L1 Pro8
Portable Line Array System

Service Manual

Reference Number 840919-SM
REV 03

CONTENTS

CONTENTS

Title **Page**

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. Make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the unit to the customer.

Use the following checks to perform these measurements:

A. Leakage Current Hot Check - With the unit completely reassembled, plug the AC line cord directly into a 264V (line-neutral), 60Hz power source. (Do not use an isolation transformer during this test.)

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) UL 101 “Leakage Current for Appliances” and Underwriters Laboratories (UL) 60065/ IEC 60065 Clause 9.1.1.

With the unit Standby switch either in the ON position or OFF position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the unit (antennas, handle bracket, metal cabinet, screwheads, metallicoverlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis.

Any current measured must not exceed 3.5 mA (or MIU). Reverse the unit power cord plug in the outlet and repeat test.

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE UNIT TO THE CUSTOMER.

B. Insulation Resistance Test Cold Check - (1) Unplug the power supply and connect a jumper wire between line and neutral blades of the plug.

(2) Measure the resistance with an ohmmeter between the jumpered AC plug and each exposed metallic cabinet part on the unit. The resistance measured to the metal panel should be between 2 and infinite MOhms. Also, the resistance measured to exposed input/output connectors should be between 4 and infinite MOhms.

If it is not within the limits specified, there is the possibility of a shock hazard, and the unit must be repaired and rechecked before it is returned to the customer.

CAUTION: The Bose L1 Pro8 Portable Line Array System contains no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

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.

WARRANTY

The Bose L1 Pro8 Portable Line Array System is covered by a limited 5-year transferable warranty. Units that fail within 90 days of sale should be replaced.

PART LIST NOTES

1. The individual parts located on the PCBs are listed in the Electrical Part List.

2. 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.

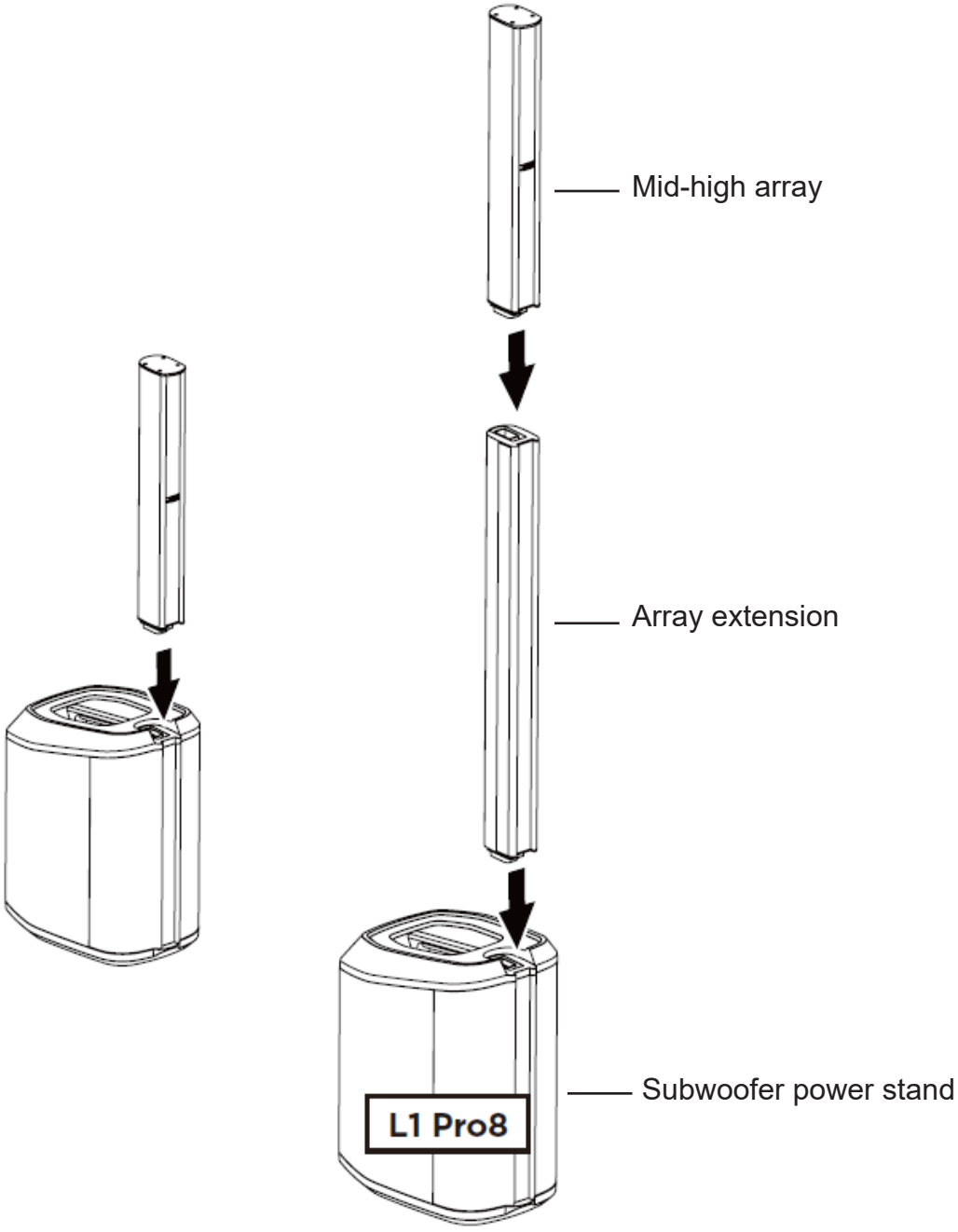
3.  This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.

PRODUCT DESCRIPTION

L1 Pro8 Portable Line Array System is the most compact, most portable, play-anywhere system. The system is ideal for Singer-Songwriter with 8 Twiddlers and one subwoofer. It will replace current L1 Compact system.

Before connecting the system to a power source, assemble the system using the array extension and mid-high array.

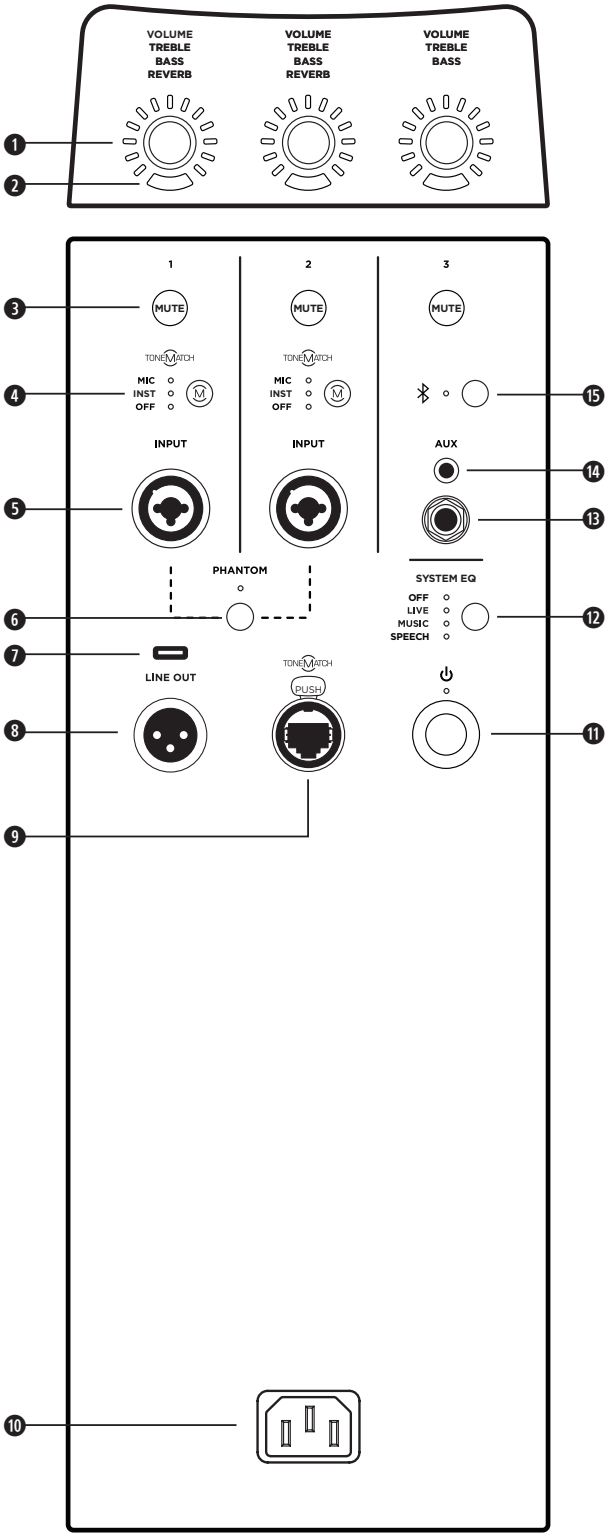
1. Insert the array extension into the subwoofer power stand.
2. Insert the mid-high array into the array extension.



The L1 Pro8 can be assembled without using the array extension; the mid-high array can be connected directly to the subwoofer power stand. This configuration is most useful when on an elevated stage to be sure the mid-high array is at ear level.

PRODUCT DESCRIPTION

Connections and Controls



❶ **Channel Parameter Control:** Adjust the level of volume, treble, bass, or reverb for your desired channel. Press the control to switch between parameters; rotate the control to adjust the level of your selected parameter.

❷ **Signal/Clip Indicator:** The LED will illuminate green when a signal is present and will illuminate red when the signal is clipping or the system is entering limiting. Reduce the channel or signal volume to prevent signal clipping or limiting.

❸ **Channel Mute:** Mute the output of an individual channel. Press the button to mute the channel. While muted, the button will illuminate white.

❹ **Channel ToneMatch Button:** Select the ToneMatch preset for an individual channel. Use **MIC** for microphones and use **INST** for acoustic guitar. The corresponding LED will illuminate white while selected.

❺ **Channel Input:** Analog input for connecting microphone (XLR), instrument (TS unbalanced), or line level (TRS balanced) cables.

❻ **Phantom Power:** Press the button to apply 48-volt power to channels 1 and 2. The LED will illuminate white while phantom power is applied.

❼ **USB Port:** USB-C connector for Bose service use. ***Note:*** *This port is not compatible with Thunderbolt 3 cables.*

❽ **XLR Line Output:** Use an XLR cable to connect the line-level output to a Sub1/Sub2 or another bass module.

❾ **ToneMatch Port:** Connect your L1 Pro to a T4S or T8S ToneMatch mixer via a ToneMatch cable.

CAUTION: *Do not connect to a computer or phone network.*

❿ **Power Input:** IEC power cord connection.

⓫ **Standby Button:** Press the button to power on the L1 Pro. The LED will illuminate white while the system is on.

⓬ **System EQ:** Press the button to scroll through and select a master EQ suitable for the use case. The corresponding LED will illuminate white while selected.

⓭ **TRS Line Input:** Use a 6.4-millimeter (¼-inch) TRS cable to connect line-level audio sources.

⓮ **Aux Line Input:** Use a 3.5-millimeter (⅛-inch) TRS cable to connect line-level audio sources.

⓯ ***Bluetooth*® Pair Button:** Set up pairing with *Bluetooth* capable devices. The LED will flash blue while the L1 Pro is discoverable and illuminate solid white when a device is paired for streaming.

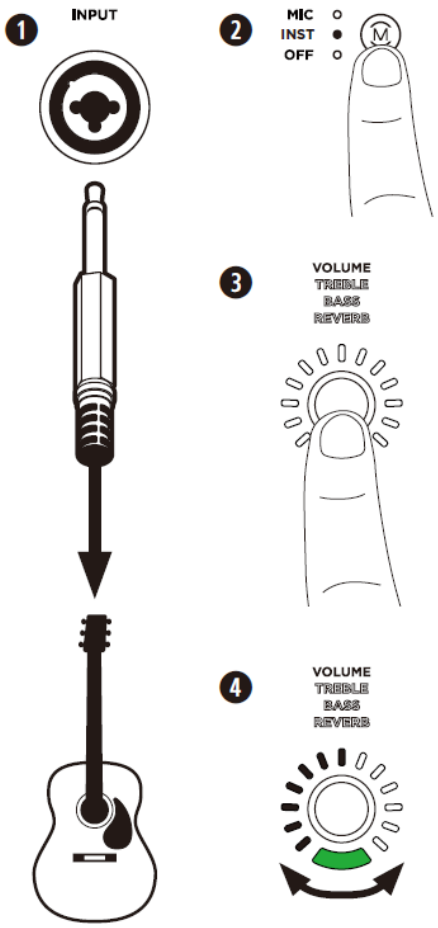
PRODUCT DESCRIPTION

Connecting Sources

Channel 1 & 2 Controls

Channel 1 and 2 are for use with microphones, guitars, keyboards, or other instruments. Channel 1 and 2 will automatically detect a source input level to adjust volume taper and gain stage.

1. Connect your sound source to the **Channel Input** with the appropriate cable.
2. Apply a ToneMatch preset—to optimize the sound of your microphone or instrument—by pressing the **Channel ToneMatch Button** until the LED for your chosen preset is illuminated. Use **MIC** for microphones and use **INST** for acoustic guitars and other instruments. Use **OFF** if you do not want to apply a preset.
   Note: *Use the L1 Mix app to choose custom presets from the ToneMatch library. The corresponding LED will illuminate green when a custom preset is selected.*
3. Press the **Channel Parameter Control** to choose a parameter to modify. The parameter name will illuminate white while it is selected.
4. Rotate the **Channel Parameter Control** to adjust the level of the selected parameter. The parameter LED will indicate the level of the selected parameter.
   Note: *While **Reverb** is selected, press and hold the control for two seconds to mute the reverb. While reverb is muted, **Reverb** will flash white. To unmute reverb, press and hold for two seconds while **Reverb** is selected. Reverb mute will reset when the system is powered off.*



Channel 3 Controls

Channel 3 is for use with *Bluetooth*® enabled devices and line-level audio inputs.

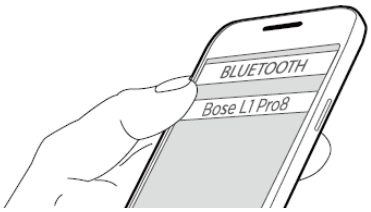
Bluetooth **Pairing**

The following steps describe how to manually connect a *Bluetooth* enabled device to stream audio.

You can use the L1 Mix app to access additional device control. For more information on the L1 Mix app, see **L1 Mix App Control** below.

1. Turn on the *Bluetooth* feature on your mobile device.
2. Press and hold the ***Bluetooth*** **Pair Button** for two seconds. When ready to pair, the LED will flash blue.

3. Your L1 Pro will be visible in your device list on your mobile device. Select your L1 Pro from the device list. When the device pairs successfully, the LED will illuminate solid white.



