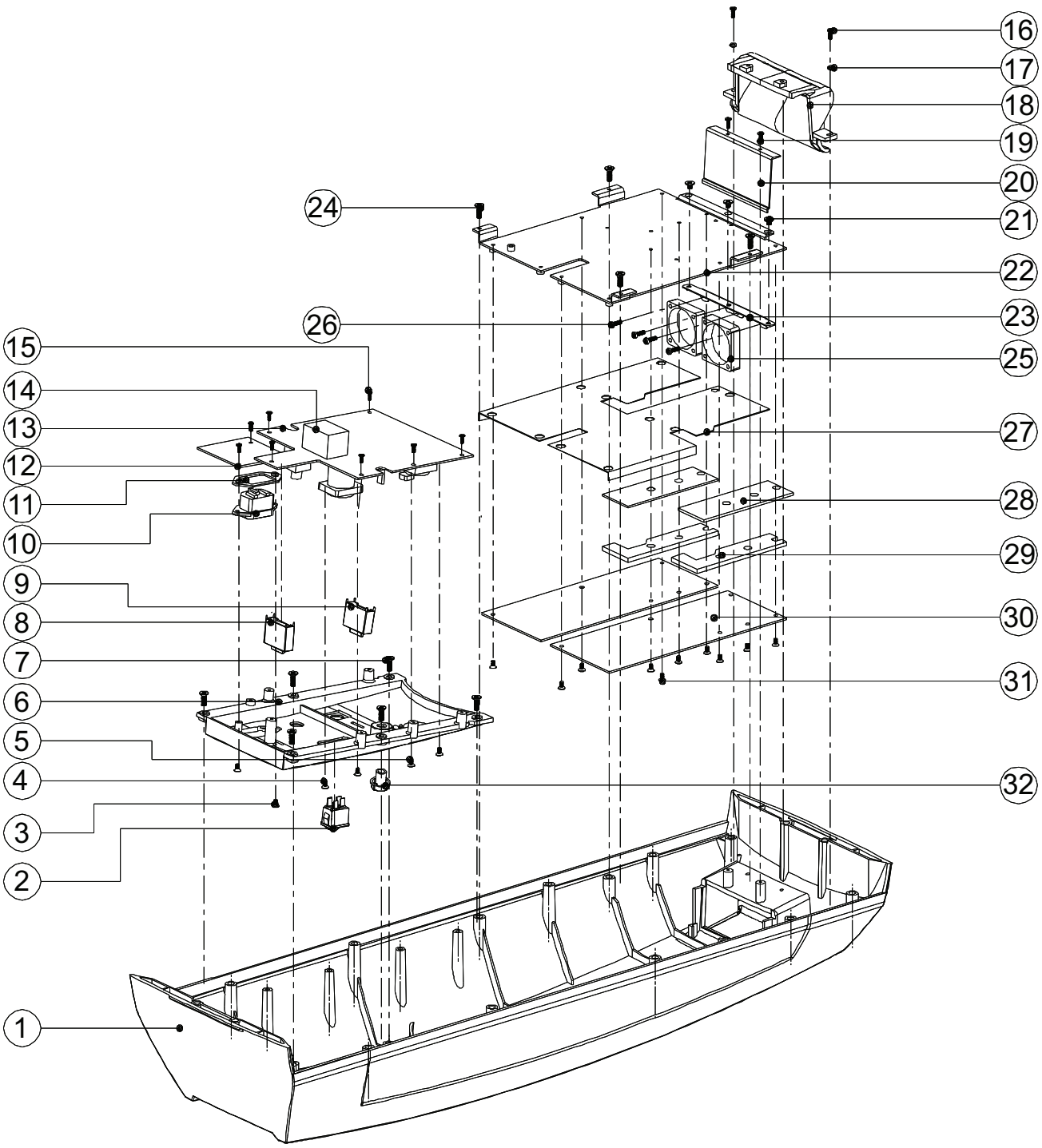


Figure 6. Power Stand Upper Housing Exploded View

Main Part List

L1® Model 1S Power Stand Cavity and Leg Assembly (see Figure 7)

Item Number	Description	Part Number	Qty.	Note
	LEG ASSEMBLY, INCLUDES:	361795-001S	1	
1	LEG-1	-	2	4
2	FOOT	-	4	4
3	WASHER, METAL, M4X0.8X10	-	4	4
4	SCREW, M4X12, PH, BK	-	4	4
5	LEG-2	-	2	4
6	LOWER LEG BEARING	-	4	4
7	SCREW, MACHINE, FLAT-CS, M3X6, BZ	-	16	4
8	SCREW, MACHINE, 4*6, 6.8MM, BK, CR HD	-	16	4
9	SCREW, MACHINE, FLAT-CS, M4X12, BZ	-	2	4
10	BOTTOM COVER	-	1	4
11	BEARING SUPPORT	-	4	4
12	UPPER LEG BEARING	-	4	4
13	SCREW, FLAT-CS, M3X5MM, BZ	-	12	4
14	CROSS BEAM	-	2	4
15	SCREW, M4X6, P/M, BLK	-	4	4
16	LINE ARRAY CONNECTOR / CABLE HARNESS	355488-001S	1	
17	CAVITY, LINE ARRAY	-	1	4
18	SCREW, MACHINE, 4*5, 6MM, BLK, CROSS RCS	-	4	4
19	LINKAGE MOTHER PLATE	-	1	4
20	GUIDE MOTHER PLATE	-	1	4
21	SCREW, MACH, PAN, M3X8, BZ	-	6	4
22	GUIDE SHAFT, BLACK	-	2	4
23	CAVITY STOP	298069	1	
24	BEARING PLATE #1	-	2	4
25	SCREW, FLAT-CS, M6X14, BZ	-	8	4
26	BEARING PLATE #2	-	2	4
27	FRONT LINK	-	2	4
28	REAR LINK	-	2	4
29	LINK BEARING	-	8	4
30	LINK BEARING WASHER	-	8	4
31	METAL WASHER	-	8	4
32	SPRING WASHER	-	8	4
33	NUT, HEX, 6MMX5.0T, BK, ZN	-	8	4
34	EMI GASKET, SHIELDING	-	4	4

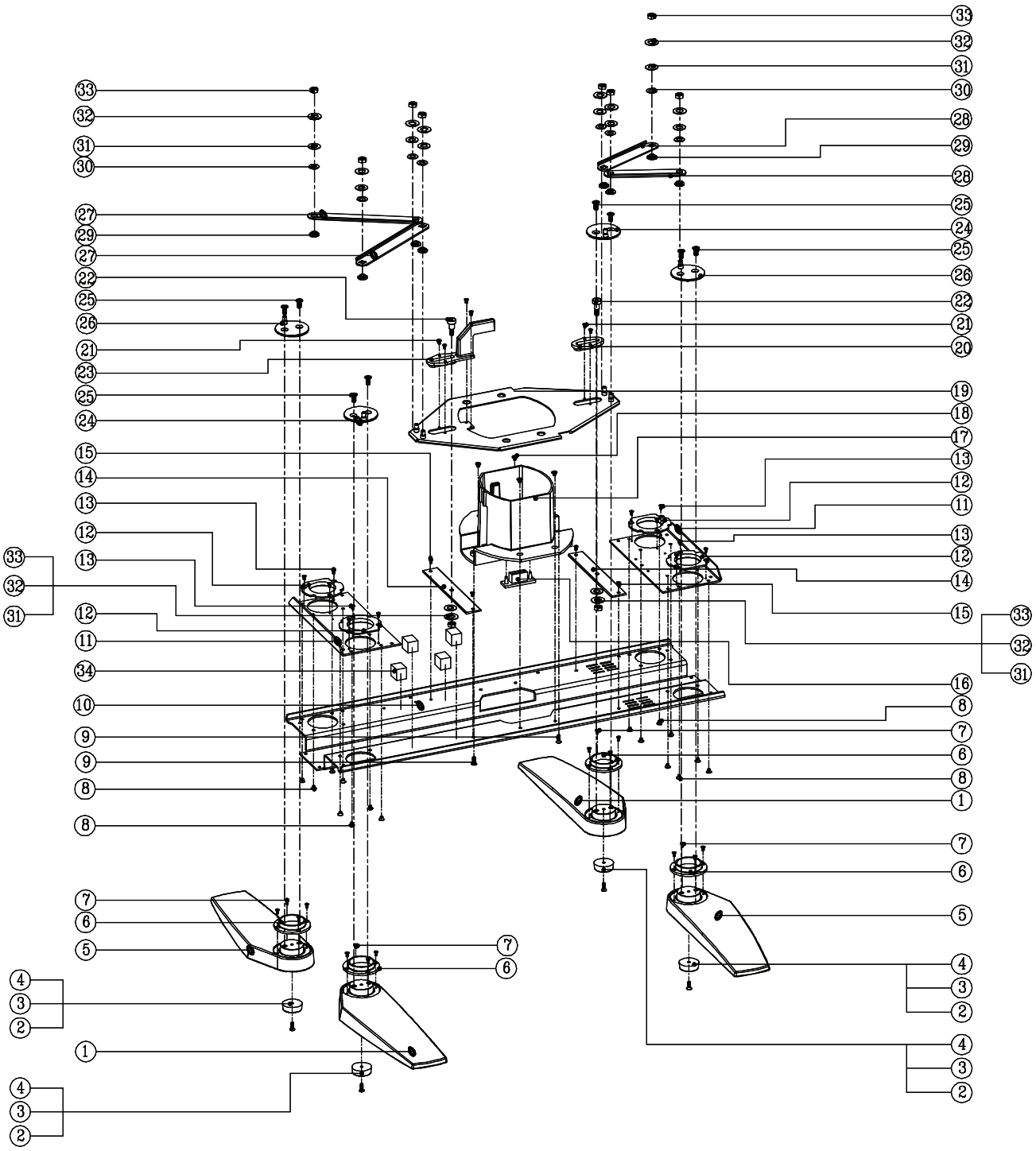


Figure 7. Power Stand Cavity and Leg Assembly Exploded View

Main Part List

L1® Model 1S Upper Line Array (see Figure 8)

Item Number	Description	Part Number	Qty.	Note
1	MS SCREW, M3x12, CSH, BLK	-	4	4
2	EVA GASKET, BAFFLE	-	4	4
3	ME SCREW, M3.5x8, 6.7mm	-	48	4
4	DRIVER, 2.75 INCH, 6 OHM	303836	12	
5	BAFFLE, DRIVER	-	2	4
6	GRILLE ASSY, UPPPER (INCLUDES GRILLE, LOGO AND GASKETS)	304988	1	
7	SCREW, TTP/B, M4x9.5mm, BLK	-	24	4
8	RUBBER PAD, D8x1.5mm	-	24	4
9	FOAM, TOP BAFFLE	-	1	4
10	BOSE LOGO	303709	1	
11	GASKET, END CAP #1, 83x82x1.5mm	-	2	4
12	COVER, END CAP #2	-	1	4
13	SCREW, B-TITE, FLAT-CS, M3x10mm	-	4	4
14	COVER, END CAP #1	-	1	4
15	WIRING HARNESS, UPPER ARRAY ASSY	-	1	4
16	HOUSING, UPPER ARRAY, EXTRUDED	-	1	4
17	SCREW, MACHINE, OVAL-CS, M6x20	-	2	4
18	BAYONET, LINE SOURCE	264001	1	
19	GASKET, GRILLE	-	4	4

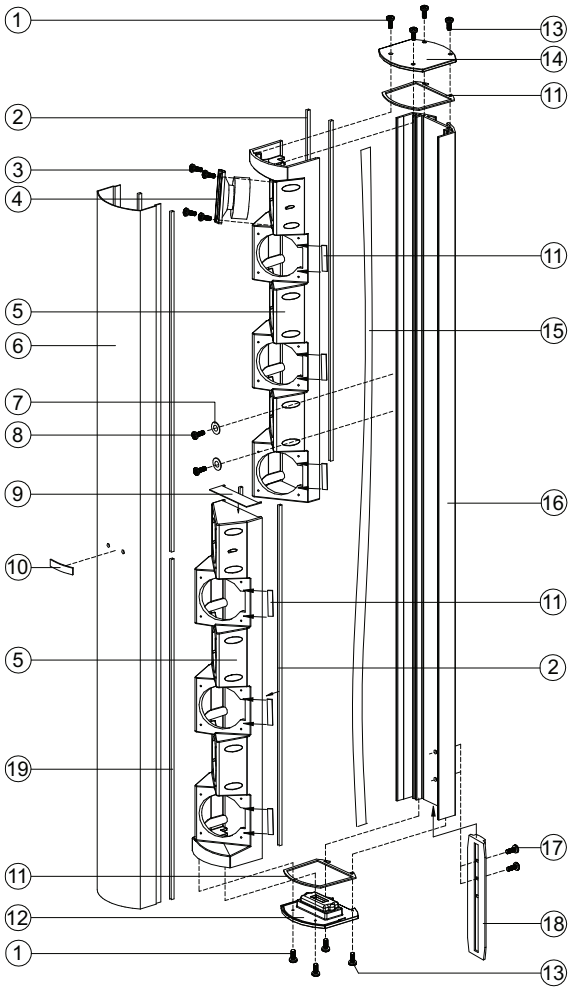


Figure 8. L1 Model 1S Upper Line Array Exploded View

Main Part List

L1® Model 1S Lower Line Array Extension (see Figure 9)

Item Number	Description	Part Number	Qty.	Note
1	SCREW, B-TITE, FLAT-CS, M3x10	-	5	4
2	MS SCREW, M3x12, CSH, BLK	-	6	4
3	COVER, END CAP #3	-	1	4
4	HOUSING, EXTENSION, EXTRUDED	-	1	4
5	WIRING HARNESS, EXTENSION	-	1	4
6	BRACKET, END CAP #4	298029	1	
7	GASKET, LOWER COLLAR	-	1	4
8	FRAME, LOWER COLLAR	-	1	4
9	WASHER, METAL, M4x0.8x10, BZ	-	1	4
10	MA SCREW, 4x15, 6.8mm, BK/C HD	-	1	4
11	COVER, END CAP #4	-	1	4
12	SHIM, CAVITY	-	1	4
13	SCREW, B-TITE, M3.5x10, BLK zn	-	11	4
14	WASHER, EXTERNAL TOOTH, M4x0.8x8.5	-	1	4
15	WASHER, SPRING, M4x1x7, YZ	-	1	4
16	ME SCREW, M4x8, TTP/B, YW, ZN	-	1	4
17	FRONT COVER, EXTENSION	354559-0110	1	
18	SCREW, B-TITE, M3.5x16, BLK ZN	-	6	4
19	SUPPORT, EXTENSION FRONT COVER	-	3	4
20	GASKET, GRILLE	-	4	4
21	BRACKET, UP	-	1	4

