

Panaray® MA12 Modular Line Array Loudspeaker



BOSE®

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Clear sound. Clear choice.

Where clarity and intelligibility are essential, the Bose® Panaray MA12 Modular Line Array Loudspeaker is a proven performer. This innovative Bose loudspeaker delivers high speech intelligibility and natural sounding music in even the most acoustically demanding spaces – with little or no acoustic treatment. A vertical line array of twelve 2¼-inch drivers provides wide horizontal and narrow vertical pattern control. Bose MA12 speakers reproduce the entire critical vocal range (155Hz-12kHz) with no crossover required. As a result, the MA12 is surprisingly efficient, delivering speech with intelligibility and clarity.



Used alone or stacked in multiples, the MA12 delivers premium sound in an elegantly slim cabinet that practically disappears in most spaces.

Line source behavior: the remedy for reverberation.

The MA12 can be stacked to control throw distance and vertical coverage requirements. A single MA12 will exhibit line array behavior above about 2kHz within a distance of about 40 feet. For throws longer than about 50 feet, two arrays stacked together will exhibit line array characteristics from about 500Hz and up.¹ This modular design allows the MA12 to be used in a variety of applications.

The line array design creates a 3dB drop-off per doubling of distance.² When used in long rectangular rooms, the drop-off can be augmented by beneficial early arriving reflections. The result is consistent sound-pressure levels for listeners in the front and back of the installation.



Full, rich sound for music-intensive applications.

For installations that require additional low-frequency sound, the Panaray MA12 loudspeaker can be combined with the Bose MB4 Modular Bass loudspeaker. Adding an MB4 loudspeaker can deliver low-frequency response down to 40Hz, creating an attractive choice to enhance a foreground music system for demanding live or pre-recorded music applications.

Solving challenges for sound contractors.

The Bose Panaray MA12 Modular Line Array loudspeaker provides an easy, affordable solution for highly reverberant spaces with challenges like these:

- Need for speech intelligibility in a live acoustical environment
- Need for tight vertical high- and mid-band pattern control
- Need to eliminate feedback (even when microphones are positioned very close to loudspeakers)
- Need for an unobtrusive, aesthetically pleasing installation

This line array is a significant addition to the contractor “toolbox,” offering advantages for installations not addressed by other products. The simplicity of the design, requiring no integrated DSP, also reduces the equipment and installation costs.

1. For more details see the Bose Panaray MA12 Modular Line Array: Technical Information and Polar Data paper available in the Product Information section at www.bose.com/pro

2. The decay rate of 3dB per doubling of distance from the sound source is a characteristic of theoretical pure line array. A single Panaray MA12 loudspeaker produces this characteristic from 2kHz and up. A double stack of Panaray MA12 loudspeakers produces this characteristic from 500 Hz and higher.

Quick-scan benefits of the MA12 Modular Line Array Loudspeaker.

Clear, intelligible speech reproduction even in highly reverberant rooms.

Microphone-friendly with outstanding resistance to feedback.

Elegant, exceptionally slim design complements most venues.





System control at the touch of a button.

MA12 loudspeakers are engineered to work with the Panaray® system digital controller – a one-box solution that provides smooth, accurate active equalization. With the touch of just one button you can select equalization for all combinations of MA12 loudspeakers – singles, stacked pairs, or augmented with bass. Four independent output limiters can be set to protect speakers from unpredictable spikes in program material. And the Panaray controller includes four independent channels of delay for distributed systems.



Engineered for demanding public spaces.

An entire division of Bose engineers and researchers is dedicated to developing better speakers and components for professional applications. The MA12 loudspeaker is designed for permanent installation in venues such as churches, auditoriums, airports, presentation rooms, gymnasiums and mall atriums. It is paintable to match any décor, and can be recessed within a surface. The MA12 is backed by a transferable five-year limited warranty.



More cost-effective than most comparable solutions.

Even front-to-rear coverage provides consistent sound-pressure levels for listeners in the front and back.

Densely packed 2¼" drivers deliver higher acoustic output than most conventional line array speakers.

Smooth reproduction for speech or vocals.

