PROFESSIONAL

2017 PRODUCT CATALOG

ABOUT BOSE® PROFESSIONAL

Professional sound systems demand an uncommon expertise and specialized products. For more than 40 years, Bose Professional has developed innovative loudspeakers, electronics and software to meet the needs of demanding professional audio applications. Our products are sold only through authorized pro-audio dealers, AV-system integrators and distributors. We provide substantial support for our distribution network, including product technical information, system design support and after-sale support. Bose sound is found throughout the world in performing arts centers, theaters, houses of worship, stadiums, restaurants, retail stores, corporate buildings and hospitality establishments.

LOUDSPEAKERS

DELTAQ ARRAYS

FOREGROUND/FILL

LARGE/MEDIUM FORMAT SOUND REINFORCEMENT

SMALL FORMAT SOUND REINFORCEMENT

COLUMNAR LINE ARRAY

BACKGROUND/FOREGROUND

DELTAQ ARRAYS

Bose Professional DeltaQ™ technology defines the next-generation in loudspeaker array design with selectable coverage patterns that more precisely direct sound to audience areas for the best possible sound quality and vocal clarity throughout the listening area.

- DeltaQ™ Arrays improve sound quality and vocal clarity by allowing directivity, or “Q,” to vary with each array module, directing more sound to the audience and less to walls and floors.
- Choice of Horizontal Coverage. Array modules are available with up to 4 different horizontal patterns to reduce wanted wall reflections and increase projection to back-row seats.
- Choice of Vertical Coverage. Array modules are available with up to 5 different vertical patterns to allow large coverage angles with fewer modules and help equalize front-to-back sound levels.
- Focused Coverage Over Wide Frequency Range. The choice of both horizontal and vertical patterns allows total array coverage to more precisely match the size and shape of audience areas. The result is more consistent coverage over a wide frequency range as compared to that of conventional line arrays. Better sound quality from side-to-side and front-to-back throughout the audience area with higher direct-sound rations to minimize the impact of bad room acoustics.
- Outstanding Vocal Clarity and Midrange Projection. Guiding principles of DeltaQ™ technology include largest-in-class waveguides to control coverage patterns to lower frequencies and proprietary compression drivers that eliminate crossover points in the critical 1-4 kHz vocal clarity range. The result is increased midrange projection and outstanding vocal clarity.
- Get the array coverage you need with fewer boxes. Choice of different vertical coverage patterns gives designers the flexibility to choose the number of boxes in arrays based on output level, coverage control, and budgets -- without sacrificing coverage. Conventional line arrays can require up to twice the box count compared to DeltaQ™ arrays to achieve comparable vertical coverage. DeltaQ™ arrays can improve sight lines, reduce rigging weight, and lower system costs.

FULL RANGE

SHOWMATCH® SM5
FULL RANGE ARRAY MODULE LOUDSPEAKER

Bose Professional ShowMatch™ DeltaQ™ SM5 full-range array modules provide 5° nominal vertical coverage with included field-changeable waveguides offering choice of 70° or 100° horizontal coverage with optional accessory 55° waveguides. Replace single waveguide panel to form horizontal asymmetrical patterns. The 2-way module requires external power amplifiers (2- channels) and DSP to provide full-range response from 59 – 17,000 Hz with peak array output of up to 145 dB.

SPECIFICATIONS

Frequency Response (+/-3 dB)
69 Hz - 16 kHz

Frequency Range (-10 dB)
59 Hz - 18 kHz

Nominal Coverage Pattern (H x V)
70° H x 5° V (includes waveguides for 100° H x 5° V)

Long-Term Power Handling
Low Frequency: 450 W (1800 W peak)
High Frequency: 100 W (400 W peak)

Nominal Impedance
Low Frequency: 8 Ω
High Frequency: 6 Ω

Sensitivity (SPL / 1 W @ 1 m)
Low Frequency: 94 dB
High Frequency: 107 dB

Maximum SPL @ 1 m
Low Frequency: 121 dB
High Frequency:127 dB

Calculated Maximum SPL @ 1 m, peak
Low Frequency: 127 dB
High Frequency:133 dB

FULL RANGE

SHOWMATCH® SM10
FULL RANGE ARRAY MODULE LOUDSPEAKER

Bose Professional ShowMatch™ DeltaQ™ SM10 full-range array modules provide 10° nominal vertical coverage with included field-changeable waveguides offering choice of 70° or 100° horizontal coverage. Replace single waveguide panel to form horizontal asymmetrical patterns. The 2-way module requires external power amplifiers (2- channels) and DSP to provide full-range response from 59 – 17,000 Hz with peak array output of up to 145 dB.

SPECIFICATIONS

Frequency Response (+/-3 dB)
69 Hz - 16 kHz

Frequency Range (-10 dB)
59 Hz - 18 kHz

Nominal Coverage Pattern (H x V)
100° H x 10° V (includes waveguides for 70° H x 10° V)

Long-Term Power Handling
Low Frequency: 450 W (1800 W peak)
High Frequency: 100 W (400 W peak)

Nominal Impedance
Low Frequency: 8 Ω
High Frequency: 6 Ω

Sensitivity (SPL / 1 W @ 1 m)
Low Frequency: 94 dB
high Frequency: 106 dB

Maximum SPL @ 1 m
Low Frequency: 121 dB
High Frequency:126 dB

Calculated Maximum SPL @ 1 m, peak
Low Frequency: 127 dB
High Frequency:132 dB

FULL RANGE

SHOWMATCH® SM20
FULL RANGE ARRAY MODULE LOUDSPEAKER

Bose Professional ShowMatch™ DeltaQ™ SM20 full-range array modules provide 20° nominal vertical coverage with included field-changeable waveguides offering choice of 70° or 100° horizontal coverage and optional accessory 120° waveguides. Replace single waveguide panel to form horizontal asymmetrical patterns. The 2-way module requires external power amplifiers (2- channels) and DSP to provide full-range response from 59 – 17,000 Hz with peak array output of up to 145 dB.

SPECIFICATIONS

Frequency Response (+/-3 dB)
69 Hz - 16 kHz

Frequency Range (-10 dB)
59 Hz - 18 kHz

Nominal Coverage Pattern (H x V)
100° H x 20° V (includes waveguides for 70° H x 20° V)

Long-Term Power Handling
Low Frequency: 450 W (1800 W peak)
High Frequency: 100 W (400 W peak)

Nominal Impedance
Low Frequency: 8 Ω
High Frequency: 6 Ω

Sensitivity (SPL / 1 W @ 1 m)
Low Frequency: 94 dB
High Frequency: 105 dB

Maximum SPL @ 1 m
Low Frequency: 121 dB
High Frequency:125 dB

Calculated Maximum SPL @ 1 m, peak
Low Frequency: 127 dB
High Frequency:131 dB

SUBWOOFER

SHOWMATCH® SMS118
SUBWOOFER MODULE LOUDSPEAKER

Bose Professional ShowMatch™ SMS118 subwoofers are designed primarily to integrate with DeltaQ™ array loudspeakers and extend low-frequency response down to 29 Hz. The SMS118 enclosure width and integrated rigging allows fast integration in arrays with ShowMatch full-range modules using optional array frames and accessories. The portable-rated Baltic birch enclosure may also be used for ground-stack applications and includes an integrated mounting-pole adapter for use with other mid/high loudspeakers.

SPECIFICATIONS

Frequency Range (-10 dB)
32 Hz - 250 Hz

Power Handling, Peak
3000 W per woofer

Sensitivity (SPL / 1 W @ 1 m)
Array Position (free field): 92 dB
Ground Stack (half space): 98 dB

Calculated Maximum SPL @ 1 m, peak
Array Position (free field): 127 dB
Ground Stack (half space): 133 dB

Nominal Impedance
4 Ω

ACCESSORIES

SHOWMATCH®
ACCESSORIES

ShowMatch accessories		Product Code
	**SMAF Array Frame** Use the ShowMatch™ Array Frame (SMAF) to create overhead suspended arrays that contain subwoofer modules, or to create ground stack arrays that use any combination of subwoofer modules, mid/high modules, or both.	770300-0110
	SMAFT T-Bar Array Frame Use the ShowMatch™ T-Bar Array Frame (SMAFT) to create overhead suspended arrays that contain mid/high modules only.	770299-0110
	**SMPULL Array Pullback Bracket** Connect the ShowMatch™ Array Pullback Bracket (SMPULL) to the bottom full-range array module to provide third-point suspension to building structure. This allows more extreme downward angle of arrays than possible from 2-point, gravity-hang suspension.	770302-0110
	**SMGSB Ground Stack Bracket** Use the ShowMatch™ Ground Stack Bracket (SMGSB) to build ground stack arrays that contain ShowMatch™ DeltaQ full-range loudspeaker modules (SM5, SM10, and SM20), subwoofer modules (SMS118), or a combination of both.	756491-0110
	**SMQPS Quick Pin Kit** Each ShowMatch™ DeltaQ full-range array module (SM5, SM10, and SM20) and subwoofer module (SMS118) includes standard installation pins. Use the short quick pins (SMQPS) in place of the standard pins to reduce the width of the array assembly.	770304-0110
	**SMAFMP Array Frame Multipoint Bracket** The ShowMatch™ Array Frame Multipoint Bracket (SMAFMP) expands the number of rigging points along the center rail of the Array Frame (SMAF) or T-Bar Array Frame (SMAFT) 7 to 45 possible points.	773065-0110
	**SMSTK Sub-Module Transition Kit**	776255-0110

FULL RANGE

ROOMMATCH® ARRAY MODULE LOUDSPEAKER

FULL RANGE

SPECIFICATIONS

Frequency Range (-10 dB)
55 Hz - 16 Hz

Sensitivity (SPL/1 W @ 1 m) Array
LF: 93 dB SPL
HF: 108 dB SPL

Maximum SPL @ 1 m
LF: 120 dB SPL (126 dB SPL peak)
HF: 130 dB SPL (136 dB SPL peak)

Long-Term Power Handling
LF: 500 W (4000 W peak)
HF: 150 W (600 W peak)

Environmental
Indoor use only

Model | Dispersion (H x V)				
5° Vertical	**10° Vertical**	**20° Vertical**	**40° Vertical**	**60° Vertical**
RM5505 | 55° x 05°	RM5510 | 55° x 10°	RM5520 | 55° x 20°	RM5540 | 55° x 40°	RM5560 | 55° x 60°
RM7005 | 70° x 05°	RM7010 | 70° x 10°	RM7020 | 70° x 20°	RM7040 | 70° x 40°	RM7060 | 70° x 60°
RM9005 | 90° x 05°	RM9010 | 90° x 10°	RM9020 | 90° x 20°	RM9040 | 90° x 40°	RM9060 | 90° x 60°
RM12005 | 120° x 05°	RM12010 | 120° x 10°	RM12020 | 120° x 20°	RM12040 | 120° x 40°	RM12060 | 120° x 60°

FULL RANGE

ROOMMATCH® ASYMMETRICAL ARRAY MODULE LOUDSPEAKER

FULL RANGE

Bose® RoomMatch asymmetrical array modules expand the original 20 RoomMatch full-range array modules with the addition of 22 different horizontally asymmetrical coverage patterns. Eleven left and right pairs provide 22 horizontally asymmetrical coverage patterns, allowing improved sound quality by reducing side-wall reflections in many room shapes. Additionally, these asymmetrical patterns can improve stereo soundstage effects when used in left/right pairs and left/center/right arrays.

Model | Dispersion (H x V) Asymmetrical Stage Left			
5° Vertical	**10° Vertical**	**20° Vertical**	**40° Vertical**
RM283505 | 28° + 35° x 05°	RM283510 | 28° + 35° x 10°	RM284520 | 28° + 45° x 20°	RM286040 | 28° + 60° x 40°
RM284505 | 28° + 45° x 05°	RM284510 | 28° + 45° x 10°	RM286020 | 28° + 60° x 20°	RM356040 | 35° + 60° x 40°
RM286005 | 28° + 60° x 05°	RM286010 | 28° + 60° x 10°	RM356020 | 35° + 60° x 20°	

Model | Dispersion (H x V) Asymmetrical Stage Right			
5° Vertical	**10° Vertical**	**20° Vertical**	**40° Vertical**
RM352805 | 35° + 28° x 05°	RM352810 | 35° + 28° x 10°	RM452820 | 45° + 28° x 20°	RM602840 | 60° + 28° x 40°
RM452805 | 45° + 28° x 05°	RM452810 | 45° + 28° x 10°	RM602820 | 60° + 28° x 20°	RM603540 | 60° + 35° x 40°
RM602805 | 60° + 28° x 05°	RM602810 | 60° + 28° x 10°	RM603520 | 60° + 35° x 20°	

SUBWOOFER

ROOMMATCH RMS218

VLF-SUBWOOFER MODULE LOUDSPEAKER

The RoomMatch RMS218 VLF-subwoofer is designed primarily to extend the low-frequency response of Bose RoomMatch arrays down to 25 Hz. It features dual Bose LF18 18-inch, high-excursion woofers, and a V-baffle design that reduces distortion while minimizing enclosure width. The durable Baltic birch enclosure with 2-part polyurethane coating integrates with all RoomMatch modules for reliable ground-stack applications. Use the RMS218 VLF-subwoofer with RMS215 subwoofer and full-range modules to create RoomMatch 4-way systems.

SPECIFICATIONS

Frequency Range (-10 dB)
25 Hz - 250 Hz

Sensitivity (SPL/1 W @ 1 m)
Array Position (free field): 96 dB*
Ground Stack (half space): 102 dB*

*AES standard component power handling test: pink noise in 25-250 bandpass, 6-dB crest factor, 2-hour duration.

Calculated Maximum SPL @ 1 m, peak
Array Position (free field):
130 dB SPL (136 dB SPL peak)*
Ground Stack (half space):
136 dB SPL (142 dB SPL peak)*

*AES standard component power handling test: pink noise in 25-250 bandpass, 6-dB crest factor, 2-hour duration.

Nominal Dispersion
Omni-directional below 100 Hz

Power Handling, Peak
6000 W (3000 W per woofer)

Environmental
Indoor use only

SUBWOOFER

ROOMMATCH® RMS215

SUBWOOFER MODULE LOUDSPEAKER

RoomMatch RMS215 subwoofer module is designed primarily to extend the low-frequency response of Bose® RoomMatch arrays to 40 Hz. The RMS215 subwoofer module features dual Bose LF15 15-inch, high-excursion woofers, with a proprietary port design that minimizes distortion and improves perceived transient impact.

The durable Baltic birch enclosure with 2-part polyurethane coating allows reliable ground-stack applications.