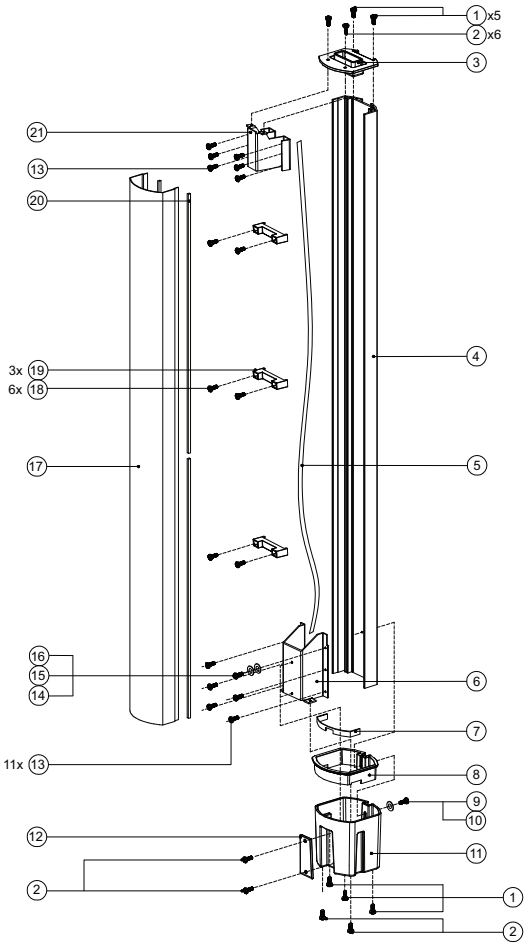


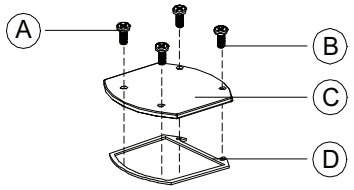
Figure 9. L1 Model 1S Lower Line Array Extension Exploded View

Main Part List

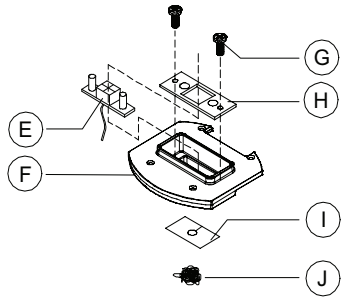
L1® Model 1S Line Array End Cap Assemblies (see Figure 10)

Item Number	Description	Bose® Part Number	Vendor Part Number	Qty.	Note
	END CAP #1 ASSEMBLY	304133	SVC-L211-ENDCAP1	1	
A	MS SCREW, M3X12, CSH.BK	-	2901-3012+3000	8	4
B	SCREW, B-TITE, FLAT-CS, M3X10	-	2951-3010+3000	8	4
C	COVER, END CAP #1	-	1467-8101+0	1	
D	GASKET, END CAP, 83X82X1.5	-	4149-1141+0	3	
	END CAP #2 ASSEMBLY	304134			
E	CONNECTOR ASSY, MOLEX, 4 PIN	-	7012-6615+0	1	
F	COVER, END CAP #2	-	1467-8201+0	1	
G	SCREW, B-TITE, PAN, M3X10	-	2950-3010+3000	6	4
H	PLATE, MOLEX, FLOATING	-	4135-3511+0	1	
I	ENDCAP AIRPROOF SHEET	-	4154-6841+1	2	
J	BUTYL TAPE	-	9500-1100+0		
D	GASKET, END CAP, 83X82X1.5	-	4149-1141+0	3	
A	MS SCREW, M3X12, CSH.BK	-	2901-3012+3000	8	4
B	SCREW, B-TITE, FLAT-CS, M3X10	-	2951-3010+3000	8	4
	END CAP #3 ASSEMBLY	304135			
G	SCREW, B-TITE, PAN, M3X10	-	2950-3010+3000	6	4
H	PLATE, MOLEX, FLOATING	-	4135-3511+0	1	
K	PCB ASSY, CONNECTOR, 4 PIN	-	PCB-L211+CN4P	1	
I	ENDCAP AIRPROOF SHEET	-	4154-6841+1	2	
J	BUTYL TAPE	-	9500-1100+0		
L	COVER, END CAP #3	-	1467-8301+0	1	
D	GASKET, END CAP, 83X82X1.5	-	4149-1141+0	3	
A	MS SCREW, M3X12, CSH.BK	-	2901-3012+3000	8	4
B	SCREW, B-TITE, FLAT-CS, M3X10	-	2951-3010+3000	8	4
-	PLATE, METAL, ENDCAP #3	-	4135-7291+0	1	
	END CAP #4 ASSEMBLY	355487-011S			
M	GASKET, LOWER COLLAR	-	4149-1251+0	1	
N	FRAME, LOWER COLLAR	-	4155-2301+0	1	
O	SHIM, CAVITY	-	4155-2311+0	1	
P	SCREW, M3X8, C'SINK, BLK	-	2901-3008+3000	2	4
Q	SCREW, M3X8, C'SINK, FLT HD	-	2951-3008+3000	1	4
R	COVER, END CAP #4	-	1467-8401+0	1	
S	PCB ASSY, CONNECTOR, 10 PIN	-	PCB-L211+CN10P	1	
G	SCREW, B-TITE, PAN, M3X10	-	2950-3010+3000	6	4
T	PLATE, MOLEX, FIXED, 10 PIN	-	4135-3531+0	1	
A	MS SCREW, M3X12, CSH.BK	-	2901-3012+3000	8	4
B	SCREW, B-TITE, FLAT-CS, M3X10	-	2951-3010+3000	8	4

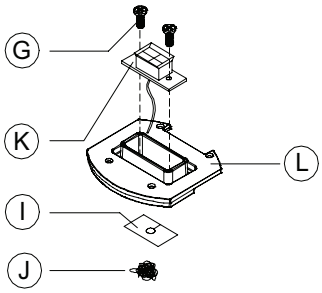
END CAP # 1 ASSY



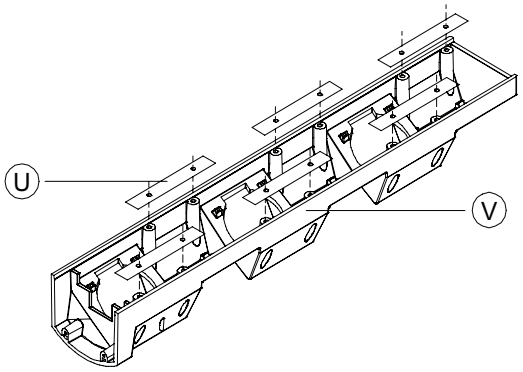
END CAP # 2 ASSY



END CAP # 3 ASSY



DRIVER BAFFLE ASSY



END CAP # 4 ASSY

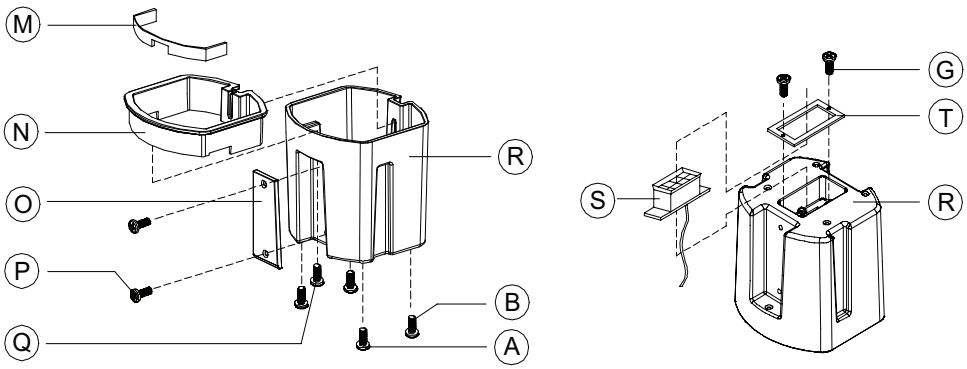


Figure 10. L1® Model 1S Line Array End Cap Assemblies Exploded View

Main Part List

B1 Bass Module Exploded View (see Figure 11)

Item Number	Description	Part Number	Qty	Note
1	Screw, M4 X 28, BK, B1 Grille	275465	4	
2	Woofer Assembly	263998	2	
3	Gasket, Woofer Assembly	263998	2	4
4	Screw, M4 X 17, BK, B1 Driver	275466	8	
5	Grille Assembly (includes items 6 and 7 below)	263992	1	
6	Gasket, Grille Assembly	-	2	4
7	Logo, Assembly, B1/B2	739717-011S	1	
8	B1 Terminal Panel Assembly	276409	1	
9	Screw, M3 X 12, BK, B1 Input Cup	275467	4	
-	Speaker Cable, Bass Module, P-Free, 1M	354990-0010	1	

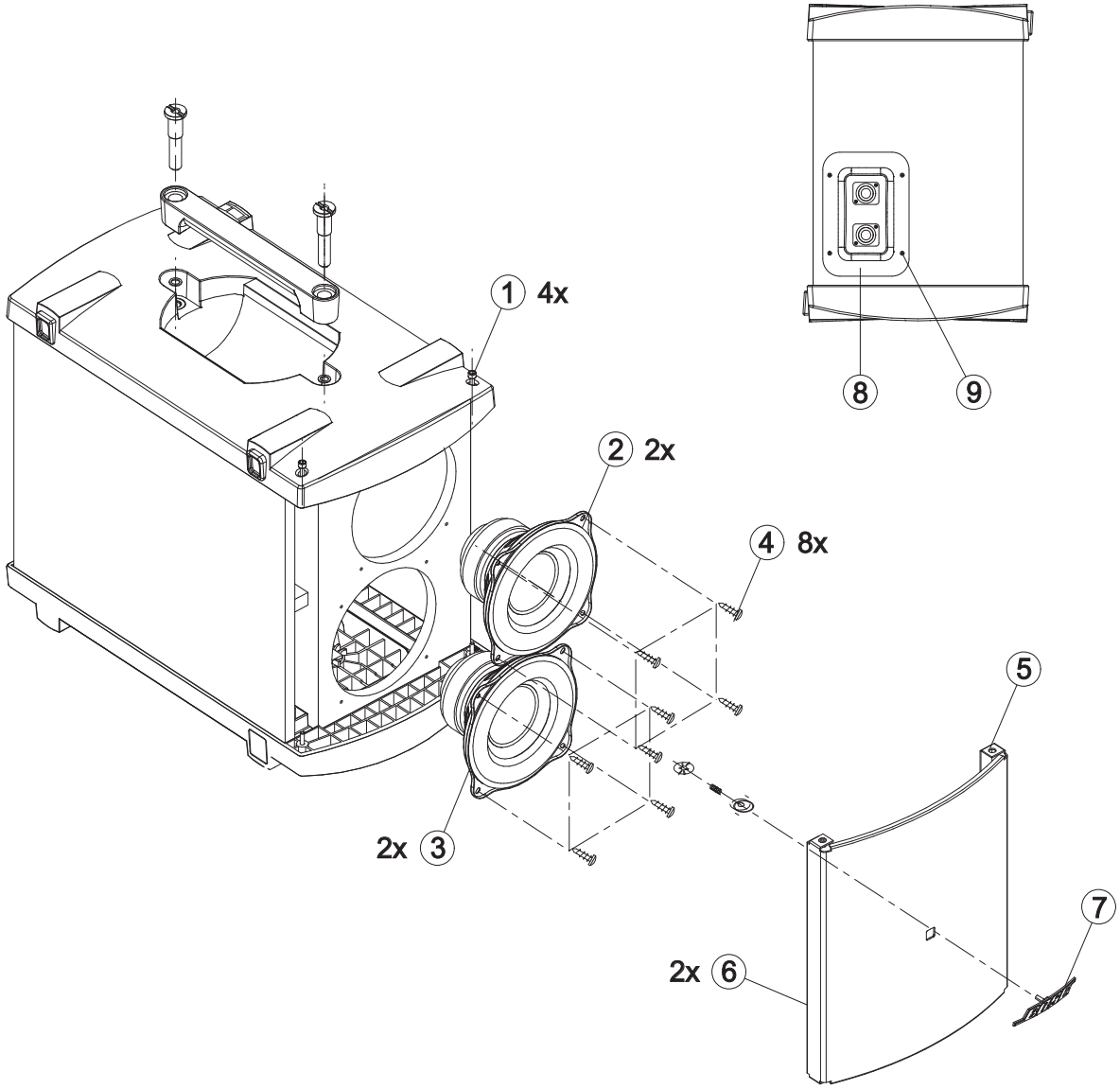


Figure 11. B1 Bass Module Exploded View

Main Part List

B2 Bass Module Exploded View (see Figure 12)

Item Number	Description	Part Number	Qty	Note
-	PANEL ASSY,B2,TERMINAL,SVC (INCLUDES ITEMS 1 TO 6 BELOW)	355074-011S	1	
1	ME SCREW, M4x17, BK-ZN	275466	4	
2	SWITCH, ROCKER, SPDT	355932-0010	1	4
3	MS SCREW, M3x12, CSH, BLK	275467	2	
4	SPEAKON NEUTRIK CONNECTOR, 4 WIRE	318841-0000	1	4
5	TERMINAL PANEL, SECC, T=1.2, BLK	354566-0110	1	4
6	PCB ASSY EQ SWITCH	354572-0010	1	4
7	GASKET, EVA, 5x500mm	-	1	4
8	SCREW, GRILLE, M4x28, BLACK	275465	1	
-	GRILLE ASSEMBLY (INCLUDES ITEMS 9 TO 15 BELOW)	355660-011S		
9	FOAM STRIP, 5x5x1200mm	-	1	4
10	GRILLE – NO LOGO	-	1	4
11	LOGO ASSEMBLY, B1/B2	739717-011S	1	
12	GASKET, 18x5x0.5, NON-WOVEN	-	1	4
13	CUP WASHER	-	1	
14	SPRING, D=8 x ID=6.5x L=31.5	-	1	
15	SPIRE CLIP	-	1	
16	SCREW, MACHINE, BIND, M4x30	-	8	4
17	WOOFER ASSEMBLY, 10 INCH	355172-001S	2	
18	GASKET, PE, 1000x18x1	-	2	4
19	GASKET, 1000x10x2mm, EVA - B	-	2	4

