



PANARAY® LT MB24 Series III Modular Bass Loudspeaker

PROFESSIONAL SYSTEMS DIVISION

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 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 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*
- Optional bass array rigging accessories available from ATM Fly Ware®

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

* LT loudspeakers can be installed outdoors under cover.



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Detailed Product Specifications – Acoustic

	Parallel	Discrete	
		Driver 1	Driver 2
Power Handling ¹	800W	400W	400W
Impedance	4 Ω	8 Ω	8 Ω
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: 40Hz, 4th Order LPF: 250Hz, 4th Order		
Frequency Range ⁴ (± 3 dB)	40 Hz - 250 Hz		

Additional Product Information

The Panaray® LT MB24-III loudspeaker requires equalization through the use of Bose® active equalization or by using a high-pass filter and a low-pass filter. Equalization is required for both parallel and discrete configurations.

Active equalization for the LT MB24-III loudspeaker can be provided by using the Panaray LT MB24-III EQ card or the Panaray system digital controller. A parametric equalizer using a high-pass and low-pass filter can replicate the active equalization curve below.

Recommended controller:

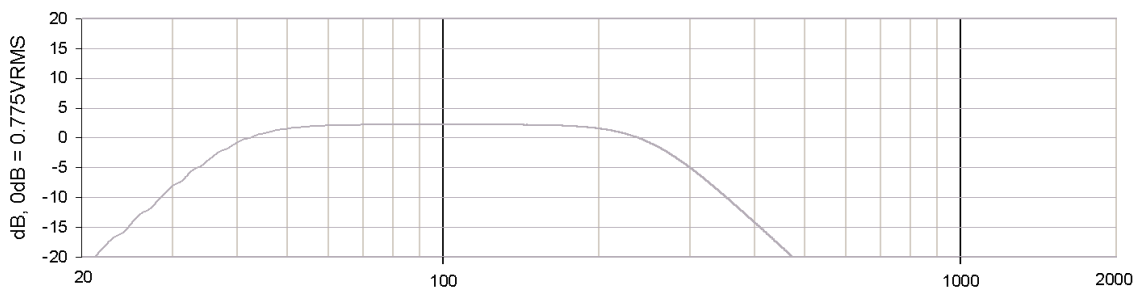
The Panaray System Digital Controller has a universal power supply for worldwide use. Variants of the product refer to the AC cord included with the product. There are five variations.

Australia:	PC 028024
Europe:	PC 028022
North America:	PC 028021
Japan:	PC 028025
United Kingdom:	PC 028023

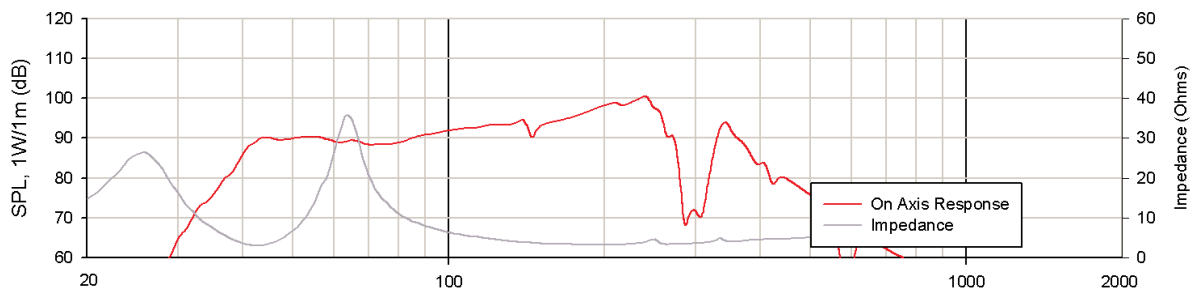
Available EQ Cards:

MB24-III/MB4	
active equalization card	PC 028666
MB24-III/MB4 02	
active equalization card	PC 027058

Active Equalization Curve



On-Axis Response – Impedance vs. Frequency



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Driver complement:

Two 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:

Rigging hardware for the Panaray® LT MB24 can be purchased from ATM Fly Ware®. For more information contact ATM Fly-Ware at www.ATMflyware.com.

