



Product overview

The PANARAY® LT MB12 modular bass loudspeaker is a compact, low-frequency loudspeaker designed exclusively for use with the PANARAY LT mid/high-frequency and full-range loudspeaker family.

The LT MB12 integrates one 305mm (12") woofer in a proprietary acoustic enclosure. This enables the LT MB12 to deliver high SPL and wide bandwidth without audible port noise. The size of the LT MB12 has also been optimized so that it can be used in multiple bass array configurations.

Product information

Each PANARAY LT MB12 bass loudspeaker one 305mm (12") low-frequency driver built proprietary acoustic enclosure.

The MB12 includes a recessed back contains two parallel wired NL4 connectors. 1+ and 1- directly access the woofer and 2- can be used as a pass through connecting to additional loudspeakers.

The 13-ply, marine-grade, Baltic birch has sixteen hang points, four each bottom and sides. Each hang point SAE 3/8 – 16 rigging hardware.

Key features

- > Proprietary acoustic enclosure provides clean, loud bass with high driver reliability
- > Enclosure size has been optimized to be used in multiple bass array configurations
- > High SPL without audible port noise
- > 13-ply, marine-grade, Baltic birch enclosure
- > 16 stainless steel hang points
- > Contoured, powder-coated, stainless steel grille
- > Available in black or white
- > Designed for indoor and most outdoor applications*

Applications

PANARAY LT loudspeakers are well suited for professional installations such as:

- > Houses of worship
- > Dance clubs
- > Auditoriums
- > Live sound venues
- > Performing arts facilities
- > Sports facilities
- > Transportation facilities

Product specifications

Performance:

Power Handling¹

400W

Impedance

8Ω

Sensitivity¹ (at 1W @ 1m)

91 dB - SPL

Maximum SPL²

(pink noise @1m @ rated power)

117 dB - SPL

123 dB - SPL (Peak)

Recommended Crossover

HPF: 40 Hz, 2nd Order or better

LPF: 250 Hz, 2nd Order or better

Frequency Range⁴ (± 3 dB)

40 Hz – 250 Hz

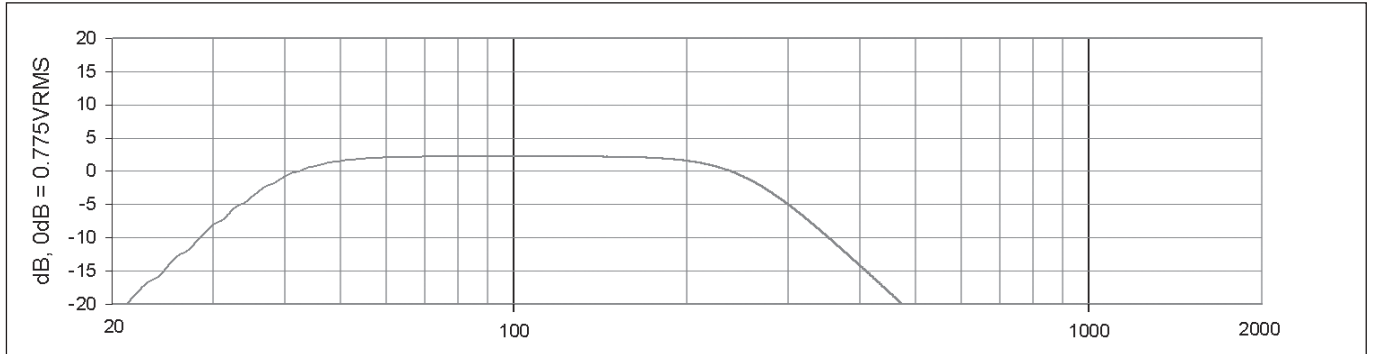
1-4 See "How our loudspeakers are measured" on page 5

* PANARAY LT MB12 loudspeakers can be installed outdoors under cover. Please contact Bose for additional details.