SPECIFICATIONS

Nominal Dispersion
Omni-directional below 100 Hz

Frequency Range (-10 dB)
40 Hz - 280 Hz

Sensitivity (SPL/1 W @ 1 m)
Array Array position (free field):
97 dB SPL
Ground Stack (half space):
103 dB SPL

Maximum SPL @ 1 m
Array Position (free field):
127 dB SPL (133 dB SPL peak)
Ground Stack (half space):
133 dB SPL (139 dB SPL peak)

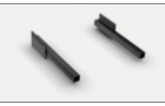
Long-Term Power Handling
1000 W (4000 W peak)
Per woofer: 500 W (2000 W peak)

Environmental
Indoor use only

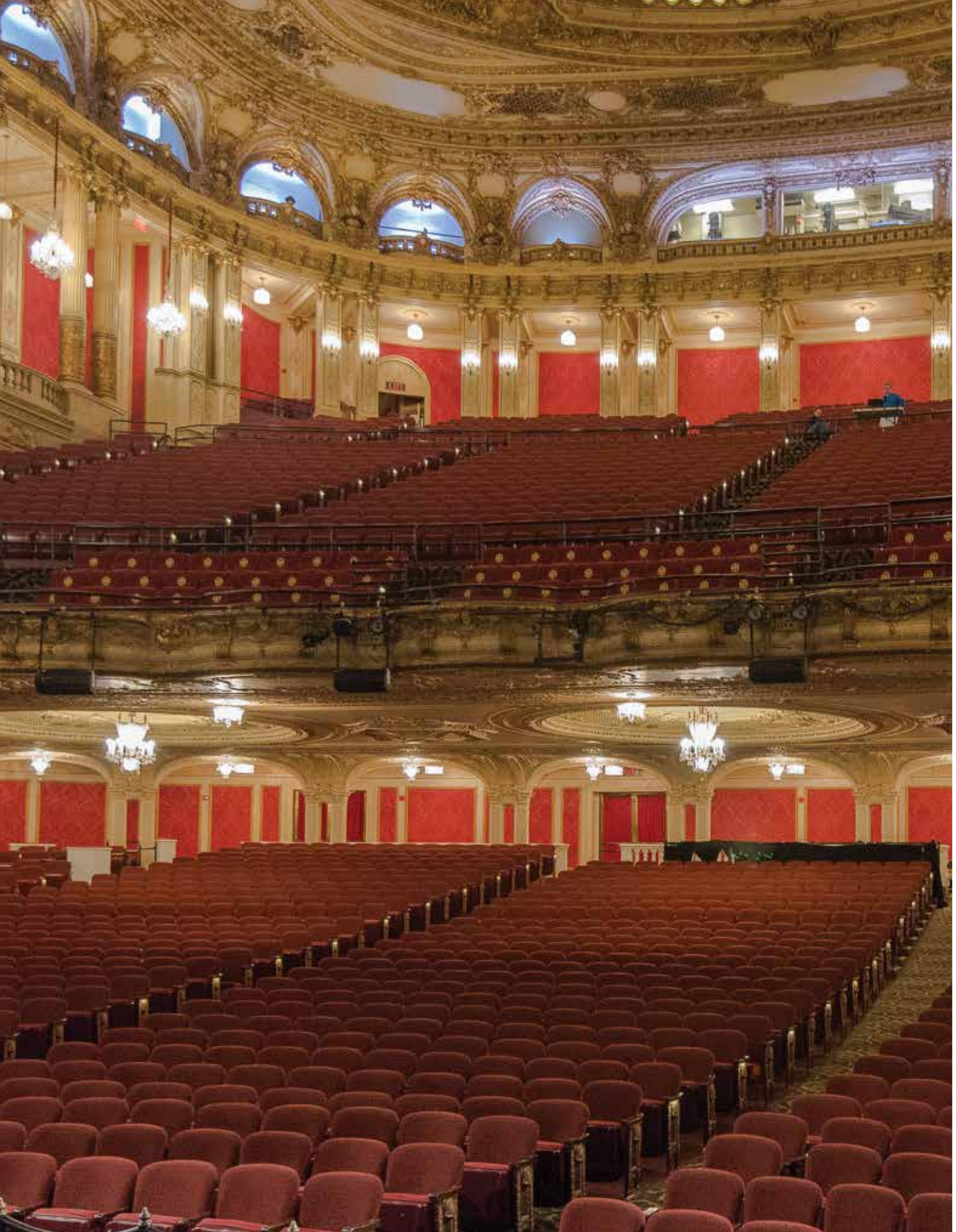
ACCESSORIES

ROOMMATCH®

ACCESSORIES

RoomMatch accessories		Product Code
	RMAFLG—large-array frame (single)	330038-0110
	RMBRKT—surface-mount bracket kit (pair)	348159-0110
	RMPINS—quick release pins kit (4 units)	344511-0010
	RMPULL—pull-back bracket (single)	330041-0110
	RMXLNG—long extender bar (pair)	344056-0110
	RMXSRT—short extender bar (pair)	344057-0110
	RMSHAD—gain shading kit (single)	344058-0110

Ground Stack accessories		Product Code
	RMGSBK—ground stack base kit (pair)	356016-0110
	RMGSCK—ground stack caster kit (4 units)	356514-0110
	RMGSPB—ground stack pitch brackets (pair)	356019-0110
	RMGSSB—ground stack subwoofer brackets (pair)	356018-0110



FOREGROUND/FILL

Bose® RoomMatch® Utility loudspeakers bring the award-winning sound quality of RoomMatch arrays to smaller 2-way point-source designs by using the same Bose EMB2 compression driver for consistent mid/high sonic character. RoomMatch Utility loudspeakers are intended for high-quality foreground music, under-balcony, zone-fill and vocal-range floor monitor applications. All models feature high-quality plywood construction suitable for the highest aesthetic requirements and
install easily with either horizontal or vertical mounting.

ROOMMATCH® UTILITY RMU208

SMALL-FORMAT FOREGROUND/FILL LOUDSPEAKER

The RoomMatch Utility RMU208 small-format sound reinforcement loudspeaker is intended for use in high-quality foreground music, under-balcony, zone fill and vocal-range floor monitor applications. The design features a single Bose EMB2 compression driver to provide mid/high-frequency voicing similar to that of RoomMatch full-range array modules. Dual 8-inch woofers provide full-range output and a multi-angle enclosure increases mounting flexibility.

SPECIFICATIONS

Nominal Dispersion
90° x 60° (rotatable HF horn)

Frequency Range (-10 dB)
70 Hz - 16 kHz

Sensitivity (SPL/1 W @ 1 m)
Bose extended-lifecycle test: 94 dB
AES transducer test: 94 dB

Calculated Maximum SPL @ 1 m
Bose extended-lifecycle test:
119 dB (125 dB peak)
AES component test:
120 dB (126 dB peak)

Power Handling, Long-Term Continuous
Bose extended-lifecycle test: 300 W
AES component test: 400 W

Environmental
Indoor use only

ROOMMATCH UTILITY RMU206

SMALL-FORMAT UNDER-BALCONY FILL LOUDSPEAKER

The RoomMatch Utility RMU206 small-format under-balcony fill loudspeaker features a unique angled baffle enclosure design to minimize the projected height for typical under-balcony and low-ceiling zone-fill applications. The design also features a single Bose® EMB2 compression driver to provide mid/high frequency voicing similar to that of RoomMatch full-range array modules and all RoomMatch Utility models. Two 6.5-inch woofers provide vocal-range output and a rotatable high-frequency waveguide increases mounting flexibility.

SPECIFICATIONS

Nominal Dispersion
120° x 60° (rotatable HF horn)

Frequency Range (-10 dB)
80 Hz - 16 kHz

Sensitivity (SPL/1 W @ 1 m)
Bose extended-lifecycle test: 92 dB
AES transducer test: 92 dB

Calculated Maximum SPL @ 1 m
Bose extended-lifecycle test:
115 dB (121 dB peak)
AES transducer test:
116 dB (122 dB peak)

Power Handling, Long-Term Continuous
Bose extended-lifecycle test: 200 W
AES transducer test: 250 W

Environmental
Indoor use only

ROOMMATCH® UTILITY RMU108

SMALL-FORMAT FOREGROUND/FILL LOUDSPEAKER

The RoomMatch Utility RMU108 small-format sound reinforcement loudspeaker is intended for use in high-quality foreground music, under-balcony, zone fill and vocal-range floor monitor applications. The design features a single Bose® EMB2 compression driver to provide mid/high frequency voicing similar to that of RoomMatch full-range array modules and all RoomMatch Utility models. A single 8-inch woofer provides full-range output, and a multi-angle enclosure with rotatable high-frequency waveguide increases mounting flexibility.

SPECIFICATIONS

Nominal Dispersion
90° x 60° (rotatable HF horn)

Frequency Range (-10 dB)
80 Hz - 16 kHz

Sensitivity (SPL/1 W @ 1 m)
Bose extended-lifecycle test: 91 dB
AES transducer test: 91 dB

Calculated Maximum SPL @ 1 m
Bose extended-lifecycle test:
114 dB (120 dB peak)
AES transducer test:
115 dB (121 dB peak)

Power Handling, Long-Term Continuous
Bose extended-lifecycle test: 200 W
AES transducer test: 250 W

Environmental
Indoor use only

ROOMMATCH UTILITY RMU105

ULTRA-COMPACT FOREGROUND/FILL LOUDSPEAKER

The RoomMatch Utility RMU105 ultra-compact foreground/fill loudspeaker is intended for use in high-quality background/ foreground music and zone-fill applications that require excellent audio, minimal physical size and high design aesthetics. The design features a single Bose® EMB2 compression driver to provide mid/high frequency voicing similar to that of RoomMatch full-range array modules and all RoomMatch Utility models. A single 5.25-inch woofer provides vocal-range output, and a 100° x 100° high-frequency horn provides consistent coverage with either vertical or horizontal mounting.

SPECIFICATIONS

Nominal Dispersion
100° x 100° (rotatable HF horn)

Frequency Range (-10 dB)
90 Hz - 16 kHz

Sensitivity (SPL/1 W @ 1 m)
Bose extended-lifecycle test: 90 dB
AES transducer test: 90 dB

Calculated Maximum SPL @ 1 m
Bose extended-lifecycle test:
110 dB (116 dB peak)
AES transducer test:
112 dB (118 dB peak)

Power Handling, Long-Term Continuous
Bose extended-lifecycle test: 100 W
AES transducer test: 150 W

Environmental
Indoor use only

ROOMMATCH UTILITY
ACCESSORIES

Foreground/Fill accessories		Product Code	Color
	RMUXF100—70V/100V transformer kit (single)	720367-0010	Black
	RMUXF40—70V/100V transformer kit (single)	720562-0010	Black
	RMUBRKT1—pan-and-tilt bracket (single)	738453-0110	Black
	RMUBRKT1—pan-and-tilt bracket (single)	738453-0210	White
	Speaker stand (single) *Compatible with RMU108 only*	027343	Black

LARGE/MEDIUM FORMAT SOUND REINFORCEMENT

Bose® large/medium-format loudspeakers include 6 mid/high-frequency loudspeakers, 2 full-range loudspeakers and 2 low-frequency subwoofers designed for permanently installed sound systems requiring precise coverage pattern control with high intelligibility and excellent tonal balance. The flexible product line provides scalable solutions appropriate for venues ranging from small 300-seat auditoriums to large stadiums and arenas.

All large/medium-format mid/high-frequency and full-range loudspeakers feature the Bose V2 Midrange Manifold. This proprietary Bose technology sums the output of two 4.5-inch extended-range cone drivers mounted in a combination heat-sink/acoustic summation manifold designed to significantly lower cone breakup distortion and improve transient response, compared to single 8″ to 12″ woofer designs. The result is a smoother, more natural vocal range response.

FULL RANGE

LT 9403
FULL-RANGE LOUDSPEAKER

The Bose® LT 9403 is a full-range 3-way loudspeaker designed as the primary reinforcement source for smaller venues, or for use with other LT loudspeakers to form Coherent Zone arrays in medium to large venues. The large-format waveguide and 90° x 40° pattern deliver precise coverage and high intelligibility, providing a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
90° H x 40° V

Frequency Range (-10 dB)
42 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
95 dB SPL

Maximum SPL @ 1 m
122 dB SPL (128 dB SPL peak)

Long-Term Power Handling
500 W (2000 W peak)

Environmental
Indoor use only

FULL RANGE

LT 6403
FULL-RANGE LOUDSPEAKER

The Bose LT 6403 is a full-range 3-way loudspeaker designed as the primary reinforcement source for smaller venues, or for use with other LT loudspeakers to form Coherent Zone arrays in medium to large venues. The large-format waveguide and 60° x 40° pattern deliver precise coverage and high intelligibility, providing a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
60° H x 40° V

Frequency Range (-10 dB)
42 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
96 dB SPL

Maximum SPL @ 1 m
123 dB SPL (129 dB SPL peak)

Long-Term Power Handling
500 W (2000 W peak)

Environmental
Indoor use only

MID/HIGH

LT 9702™ WR
HIGH-OUTPUT MID/HIGH LOUDSPEAKER

The Bose® LT 9702 WR is a high-output, mid/high-frequency loudspeaker designed for use with other LT loudspeakers to form Coherent Zone arrays in medium to large permanent installations requiring precise coverage and high intelligibility. The large-format waveguide and 90° x 70° pattern provide a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
90° H x 70° V

Frequency Range (-10 dB)
170 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
105 dB SPL

Maximum SPL @ 1 m
126 dB SPL (132 dB SPL peak)

Long-Term Power Handling
140 W (560 W peak)

Environmental
Outdoor rated

MID/HIGH

LT 9402 WR
HIGH-OUTPUT MID/HIGH LOUDSPEAKER

The Bose LT 9402 WR is a high-output, mid/high-frequency loudspeaker designed for use with other LT loudspeakers to form Coherent Zone arrays in medium to large permanent installations requiring precise coverage and high intelligibility. The large-format waveguide and 90° x 40° pattern provide a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
90° H x 40° V

Frequency Range (-10 dB)
150 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
106 dB SPL

Maximum SPL @ 1 m
127 dB SPL (133 dB SPL peak)

Long-Term Power Handling
140 W (560 W peak)

Environmental
Outdoor rated

MID/HIGH

LT 4402™ WR

HIGH-OUTPUT MID/HIGH LOUDSPEAKER

The Bose® LT 4402 WR is a high-output, mid/high-frequency loudspeaker designed for use with other LT loudspeakers to form Coherent Zone arrays in medium to large permanent installations requiring precise coverage and high intelligibility. The large-format waveguide and narrow 40° x 40° pattern provide a cost-effective alternative to multiple-cabinet line arrays for long-throw applications in many stadiums and arenas.

SPECIFICATIONS

Nominal Dispersion
40° H x 40° V

Frequency Range (-10 dB)
150 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
108 dB SPL

Maximum SPL @ 1 m
129 dB SPL (135 dB SPL peak)

Long-Term Power Handling
140 W (560 W peak)

Environmental
Outdoor rated

MID/HIGH

LT 3202™ WR

HIGH-OUTPUT MID/HIGH LOUDSPEAKER

The Bose LT 3202 WR is a high-output, mid/high-frequency loudspeaker designed for use with other LT loudspeakers to form Coherent Zone arrays in medium to large permanent installations requiring precise coverage and high intelligibility. The large-format waveguide and narrow 30° x 20° pattern provide a cost-effective alternative to multiple-cabinet line arrays for long-throw applications in many stadiums and arenas.

SPECIFICATIONS

Nominal Dispersion
30° H x 20° V

Frequency Range (-10 dB)
150 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
110 dB SPL

Maximum SPL @ 1 m
134 dB SPL (140 dB SPL peak)

Long-Term Power Handling
280 W (1120 W peak)

Environmental
Outdoor rated

MID/HIGH

LT 9400

MID/HIGH LOUDSPEAKER

The Bose® LT 9400 is a mid/high-frequency loudspeaker designed for downfill applications with LT Coherent Zone arrays in medium to large permanent installations, or as the primary reinforcement source along with MB low-frequency loudspeakers in smaller arrays and venues. The large-format 90° x 40° waveguide provides precise coverage and high intelligibility, serving as a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
90° H x 40° V

Frequency Range (-10 dB)
170 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
104 dB SPL

Maximum SPL @ 1 m
124 dB SPL (130 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Indoor use only

MID/HIGH

LT 6400

MID/HIGH LOUDSPEAKER

The Bose LT 6400 is a mid/high-frequency loudspeaker designed for downfill applications with LT Coherent Zone arrays in medium to large permanent installations, or as the primary reinforcement source along with MB low-frequency loudspeakers in smaller arrays and venues. The large-format 60° x 40° waveguide provides precise coverage and high intelligibility, serving as a cost-effective alternative to multiple-cabinet line arrays for many applications.

SPECIFICATIONS

Nominal Dispersion
60° H x 40° V

Frequency Range (-10 dB)
170 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
105 dB SPL

Maximum SPL @ 1 m
125 dB SPL (131 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Indoor use only

BASS & SUBWOOFER

MB24/MB24 WR

MODULAR BASS LOUDSPEAKER

The MB24 and MB24 WR low-frequency loudspeakers are designed to provide bass augmentation for Bose® LT arrays and other subwoofer applications. The compact 2 x 12" (305 mm) configuration allows minimal-height arrays when used with LT mid/high loudspeakers. Bose Modeler® tools and optional rigging hardware make directional bass arrays easy to design and install using MB24 loudspeakers.

