

MB12 & MB12 WR

Low-Frequency Loudspeaker



Key Features

- **Low-frequency reinforcement for Bose® LT arrays** and other subwoofer applications that require 40 – 280 Hz bass response.
- **Front-loaded Tapered Transmission Line** design provides peak-free extended low-frequency response and reduces port turbulence distortion.
- **1 x 12" high-excursion woofer** with 4-inch voice-coil and 400 W long-term power rating provides high SPL with fast transient response.
- **Compact enclosure optimized for bass-array** applications when cardioid or other directional-bass configurations are required for reverberant spaces.
- **MB12 WR** rated **IEC 529 IPX5** to allow outdoor applications.
- **MB12 for indoor applications only** – available in black or white.



General Description

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" 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.

Technical Specifications

System Performance	
Frequency Response ¹ (+/-3 dB)	40 – 280 Hz
Frequency Range ¹ (-10 dB)	36 – 290 Hz
Recommended High-Pass Protection Filter	30 Hz (24 dB / octave)
Nominal Coverage Pattern (-6 dB)	Omni below 200 Hz
Beamwidth Average (-6 dB point, 1 – 4 kHz)	Omni below 200 Hz
System Axial Sensitivity ³ (SPL / 1 W @ 1m)	91 dB SPL
Calculated Maximum ⁴ SPL @ 1m, continuous	117 dB SPL
Calculated Maximum ⁴ SPL @ 1m, peak	123 dB SPL
Crossover Frequency and Modes	None (external DSP crossover required)
Power Handling 100-hour test, ² continuous	400 W
Power Handling 100-hour test, ² peak	1600 W
Nominal Impedance	8 Ω
Minimum Impedance	6.4 Ω
Transducers	
High Frequency	None
Mid Frequency	None
Low Frequency	12" woofer with 4-inch voice-coil
Physical	
Enclosure Material	13-ply, 18 mm birch plywood (exterior grade for WR)
Finish	Polyurethane-based textured paint, black or white (2-part polyurethane, black only for WR)
Grille	16-gauge perforated steel, powder-coated finish (stainless steel with open-cell foam backing for WR)
Environmental Specification	IEC 529 IPX5 for WR (indoor only for non-WR)
Connectors	Two parallel-wired NL4 Neutrik Speakon® connectors
Suspension Attachment	Sixteen points SAE 3/8"-16 threaded inserts, steel (stainless steel for WR)
Dimensions (H x W x D)	14.7" x 20.0" x 25.4" (374.3 mm x 508.0 mm x 646.2 mm)
Net Weight	78.0 lbs. (35.4 kg)
Shipping Weight	91.7 lbs. (41.6 kg)
Product Code	
MB12 WR	323114-0110
MB12 Black (Indoor Only)	40173
MB12 White (Indoor Only)	40174

Footnotes:

¹Frequency response measured on-axis with recommended active EQ in free space (anechoic).

²Power handling tested using IEC 268-5 pink noise, 6 dB crest factor, 100 hours.

³Sensitivity measured in free field (no boundary-loading gain) with recommended active EQ.

⁴Maximum system output calculated from sensitivity and power handling specifications, exclusive of power compression.

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Architects' and Engineers' Specification

The low-frequency loudspeaker shall contain a 12-inch woofer with 4-inch voice coil and high-excursion suspension. The enclosure shall utilize a front-loaded tapered transmission-line design to reduce resonant peaks in frequency response, while reducing port-turbulence distortion.

On-axis system frequency response shall be 40 Hz to 280 Hz (+/- 3 dB) with usable bass response (-10 dB) from 36 to 290 Hz. The loudspeaker sensitivity shall be 91 dB SPL with 1 watt input and be capable of producing peak output of 123 dB SPL on axis at 1 meter in free-space anechoic environments. For floor-boundary mounted installations, peak output will increase to approximately 129 dB SPL (due to boundary-loading acoustic gain). The loudspeaker shall handle 400 W of amplifier power (IEC 268-5 pink noise, 6 dB crest factor, for 100 hours). Nominal input impedance shall be 8 Ohms.

MB12 Only:

The enclosure shall be constructed of void-free, Baltic birch plywood with extensive internal bracing. The enclosure exterior shall be treated with a polyurethane-based paint that resists scuffing. The enclosure shall be covered by a 16-gauge perforated steel grille with powder-coated finish. The loudspeaker shall be rated for indoor use only. The enclosure shall have sixteen (16) steel threaded inserts (4 each: top, bottom, sides) that accept standard SAE 3/8" - 16 rigging hardware. Inputs shall be two (2) NL4 Neutrik Speakon® connectors. Loudspeaker dimensions shall be 14.7" x 20.0" x 25.4" (374.3 mm x 508.0 mm x 646.2 mm). Net weight shall be 78 lbs. (35.4 kg).

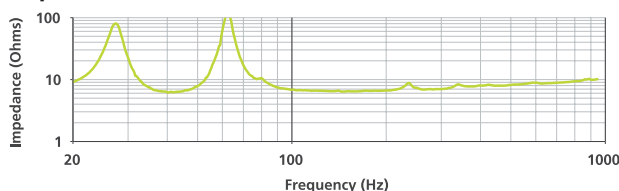
The low-frequency loudspeaker shall be the Bose® MB12.