Packaging Part List

L1 Pro8 (includes Array) (see Figure 1)

Item Number	Description	Bose Part Number	Vendor Part Number	Notes
1	CARTON	859613-0010	T302001585000	
2	EXTENSION ASSY	833679-0110	T910000075580	
3	CARRY BAG, BLACK	856991-0110	T310000075000	
4	MANUAL BAG	865047-0010	-	
5	TOP EPE FOAM	857376-0010	-	
6	BOTTOM EPE FOAM	857372-0010	-	
7	CARDBOARD SIDE PADS	857373-0010	-	
8	SAFETY SHEET	857139-0010	-	
9	QSG	857138-0010	-	
10	SHEET,USER SOFTWARE UPDATE GUIDE	865083-0010	-	
11	CABLE, LINE CORD, IEC C13, NA	350745-0010	T640100016600	3 ⚠
	CABLE, LINE CORD, IEC C13, EU	350747-0010	T640100015400	
	CABLE, LINE CORD, IEC C13, JP	350749-0020	T640100015500	
	CABLE, LINE CORD, IEC C13, UK	350748-0010	T640100015200	
	CABLE, LINE CORD, IEC C13, AU	350746-0010	T640100021100	

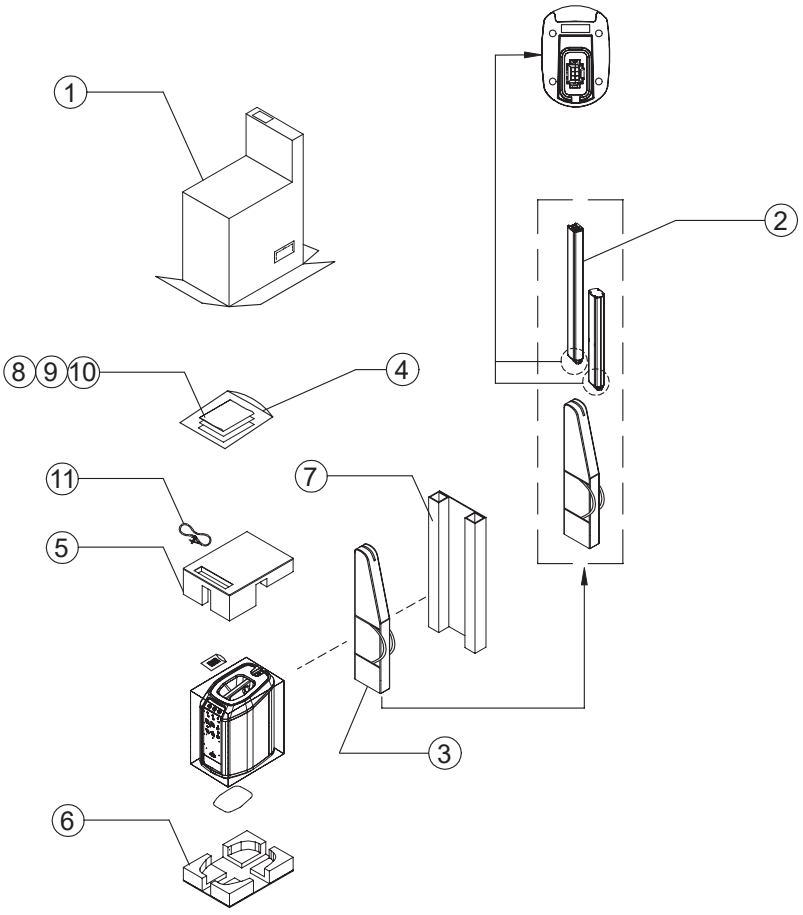


Figure 1. L1 Pro8 Packaging Exploded View

Main Part List

L1 Pro8 Power Stand (see Figure 2)

Item Number	Description	Bose Material Number	Vendor Part Number	Notes
1	WASHER, OD12.7XID8.5XT2.0	-	T181200000740	
2	WASHER, OD16XID8.1XT1.1	-	T181200000590	
3	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031200	
4	BRACKET, ANTENNA	-	T100424500100	
5	SCREW, T3.5XL10	-	T15335101F610	
6	SILICON FOAM, 25 DEGREE, TOP	-	T180200015760	
7	SCREW, T4XL15	-	T15001111F610	
8	AMP, MAIN PCBA, ASSY	-	T910000075360	
9	SCREW, M3XL16	-	T151301630610	
10	LINT, ADHESIVE, BLACK, 3M9448A K	-	T180000008640	
11	BRACKET, SECC	-	T130207500100	
12	NON WOVEN, ADHESIVE, BLACK, 3M 9448A	-	T182900003120	
13	SOLDER LUG, OD8.0XID4.1XL56	-	T690300045600	
14	ENCLOSURE, RIGHT	-	T100422700100	
15	BRACKET, WOOD, MDF, E1, BLACK	-	T180400000990	
16	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031080	
17	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500031040	
18	SCREW, T4XL20	-	T15340201F600	
19	BOTTOM, BLACK	-	T100423000100	
20	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031170	
21	PC SHEET, BOTTOM, LEFT	843440-0110	T180700009360	
22	PC SHEET, BOTTOM, RIGHT	843439-0110	T180700009370	
23	INLAY, BOTTOM, BACK	860705-0110	T180700009790	
24	PC SHEET, BOTTOM	-	T180700009560	3 ⚠
25	RUBBER FEET, BOTTOM, LEFT	-	T180200016510	
26	RUBBER FEET, BOTTOM, RIGHT	-	T180200016520	
27	PORT, BLACK	-	T100422800100	
28	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031180	
29	CABLE, WF, 4PIN	-	T641700168600	
30	SILICON FOAM, 25 DEGREE, BOTTOM	-	T180200015770	
31	WOOFER, 20X340mm	829930-0010	T911600011280	3 ⚠
32	NON WOVEN, ADHESIVE, BLACK, 3M 9448A	-	T182900003190	
33	NON WOVEN, ADHESIVE, BLACK, 3M 9448A	-	T182900003200	

Main Part List

L1 Pro8 Power Stand (see Figure 2)

Item Number	Description	Bose Material Number	Vendor Part Number	Notes
34	GRILLE ASSY, POWER STAND, SVCE	861200-011S	T130207400100	
35	SILICON FOAM, 25 DEGREE, FRONT	-	T180200015750	
36	CABLE, TW1+EQ, 6PIN	-	T641700169000	
37	ENCLOSURE, LEFT	-	T100422600100	
38	WADDING, FR-W0025, WHITE	-	T182700002480	
39	ENCLOSURE, TOP	-	T100422900100	
40	COVER SEAL, BLACK	-	T100424300100	
41	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031060	
42	HANDLE, TOP	-	T100403900100	
43	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500032720	
44	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500032710	
45	NUT, M8	-	T181000000660	
46	SCREW, T3.5XL14	-	T15335142F610	
47	SCREW, M8XL30	-	T15180302F410	
48	PCB SUBASSY, VOLUME, SVCE	861359-001S	T910000074760	
49	PORON, ADHESIVE, BLACK, DS11 K	843134-0110	T180500033870	
50	BRACKET, VOLUME	-	T100402800100	
51	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031000	
52	INLAY, BOTTOM, BACK	-	T180700009350	
53	RUBBER RING, 50 DEGREE, BLACK	-	T180200016500	
54	KNOB, VOLUME	841657-0110	T100403800100	

Power Stand Exploded View

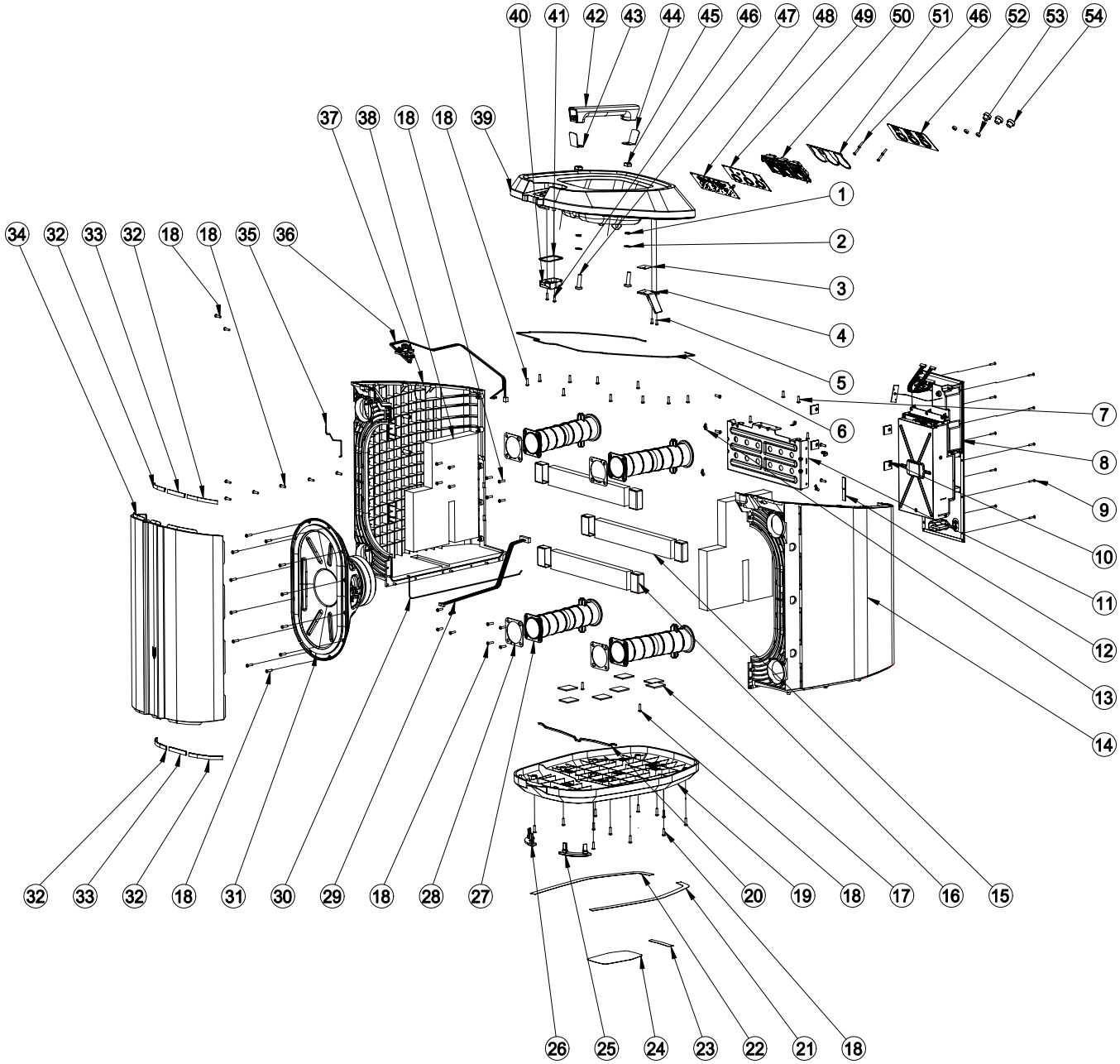


Figure 2. L1 Pro8 Power Stand Exploded View

Main Part List

L1 Pro8 I/O Panel Assy (see Figure 3)

Item Number	Description	Bose Material Number	Vendor Part Number	Notes
1	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500012350	
2	SCREW, M3.0XL9, BLUE ZINC+NYL	-	T15130091C610	
3	SCREW, T3XL8, 1.3P, NICKEL	-	T153300612631	
4	SHIELD COVER, SECC	-	T130207700100	
5	SCREW, T3.0XL12, 1.06P NICKEL	-	T15330122F610	
6	WASHER, OD5.0XID3.1XT2.0	-	T181200000270	
7	PLATE HEATSINK, AL1050	-	T130203100100	
8	THERMAL PAD 1, HEATSINK	844029-0110	T181700001640	
9	THERMAL PAD 2, HEATSINK	844030-0110	T181700001630	
10	THERMAL PAD, H500	856799-0110	T181700001730	
11	HEATSINK, MOS, AL	-	T130203200200	
12	SPACER, PA66-ROW 94V0	-	T100461800100	
13	THERMAL PAD, EXTRUSION	845032-0110	T181700001650	
14	VOLUME, CONNECT CABLE, 10PIN	-	T641700180000	
15	VOLUME, CONNECT CABLE,10PIN	-	T641700180100	
16	EVA, 38 DEGREE, BLACK	-	T180500032640	
17	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031130	
18	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031120	
19	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031150	
20	NON WOVEN, ADHESIVE, BLACK, DS11	-	T182900003070	
21	ASSY, PCB, ANTENNA AND CABLE	796036-001S	T690800019100	
22	FENCE COVER, RF, CU-NI ALLOY	-	T130196900100	
23	FENCE, RF, CU-NI ALLOY	-	T130196800100	
24	ASSY, PCBA, MAIN-I/O, SVCE	861373-001S	T910000070280	
25	POWER, LIGHT GUID	-	T100402400100	
26	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500032740	
27	NON WOVEN, ADHESIVE, BLACK, DS11	-	T182900003040	
28	BUTTON, SELECTION, PC+ABS	-	T100403500100	
29	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500032750	
30	EVA, 38 DEGREE, ADHESIVE, BLACK, 3M 9448A	-	T180500032680	
31	POWER, BUTTON, PC+ABS	-	T100401900100	
32	RING, POWER, BUTTON	-	T100402100100	

Main Part List

L1 Pro8 I/O Panel Assy (see Figure 3)

Item Number	Description	Bose Material Number	Vendor Part Number	Notes
33	LIGHT GUIDE, POLARITY	-	T100402300100	
34	BUTTON, SELECTION, PC+ABS	-	T100402900100	
35	BUTTON, MUTE, MILK	-	T100403300200	
36	NON WOVEN, ADHESIVE, BLACK, DS11	-	T182900003180	
37	SCREW, T3XL12, .3P, ZINC+NICKEL	-	T153301210630	
38	SCREW, M3XL10, ZINC+NICKEL	-	T151301030610-02	
39	I/O PANEL, AL1050	-	T130202400100	
40	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031160	
41	PLUG, 250VA 10A	-	T691200007600	3 ⚠
42	1P, YELLOW\GREEN, 16AWG, UL1015 100MM	-	T641700184000	
43	SMPS, CONNECT CABLE, 3PIN	-	T641700169200	
44	HEAT SHRINK TUBE, BLACK, OD30X-L25XT0	-	T690200008700	
45	NUT, M3.0X0.5PXOD5.5XL2.3, NICKEL PLATE	-	T181000000520	
46	NUT, M4XOD8.0XH4.1 0.7P	-	T181000001240	
47	EQ, LIGHT GUIDE, MILK	-	T100402200100	
48	BUTTON, PHANTOM, BLACK	-	T100403400100	
49	USB, BRACKET, SPCC	-	T130202800100	
50	CONN, IO, 3POLE, XLR, P, HARD GOLD	-	T710200019600	
51	NON WOVEN, ADHESIVE, BLACK, DS11	-	T182900003060	
52	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031090	
53	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031140	
54	FIRE BOX, PC+ABS, BLACK	-	T100402700100	
55	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031100	
56	SPONGE, YU356A, ADHSIVE 3212	-	T180500032730	
57	BRIDGE, HEATSINK, AL6063	-	T130203000100	
58	ASSY, PCBA, PWR SUPP-AMP, SVCE	861372-001S	T910000070290	
59	U CLIP, SILICONE	-	T180200016470	
60	SCREW, M3.0XL7, SILVER ZINC+NICK-EL	-	847867-M03M07 PTA3	
61	HEATSINK, AL1050		T130202700100	
NA	GAP FILLER,THERMAL,ONE PART, 55CC	749859-0020	-	