SPECIFICATIONS

Nominal Dispersion
Omni-directional below 200 Hz

Frequency Range (-10 dB)
36 Hz - 290 Hz

Sensitivity (SPL/1 W @ 1 m)
94 dB SPL

Maximum SPL @ 1 m
123 dB SPL (129 dB SPL peak)

Long-Term Power Handling
800 W (3200 W peak)

Environmental
Outdoor rated (WR)

BASS & SUBWOOFER

MB12/MB12 WR

MODULAR BASS LOUDSPEAKER

The MB12 and MB12 WR low-frequency loudspeakers are designed to provide bass augmentation for Bose LT arrays and other subwoofer applications. The compact 1 x 12" (305 mm) configuration allows minimal-height arrays when used with LT mid/high loudspeakers. Bose Modeler tools and optional rigging hardware make directional bass arrays easy to design and install using MB12 loudspeakers.

SPECIFICATIONS

Nominal Dispersion
Omni-directional below 200 Hz

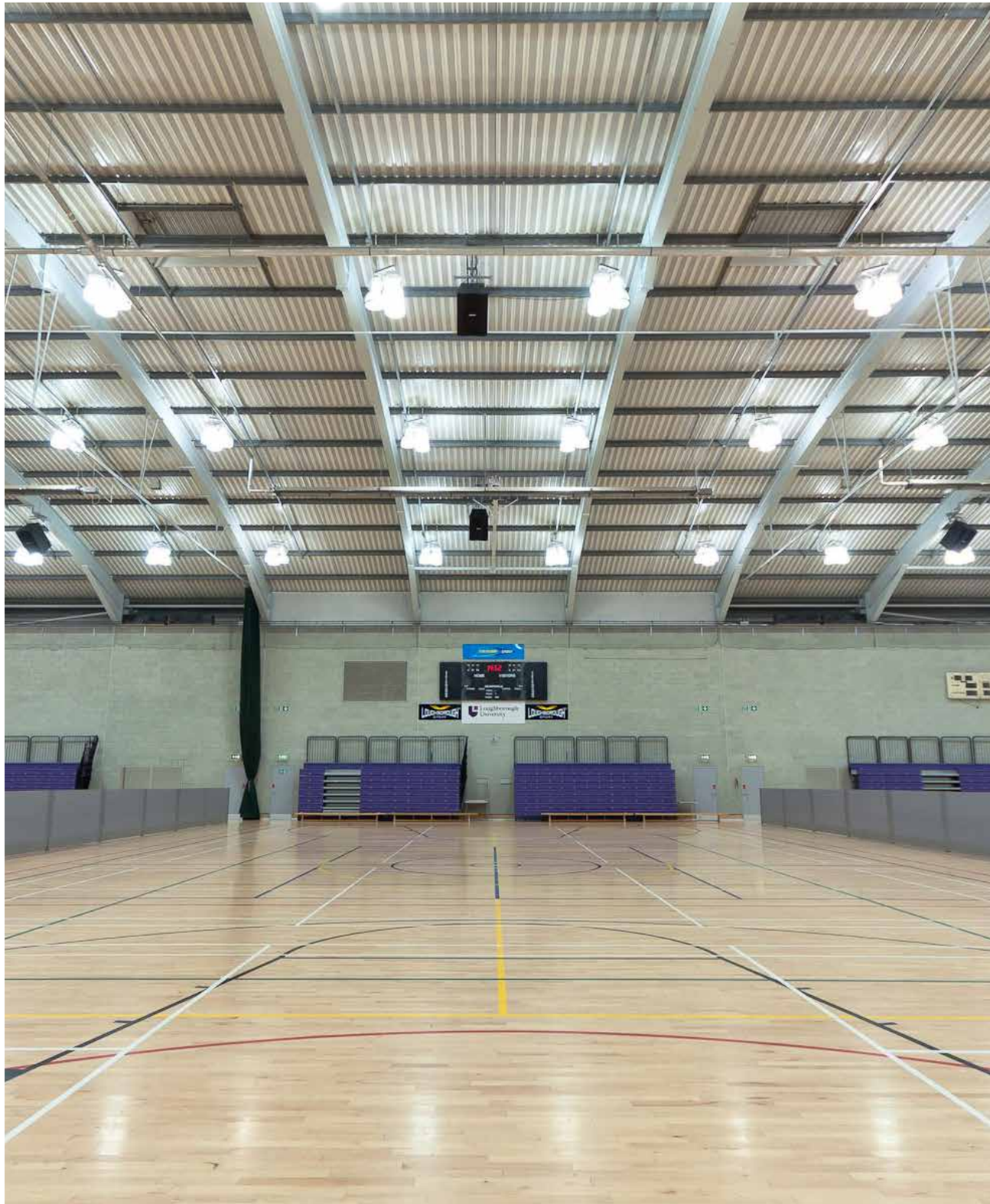
Frequency Range (-10 dB)
36 Hz - 290 Hz

Sensitivity (SPL/1 W @ 1 m)
91 dB SPL

Maximum SPL @ 1 m
117 dB SPL (123 dB SPL peak)

Long-Term Power Handling
400 W (1600 W peak)

Environmental
Outdoor rated (WR)



SMALL FORMAT SOUND REINFORCEMENT

Bose® small-format loudspeakers are designed for installed-sound and portable applications that require wide coverage and medium SPL in small to medium-sized venues.

The small-format loudspeaker family offers a choice of coverage patterns and performance for a wide range of indoor and outdoor installed applications. They can be found in houses of worship, auditoriums, theaters, restaurants and pubs, hotels, schools and theme parks.

FULL RANGE

PANARAY® 802® SERIES IV
LOUDSPEAKER

The Panaray 802 Series IV installed sound-reinforcement loudspeaker features a full-range-driver array, eliminating the need for tweeters and crossovers, to provide unsurpassed reliability and vocal clarity. The Articulated Array™ design, with wide 120° x 100° coverage, can reduce the number of required loudspeakers, while the 52 Hz low-frequency range can reduce the need for subwoofers, providing a cost-effective solution for many indoor or outdoor installed sound-reinforcement applications.

SPECIFICATIONS

Nominal Dispersion
120° H x 100° V

Frequency Range (-10 dB)
52 Hz - 15 kHz

Sensitivity (SPL/1 W @ 1 m)
92 dB SPL

Maximum SPL @ 1 m
Bose extended-lifecycle test:
116 dB SPL (122 dB SPL peak)
AES transducer test:
117 dB (123 dB SPL peak)

Long-Term Power Handling
Bose extended-lifecycle test:
240 W (960 W peak)
AES transducer test:
300 W (1200 W peak)

Environmental
Outdoor rated

MID/HIGH

PANARAY 502® A
LOUDSPEAKER

The Panaray 502A installed sound-reinforcement loudspeaker features a full-range-driver array, eliminating the need for tweeters and crossovers, to provide unsurpassed reliability and vocal clarity. The Articulated Array design, with wide 120° x 70° coverage, can effectively cover small venues with a single loudspeaker, providing a cost-effective solution for many indoor installed voice-reinforcement applications. The Panaray 502 A also can be paired with optional Bose® Pro subwoofers for use with full-range music program material.

SPECIFICATIONS

Nominal Dispersion
120° H x 70° V

Frequency Range (-10 dB)
110 Hz - 20 kHz

Sensitivity (SPL/1 W @ 1 m)
88 dB SPL

Maximum SPL @ 1 m
Bose extended-lifecycle test:
110 dB SPL (116 dB SPL peak)
AES transducer test:
111 dB (117 dB SPL peak)

Long-Term Power Handling
Bose extended-lifecycle test:
150 W (600 W peak)
AES transducer test:
200 W (800 W peak)

Environmental
Indoor use only

FULL RANGE

PANARAY® 402® SERIES IV
LOUDSPEAKER

The Panaray 402 Series IV installed sound-reinforcement loudspeaker features a full-range-driver array, eliminating the need for tweeters and crossovers, to provide unsurpassed reliability and vocal clarity. The Articulated Array™ design, with wide 120° x 60° coverage, can reduce the number of required loudspeakers, while the 73 Hz low-frequency range can reduce the need for subwoofers, providing a cost-effective solution for many indoor or outdoor installed sound-reinforcement applications.

SPECIFICATIONS

Nominal Dispersion
120° H x 60° V

Frequency Range (-10 dB)
73 Hz - 15 kHz

Sensitivity (SPL/1 W @ 1 m)
91 dB SPL

Maximum SPL @ 1 m
Bose extended-lifecycle test:
112 dB (118 dB peak)
AES transducer test:
113 dB (119 dB peak)

Long-Term Power Handling
Bose extended-lifecycle test:
120 W (480 W peak)
AES transducer test:
150 W (600 W peak)

Environmental
Outdoor rated

FLOOR MONITORS

PANARAY® 302® A
LOUDSPEAKER

Full-range, two-way loudspeaker designed primarily for background/foreground music. It is appropriate for both indoor and outdoor applications. Its Articulated Array® design provides a wide 175° x 90° pattern to effectively cover a broad area with a single loudspeaker.

SPECIFICATIONS

Nominal Dispersion
175° H x 90° V

Frequency Range (-10 dB)
60 Hz - 19 kHz

Sensitivity (SPL / 1 W @ 1 m)
82 dB SPL

Maximum SPL @ 1 m
102 dB SPL (108 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Outdoor rated

BASS & SUBWOOFER

PANARAY® MB4
MODULAR BASS LOUDSPEAKER

Compact, low-frequency loudspeaker designed primarily to provide bass augmentation for Bose® Panaray and DS systems in small to medium-size indoor permanent installations. It also can be used as portable sound reinforcement.

SPECIFICATIONS

Nominal Dispersion
Omni-directional below 200 Hz

Frequency Range (-10 dB)
35 Hz - 350 Hz

Sensitivity (SPL/1 W @ 1 m)
87 dB SPL

Maximum SPL @ 1 m
110 dB SPL (116 dB SPL peak)

Long-Term Power Handling
200 W (800 W peak)

Environmental
Indoor use only

BASS & SUBWOOFER

PANARAY 502 B
BASS LOUDSPEAKER

Low-frequency loudspeaker designed for indoor permanent installations. The 502 B loudspeaker features patented Acoustimass® speaker technology to deliver non-localizable bass to 45 Hz.

SPECIFICATIONS

Nominal Dispersion
Omni-directional below 200 Hz

Frequency Range (-10 dB)
45 Hz - 160 Hz

Sensitivity (SPL/1 W @ 1 m)
90 dB SPL

Maximum SPL @ 1 m
116 dB SPL (122 dB SPL peak)

Long-Term Power Handling
450 W (1800 W peak)

Environmental
Indoor use only

FLOOR MONITORS

PANARAY® 620M
MULTI-POSITION FLOOR MONITOR

Articulated Array™ speaker configuration provides 120° x 40° coverage. Flexible placement options and unobtrusive styling allow for a variety of professional applications.

SPECIFICATIONS

Nominal Dispersion
40° H x 120° V

Frequency Range (-10 dB)
55 Hz - 18 kHz

Sensitivity (SPL/1 W @ 1 m)
90 dB SPL

Maximum SPL @ 1 m
113 dB SPL (119 dB SPL peak)

Long-Term Power Handling
200 W (800 W peak)

Environmental
Indoor use only

FLOOR MONITORS

PANARAY 310M
MULTI-POSITION FLOOR MONITOR

Articulated Array speaker configuration provides 120° x 60° coverage. Flexible placement options and unobtrusive styling allow for a variety of professional applications.

SPECIFICATIONS

Nominal Dispersion
60° H x 120° V

Frequency Range (-10 dB)
55 Hz - 19 kHz

Sensitivity (SPL/1 W @ 1 m)
91 dB SPL

Maximum SPL @ 1 m
111 dB SPL (117 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Indoor use only

SMALL FORMAT SOUND REINFORCEMENT
ACCESSORIES

Panaray® 802® Series IV loudspeaker accessories		Product Code	Color
	SB-8 suspension bracket	027062	Black
	WBP-8 bi-pivot wall bracket	027061	Black
	WCB802IV Panaray IV U-Bracket	746686-0110	Black

Panaray 502® A loudspeaker accessories		Product Code	Color
	CSB-5A suspension bracket	035103	White
		035674	Grey
	WBP-5 bi-pivot wall bracket	023955	White
		035673	Grey
	WCB-5 U-bracket	035104	White
		035675	Grey

ACCESSORIES

SMALL FORMAT SOUND REINFORCEMENT
ACCESSORIES

Panaray® 402® Series IV loudspeaker accessories		Product Code	Color
	SB-4 suspension bracket	027068	White
		027066	Black
	RMUBRKT1—pan-and-tilt bracket (single)	738453-0210	White
		738453-0110	Black
	RMUBRKT1—Pan-and-tilt bracket (outdoor rated)	738453-0220	White
		738453-0120	Black

Panaray MB4 loudspeaker accessories		Product Code	Color
	MB4 wall bracket U-bracket for wall mounting	027057	White
		027056	Black

Panaray 502® B loudspeaker accessories		Product Code	Color
	CSB-5B suspension bracket	006443	Black

COLUMNAR LINE ARRAY

Bose® modular line array loudspeakers are designed for small to medium-sized acoustically demanding spaces that require high speech intelligibility. These loudspeakers offer wide horizontal coverage and a narrow vertical pattern.

Panaray® modular line arrays can be mounted in single or multiple loudspeaker configurations, and are well suited for such applications as houses of worship, multipurpose spaces, auditoriums, transportation hubs, gymnasiums, atriums and malls.

For applications in which greater frequency range and/or greater maximum SPL is desired, combine the MA12/MA12EX loudspeakers with any of the MB line of modular bass loudspeakers.

MID/HIGH

PANARAY MA12EX

FULL-RANGE MODULAR LINE ARRAY

Articulated Array™ speaker configuration provides wider 160° horizontal coverage and increased low-frequency response. Weather-resistant components allow use in outdoor applications.

SPECIFICATIONS

Frequency Range (-10 dB)
68 Hz - 18 kHz

Nominal Dispersion
160° H x 20° V

Sensitivity (SPL/1 W @ 1 m)
90 dB SPL

Maximum SPL @ 1 m
Bose extended-lifecycle test:
112 dB SPL (118 dB SPL peak)
AES transducer test:
113 dB (119 dB SPL peak)

Long-Term Power Handling
Bose extended-lifecycle test:
150 W (600 W peak)
AES transducer test:
200 W (800 W peak)

Environmental
Outdoor rated

FULL RANGE

PANARAY® MA12

MID/HIGH MODULAR LINE ARRAY

Wide 145° horizontal coverage. Designed to provide outstanding vocal intelligibility in acoustically demanding spaces. Slim column enclosure blends with almost any décor.

