

L1® Model I portable line array system



Key Features

- High-performing, self-powered, portable two-way loudspeaker system designed for the production and reproduction of live music, music playback, speeches and A/V sound reproduction.
- Spatial Dispersion™ loudspeaker technology produces wide, uniform sound coverage throughout the entire listening area – even off to the extreme sides.
- Consistent front-to-back coverage, vertical line array design produces a loss of only 3 dB in sound pressure level per doubling in distance.
- Integrated ToneMatch® presets for popular vocal microphones and instruments.
- Integrated 4-channel mixer with wired remote control.
- Lightweight, interlocking components for easy transport.
- Expandable bass design supports the use of multiple B1 bass modules.
- For smaller to larger spaces with audiences of up to 500.



Description

The L1® Model I portable line array system is a high-performing, self-powered, two-way portable loudspeaker system designed for professional applications such as music playback, speeches and A/V sound reproduction. The L1 Model I system is engineered to deliver an acoustic performance of 40 Hz to 12 kHz (-3 dB). This loudspeaker system provides power for up to two B1 bass modules without the need for external amplification.

Descriptive Data

System Specifications	
System Type	Self-powered, two-way
Calculated Maximum SPL @ 1m (continuous and peak)	115 dB continuous, 121 dB peak
Frequency Range (-3 dB)	40 Hz – 12 kHz
Frequency Range (-10 dB)	32 Hz – 14 kHz
Crossover Frequency	200 Hz 24 dB per octave
Nominal Coverage Pattern	160° H
Power	
System Power Rating	500 W
Low-Frequency Amplifier	250 W
High-Frequency Amplifier	250 W
Distortion at Rated Power	0.1% Max 30 Hz – 15 kHz
System Limiter	Dynamic Limiter
Transducers	
High-Frequency Drivers (Cylindrical Radiator® loudspeaker)	(24) 2.25" HF drivers
Low-Frequency Driver (B1 bass module)	(2) 5.25" LF drivers (8 Ω)
Channel 1 and Channel 2	
Signal Indicators	Signal/Clip LED: Green = Signal Present Red = Clip
ToneMatch Presets	Selectable settings from 00 to 99
Trim	42 dB of range

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Descriptive Data (continued)

Channel 1 and Channel 2 (continued)	
Input	Balanced XLR / ¼" TRS combo jack with XLR loop through
Insert	TRS line input
Channel Gain (¼" input)	-Infinity to +28 dB
Channel Gain (XLR input)	-Infinity to +48 dB
Max Input Signal	+10 dBV (Mic) +18 dBV (Line)
Input Impedance	2.2 kΩ (Balanced) 909 kΩ (unbalanced)
Phantom Power Switch	+24 VDC
Channel 3 and 4	
Line In	Unbalanced ¼" TS jack
Level Control	20 dB available gain (+2.6 dB at 12:00)
Additional Connections	
Bass Module Out (for B1 only)	NL4 connector (all pins wired for active sensing) Bass output signal for driving one or two B1 bass modules (1 B1 bass module = 8 Ω) (2 B1 bass modules = 4 Ω)
Bass Line Output	Post-DSP bass signal output (180 Hz high-pass filter) Accepts a ¼" TRS cable Supplies low-frequency signal for connecting a PackLite [®] power amplifier or powered sub woofer
Data In	Digital input for software update only
Data Out	S/PDIF digital output @ 44.1 kHz (CH1 + CH2 Sum)
Remote	7-pin din connector for RC1
AC Mains	IEC Connector
Fuse	AC Power fuse – T15AH / 250 V
Power Switch	Switch system power on and off
Remote	
Controls (available on the R1 Remote)	Master Volume Channel Volume (CH1 + CH2) Treble: +/- 10 dB high-pass filter @ 10 kHz (CH1 + CH2) Mid: +/- 10 dB band-pass filter @ 1 kHz (CH1 + CH2) Bass: +/- 10 dB low-pass filter @ 40 Hz (CH1 + CH2)
Physical Properties	
Grille	Powder-coated steel
Net Weight and Dimensions	
L1 Model I Power Stand	36.5 lbs. (16.7 kg) 5" H x 26" W x 26" D (127 mm x 660 mm x 660 mm)
L1 Model I Cylindrical Radiator [®] Loudspeakers	L1 Model I Cylindrical Radiator [®] loudspeaker top: 16.9 lbs. (7.4 kg) 43" H x 3.5" W x 4" D (1105 mm x 89 mm x 105 mm) L1 Model I Cylindrical Radiator [®] loudspeaker bottom: 17 lbs. (7.4 kg) 43" H x 3.5" W x 4" D (1105mm x 89 mm x 105 mm)
B1 Bass Module	26.6 lbs. (12.1 kg) 14.5" H x 10.25" W x 17.75" D (381 mm x 260 mm x 450 mm)
Shipping Weight	
L1 Model I Power Stand	56 lbs. (25.4 kg)
L1 Cylindrical Radiator Loudspeakers	43 lbs. (19.5 kg)
B1 Bass Module	30 lbs. (13.6 kg)
Voltages	
USA/Canada	100-120 V 50 / 60 Hz 1000 W
Europe	220-240 V 50 / 60 Hz 1000 W
Japan	100 V 50 / 60 Hz 1000 W