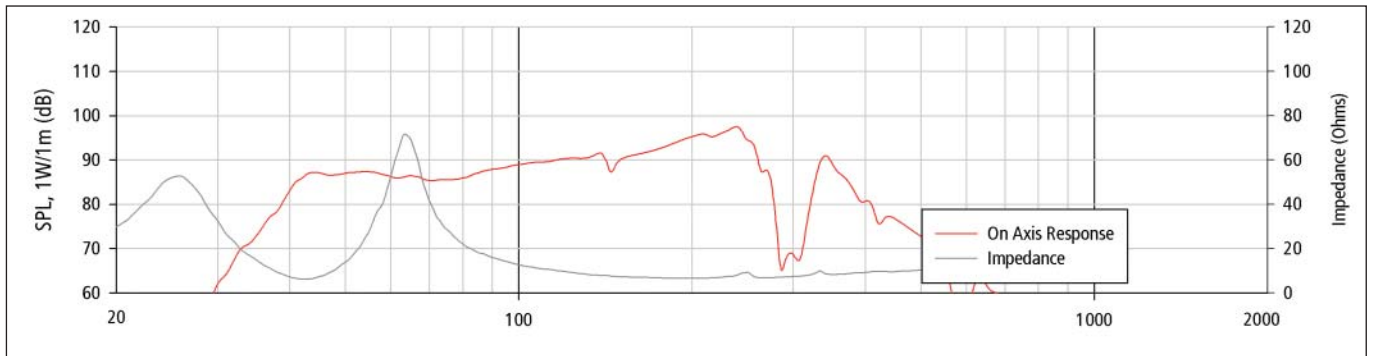
Additional product information

The PANARAY® LT MB12 loudspeaker requires equalization through the use of BOSE® active equalization or by using a high-pass filter and a low-pass filter. Active equalization for the LT MB12 loudspeaker can be provided by a BOSE® controller or by using a ControlSpace™ ESP-88 engineered sound processor.

Active equalization curve



On-axis response - impedance vs. frequency



Driver complement:

One 305mm (12") low-frequency driver built into a proprietary acoustic enclosure.

Construction features:

13-ply, marine-grade, Baltic birch enclosure with 16 stainless steel hang points and a powdercoated, stainless steel grille.

Hang points:

Sixteen stainless steel threaded inserts – 4 top, 4 bottom, and 4 on each side – allow for easy rigging. The threaded inserts are SAE 3/8 – 16 thread, with at least 18 usable threads.

Rigging:

Obtain your mounting system from a reputable manufacturer. Select a system design that works for your loudspeaker of choice and its intended use. Always have a licensed professional engineer review the design and fabrication for structural integrity and safety in the intended application.

Dimensions:

646mm x 508mm x 368mm (DxWxH)
(25.4"x 20"x 14.5")

Weight:

30kg (65lb)

Shipping:

34kg (74lb)

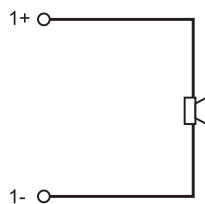
Finish:

Each loudspeaker is manufactured with a textured black or white polyurethane finish and contoured, powder-coated, stainless steel grille. Both cabinet and grille can be painted to match the surroundings.

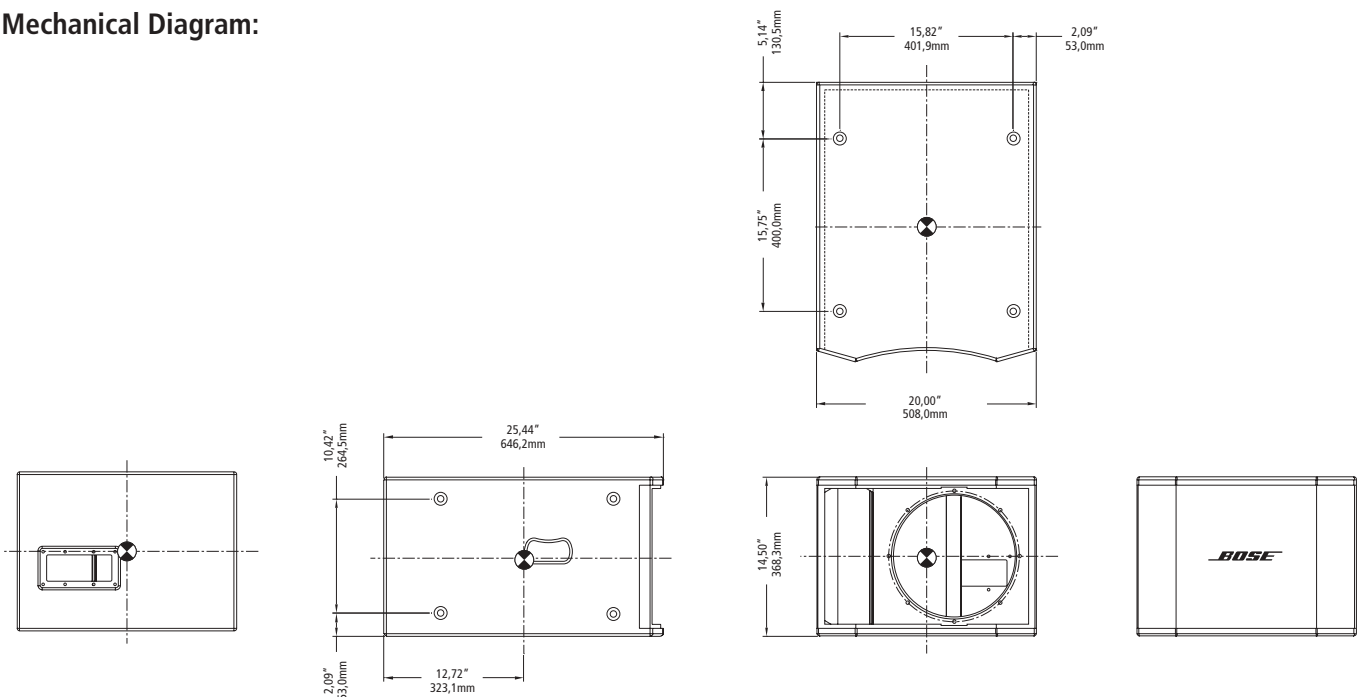
Connectors:

Two Neutrik® NL4 connectors wired in parallel.

NL4 Wiring Diagram:



Mechanical Diagram:



Engineers and architects; specifications

The low-frequency loudspeaker shall be a single driver, low-frequency system with atched active equalization as follows: The transducer complement shall consist of one low-frequency driver of 305mm (12") diameter, mounted symmetrically.

The bass enclosure shall be composed of 13-ply marine-grade Baltic birch with 16 stainless steel hang points and a paintable contoured stainless steel grille. Its outer dimensions shall be 646mm x 508mm x 368mm (DxWxH) (25.4"x 20"x 14.5"). Its weight shall be 30kg (65lb).

The loudspeaker shall comply with ANSI/EIA 636 for electrical and mechanical safety and for the EU EMC directives 89/336/EEC and 92/31/EEC.

All versions of this product shall bear the CE mark, unless restricted to North American or Japanese markets. The loudspeaker shall be the BOSE® PANARAY® LT MB12 loudspeaker.

Technical literature

PANARAY® LT Reference Guide Available at pro.bose.com

Safety and regulatory compliance

The LT MB12 loudspeaker complies with ANSI/EIA-636 Recommended Loudspeaker Safety Practices and with EU EMC Directives 89/336/EEC for CE marking.

Safety features

EIA-636: *Recommended Loudspeaker afety Practices*

This document is a set of guidelines related to the safe design and testing of loudspeakers and their components set by the Electronics Industry Association. Although ne cannot list a product to the standard, Bose has performed the tests outlined for the LT MB12 and it complies with the standard s set forth in EIA-636.

Warranty

The BOSE® PANARAY® LT MB12 modular bass loudspeaker is covered by a 5-year, transferable limited warranty.

Product codes

MB12 – Black PC 040173

MB12 – White PC 040174

Replacement parts

Grille with screws and logo-Blk	PN 296721
Grille with screws and logo-Wht	PN 298588
Input panel kit-Blk	PN 297518
Input panel kit-Wht	PN 298589
Woofers	PN 297519
Replacement logo assembly-Blk	PN 297504
Replacement logo assembly-Wht	PN 297505
Replacement screws for grille-Blk	PN 297502
Replacement screws for grille-Wht	PN 297503
Hang Point Screw-Blk	PN 298591
Hang Point Screw-Wht	PN 298316

How our loudspeakers are measured

1. Power Handling

Full bandwidth pink noise, meeting the IEC Standard #268-5, is applied to the loudspeaker and amplified to a level at the loudspeaker terminals corresponding to the power handling of the loudspeaker. The loudspeaker must show no visible damage or measurable loss of performance after 100 hours of continuous testing.

2. Sensitivity

Full bandwidth pink noise is applied to the loudspeaker with its active equalization curve and amplified to a level at the loudspeaker terminals corresponding to 1 watt as referenced to the nominal impedance. The average sound pressure level (dB-SPL) is measured at 1 meter from the speaker in an anechoic environment.

3. Maximum SPL

Full bandwidth pink noise is applied to the loudspeaker with its active equalization curve and amplified to a level at the loudspeaker terminals corresponding to the longterm rated power handling of the speaker. The average sound pressure level (dB-SPL) is measured at 1 meter from the speaker in an anechoic environment.

4. Frequency Range

Sine waves are injected into the loudspeaker and the level is adjusted to 1W, as referenced to the nominal impedance, and the level measured at 1m. Resulting graph is moothed by 0.05 octave-band.