



PANARAY® LT MB12 Modular Bass Loudspeaker

PROFESSIONAL SYSTEMS DIVISION

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 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 uses one 12" low-frequency driver built into a proprietary acoustic enclosure.

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

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
- Available in black or white
- Designed for indoor and most outdoor applications*
- Optional bass array rigging accessories available from ATM Fly-Ware®

Applications

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

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

* Panaray LT MB12 loudspeakers can be installed outdoors under cover.



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Detailed Product Specifications – Acoustic

Power Handling ¹	400 W
Impedance	8Ω
Sensitivity ² (at 1W @ 1m)	91 dB SPL
Maximum SPL ³ (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 Range ⁴ (± 3dB)	40 Hz – 250 Hz

¹⁻⁴ See "How our loudspeakers are measured" on page 4.

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 using the Panaray system digital controller or ControlSpace™ ESP-88.

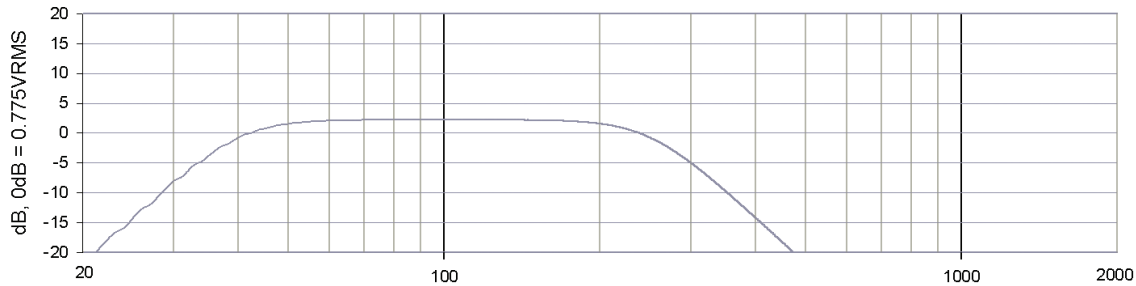
Recommended controller:

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.

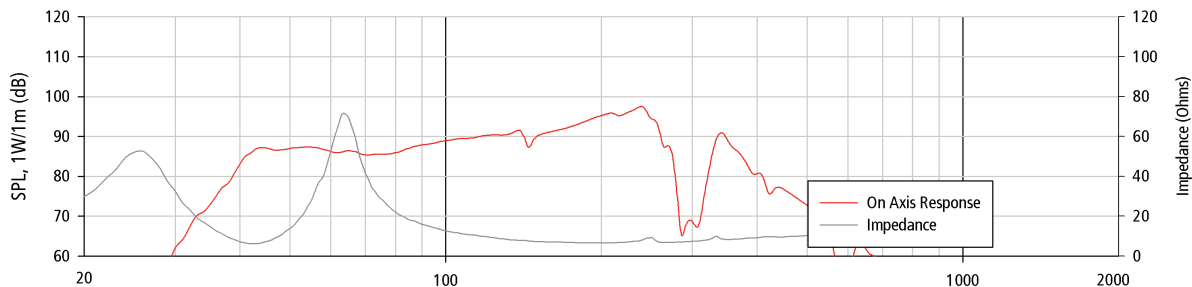
There are five variations.

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

Active Equalization Curve



On-Axis Response – Impedance vs. Frequency



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Driver complement:

One 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 powder-coated, 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:

Rigging hardware for the Panaray® LT MB12 can be purchased from ATM Fly-Ware®. For more information contact ATM Fly-Ware at www.ATMflyware.com.

Dimensions:

25.4"D x 20"W x 14.5"H
(646.2mm x 508mm x 368.3mm)

Shipping weight:

65 lb. (30 kg)

Packaged weight:

74 lb. (34 kg)

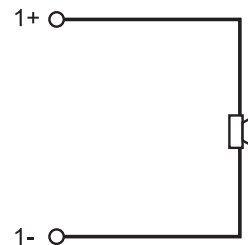
Finish:

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.

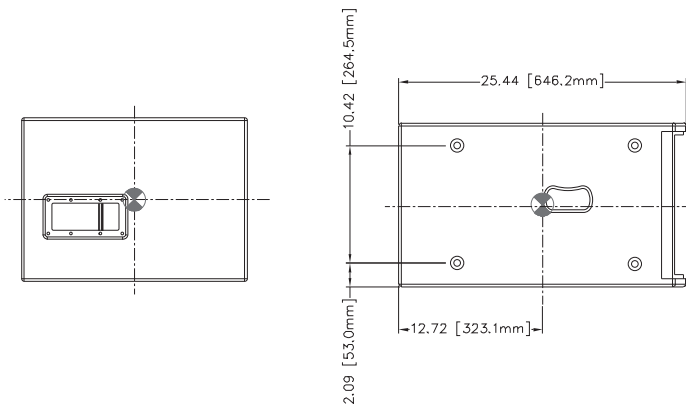
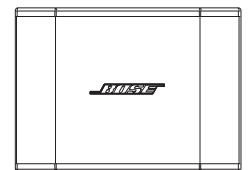
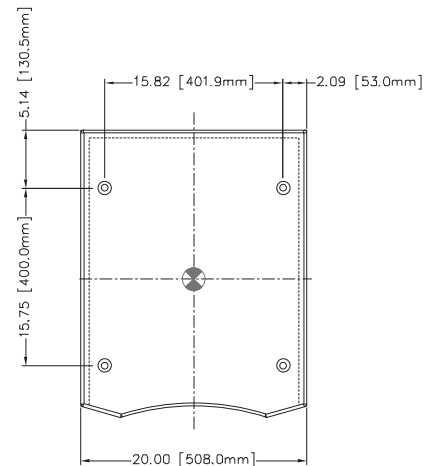
Connectors:

Two Neutrik NL4 connectors wired in parallel.

NL4 Wiring Diagram:



Mechanical Diagram:



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Engineers and Architects Specifications

The low-frequency loudspeaker shall be a single driver, low-frequency system with matched active equalization as follows: The transducer complement shall consist of one low-frequency driver 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 25.4"D x 20"W x 14.5"H (646.2mm x 508mm x 368.3mm). Its weight shall be 65 lb. (30 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 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 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 MB12 and it complies with the standard as 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	038834
MB12	White	038835

Replacement Parts

Grille with screws, tape, logo, fastener and spring	PN 289287
Screws for grille	PN 276847
Logo with tape, fastener and spring	PN 276848
Input panel	PN 278245
Woofers	PN 278248

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.