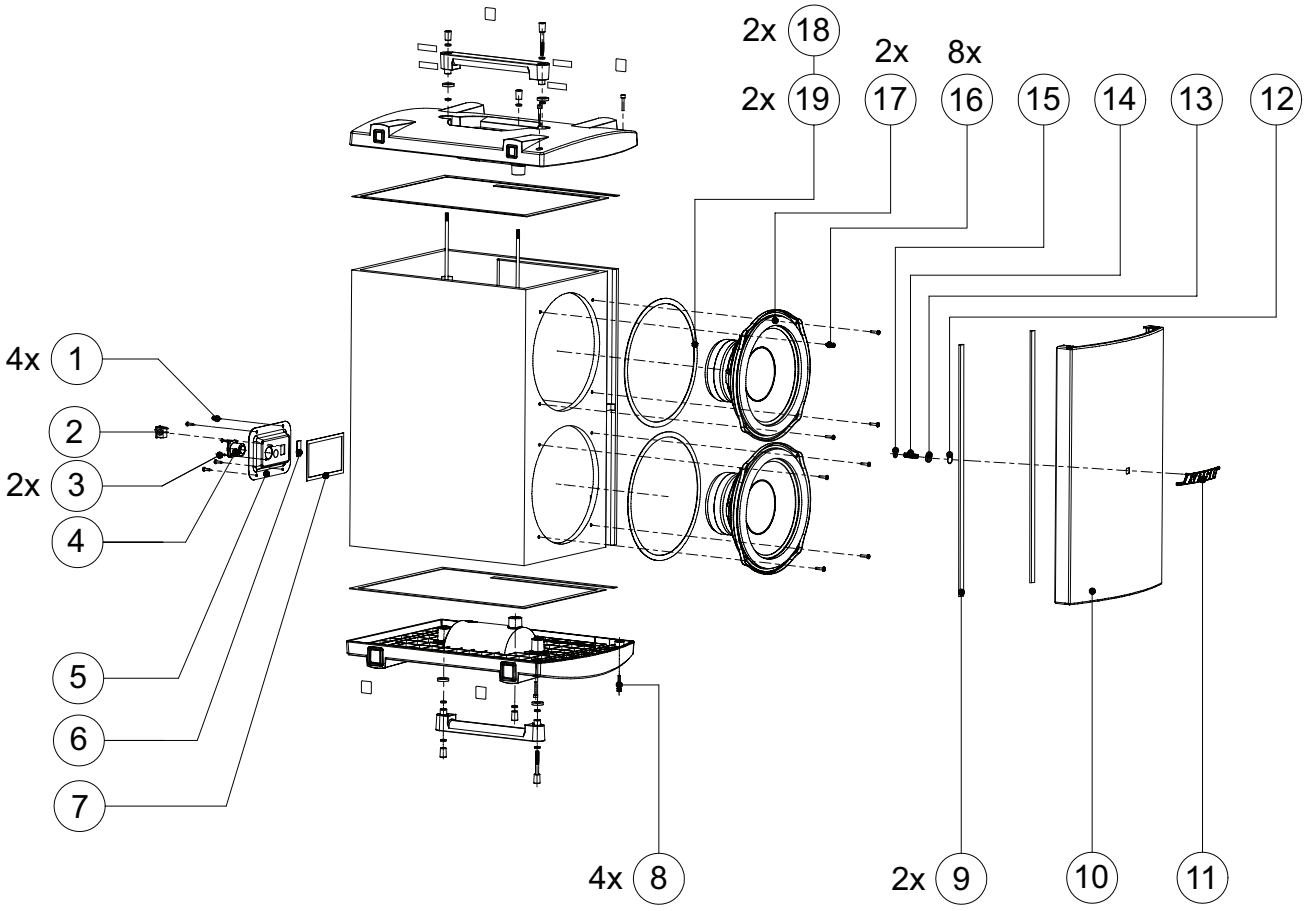


Figure 12. B2 Bass Module Exploded View

Electrical Part List

Input/Output and DSP PCB Assembly

Resistors

Reference Designator	Description	Vendor Part Number	Note
R98	FERRITE-CORE, 0603, 2.5K, 50MA, 100MHZ, HZ0603A252R	1808-0906	4
R99	FERRITE-CORE, 0603, 2.5K, 50MA, 100MHZ, HZ0603A252R	1808-0906	4
R100	100K, RMG, 1/16W, 1%, 0603	4723-104A	4
R101	100K, RMG, 1/16W, 1%, 0603	4723-104A	4
R102	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R103	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R104	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R105	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R106	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R107	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R108	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R109	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R110	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R111	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R112	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R113	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R114	5.6K, RMG, 1/16W, 1%, 0603/1608	4723-562A	4
R115	4.99K, RMG, 1/16W, 1%, 0603	4723-562A	4
R116	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R117	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R118	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R119	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R120	15K, RMG, 1/16W, 1%, 0603/1608	4723-153A	4
R121	15K, RMG, 1/16W, 1%, 0603/1608	4723-153A	4
R123	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R127	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R130	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R131	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R132	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R133	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R135	100K, RMG, 1/16W, 1%, 0603	4723-104A	4
R136	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R137	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R138	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R139	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R140	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R141	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R142	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R143	10KX4, RCFA, 1/16W, 5%, 0603	4703-103J04	4
R144	10KX4, RCFA, 1/16W, 5%, 0603	4703-103J04	4
R145	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R146	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R147	18K, RMG, 1/16W, 1%, 0603/1608	4723-183A	4
R148	4.99K, RMG, 1/16W, 1%, 0603	4723-562A	4
R149	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4

Electrical Part List

Input/Output and DSP PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R150	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R151	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R152	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R153	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R154	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R155	10KX4, RCFA, 1/16W, 5%, 0603	4703-103J04	4
R156	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R157	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152J	4
R158	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R159	10KX4, RCFA, 1/16W, 5%, 0603	4703-103J04	4
R160	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R161	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R162	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R163	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R164	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R165	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R166	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R167	47RX4, RCFA, 1/16W, 5%, 0603	4703-470J04	4
R168	47RX4, RCFA, 1/16W, 5%, 0603	4703-470J04	4
R169	47R, RMG, 1/16W, 5%, 0603/1608	4723-470J	4
R170	OR, RMG, 1/8W, 5%, 1206	4721-000J	4
R172	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R174	634R, RMG, 1/16W, 1%, 0603	4723-6340	4
R175	634R, RMG, 1/16W, 1%, 0603	4723-6340	4
R176	634R, RMG, 1/16W, 1%, 0603	4723-6340	4
R177	91R, RMG, 1/16W, 1%, 0603	4723-910A	4
R178	91R, RMG, 1/16W, 1%, 0603	4723-910A	4
R179	1.33K, RMG, 1/16W, 1%, 0603	4723-1331	4
R180	1.33K, RMG, 1/16W, 1%, 0603	4723-1331	4
R181	4.42K, RMG, 1/16W, 1%, 0603	4723-4421	4
R182	4.42K, RMG, 1/16W, 1%, 0603	4723-4421	4
R183	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152A	4
R184	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152A	4
R185	715R, RMG, 1/16W, 1%, 0603	4723-7150	4
R186	715R, RMG, 1/16W, 1%, 0603	4723-7150	4
R187	2.32K, RMG, 1/16W, 1%, 0603	4723-2321	4
R188	2.32K, RMG, 1/16W, 1%, 0603	4723-2321	4
R189	4.99K, RMG, 1/16W, 1%, 0603	4723-4991	4
R190	4.99K, RMG, 1/16W, 1%, 0603	4723-4991	4
R191	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R192	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R193	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R194	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R195	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R196	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R197	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R199	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4

Electrical Part List

Input/Output and DSP PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R200	OR, RMG, 1/8W, 5%, 1206	4721-000J	4
R201	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R202	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R203	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R204	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R205	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R206	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R207	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R208	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R209	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R210	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R211	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R212	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R213	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R214	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R215	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R216	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R217	47R, RMG, 1/16W, 5%, 0603/1608	4723-470J	4
R218	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R219	47R, RMG, 1/16W, 5%, 0603/1608	4723-470J	4
R220	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R221	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R222	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R223	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R227	0R, RMG, 1/16W, 5%, 0603	4723-000JR	4
R228	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R229	1M, RMG, 1/16W, 5%, 0603/1608	4723-105J	4
R230	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R231	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R232	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R233	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R234	16R, RMG, 1W, 5%, 2512	4728-160J	4
R235	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R236	5.1K, RMG, 1/16W, 5%, 0603/1608	4723-512J	4
R237	2.2K, RMG, 1/16W, 5%, 0603/1608	4723-222J	4
R238	240R, RMG, 1/16W, 5%, 0603/1608	4723-241J	4
R239	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R240	75R, RMG, 1/16W, 5%, 0603/1608	4723-750J	4
R241	75R, RMG, 1/16W, 5%, 0603/1608	4723-750J	4
R242	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R243	100R, RMG, 1/16W, 5%, 0603/1608	4723-101J	4
R244	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R245	47K, RMG, 1/16W, 5%, 0603/1608	4723-473J	4
R250	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R251	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R252	9.1K, RMG, 1/16W, 1%, 0603/1608	4723-912A	4
R253	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4

Electrical Part List

Input/Output and DSP PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R254	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R255	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472J	4
R256	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R257	30.9K, RMG, 1/16W, 1%, 0603/1608	4723-3092	4
R258	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R259	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R260	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R261	510R, RMG, 1/4W, 5%, 1206	4725-511J	4
R262	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R263	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R264	510R, RMG, 1/4W, 5%, 1206	4725-511J	4
R265	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R266	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R267	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R268	510R, RMG, 1/4W, 5%, 1206	4725-511J	4
R269	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R270	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R271	510R, RMG, 1/4W, 5%, 1206	4725-511J	4
R272	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R273	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R274	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R275	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R276	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R277	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R278	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R279	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R280	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R281	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R282	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R283	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R284	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R285	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R286	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R287	10K, RMG, 1/16W, 5%, 0603/1608	4723-103J	4
R288	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R289	5.6K, RMG, 1/16W, 5%, 0603/1608	4723-562J	4
R290	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R291	120R, RMG, 1/16W, 5%, 0603/1608	4723-121J	4
R292	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R293	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R294	1M, RMG, 1/16W, 5%, 0603/1608	4723-121J	4
R295	100K, RMG, 1/16W, 5%, 0603/1608	4723-104J	4
R296	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R297	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R298	15K, RMG, 1/16W, 1%, 0603/1608	4723-153A	4
R299	4.99K, RMG, 1/16W, 1%, 0603	4723-562A	4
R300	7.5K, RMG, 1/16W, 1%, 0603/1608	4723-752A	4

Electrical Part List

Input/Output and DSP PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R301	200K, RMG, 1/16W, 1%, 0603/1608	4723-204A	4
R302	7.5K, RMG, 1/16W, 1%, 0603/1608	4723-752A	4
R303	1K, RMG, 1/16W, 5%, 0603/1608	4723-102J	4
R306	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R307	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R309	0R, RMG, 1/16W, 5%, 0603	4723-000JR	4
R310	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R311	FERRITE-CORE, 0603, 2.5K, 50MA, 100MHZ, HZ0603A252R	1808-0906	4
R312	FERRITE-CORE, 0603, 2.5K, 50MA, 100MHZ, HZ0603A252R	1808-0906	4
R313	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R314	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R317	5.1K, RMG, 1/4W, 5%, 1206	4725-512J	4
R318	5.1K, RMG, 1/4W, 5%, 1206	4725-512J	4
R319	5.1K, RMG, 1/4W, 5%, 1206	4725-512J	4
R320	5.1K, RMG, 1/4W, 5%, 1206	4725-512J	4
R500	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R501	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4

Capacitors

Reference Designator	Description	Vendor Part Number	Note
C101	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C102	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C103	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C104	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C105	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C106	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C107	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C108	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C109	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C110	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C111	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C114	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C115	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C116	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C117	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C118	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C119	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C126	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C127	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C129	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C130	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C134	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C135	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C136	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4

Electrical Part List

Input/Output and DSP PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C137	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C138	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C139	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C140	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C141	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C146	10uF, CE, 25V, 20%, 5.3X5.4, SMD, UWX1E100MCR1GB, NCC	157E-106MJJC	4
C147	10uF, CE, 25V, 20%, 5.3X5.4, SMD, UWX1E100MCR1GB, NCC	157E-106MJJC	4
C150	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C151	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C152	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C153	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C154	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C155	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C156	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C157	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C158	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C159	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C160	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C161	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C162	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C163	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C164	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C165	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C166	470pF, CC, 50V, 5%, 0603, C0G	150F-471JAC	4
C167	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C168	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C169	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C170	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C171	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C177	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C180	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C181	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C182	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C183	220pF, CC, 50V, 5%, 0603, C0G	150F-221JAC	4
C184	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C185	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C191	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C192	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C195	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C196	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C200	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C201	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C202	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C203	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C204	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4

Electrical Part List

Input/Output and DSP PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C205	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C206	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C207	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C208	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C209	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C210	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C211	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C212	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C213	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C214	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C215	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C216	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C217	10uF, CT, 16V, 20%, SMD, 1.6X3.2	154D-106MCF	4
C218	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C219	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C220	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C221	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C222	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C223	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C224	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C225	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C228	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C229	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C230	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C231	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C232	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C233	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C234	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C235	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C236	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C237	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C238	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C239	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C240	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C241	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C242	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C243	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C244	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C245	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C246	10uF, CT, 16V, 20%, SMD, 1.6X3.2	154D-106MCF	4
C247	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C248	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C249	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C252	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C253	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C254	470pF, CTC, 0/60, 5%, 0603	15CH-471JAC	4
C255	470pF, CTC, 0/60, 5%, 0603	15CH-471JAC	4

Electrical Part List

Input/Output and DSP PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C256	470pF, CTC, 0/60, 5%, 0603	15CH-471JAC	4
C257	470pF, CTC, 0/60, 5%, 0603	15CH-471JAC	4
C258	0.015uF, CC, 50V, 10%, 0603, X7R	150F-153KAC	4
C259	0.015uF, CC, 50V, 10%, 0603, X7R	150F-153KAC	4
C260	47uF, CT, 16V, 10%, SMD, 85C	154D-476KKF	4
C261	1uF, CT, 16V, 20%, SM, 1.6X3.2	154D-105MCF	4
C262	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C263	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C264	10uF, CE, 16V, 20%, SMD, 4X5.4	157D-106MGJ	4
C265	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C266	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C267	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C268	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C272	22pF, CTC, 0/60, 5%, 0603	15CH-220JAC	4
C273	22pF, CTC, 0/60, 5%, 0603	15CH-220JAC	4
C274	2200pF, CC, 50V, 10%, 0603, X7R	150F-222KAC	4
C275	2200pF, CC, 50V, 10%, 0603, X7R	150F-222KAC	4
C276	6800pF, CC, 50V, 10%, 0603, X7R	150F-682KAC	4
C277	6800pF, CC, 50V, 10%, 0603, X7R	150F-682KAC	4
C278	22uF, CE, 16V, 20%, SMD, 5X5.8, UUD1C220MCR1GS,NICHICON	157D-226MIKC	4
C279	22uF, CE, 16V, 20%, SMD, 5X5.8, UUD1C220MCR1GS,NICHICON	157D-226MIKC	4
C280	22uF, CE, 16V, 20%, SMD, 5X5.8, UUD1C220MCR1GS,NICHICON	157D-226MIKC	4
C281	22uF, CE, 16V, 20%, SMD, 5X5.8, UUD1C220MCR1GS,NICHICON	157D-226MIKC	4
C283	1500pF, CC, 50V, 10%, 0603, X7R	150F-152KAC	4
C284	1500pF, CC, 50V, 10%, 0603, X7R	150F-152KAC	4
C285	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C286	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C287	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C288	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C294	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C295	100uF, CE, 35V, 20%, RLT, 6.3X11, 105C, LOW ESR	157Q-107MLUTR	4
C296	100uF, CE, 35V, 20%, RLT, 6.3X11, 105C, LOW ESR	157Q-107MLUTR	4
C298	220uF, CE, 35V, 20%, RLT, 8X11.5, 105C, LOW ESR	157Q-227MOVTR	4
C299	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C300	1800pF, CC, 50V, 5%, 0603	150F-182JAC	4
C302	47uF, CT, 16V, 10%, SMD, 85C	154D-476KKF	4
C303	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C304	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C305	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C306	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4

Electrical Part List

Input/Output and DSP PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C307	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C308	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C309	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C310	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C311	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C312	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C313	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C314	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C315	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C316	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C317	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C318	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C319	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C320	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C321	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C322	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C323	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C324	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C325	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C326	100uF, CE, 35V, 20%, RLT, 6.3X11, 105C, LOW ESR	157Q-107MLUTR	4
C327	100uF, CE, 35V, 20%, RLT, 6.3X11, 105C, LOW ESR	157Q-107MLUTR	4
C328	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C329	220uF, CE, 35V, 20%, RLT, 8X11.5, 105C, LOW ESR	157Q-227MOVTR	4
C330	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C331	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C332	2200pF, CC, 50V, 10%, 0603, X7R	150F-272KAC	4
C334	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C335	47uF, CT, 16V, 10%, SMD, 85C	154D-476KKF	4
C336	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C337	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C338	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C339	1uF, CC, 16V, 10%, 0603, 0.8X1.6	150D-105KAC	4
C340	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C341	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C342	100uF, CT, 10V, 20%, SMD, 3.2X6.0	154C-107MFK	4
C343	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C344	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C346	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C347	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C348	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C349	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C352	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C353	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C354	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4