I/O Panel Assy Exploded View

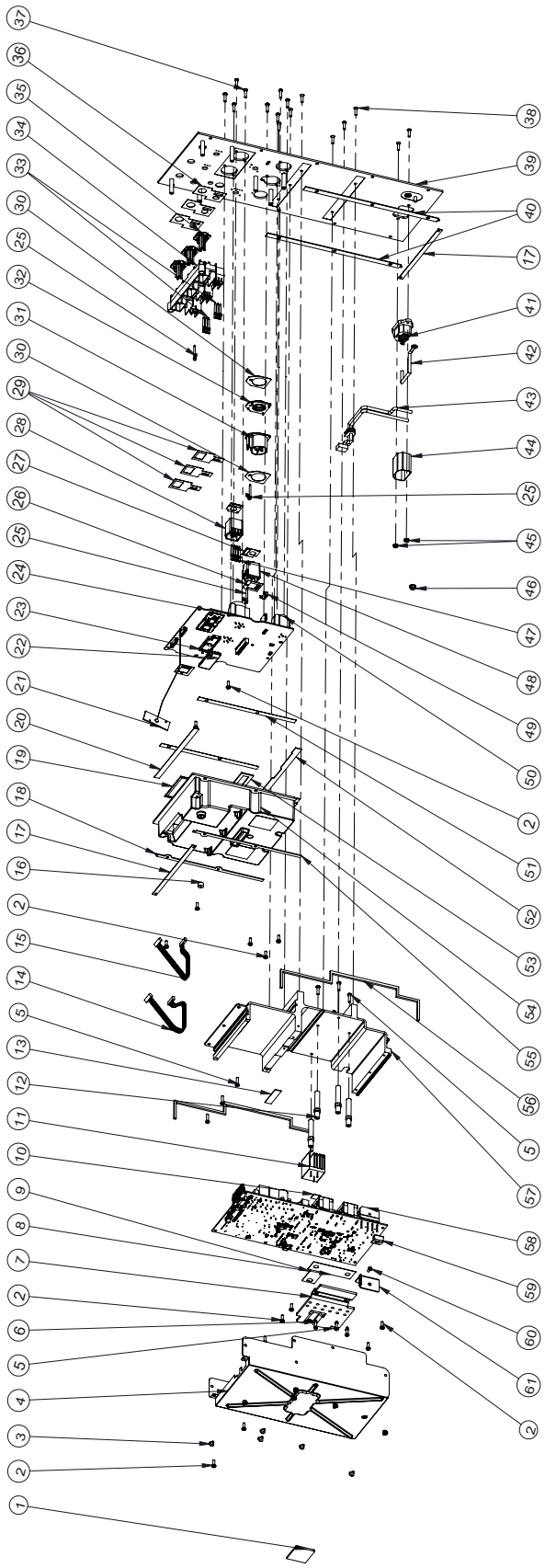


Figure 3. L1 Pro8 I/O Panel Assy Exploded View

Main Part List

L1 Pro8 Array Speaker (see Figure 4)

Item Number	Description	Bose Material Number	Vendor Part Number	Notes
1	BAFFLE, ARRAY	-	T100423500100	
2	DRIVER, 2 IN	812886-0010	T911600010920	3 ⚠
3	SCREW, T3XL10	-	T15330101F611	
4	CABLE, ARRAY, 6PIN	-	T641700169100	
5	CABLE, TW, CONNECT SINGLE	-	T641700168700	
6	SILICON FOAM, 25 DEGREE	-	T180200015730	
7	SILICON FOAM, 25 DEGREE	-	T180200015720	
8	WADDING, FR-W0025, WHITE	-	T182700002490	
9	ENCLOSURE CURVEN, ARRAY	-	T100423600100	
10	SCREW, T3XL15	-	T15330151F610	
11	NON WOVEN, ADHESIVE, BLACK, DS11 K	-	T182900003260	
12	NON WOVEN, ADHESIVE, BLACK, DS11 K	-	T182900003270	
13	EVA, 38 DEGREE, ADHESIVE, BLACK, DS11 K	-	T180500032600	
14	NON WOVEN, ADHESIVE, BLACK, DS11 K	-	T180500032600	
15	NON WOVEN, ADHESIVE, BLACK, DS11 K	-	T182900003220	
16	ENDCAP, ARRAY, LOWER	833733-0110	T100424400100	
17	SCREW, T3XL12	-	T153301230610-02	
18	WASHER, SUS304	-	T181200001410	
19	TAPE, DOUBLE, DX6930	-	T180000008760	
20	LOGO, ARRAY	-	T100424600100	
21	GRILLE ASSY, ARRAY, SVCE (INCLUDES BOSE LOGO)	861202-011S	T130207600100	
22	PE FOAM, ADHESIVE, BLACK, DS11 K	-	T180500031070	
23	ENDCAP (TOP)	826315-0110	T100424700100	
24	PC SHEET, PRODUCT LABEL, ARRAY	-	T911700056730	

Array Speaker Exploded View

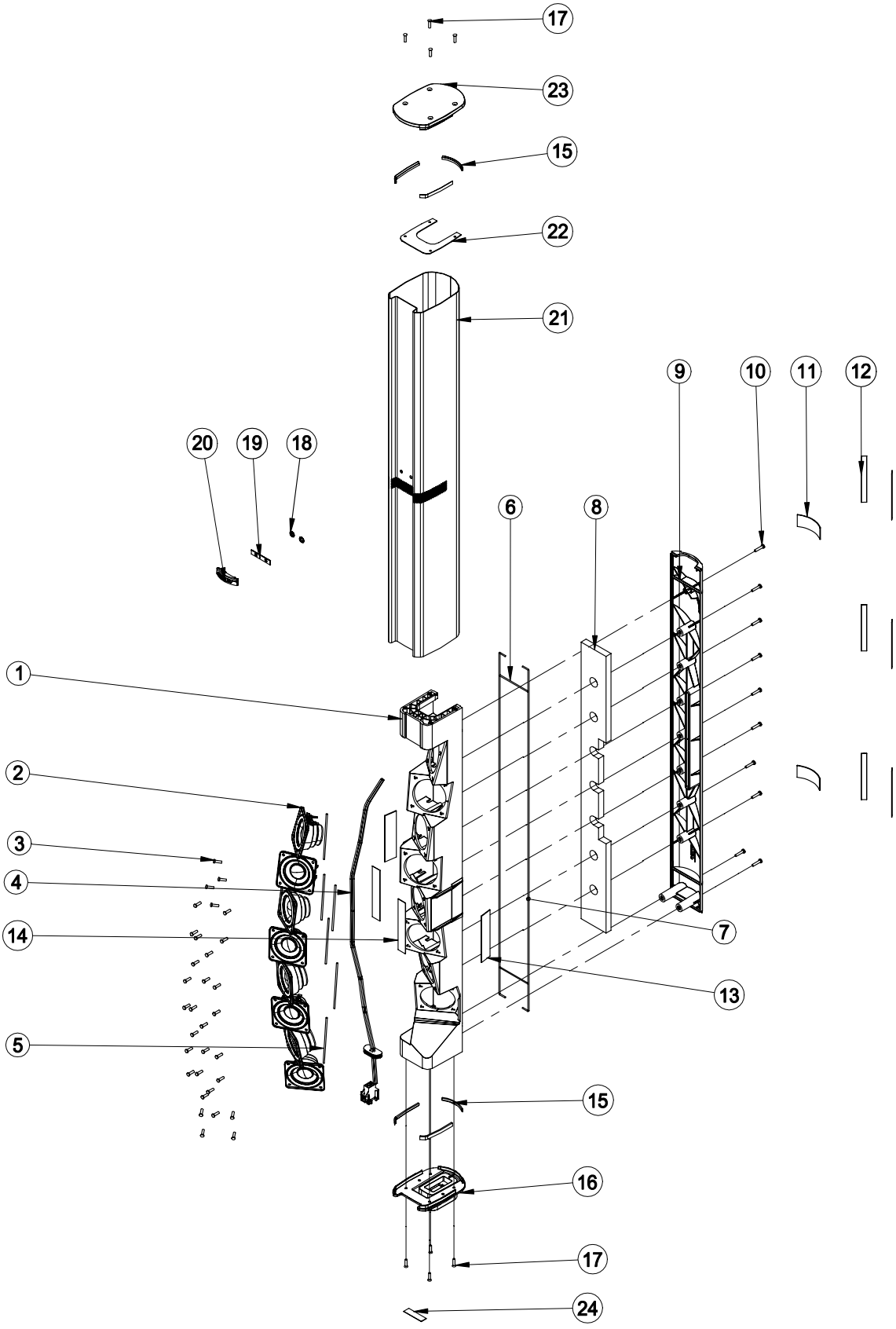


Figure 4. L1 Pro8 Array Speaker

Main Part List

L1 Pro8 Extension (see Figure 5)

Item Number	Description	Bose Part Number	Vendor Part Number	Notes
1	SCREW, T3XL12	-	T153301230610-02	
2	EXTENSION, REAR	-	T100423800200	
3	CABLE, EXTEND, 6PIN	-	T641700169300	
4	NON WOVEN, ADHESIVE, BLACK, DS11 K	-	T182900003160	
5	EXTENSION, FRONT	-	T100423700200	
6	PC SHEET, PRODUCT LABEL	-	T911700056730	

Note: The array extension is not repairable. The above parts are listed for reference only.

Bose part number is 833679-0110 (EXTENSION ASSY) as listed in the packaging parts list.

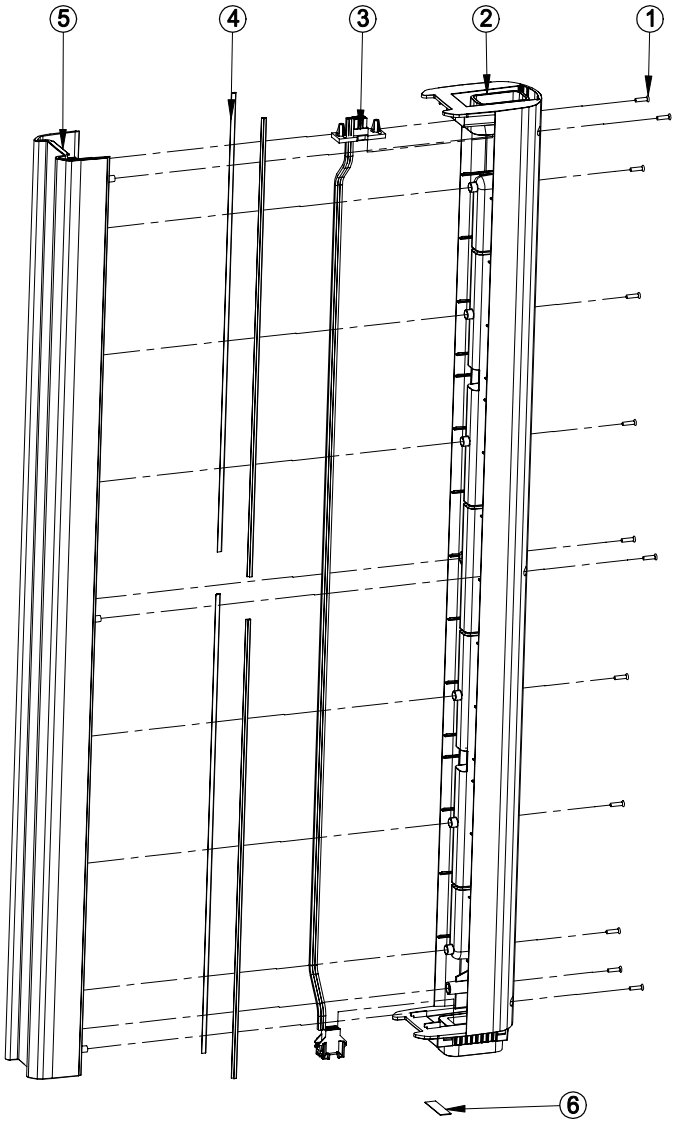


Figure 5. L1 Pro8 Extension Exploded View

MAIN-I/O PCB PARTS LIST

Resistors

Reference Designator	Description	Material Number	Note
R103	RES, THICK FILM, 0603, 0.1W, 1%, 5.6K	857326-0166	
R113	RES, THICK FILM, 0402, 0.063W, 1%, 6.8K	857326-0084	
R116, R172, R320, R327, R329, R336, R367, R371, R387, R389-R390, R393, R396, R398, R422	RES, THICK FILM, 0402, 0.063W, 1%, 10 OHM	857326-0089	
R118	RES, THICK FILM, 0402, 0.063W, 1%, 22K	857326-0045	
R150, R286, R314, R318, R322, R414, R231A, R231B, R248A, R248B	RES, THICK FILM, 0603, 0.1W, 1%, 10K	857326-0093	
R160-R161	RES, THICK FILM, 0603, 0.1W, 1%, 33 OHM	857326-0146	
R186	RES, THICK FILM, 0402, 0.063W, 1%, 200 OHM	857326-0037	
R196A, R196B, R205A, R205B	RES, THICK FILM, 0603, 0.1W, 1%, 1.5K	857326-0108	
R197A, R197B, R206A, R206B	RES, THICK FILM, 0603, 0.1W, 1%, 22 OHM	857326-0130	
R199A, R199B, R203A, R203B, R219A, R219B, R240A, R240B	RES, THICK FILM, 0603, 0.1W, 1%, 1M	857326-0095	
R1-R2, R5-R8, R16-R29, R32-R34, R91, R94, R108-R111, R119-R121, R137, R140, R153, R268, R293, R296-R297, R312-R313, R316, R321, R338, R358-R359, R361-R362, R369, R394, R399, R401-R404, R428-R430, R432-R434, R436-R437, R440, R442, R444-R445, R449-R452, R468	JUMPER, CHIP, 0402	857326-0217	
R200A, R200B, R204A, R204B	RES, THICK FILM, 0603, 0.1W, 1%, 10M	857326-0096	
R214A, R214B, R237A, R237B	RES, THICK FILM, 0603, 0.1W, 1%, 3K	857326-0140	
R215A, R215B, R223A, R223B, R245A, R245B, R254A, R254B	RES, THICK FILM, 0603, 0.1W, 1%, 1.2K	857326-0100	
R216A, R216B, R224A, R224B, R246A, R246B, R255A, R255B	RES, THICK FILM, 0603, 0.1W, 1%, 24 OHM	857326-0133	
R221A, R221B, R238A, R238B	RES, THICK FILM, 0603, 0.1W, 1%, 3.6K	857326-0149	
R222A, R222B, R242A, R242B	RES, THICK FILM, 0603, 0.1W, 1%, 330 OHM	857326-0143	
R226A, R226B, R235A, R235B	RES, THICK FILM, 0603, 0.1W, 1%, 6.8K	857326-0171	