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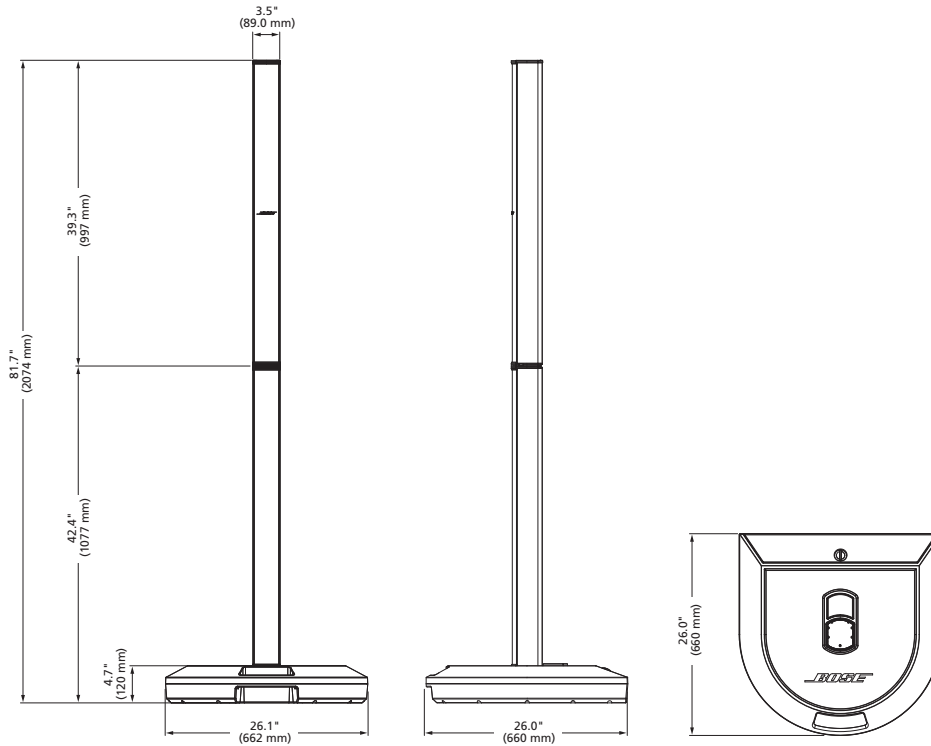
portable line array system