Electrical Part List

Input/Output and DSP PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C356	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C357	10uF, CT, 16V, 20%, SMD, 1.6X3.2	154D-106MCF	4
C358	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C359	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C360	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C361	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C362	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C363	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C364	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C365	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C366	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C367	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C368	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C369	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C370	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C371	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C373	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C374	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C375	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C376	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C377	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C382	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C383	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C384	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
C385	0.01uF, CC, 50V, 10%, 0603, X7R	150F-103KAC	4
C386	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C387	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C388	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C391	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C392	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C393	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C394	470uF, CE, 16V, 20%, RL, 8X11.5	157D-477MOVE	4
C396	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
C397	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C398	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C399	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C400	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C401	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C402	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C403	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C404	1000pF, CC, 50V, 10%, 0603, X7R	150F-102KAC	4
C501	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C502	220pF, CC, 50V, 5%, 0603, C0G	150F-221JAC	4

Electrical Part List

Input/Output and DSP PCB Assembly

Inductors

Reference Designator	Description	Vendor Part Number	Note
L100	FERRITE, CHIP, 0603, BLM18AG102SN1D, MURATA	1808-0878	4
L101	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L102	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L104	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L105	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L106	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L107	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L108	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L109	FERRITE BEAD, SMD, ACB453215, 125 OHM	1803-0103	4
L110	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L111	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L112	INDUCTOR, 22uH, 20%, 8.1X8, B1000AS-220M=P3, SMD, TOKO	1803-0103	4
L113	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L116	FERRITE BEAD, 4.5X1.6X1.6, BLM41PG102SN1L, MURATA	1808-0871	4
L117	FERRITE BEAD, 4.5X1.6X1.6, BLM41PG102SN1L, MURATA	1808-0871	4
L302	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4
L303	FERRITE BEAD, SMD, ACB453215, 125 OHM	1802-0630	4

Diodes

Reference Designator	Description	Vendor Part Number	Note
D100	SCHOTTKY, 40V, 3A, ST, PS3L40S, DO-214AB, SMD, ST	480L-40S0	4
D101	BAV99, SOT23, PHILIPS	4840-8970	4
D102	BAV99, SOT23, PHILIPS	4840-8970	4
D103	BAV99, SOT23, PHILIPS	4840-8970	4
D104	SCHOTTKY, 40V, 3A, ST, PS3L40S, DO-214AB, SMD, ST	480L-40S0	4
D105	1SS355TE-17, ROHM	4840-1660	4
D106	1SS355TE-17, ROHM	4840-1660	4
D107	1SS355TE-17, ROHM	4840-1660	4
D108	1SS355TE-17, ROHM	4840-1660	4
D109	BAV99, SOT23, PHILIPS	4840-8970	4
D110	BAV99, SOT23, PHILIPS	4840-8970	4
D111	SCHOTTKY, SK16, DO-214AA, 60V, 1A, SMD, PANJIT	480S-K160	4
D112	SCHOTTKY, SK16, DO-214AA, 60V, 1A, SMD, PANJIT	480S-K160	4
D118	LOW CURRENT SMD, LED, RED 2mA	3700-7829	4
D119	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D120	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D121	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D122	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4

Electrical Part List

Input/Output and DSP PCB Assembly

Diodes (continued)

Reference Designator	Description	Vendor Part Number	Note
D123	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D124	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D125	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4
D126	LED, SMD, 3.2X2.4X2.4, RD	3700-7840	4

Transistors

Reference Designator	Description	Vendor Part Number	Note
Q100	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q101	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q102	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q103	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q104	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q105	MMBT4403LT1G, SMD	4854-4030	4
Q106	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q107	MMBT4403LT1G, SMD	4854-4030	4
Q108	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q109	MMBT4403LT1G, SMD	4854-4030	4
Q110	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q111	MMBT4403LT1G, SMD	4854-4030	4
Q112	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q113	PNP, HM1426, SOT-89, 20V, 3A, SMD	4851-4260	4
Q114	MMBT4403LT1G, SMD	4854-4030	4
Q115	MMBT4403LT1G, SMD	4854-4030	4
Q116	MMBT4403LT1G, SMD	4854-4030	4
Q117	MMBT4403LT1G, SMD	4854-4030	4
Q118	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q119	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q120	MMBT4403LT1G, SMD	4854-4030	4
Q121	2N2222, SMD, MMBT2222ALT1G	4860-5410	4
Q122	MMBT4403LT1G, SMD	4854-4030	4
Q123	MMBT4403LT1G, SMD	4854-4030	4
Q124	MMBT4403LT1G, SMD	4854-4030	4
Q125	MMBT4403LT1G, SMD	4854-4030	4
Q126	2N2222, SMD, MMBT2222ALT1G	4860-5410	4

Integrated Circuits

Reference Designator	Description	Vendor Part Number	Note
U100	NJM2068M-#ZZZB, DUAL OP AMP	3130-6890	4
U101	NJM2068M-#ZZZB, DUAL OP AMP	3130-6890	4
U102	NJM2068M-#ZZZB, DUAL OP AMP	3130-6890	4
U104	BA4560F-E2, ROHM	3131-5330	4
U105	BA4560F-E2, ROHM	3131-5330	4
U106	KIA393F-EL/P, DUAL, VOLTAGE COMPARATOR	3130-4990	4

Electrical Part List

Input/Output and DSP PCB Assembly

Integrated Circuits (continued)

Reference Designator	Description	Vendor Part Number	Note
U107	KIA393F-EL/P, DUAL, VOLTAGE COMPARATOR	3130-4990	4
U108	CODEC, CS4272-CZZ, 28PIN, TSSOP, CIRRUS LOGIC	3132-4471	4
U109	SPI FLASH, 4M, AT45DB04, 1D-SU, SOIC8	3132-4721	4
U110	DSP, ADSP-21366KBCZ, 136-BALL CSP-BGA, ADI	3132-4461	4
U111	BA4560F-E2, ROHM	3131-5330	4
U113	HEX INVERTER, SN74LVCU, 04APW, TSSOP, 14 PIN	3132-4731	4
U115	REGULATOR, -15V, MC7915, D2PAK, ONSEMI	3132-843111	4
U116	REGULATOR, MC7815, D2PAK, ONSEMI	3132-844111	4
U117	STEP-DOWN CONVERTER, MP1591DN, SOIC8N, MPS	3132-4711	4
U118	REG, NCP1117ST33T3G, 3.3V, SOT-223, ONSEMI	3132-148111	4
U119	RESET, MCP100T-315I/TT, SOT23, MICROCHIPP	3132-4481	4
U120	STEP-DOWN CONVERTER, MP1591DN, SOIC8N, MPS	3132-4711	4

Miscellaneous

Reference Designator	Description	Vendor Part Number	Note
CN101	2P, ST. WAFER, P=2.0, COULOMB	2102-020S	4
CN102	2P, ST. WAFER, P=2.0, COULOMB	2102-020S	4
CN301B-B	WAFER, 2P, P7.92, STRAIGHT	2101-3092	4
E1B	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231	4
E2B	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231	4
F100	THERMAL FUSE, 40A, MAX 60V, MAX PTC, RESETTABLE, 8X5.5	5201-5006	3, 4 ⚠
F101	THERMAL FUSE, 40A, MAX 60V, MAX PTC, RESETTABLE, 8X5.5	5201-5006	3, 4 ⚠
FOR DSP	COVER, SHIELD, BSPAPS2	4135-6841	4
FOR J102	BRACKET, POWER STAND, 4P, SPK SOCKET	4135-3801	4
J100	JACK, PHONE, 5P, 6.4MM, BLACK, W/SW (BOSE® PART NUMBER – 741427-001S)	2113-3269	
J101	JACK, PHONE, 5P, 6.4MM, BLACK	2113-3270	4
J102	SPEAKON® NEUTRIK®, 4 WIRE, NL4MD-V	2113-1336	4
J103	JACK, RJ45, ST-NE8FAV, 8 PIN, NEUTRIK	2113-3210	4
J301B	3P, ST.WAFER, P=2.0, COULOMB	2102-030S	4
J301L	3P, ST.WAFER, P=2.0, COULOMB	2102-030S	4
J302B	6 PIN WF	2102-060S	4
J302L	6 PIN WF	2102-060S	4
J303B	3P, ST.WAFER, P=2.0, COULOMB	2102-030S	4
J303L	3P, ST.WAFER, P=2.0, COULOMB	2102-030S	4

Electrical Part List

Input/Output and DSP PCB Assembly

Miscellaneous (continued)

Reference Designator	Description	Vendor Part Number	Note
T100	CHOKE, COMMON MODE, 2200R, AT, 100MHZ, 25%, 200MA, SMD	1806-3966	3, 4 ⚠
T101	CHOKE, COMMON MODE, 2200R, AT, 100MHZ, 25%, 200MA, SMD	1806-3966	3, 4 ⚠
T103	PULSE TRANSFORMER, 225uH, 0.35 OHM, 1=1, 100K	1806-3670	3, 4 ⚠
T104	PULSE TRANSFORMER, 225uH, 0.35 OHM, 1=1, 100K	1806-3670	3, 4 ⚠
VR1	VR, ROTARY, 100KAX2, 20%, V, L15, D, LOW RESIDUAL, ALPHA	4751-1359	4
X100	CRYSTAL, HC49, 12.288MHZ, 20PPM, 4.7X13 SMD	2300-3284	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Resistors

Reference Designator	Description	Vendor Part Number	Note
R1	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R3	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R4	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R5	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R6	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R7	16K, RMG, 1/10W, 1%, 0805	4720-163A	4
R8	12K, RMG, 1/4W, 1%, 1206	4725-123A	4
R9	9.1K, RMG, 1/10W, 1%, 0805	4720-912A	4
R10	9.1K, RMG, 1/10W, 1%, 0805	4720-912A	4
R11	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R12	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R13	1M, RMG, 1/16W, 5%, 0603/1608	4723-105J	4
R14	1M, RMG, 1/16W, 5%, 0603/1608	4723-105J	4
R15	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152A	4
R16	0R, RMG, 1/10W, 5%, 0805	4720-000J	4
R17	8.2K, RMG, 1/16W, 5%, 0603/1608	4723-822J	4
R18	6.8K, RMG, 1/16W, 1%, 0603/1608	4723-682A	4
R19	9.1K, RMG, 1/10W, 1%, 0805	4720-912A	4
R20	4R7, RWR, 5W, 5%, RL	474B-4R7J	4
R21	64.9K, RMG, 1/16W, 1%, 0603	4723-6492	4
R22	0R, RMG, 1/10W, 5%, 0805	4720-000J	4
R23	9.1K, RMG, 1/10W, 1%, 0805	4720-912A	4
R24	3.3K, RMG, 1/16W, 1%, 0603/1608	4723-332A	4
R25	3.3K, RMG, 1/16W, 1%, 0603/1608	4723-332A	4
R26	64.9K, RMG, 1/16W, 1%, 0603	4723-6492	4
R27	4.7K, RMG, 1/16W, 1%, 0603/1608	4723-472A	4
R28	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R29	12K, RMG, 1/4W, 1%, 1206	4725-123A	4
R30	16K, RMG, 1/10W, 1%, 0805	4720-163A	4
R31	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152A	4
R32	8.2K, RMG, 1/16W, 5%, 0603/1608	4723-822J	4
R34	51R, RMG, 1/4W, 1%, 1206	4725-510A	4
R35	51R, RMG, 1/4W, 1%, 1206	4725-510A	4
R36	0R, RMG, 1/16W, 5%, 0603	4723-000J	4
R40	100R, RMG, 1/10W, 5%, 0805	4720-101J	4
R41	4R7, RWR, 5W, 5%, RL	474B-4R7J	4
R44	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R45	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R46	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R47	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R48	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R49	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R50	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R51	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R52	1.8K, RMG, 1/16W, 1%, 0603/1608	4723-182A	4
R53	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R54	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R55	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R56	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R57	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R58	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R59	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R60	1.8K, RMG, 1/16W, 1%, 0603/1608	4723-182A	4
R61	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R62	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R63	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R64	1K, RMG, 1/16W, 1%, 0603/1608	4723-102A	4
R65	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R66	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R67	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R68	560R, RMG, 1/16W, 1%, 0603	4723-561A	4
R69	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R70	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R71	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R72	2.7K, RMG, 1/16W, 1%, 0603/1608	4723-272A	4
R75	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R76	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R77	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R78	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R79	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R80	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R81	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R83	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R84	560R, RMG, 1/16W, 1%, 0603	4723-561A	4
R85	560R, RMG, 1/16W, 1%, 0603	4723-561A	4
R86	560R, RMG, 1/16W, 1%, 0603	4723-561A	4
R87	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R88	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R89	100R, RMG, 1/16W, 1%, 0603	4723-101A	4
R90	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R91	2.2R, RMG, 1/16W, 5%, 0603/1608	4723-2R2J	4
R92	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R93	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R94	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R95	2.2K, RMG, 1/16W, 1%, 0603/1608	4723-222A	4
R100	100K, RMG, 1/10W, 1%, 0805	4720-104A	4
R101	100K, RMG, 1/10W, 1%, 0805	4720-104A	4
R102	220K, RMG, 1/10W, 5%, 0805	4720-224J	4
R103	220K, RMG, 1/10W, 5%, 0805	4720-224J	4
R104	220K, RMG, 1/10W, 5%, 0805	4720-224J	4
R105	82K, RMG, 1/10W, 5%, 0805	4720-823J	4
R106	82K, RMG, 1/10W, 5%, 0805	4720-823J	4
R200	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R202	1.5K, RMG, 1/16W, 1%, 0603/1608	4723-152A	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Resistors (continued)

Reference Designator	Description	Vendor Part Number	Note
R203	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R204	22R, RMG, 1/10W, 5%, 0805	4720-220J	4
R205	22R, RMG, 1/10W, 5%, 0805	4720-220J	4
R206	0.12R, RMG, 1/4W, 5%, 1206	4725-R12J	4
R207	0.12R, RMG, 1/4W, 5%, 1206	4725-R12J	4
R208	47K, RMG, 1/10W, 5%, 0805	4720-473J	4
R209	47K, RMG, 1/10W, 5%, 0805	4720-473J	4
R210	47K, RMG, 1/10W, 5%, 0805	4720-473J	4
R212	100R, RMG, 1/10W, 5%, 0805	4720-101J	4
R213	0.12R, RMG, 1/4W, 5%, 1206	4725-R12J	4
R214	0.12R, RMG, 1/4W, 5%, 1206	4725-R12J	4
R215	47K, RMG, 1/10W, 5%, 0805	4720-473J	4
R217	470R, RMG, 1/16W, 5%, 0603/1608	4723-471J	4
R218	10R, RMG, 1/10W, 1%, 0805	4720-100J	4
R219	10R, RMG, 1/10W, 1%, 0805	4720-100J	4
R222	1R, RMG, 1/16W, 5%, 0603	4723-1R0J	4
R223	1R, RMG, 1/16W, 5%, 0603	4723-1R0J	4
R230	10R, RMG, 1/10W, 1%, 0805	4720-100A	4
R231	10R, RMG, 1/10W, 1%, 0805	4720-100A	4
R232	36K, RMG, 1/16W, 1%, 0603	4723-363A	4
R233	36K, RMG, 1/16W, 1%, 0603	4723-363A	4
R234	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R236	10K, RMG, 1/16W, 1%, 0603/1608	4723-103A	4
R238	36K, RMG, 1/16W, 1%, 0603	4723-363A	4
R239	36K, RMG, 1/16W, 1%, 0603	4723-363A	4
R240	47K, RMG, 1/16W, 1%, 0603/1608	4723-473A	4
R241	36K, RMG, 1/16W, 1%, 0603	4723-363A	4
R242	5.1K, RMG, 1/16W, 1%, 0603/1608	4723-512A	4
R243	5.1K, RMG, 1/16W, 1%, 0603/1608	4723-512A	4
R290	100K, RMG, 1/16W, 1%, 0603	4723-104A	4
R291	100R, RMG, 1/16W, 1%, 0603	4723-101A	4