SPECIFICATIONS

Frequency Range (-10 dB)
123 Hz - 18 kHz

Nominal Dispersion
145° H x 20° V

Sensitivity (SPL/1 W @ 1 m)
94 dB SPL

Maximum SPL @ 1 m
Bose extended-lifecycle test:
119 dB SPL (125 dB SPL peak)
AES transducer test:
120 dB (126 dB SPL peak)

Long-Term Power Handling
Bose extended-lifecycle test:
300 W (1200 W peak)
AES transducer test:
400 W (1600 W peak)

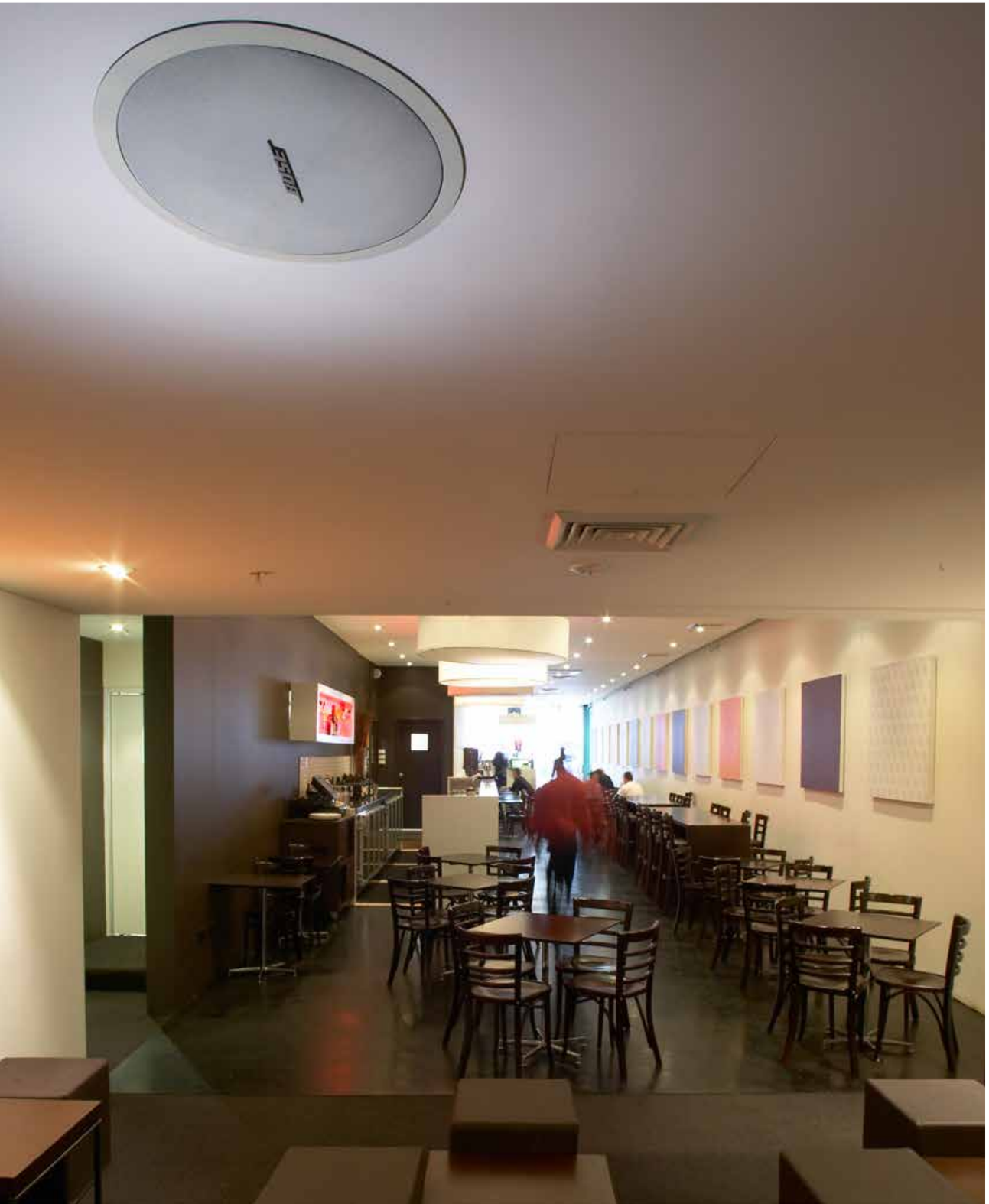
Environmental
Indoor use only

ACCESSORIES

COLUMNAR LINE ARRAY

ACCESSORIES

Panaray MA12 & MA12EX modular line array accessories		Product Code	Color
	WB-MA12/MA12EX pitch only bracket (outdoor rated)	318418-0200	White
		318418-0100	Black
	WBM-MA12/MA12EX bi-pivot bracket (outdoor rated)	318338-0200	White
		318338-0100	Black
	WMB2-MA12/MA12EX pitch lock upper bracket (outdoor rated)	318337-0200	White
		318337-0100	Black
	CB-MA12 coupling bracket MA12 only	028338	White
		028337	Black
	MA12EX coupling bracket MA12EX only (outdoor rated)	317088-0200	White
		317088-0100	Black
	CVT-MA12 transformer for use with single or stacked MA12	040191	White
		040190	Black
	CVT-MA12EX transformer for single or stack MA12EX (outdoor rated)	315338-0200	White
		315338-0100	Black
	PSA-12 adapter for use with SS-10 speaker stand	029229	Black
	SS-10 speaker stand with nylon bag and mounting plate	027343	Black



BACKGROUND/FOREGROUND

Bose® background/foreground loudspeakers are designed for a wide range of business and retail environments. Loudspeaker models are available for surface, flush-ceiling, pendant and in-ground mounting, for indoor as well as outdoor installed applications.

These products are engineered with patented and proprietary technologies developed specifically for delivering music and speech with warmth and clarity, along with high reliability and easy installation options.

FLUSH CEILING

FREESPACE® DS 100F
LOUDSPEAKER

Premier high-performance, extended-range, flush-mount loudspeaker designed for foreground music and speech reproduction in a wide range of installed applications. High output and wide, 160° conical pattern with a frequency range down to 60 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
60 Hz - 20 kHz

Nominal Dispersion
160° conical

Sensitivity (SPL/1 W @ 1 m)
85 dB SPL

Maximum SPL @ 1 m
105 dB SPL (111 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Indoor use only

SURFACE

FREESPACE DS 100SE
LOUDSPEAKER

Premier, high-performance, full-range, surface-mount loudspeaker designed for foreground music and speech reproduction in a wide range of installed applications. Features a rotatable array that delivers a 180° x 75° coverage pattern and a frequency range down to 60 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
60 Hz - 20 kHz

Nominal Dispersion
180° H x 75° V

Sensitivity (SPL/1 W @ 1 m)
85 dB SPL

Maximum SPL @ 1 m
105 dB SPL (111 dB SPL peak)

Long-Term Power Handling
100 W (400 W peak)

Environmental
Outdoor rated

FLUSH CEILING

FREESPACE® DS 40F
LOUDSPEAKER

Versatile, high-performance, full-range, flush-mount loudspeaker designed for foreground and background music and speech reproduction in a wide range of installed applications. High output and 125° conical pattern with a frequency range down to 70 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
70 Hz - 19 kHz

Nominal Dispersion
125° conical

Sensitivity (SPL/1 W @ 1 m)
87 dB SPL

Maximum SPL @ 1 m
103 dB SPL (109 dB SPL peak)

Long-Term Power Handling
40 W (160 W peak)

Environmental
Indoor use only

SURFACE

FREESPACE DS 40SE
LOUDSPEAKER

Versatile, high-performance, full-range, surface-mount loudspeaker designed for foreground and background music and speech reproduction in a wide range of installed applications. High output and 125° x 125° coverage pattern with a frequency range down to 70 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
70 Hz - 19 kHz

Nominal Dispersion
125° H x 125° V

Sensitivity (SP /1 W @ 1 m)
87 dB SPL

Maximum SPL @ 1 m
103 dB SPL (109 dB SPL peak)

Long-Term Power Handling
40 W (160 W peak)

Environmental
Outdoor rated

FLUSH CEILING

FREESPACE® DS 16F
LOUDSPEAKER

Entry-level, full-range, flush-mount loudspeaker designed for background music and speech reproduction in a wide range of installed applications. Wide, even 140° conical pattern and frequency range down to 80 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
80 Hz - 19 kHz

Nominal Dispersion
140° conical

Sensitivity (SPL/1 W @ 1 m)
84 dB SPL

Maximum SPL @ 1 m
96 dB SPL (102 dB SPL peak)

Long-Term Power Handling
16 W (64 W peak)

Environmental
Indoor use only

SURFACE

FREESPACE DS 16S & DS 16SE
LOUDSPEAKER

Entry-level, full-range, surface-mount loudspeakers designed for background music and speech reproduction in a wide range of installed applications. Broad 170° x 160° coverage pattern and frequency range down to 80 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
80 Hz - 19 kHz

Nominal Dispersion
170° H x 160° V

Sensitivity (SPL/1 W @ 1 m)
84 dB SPL

Maximum SPL @ 1 m
96 dB SPL (102 dB SPL peak)

Long-Term Power Handling
16 W (64 W peak)

Environmental
Indoor use only (DS 16S)
Outdoor rated (DS 16SE)

IN-GROUND

FREESPACE® 360 SERIES II
LOUDSPEAKER

Full-range environmental loudspeaker designed to blend with landscaping for in-ground or above-ground applications, such as shopping malls, outdoor restaurants, resorts and theme parks. Features 360° horizontal coverage and frequency range down to 60 Hz.

SPECIFICATIONS

Frequency Range (-10 dB)
60 Hz - 15 kHz

Nominal Dispersion
360° H x 50° V

Sensitivity (SPL/1 W @ 1 m)
87 dB SPL

Maximum SPL @ 1 m
100 dB SPL (106 dB SPL peak)

Long-Term Power Handling
80 W (320 W peak)

Environmental
Outdoor rated

COMPONENT

FREESPACE 3
SUBWOOFER/SATELLITE SYSTEMS

High-performance, extended-range systems designed for small to medium-sized installed applications requiring high fidelity and extended bandwidth reproduction of voice and music. Surface and flush components can be mixed and matched to provide greater flexibility to suit a wide range of applications.

SPECIFICATIONS

Frequency Range (-10 dB)
40 Hz - 20 kHz

Nominal Dispersion
See components

Sensitivity (SPL/1 W @ 1 m)
82 dB SPL

Maximum SPL @ 1 m
93 dB (99 dB SPL peak in a 45,000 ft room, with RT60 of 1 second, +/- 3 dB)

Long-Term Power Handling
70/100 V: 200 W (800 W peak)
Low impedance: 100 W (400 W peak)

Environmental
Outdoor rated

FREESPACE® 3

SERIES I & II ACOUSTIMASS® MODULE

Designed to provide surface/flush-mount bass augmentation for new and existing background music systems. Features one 5.25" (133 mm) woofer that delivers deep bass down to 40 Hz without audible distortion.

SPECIFICATIONS

Frequency Range (-10 dB)
40 Hz - 315 Hz

Nominal Dispersion
Omni-directional below 200 Hz

Sensitivity (SPL/1 W @ 1 m)
Per channel: 76 dB SPL
(Mono: 79 dB SPL)

Maximum SPL @ 1 m
Per channel: 96 dB SPL
(102 dB SPL peak)
Mono: 102 dB SPL
(108 dB SPL peak)

Long-Term Power Handling
70/100 V: 200 W (800 W peak) mono
Low impedance 50 W (200 W peak) per channel stereo or 100 W (400 W peak) mono

Environmental
Indoor use only

BACKGROUND/FOREGROUND

ACCESSORIES

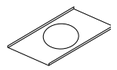
FreeSpace® DS 40F & 100F loudspeaker accessories		Product Code	Color
	DS 40F & 100F tile bridge (6-pack)	041864	n/a
	Adjustable tile bridge DS 40F & 100F (pair)	323205-0010	n/a
	DS 40F & 100F rough-in pan (6-pack)	041993	n/a
	DS 40F & 100F pendant-mount kit (single)	041863	White
		041862	Black

FreeSpace DS 40SE & 100SE loudspeaker accessories		Product Code	Color
	DS 40SE & 100SE on-wall junction box (6-pack)	041866	White
		041865	Black
	DS 40SE & DS 100SE in-wall junction box (6-pack)	041868	White
		041867	Black
	Ceiling-mount bracket DS 40 & 100S/SE (single)	323206-0210	White
		323206-0110	Black
	Pole-mounting kit - DS40SE & DS 100S/SE (single)	323208-0210	White
		323208-0110	Black

FreeSpace DS 16F loudspeaker accessories		Product Code	Color
	DS 16F tile bridge (6-pack)	029830	White
	Adjustable tile bridge DS16F (6-pack)	323205-0010	White
	DS 16F rough-in pan marks loudspeaker locations on ceiling joists (6-pack)	029831	n/a
	DS 16F pendant-mounting kit for easy installation in open ceilings (single)	030095	White
		030094	Black
	DS 16F retrofit kit for installation in 20 to 30cm (8 to 12 inch) holes (6-pack)	030096	White

BACKGROUND/FOREGROUND
ACCESSORIES CONTINUED

FreeSpace DS 16S/SE loudspeaker accessories		Product Code	Color
	DS 16S/SE on-wall junction box (6-pack)	041866	White
		041865	Black
	DS 16S/SE in-wall junction box (6-pack)	041868	White
		041867	Black
	Ceiling-mount bracket DS 16S/SEHIHG (single)	323206-0210	White
		323206-0110	Black
	Pole-mounting kit DS 16S/SE (single)	323208-0210	White
		323208-0110	Black

FreeSpace 3 system accessories		Product Code	Color
	FS3BF flush-mount Acoustimass® module tile bridge (6-pack)	029854	n/a
	FS3BF flush-mount Acoustimass module rough-in pan marks loudspeaker locations on ceiling joists (6-pack)	029855	n/a
	FS3BF surface-mount kit for wall-mounting with the FS3BF only. Cover and hardware included (single)	029829	White
		029828	Black
	FS3BF pendant-mount kit for suspension in open ceilings. Cover and hardware included (for Acoustimass module only) (single)	030100	White
		030099	Black
	FS3 omni pendant-mount kit includes pre-drilled cover, wiring harness and hardware (for Acoustimass module and satellites) (single)	037084	White
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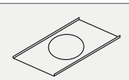
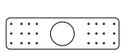
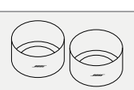
	FS3F flush-mount satellite tile bridge (6-pack)	029832	n/a
	FS3F flush-mount satellite rough-in pan marks loudspeaker locations on ceiling joists (6-pack)	029853	n/a
	FS3F flush-mount satellite cosmetic cover for conduit or thread-rod mounting (pair)	030098	White
		030097	Black

MODELER® SOUND SYSTEM SOFTWARE

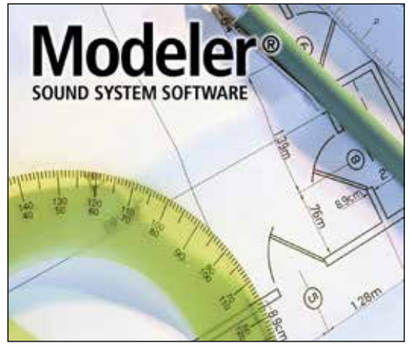
Product Overview

Bose® Modeler sound system software is an acoustic design and analysis program for sound system designers or acoustical consultants. Using a computer-based 3D model of the acoustic space and advanced acoustic algorithms, Modeler can predict a sound system's performance. The first sound system software to offer full STI prediction, Modeler software has been a leader in sound system performance prediction for more than 25 years.

Since its introduction in 1985, the core algorithms within the Modeler software have been continually updated, refined and expanded to provide highly accurate, computationally efficient predictions of sound system performance. Bose continues to invest in modeling tools that engage you in creative work to help you deliver the best-possible system performance and to effectively communicate your designs to your customers.

We recognize that the process of creating a computer model can be time-consuming. Modeler software incorporates a variety of design aids to help reduce the time required to develop a 3D model and implement a sound system design. Import functions from standard CAD programs reduce the time required to enter model data into the program, while acoustic matching functions help match the acoustic performance of the model to that of the real room. In addition, array construction tools are included to help automate the creation and layout of complex loudspeaker arrays.

As prediction accuracy has increased, the computational complexity of acoustic prediction and simulation algorithms has also grown. In some situations, increased accuracy can also mean excessively long calculation times for systems that incorporate many sound sources and receivers. Modeler software employs a proprietary calculation pipeline to greatly accelerate the calculation process, while maintaining the accuracy of predictions, reducing the time spent waiting for results, and increasing the time spent exploring new design options. Computationally intensive predictions, such as the full Speech Transmission Index (STI), are complete in a matter of minutes—not hours—for most systems.