Dimensions:

25.5"D x 20"W x 28.1"H
(648 mm x 508 mm x 714 mm)

Weight:

129 lb (59 kg)

Shipping weight:

147 lb (67 kg)

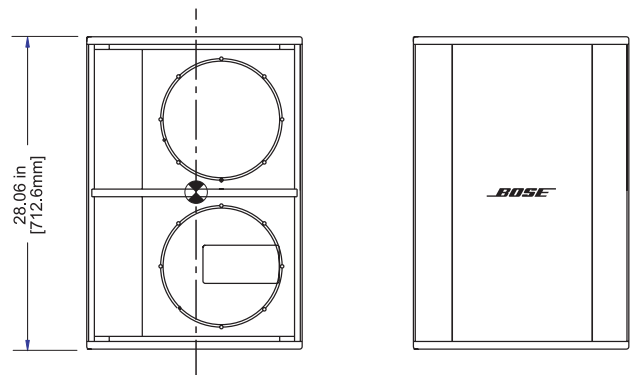
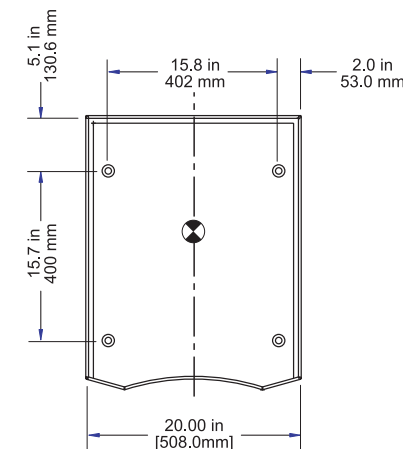
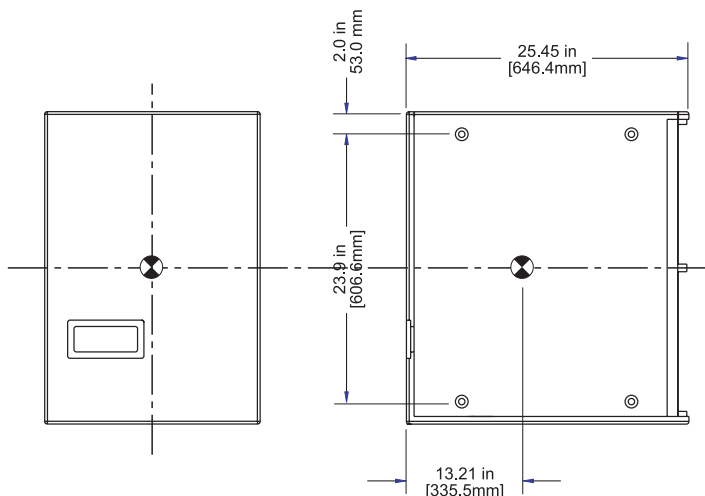
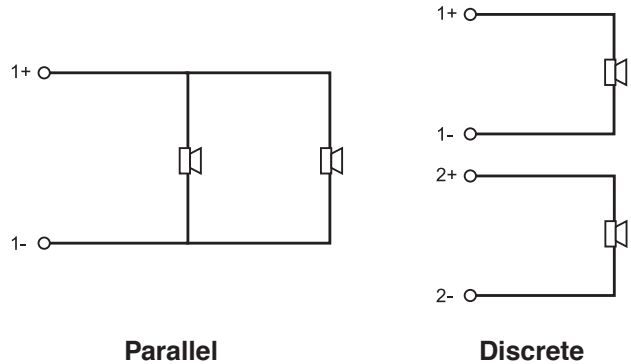
Finish:

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:



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Engineers' and Architects' Specifications

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

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 www.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.



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Warranty

The Bose Panaray LT MB24-III mid/high-frequency loudspeaker is covered by a 5-year, transferable limited warranty.

Replacement Parts

Grille with screws, tape, logo, fastener and spring	PN 278244
Screws for grille	PN 276847
Logo with tape, fastener and spring	PN 276848
Input panel with molex connector	PN 278245
Woofer	PN 278248

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 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 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.