MAIN-I/O PCB PARTS LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R229A, R229B	RES, THICK FILM, 0603, 0.1W, 1%, 220 OHM	857326-0126	
R230A, R230B	RES, THICK FILM, 0603, 0.1W, 1%, 2.1K	857326-0124	
R250A, R250B, R251A, R251B	RES, THICK FILM, 0603, 0.1W, 1%, 150 OHM	857326-0107	
R258A, R258B, R259A, R259B	RES, THICK FILM, 0603, 0.1W, 1%, 267 OHM	857326-0134	
R263A, R263B	RES, THICK FILM, 0603, 0.1W, 1%, 56 OHM	857326-0168	
R265A, R265B	RES, THICK FILM, 0402, 0.063W, 1%, 390 OHM	857326-0063	
R266A, R266B	RES, THICK FILM, 0603, 0.1W, 1%, 1.8K	857326-0115	
R267	RES, THICK FILM, 0402, 0.063W, 1%, 180K	857326-0036	
R272	RES, THICK FILM, 0603, 0.1W, 1%, 30.9K	857326-0142	
R274	RES, THICK FILM, 0402, 0.063W, 1%, 374K	857326-0062	
R275, R283	RES, THICK FILM, 0402, 0.063W, 1%, 41.2K	857326-0064	
R276	RES, THICK FILM, 0402, 0.063W, 1%, 32.4K	857326-0056	
R282	RES, THICK FILM, 0603, 0.1W, 1%, 210K	857326-0125	
R285	RES, THICK FILM, 0603, 0.1W, 1%, 1.3 OHM	857326-0183	
R289	RES, THICK FILM, 0603, 0.1W, 1%, 68K	857326-0172	
R290	RES, THICK FILM, 0402, 0.063W, 1%, 2K	857326-0038	
R294	RES, THICK FILM, 0603, 0.1W, 1%, 3.01K	857326-0141	
R295	RES, THICK FILM, 0603, 0.1W, 1%, 4.7 OHM	857326-0185	
R3, R9-R14, R30, R125-R127, R133-R134, R138-R139, R141-R149, R151-R152, R154-R158, R162, R164-R165, R170-R171, R177, R181-R185, R279-R280, R347-R357, R360, R365, R368, R372-R374, R376-R378, R380-R382, R388, R395, R416, R447-R448, R453, R455	RES, THICK FILM, 0402, 0.063W, 1%, 33 OHM	857326-0058	
R301	RES, THICK FILM, 0805, 0.125W, 5%, 4.7 OHM	857326-0194	
R303, R311	RES, THICK FILM, 0603, 0.1W, 1%, 511K	857326-0164	
R304	RES, THICK FILM, 0402, 0.063W, 1%, 453K	857326-0068	
R305, R317	RES, THICK FILM, 0603, 0.1W, 1%, 105K	857326-0097	
R31, R269, R271, R273, R287, R298-R300, R302, R307-R310	JUMPER, CHIP, 0805	857326-0219	
R319	RES, THICK FILM, 0603, 0.1W, 1%, 13.7K	857326-0105	
R324C, R324D, R332C, R332D, R333C, R333D, R341C, R341D	RES, THICK FILM, 0603, 0.1W, 1%, 4.99K	857326-0160	

MAIN-I/O PCB PARTS LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R35, R53	RES, THICK FILM, 0603, 0.1W, 1%, 28K	857326-0137	
R36, R43, R57, R65, R198A, R198B, R207A, R207B	RES, THICK FILM, 0805, 0.125W, 1%, 100 OHM	857326-0186	
R364, R195A, R195B, R202A, R202B, R208A, R208B, R209A, R209B, R211A, R211B, R247A, R247B, R252A, R252B, R253A, R253B, R257A, R257B, R260A, R260B	RES, THICK FILM, 0603, 0.1W, 1%, 1K	857326-0092	
R37, R50, R54, R68	RES, THICK FILM, 0603, 0.1W, 1%, 14K	857326-0106	
R375, R379, R383	RES, THICK FILM, 0603, 0.1W, 1%, 560 OHM	857326-0165	
R38, R41	RES, THICK FILM, 0603, 0.1W, 1%, 20K	857326-0120	
R39, R45, R55, R62	RES, THICK FILM, 0603, 0.1W, 1%, 120K	857326-0102	
R397, R425	RES, THICK FILM, 0402, 0.063W, 1%, 4.7K	857326-0070	
R4, R15, R88, R99, R114, R117, R130, R277, R292, R370, R385, R400, R424, R256A, R256B, R262A, R262B, R291A, R291B	JUMPER, CHIP, 0603	857326-0218	
R40, R46, R56, R63, R105, R217A, R217B, R220A, R220B, R225A, R225B, R239A, R239B, R241A, R241B, R243A, R243B	RES, THICK FILM, 0603, 0.1W, 1%, 10 OHM	857326-0181	
R406	RES, THICK FILM, 0603, 0.1W, 1%, 68.1 OHM	857326-0173	
R413	RES, THICK FILM, 0603, 0.1W, 1%, 750 OHM	857326-0174	
R42, R49, R59, R67, R163, R166, R210A, R210B, R232A, R232B	RES, THICK FILM, 0603, 0.1W, 1%, 2.2K	857326-0127	
R431	RES, THICK FILM, 0402, 0.063W, 1%, 2.2K	857326-0044	
R44, R47, R60, R64, R281, R391-R392, R418, R212A, R212B, R218A, R218B, R228A, R228B, R244A, R244B, R249A, R249B, R261A, R261B	RES, THICK FILM, 0603, 0.1W, 1%, 4.7K	857326-0155	
R462-R463, R464A, R464B	RES, THICK FILM, 0402, 0.063W, 1%, 1.5K	857326-0030	
R466A, R466B, R467A, R467B	RES, THICK FILM, 0402, 0.063W, 1%, 360 OHM	857326-0059	
R48, R66, R80, R86, R159, R233A, R233B, R74C, R74D, R77C, R77D	RES, THICK FILM, 0603, 0.1W, 1%, 47K	857326-0156	
R51, R69	RES, THICK FILM, 0603, 0.1W, 1%, 2.4K	857326-0132	
R52, R70, R191, R236A, R236B	RES, THICK FILM, 0402, 0.063W, 1%, 1K	857326-0020	

MAIN-I/O PCB PARTS LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R58, R61, R173, R270, R306, R315, R323, R366, R415, R227A, R227B, R234A, R234B	RES, THICK FILM, 0603, 0.1W, 1%, 100K	857326-0094	
R71, R83-R84, R97	RES, THICK FILM, 0603, 0.1W, 1%, 18K	857326-0116	
R72, R75, R79, R89, R92, R96, R284, R201A, R201B, R264A, R264B, R325C, R325D, R328C, R328D, R331C, R331D, R334C, R334D, R337C, R337D, R340C, R340D	RES, THICK FILM, 0603, 0.1W, 1%, 100 OHM	857326-0091	
R73, R78, R90, R95, R326C, R326D, R330C, R330D, R335C, R335D, R339C, R339D	RES, THICK FILM, 0603, 0.1W, 1%, 6.2K	857326-0170	
R76, R93	RES, THICK FILM, 0603, 0.1W, 1%, 47 OHM	857326-0159	
R81-R82, R85, R87	RES, THICK FILM, 0603, 0.1W, 1%, 470 OHM	857326-0154	
R98, R102, R104, R107, R112, R122, R176, R180, R187-R190, R192-R193, R342-R346, R426-R427	RES, THICK FILM, 0402, 0.063W, 1%, 10K	857326-0021	

Capacitors

Reference Designator	Description	Material Number	Note
C1, C13, C15-C16, C20-C21, C57-C59, C62-C64, C89, C93, C97, C99, C121, C124, C199, C208, C212-C213, C224, C226-C227, C236-C237, C239-C240, C252-C253, C293-C294, C134A, C134B, C135A, C135B, C136A, C136B, C137A, C137B, C148A, C148B, C149A, C149B, C150A, C150B, C151A, C151B, C174A, C174B, C269C, C269D, C271C, C271D	CAP, X7R, 0402, 25V, 10%, 0.1uF, COMM	718866-104K1E	
C104-C105, C107-C108, C122-C123, C192-C193, C230-C231, C288-C289	CAP, X7R, 0603, 6.3V, 10%, 4.7uF, COMM	718875-475K0J	
C11, C96, C119	CAP, X7R, 0603, 6.3V, 10%, 1uF, COMM	718875-105K0J	
C12, C23, C26, C32, C34, C36, C40-C41, C48, C51, C53, C68, C87, C91	CAP, EL, SMT, 105C, 16V, 20%, 22uF, COMM	856752-220M1CBB	

MAIN-I/O PCB PARTS LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C125	CAP,C0G,0402,50V,5%,1000pF,COMM	766718-102J1H	
C138A, C138B, C145A, C145B	CAP, C0G, 1206, 50V, 5%, 0.1uF, COMM	852048-104J1H	
C141A, C141B, C157A, C157B, C167A, C167B, C179A, C179B	CAP, C0G, 0603, 50V, 5%, 2700pF, COMM	780788-272J1H	
C142A, C142B, C144A, C144B, C161A, C161B, C172A, C172B	CAP, EL, LOW Z, SMT, 63V, 20%, 22uF, COMM	856727-220M1JCD	
C158A, C158B, C175A, C175B	CAP, C0G, 0603, 50V, 5%, 270pF, COMM	780788-271J1H	
C162A, C162B	CAP, EL, SMT, 105C, 10V, 20%, 1000uF, COMM	856752-102M1AED	
C165A, C165B	CAP, C0G, 0603, 50V, 5%, 10pF, COMM	780788-100J1H	
C168A, C168B, C169A, C169B	CAP, X7R, 1206, 100V, 10%, 2.2uF, COMM	770764-225K2A	
C17, C22, C66, C72, C86, C309	CAP, X5R, 0402, 25V, 20%, 1uF, COMM	716994-105M1E	
C181A, C181B, C186A, C186B, C90A, C90B	CAP, X7R, 0603, 50V, 10%, 0.1uF, COMM	718875-104K1H	
C190-C191, C210-C211, C217-C218, C233-C234, C243-C244, C250-C251	CAP, X5R, 0603, 25V, 10%, 4.7uF, COMM	718835-475K1E	
C194	CAP, X7R, 0805, 100V, 10%, 0.1uF, COMM	763872-104K2A	
C196, C205, C225, C228, C235, C238, C245, C310	CAP, EL, SMT, 105C, 25V, 20%, 100uF, COMM	856752-101M1ECC	
C2, C14, C18-C19, C98, C101, C132, C215, C249, C152A, C152B, C153A, C153B, C183A, C183B, C184A, C184B	CAP, X5R, 0603, 10V, 10%, 10uF, COMM	718835-106K1A	
C204	CAP, C0G, 0603, 50V, 5%, 330pF, COMM	780788-331J1H	
C209	CAP, X7R, 0603, 16V, 10%, 0.47uF, COMM	718875-474K1C	
C229	CAP, C0G, 0402, 50V, 5%, 22pF, COMM	766718-220J1H	
C241	CAP, X7R, 0603, 50V, 10%, 0.22uF, COMM	718875-224K1H	
C242	CAP, C0G, 0603, 50V, 5%, 82pF, COMM	780788-820J1H	
C24-C25, C28-C29, C43-C44, C46-C47, C73, C77-C78, C82, C140A, C140B, C143A, C143B, C166A, C166B, C260C, C260D, C263C, C263D	CAP, C0G, 0603, 50V, 5%, 470pF, COMM	780788-471J1H	
C27, C35, C42, C52, C155A, C155B, C164A, C164B, C170A, C170B, C173A, C173B	CAP, C0G, 0603, 50V, 5%, 100pF, COMM	780788-101J1H	
C291-C292	CAP, C0G, 0402, 50V, 5%, 15pF, COMM	766718-150J1H	
C30, C39, C49, C56	CAP, X7R, 0402, 50V, 10%, 0.1uF, COMM	718866-104K1H	

MAIN-I/O PCB PARTS LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C65, C69, C83, C95, C100, C102, C106, C109-C118, C120, C126-C131, C202, C214, C273-C277, C285-C287, C304	CAP, X7R, 0402, 50V, 10%, 10000pF, COMM	718866-103K1H	
C67, C76, C79, C88, C185A, C185B, C187A, C187B, C188A, C188B, C189A, C189B	CAP, C0G, 0402, 50V, 5%, 100pF, COMM	766718-101J1H	
C71, C85, C216, C258C, C258D, C266C, C266D	CAP, C0G, 0603, 50V, 5%, 1000pF, COMM	780788-102J1H	
C8, C10, C60-C61, C74-C75, C80-C81, C203, C133A, C133B, C146A, C146B, C154A, C154B, C163A, C163B, C177A, C177B, C182A, C182B, C255C, C255D, C261C, C261D, C262C, C262D, C268C, C268D	CAP, C0G, 0603, 50V, 5%, 220pF, COMM	780788-221J1H	

Diodes

Reference Designator	Description	Material Number	Note
D15	DIODE, RECT, 200V, 1A, ESH1DM, SMA	849894-0100	
D17	DIODE, SCHOTTKY, 2A, 60V, SOD123F	852398-0010	
D18, D25	DIODE, SCHOTTKY, 40V, 1A, SS14L, FLSMA	855980-0040	
D1-D4, D19, D12A, D12B, D13A, D13B, D14A, D14B, D9A, D9B	DIODE, SW, 75V, 0.3A, SOT-23, BAV99	747976-0010	
D20	DIODE, TVS, BIDIR, DUAL, 24V, ESDCAN01, SOT23, AUTO	855760-0010	
D22, D26, D10A, D10B, D11A, D11B	DIODE, SWITCHING, 100V, 0.15A, SOD323F	856395-0010	
D37A, D37B, D38A, D38B	DIODE, TVS, 58V, 400W, BI-DIR, SMAJ58CA	310546-058	
D43	DIODE, SCHOTTKY, 30V, BAT54A, SOT-23	330427-0020	
LED15	DIODE, LED, 0603, BLUE, VERT	851299-0010	
LED17	DIODE, LED, 0606, WHITE, RED, VERT	851297-0010	
LED1-LED3, LED5, LED8, LED10-LED14, LED16	DIODE, LED, 0603, WHITE, VERT	851300-0010	
LED4, LED6-LED7, LED9	DIODE, LED, 0603, WHITE, GREEN, VERT	851298-0010	

MAIN-I/O PCB PARTS LIST

Inductors

Reference Designator	Description	Material Number	Note
L1	INDUCTOR, WW, CM, 1206, 0.2A, 2200 OHM, COMM	855607-222	
L2	BEAD, FERRITE, PWR, 0603, 1.3A, 600 OHM, COMM	852198-601	
L22	BEAD, FERRITE, 0402, 0.1A, 1800 OHM, COMM	840686-182D	
L29	INDUCTOR, POWER, SMT, 1.2A, 30%, 2.2uH, COMM	852851-2R2N	
L30	INDUCTOR, POWER, SMT, 0.7A, 20%, 220uH, COMM	852883-221M	
L31, L33-L34	INDUCTOR, POWER, SMT, 2.5A, 20%, 22uH, COMM	853388-220M	
L7-L14, L25A, L25B, L26A, L26B, L27A, L27B, L28A, L28B	BEAD, FERRITE, 0402, 0.25A, 1.1 OHM, Z=1K	371767-0010	

Transistors

Reference Designator	Description	Material Number	Note
Q14A, Q14B, Q15A, Q15B, Q16A, Q16B, Q17A, Q17B, Q18A, Q18B, Q19A, Q19B, Q20A, Q20B, Q21A, Q21B	TRANSISTOR, PNP, 40V, 0.6A, SOT-23, MMBT4403	260354-001	
Q1-Q4	TRANSISTOR, NPN, 20V, 0.3A, 2SC3326-B, SC-59	856177-0020	
Q25	TRANSISTOR, MFET, P-CH, -3.8A, -30V, SOT23	852237-0010	
Q27	TRANSISTOR, MFET, P-CH, -180mA, -60V, SOT23	852238-0010	
Q29-Q32, Q10A, Q10B, Q11A, Q11B	TRANSISTOR, DUAL, COMP, 40V, 0.6A, 200mW, SOT-363	850060-0100	
Q5	XSISTOR, BPLR, P, 40V, 200mA, SOT23	148596	
Q7, Q26, Q28, Q22A, Q22B, Q23A, Q23B	XSISTOR, BP, N, 40V, 200MA, SOT-323	195357	
Q9	TRANSISTOR, MFET, N-CH, 0.23A, 60V, SOT363	852240-0010	