Key Features

- Modeler Software Plugin for Google SketchUp®
- AutoCAD DXF Import
- Extrusion Tools
- Doors, Windows, and Panels
- Import of EASE Files
- Automated RT60 Matching
- Loudspeaker Database Viewer
- Coverage Maps of System Performance
- Background Noise and House Curve Databases
- Latest STI Standard Adherence
- Array Tools
- Wing Menus Applications

Modeler Software is well suited for designs of:

- Houses of worship
- Multi-purpose spaces
- Hospitality venues
- Arenas and stadiums
- Auditoriums

AMPLIFIERS

CONFIGURABLE POWER AMPLIFIERS

ADAPTABLE POWER AMPLIFIERS

MIXER AMPLIFIERS

ZONE AMPLIFIERS

CONFIGURABLE POWER AMPLIFIERS
QUICK COMPARISON GUIDE

	PowerMatch® PM8500/8500N	PowerMatch® PM8250/8250N
	configurable power amplifier	configurable power amplifier
		
Back Panel View		
Output Channels, Total Power[1]	8 channels 4000 W, configurable Supports 2/4/8 Ω and 70/100V	8 channels 2000 W, configurable Supports 2/4/8 Ω and 70/100V
Mono Mode Output Power	500 W (2 Ω and 4 Ω) 300 W (8 Ω)	250 W (2 Ω, 4 Ω, 8 Ω)
V-Bridge Mode Output Power	1000 W (4 Ω, 8 Ω, 100V) 800 W (70V)	500 W (4 Ω, 8 Ω, 100V) 400 W (70V)
I-Share Mode Output Power	1000 W (2 Ω)	500 W (2 Ω)
Quad Mode Output Power	2000 W (4 Ω, 100V) 1600 W (70V)	1000 W (4 Ω, 100V) 800 W (70V)
Frequency Response	20 Hz - 20 kHz (+/-0.5 dB)	
Signal-to-Noise Ratio	>102 dBA (below rated power)	>99 dBA (below rated power)
THD	<0.4% (at 1 W, 20 Hz to 20 kHz)	
Input Channels	(8) Balanced 3-pin Euroblock, Digital expansion card slot	
Control	Fault-Notification Output, Ethernet control[2], and Serial over Ethernet[2]	
DSP Functions	Bose® loudspeaker EQ, mixer/router, speaker array EQ, input EQ, delay, limiting, signal generator	
PC Configuration Software	ControlSpace® Designer™ software	
Dimensions	88 mm x 483 mm x 525 mm (3.5″ H x 19″ W x 20.7″ D)	
Net Weight	12.9 kg (28.4 lb)	12.8 kg (28.3 lb)
AC Mains Requirement	100 to 240 VAC (50/60 Hz), 20A (120V) or 16A (230V)	100 to 240 VAC (50/60 Hz), 15A (120V) or 10A (230V)
Primary Applications	Auditoriums, performing arts venues, theaters, houses of worship, arenas, hospitality venues	Houses of worship, retail locations and malls, restaurants, auxiliary zones, conference and hospitality venues
Accessories	PowerMatch Dante™ network card (PC 359844-0020) PowerMatch CobraNet® card (PC 345975-0110) PowerMatch ESPLink digital input card (PC 349898-0110) PowerMatch AES3 input card (PC 638301-0010) ControlSpace® CC-64 control center[2] (PC 041760)	

Notes:
1. Output power is measured per channel, all channels driven, using test signals at 1 kHz.
2. Capability only available in network (N) amplifier versions only.

QUICK COMPARISON

CONFIGURABLE POWER AMPLIFIERS
QUICK COMPARISON GUIDE

PowerMatch® PM4500/4500N	PowerMatch® PM4250/4250N
configurable power amplifier	configurable power amplifier
	
	
4 channels 2000 W, configurable Supports 2/4/8 Ω and 70/100V	4 channels 1000 W, configurable Supports 2/4/8 Ω and 70/100V
500 W (2 Ω and 4 Ω) 300 W (8 Ω)	250 W (2 Ω, 4 Ω, 8 Ω)
1000 W (4 Ω, 8 Ω, 100V) 800 W (70V)	500 W (4 Ω, 8 Ω, 100V) 400 W (70V)
1000 W (2 Ω)	500 W (2 Ω)
2000 W (4 Ω, 100V) 1600 W (70V)	1000 W (4 Ω, 100V) 800 W (70V)
20 Hz - 20 kHz (+/-0.5 dB)	
>102 dBA (below rated power)	>99 dBA (below rated power)
<0.4% (at 1 W, 20 Hz to 20 kHz)	
(4) Balanced 3-pin Euroblock, Digital expansion card slot	
Fault-Notification Output, Ethernet control[2], and Serial over Ethernet[2]	
Bose® loudspeaker EQ, mixer/router, speaker array EQ, input EQ, delay, limiting, signal generator	
ControlSpace® Designer™ software	
88 mm x 483 mm x 525 mm (3.5″ H x 19″ W x 20.7″ D)	
12.8 kg (28.3 lb)	
100 to 240 VAC (50/60 Hz), 15A (120V) or 10A (230V)	
Auditoriums, performing arts venues, theaters, houses of worship, arenas, hospitality venues	Houses of worship, retail locations and malls, restaurants, auxiliary zones, conference and hospitality venues
PowerMatch Dante™ network card (PC 359844-0020) PowerMatch CobraNet® card (PC 345975-0110) PowerMatch ESPLink digital input card (PC 349898-0110) PowerMatch AES3 input card (PC 638301-0010) ControlSpace® CC-64 control center[2] (PC 041760)	

ADAPTABLE POWER AMPLIFIERS
QUICK COMPARISON GUIDE

	PowerShare PS604
	adaptable power amplifier
	
Back Panel View*	
Amplifier Power	4 x 150 W
Maximum Power per Channel	600 W @ 4-8 Ω, 70/100V
Gain (Low-Z mode)	32 dB, Euroblock (balanced) inputs
Gain (70V mode)	35 dB, Euroblock (balanced) inputs
Gain (100V mode)	38 dB, Euroblock (balanced) inputs
THD	All channels driven, THD+N < 0.04%, 1 kHz, 4-8 Ω, 70/100V
Frequency Response	4-8 Ω 20 Hz - 20 kHz (+/- 0.5 dB @ 1 W) 70/100V: Same as 4-8 Ω with 50 Hz high-pass filter
Channel Separation (Crosstalk)	> 85 dB @ 1 kHz, > 65 dB @ 20 kHz
Signal to Noise Ratio	100 dB (at rated power, A-weighted)
Input Channels	4 balanced
Input Connectors	12-pin Euroblock
Outputs	4
Output Connectors	8-pin inverted Euroblock
DSP Functions	Standard mixer, loudspeaker EQ, 9-band PEQ, Vpeak/Vrms limiters, delay, band pass, mute/output polarity inversion
Loudspeaker Presets	Flat, DS16, DS40, DS100, FS3B, 402, 802, MA12EX, RMU105 and RMU108
PC Configuration Software	PowerShare Editor Software
Dimensions (H x W x D)	44 mm x 483 mm x 414 mm (1.7" x 19.0" x 16.3")
Net Weight	6.4 kg (14.1 lb)
Inputs (Control)	RJ-45 remote input for volume control using the CC-1 ControlCenter zone controllers, or for connection to the CV41 (PS602 & PS604 only). USB input for configuring the amplifier with PowerShare Editor software. Mute input control.
Primary Applications	Performing Arts Venues, Houses of Worship, Conference Centers, Retail Stores, Restaurants and Bars, Hospitality Venues
Accessories	ControlCenter CC-1 zone controller, ControlCenter CV41 4-to-1 converter, PowerShare Editor software

QUICK COMPARISON

ADAPTABLE POWER AMPLIFIERS
QUICK COMPARISON GUIDE

PowerShare PS602	PowerShare PS602P
adaptable power amplifier	adaptable power amplifier
	
	
2 x 300 W	
600 W @ 4-8 Ω, 70/100V	
44 dB, RCA (unbalanced) inputs; 32 dB, Euroblock—XLR/TRS (balanced) inputs	
47 dB, RCA (unbalanced) inputs; 35 dB, Euroblock—XLR/TRS (balanced) inputs	
50 dB, RCA (unbalanced) inputs; 38 dB, Euroblock—XLR/TRS (balanced) inputs	
All channels driven, THD+N < 0.04%, 1 kHz, 4-8 Ω, 70/100V	
4-8 Ω 20 Hz - 20 kHz (+/- 0.5 dB @ 1 W) 70/100V: Same as 4-8 Ω with 50 Hz high-pass filter	
> 85 dB @ 1 kHz, > 65 dB @ 20 kHz	
100 dB (at rated power, A-weighted)	
2 unbalanced, 2 balanced	
Stereo RCA, 3-pin Euroblock	Stereo RCA, XLR/TRS
2	
2-pin inverted Euroblock	NL4 & binding posts
Standard mixer, loudspeaker EQ, 9-band PEQ, Vpeak/Vrms limiters, delay, band pass, mute/output polarity inversion	
Flat, DS16, DS40, DS100, FS3B, 402, 802, MA12EX, RMU105 and RMU108	
PowerShare Editor Software	
44 mm x 483 mm x 414 mm (1.7" x 19.0" x 16.3")	
5.5 kg (12.2 lb)	
RJ-45 remote input for volume control using the CC-1 ControlCenter zone controllers, or for connection to the CV41 (PS602 & PS604 only). USB input for configuring the amplifier with PowerShare Editor software. Mute input control.	
Performing Arts Venues, Houses of Worship, Conference Centers, Retail Stores, Restaurants and Bars, Hospitality Venues	
ControlCenter CC-1 zone controller, ControlCenter CV41 4-to-1 converter, PowerShare Editor software	PowerShare Editor software

MIXER AND ZONE AMPLIFIERS
QUICK COMPARISON GUIDE

	FreeSpace® IZA 250-LZ/IZA 190-HZ	FreeSpace® IZA 2120-LZ/IZA 2120-HZ
	integrated zone amplifier	integrated zone amplifier
		
Back Panel View		
Output Channels, Power	IZA 250-LZ: 2 x 50 W @ 4 Ω, 2 x 25 W @ 8 Ω IZA 190-HZ: 1 x 90 W @ 70/100V	IZA 2120-LZ: 2 x 120 W @ 4 Ω, 2 x 60 W @ 8 Ω IZA 2120-HZ: 2 x 120 W @ 70/100V
Frequency Response	IZA 250-LZ: 40 Hz - 20 kHz (+0/-3 dB) IZA 190-HZ: 60 Hz - 20 kHz (+0/-3 dB)	IZA 2120-LZ: 20 Hz - 20 kHz (+0/-3 dB) IZA 2120-HZ: 55 Hz - 20 kHz (+0/-3 dB)
Dynamic Range	88 dB	
THD	IZA 250-LZ: ≤0.3% (at full power) IZA 190-HZ: ≤1% (at full power)	IZA 2120-LZ: ≤0.5% (at full power) IZA 2120-HZ: ≤0.3% (at full power)
Input/Output	Line In: (2) stereo RCA Mic/Line In: (1) combo XLR-TRS Page In: (1) balanced 4-pin Euroblock Auxiliary In: (1) 1/8″ (3.5mm) stereo Auxiliary Out: (1) stereo RCA	Line In: (2) balanced 5-pin Euroblock or (2) stereo RCA Page In: (1) balanced 4-pin Euroblock Auxiliary In: (1) 1/8″ (3.5mm) stereo Auxiliary Out: (1) dual RCA
Control	Remote connector for user interface, Mute	Remote connector(s) for user interfaces, Mute
DSP Functions	Opti-voice™ paging, Dynamic EQ loudspeaker EQ: DS 16, DS 40, FLAT/HPF	Opti-voice paging, Dynamic EQ IZA 2120-LZ EQ: FLAT, DS 16, DS 40, DS 100, RMU105 IZA 2120-HZ EQ: FS3/HPF, DS 16, DS 40, DS 100, FS3B
Dimensions	45 mm x 214 mm x 310 mm) (1.8″ H x 8.4″ W x 12.2″ D)	44 mm x 483 mm x 324 mm (1.7″ H x 19.0″ W x 12.8″ D)
Net Weight	IZA 250-LZ: 2.2 kg (4.8 lb) IZA 190-HZ: 3.2 kg (7.0 lb)	IZA 2120-LZ: 4.1 kg (9 lb) IZA 2120-HZ: 4.1 kg (9 lb)
Primary Applications	Retail stores, restaurants and bars, hospitality venues, conference rooms	
Accessories	Rack Mount Kit	CC-1*, CC-2

*Operates with a fixed input (B)

QUICK COMPARISON

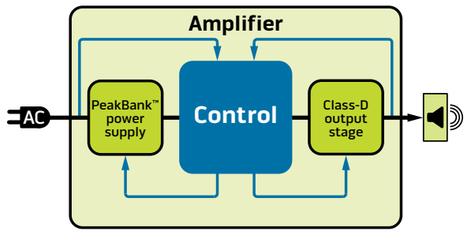
MIXER AND ZONE AMPLIFIERS
QUICK COMPARISON GUIDE

FreeSpace® DXA 2120	FreeSpace® ZA 250-LZ/ZA 190-HZ	FreeSpace® ZA 2120-LZ/ZA 2120-HZ
digital mixer/amplifier	zone amplifier	zone amplifier
		
		
2 x 120 W @ 4 Ω, 2 x 65 W @ 8 Ω 2 x 100 W @ 70/100V	ZA 250-LZ: 2 x 50 W @ 4 Ω, 2 x 25 W @ 8 Ω ZA 190-HZ: 1 x 90 W @ 70/100V	ZA 2120-LZ: 2 x 120 W @ 4 Ω, 2 x 60 W @ 8 Ω ZA 2120-HZ: 2 x 120 W @ 70/100V
40 Hz - 16 kHz (+0/-3 dB)	ZA 250-LZ: 20 Hz - 20 kHz (+0/-3 dB) ZA 190-HZ: 60 Hz - 20 kHz (+0/-3 dB)	ZA 2120-LZ: 20 Hz - 20 kHz (+0/-3 dB) ZA 2120-HZ: 55 Hz - 20 kHz (+0/-3 dB)
80 dB	88 dB	
<0.5% (at full power)	ZA 250-LZ: ≤0.3% (at full power) ZA 190-HZ: ≤1% (at full power)	ZA 2120-LZ: ≤0.5% (at full power) ZA 2120-HZ: ≤0.3% (at full power)
Mic/Line In: (4) balanced 3-pin Euroblock Line In: (4) dual RCA (summed to mono) Page In: (1) balanced 4-pin Euroblock Direct In: (1) balanced 3-pin Euroblock Auxiliary Out: (1) 3-pin Euroblock (fixed)	Line In: (1) stereo RCA	Line In: (1) balanced 5-pin Euroblock or (1) stereo RCA
Remote connector(s) for user interfaces	N/A	Remote connector(s) for user interfaces, Mute
Bose® loudspeaker EQ, mixer/router, Opti-voice™ paging, AGC, Dynamic EQ	N/A	
90 mm x 420 mm x 349 mm (3.5″ H x 16.5″ W x 13.8″ D)	45 mm x 214 mm x 302 mm (1.8″ H x 8.4″ W x 11.9″ D)	44 mm x 483 mm x 324 mm (1.7″ H x 19.0″ W x 12.8″ D)
14.4 kg (32 lb)	ZA 250-LZ: 2.0 kg (4.4 lb) ZA 190-HZ: 3.0 kg (6.7 lb)	ZA 2120-LZ: 3.9 kg (8.5 lb) ZA 2120-HZ: 3.9 kg (8.5 lb)
Retail stores, restaurants and bars, hospitality venues, conference rooms	Retail stores, restaurants and bars, hospitality venues, conference rooms, auxiliary zones	
CC-1, CC-2	Rack Mount Kit	CC-1

CONFIGURABLE POWER AMPLIFIERS

The Bose® PowerMatch® line of amplifiers provides concert-quality sound with a high level of scalability and configurability. The PowerMatch line offers four models with multiple channel and power options, each including an integrated audio DSP, front panel interface and USB connection. Ethernet-equipped versions enable network configuration, control and monitoring. An expansion slot supports input from optional digital audio accessory cards. PowerMatch amplifiers utilize numerous Bose technologies to deliver an unprecedented combination of performance, efficiency, and ease of installation—all in a reliable, proprietary design.