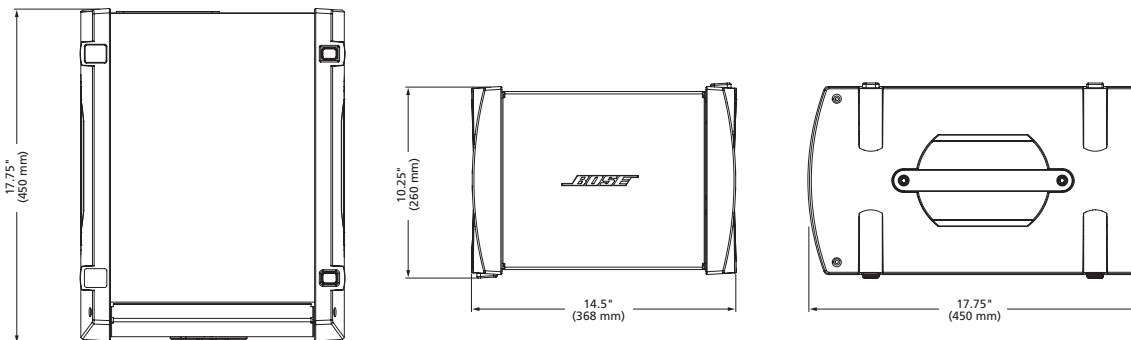
Mechanical Diagrams

TECHNICAL DATA SHEET

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B1 Bass Module

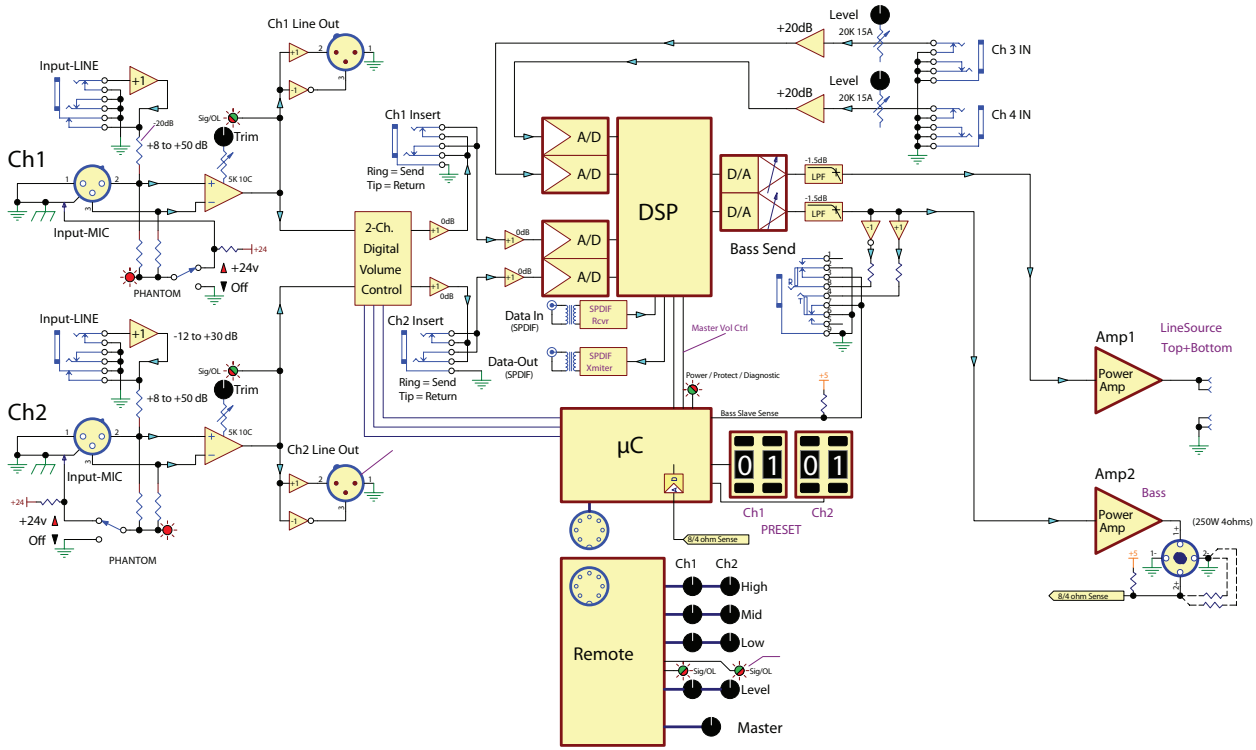


