



Product overview

The PANARAY® LT MB24-III modular bass loudspeaker is a compact, low-frequency loudspeaker designed exclusively for use with the PANARAY LT mid/high-frequency loudspeaker family. The LT MB24-III integrates two 305mm (12") woofers in a proprietary acoustic enclosure. This enables the LT MB24-III to deliver high SPL and wide bandwidth without audible port noise. The size of the LT MB24-III has also been optimized so that it can be used in multiple bass array configurations.

Product information

Each PANARAY LT MB24-III bass loudspeaker uses two 305mm (12") low-frequency drivers built into a proprietary acoustic enclosure. The LT MB24-III can be operated in parallel or discrete modes. In parallel mode, a single amplified signal is connected to the loudspeaker. In discrete mode, each loudspeaker can be independently driven by a separate amplifier. Individual drivers are accessed through separate pins on the Neutrik® NL4 connectors. The 13-ply, marine-grade, Baltic birch enclosure has sixteen hang points, four each on the top, bottom and sides. Each hang point will accept 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
- > Selectable parallel and discrete modes
- > Designed for indoor and most outdoor applications*

Applications

The LT MB24-III loudspeaker is well-suited for professional installations such as:

- > Stadiums
- > Arenas
- > Houses of worship
- > Auditoriums
- > Performing arts facilities
- > Dance clubs
- > Outdoor* events facilities

* PANARAY® LT MB24 series III loudspeakers
LT loudspeakers can be installed outdoors under cover.
Please contact Bose for additional details.

Detailed product specifications

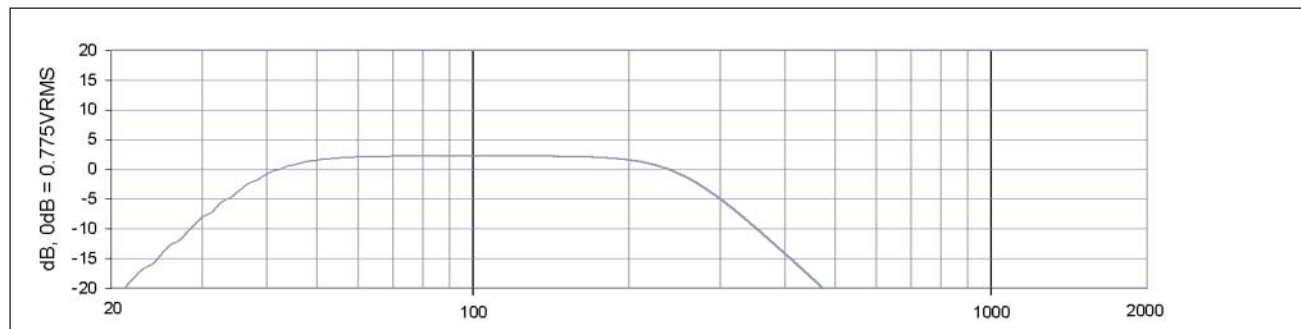
	Parallel	Discrete	
		Driver 1	Driver 2
Power Handling ¹	800W	400W	400W
Impedance	4	8	8
Sensitivity ² (at 1W @ 1m)	94 dB-SPL	91 dB-SPL	91 dB-SPL
Maximum SPL ³ (pink noise @1m @ rated power)	123 dB-SPL 129 dB-SPL (Peak)	117 dB-SPL 123 dB-SPL (Peak)	117 dB-SPL 123 dB-SPL (Peak)
Recommended Crossover	HPF: 40 Hz, 4th Order LPF: 250 Hz, 4th Order		
Frequency Range ⁴ (-3 dB)	40 Hz - 250 Hz		

Additional product information

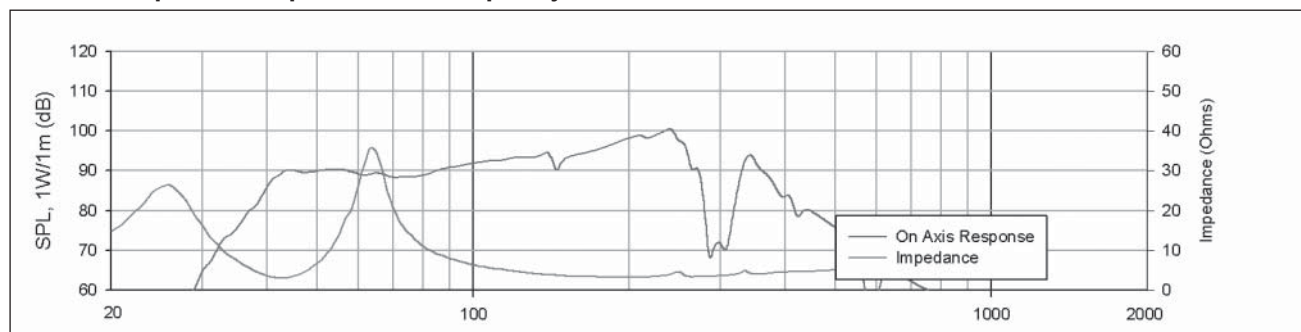
The PANARAY® LT MB24-III loudspeaker requires equalisation through the use of BOSE® active equalisation or by using a highpass filter and a low-pass filter. Equalisation is required for both parallel and discrete configurations.