In PowerMatch amplifiers, the proprietary DFL system provides precision control required for optimal power supply and Class-D amplifier performance.



DFL™
Dual Feedback Loop System

8-CHANNEL

POWERMATCH® PM8500/PM8500N
CONFIGURABLE PROFESSIONAL POWER AMPLIFIER

SPECIFICATIONS

Maximum Rated Power
4000 W (500 W x 8 channels at 4 ohms)

Output Channels
2 to 8 (configurable)

Input Channels
8 (balanced line level)

8-CHANNEL

POWERMATCH PM8250/PM8250N
CONFIGURABLE PROFESSIONAL POWER AMPLIFIER

SPECIFICATIONS

Maximum Rated Power
2000 W (250 W x 8 channels at 4 ohms)

Output Channels
2 to 8 (configurable)

Input Channels
8 (balanced line level)

4-CHANNEL

POWERMATCH PM4500/PM4500N
CONFIGURABLE PROFESSIONAL POWER AMPLIFIER

SPECIFICATIONS

Maximum Rated Power
2000 W (500 W x 4 channels at 4 ohms)

Output Channels
1 to 4 (configurable)

Input Channels
4 (balanced line level)

4-CHANNEL

POWERMATCH PM4250/PM4250N
CONFIGURABLE PROFESSIONAL POWER AMPLIFIER

SPECIFICATIONS

Maximum Rated Power
1000 W (250 W x 4 channels at 4 ohms)

Output Channels
1 to 4 (configurable)

Input Channels
4 (balanced line level)

EXPANSION CARDS

POWERMATCH®
EXPANSION CARDS

PowerMatch expansion cards		Product Code
	**PowerMatch® Dante™ network card** Provides 8 input channels of low-latency digital audio using the Dante audio networking solution from Audinate®	359844-0020
	**PowerMatch® CobraNet® card** Inserts into the digital expansion card slot of the amplifier and provides a connection of 8 input channels of uncompressed 48 kHz digital audio using industry-proven CobraNet audio networking.	345975-0110
	**PowerMatch® ESPLink 8-channel input card** Installs into the digital expansion slot to receive eight digital audio channels from an optical ESPLink connection. Each card includes a passthrough connection for linking multiple PowerMatch amplifiers.	349898-0110
	**PowerMatch® AES3 input card** Allows PowerMatch configurable professional power amplifiers to receive up to 8 channels from AES3 sources such as mixing consoles and DSPs.	638301-0010

ADAPTABLE POWER AMPLIFIERS

Bose® PowerShare adaptable power amplifiers deliver 600 watts for portable and fixed-install applications. Through patented technology, total amplifier power is shared across all output channels, allowing installers the freedom to utilize power where needed. With support for both low- and high-impedance loads up to 100V, PowerShare amplifiers adapt to a wide range of applications. Onboard configurable loudspeaker processing and direct access to zone controllers eliminate the need for an additional signal processor in many installations, while outstanding audio performance and reliability are assured with patented technologies inherited from the field-proven PowerMatch® line. This unique set of features and technologies makes PowerShare one of the most versatile high-performance amplifiers available.

4-CHANNEL

POWERSHARE PS604
ADAPTABLE POWER AMPLIFIER

SPECIFICATIONS

Amplifier Power
4 x 150 W

Maximum power per channel
600 W @ 4-8 Ω, 70/100V

Input channels
4 balanced

Outputs
4

2-CHANNEL

POWERSHARE PS602
ADAPTABLE POWER AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 300 W

Maximum power per channel
600 W @ 4-8 Ω, 70/100V

Input channels
2 unbalanced, 2 balanced

Outputs
2

2-CHANNEL PORTABLE

POWERSHARE PS602P
ADAPTABLE POWER AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 300 W

Maximum power per channel
600 W @ 4-8 Ω, 70/100V

Input channels
2 unbalanced, 2 balanced

Outputs
2

USER CONTROLS

USER CONTROLS

ControlCenter CC-1 zone controller

ControlCenter CC-2 zone controller

SOFTWARE

POWERSHARE EDITOR
SOFTWARE

PowerShare Editor

For applications requiring additional signal processing Bose® PowerShare Editor software provides full access to signal processing functions available within the PowerShare adaptable power amplifier series. Using a USB connection and a PC, the software allows the selection and control of Bose loudspeaker EQs, 9-band PEQs, standard mixing, crossover, delay, and mute/output polarity. Configurations can be stored as PowerShare Project files (.psp) while the amplifier is online or offline. The software also manages the upgrade of PowerShare amplifier firmware and the onboard loudspeaker EQ database.

MIXER AMPLIFIERS

Integrated Zone Amplifiers
FreeSpace® integrated zone amplifiers feature selectable Loudspeaker EQ to enrich audio quality, Opti-voice™ paging for clear speech intelligibility while providing seamless transitions, and Dynamic EQ that ensures full and balanced music at any volume level.

Digital Mixer/Amplifier
The Bose® FreeSpace DXA 2120 digital mixer/amplifier features a 6-input/2-output design that provides signal processing, mixing, routing, paging and two-channel amplification for installed applications. It offers three versatile operating modes and is easily configured using the controls on the front panel.

DIGITAL MIXER

FREESPACE® DXA 2120
DIGITAL MIXER/AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 120 W @ 4 Ω,
2 x 100 W @ 70/100V

Signal-to-Noise Ratio
75 dB (below rated power, A-weighted)

THD
≤0.5 % (at full rated power)

Dynamic Range
80 dB

Output Channels
2 channels
Auxiliary Out: (1) balanced

Input Channels
Mic/Line In: (4) balanced
Line In: (4) stereo unbalanced (summed to mono)
Page In: (1) balanced
Direct In: (1) balanced

INTEGRATED ZONE

FREESPACE IZA 2120-LZ
INTEGRATED ZONE AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 120 W @ 4 Ω, 2 x 60 W @ 8 Ω

Frequency Response
20 Hz - 20 kHz (+0/–3 dB, @ 1 W reference 1 kHz)

THD+N
≤ 0.5 % (at rated power)

Dynamic Range
88 dB

Built-in Loudspeaker EQ
Flat, Bose FreeSpace DS 16, DS 40, DS 100 and RoomMatch® Utility RMU105

Output Channels
2 channels
Auxiliary Out: (1) stereo unbalanced

Input Channels
Line Inputs: (2) balanced or (2) stereo unbalanced
Page Input: (1) balanced mic/line
Auxiliary Line Input: (1) stereo unbalanced

INTEGRATED ZONE

FREESPACE IZA 2120-HZ
INTEGRATED ZONE AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 120 W @ 70/100V

Frequency Response
55 Hz - 20 kHz (+0/–3 dB, @ 1 W reference 1 kHz)

THD+N
≤ 0.3 % (at rated power)

Dynamic Range
88 dB

Built-in Loudspeaker EQ
Bose FreeSpace® 3 systems, FS3 subwoofer, DS 16, DS 40 and DS 100

Output Channels
2 channels
Auxiliary Out: (1) stereo unbalanced

Input Channels
Line Inputs: (2) balanced or (2) stereo unbalanced
Page Input: (1) balanced mic/line
Auxiliary Line Input: (1) stereo unbalanced

INTEGRATED ZONE

FREESPACE IZA 250-LZ
INTEGRATED ZONE AMPLIFIER

SPECIFICATIONS

Amplifier Power
2 x 50 W @ 4 Ω, 2 x 25 W @ 8 Ω

Frequency Response
40 Hz - 20 kHz
(+0/-3 dB, @ 1 W reference 1 kHz)

THD+N
≤0.3 % (at full rated power)

Dynamic Range
88 dB

Built-in Loudspeaker EQ
Bose FreeSpace DS 16 or DS 40, No EQ

Output Channels
2 channels
Auxiliary Out: (1) stereo unbalanced

Input Channels
Mic/Line Inputs: (1) balanced
Line Inputs: (2) stereo unbalanced
Page Inputs: (1) balanced mic
Auxiliary Line Input: (1) stereo unbalanced

INTEGRATED ZONE

FREESPACE IZA 190-HZ
INTEGRATED ZONE AMPLIFIER

SPECIFICATIONS

Amplifier Power
1 x 90 W @ 70/100V

Frequency Response
60 Hz - 20 kHz (+0/-3 dB, @ 1 W reference 1 kHz)

THD+N
≤1 % (at full rated power)

Dynamic Range
88 dB

Built-in Loudspeaker EQ
Bose FreeSpace DS 16 or DS 40, No EQ

Output Channels
1 channel
Auxiliary Out: (1) stereo unbalanced

Input Channels
Mic/Line Inputs: (1) balanced
Line Inputs: (2) stereo unbalanced
Page Inputs: (1) balanced mic
Auxiliary Line Input: (1) stereo unbalanced

USER CONTROLS

USER CONTROLS

ControlCenter CC-1 zone controller

ControlCenter CC-2 zone controller

ZONE AMPLIFIERS

Zone amplifiers deliver robust audio amplification for commercial sound systems such as retail stores, conference space and hospitality locations. Considered workhorses of the industry, zone amplifiers are designed and tested to high standards of quality to achieve trouble-free operation.

ZONE AMPLIFIER

FREESPACE® ZA 2120-LZ
ZONE AMPLIFIER

The Bose® FreeSpace ZA 2120-LZ zone amplifier is designed to provide basic amplification and sound system expansion when using front-end Bose products, such as FreeSpace integrated zone amplifiers and ControlSpace® engineered sound processors.

SPECIFICATIONS

THD+N
≤ 0.5 % (at rated power)

Amplifier Power
2 x 120 W @ 4 Ω, 2 x 60 W @ 8 Ω

Frequency Response
20 Hz - 20 kHz
(+0/–3 dB, @ 1 W reference 1 kHz)

Dynamic Range
88 dB

Output Channels
2 channels

Input Channels
Line Inputs: (2) balanced or
(1) stereo unbalanced

CATEGORY

FREESPACE ZA 2120-HZ
ZONE AMPLIFIER

The Bose FreeSpace ZA 2120-HZ zone amplifier is designed to provide basic amplification and sound system expansion when using front-end Bose products, such as FreeSpace integrated zone amplifiers and ControlSpace engineered sound processors.

SPECIFICATIONS

THD+N
≤ 0.3 % (at rated power)

Amplifier Power
2 x 120 W @ 70/100V

Frequency Response
55 Hz - 20 kHz
(+0/–3 dB, @ 1 W reference 1 kHz)

Dynamic Range
88 dB

Output Channels
2 channels

Input Channels
Line Inputs: (2) balanced or
(1) stereo unbalanced

USER CONTROLS

USER CONTROLS

ControlCenter CC-1 zone controller

ZONE AMPLIFIER

FREESPACE ZA 250-LZ
ZONE AMPLIFIER

The Bose® FreeSpace ZA 250-LZ zone amplifier is designed to provide basic amplification and sound system expansion when using front-end signal processing from products such as the FreeSpace IZA 250-LZ/IZA 190-HZ integrated zone amplifiers and ControlSpace® engineered sound processors.

SPECIFICATIONS

Amplifier Power
2 x 50 W @ 4 Ω,
2 x 25 W @ 8 Ω

Frequency Response
20 Hz - 20 kHz
(+0/-3 dB, @ 1 W reference 1 kHz)

THD+N
≤0.3 % (at full rated power)

Dynamic Range
88 dB

Output Channels
2 channels

Input Channels
(1) stereo unbalanced

ZONE AMPLIFIER

FREESPACE ZA 190-HZ
ZONE AMPLIFIER

The Bose FreeSpace ZA 190-HZ zone amplifier is designed to provide basic amplification and sound system expansion when using front-end signal processing from products such as the FreeSpace IZA 250-LZ/IZA 190-HZ integrated zone amplifiers and ControlSpace® engineered sound processors.

SPECIFICATIONS

Amplifier Power
1 x 90 W @ 70/100 V

Frequency Response
60 Hz - 20 kHz
(+0/-3 dB, @ 1 W reference 1 kHz)

THD+N
≤1 % (at full rated power)

Dynamic Range
88 dB

Output Channels
1 channel

Input Channels
(1) stereo unbalanced

CONTROLSPACE® DESIGNER™ SOFTWARE

Configure, control and monitor using ControlSpace Designer software
With ControlSpace Designer software, users gain access to all PowerMatch® amplifier features and functions, including detailed signal processing, amplifier status and control programming. System troubleshooting is built into PowerMatch amplifiers via a set of remote monitoring and faults reporting utilities. Issues logged by the amplifier, such as power line and loudspeaker wiring faults, are reported on the amplifier front panel. Fault reporting also can be viewed via an Ethernet connection with ControlSpace Designer software or using Serial-over-Ethernet with third-party control and monitoring systems (network version only). When using network-version amplifiers, system-wide control, configuration and monitoring of all connected Bose networked devices is available through Designer software, allowing users real-time access to both PowerMatch amplifiers and ControlSpace processors.

Real-time network monitoring of multiple amplifiers

AMPLIFIER
USER CONTROLS

CONTROLCENTER CC-1

Bose® ControlCenter CC-1 zone controllers provide volume control for FreeSpace®, PowerShare, and ControlSpace® products. They are available in either black or white and fit 1-gang electrical boxes in North America, Europe, and Japan. The zone controllers use Cat 5 wiring and can be daisy-chained using the two RJ-45 connectors for simplified wiring.

Compatible with: FreeSpace IZA 2120-LZ/HZ amplifiers, FreeSpace ZA 2120-LZ/HZ amplifiers, FreeSpace IZA 250-LZ and IZA 190-HZ* amplifiers, FreeSpace DXA 2120 amplifier, PowerShare PS602 amplifier, PowerShare PS604 amplifier

*Operates with a fixed input (B).

CONTROLCENTER CC-2

Bose® ControlCenter CC-2 zone controllers provide volume control and A/B source selection for FreeSpace® and ControlSpace® products. They are available in either black or white and fit 1-gang electrical boxes in North America, Europe, and Japan. The zone controllers use Cat 5 wiring and can be daisy-chained using the two RJ-45 connectors for simplified wiring.

Compatible with: FreeSpace IZA 2120-LZ/HZ amplifiers, FreeSpace IZA 250-LZ, IZA-190-HZ amplifiers, FreeSpace DXA 2120 amplifier

CONTROLSPACE® CC-64 CONTROL CENTER

The Bose ControlSpace CC-64 control center is an elegant, programmable, networked controller that provides users a simple and logical interface to their sound systems when using network version PowerMatch® amplifiers.

Compatible with: PowerMatch 8500N/8250N/4500N/4250N amplifiers

CONTROLCENTER® CV41 4-TO-1 CONVERTER

The Bose® ControlCenter CV41 4-to-1 converter simplifies wiring when using multiple ControlCenter CC-1 zone controllers with a PS602 or PS604 PowerShare adaptable power amplifier. The CV41 converter supports up to four CC-1 controllers allowing each CC-1 to homerun to the amplifier.