Capacitors

Reference Designator	Description	Vendor Part Number	Note
C1	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C2	0.47uF, CC, 16V, 10%, 0805/2012	150D-474KBDL	4
C3	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C4	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C5	2700pF, CC, 50V, 10%, 0805, 1.2X2.0	150F-272KBD	4
C6	47pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-470JAC	4
C7	330pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-331JAC	4
C8	0.22uF, CC, 16V, 10%, 0805, 1.2X2.0	150D-224KBD	4
C9	220pF, CTC, 0/30, 100V, 5%, 1206	15CG-221JCFH	4
C10	3300pF, CC, 50V, 10%, 0805, 1.2x2.0	150F-332KBD	4
C12	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C13	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C14	4.7uF, CC, 16V, 20%, 1206, SMD, Y5V	150D-475ZCF	4
C15	0.47uF, CM, 100V, 10%, RBT, 9.5X7.2	153H-474KRN	4
C16	0.33uF, CM, 100V, 5%, RBT, 7.2 X9.5, METALLIZED, FARATRON	153H-334JNRM4	4
C17	3300pF, CC, 50V, 10%, 0805, 1.2x2.0	150F-332KBD	4
C18	2700pF, CC, 50V, 10%, 0805, 1.2X2.0	150F-272KBD	4
C19	680pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-681JBD	4
C20	0.22uF, CC, 16V, 10%, 0805, 1.2X2.0	150D-224KBD	4
C21	4.7uF, CC, 16V, 20%, 1206, SMD, Y5V	150D-475ZCF	4
C22	0.47uF, CM, 100V, 10%, RBT, 9.5X7.2	153H-474KRN	4
C23	220pF, CTC, 0/30, 100V, 5%, 1206	15CG-221JCFH	4
C24	0.33uF, CM, 100V, 5%, RBT, 7.2 X9.5, METALLIZED, FARATRON	153H-334JNRM4	4
C25	2200pF, CC, 50V, 10%, 0603, X7R	150F-222KAC	4
C26	2200pF, CC, 50V, 10%, 0603, X7R	150F-222KAC	4
C27	47pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-470JAC	4
C28	330pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-331JAC	4
C29	0.47uF, CC, 16V, 10%, 0805/2012	150D-474KBDL	4
C31	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C32	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C33	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C34	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C37	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C38	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C39	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C40	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C41	0.01uF, CC, 100V, 20%, 0805	150H-103MBD	4
C43	2200uF, CE, 50V, 20%, RL, 18X31, 105C	157F-228M7$T	4
C44	2200uF, CE, 50V, 20%, RL, 18X31, 105C	157F-228M7$T	4
C45	220pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-221JAC	4
C46	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C47	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C48	2.2uF, CM, 63V, 10%, RBT, 7.2X11X6, METALLIZED	153I-225KNUM	4
C49	2.2uF, CM, 63V, 10%, RBT, 7.2X11X6, METALLIZED	153I-225KNUM	4
C51	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C52	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C53	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C54	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C56	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C57	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C58	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C59	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C60	220pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-221JAC	4
C61	220pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-221JAC	4
C62	220pF, CTC, 0/60, 5%, 0603, 0.8X1.6	15CH-221JAC	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C63	1000pF, CTC, 0/30, 5%, 0805, 1.2x2.5	15CG-102JBD	4
C65	2200pF, CC, 100V, 5%, 0805, X7R	150H-222JBD	4
C66	2200pF, CC, 100V, 5%, 0805, X7R	150H-222JBD	4
C68	0.1uF, CC, 50V, 10%, 0603, X7R	150F-104KAC	4
C100	0.33uF, CM, 300V, 10%, RB, P15, 18X15.5X10	1511-334K03Z	3,4 ⚠
C102	1uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-105KCFM	4
C103	0.015uF, CC, 630V, 10%, 1206, X7R	150M-153KCF	4
C104	0.015uF, CC, 630V, 10%, 1206, X7R	150M-153KCF	4
C105	0.015uF, CC, 630V, 10%, 1206, X7R	150M-153KCF	4
C106	0.015uF, CC, 630V, 10%, 1206, X7R	150M-153KCF	4
C107	680uF, CE, 200V, 20%, RL, 25X35, 105C	157U-687M&^T	4
C108	680uF, CE, 200V, 20%, RL, 25X35, 105C	157U-687M&^T	4
C109	1000pF, CC, 400V, 20%, RL, 9X6	150T-102MQK	3, 4 ⚠
C110	1000pF, CC, 400V, 20%, RL, 9X6	150T-102MQK	3, 4 ⚠
C111	2200pF, CC, 400V, 20%, RL, 10X6	150T-222MSK	4
C112	0.33uF, CM, 300V, 10%, RB, P15, 18X15.5X10	1511-334K03Z	3,4 ⚠
C200	680pF, CTC, 0/60, 5%, 0603	15CH-681JAC	4
C201	0.22uF, CC, 16V, 10%, 0805, 1.2X2.0	150D-224KBD	4
C202	0.47uF, CM, 400V, 5%, RB, 16X16 X7, METALLIZED, FARATRONIC	153T-474J55M4	4
C203	0.47uF, CM, 400V, 5%, RB, 16X16 X7, METALLIZED, FARATRONIC	153T-474J55M4	4
C204	1uF, CC, 25V, 10%, 0805	150E-105KBD	4
C205	1uF, CC, 25V, 10%, 0805	150E-105KBD	4
C206	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C207	2.2uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-225KCFM	4
C208	1uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-105KCFM	4
C210	4700pF, CC, 250VAC, 10%, SMD, X7R	150R-472KKIM	3, 4 ⚠
C211	1uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-105KCFM	4
C212	4700pF, CC, 250VAC, 10%, SMD, X7R	150R-472KKIM	3, 4 ⚠
C213	4700pF, CC, 250VAC, 10%, SMD, X7R	150R-472KKIM	3, 4 ⚠
C214	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4
C215	100pF, CC, 50V, 5%, 0603, C0G	150F-101JAC	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Capacitors (continued)

Reference Designator	Description	Vendor Part Number	Note
C218	4700pF, CC, 250VAC, 10%, SMD, X7R	150R-472KKIM	3, 4 ⚠
C219	1uF, CC, 50V, 10%, 1206, X7R, MURATA	150F-105KCFM	4
C220	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C221	1uF, CC, 10V, 20%, 0603, 332181050R1	150C-105ZAC	4
C222	470uF, CE, 35V, 20%, RL, 10X20, 105C	157Q-477MS9T	4
C223	470uF, CE, 35V, 20%, RL, 10X20, 105C	157Q-477MS9T	4
C226	0.15uF, CC, 50V, 10%, 0805	150F-154KBD	4
C227	0.15uF, CC, 50V, 10%, 0805	150F-154KBD	4
C301	220pF, CTC, 0/30, 100V, 5%, 1206	15CG-221JCFH	4
C302	220pF, CTC, 0/30, 100V, 5%, 1206	15CG-221JCFH	4
C303	0.01uF, CC, 100V, 20%, 0805	150H-103MBD	4
C304	0.01uF, CC, 100V, 20%, 0805	150H-103MBD	4
C305	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C306	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C307	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C308	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C309	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C310	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C311	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4
C312	0.1uF, CC, 100V, 10%, 0805, X7R	150H-104KBD	4

Inductors

Reference Designator	Description	Vendor Part Number	Note
F200	FERRITE-CORE, 1206, 0.6K, 1.5A, 100MHZ, MI1206K601R	1808-0907	4
L1	10uH, CHOKE, COIL, 10%, 7A, T94-2	1806-3899	4
L3	10uH, CHOKE, COIL, 10%, 7A, T94-2	1806-3899	4
L8	CHOKE, COMMON MODE, 2X16UH, 8A, FT50-43	1806-3913	4
L100	CHOKE, COMMON MODE ,2X10MH, 3A, TC-2510	1806-3934	4
L101	CHOKE, COMMON MODE ,2X10MH, 3A, TC-2510	1806-3934	4
L200	FERRITE-CORE, 0805, 1000OHM, 100MHZ, 1A	1808-0904	4
L201	FERRITE-CORE, 0805, 1000OHM, 100MHZ, 1A	1808-0904	4
L202	FERRITE-CORE, 0805, 1000OHM, 100MHZ, 1A	1808-0904	4
L204	FERRITE-CORE, 0805, 1000OHM, 100MHZ, 1A	1808-0904	4

Diodes

Reference Designator	Description	Vendor Part Number	Note
D1	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D2	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D3	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D4	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Diodes (continued)

Reference Designator	Description	Vendor Part Number	Note
D5	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D6	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D7	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D8	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D9	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D10	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D14	BAS321, 200V, 250MA, 50NS, SOD323	480S-3210	4
D100	GBU8K, BRIDGE, 800V, 8A, RL	4840-9218	4
D200	US1J, 600V, 1A, 75NS, SOD124	480U-S1J0	4
D201	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D202	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D203	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D204	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D205	12CWQ10FNTRBF, RECTIFIER, 100V, 12A, DPAK, SMDIR	4840-9213	4
D206	12CWQ10FNTRBF, RECTIFIER, 100V, 12A, DPAK, SMDIR	4840-9213	4
D207	12CWQ10FNTRBF, RECTIFIER, 100V, 12A, DPAK, SMDIR	4840-9213	4
D208	12CWQ10FNTRBF, RECTIFIER, 100V, 12A, DPAK, SMDIR	4840-9213	4
D209	RECTIFIER, ES1D, 200V, 1.1A, SMD	4840-9190	4
D210	RECTIFIER, ES1D, 200V, 1.1A, SMD	4840-9190	4
D211	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D212	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D216	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D217	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D218	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
D290	BAS316, 75V, 0.5A, SOD323, SM	480S-3160	4
Z200	ZENER, 4JB15, 1/2W, 15V, 0.3V, BZX8, SOD323F, SM, PHILIPS	4837-1503	4
Z201	ZENER, 4JC11, 1/2W, 11V, 0.6V, BZX8, SOD323F, SM, PHILIPS	4837-1103	4

Transistors

Reference Designator	Description	Vendor Part Number	Note
Q1	MOSFET, N-CHANNEL, FDD368, 2_NL, 100V, 32A, TO-252AA	4903-6820	4
Q2	MOSFET, N-CHANNEL, FDD368, 2_NL, 100V, 32A, TO-252AA	4903-6820	4
Q3	MOSFET, N-CHANNEL, FDD368, 2_NL, 100V, 32A, TO-252AA	4903-6820	4
Q4	MOSFET, N-CHANNEL, FDD368, 2_NL, 100V, 32A, TO-252AA	4903-6820	4
Q5	BC856S, PNP PAIR, 60V, SOT363	4858-56S0	4
Q6	BC856S, PNP PAIR, 60V, SOT363	4858-56S0	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Transistors (continued)

Reference Designator	Description	Vendor Part Number	Note
Q200	MOSFET, N-CH, 500V, 11A, STB12NM50ND, D2PAK, SM, ST	4905-0ND0	4
Q201	MOSFET, N-CH, 500V, 11A, STB12NM50ND, D2PAK, SM, ST	4905-0ND0	4
Q202	REGULATOR, 5V, LM78L05ACM, SO-8	3131-3390	4
Q203	BCP56-10, NPN, SOT223	485C-P560	4
Q204	REGULATOR, 250MA, LM79L05, SO8	3132-3091	4
Q205	NPN/PNP PAIR, FFB2227A, SC70-6	4852-27A0	4
Q206	NPN/PNP PAIR, FFB2227A, SC70-6	4852-27A0	4
Q207	BC856S, PNP PAIR, 60V, SOT363	4858-56S0	4
Q208	MOSFET, N-CH, 60V, 115MA, 2N7002, SOT-23, SM	4907-0020	4
Q209	MOSFET, N-CH, 60V, 115MA, 2N7002, SOT-23, SM	4907-0020	4
Q210	BC856S, PNP PAIR, 60V, SOT363	4858-56S0	4
Q211	BC846B, SOT23, PHILIPS, SMD	4858-46B0	4
Q290	PUMZ1, NPN/PNP PAIR, SOT363	485U-MZ10	4

Integrated Circuits

Reference Designator	Description	Vendor Part Number	Note
IC1	HALF BRIDGE DRIVER, LV4970M, SO-16	3132-3051	
IC2	HALF BRIDGE DRIVER, LV4970M, SO-16	3132-3051	
IC3	ANALOG 2CH CONTROLLER, LV4930M, QUAD44	3132-3061	
IC4	MC33078DR2G, OP-AMP, SO-8	3132-2711	
IC200	L6571BD013TR, HALF BRIDGE DRIVER, SO8 (BOSE® PART NUMBER 291328)	3132-3071	

Miscellaneous

Reference Designator	Description	Vendor Part Number	Note
CON300	WAFER, 3P, P7, .92/11.88, STRAIGHT	2101-3097	4
CON301	WAFER, 4P, P3.96, STRAIGHT, MALE	2101-3053	4
F100	FUSE, T6.3A/125V, TE5-T, PSE/UL	5120-1094	3,4 ⚠
J301	6 PIN, WF	2102-060S	4
J302	6 PIN, WF	2102-060S	4
J303	WAFER, 3P, P2.0, ST, MALE	2101-3008	4
MOV	VARISTOR, 320V, 10%, SIOV-S10K320	4735-0003	3,4 ⚠
N1	THERMISTER, NTC, 100K, 5%, B5, 7620C0104J162, 0805, EPCOS	5202-0019	4
N100	THERMISTER, NTC 5 0HM, 4A, NIOSP005L, UL/CSA/VDE	5202-0010	4

Electrical Part List

SMPS / Power Amplifier PCB Assembly

Miscellaneous (continued)

Reference Designator	Description	Vendor Part Number	Note
N101	THERMISTER, NTC 5 0HM, 4A, NIOSP005L, UL/CSA/VDE	5202-0010	4
N200	THERMISTOR, PTC, 1K, 0805, 90 DEG, EPCOS	5202-0011	4
N201	THERMISTOR, PTC, 1K, 130 DEG, 0805, EPCOS	5202-0021	3,4 ⚠
S100	WIRE JUMPER, ROLLER FORM, D=0.6MM	635N-0002	4, 120V ONLY
S301	WIRE JUMPER, ROLLER FORM, D=0.6MM	635N-0002	4
S302	WIRE JUMPER, ROLLER FORM, D=0.6MM	635N-0002	4
TRAF200	TRANSFORMER, SW, ETD29, WAH HING	1806-3898?	3,4 ⚠