MAIN-I/O PCB PARTS LIST

Integrated Circuit

Reference Designator	Description	Material Number	Note
U1	IC, ADC, AUDIO, 4CH, TLV320ADC5140, 24WQFN	855431-0010	
U10	IC, DAC, 24bit, 4CH, PCM4104, 48TQFP	855451-0010	
U13	IC, uC, CORTEX-M0, 256KB, 32F091, 100LQFP	852528-VCT6	
U14	IC, V-DETECT, 2.93V, APX809S-29, SOT-23	856551-0010	
U15A, U15B	IC, ANALOG SWITCH, SPST, 16TSSOP, DG411	852384-0010	
U16	IC, VREG, SW, BUCK, 2AD, ADJ, 62084, WSON8	791774-0020	
U17	IC, VOLT REG CTRL, SW, N-CH, LM3486, 10VSSOP	855905-0010	
U18	IC, DCDC CONV, BUCK, PWM, 1A, TSOT, LV2843	842705-0010	
U20, U23	IC, DCDC CONV, STEP DOWN, 2A, 28V, TPS54202H	842669-0010	
U21	IC, VREG, LIN, POS, 0.5A, 15V, 78M15C, DPAK	856494-0010	
U22	IC, VREG, LIN, NEG, 0.5A, 15V, 79M15C, DPAK	856495-0010	
U26	IC, LOGIC, UHS BUFFER, DUAL, 5V, NC7WZ16, SC70	763299-0010	
U28	IC, RCVR, RS485/RS422, MAX3283E, SOT23-6	855915-0083	
U2A, U2B	IC, OP AMP, DUAL, TL072	187619-001	
U6	IC, LED DRIVER, RGB, 12BIT, 18-CH, VQFN32	852362-0018	
U7-U8, U11	IC, OP AMP, DUAL, LOW-NOI, NJM2068M-TE2, DMP8	855835-01A2	
U9, U25C, U25D, U3A, U3B, U4A, U4B, U5A, U5B	IC, OP AMP, DUAL, NJM4580E-TE2, SOP8, 90DEG	855786-01A2	

MAIN-I/O PCB PARTS LIST

Miscellaneous

Reference Designator	Description	Material Number	Note
SW1-SW2, SW4, SW6-SW10	SWITCH, TACT, 12V, 50mA, 250gf	850862-0010	
SW3	SWITCH, TACT, 15V, 20mA, 320GF	854394-0010	
T1	TRANSFORMER, AUDIO, DIGITAL, DIL, 1mH	856463-0010	
USB1	CONN, IO, TYPE C, 24P, R, SMT, RA, TMOUNT, CH2.2	853416-0010	
CN1	CONN, RECP, 1.27mm C, 16P, 2R, R, SMT, ST	847826-0016	
J1	CONN, RECP, 1.27mm C, 10P, 2R, R, SMT, ST	847826-0010	
J16	CONN, HDR, 1.5mm C, 11P, 1R, P, SMT, ST, BEIGE	847746-0110	
J17	CONN, HDR, 1.5mm C, 10P, 1R, P, SMT, ST, BEIGE	847746-0100	
J18	CONN, HDR, 1.5mm C, 8P, 1R, P, SMT, ST, BEIGE	847746-0080	
J19A, J19B	CONN, IO, XLR, 3POLE, ST, R, PCB Mount	850870-0010	
J22	CONN, RECP, 2.54mm C, 28P, 2R, R, SMT, ST, BL, Au	847748-0028	
J3	CONN, IO, 3.5mm EAR PHONE JACK, TH, 31.1L	852736-0010	
J4	CONN, IO, 6.35MM STERIO JACK, R, ST, PCB MOUN	849858-0010	
J5	CONN, IO, 3POLE XLR, P, Sel Gold	763327-0120	

POWER-AMP PCB PARTS LIST

Resistors

Reference Designator	Description	Material Number	Note
R100	RES, THICK FILM, 0603, 0.1W, 1%, 200K	857326-0121	
R101	RES, THICK FILM, 0603, 0.1W, 1%, 18.2K	857326-0117	
R102-R103	RES, THICK FILM, 0603, 0.1W, 1%, 2.4K	857326-0132	
R104-R105	RES, THICK FILM, 1206, 0.25W, 1%, 100K	857326-0197	
R111	RES, THICK FILM, 0603, 0.1W, 1%, 75 OHM	857326-0177	
R116	RES, THICK FILM, 0603, 0.1W, 1%, 15 OHM	857326-0111	
R122	RES, THICK FILM, 0603, 0.1W, 1%, 5.1K	857326-0162	
R124, R129	RES, THICK FILM, 0603, 0.1W, 1%, 6.8K	857326-0171	
R127	RES, THICK FILM, 0603, 0.1W, 1%, 56K	857326-0167	
R128, R138, R143	RES, THICK FILM, 0603, 0.1W, 1%, 75K	857326-0176	
R132	RES, THICK FILM, 0603, 0.1W, 1%, 2K	857326-0119	
R134	RES, THICK FILM, 0603, 0.1W, 1%, 15K	857326-0109	
R136	RES, THICK FILM, 0603, 0.1W, 1%, 9.1K	857326-0180	
R14, R32, R42-R43, R66, R78, R81, R99, R106, R114, R130-R131, R137	RES, THICK FILM, 0603, 0.1W, 1%, 10K	857326-0093	
R15, R17	RES, METAL FOIL, 1206, 1W, 1%, 0.01 OHM	755170-R010F	
R156, R162, R254-R255	RES, THICK FILM, 0402, 0.063W, 1%, 10K	857326-0021	
R157	RES, THICK FILM, 0402, 0.063W, 1%, 470K	857326-0072	
R158, R163, R247	RES, THICK FILM, 0402, 0.063W, 1%, 100K	857326-0022	
R159, R252	RES, THICK FILM, 0402, 0.063W, 1%, 30K	857326-0055	
R16, R36	RES, THICK FILM, 0603, 0.1W, 1%, 4.7 OHM	857326-0185	
R160	RES, THICK FILM, 0402, 0.063W, 1%, 47K	857326-0071	
R161	RES, THICK FILM, 0402, 0.063W, 1%, 5.23K	857326-0078	
R18, R21, R24, R26, R29, R31	RES, THICK FILM, 1206, 0.25W, 1%, 2 M	857326-0201	
R19-R20, R22-R23, R25, R117-R120	RES, THICK FILM, 1206, 0.25W, 1%, 2.2M	857326-0204	
R211, R213, R217, R227, R229, R235, R239, R251	RES, THICK FILM, 0402, 0.063W, 1%, 2.2K	857326-0044	
R214, R228	RES, METAL FOIL, 1206, 1W, 1%, 0.005 OHM	755170-R005F	
R216, R221, R236, R244	RES, THICK FILM, 0805, 0.125W, 1%, 3.3 OHM	857326-0193	
R223, R231, R241, R246, R249-R250, R253	RES, THICK FILM, 0402, 0.063W, 1%, 100 OHM	857326-0019	
R242	RES, THICK FILM, 0402, 0.063W, 1%, 22K	857326-0045	
R266	RES, THICK FILM, 1206, 0.25W, 1%, 1.3 OHM	857326-0213	
R30, R259-R261	RES, THICK FILM, 1206, 0.25W, 1%, 3.3M	857326-0206	
R34-R35	RES, THICK FILM, 0603, 0.1W, 1%, 22K	857326-0128	
R40	RES, THICK FILM, 0603, 0.1W, 1%, 220 OHM	857326-0126	
R44	RES, THICK FILM, 0603, 0.1W, 1%, 110K	857326-0099	
R45, R64, R89	RES, THICK FILM, 0603, 0.1W, 1%, 47K	857326-0156	

POWER-AMP PCB PARTS LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R46	RES, THICK FILM, 0603, 0.1W, 1%, 133K	857326-0104	
R47, R72, R79, R87	RES, THICK FILM, 0603, 0.1W, 1%, 100K	857326-0094	
R48	RES, THICK FILM, 0603, 0.1W, 1%, 130K	857326-0103	
R49-R51	RES, THICK FILM, 1206, 0.25W, 1%, 240K	857326-0205	
R4-R6, R10-R12	RES, THICK FILM, 1206, 0.25W, 1%, 1M	857326-0198	
R56, R69-R71	RES, THICK FILM, 1206, 0.25W, 1%, 2.2 OHM	857326-0214	
R58-R59, R121, R125	RES, THICK FILM, 0603, 0.1W, 1%, 1.5K	857326-0108	
R60	RES, THICK FILM, 0603, 0.1W, 1%, 470 OHM	857326-0154	
R62, R113	RES, THICK FILM, 0805, 0.125W, 1%, 100 OHM	857326-0186	
R63, R86, R265	RES, THICK FILM, 0603, 0.1W, 1%, 4.7K	857326-0155	
R7, R28, R90, R92, R96, R107	RES, THICK FILM, 0805, 0.125W, 5%, 4.7 OHM	857326-0194	
R73	RES, THICK FILM, 0603, 0.1W, 1%, 7.5K	857326-0175	
R74	RES, THICK FILM, 1206, 0.25W, 1%, 680 OHM	857326-0210	
R76-R77	RES, THICK FILM, 0603, 0.1W, 1%, 2.2K	857326-0127	
R8, R27, R52	RES, THICK FILM, 0805, 0.125W, 1%, 22 OHM	857326-0189	
R80, R82	RES, THICK FILM, 0603, 0.1W, 1%, 100 OHM	857326-0091	
R84-R85, R88	RES, THICK FILM, 1206, 0.25W, 1%, 20K	857326-0200	
R91, R139, R264	RES, THICK FILM, 0603, 0.1W, 1%, 3.3K	857326-0144	
R93, R112	RES, THICK FILM, 0603, 0.1W, 1%, 1M	857326-0095	
R94, R98, R110, R115	RES, THICK FILM, 1206, 0.25W, 1%, 220 OHM	857326-0203	
R95, R135, R140-R142	RES, THICK FILM, 0603, 0.1W, 1%, 1K	857326-0092	
R97, R108	RES, THICK FILM, 0805, 0.125W, 1%, 33 OHM	857326-0190	

Capacitors

Reference Designator	Description	Material Number	Note
C101	CAP, C0G, 0603, 50V, 5%, 220pF, COMM	780788-221J1H	
C132, C141, C225, C229, C235, C258	CAP, X7R, 0402, 50V, 10%, 0.1uF, COMM	718866-104K1H	
C213-C215, C222-C223, C227, C246, C250-C252, C259, C262	CAP, X7R, 0402, 100V, 10%, 2200pF, COMM	718866-222K2A	
C216, C232, C242, C254	CAP, FILM, LS 5mm, AMMO, 5%, 100V, 1uF	329288-1004BJA	
C217, C219, C231, C233, C243, C245, C255, C257	CAP, X7R, 0805, 100V, 20%, 0.01uF, COMM	763872-103M2A	
C218, C230, C244, C256	CAP, C0G, 0805, 100V, 5%, 1000pF, COMM	763940-102J2A	
C224, C226, C247, C249	CAP, X7R, 0402, 50V, 10%, 0.033uF, COMM	718866-333K1H	
C228, C239, C248, C263	CAP, EL, SMT, 105C, 16V, 20%, 10uF, COMM	856752-100M1CAB	

POWER-AMP PCB PARTS LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C234, C238, C253, C260	CAP, C0G, 0402, 50V, 5%, 100pF, COMM	766718-101J1H	
C236-C237	CAP, X5R, 0402, 16V, 10%, 1uF, COMM	716994-105K1C	
C26	CAP, FILM, PFC, 15mm, BULK 6mm, 630V, 10%, 1uF	856507-105K2JBB	
C261	CAP, X7R, 0402, 25V, 10%, 0.047uF, COMM	718866-473K1E	
C275-C276, C278-C279	CAP, X7R, 0805, 100V, 10%, 0.1uF, COMM	763872-104K2A	
C29-C30	CAP, X7R, HI VOLT, 0805, 630V, 10%, 4700pF, COM	852020-472K2J	
C31	CAP, EL, SNAP-IN, 450V, 20%, 330uF	853707-331M2WCC	
C35-C36	CAP, C0G, 0603, 50V, 5%, 47pF, COMM	780788-470J1H	
C40, C42-C43, C58-C59, C61, C68, C79, C91-C93, C95, C108-C109	CAP, C0G, 0603, 50V, 5%, 1000pF, COMM	780788-102J1H	
C41, C85	CAP, C0G, 0603, 50V, 5%, 330pF, COMM	780788-331J1H	
C45, C48-C51, C80	CAP, X7R, 0805, 25V, 10%, 1uF, COMM	763872-105K1E	
C46	CAP, X7R, 0603, 100V, 10%, 220pF, COMM	718875-221K2A	
C47, C69-C70, C75	CAP, X7R, HI V, 1206, 1000V, 10%, 4700pF, COMM	852057-472K3A	
C52-C53	CAP, EL, LOW Z, SMT, 35V, 20%, 470uF, COMM	856727-471M1VEF	
C55	CAP, EL, POLYMER, SMT, 25V, 20%, 47uF, COMM	857020-470M1EAA	
C60	CAP, X7R, 0603, 50V, 10%, 0.047uF, COMM	718875-473K1H	
C62, C64-C65, C110-C111, C113-C116, C284-C285	CAP, X7R, 0603, 100V, 10%, 0.1uF, COMM	718875-104K2A	
C73	CAP, X7R, 0603, 50V, 10%, 1uF, COMM	718875-105K1H	
C76-C77	CAP, X7R, HI V, FT, 1210, 500V, 10%, 0.1uF, COMM	852058-104K2H	
C78	CAP, X7R, 0603, 50V, 10%, 0.47uF, COMM	718875-474K1H	
C8, C17, C39, C97	CAP, X7R, 0603, 50V, 5%, 10000pF, COMM	718875-103J1H	
C83, C100	CAP, C0G, 0805, 250V, 5%, 100pF, COMM	763940-101J2E	
C84, C86	CAP, X7R, HI VOLT, 0805, 500V, 10%, 470pF, COMM	852020-471K2H	
C89-C90, C267-C274	CAP, X7R, 0805, 100V, 10%, 0.47uF, COMM	763872-474K2A	
C94	CAP, C0G, HI VOLT, 1206, 500V, 5%, 15pF, COMM	777098-150J2H	
C96	CAP, FILM, HI V, 15mm, BULK, 1000V, 5%, 0.68uF	856510-683J3ABB	
C99, C134	CAP, X7R, 0603, 50V, 10%, 0.22uF, COMM	718875-224K1H	
CX1-CX2	CAP, FILM, X2, LS 15mm, 305VAC, 20%, 0.47uF	310415-474MG	3 ⚠
CY1-CY5	CAP, CER, X1/Y1, Bulk 25mm, 10%, 470pF	855444-471KG	3 ⚠
CY6	CAP, CER, X1/Y1, Bulk 5mm, 20%, 1000pF	855444-102MN	3 ⚠