Installer-friendly – easy to carry, hang, stack and service.

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Better sound through research®

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Specifications

Dimensions:

5.1" D x 4.2"W x 38.7"H (13 cm x 10.7 cm x 98.4 cm)

Weight:

20 lb. (9 kg)

Driver complement:

Twelve 2¼" drivers per speaker

Maximum acoustic output:¹

113dB-SPL @ 1m

Impedance:

8Ω nominal

Long-term power handling:

300W continuous

Sensitivity:

88dB-SPL @ 1W, 1m

Frequency range:

155Hz to 12kHz (-3dB)

100Hz to 16kHz (-10dB)

Horizontal coverage:

160° (-6dB average, 1-4 kHz)

Cabinet:

Aluminum extrusion

Connectors:

Neutrik® NL-4 Speakon connectors and barrier strip

Color choice:

Black or White

Accessories

Bose® Panaray system digital controller

featuring "one-touch" equalization, 4 independent programmable delays, limiters and signal routing.

MA12 EQ card provides active equalization when used with Bose 1600-VI and 1800-VI and M2150 amplifiers.

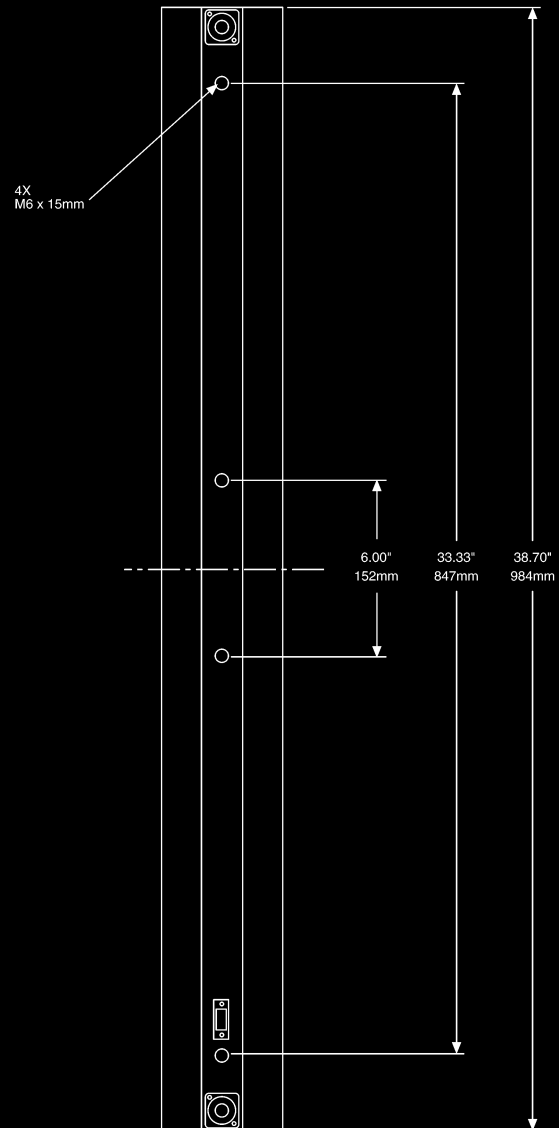
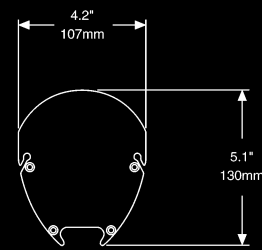
WB-MA12 wall mount bracket for installation on vertical surfaces.

WBP-MA12 wall mount bi-pivot bracket for installation on vertical surfaces.

PSA-12 stand adapter for use when placing MA12 on the SS-10 portable stand.

CB-MA12 coupling bracket for connection of two MA12 loudspeakers when stacking is required.

CVT-12 transformer for use in 70/100V systems.



1. A single MA12 produces cylindrical waves above 2kHz. Please be careful extrapolating SPLs at greater distances as a true cylindrical source falls off at 3dB per doubling of distance, and a conventional spherical source falls off at 6dB per doubling of distance (inverse square law).

For more information

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or contact

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Product specifications subject to change without notice.