AC Primary PCB Assembly

Miscellaneous

Reference Designator	Description	Vendor Part Number	Note
E1A	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231+0	
E2A	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231+0	
E3A	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231+0	
P1	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231+0	
P2	SPADE TERMINAL, 6.3X0.8, STRAIGHT	2101-1231+0	
CON300B	WAFER, 3P, P7.92/11.88, STRAIGHT	2101-3097+0	
CON300L	WAFER, 3P, P7,.92/11.88, STRAIGHT	2101-3097+0	
J105	INLET, AC, UL/CSA/VDE, 250V, 10A	2113-1144+0	3 ⚠
J105-1	BRACKET, A/C INLET, SECC, BSPAPS2+05CS11	4135-6791+1	

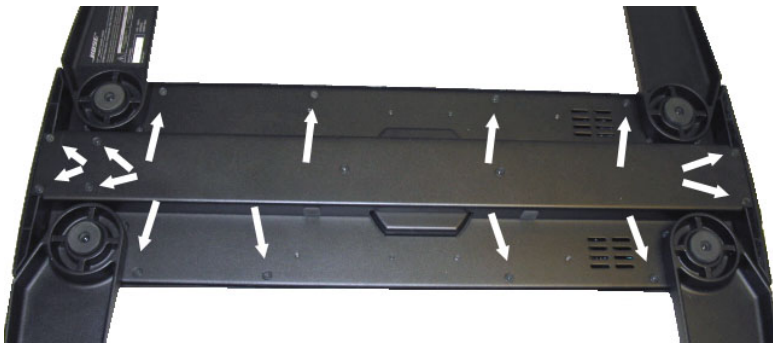
Disassembly Procedures

L1® Model 1S Power Stand Procedures

1. Leg Assembly Removal

1.1 On a soft surface, place the power stand upside down on its top housing with the legs facing upward.

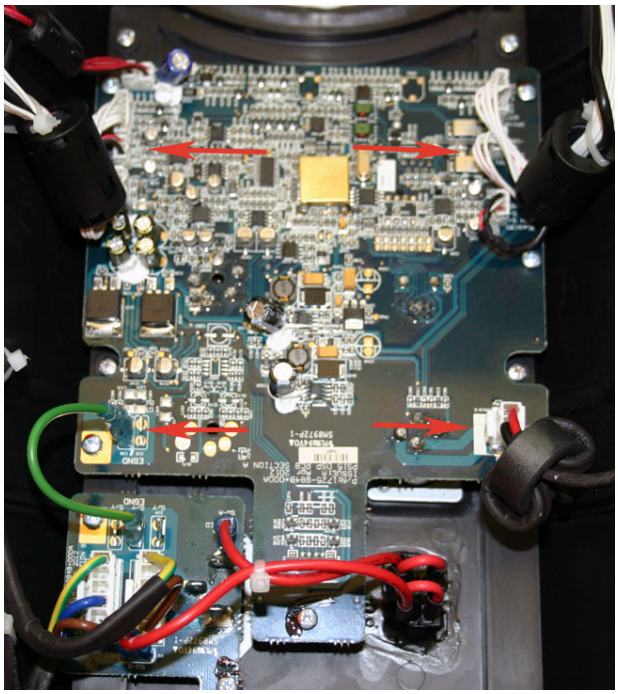
1.2 With the power stand legs closed, remove the four screws indicated at right.



1.3 Open the power stand legs by rotating the leg assembly open. Remove the fourteen remaining screws that secure the leg assembly to the upper housing.

1.4 Carefully lift off the leg assembly. Unplug the amplifier cable that connects to the line array cavity. Unplug the green/yellow ground wire from the AC Input PCB at terminal E1A.

2. Input / Output Panel Assembly Removal



Note: This procedure removes the entire input / output panel assembly with the circuit boards attached. Procedures for removing individual boards are below.

2.1 Perform procedure 1.

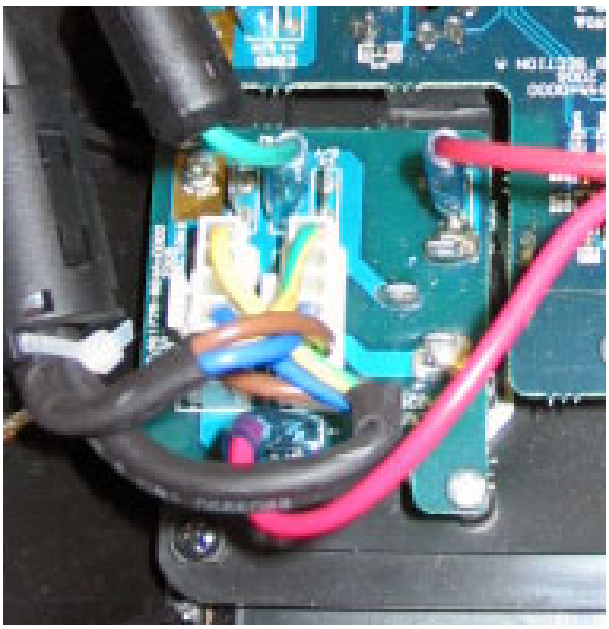
2.2 Unplug the wire harnesses at CON300L and CON300B on the AC Input PCB.
CAUTION: During re-assembly, be sure to dress the AC wiring so that it will clear the leg mechanism internal moving parts. Failure to do so will result in AC line voltage on the leg assembly metal parts and present a danger to end users. Be sure to perform the Hi-Pot test in this manual before returning the unit to a customer.

2.3 Unplug the wire harnesses at CN301B-B, J301B, J303B, J302B, CN101, CN102, J302L, J301L and J303L on the DSP PCB.

Disassembly Procedures

2.4 Remove the six screws that secure the Input / Output Panel assembly to the power stand upper housing.

2.5 Lift out the Input / Output Panel assembly.



3. AC Input PCB Removal

3.1 Perform procedure 1.

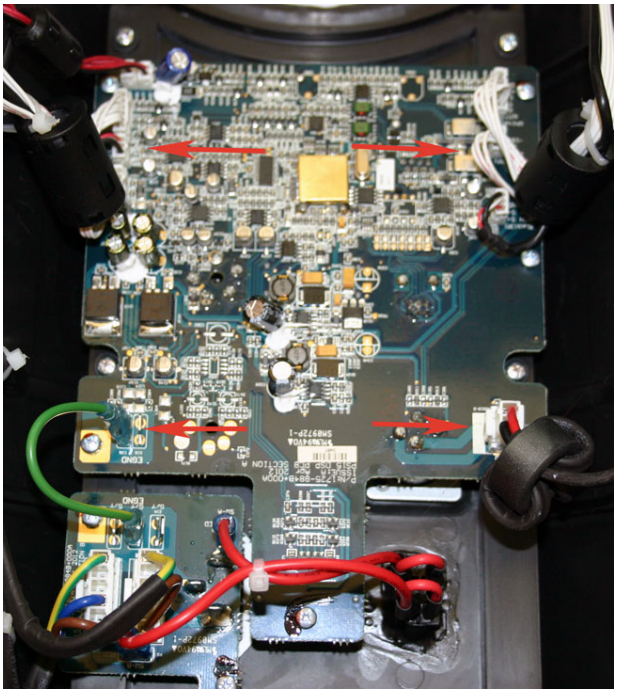
3.2 Unplug the wire harnesses at CON300L and CON300B on the AC Input PCB.

3.3 Unplug the green/yellow ground wire at terminal E2A.

3.4 Unplug the red wires at terminals P1 and P2. These wires go to the AC power switch.

3.5 Remove the two screws that secure the AC input jack to the outside of the input / output panel.

3.6 Remove the two screws that secure the AC Input PCB to the back of the input / output panel.



3.7 Lift out the AC Input PCB.

4. DSP PCB Removal

4.1 Perform procedure 1.

4.2 Make a note of the wiring configuration, and unplug the wire harness at connectors CN301B-B, J301B, J303B, J302B, CN101, CN102, J302L, J301L and J303L on the DSP PCB.

Re-assembly Note: Be sure to plug the proper wire harness into the 3-pin connectors on the DSP board. Damage to the board could result.

4.3 Unplug the green/yellow ground wire at terminal E2B.

Disassembly Procedures

4.4 Remove the screws that secure the bass module output jack and the ToneMatch jack to the input / output panel.

4.5 Remove the nut that secures the analog input jack to the input / output panel.

4.6 Remove the Trim knob.

4.7 Remove the six screws that secure the DSP board to the back of the input / output panel. Lift out the DSP board.

5. Amplifier Board Removal

Note: The amplifier boards used to drive the line array and bass module are identical. One amplifier PCB is used for each.

5.1 Perform procedure 1.

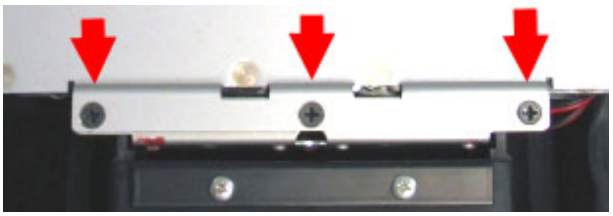
5.2 Remove the four screws that secure the amplifier PCB bracket to the upper housing. Do no remove the three screws located near the power stand handle.

5.3 Flip over the amplifier bracket assembly. Unplug the wire harnesses at connectors J301, J302, CON301, J303 and CON300.

5.4 Remove the eight screws that secure the amplifier PCB assembly to the amplifier bracket. Lift off the amplifier PCB assembly. Be sure to retain the thermal pad located under the amplifier board for re-use.

Disassembly Procedures

6. Fan Removal



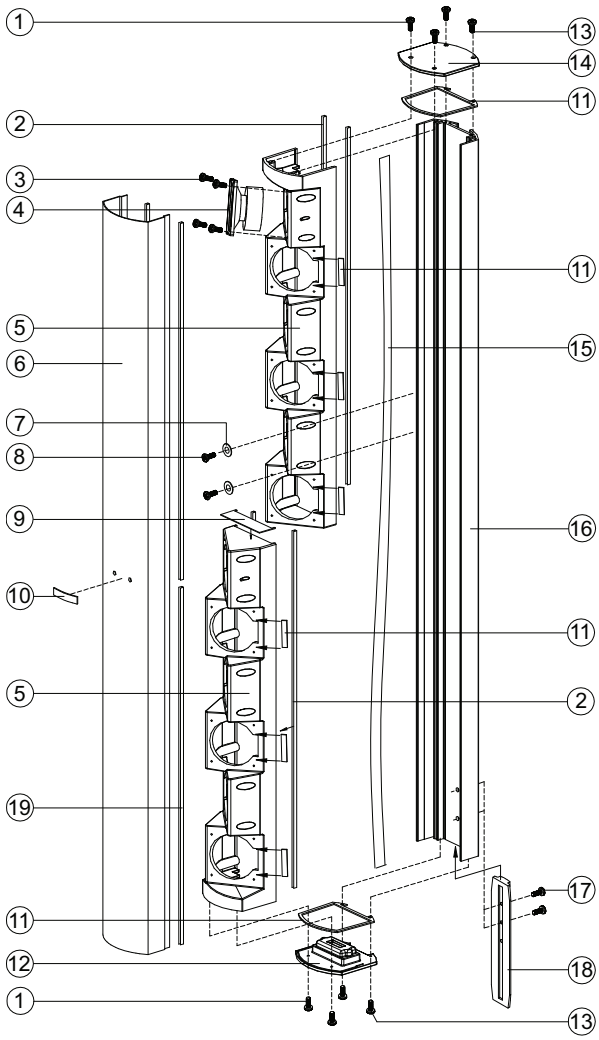
6.1 Perform steps 5.1 and 5.2 above.

6.2 Remove the two screws that secure the fan. Lift out the fan.

6.3 Unplug the wire harness from CN101 or CN102 located on the DSP PCB.

Line Array Procedures

Refer to the figure at right for the following procedures.



1. Upper Line Array Grille Removal

1.1 Remove the four screws (1,13) that secure the end cap # 1 assembly (top end cap) to the line array enclosure. Lift off the end cap.
Re-assembly Note: There are two different types of screws used to secure the end caps to the line arrays. Be sure to use the correct screw type in the proper location during re-assembly.

1.2 Remove the four screws (1,13) that secure the end cap # 2 (bottom end cap) assembly to the line array enclosure (16). Lift off the end cap. Do not unplug the molex connector from the speaker harness.

1.3 Grasp the edge of the grille (6) and gently lift it away from the enclosure.

2. Bose® Logo Removal

2.1 Perform procedure 1.

2.2 On the back of the grille (6), unbend the legs of the logo (10). Lift off the Bose logo.

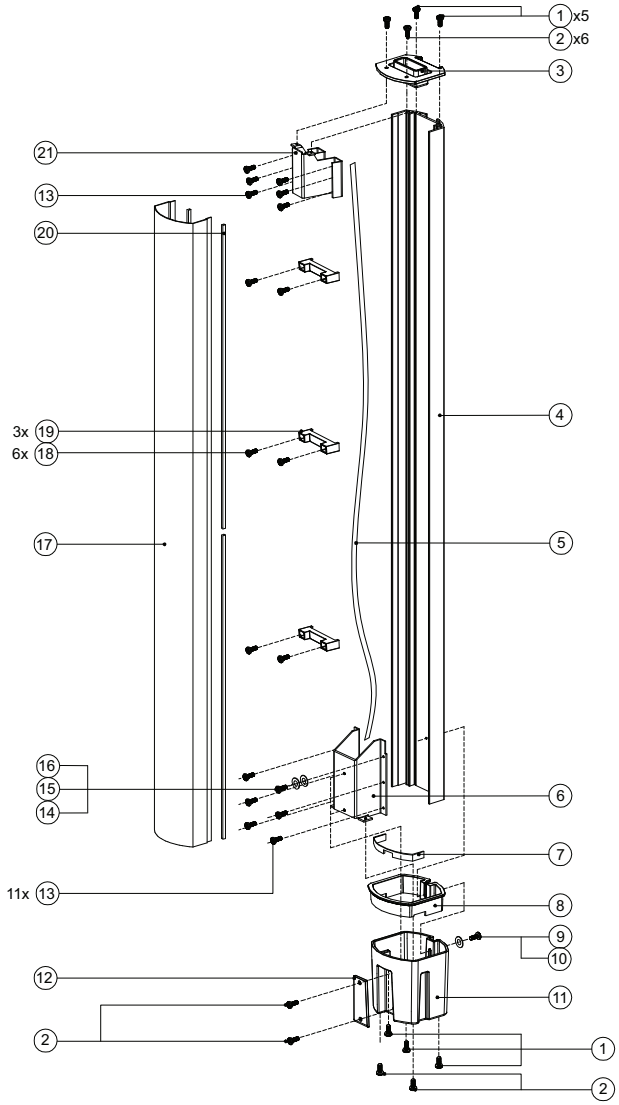
Disassembly Procedures

3. Array Extension Front Cover Removal

3.1 Remove the four screws (1,2) that secure the end cap # 3 (top end cap) assembly to the line array enclosure (4). Lift off the end cap. Do not unplug the molex connector from the speaker harness. Be sure to use the correct screw type in the proper location during re-assembly.