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Signal Flow Block Diagram



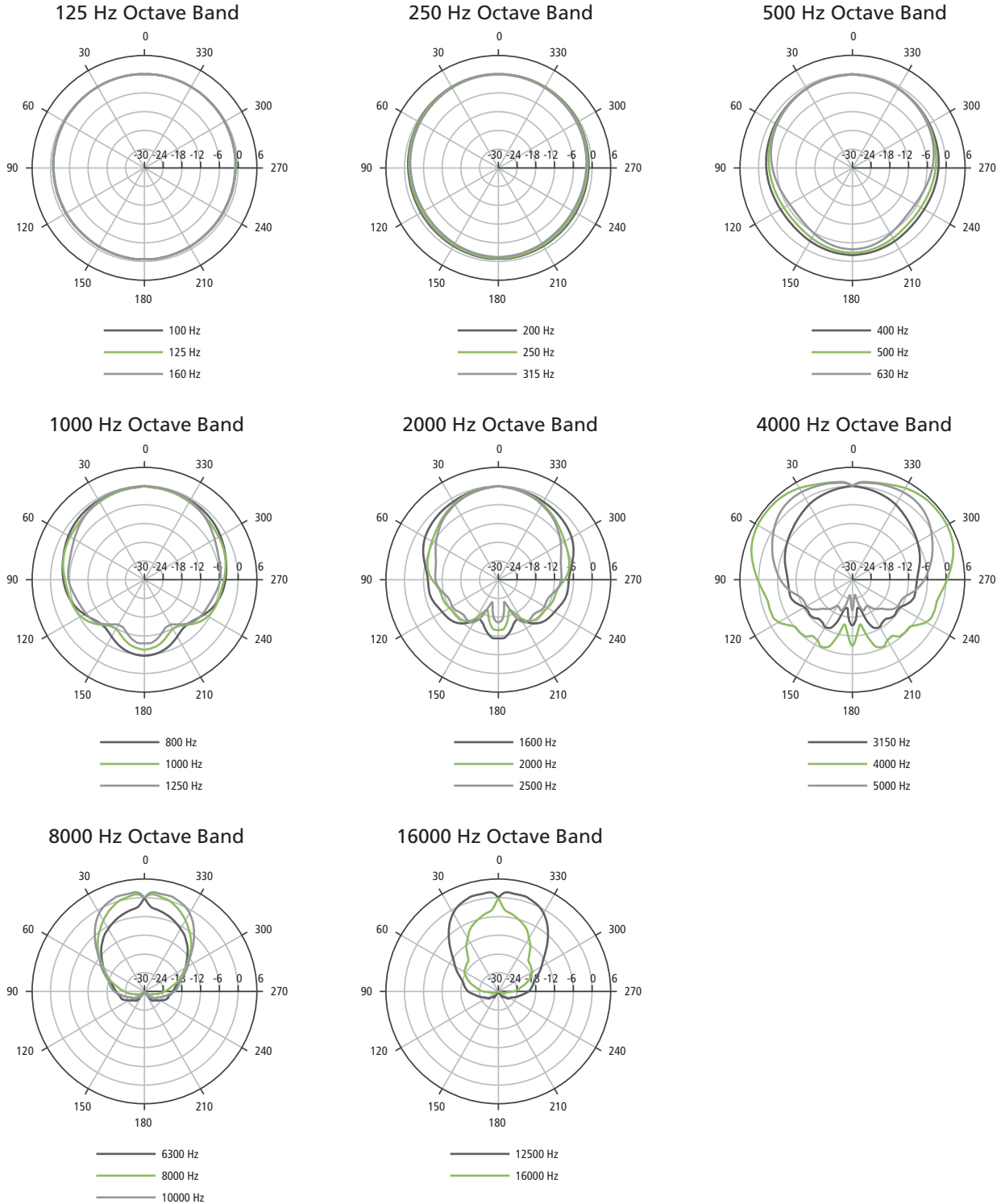
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Polar Plots 1/3 Octave Horizontal