Compatible with: PowerShare PS604 amplifier, PowerShare PS602 amplifier

SIGNAL PROCESSING & NETWORKING

NETWORKABLE DSP

LOUDSPEAKER PROCESSOR

DANTE ENDPOINTS

NETWORKABLE DSP
QUICK COMPARISON GUIDE

	ControlSpace® ESP-00 Series II	ControlSpace® ESP-880
	engineered sound processor	engineered sound processor
Back Panel View		
Audio Channel Capacity	64 (bi-directional, mixed digital and/or analog)	56 (16 analog, 8 ESPLink, 16x16 digital with expansion card)
Signal Processor	Quad 32-bit floating-point DSPs, 200 MHz	32-bit fixed/floating-point DSP + ARM, 456 MHz
Maximum Calculation	6.4 GIPS/4.8 GFLOPS	3.6 GIPS/2.7 GFLOPS
Analog I/O	Up to 32 channels using analog expansion cards	8 mic/line input channels, 8 line output
ESPLink Output	8-channel option card	8 channels
Dynamic Range	117 dB (A-weighted, 20 Hz – 20 kHz)	115 dB (A-weighted, 20 Hz – 20 kHz)
Max. Input/Output Level	+24 dBu	+24 dBu
THD (+N)	0.002% (A-weighted, 20 Hz – 20 kHz, +4 dBu @ 1 kHz input signal)	0.002% (A-weighted, 20 Hz – 20 kHz, +4 dBu @ 1 kHz input signal)
Delay Memory	288 seconds	43 seconds
Audio Latency	860 µs (analog in to analog out)	860 µs (analog in to analog out)
PC Configuration Software	ControlSpace® Designer™ software	ControlSpace® Designer™ software
Control Inputs/Outputs	8 input/8 output, expandable to 16/16	5 input/5 output
Network Control	10 Mb Ethernet (RJ-45)	Front panel 100 Mb Ethernet (RJ-45) or rear option cards
Communication Ports	RS-232 (DB9M, DTE) Bose CC-16 (5.08 mm Euroblock 3-pin)	RS-232 (DB9M, DTE) Bose CC-16 (5.08 mm Euroblock 3-pin)
Expansion Slots	8 analog/digital audio, 2 GPIO (1 occupied)	1 control/audio network slot
Dimensions	88 mm x 483 mm x 331 mm (3.5″ H x 19.0″ W x 13.0″ D)	44 mm x 483 mm x 215 mm (1.7″ H x 19″ W x 8.5″ D)
Net Weight	4.9 kg (10.8 lb)	2.6 kg (5.75 lb)
Expansion Cards	Mic/line input, line output, Dante,™ CobraNet,® ESPLink, AES3 in, AES3 out, Surround decoder, GPIO	Dante,™ ControlSpace® Network Control

QUICK COMPARISON

NETWORKABLE DSP
QUICK COMPARISON GUIDE

ControlSpace® ESP-1240	ControlSpace® ESP-1600	ControlSpace® ESP-4120
engineered sound processor	engineered sound processor	engineered sound processor
		
		
88 (16 analog, 8 ESPLink, 32x32 digital with Dante expansion card)		
32-bit fixed/floating-point DSP + ARM, 456 MHz		
3.6 GIPS/2.7 GFLOPS		
12 mic/line input, 4 line output	16 mic/line input	4 mic/line input, 12 line output
8 channels		
115 dB (A-weighted, 20 Hz – 20 kHz)		
+24 dBu		
0.002% (A-weighted, 20 Hz – 20 kHz, +4 dBu @ 1 kHz input signal)		
43 seconds		
860 µs (analog in to analog out)		
ControlSpace® Designer™ software		
5 input/5 output		
Front panel 100 Mb Ethernet (RJ-45) or option card		
RS-232 (DB9M, DTE) Bose CC-16 (5.08 mm Euroblock 3-pin)		
1 control/audio network slot		
44 mm x 483 mm x 215 mm (1.7″ H x 19″ W x 8.5″ D)		
2.6 kg (5.75 lb)		
Dante,™ ControlSpace® Network Control		

NETWORKABLE DSP

The Bose® line of ControlSpace® ESP engineered sound processors offers advanced signal processing that meets today's strict requirements for low-latency, high-quality digital conversion, and low-noise/high dynamic range audio applications. With the option of choosing between four fixed-I/O models or a flexible card-frame model that can be customized with up to 64 audio channels, ControlSpace ESP processors provide a solution for nearly any project.

Bose ESP products offer network audio options with Dante™ and CobraNet® (CobraNet for ControlSpace ESP-00 II only) expansion cards for routing audio between Bose ESP processors, PowerMatch® amplifiers and third-party products. ESPLink connectivity, available across all ESP processor models, provides a convenient 8-channel bus for distributing digital audio to same-rack PowerMatch amplifiers.

All ControlSpace ESP products leverage an open-architecture DSP platform with a library of audio signal processing algorithms; all enabled using Bose ControlSpace Designer™ software. ControlSpace Designer software is used to configure both signal processing and control capabilities of ControlSpace ESP processors, as well as applying firmware updates and upgrades that enhance and extend the capabilities of ControlSpace ESP processors. ControlSpace Designer software makes it easy to design, configure and control a complete system comprised of Bose Engineered Sound processors, PowerMatch amplifiers and a variety of Bose user controls, using an intuitive drag-and-drop interface—without any time-consuming programming or scripting.

All ControlSpace ESP processors have built-in serial (RS-232 or Ethernet) and general-purpose I/O connectivity allowing external customization and integration with industry standard control systems. Bose user interface options include straightforward, wall-mounted hardware interfaces and mobile device apps for complete and convenient system control.

FIXED-I/O

CONTROLSPACE® ESP-880
ENGINEERED SOUND PROCESSOR

SPECIFICATIONS

Signal Processor
32-bit fixed/floating-point
DSP + ARM, 456 MHz

Dynamic Range
> 115 dB A-weighted
20 Hz – 20 kHz, analog through

Input Channels
8 analog (balanced, mic/line level), 32 digital (via optional card)

Output Channels
8 analog (balanced, line level), 8 ESPLink, 32 digital (via optional card)

PC Configuration Software
ControlSpace Designer™ software

FIXED-I/O

CONTROLSPACE ESP-1240
ENGINEERED SOUND PROCESSOR

SPECIFICATIONS

Signal Processor
32-bit fixed/floating-point
DSP + ARM, 456 MHz

Dynamic Range
> 115 dB, A-weighted
20 Hz – 20 kHz, analog through

Input Channels
12 analog (balanced, mic/line level), 32 digital (via option card)

Output Channels
4 analog (balanced, line level), 8 ESPLink, 32 digital (via optional card)

PC Configuration Software
ControlSpace Designer software

FIXED-I/O

CONTROLSPACE ESP-1600
ENGINEERED SOUND PROCESSOR

SPECIFICATIONS

Signal Processor
32-bit fixed/floating-point
DSP + ARM, 456 MHz

Dynamic Range
> 115 dB A-weighted
20 Hz – 20 kHz, analog through

Input Channels
16 analog (balanced, mic/line level), 32 digital (via optional card)

Output Channels
8 ESPLink, 32 digital (via optional card)

PC Configuration Software
ControlSpace Designer™ software

FIXED-I/O

CONTROLSPACE® ESP-4120
ENGINEERED SOUND PROCESSOR

SPECIFICATIONS

Signal Processor
32-bit fixed/floating-point
DSP + ARM, 456 MHz

Dynamic Range
>115 dB, A-weighted
20 Hz – 20 kHz, analog through

Input Channels
4 analog (balanced, mic/line level), 32 digital (via optional card)

Output Channels
12 analog (balanced, line level), 8 ESPLink, 32 digital (via optional card)

PC Configuration Software
ControlSpace Designer software

EXPANSION CARDS

CONTROLSPACE
EXPANSION CARDS

ControlSpace fixed-I/O DSP expansion cards		Product Code
	**ControlSpace ESP-880/1240/4120 network control card** Adds a rear panel network connection to single-rack ControlSpace ESP processors. Allows network pass through from the front-panel RJ-45 port.	359841-0010
	**ControlSpace ESP-880/1240/4120 Dante™ network card** Provides Dante™ network connectivity for up to 64 channels of digital audio (16x16). Dual ports can be configured for switched (default) or redundant networking.	359842-0020

CARD-FRAME

CONTROLSPACE® ESP-00 SERIES II
ENGINEERED SOUND PROCESSOR

SPECIFICATIONS

Signal Processor
Four 32-bit floating-point digital signal processors, 200 MHz

Sample Rate
48 kHz

PC Configuration Software
ControlSpace Designer™ software

Expansion Slots
8 analog/digital audio, 2 GPIO (1 occupied)

Audio Channel Capacity
64 (bi-directional, digital and/or analog)

EXPANSION CARDS

CONTROLSPACE
EXPANSION CARDS

ControlSpace card-frame DSP expansion cards		Product Code
	**ControlSpace ESP Dante™ network card** Provides Dante™ network connectivity for up to 32 channels of digital audio. Dual ports can be configured for switched (default) or redundant networking.	359843-0020
	**ControlSpace ESP-00 CobraNet® I/O expansion card** Provides up to 32 channels of CobraNet digital audio.	311506
	**ControlSpace ESP-00 ESPLink 8-Ch output card** Provides eight channels of digital audio over a single optical cable for sending audio to one or more ESPLink-equipped PowerMatch® amplifiers.	350513-0010
	**ControlSpace ESP-00 EDR line-level input card** Provides four extended dynamic range line level outputs.	041764
	**ControlSpace ESP-00 EDR line-level output card** Provides four extended dynamic range line level outputs.	041763
	**ControlSpace ESP-00 AES3 eight-channel input card** Provides eight channels of AES3 digital audio input.	037537
	**ControlSpace ESP-00 surround sound decoder input card** Provides surround sound decoding for Dolby® 5.1, DTS™ 5.1, and DTS 6.1 over coaxial and S/PDIF, eliminating the need for an external decoder and integrating all audio processing within the ESP-00 II.	302210
	**ControlSpace ESP-00 GPIO card** Installs in the available GPIO2 slot. Augments the standard GPIO card by adding eight additional control inputs and eight additional control outputs on a second card.	041768

USER CONTROLS

CONTROLSPACE®
USER CONTROLS

CONTROLSPACE REMOTE APP

Brings personalized audio system control to end users from the convenience of their Android™,iOS, Mac® OS X® and Windows® devices.

CONTROLSPACE CC-64

The Bose® ControlSpace CC-64 control center is an elegant, programmable, networked controller that provides users with a simple and logical interface to their ControlSpace system.

CONTROLSPACE CC-16

The Bose ControlSpace CC-16 zone control center is an elegant, programmable, networked controller that provides end-user control of ControlSpace systems.

CONTROLCENTER CC-1

Bose® ControlCenter CC-1 zone controllers provide volume control for FreeSpace®, PowerShare, and ControlSpace® products. They are available in either black or white and fit 1-gang electrical boxes in North America, Europe, and Japan. The zone controllers use Cat 5 wiring and can be daisy-chained using the two RJ-45 connectors for simplified wiring.

Compatible with: FreeSpace IZA 2120-LZ/HZ amplifiers, FreeSpace ZA 2120-LZ/HZ amplifiers, FreeSpace IZA 250-LZ and IZA 190-HZ* amplifiers, FreeSpace DXA 2120 amplifier, PowerShare PS602 amplifier, PowerShare PS604 amplifier

*Operates with a fixed input (B).

CONTROLCENTER CC-2

Bose® ControlCenter CC-2 zone controllers provide volume control and A/B source selection for FreeSpace® and ControlSpace® products. They are available in either black or white and fit 1-gang electrical boxes in North America, Europe, and Japan. The zone controllers use Cat 5 wiring and can be daisy-chained using the two RJ-45 connectors for simplified wiring.

Compatible with: FreeSpace IZA 2120-LZ/HZ amplifiers, FreeSpace IZA 250-LZ, IZA-190-HZ amplifiers, FreeSpace DXA 2120 amplifier, ControlSpace ESP-00 II engineered sound processor, ControlSpace ESP-880, ESP-1240, ESP-4120, ESP-1600 engineered sound processors

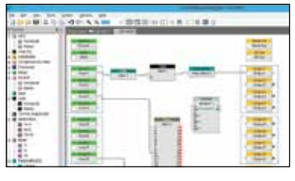
CONTROLCENTER CC-3

Bose® ControlCenter CC-3 zone controllers provide volume control and A/B/C/D source selection for ControlSpace® products. They are available in either black or white and fit 1-gang electrical boxes in North America, Europe, and Japan. The zone controllers use and RJ-45 connector and Cat 5 wiring for simplified wiring.

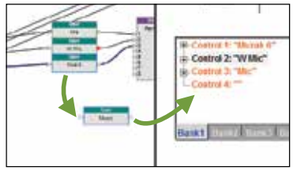
Compatible with: ControlSpace ESP-00 II engineered sound processor, ControlSpace ESP-880, ESP-1240, ESP-4120, ESP-1600 engineered sound processors

CONTROLSPACE® DESIGNER™ SOFTWARE

ControlSpace Designer software simplifies configuration and tuning
Bose® ControlSpace Designer software is a graphical PC application used for the design, configuration, real-time operation and monitoring of Bose ControlSpace engineered sound processors, end-user controls and PowerMatch® amplifiers. Designer software is specifically built with sound system designers in mind. Each step in the design process, from adding devices to your design to programming scenes and end-user controls, ControlSpace Designer software offers an intuitive workflow and toolset
to help you design a sound system more easily.



Open Architecture System Design
All ControlSpace ESP processors support an open architecture DSP platform where custom combinations of signal processing blocks can be arranged in a sound system design, then uploaded to the processor. Once the processor has received the design, users can go on-line with the entire sound system—including multiple processors and amplifiers—and make real-time adjustments to accurately tune the sound system to
the needs of the installation.



Drag-and-Drop Control Programming
Bridging external controls to any DSP hardware can be the most time-intensive component of setting up sound systems, especially when using software packages that rely on text-based programming. An intuitive drag-and-drop control programming method in ControlSpace Designer software makes normally complex programming tasks much easier. Whether you are setting up a simple volume control or communicating with control systems using Serial-over-IP, Designer software will help save time and allow you to make client-requested changes quickly.

Smart Simulation
Whether design work is happening at the shop or on-site, the Smart Simulation feature simplifies system control programming, eliminating the need to connect to the actual system to configure and test system control programming. Virtual versions of the popular ControlSpace CC-64 and CC-4 controls can be accessed on-screen where system designers can test and modify system control. When connected on-line with an active system, simulators will mirror physical control panels and allow direct access from within Designer software—facilitating final system commissioning.

Available Signal Processing

Standard Mixers	Crossovers	Compressors
Matrix Mixers	Automatic Mic Mixing	Limiters
Graphic EQ	Delays	Duckers
Parametric EQ	Routers	Automatic Gain Controls
Tone Control EQ	Gains	Noise Gates
Bose Speaker EQ	Signal Generators	Source Selectors
Array EQ	Meters	

CONTROLSPACE® SP-24
SOUND PROCESSOR

The Bose® ControlSpace SP-24 sound processor makes optimizing 2x4 installed and portable sound systems easy. Use the purposefully simple front panel interface for basic operations, or the intuitive SP-24 Editor software for full access to all signal processing settings.

SPECIFICATIONS

Dynamic Range
107 dB (typical)

Input Channels
2 channels

Sample Rate
48 kHz

Output Channels
4 channels

CONTROLSPACE SP-24
EDITOR SOFTWARE

ControlSpace SP-24 Editor software provides access to all signal processing functions within the Bose ControlSpace SP-24 sound processor. Using the SP-24 Editor software system, designers can define signal processing parameters and store them as custom scenes while either on or offline. The SP-24 Editor software is also used to update the ControlSpace SP-24 sound processor's firmware and Bose loudspeaker equalization database.