3.2 Remove the two screws (2) that secure the teflon strip (12) to the front of the end cap # 4 (bottom end cap) assembly. Lift off the teflon strip. Remove the four screws that secure the end cap # 4 assembly to the array extension enclosure. Slide off the end cap (11). Do not unplug the molex connector from the speaker harness. When re-installing the end cap # 4 assembly, be sure that the green/yellow ground wire is routed through the notch in the steel bottom plate.

3.3 Grasp the edge of the extension cover (17) and gently lift it away from the enclosure.



4. Driver Removal

Note: Refer to the line array exploded view diagram on the previous page for this procedure.

4.1 Perform procedure 1.

4.2 Remove the four screws (3) that secure the driver (4) to the driver baffle (5).

4.3 Lift the driver out of the baffle. Unplug the wires from the driver terminals. Be sure to observe polarity when installing the new driver.

Note: Refer to the line array exploded view diagram on the previous page for procedures 5 & 6.

5. Line Array Top End Cap (# 1) Removal

5.1 Remove the fours screws (1,13) that secure the end cap (14) to the line array enclosure (16). Lift off the end cap.

6. Line Array Bottom End Cap (# 2) Removal

6.1 Remove the fours screws (1,13) that secure the end cap (12) to the line array enclosure (16). Lift off the end cap. Unplug the molex connector from the speaker harness.

Disassembly Procedures

Note: Refer to the array extension exploded view diagram on the previous page for procedures 7 & 8.

7. Array Extension Top End Cap (# 3) Removal

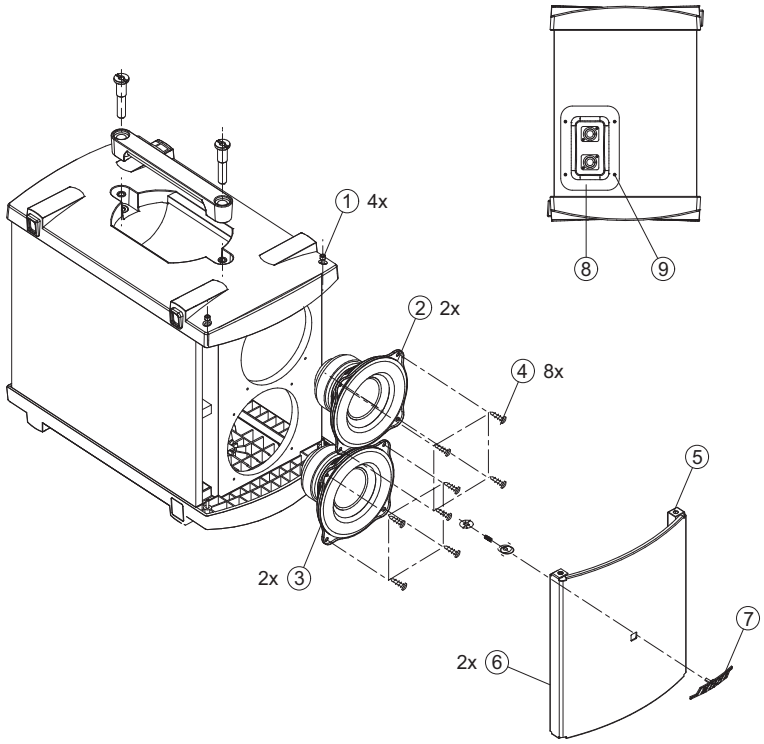
7.1 Remove the fours screws (1,2) that secure the end cap (3) to the line array enclosure (4). Lift off the end cap. Unplug the molex connector from the speaker harness.

8. Array Extension Bottom End Cap (# 4) Removal

8.1 Remove the two screws (2) that secure the teflon strip (12) to the front of the end cap # 4 assembly. Lift off the teflon strip. Remove the four screws (1,2) that secure the end cap # 4 assembly to the array extension enclosure (4). Slide off the end cap. Unplug the molex connector from the speaker harness.
Re-assembly Note: When re-installing the end cap # 4 assembly, be sure that the green/yellow ground wire is routed through the notch in the steel bottom plate.

B1 Bass Module Procedures

Refer to the figure at right for the following procedures.



1. Grille Removal

1.1 Remove the four allen screws (1) that secure the grille (5) to the upper and lower speaker end caps. Lift off the grille.

2. Bose® Logo Removal

2.1 Perform procedure 1.

2.2 On the back of the grille (5), remove the retaining nut and spring from the post of the logo (7). Lift the logo off of the grille.

3. Woofer Removal

3.1 Perform procedure 1.

3.2 Remove the four screws (4) that secure the woofer (2) to the bass module enclosure.

3.3 Lift the woofer out of the enclosure. Note the wiring configuration and unplug the wires from the driver terminals. Be sure to observe polarity when installing the replacement woofer.

Disassembly Procedures

B1 Bass Module Procedures (continued)

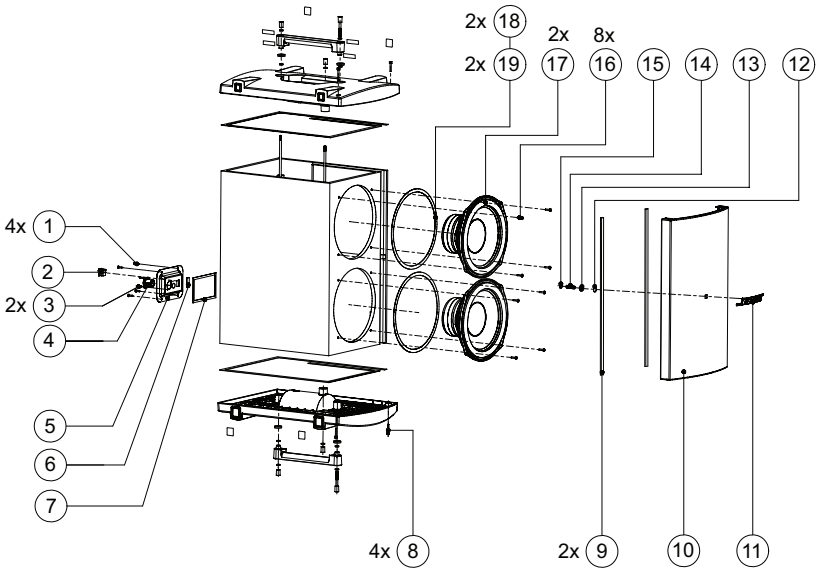
4. Input Panel Removal

4.1 Perform procedure 3, removing the top woofer (2) only. It should have a red wire and a black wire connected to it. Unplug the wires from the woofer.
Re-assembly Note: Be sure to observe polarity when installing the woofer.

4.1 Remove the four screws (9) that secure the input panel (8) to the bass module enclosure.

4.2 Lift the input panel away from the bass module enclosure and disconnect the wiring harness.

B2 Bass Module Procedures
Refer to the figure at right for the following procedures.



1. Grille Removal

1.1 Remove the four allen screws (8) that secure the grille (10) to the upper and lower speaker end caps. Lift off the grille.

2. Bose® Logo Removal

2.1 Perform procedure 1.

2.2 On the back of the grille (10), remove the gasket, washer, spring and clip (12,13,14,15) from the post of the logo (11). Lift the logo off of the grille.

3. Woofer Removal

3.1 Perform procedure 1.

3.2 Remove the four screws (16) that secure the woofer (17) to the bass module enclosure. Lift the woofer out of the enclosure. Note the wiring configuration and unplug the wires from the driver terminals. Be sure to observe polarity when installing the replacement woofer.

4. Input Panel Removal

4.1 Perform procedure 3, removing the top woofer (17) only. It should have a red wire and a black wire connected to it. Unplug the wires from the woofer.
Re-assembly Note: Be sure to observe polarity when installing the woofer.

4.1 Remove the four screws (1) that secure the input panel assy to the bass module enclosure.

4.2 Lift the input panel assembly away from the bass module enclosure and disconnect the wiring harness.

Test Procedures

L1® Model 1S Power Stand Tests

Equipment Required

- dB Meter
- Digital Multi-meter
- Audio Signal Generator
- Distortion Meter
- 2 - 4 Ohm, 250 Watt Load Resistors
- Neutrik® Speakon® NL4 plug
- Test cables, see Appendix

Test Setup

For the following tests, connect a Neutrik® Speakon® NL4 plug to the bass module out jack on the power stand input/output panel. Short pins 2+ and 2- on the plug together. This will put the power stand into test mode.

1. Line Array Amplifier THD+N Test

1.1 Connect a power stand boot test cable to the line array output jack located in the line array cavity well in the power stand. Terminate the cable with a 4 ohm, 250 Watt load resistor.

1.2 Set the power stand trim knob to mid-point. Using a TRS input cable, apply a balanced 3mVrms, 1 kHz input signal to the analog input jack on the power stand input panel.

1.3 Slowly increase the input level from -50dBV to 500mVrms. While increasing the input level, measure the THD+N level across the load resistor. Verify that the noise level is <0.05% @ -20dBV.

2. Line Array Amplifier Noise Test

2.1 Connect a power stand boot test cable to the line array output jack located in the line array cavity well in the power stand. Terminate the cable with a 4 ohm, 250 Watt load resistor.

2.2 Set the power stand trim knob to mid-point. Using a shorted TRS plug, short the analog input jack on the power stand input panel.

2.3 Measure the output noise level at the load resistor. It should be <0.3mVrms, A-Weighted.

3. Bass Module Amplifier THD+N Test

3.1 Connect a Bass Amplifier Output Test Cable to the bass module output jack located on the input/output panel on the power stand. Terminate the 1+ and 1- leads on the cable with a 4 ohm, 250 Watt load resistor. Short the 2+ and 2- leads together to put the power stand into test mode.

3.2 Set the power stand trim knob to mid-point. Using a TRS input cable, apply a balanced 3mV rms, 1 kHz input signal to the analog input jack on the power stand input panel.

3.3 Slowly increase the input level from 3mVrms to 500mVrms. While increasing the input level, measure the THD+N level across the load resistor. Verify that the noise level is <0.05% @ 100mVrms.

4. Bass Module Amplifier Noise Test

4.1 Connect a Bass Amplifier Output Test Cable to the bass module output jack located on the input/output panel on the power stand. Terminate the 1+ and 1- leads on the cable with a 4 ohm, 250 Watt load resistor. Short the 2+ and 2- leads together to put the power stand into test mode.

4.2 Set the power stand trim knob to mid-point. Using a shorted TRS plug, short the analog input jack on the power stand input panel.

4.3 Measure the output noise level at the load resistor. It should be <0.3 mVrms, A-Weighted.

Test Procedures

Note: The Neutrik® Speakon® NL4 test plug is not used for the following tests.

5. L1 Model 1S System Sweep Test

5.1 Set up the L1 Model 1S power stand with an L1 Model 1S line array and two B1 bass modules connected.

5.2 Set the power stand trim knob to mid-point.

5.3 Using a balanced TRS cable, apply a 100mVrms, 20 Hz signal to the power stand line input jack.

5.4 Sweep the input frequency from 20 Hz to 20 kHz. Verify that the system does not produce any audible acoustical or mechanical abnormalities.

6. ToneMatch® (M) Port Test

6.1 Set up the L1 Model 1S power stand with an L1 Model 1S line array and B1 bass module connected as shown on pages 7 & 8 of this manual.

6.2 Connect a T1 ToneMatch Audio Engine to the ToneMatch port located on the power stand input/output panel as shown on page 9 of this manual..

6.3 Apply a 10mVrms, 20Hz signal to either the channel 4 or 5 input on the T1. Verify that the T1 powers up and appears to operate properly. **Note:** Refer to the T1 ToneMatch owner's guide on the Bose Live Music Technology Group website at http://www.bose.com/musicians if you have any questions about operation of the T1.

6.4 Sweep the input frequency from 20 Hz to 20 kHz. Verify that the audio output sounds normal across the audio output range.

Hi-Pot Test

THIS IS A MANDATORY TEST

CAUTION - All units that are disassembled as part of a repair MUST be Hi-Pot tested before being returned to the customer. This test applies a high voltage to the AC line cord and measures the current leakage to the chassis and/or other metal parts on the outside of the unit to check for potential shock hazards.
- If the unit fails Hi-Pot test, it must be rerturned to the technician for troubleshooting and repair of the problem, after which it must be Hi-Pot tested again to ensure that it now passes the test.
- This test requires a Hi-Pot tester and associated cables to perform this test. There is a PDF file located on the L1 Model 1S product specific page on the Bose Service web site that details how to perform this test.

Hi-Pot Tester Settings:

100-120V units: Voltage Setting = 2.12KVDC, High Current = 3.5ma, Low Current = 0ma, Ramp Time = 1 Second, Dwell Time = 1 Second, Continuity OFF

220-240V units: Voltage Setting = 3.54 KVDC, High Current = 3.5ma, Low Current = 0ma, Ramp Time = 1 Second, Dwell Time = 1 Second, Continuity = OFF

1.1 Connect the AC mains cord to the back of the unit under test. Plug the other end of the AC cord into the Hi-Pot tester.

Connect the Return lead to the Analog Input jack using an adapter and cable.

1.2 With the tester set to the above parameters, perform the test. If the unit fails, return the unit to the technician for troubleshooting and and repair of the problem.

Once the unit is repaired, repeat the Hi-Pot test to ensure the unit is safe to return to the customer.

Test Procedures

2. Ground Bond Test

IMPORTANT: This test MUST be performed if the ground connection from the AC inlet to the chassis has been disturbed as part of a repair. This test ensures that the ground connection can take the full current of the AC line if needed due to a product failure.
It does this by measuring the current handling capability of the ground connection by putting a high current through the ground blade of the AC line cord and measuring the leakage current on the exposed metal part of the chassis.

2.1 Plug the AC line cord into the AC adapter box supplied with the Hi-Pot tester. Connect the return line from the Hi-Pot tester to an exposed metal section of the chassis. Ensure a good electrical connection.

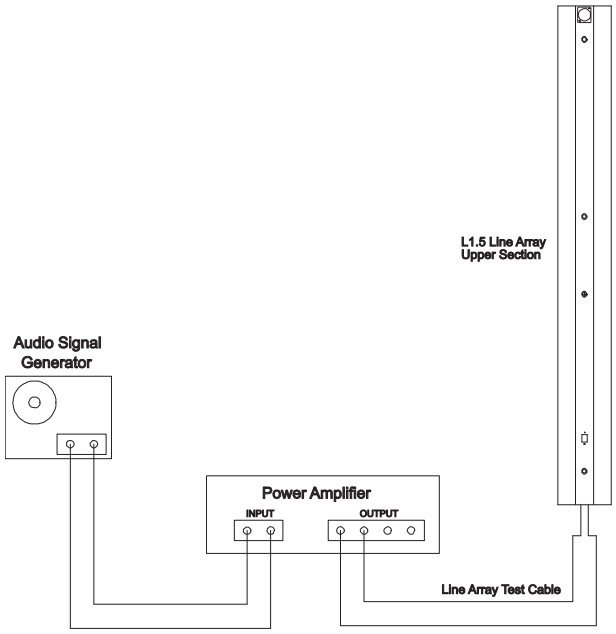
2.2 Perform the ground bond test in accordance with the parameters below.

- 10Amps, < 12VAC open circuit,
< 0.1 Ohms.

2.3 If the unit passes this test and the Hi-Pot tests, it can be returned to the customer. If the unit fails this test, it must be returned to the repair tech for troubleshooting and repair and then be retested.