MB12 WR Only:

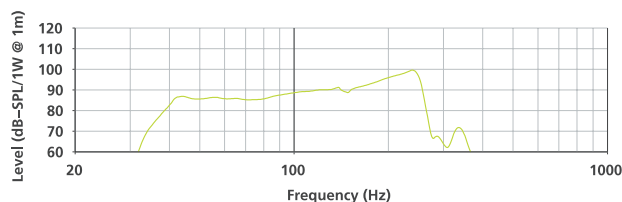
The enclosure shall be constructed of void-free, exterior-grade Baltic birch plywood with extensive internal bracing. The enclosure interior shall be treated with wood sealer and the exterior finished with a two-part spray polyurethane coating (Chemthane 7030 or equivalent) to resist weather elements and scuffing. The enclosure shall be covered by a 16-gauge perforated stainless steel grille with powder-coated finish and backed with an open-cell foam. The loudspeaker shall survive water incursion consistent with the IEC 529 IPX5 rating. The enclosure shall have sixteen (16) stainless steel threaded inserts (4 each: top, bottom, sides) that accept standard SAE 3/8" - 16 rigging hardware. Inputs shall be two (2) NL4 Neutrik Speakon® connectors. Loudspeaker dimensions shall be 14.7" x 20.0" x 25.4" (374.3 mm x 508.0 mm x 646.2 mm). Net weight shall be 78 lbs. (35.4 kg).

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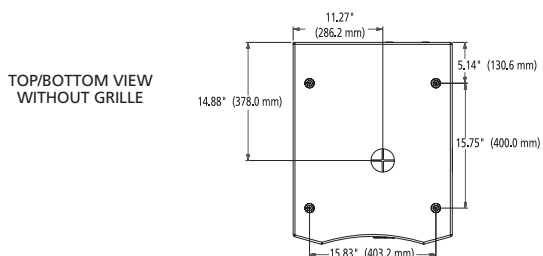
Impedance



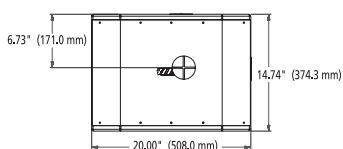
On-Axis Response



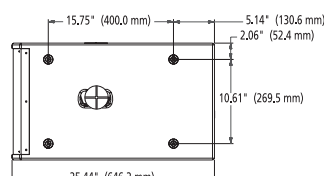
Mechanical Diagrams



FRONT VIEW
WITH GRILLE



SIDE VIEW
WITHOUT GRILLE

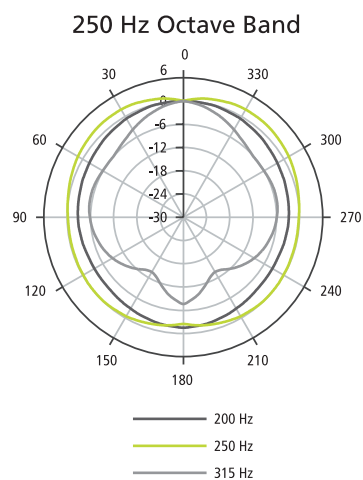
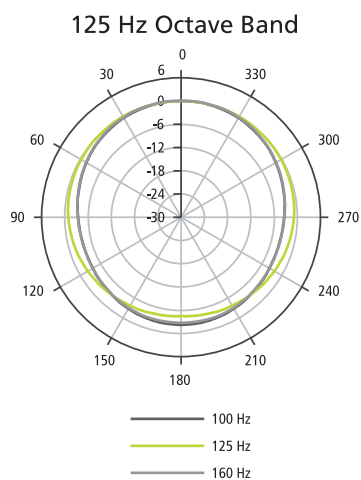
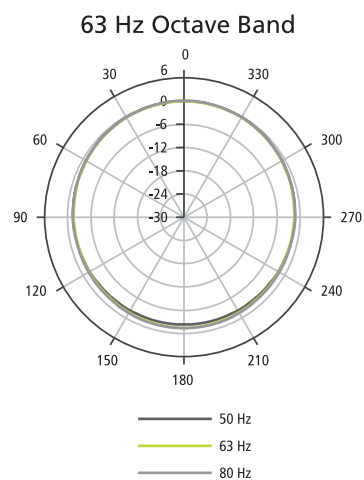


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Polar Plots $\frac{1}{3}$ Octave Horizontal

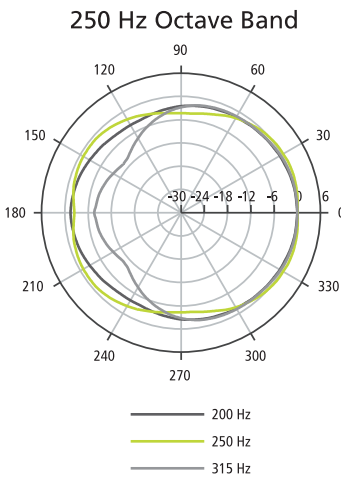
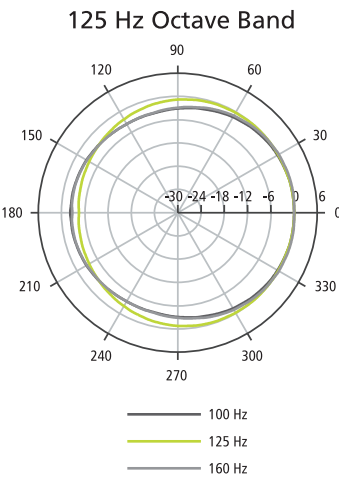
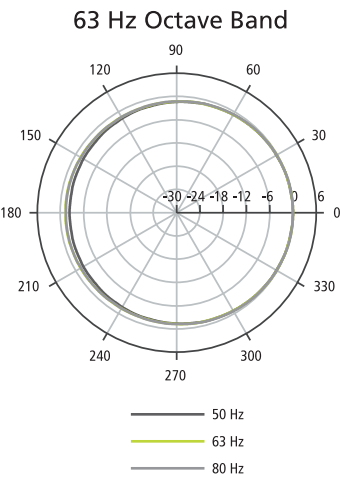


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Polar Plots 1/3 Octave Vertical



TECHNICAL DATA SHEET