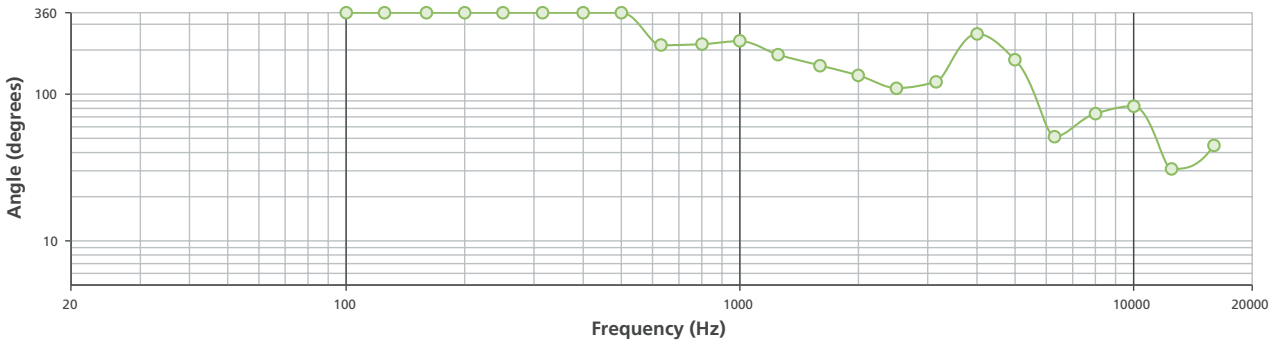


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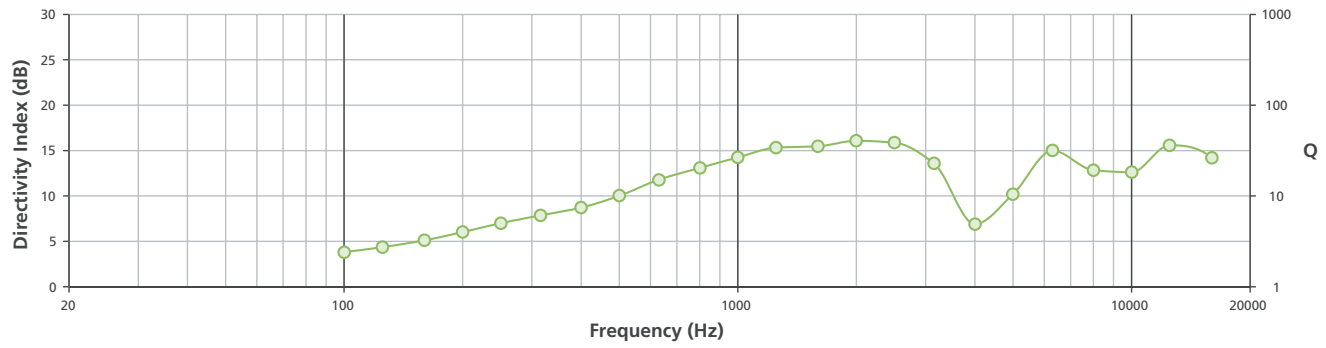
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Beamwidth



Directivity Index and Q



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Engineers' and Architects' Specifications

The system shall be a multiple-driver, full-range portable loudspeaker system with internally supplied power amplification, active equalization and external bass modules.

The transducer complement shall consist of twenty-four 2.25" (57 mm) high-excursion, high-frequency drivers mounted in a line array loudspeaker design coupled with two 5.25" (133 mm) high-excursion, low-frequency drivers mounted in a vented bass enclosure. The loudspeaker array shall be wired in a series/parallel configuration.

The nominal horizontal beamwidth of the loudspeaker shall be a narrow band of sound confined to the top and bottom of the array. The system's power stand shall incorporate a ported venting system for the low-frequency driver, tuned for 40 Hz. The power amplification for transducers shall be supplied by the integrated power stand providing 500 W continuous pink noise, band-limited from 40 Hz to 12 kHz (-3 dB). The loudspeaker power stand shall serve as a support mechanism for the loudspeaker array.

Channels 1 and 2 shall each provide +24 V phantom power and shall be equipped with one balanced XLR / ¼" TRS combo jack with XLR loop through with assignable equalization presets, one ¼" balanced TRS insert, and one balanced XLR line output receptacle. The aforementioned channel volume and equalization attenuation control shall be accessible via hardwired remote control.

Channels 3 and 4 shall each provide an unbalanced ¼" TS receptacle with line-level attenuation control. The remote control master volume shall attenuate the overall levels of Channels 3 and 4.

The system output connectors shall provide one NL4 receptacle capable of distributing power for up to two low-frequency B1 bass modules and one ¼" TRS line-level receptacle for supplying signal to a PackLite[®] extended bass package.

The enclosure of the Cylindrical Radiator[®] loudspeaker shall be constructed of extruded aluminum. The system's power stand shall be constructed of polypropylene materials. The total assembled system height shall be 82.75" (2102 mm), while the total assembled system weight shall be 90 lbs. (40.8 kg).

The loudspeaker shall be the Bose[®] L1[®] Model I portable line array system.

Safety and Regulatory Compliance

The L1 Model I system complies with the following standards:

- UL/IEC/EN 60065 7th Edition Safety Standard for Audio and Video Equipment
- Ecodesign Directive 2005/32/EC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. This product complies with the Canadian ICES-003 Class A specifications. This product conforms to the EMC Directive 289/336/EC Under standards: EN55103-1 & 2: 1997, Environment 2.

How our Loudspeakers are Measured

Calculated Max SPL

Calculated based on input sensitivity and maximum input power rating exclusive of power compression.

More Information

Technical literature and other materials are available at pro.Bose.com.

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Product Codes

System*

L1 [®] Model I System 120 V	PC 042827
L1 Model I Bass System 240 V	PC 042830

Available Accessories

B1 Bass Module	PC 032494
PS1 Power Cord, packaged as accessory	PC 035393
R1 Remote, packaged as accessory	PC 035394
R1 7-pin Cable (5 m), packaged as accessory	PC 035403
R1 7-pin Cable (10 m), packaged as accessory	PC 035411
Power Stand Fuse Kit (120 V)	PC 044180
T1 ToneMatch [®] Audio Engine	PC 042826
T1 ToneMatch Audio Engine Power Supply	PC 042533
T1 ToneMatch Audio Engine Mic Stand Bracket	PC 042535
T1 ToneMatch Cable Assembly	PC 042536
T1 ToneMatch Carry Bag	PC 042534

Replacement Parts

Carry Bag – L1 Model I Cylindrical Radiator [®] Loudspeaker (2 bags)	PC 044023
Carry Bag – L1 Model I Power Stand	PC 044025
Protective Slip Cover – B1 Bass Module.	PC 035025

*Includes (1) B1 bass module.