POWER-AMP PCB PARTS LIST

Diodes

Reference Designator	Description	Material Number	Note
BD1	DIODE BRIDGE, RECT., 15A, 600V	311087-0600	
D11, D18-D22	DIODE, RECT, FAST, 1000V, 0.8A, RS1ML, FLSMA	856386-1000	
D14, ZD7-ZD10	DIODE, ZENER, 0.2W, 15V, 5%, SOD-323F	856094-15V0	
D23, D26, D28, D34-D35	DIODE, SWITCHING, 100V, 0.15A, SOD323F	856395-0010	
D6-D7	DIODE, SINGLE, 600V, 5A, RFNL58M6S, TO-252	849891-0010	
D8, D25, D27	DIODE, RECT, ULTRAFAST, 200V, 6A, TPUH6D, SMPC	855862-0200	
D9, D48	DIODE, RECT, FAST, 1000V, 1A	317066-1000	
ZD2-ZD4	DIODE, ZENER, 0.2W, 5.1V, 5%, SOD-323F	856094-05V1	
LED1-LED2	DIODE, LED, 0603, WHITE, VERT	851300-0010	

Inductors

Reference Designator	Description	Material Number	Note
L12-L13	INDUCTOR, CLASS D, POWER, 26A, 20%, 10uH	856095-100M	
L16-L17	INDUCTOR, POWER, SMT, 10A, 20%, 10uH, COMM	852916-100M	
L2-L3	INDUCTOR, CUSTOM, COMMON MODE, RADIAL, 12mH	852647-0010	
L9	INDUCTOR, POWER, SMT, 4.2A, 20%, 10uH, COMM	852883-100M	

Transistors

Reference Designator	Description	Material Number	Note
Q1, Q3, Q11-Q12	TRANSISTOR, MFET, N-CH, 600V, 18A, DPAK	849830-0020	
Q10, Q15, Q19	XSISTOR, BP, N, 40V, 200MA, SOT-323	195357	
Q14	TRANSISTOR, MFET, P-CH, -3.8A, -30V, SOT23	852237-0010	
Q2, Q4	TRANSISTOR, PNP, 600mA, 60V, SOT23	852391-0010	
Q8	TRANSISTOR, NPN, 3A, 50V, SOT89	852881-0010	
Q9	TRANSISTOR, MFET, N-CH, 0.3A, 60V, SOT-23	356154-0010	

Integrated Circuit

Reference Designator	Description	Material Number	Note
U1	IC, PFC CONTROLLER, TRANS MODE, UCC28063	730085-0030	
U12	IC, DCDC CONV, STEP DOWN, 2A, 28V, TPS54202H	842669-0010	
U2, U5-U6, U8	IC, OPTOCOUPLER, EL817, 4SO	326344-0020	3 ⚠
U20	IC, PWR AMP, CLASS D, TPA3255, 44HTS-SOP	792785-0010	

POWER-AMP PCB PARTS LIST

Integrated Circuit (continued)

Reference Designator	Description	Material Number	Note
U3	IC, VREG, SW, FLYBACK CNTRLR, HF500-30, 7PDIP	855588-0010	
U4, U10	IC, LIN REG, ADJ, SHUNT, TL431, 1%, SOT23-3	330361-1030	
U7	IC, SW, CNTRLR, HALF-BRIDGE, HR1001A, 16SOIC	855754-0010	
U9	IC, OP AMP, DUAL, LM358, 8SOIC	856447-0010	

Miscellaneous

Reference Designator	Description	Material Number	Note
CN1	CONN, HDR, 3.96mm C, 2P, 1R, P, TH, ST, WHITE	847743-0020	
F1	FUSE, 8A, 250V, SLO-BLO, 5x20mm, AXIAL	317834-083B	3 ⚠
J1	CONN, HDR, 2.54mm C, 28P, 2R, P, TH, ST, 45.8H	847836-0028	
J3	CONN, HDR, 2mm C, 2P, 1R, P, SMT, ST	847747-0020	
J5, J7	CONN, HDR, 1.25mm C, 4P, 1R, P, SMT, ST	845374-0401	
J6	CONN, HDR, 3.96mm C, 2P, 1R, P, TH, RA, WHITE	847740-0020	
J8	CONN, HDR, 3.96mm C, 4P, 1R, P, TH, RA, WHITE	847740-0040	
L1, L4	TRANSFORMER, CUSTOM, HTS-PQ26F	856524-0010	3 ⚠
RT1	THERMISTOR, NTC, ICL, BULK, 20%, 10 ohm	856032-100MB	3 ⚠
RT2	VARISTOR, METAL OXIDE, DIA 14mm, 300Vrms	856832-3000D	3 ⚠
RT3-RT4	THERMISTOR, NTC, 0603, 3380K, 1%, 10K	855644-103F	
T1	TRANSFORMER, CUSTOM, HTS-EEL25A	852657-0010	3 ⚠
T2	TRANSFORMER, SWITCH, CUSTOM, HTS-ER40F	852655-0010	3 ⚠

VOLUME PCB PARTS LIST

Resistors

Reference Designator	Description	Material Number	Note
R71-R72	RES, THICK FILM, 0402, 0.063W, 1%, 6.8K	857326-0084	
R73-R83	RES, THICK FILM, 0402, 0.063W, 1%, 10K	857326-0021	

Capacitors

Reference Designator	Description	Material Number	Note
C1, C3, C8, C10, C12-C13	CAP, X7R, 0402, 25V, 10%, 0.1uF, COMM	718866-104K1E	
C14-C15	CAP, X5R, 0402, 25V, 20%, 1uF, COMM	716994-105M1E	
C2, C4	CAP, EL, SMT, 105C, 16V, 20%, 22uF, COMM	856752-220M1CBB	
C5-C6, C11, C16-C33	CAP, X7R, 0402, 50V, 10%, 10000pF, COMM	718866-103K1H	
C7, C9	CAP, X5R, 0603, 10V, 10%, 10uF, COMM	718835-106K1A	

Diodes

Reference Designator	Description	Material Number	Note
D1-D8	VARISTOR, MULTILAYER, 0402, 130pF, 12V	855757-120M131	
LED1-LED33, LED35-LED38, LED40-LED41, LED43-LED53	DIODE, LED, 0603, WHITE, VERT	851300-0010	
LED34, LED39, LED42	DIODE, LED, 0603, RED, GREEN, VERT	851301-0010	

Integrated Circuit

Reference Designator	Description	Material Number	Note
U1-U2	IC, LED DRIVER, RGB, 12BIT, 36-CH, VQFN46	852363-0036	

Miscellaneous

Reference Designator	Description	Material Number	Note
J1	CONN, HDR, 1.5mm C, 10P, 1R, P, SMT, ST, BEIGE	847746-0100	
J2	CONN, HDR, 1.5mm C, 11P, 1R, P, SMT, ST, BEIGE	847746-0110	
L3-L12	BEAD, FERRITE, 0402, 0.1A, 1800 OHM, COMM	840686-182D	
SW1-SW3	ENCODER, ROTARY, SWITCH, XRE0126	850872-0010	

DISASSEMBLY PROCEDURE

L1 Pro8 Power Stand Procedures

CAUTION: The SMD integrated circuits used on the Main-I/O Board are extremely sensitive to ESD damage. Be sure to use an approved and tested ESD strap that is properly grounded to your work bench before attempting disassembly or repair of the L1 Pro8 Portable Line Array System.

1. Enclosure Bottom Removal

1.1 Remove the Mid-high array and Array extension. Put the Power stand upside down. Figure 6.

Figure 6. PC Sheets Location

1.2 The PC sheets 1 2 3 4 are secured with Pressure Sensitive Adhesive - use a spudger, lift the PC sheets up and grasp and pull them off. Figure 7.

Re-assembly Note: Be careful to not cause cosmetic damage to the unit.

Use the new PC sheets to ensure proper adhesion during reassembly.

Figure 7. PC Sheets Removal

1.3 Remove the 12 screws securing the Enclosure bottom as indicated in Figure 8.

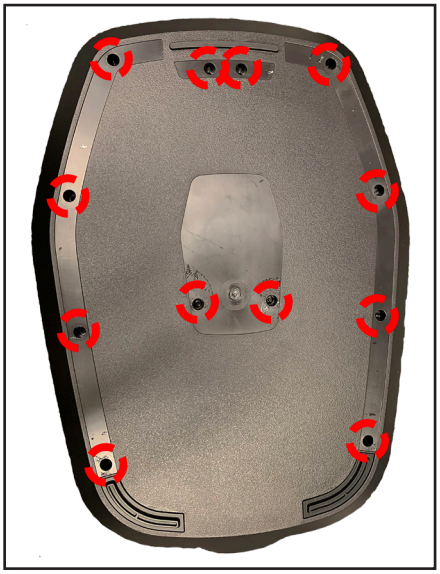


Figure 8. Enclosure Bottom Screws Removal

DISASSEMBLY PROCEDURE

1.4 Use your hands and lift up on the Enclosure bottom as indicated in Figure 9.

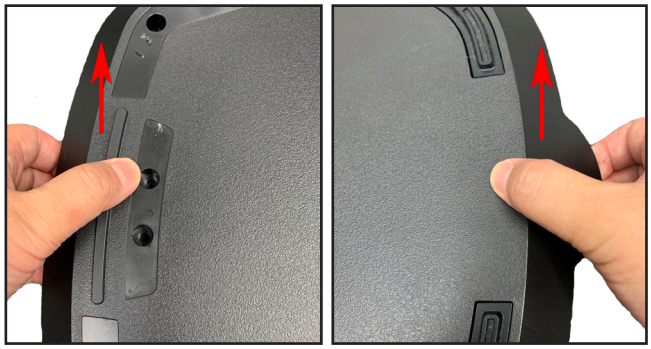


Figure 9. Enclosure Bottom Removal

2. Grille Removal

2.1 Perform procedure 1**.**

2.2 Pull the Grille out gently. Figure 10.

Note: When installing the Grille, make sure the Grille inserted into the Grille guides.

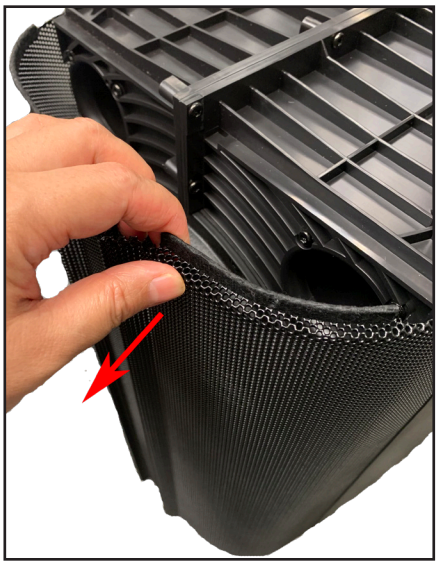


Figure 10. Grille Removal

3. I/O Panel Assy Removal

3.1 Remove the 10 screws securing the I/O panel assy as indicated in Figure 11.

Figure 11. I/O Panel Assy Screws Removal

DISASSEMBLY PROCEDURE

3.2 Incline the Power stand to let the I/O panel assy go downwards as indicated in Figure 12.

Note: Be careful the I/O panel assy is very heavy.

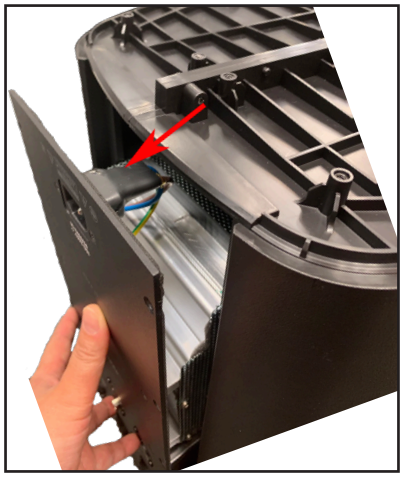


Figure 12. Incline the Power Stand

3.3 Once the I/O panel assy is out from the Enclosure, you will notice that the 2 Volume board cables 1 2 & the 1 Antenna cable 3 are attaching the Main-I/O board and the 2 Transducer harnesses 4 5 are attaching the Power & Amp Board. Figure 13.

3.4 Remove the green adhesive with IPA (Isopropyl alcohol) from the 1 2 & 4 5 cables' connections with Main-I/O board & Power-Amp board .

Note:
• Use a spudger / screwdriver to separate the green adhesive from the edge of connections.

• Be careful when regluing the green adhesive to fix the connections.

Re-assembly Note:
• RTV may be used if the green adhesive is not available.

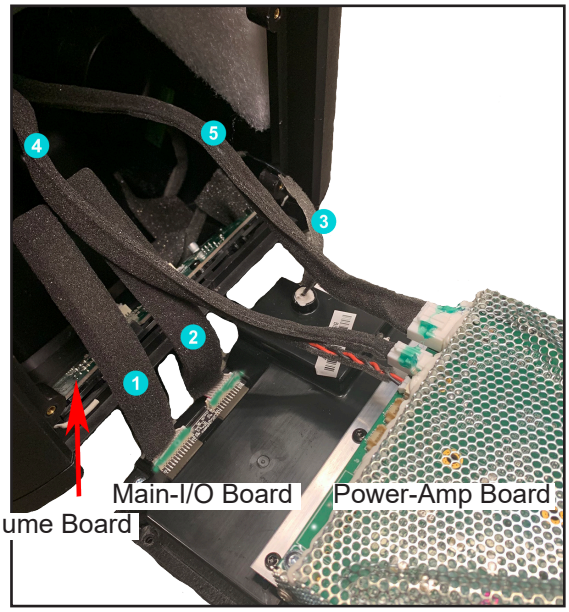


Figure 13. Main-I/O Board & Power-Amp Board Cables

3.5 Detach all the board cables from Main I/O board & Power-Amp board except the cable 3. At this time, it can be detached only by the other end of the connection. Figure 14.

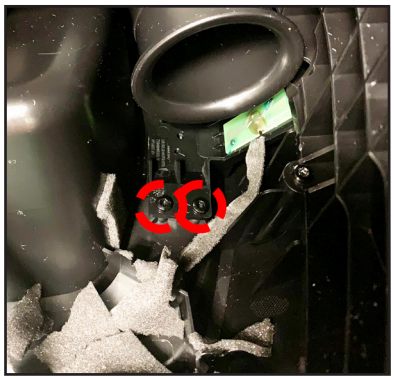


Figure 14. Antenna Board Screws Removal

DISASSEMBLY PROCEDURE

4. Power-Amp Board Removal

4.1 Perform procedure 3**.**

4.2 On the front of the I/O panel assy, remove the 6 screws (left) and turn it over to remove the 3 screws (right) securing the Power-Amp board as indicated in Figure 15.

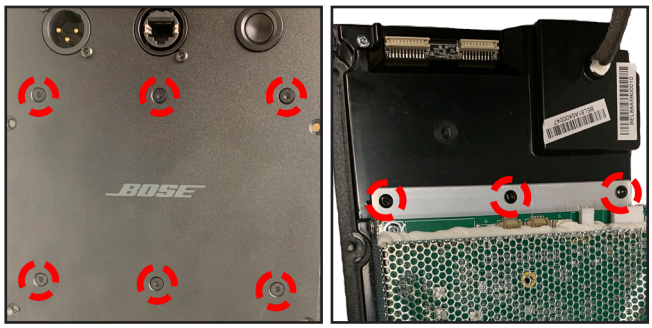


Figure 15. Power-Amp Board Screws Removal

Re-assembly Note: the old Heat Sink thermal grease must be removed with isopropyl alcohol and the new thermal grease, GAP FILLER, THERMAL, part number 749859-0020 MUST be used during board replacement. Failure to use the correct thermal grease WILL cause thermal failures. Part is listed at bottom of page 14 on the Main Part List.Figure 16.