ENDPOINT

CONTROLSPACE® EP22-D 2-IN/2-OUT

DANTE™ ENDPOINT

The ControlSpace EP22-D Dante endpoint is a 2in/2out, convenient and cost-effective way to add mic/line audio input and output channels to a Dante-based networked audio system. The small form factor of the EP22-D and PoE power capability make it easy to put Dante connectivity wherever it's needed—near the audio source or sink—thereby eliminating costly and interference-prone analog wiring. Setup and control, including like mic/line input gain, output gain and phantom power, as well as Dante audio routing are all integrated in ControlSpace Designer.™

ENDPOINT

CONTROLSPACE EP40-D 4-INPUT

DANTE ENDPOINT

The ControlSpace EP40-D 4 input Dante endpoint is the ideal interface for adding mic/line inputs to a Dante system. The small form factor of the EP40-D allows it to be mounted almost anywhere, putting it close to audio sources and minimizing interference-prone analog wiring. The EP40-D features four balanced mic/line inputs, each with software selectable +48V phantom power and 8 gain levels. Front panel indicators show each channel's gain and phantom power status for easy troubleshooting. The EP40-D has two network connections to allow Dante daisy chaining. Dante daisy-chaining further simplifies system infrastructure wiring by allowing multiple EP40-Ds to use a single CAT-5 home run connection to a network switch. Power can also be daisy chained. The EP40-D is powered by either an external +24VDC supply or any PoE network switch. Setup and control, including like mic/line input gain and phantom power, as well as Dante audio routing are all integrated in ControlSpace Designer.

WALL PLATE

CONTROLSPACE® WP22B-D

DANTE™ WALL PLATE

The ControlSpace WP22B-D Dante audio Interface is a cost-effective multi-I/O wall box. The WP22B-D features two balanced mic/line XLR inputs and two balanced XLR line outputs. All inputs and outputs can be used simultaneously, and all audio channels are available separately. The WP22B-D is designed to fit into most dual gang US junction boxes and is PoE enabled, so all connectivity (power and data) is provided by a single CAT-5 cable. The size of the WP22B-D and I/O density make it easy to put Dante connectivity wherever it's needed—near the audio source or sink—thereby eliminating costly and interference-prone analog wiring. Setup and control, including like mic/line input gain and phantom power, as well as Dante audio routing are all integrated in ControlSpace Designer.™

WALL PLATE

CONTROLSPACE WP22BU-D

DANTE WALL PLATE

The ControlSpace WP22BU-D Dante wall plate is a cost-effective multi-I/O wall box. The WP22BU-D features a balanced mic/line XLR input and a balanced XLR line output. Two RCA line-level inputs and a 3.5mm TRS line-level input complete the available inputs. A 3.5mm TRS line-level output is also included. The WP22BU-D is designed to fit into most dual gang US junction boxes and is PoE enabled, so all connectivity (power and data) is provided by a single CAT-5 cable. The size of the WP22BU-D and I/O density make it easy to put Dante connectivity wherever it's needed—near the audio source or sink—thereby eliminating costly and interference-prone analog wiring. Setup and control, including like mic/line input gain, balanced/unbalanced source selection, and phantom power, as well as Dante audio routing are all integrated in ControlSpace Designer.

PORTABLE PA

F1 FLEXIBLE ARRAY LOUDSPEAKER SYSTEM

L1 PORTABLE LINE ARRAY SYSTEMS

PORTABLE PA
QUICK COMPARISON GUIDE

	F1 Model 812 Flexible Array Loudspeaker System	L1® Model II system
Positioning	Our most powerful and flexible system. Full-range loudspeaker with 8-driver flexible array, 12" woofer, powerful amplifier and optional F1 Subwoofer.	Our most advanced L1 system featuring our 24-speaker articulated line array providing our best tonal balance, coverage and high output.
Acoustic Performance	The F1 Model 812 Flexible Array loudspeaker provides 100 degrees of horizontal coverage and 4 selectable vertical coverage patterns. The loudspeaker delivers high SPL performance while maintaining vocal and midrange clarity that is dramatically better than conventional powered loudspeakers.	The articulated 24-speaker line array provides 180 degrees of horizontal sound coverage while at the same time offering extremely tight vertical control resulting in less drop-off in volume over distance than conventional loudspeakers.
Coverage	100° H x 40° V (C-position)	180° H x 0° V
Max SPL	F1 Model 812: 126 dB (Cont.), 132 dB (Peak) F1 Subwoofer: 124 dB (Cont.), 130 dB (Peak)	115 dB (Cont.), 121 dB (Peak)
Low Frequency	F1 Model 812: 52 Hz F1 Subwoofer: 40 Hz	40 Hz
Bass	With 1,000 watts of power, the Bose F1 Subwoofer packs all the performance of a larger bass box into a more compact design that's easier to carry and fits in a car. A mounting stand for the Bose F1 Model 812 Flexible Array Loudspeaker is integrated right into the body of the subwoofer, so you always know where it is, making setup fast and easy.	The Model II power stand can drive two B1 bass modules or a single B2 bass module. It also features a dedicated bass line out allowing it to be used with the A1 PackLite® amplifier to add two additional B1 bass modules or an additional B2 bass module.
I/O	• 2 input integrated mixer • 1 x XLR combo input (CH-1) • 1 x line level/mic select (CH-1) • 1 x RCA input (CH-2) • 1 x 1/4" input (CH-2) • 1 x HPF • 1 x XLR line output Independent connections on F1 Sub	• 1 x 1/4" analog input • 1 x NL4 bass module out • 1 x ToneMatch® port • 1 x trim control • 1 x power switch • 1 x 1/4" bass line out
System Includes	F1 Model 812 Flexible Array Loudspeaker F1 Subwoofer with integrated stand	• L1 Model II top and bottom loudspeaker arrays • L1 Model II system power stand • Protective carrying bags/covers • B1 or B2 bass module with cable and slip cover

QUICK COMPARISON

PORTABLE PA
QUICK COMPARISON GUIDE

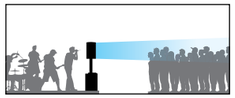
L1® Model 1S system	L1® Compact system
A unique combination of performance and portability that includes our 12-speaker articulated line array providing smooth tonal balance, coverage and high output.	Our smallest, lightest and easiest-to-set-up L1 system, featuring a 6-speaker curved articulated line array providing smooth tonal balance and coverage, weighing just 29 pounds.
The 12-speaker articulated line array provides 180 degrees of horizontal sound coverage while at the same time offering tight vertical control, resulting in less drop-off in volume over distance than conventional loudspeakers.	The L1 Compact loudspeaker array is smaller than those in the L1 Model 1S and Model II systems, yet produces comparable horizontal sound coverage. The L1 Model 1S and Model II systems project sound further and with less volume drop-off than conventional loudspeakers.
180° H x 10° V	180° H x 40° V
112 dB (Cont.), 118 dB (Peak)	106 dB (Cont.), 112 dB (Peak)
40 Hz	65 Hz
The Model 1S power stand can drive two B1s or a single B2 bass module.	The L1 Compact system features an integrated bass speaker in the power stand. It is not compatible with the B1 or B2 bass modules.
• 1 x 1/4" analog input • 1 x NL4 bass module out • 1 x ToneMatch® port • 1 x trim control • 1 x power switch	• 1 x microphone input • 1 x 1/8" balanced analog input • 1 x RCA stereo input • 1 x 1/4" analog input • 1 1/4" mono analog output • 1 x RCA output
• L1 Model 1S top array and bottom extension • L1 Model 1S power stand • Protective carrying bags/covers • B1 or B2 bass module with cable and slip cover	• L1 Compact loudspeaker array • L1 Compact system power stand with slip cover • L1 Compact system extensions with protective carry bag

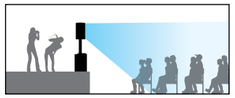
F1 FLEXIBLE ARRAY LOUDSPEAKER SYSTEM

The Bose® F1 Model 812 Flexible Array Loudspeaker is the first powered portable loudspeaker that lets you control its vertical coverage pattern. So whether you're playing at floor level, on a stage or facing raked seats or bleachers, you can now adapt your PA to match the room.

For extended bass response, the Bose F1 Subwoofer packs all the power of a larger bass box into a more compact design that's easier to carry and fits in a car. A mounting stand for the loudspeaker is stored right in the body of the subwoofer, making setup fast and easy. The stand even includes cable channels to neatly hide the wires. Plus, the loudspeaker and subwoofer feature highly durable enclosures to ensure easy transport and years of reliability.

COVERAGE PATTERNS


STRAIGHT


J


REVERSE J


C

PORTABLE

F1 MODEL 812
FLEXIBLE ARRAY LOUDSPEAKER

The Bose® F1 Model 812 Flexible Array Loudspeaker is the first powered portable loudspeaker that lets you control its vertical coverage pattern. Simply push or pull the array into position to create “Straight,” “C,” “J” or “Reverse J” coverage patterns. And once set, the system automatically changes the EQ to maintain optimum tonal balance for each coverage pattern. So whether you’re playing at floor level, on a stage, or facing raked seats or bleachers, you can now adapt your PA to match the room.

Also available in a passive variant: F1 Model 812 Passive.

SPECIFICATIONS

Frequency Range (-10 dB)
43 Hz - 20 kHz

Maximum SPL @ 1 m
132 dB SPL (peak)

Nominal Dispersion
100° H x 40° V (C pattern)

Amplifier Power
1,000 W

PORTABLE

F1 SUBWOOFER

With 1,000 watts of power, the Bose F1 Subwoofer packs all the performance of a larger bass box into a more compact design that’s easier to carry and fits in a car. A mounting stand for the Bose F1 Model 812 Flexible Array Loudspeaker is integrated right into the body of the subwoofer, so you always know where it is, making setup fast and easy. The stand even includes cable channels to neatly hide the wires, giving your system a clean, professional look. And now getting your unit to the venue is easier, too. The F1 Subwoofer features strategically placed handles for easy transport.

SPECIFICATIONS

Frequency Range (-10 dB)
8 Hz - 250 Hz

Maximum SPL @ 1 m
130 dB SPL (peak 6 dB CF)

Amplifier Power
1,000 W

ACCESSORIES

F1 SYSTEMS
ACCESSORIES

F1 accessories		Product Code	Color
	**F1 Model 812 Travel Bag** This highly durable 1680D Polyester UV coated and water resistant padded bag protects your Bose® F1 Model 812 Flexible Array Loudspeaker from the rigors of the road. The bags feature heavy duty zippers, two side pockets which allow for storing additional materials and additional protection for the loudspeaker grilles.	751863-0010	Black
	**F1 Subwoofer Travel Bag** This highly durable 1680D Polyester UV coated and water resistant padded bag protects your Bose F1 Subwoofer from the rigors of the road. The bags feature heavy duty zippers, two side pockets which allow for storing additional materials and additional protection for the loudspeaker grilles.	751864-0010	Black
	**Pan-and-tilt bracket** A pan-and-tilt bracket that allows both pitch and yaw adjustment. The bracket fits the 4x M8 threaded inserts (127 x 70 mm) on the rear panel of the F1 Model 812, RMU208, RMU206 and RMU108 models, as well as the 2x M8 threaded inserts (75 mm spacing) on the rear panel of the RMU105 model.	738453-0110	Black
	**Yoke Mounting Kit** A double yoke bracket that allows for pitch adjustment. The bracket fits the 4 x M8 threaded inserts (127 x 70 mm) on the rear panel of the F1 Model 812.	736451-0110	Black
	**U-Bracket Mounting Kit** A u-bracket that allows the F1 Model 812 to be mounted vertically or horizontally; a single axis point provides easy rotational adjustment. Attaches to the M8 threaded inserts in the top handle and the F1 Stand Mount Interface inserts.	736453-0110	Black

L1® PORTABLE LINE ARRAY SYSTEMS

Bose® L1 systems are complete, portable PA systems that deliver clear, balanced sound and set up in minutes. A proprietary articulated line array delivers 180-degree coverage, consistent tonal balance and less SPL drop-off than conventional systems. Models are available for audiences of 100 to 500. The line array's wide coverage and high resistance to feedback allows you to position the system behind you and hear what your audience hears. The lightweight components connect easily without the need for speaker stands and are built to withstand the rigors of the road.

PORTABLE

L1® MODEL II
PORTABLE LINE ARRAY SYSTEM

Our most advanced L1 system for an audience of up to 500. With a 24-speaker articulated line array providing 180 degrees of clear, even coverage, it combines our best sound reproduction with easy transport and setup. Designed to work with the T1 ToneMatch® audio engine, which provides four additional inputs, our largest library of ToneMatch presets and a complete suite of studio-class effects and processing.

For indoor applications only.

SPECIFICATIONS

Nominal Dispersion
195° H x 0° V

Frequency Response (+/-3 dB)
40 Hz - 12 kHz

Frequency Range (-10 dB)
32 Hz - 14 kHz

Maximum SPL @ 1 m
115 dB SPL (121 dB SPL peak)

PORTABLE

L1 MODEL 1S
PORTABLE LINE ARRAY SYSTEM

Our L1 system that offers a unique combination of performance and portability for an audience of up to 300. With a 12-speaker articulated line array providing 180 degrees of clear, even sound, the system is also designed to work with the T1 ToneMatch audio engine, as well as a choice in bass modules. Easy to transport and set up in minutes.

For indoor applications only.

SPECIFICATIONS

Nominal Dispersion
195° H x 10° V

Frequency Response (+/-3 dB)
40 Hz - 12 kHz

Frequency Range (-10 dB)
32 Hz - 14 kHz

Maximum SPL @ 1 m
112 dB SPL (118 dB SPL peak)

PORTABLE

L1 COMPACT
PORTABLE LINE ARRAY SYSTEM

Our smallest and most portable system for an audience of up to 100. It has a six-speaker articulated line array, and it includes an integrated two-channel mixer with ToneMatch presets on each channel. Carry it in one trip. Set it up in one minute. Fill the room with one system.

For indoor applications only.

SPECIFICATIONS

Nominal Dispersion
180° H x 40° V

Frequency Range (-10 dB)
50 Hz - 16 kHz

Frequency Response (+/-3 dB)
65 Hz - 14 kHz

Maximum SPL @ 1 m
106 dB SPL (112 dB SPL peak)

AUDIO ENGINE

T1 TONEMATCH®
AUDIO ENGINE

The T1 ToneMatch audio engine is designed to enrich the sound of musicians using any Bose® L1® system. Its powerful features and tone-shaping tools quickly bring you closer to the true sound of your voice and instruments. The T1 expands the input capacity of your L1 system and gives you instant access to a host of proprietary EQ presets, standard effects and processors.

- Digital multichannel mixer designed for use with Bose L1 sound systems
- Features more than 100 proprietary ToneMatch presets for instruments and microphones
- Includes Bose zEQ, storable scenes and a suite of studio-class effects
- Presets and firmware updates available free online

Note:
T1 ToneMatch audio engine power supply is required for use with the L1 Compact and legacy L1 Model I systems, and for standalone use.

ACCESSORIES

L1 ACCESSORIES

L1 accessories		Product Code
	**B1 bass module** Includes slip cover and cable to connect module to power stand.	351964-0010
	**B2 bass module** Includes slip cover and cable to connect module to power stand.	353927-0110
	**T1 ToneMatch audio engine mic stand bracket** Enables T1 ToneMatch audio engine to be mounted to a microphone stand.	042535
	**T1 ToneMatch audio engine power supply** Provides power for the ToneMatch audio engine when used with an L1 Compact or L1 Model I system, or for standalone use. Power rating: AC 100-240V.	042533
	**PackLite™ amplifier** Powers up to two additional B1 bass modules. Includes 1/4" TRS cable and nylon carry pouch.	039057

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ABOUT BOSE CORPORATION

Bose Corporation was founded in 1964 by Dr. Amar G. Bose, professor at the Massachusetts Institute of Technology. Today, the company is primarily known for its research in acoustics, which has produced inventions that have improved the performance of:

- Loudspeakers
- Home entertainment systems
- Automotive music systems designed for the interior acoustics of each car model (first introduced by Bose)
- Noise reducing headsets for pilots and the public (first introduced by Bose)
- Sound in public spaces
- The production of sound for musicians requiring electronic amplification of their instruments
- Materials testing and durability simulation instruments for biomedical applications
- Driver suspension systems for heavy-duty trucks

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