Active equalisation for the LT MB24-III loudspeaker can be provided by using a Bose controller or by using the ControlSpace™ ESP- 88 engineered sound processor.

Active equalisation curve



On-Axis Response – Impedance vs. Frequency



Driver complement:

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

Construction features:

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

Hang points:

Sixteen 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:

648mm x 508mm x 714mm (DxWxH)
(25.5"x 20"x 28.1")

Weight:

59kg (129lb)

Shipping weight:

67kg (147lb)

Finish:

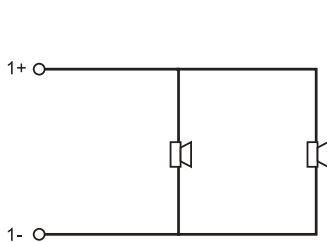
Each loudspeaker is manufactured with a textured black polyurethane finish and contoured, powder-coated, stainless steel grille. Both cabinet and grille can be painted to match the surroundings.

Connectors:

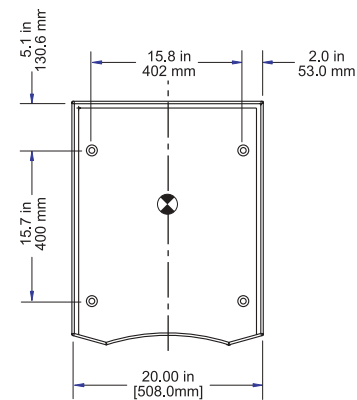
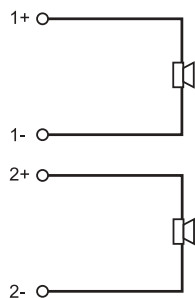
Two Neutrik® NL4 connectors wired in parallel.

NL4 Wiring Diagram:

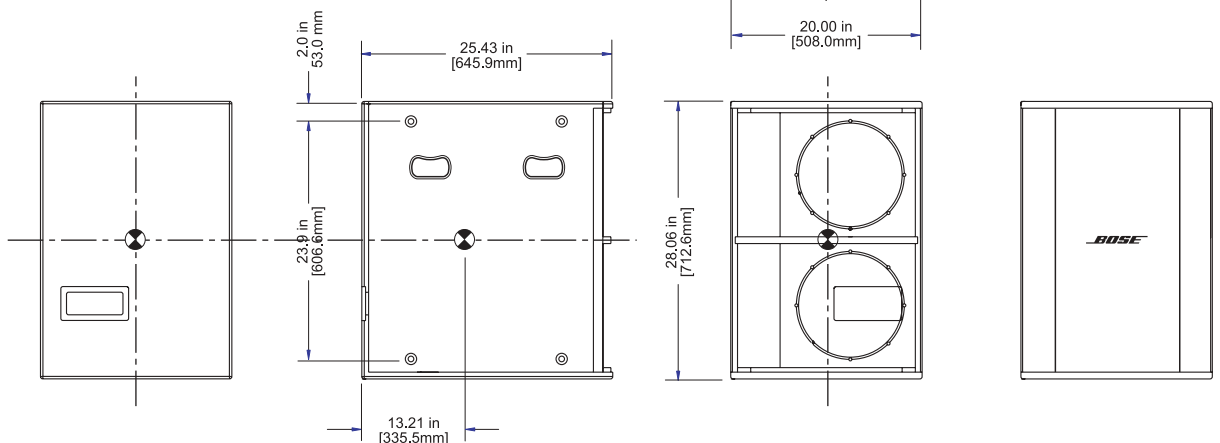
Parallel



Discrete



Mechanical Diagram:



Engineers' and architects' specifications

The low-frequency loudspeaker shall be a multiple driver, low-frequency system with matched active equalisation as follows: The transducer complement shall consist of two low-frequency drivers 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 648mm x 508mm x 714mm (DxWxH) (25.5"x 20"x 28.1"). Its weight shall be 59kg (129lb).

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 MB24-III loudspeaker.

Technical literature

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

Safety and regulatory compliance

The LT MB24-III 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 Safety 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 one cannot list a product to the standard, Bose has performed the tests outlined for the LT MB24-III and it complies with the standard as set forth in EIA-636.

Warranty

The BOSE® PANARAY® LT MB24-III mid/highfrequency loudspeaker is covered by a 5-year, transferable limited warranty.

Product codes

MB24 – Black	PC 040175
MB24 – White	PC 040706

Replacement parts

Grille with screws and logo-Blk	PN 297514
Grille with screws and logo-Wht	PN 298561
Input panel kit-Blk	PN 297518
Input panel kit-Wht	PN 298570
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

All replacement parts are available at authorized Bose Service Centers.

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 equalisation 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 equalisation curve and amplified to a level at the loudspeaker terminals corresponding to the long-term 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 smoothed by 0.05 octave-band.