Figure 16. Heat Sink Thermal Grease

4.3 Remove the 12 screws that secure the Shield cover of Power-Amp board as indicated in Figure 17,18.

Note: When installing the Shield cover, RTV need to be used to prevent buzz and vibration.

The location for RTV is same as the white glue that is originally installed.

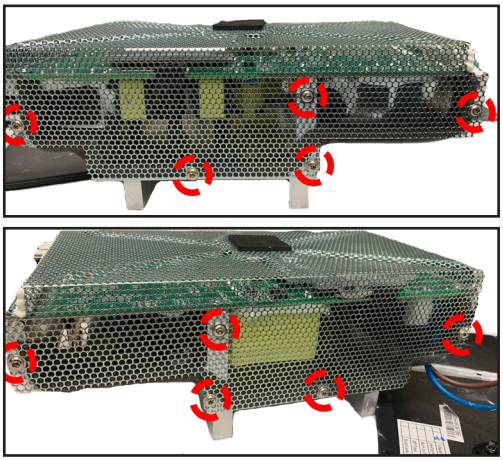


Figure 17. Shield Cover Screws Removal 1

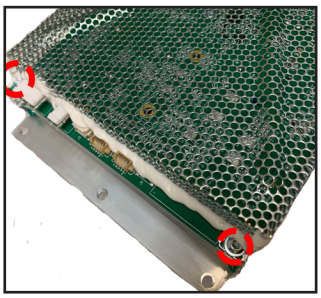


Figure 18. Shield Cover Screws Removal 2

4.4 Use a spudger to separate the white glue from the edge of PCB as indicated in Figure 19.

5. Main-I/O Board Removal

5.1 Perform step 4. On the Fire box, remove the 5 screws that secure the Main-I/O board as indicated in Figure 20 (left).

5.2 Remove the RTV with tweezers as the red arrow indicated in Figure 20 (left).

Note: Be careful the *Bluetooth* antenna cable when removing the RTV as it is fragile.

The new RTV need to be applied to the hole when the fire box is re-installed.

5.3 Lift the Fire box up and remove the 2 screws securing the Main-I/O board. Figure 20 (right).

5.4 Remove the green adhesive holding the Bluetooth antenna cable and disconnect the Bluetooth antenna connector as the red arrow indicated in Figure 20 (right).

Note: The new green adhesive need to be applied. Either hot melt or RTV is fine.

5.5 On the front of I/O panel assy, remove the 8 screws securing the 4 Jacks. Figure 21.

5.6 Use a nut driver or socket to turn ¼ turn to remove the 1/4' Jack socket nut out as the red arrow indicated in Figure 21.

Re-assembly Note:

There are no Device ID concerns when replacing the main board. The Device ID is assigned at the factory. Service replacement Main-I/O PCBA's use the PCBA serial number instead of the system serial number. As a result, the system serial number will not show up in the L1 Mix app.

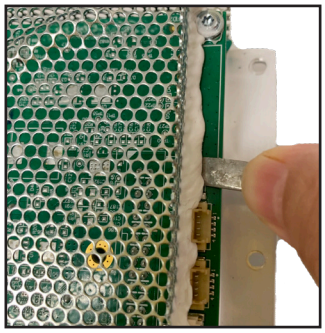


Figure 19. White Glue Removal

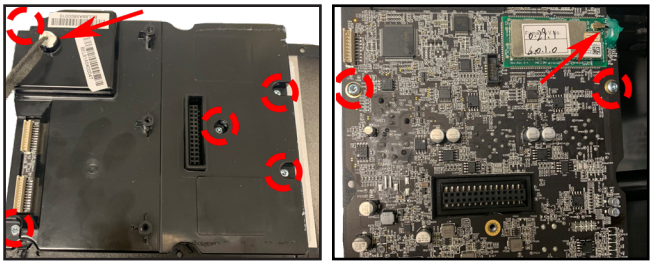


Figure 20. Fire Box & Main-I/O Board Screws Removal

Figure 21. 4 Jacks and Jack Socket Nut Removal

DISASSEMBLY PROCEDURE

6. Volume Board Removal

6.1 Perform step 3.

6.2 Remove the 4 screws that secure the Volume board as indicated in Figure 22.

6.3 Pull the 3 Volume knobs out and lift off the board.

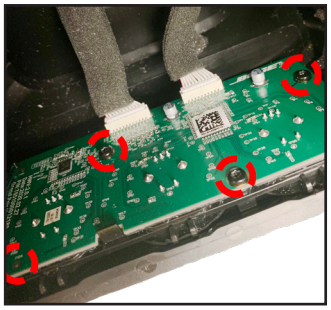


Figure 22. Volume Board Screws Removal

7. Woofer Removal

7.1 Perform step 2.

7.2 Remove the 12 screws securing the Woofer as indicated in Figure 23.

Figure 23. Woofer Screws Removal

7.3 Detach the 2 Cable harnesses from the Woofer by pressing the white fastener. Figure 24.

Note: Be careful the Woofer is very heavy.

Figure 24. Press the White Fastener

L1 Pro8 Array Procedures

1. Grille Removal

1.1 Remove the 8 screws that secure the Endcaps from both ends of the Line Array as indicated in Figure 25.

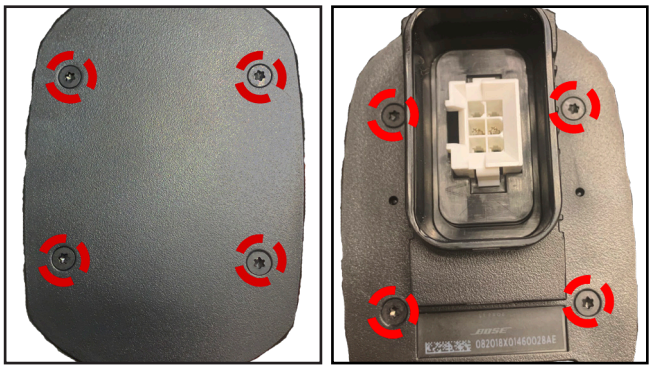


Figure 25. Both Ends of Endcaps Screws Removal

DISASSEMBLY PROCEDURE

1.2 Lift off the Top and Lower endcap. Figure 26.

Note: Be careful the cable of Lower endcap is very short.

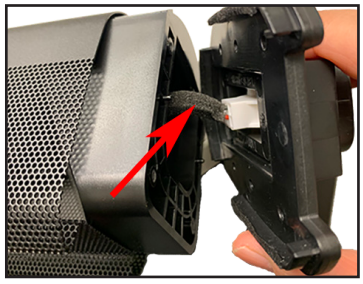


Figure 26. Lower Endcap Removal

1.3 Grasp the Grille and carefully slide the Grille off of the baffle. Figure 27.

Re-assembly Note: Be sure there is sufficient gasket material on the battle to prevent buzzes as the red arrow indicated in Figure 28.

Gasket material PN: 843112-0102

Perform the Array sweep tests after replacing the Grille.

Figure 27. Array Grille Removal

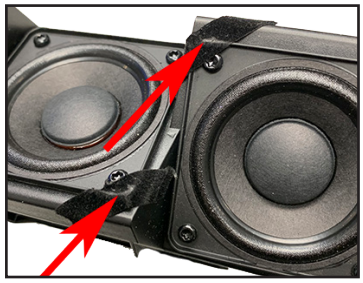


Figure 28. Gasket Material Locations

2. Drivers Removal

2.1 Perform procedure 1**.**

2.2 Remove the 4 screws securing the 1 Driver to the baffle as indicated in Figure 29 (left).

2.3 Detach the Driver's cable by pressing the white fastener. Figure 29 (right).

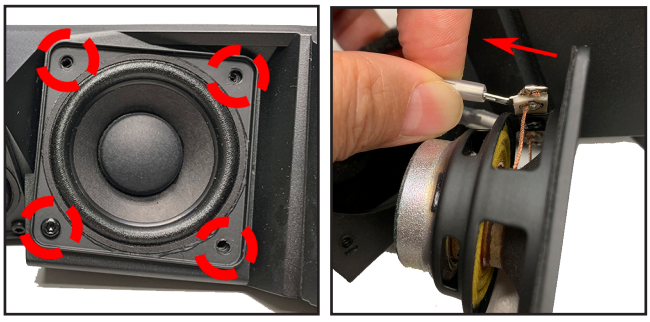


Figure 29. Driver Screws & Cable Removal

Array Extensions

Note: The Array extensions are not repairable.

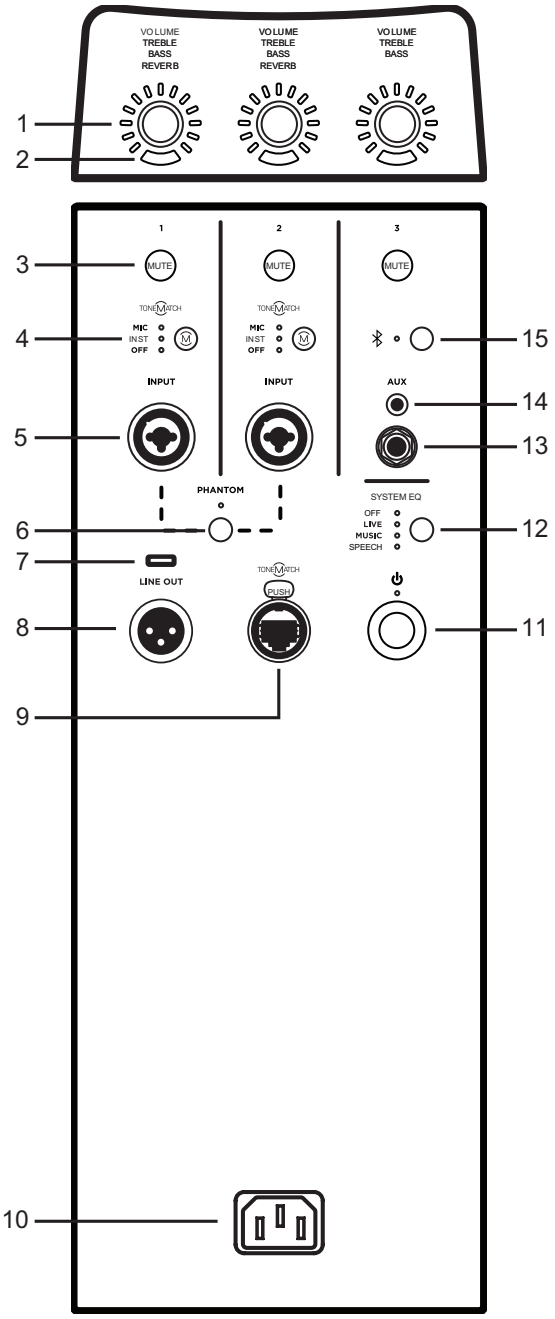
If damaged they must be replaced.

TEST PROCEDURE

Required Equipment:
1. Bose L1 Pro8 Power Stand and Line Array (unit under test)
2. Audio Signal Generator, Audio Precision ATS-1 or equivalent
3. iPod Touch/Smart Phone with audio test files / music installed
4. T4S or T8S (with power supply) and ToneMatch cable
5. Multi-meter
6. Cables listed below:
- XLR audio cable
- 1/8 inch audio cable
- 1/4 inch TRS audio cable
- AC Line cord - per region - refer to packaging part list

Set-up & Connections:
- Connect the Power Stand AC line cord to AC Mains.
- Assemble the Line Array to the Power Stand

Functional Tests:
1. Button and Knob Functionality Test
Refer to the Figure at right for this test



1.1 Press the STANDBY button (11) on the Power Stand to turn on the power stand. Verify that the LED lights.

1.2 Rotate the Channel 1 Channel Parameter Control knob (1). Verify that the LED's light around the control as you rotate.

1.3 Press the Channel 1 Channel Parameter Control to step through each of the selections. Verify that the associated LED lights.

1.4 Repeat steps 1.1 and 1.2 for the two remaining channels. Note: The Signal/Clip LED's (2) will be tested during the signal input tests later in this procedure.

1.5 Press the Channel 1 CHANNEL MUTE button (3). Verify that it lights. Press again to turn off the Mute function. LED should go out. Repeat for channels 2 and 3.

1.6 Press the Channel 1 ToneMatch button (4). Verify that one of the three selections is lit. Press the button twice more to verify that all 3 selections will light sequentially. Repeat for channel 2.

1.7 Press the PHANTOM POWER button (6). It should light. Press the button again to turn off Phantom power.

1.8 Press the SYSTEM EQ button to scroll through the EQ selections. The corresponding LED will illuminate white while selected.

TEST PROCEDURE

2. Line Input / Output Verification Tests

Refer to the Connections and Controls diagram on the previous page for the following tests.

Note: DO NOT assemble the line array to the power stand. The below test would be very loud with the array connected to the power stand.

2.1 Connect the AC power cord to the power stand and to AC Mains. Press the STANDBY button (11) to turn on the power stand. The button should illuminate white.

2.2 Set the channel 1 volume control (1) to 50%. Set the Channel ToneMatch button (4) and the Mute button (3) to OFF.

2.3 Apply a balanced, 150mV, 1 kHz audio signal to the Channel 1 XLR audio input (5).

2.4 Measure the output level at the Line Out jack (8). This is a balanced output. Output level should be 11.0 dBV ± 2 dB, THD <1%.

2.5 Change the input frequency to 20 Hz. Measure the output level at the Line Out jack (8). Output level should be 11.0 dBV ± 3 dB, THD <1%.

2.6 Change the input frequency to 20 kHz. Measure the output level at the Line Out jack (8). Output level should be 11.0 dBV ± 3 dB, THD <1%.

2.7 Repeat steps 2.2 to 2.6 for the Channel 1 TRS input. Output levels should be -3.2 dBV ± 2 dB at 1 kHz input, ± 3 dB at 20 Hz and 20 kHz inputs.

2.8 Repeat steps 2.2 to 2.7 for the Channel 2 XLR and TRS inputs.

2.9 Apply a balanced, 150mV, 1 kHz audio signal to the Channel 3 Aux 1/4” input.
Note: The Channel 3 Aux 1/4” input is a mono balanced TRS input.

2.10 Measure the output level at the Line Out jack (8). Output levels should be -16.5 dBV ± 2 dB at 1 kHz input, ± 3 dB at 20 Hz and 20 kHz inputs.

2.11 Apply 150mV, 1 kHz stereo (left/right) audio signal to the Channel 3 Aux 1/8” input.
Note: The Channel 3 Aux input is a stereo unbalanced TRS input.

2.12 Measure the output level at the Line Out jack (8). Output levels should be -4.0 dBV ± 2 dB at 1 kHz input, ± 3 dB at 20 Hz and 20 kHz inputs.

3. System Sweep Test

3.1 Assemble the line array to the power stand. Connect the AC power cord to the power stand and to AC Mains. Press the STANDBY button (11) to turn on the power stand. The button should illuminate white.

3.2 Set the Channel 1 volume control (1) fully CCW. Set the TREBLE and BASS settings to mid and the REVERB to minimum. Set the Channel 1 ToneMatch button (4) and the Mute button (3) to OFF.

TEST PROCEDURE

3.3 Apply a 250mV, 1kHz balanced audio signal into the channel 1, 1/4” TRS audio input (5).
CAUTION: This test will be very loud. Hearing Protection is required.