L1 Model 1S Line Array Tests

Set up the unit under test as shown below.



1. Air Leak Test

1.1 Apply a 100 Hz, 10 Vrms sine wave to the unit under test.

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

2. Transducer Rub and Tick Test

2.1 Remove the transducer you wish to test using the disassembly procedures in this manual.

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

2.3 Apply a 20 Hz, 5 Vrms sine wave to the transducer assembly.

Test Procedures

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 good. Suspension noise will not be heard with program material.

3. Transducer Phase Test

3.1 Momentarily apply a DC voltage of 10V, positive applied to the positive tab of the dual banana jack on the line array test cable and negative applied to negative (gnd) tab.

3.2 All of the driver cones should move outward when the DC voltage is applied.

3.3 Rewire any incorrectly connected transducers.

4. Line Array Sweep Test

4.1 Set up the upper or lower line array section as shown in the figure on the previous page.

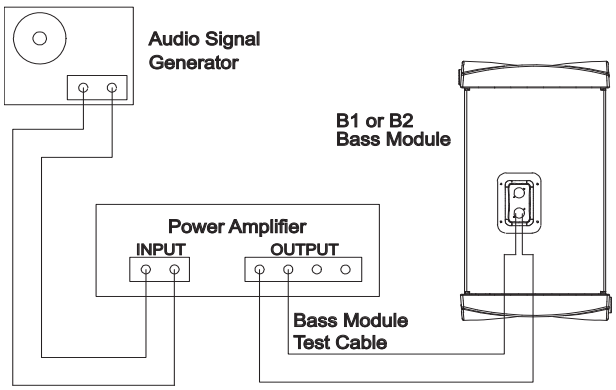
4.2 Apply a 100 Hz, 10 Vrms sine wave to the input.

4.3 While listening to the output of the system, sweep the input frequency slowly from 100 Hz to 15 kHz.

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

Bass Module Tests

Set up the unit under test as shown below.



B1 Bass Module Tests

1. Air Leak Test

1.1 Apply a 100 Hz, 20 Vrms sine wave to the unit under test.

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

2. Transducer Rub and Tick Test

2.1 Remove the transducer you wish to test using the disassembly procedures in this manual.

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

2.3 Apply a 10 Hz, 10 Vrms signal to the transducer assembly.

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

Test Procedures

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 good. Suspension noise will not be heard with program material.

3. Transducer Phase Test

3.1 Apply a DC voltage of 20V, positive applied to the positive tab of the dual banana jack on the bass module test cable and negative applied to negative (gnd) tab.

3.2 Note that all driver cones move outward when the DC voltage is applied.

3.3 Rewire any incorrectly connected transducers.

4. System Sweep Test

4.1 Set up the bass module as shown on the previous page.

4.2 Apply a 10 Hz, 20 Vrms sine wave to the Neutrik® Speakon® 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 and ticking.

B2 Bass Module Tests

1. Air Leak Test

1.1 Set up the bass module as shown on the previous page.

1.2 Apply a 46 Hz, 14 Vrms sine wave to the unit under test.

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

2. Transducer Rub and Tick Test

2.1 Remove the transducer you wish to test using the disassembly procedures in this manual.

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

2.3 Apply a 20 Hz, 14 Vrms signal to the transducer 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 good. Suspension noise will not be heard with program material.

Test Procedures

3. Transducer Phase Test

3.1 Apply a DC voltage of 20V, positive applied to the positive tab of the dual banana jack on the bass module test cable and negative applied to negative (gnd) tab.

3.2 Note that all driver cones move outward when the DC voltage is applied.

3.3 Rewire any incorrectly connected transducers.

4. System Sweep Test

4.1 Set up the bass module as shown on the previous page.

4.2 Apply a 40 Hz, 14 Vrms sine wave to the Neutrik® Speakon® input connector.

4.3 While listening to the output of the system, sweep the input frequency slowly from 40 Hz to 200 Hz.
Note: The whooshing noise from the port around 45 Hz is acceptable.

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

5. Input Panel EQ Switch Test

5.1 Insert a Neutrik connector which can access pin 2+ and 2- of the connector. Verify the correct resistance (+/-5%) for each bass setting of the EQ switch.

5.2 The minus (-) setting = 1.6 kohms +/- 1%.

5.3 The plus (+) setting = 3.0 kohms +/- 1%.

Appendix

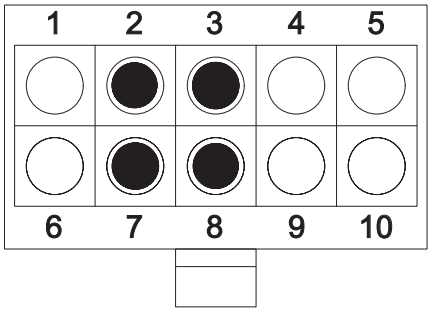
L1® Model 1S Power Stand Test Cables

Note: In order to be able to properly test the L1 Model 1S Power Stand, you will need to make a few test cables.

1. Powerstand Boot Test Cable

This test cable plugs into the boot connector of the L1™ Model 1S Power Stand for all line array amplifier tests.

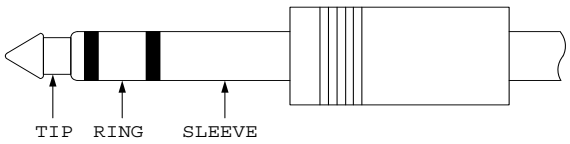
Parts needed:
1 - 10 pin Molex female connector, Molex part number 39-01-3103
4 - Molex crimp-on pins for above connector
1 - dual banana jack
12 feet of 16 or 18AWG twisted pair wire



Molex Connector Rear View

Cut the 12 foot length of twisted pair wire in half. Strip all of the wires back about 1/4 inch. Crimp the molex pins onto the wires. The positive (+) side of the twisted pair wires will go into pins 7 and 8 of the Molex connector. The negative (-) side of the twisted pair wires will go into pins 2 and 3 of the Molex connector. Connect the wires that go to pins 3 and 8 of the Molex connector to the positive (+) side of the dual banana jack. Connect the wires that go to pins 4 and 9 of the Molex connector to the negative (-) side of the dual banana jack.

2. Line Input 1/4" Phono Jack Test Cable



Parts needed:
1 - TRS 1/4" phono jack
1 - Dual banana jack
16 - 18 AWG shielded 3-wire cable, 6 feet
This cable is used to test the line input on the power stand.

Connect the dual banana jack's positive (+) connection to the tip connection of the 1/4" phono jack. Connect the dual banana jack negative (-) connection to the ring connection of the 1/4" phono jack. Connect the sleeve of the TRS jack to a single banana connector.

Appendix

3. Bass Module Output Test Cable:

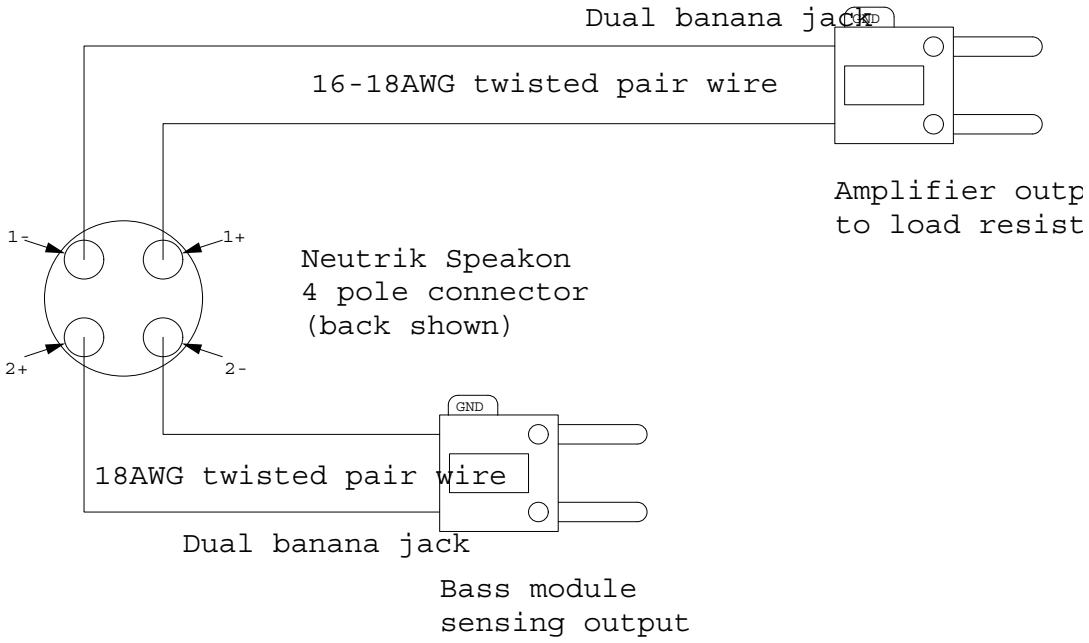
This cable is used to connect the Bass Module output jack to the load resistors used in the test procedures.

Parts needed:
1- Neutrik® Speakon® NL4FX X-Line/4 Pole connector.
4 - Dual banana jacks
2 - 10k ohm, 1/4 Watt resistors
16 or 18 AWG twisted pair wire, 6 feet
18 AWG twisted pair wire, 2 feet

The connector used is a Neutrik NL4FX Speakon X-Line / 4 Pole type. This connector has 4 terminals labeled 1+, 1-, 2+ and 2-. Terminals 1+ and 1- are used to connect to the load resistors. Use 18 or 16 AWG wire for these terminals. Use twisted pair wires to avoid inducing noise into the cable during use.

The 2+ and 2- terminals will be used to sense the loads connected to the Speakon connector when used with the B1 Bass Module jack. This jack automatically senses the load on this jack to properly tailor the EQ and output level for the connection of one or two bass modules. It does this by sensing the resistive value across terminals 2+ and 2-. The bass modules have a 10k ohm resistor across these terminals. When only one bass module is connected, the power stand sees the 10k resistance and sets the EQ and output level accordingly. When two bass modules are connected, it sees 5k and sets the EQ and output level accordingly. For the test cable, you will use 18 AWG twisted pair wire to a dual banana jack.

It is also useful to have 3 spare banana jacks, one with a short across it and 2 with a 10k Ohm, 1/4 Watt resistor each to simulate a bass module connected to the terminals.



Amplifier Output Test Cable Wiring Diagram

Appendix

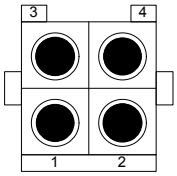
4. L1® Model 1S Line Array Test Cables

These two cables will allow you to test the upper line array section without an L1 Model 1S power stand. Use these cables for the line array test procedures in this service manual.

Line Array Test Cable

Parts needed:
1 - 4 pin Molex male connector, Molex part number 39-01-2041
4 - Molex crimp-on pins for above connector, Molex part number 39-00-0041 (M)
1 - dual banana jack
12 feet of 16 or 18AWG twisted pair wire

Cut the 12 foot length of twisted pair wire in half. Strip all of the wires back about 1/4 inch. Crimp the molex pins onto the wires. The positive (+) side of the twisted pair wires will go into pins 2 and 4 of the Molex connector. The negative (-) side of the twisted pair wires will go into pins 1 and 3 of the Molex connector. Connect the wires that go to pins 2 and 4 of the Molex connector to the positive (+) side of the dual banana jack. Connect the wires that go to pins 1 and 3 of the Molex connector to the negative (-) side of the dual banana jack.



Molex Connector
Rear View

Appendix

L1® Model 1S Power Stand EQ and Firmware Update Procedure

This update procedure uses a software program that is designed to update the software used on the T1 ToneMatch® Audio Engine. At the end of this update procedure, there is a provision to update the L1 Model 1S system EQ and firmware. You must have a T1 ToneMatch Audio Engine connected to the power stand to be able to perform this update. If you would like to update the T1's firmware, presets and themes as well during this process, refer to the Bose L1 updater instructions as found on the Bose Live Music Technology Group website at http://www.bose.com/musicians.

Note: The software application used for this update is PC only. At this time there is no version available for Apple computers.

Required Equipment:

T1 ToneMatch Audio Engine
ToneMatch System cable (RJ45 provided with the T1)
USB interface cable (not included)
PC with Microsoft Windows 2000 or higher, internet access and a USB 1.1 or USB 2.0 port

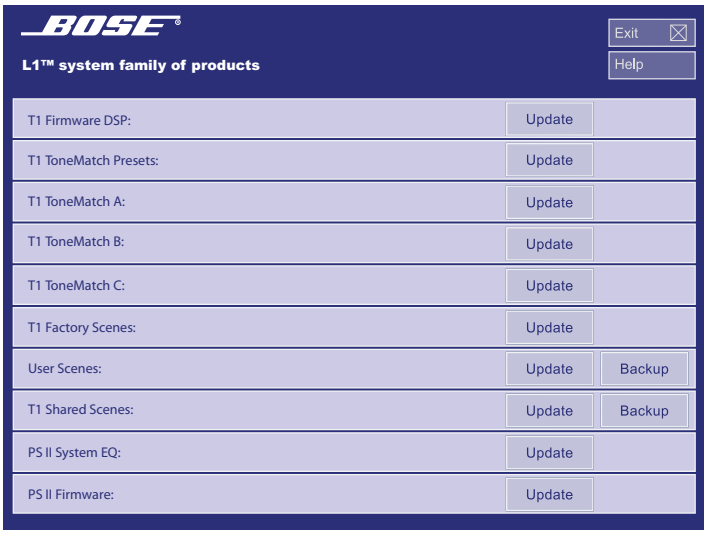
Setup:

- Connect the T1 ToneMatch Audio Engine to the PS II power stand using the RJ45 cable.
- Connect the T1 to the computer using the USB interface cable.
- Connect the L1 power stand to AC mains and turn it on at the AC power switch.
- Turn on the T1 ToneMatch Audio Engine at the power switch on the rear panel.
- Verify that the T1 appears to power up properly.
- Verify that the computer recognizes the T1 connected as a USB audio device.

Downloading and Running the L1 Updater Software:

1. Open a web browser and navigate to the Bose Musicians web site at http://www.bose.com/musicians. Click on the download L1 Updater Software link. Save the updater file to a folder on your desktop. **Note:** DO NOT attempt to run the file from the internet, as this will cause the update process to fail.
2. When your download is complete, navigate to the folder on your desktop where you saved the L1 Updater file. Click the Open button to run the L1 Updater Software. You should see the L1 Updater application screen as shown below.
3. Follow the update instructions on the computer screen. The bottom two buttons on the updater software are used to update the PSII power stand EQ and firmware.
4. Click on the PS II System EQ Update button.
5. Once the System EQ is updated, click on the PS II Firmware Update button.
6. Once the firmware is updated, you may exit the L1 Updater program.

L1 Updater Application Screen



Service Manual Revision History

Date	Revision Level	Description of Change	Change Driven By	Pages Affected
9/12	00	Document released at revision 00.	Service manual release	All
3/13	01	B2 bass module test procedures added	New product	59 - 60
5/14	02	Removed part number for two smps/amplifier boards mounted to heatsink. Service centers should be ordering individual boards.	Service part availability change	15
1/15	03	- Added part number for B1/B1 Logo Kit - Added part number for J100	New part	23,24 37
4/15	04	- Added part number for VR1 - Added Caution note to dress AC wires to avoid potential AC shock hazard during re-assembly	New part Caution Note	38 48

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

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