3.4 Set the Channel 1 volume control to 8. Verify that the SIGNAL/CLIP indicator (2) is lit green. Sweep the input frequency 40Hz to 2kHz over a period of six seconds. Listen from a distance of 12 - 20 inches (30 - 50cm). Verify that you hear no buzzing, air leaks or other artifacts.
Repeat sweep 3 times.

3.5 Set the input frequency to 1kHz. Rotate the Channel 1 Parameter control (1) to change the volume level between 0 and 8. Verify that the sound output level changes and that there is no noticeable distortion or other audio artifacts.

3.6 Set the volume control to 8. Slowly increase the input signal level from the Audio Signal Generator. Verify that the Signal/Clip indicator changes from Green to Red. Reduce the input level back to 250mV.

3.7 Apply a 250mV, balanced mono music signal to the channel 1 1/4” TRS jack. Press the Channel 1 Parameter control to change function to Treble. Rotate the control to change the treble level. Verify that the treble changes. Press the control to change to Bass. Verify that the bass level changes. Press the control to change to Reverb. Verify that the reverb level changes when you rotate the control.

3.8 Repeat steps 3.2 to 3.6 for the Channel 2 TRS input and Channel 3 Aux 1/4” and 1/8” inputs. Ensure that the Channel 3 SYSTEM EQ is set to MUSIC. **Note:** The Channel 3 Aux 1/4” jack is a mono balanced TRS input and the Channel 3 Aux 1/8” jack is a stereo unbalanced TRS input.

4. Bluetooth Connection and L1 Mix App Test

4.1 Press and hold the BLUETOOTH PAIR button (15) for 2 seconds. It is located above the Channel 3 AUX input. It will flash BLUE while the L1 Pro power stand is discoverable.

4.2 Using a Smart phone or similar, open your Bluetooth connections settings. Look for the L1 Pro8 and connect to it. Once you are connected the BLUETOOTH PAIR button on the power stand will illuminate solid white. While connected, stream music audio and verify that you have clean audio playback.

4.3 Download and install the L1 Mix app on the Smart phone or other device. It is available at the Apple App Store and Google Play. Open the app and verify that you can connect to the product and control it using the app. Note: The L1 Mix app operates via Bluetooth. Go to pro.bose.com for more app information.

5. ToneMatch Input Test

5.1 Using a ToneMatch cable, connect a T4S or T8S to the ToneMatch input (9).
CAUTION: Do not connect to a computer, computer network or phone network. Damage to the product could result.

Important Note:
1. The T1 ToneMatch is not compatible for this test. The power stand can supply power to the T1, but cannot receive audio from the T1 via the ToneMatch connection. Audio from a T1 must be input through one of the audio input connections on the power stand.

TEST PROCEDURE

5.2 Connect an audio input to the T4S/T8S. Verify that you can play the audio from the T4S/T8S through the power stand with no noticeable distortion.

6. Phantom Power Test

6.1 Press the STANDBY button (11) to turn on the power stand. The button should illuminate white.

6.2 Press the Phantom Power button (6) on the power stand. It should illuminate white.
Note: You can use a condenser microphone for this test. Connect to the Channel 1 input XLR Combo jack. Speak into the microphone and verify that you can pass audio. Repeat for Channel 2.

6.3 Using a multi-meter, carefully measure the DC voltage across pins 1 and 2 of the Channel 1 input XLR Combo connector. It should read +48Vdc +/- 5Vdc. Measure the DC voltage across pins 1 and 3 of the same connector. It should read +48Vdc +/- 5Vdc. Repeat step for the Channel 2 input XLR connector.
CAUTION: Take care to not short across the pins or you will damage the unit.

7. Button Extended Functions Test

7.1 Perform the button tests below to verify extended functionality of the buttons/controls.

Product I/O	**User control**	**Trigger**	**User action**
	Power button	Short press the power button when system is off/on	Power LED on and system power on/off
		Press and hold the button for 10 sec	All LEDs light then all the settings will be set to default and reboot the system
	BT button	Press and hold the BT button for 2 seconds	BT LED will blink in 2Hz (0.5 sec on and 0.5 sec off). Start the BT pairing/Disconnect any BT connection.
		Short press x1	If BT is not connected and pairing list is not empty, start BT reconnect.
			If BT pairing in progress, stop BT pairing mode.
		Press and Hold 10 seconds	Bluetooth factory reset and clear all current devices.
	ToneMatch button	Short press the ToneMatch button and the LED to postion-1/2	Microphone/guitar LED will be ON. Enable EQ for Microphone/ Acoustic guitar
		Short press the ToneMatch button and the LED to postion-3	Indication Microphone LED will be ON. Disable EQ
		Press and Hold 10 seconds	Factory reset of ToneMatch settings

TEST PROCEDURE

Button Extended Functions Test (continued):

Product I/O	User control	Trigger	User action
	House Curve button	Short press the button and the LED to position-1/2/3/4	“Off/Live/Music/Speech” LED will be ON. Select corresponding House Curve. Flat/Live/DJ/ Voice LED
	Encoder button	Short press the encoder	Channel LED: To position-1 is volume, position-2 is Treble, position-3 is Bass, position-4 is Reverb. Ring LEDs will update according the parameters level.
		Rotate knob clockwise/ counter-clockwise	Ring LEDs will be updated and Audio specific channel parameter level will be adjusted.
		Press and hold 3 parameter rotary encoder buttons 10 seconds	Disable/Enable Low Power standby mode. Power LED will blink 3 times for enable and 6 times for disable.
		Press and hold the rotary encoder button for 3 seconds when channel is in the reverb	Disable/Enable reverb mute. Reverb channel LED will blink at 1Hz for enable and solid white for Disable
	Channel Mute button	Short press the button to mute channel audio	Mute/Unmute Channel. Channel mute LED will be on when Mute and off when unmute
	Phantom	1st short press the button	LED to position 1 ON. Activates phantom power on channels 1 & 2 for a condenser microphone
		2nd short press the button	LED to position 2 OFF. De-activates phantom power on channels 1 & 2 for a condenser microphone

7.2 Before returning the system to the customer, Factory Default the system by pressing and holding the Power Button for 10 seconds.

HI-POT TEST

1. 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 returned to the technician for troubleshooting and repair of the problem, after which it must be Hi-Pot tested again.

Hi-Pot Tester Settings:

Type of product: 100-240 VAC 2-wire Class II
Test Voltage: 1591 VAC
Trip Current Limits: 0.5mA min, 10mA max
Ramp: 1 second
Dwell: 4 seconds

Procedure

1.1 Connect the positive side (hot) of the Hi-Pot tester to both terminals of the AC mains input.

1.2 Connect the return of the Hi-Pot tester to the channel 1 to 3 audio connector ground connections. Pin 1 on the channel 1 and 2 XLR combo jacks, sleeve of 1/8” and 1/4” inputs and the shell of the Service USB-C jack.

This test must be performed only after the system has been completely assembled. Failure of this test indicates a faulty transformer, defective or incorrectly dressed primary wiring, improperly attached leads, surface contamination of either the power supply board or the I/O connector board, or incorrectly adjusted trip point on tester.

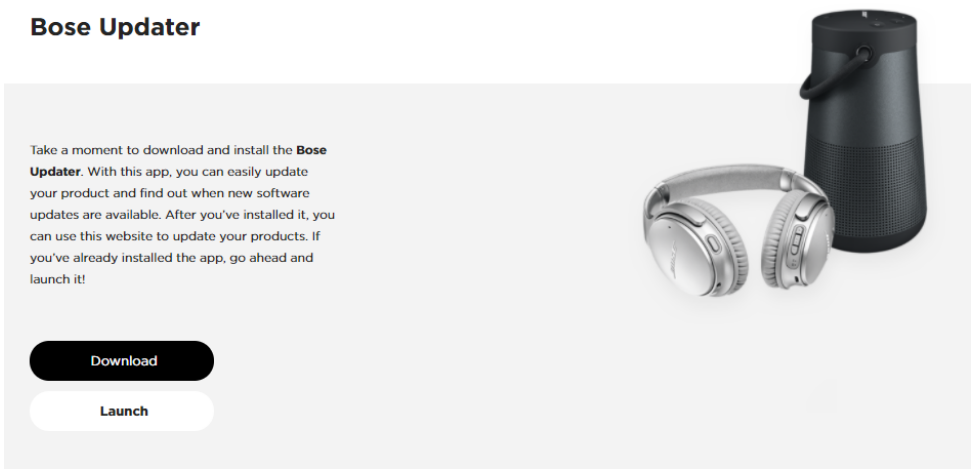
SOFTWARE UPDATE

These instructions explain how to update the firmware of your L1 Pro8, L1 Pro16, L1 Pro32, Sub1, or Sub2.

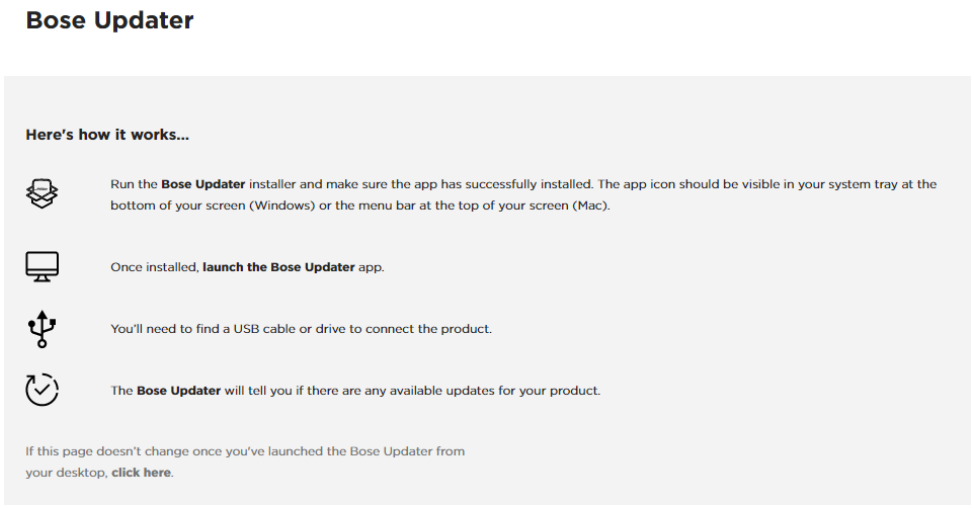
Note: *A USB-C cable is required (not included with your product). The L1 Pro family of products is not compatible with Thunderbolt 3 cables.*

Compatible Web Browsers	
Windows	Google Chrome, Mozilla Firefox, Microsoft Edge
Mac	Google Chrome, Mozilla Firefox

1. On a computer, open a web browser and go to **btu.bose.com**.
   Note: *Not compatible with Internet Explorer or Safari.*
2. Click **Download** to download the **Bose Updater.**



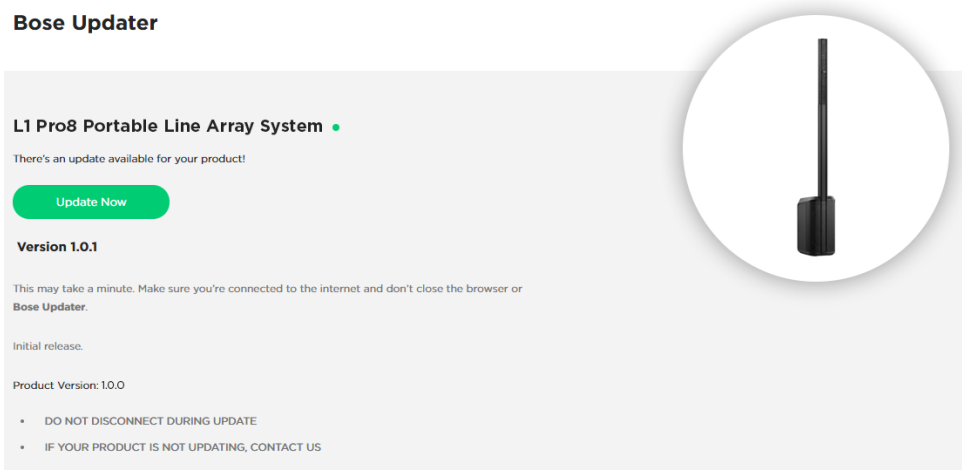
3. View the End-User License Agreement, then click **I Agree**.
4. Install the **Updater**.



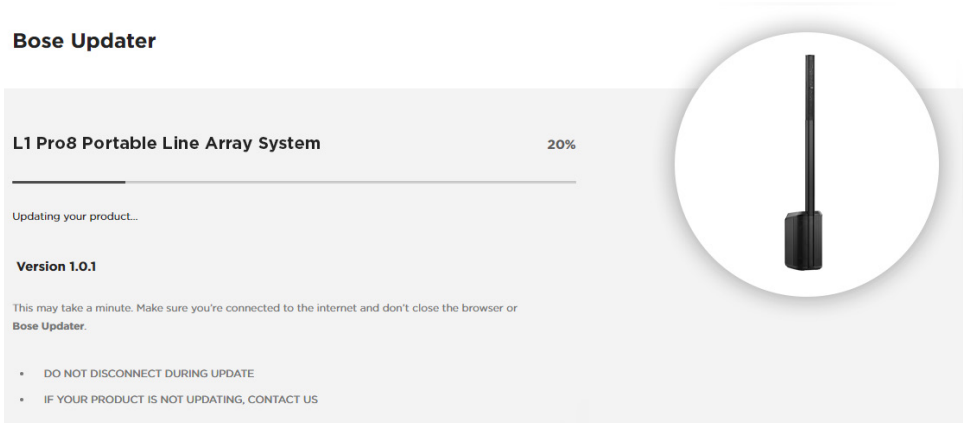
5. Once installed, open the **Updater**.
6. Plug your product into a power source.
7. Connect your product to your computer using a USB-C cable. The **Updater** will identify your product automatically.

SOFTWARE UPDATE

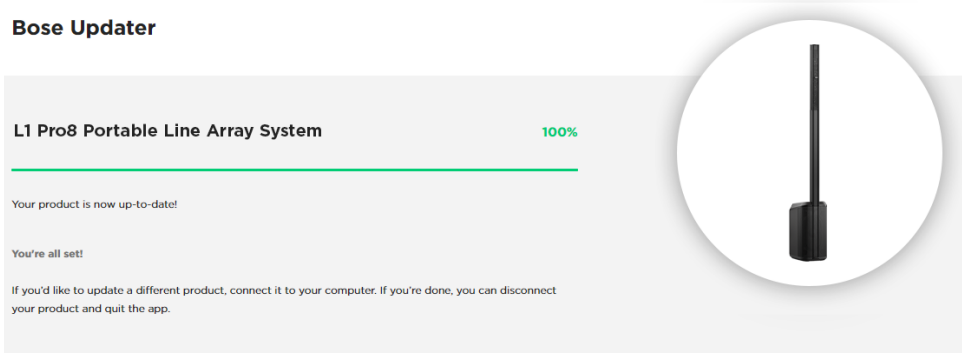
8. If your product needs a software update, your screen will read, **There's an update available for your product!**



9. Click **Update Now**.
Note: *Do not unplug or power off your product while the update is in progress.*



10. Once the update is complete, your screen will read, **Your product is now up-to-date!**.



SERVICE MANUAL REVISION HISTORY

Date	Revision Level	Description of Changes	Changes Driven By	Pages (s) Affected
11/9/2020	00	Document released at revision 00	Initial Release	ALL
12/24/2020	01	Add Software Update		Page 47, 48
2/17/2022	02	Add Item 4-10		Page 9
3/30/2023	03	Add Item 49 Part number		Page 11

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