

Panaray MA12EX

modular columnar array loudspeaker

Product Overview

The Panaray MA12EX is a full-range modular line array loudspeaker designed to provide outstanding vocal intelligibility in acoustically demanding spaces. The slim column enclosure blends with almost any décor. The “EX” version adds an Articulated Array design to provide wider 160° horizontal coverage and weather-resistant components to allow outdoor applications.

Key Features

Twelve 2 ¼-in (64 mm) full-range drivers mounted in a vertical line array deliver wide horizontal coverage with narrow vertical pattern control

Modular design allows stacking of multiple enclosures in a line array configuration to provide increased vertical pattern control which improves “throw” distance and reduces unwanted floor/ceiling reflections

Articulated Array design provides wide 160° horizontal coverage with 20° nominal vertical coverage for a single module. Actual vertical coverage varies with number of modules in line array configuration.

Frequency range down to 58 Hz allows full-range speech and light music reinforcement without separate low-frequency loudspeakers. For extended bass and higher output levels, use with Bose Professional MB4, MB12, or MB24 modular bass loudspeakers.

Optional brackets allow easy installation of single-, double- or triple-stack line array modules



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Technical Specifications

| SYSTEM PERFORMANCE | |
|---|---|
| Frequency Response (± 3 dB) ¹ | 75 Hz – 13 kHz |
| Frequency Range (-10 dB) ¹ | 58 Hz – 16 kHz |
| Nominal Dispersion ² | 160° H × 20° V |
| Recommended High-Pass Filter | 65 Hz |
| Loudspeaker EQ | Required |
| Overload Protection | PTC / Lamp |
| Long-Term Power Handling ^{3,4} | 150 W (600 W peak) |
| Sensitivity (SPL / 1 W @ 1 m) ⁵ | 87 dB-SPL |
| Maximum SPL @ 1 m ⁶ | 112 dB-SPL (118 dB-SPL peak) |
| Nominal Impedance | 8 Ω |
| Transformer Taps (70/100 V) | CVT-MA12EX transformer available |
| TRANSDUCERS | |
| Driver Complement | Twelve (12) 2¼-in (57 mm) high-excursion, weather-resistant drivers |
| PHYSICAL | |
| Enclosure | Extruded-aluminum sidewalls with zinc-plated steel top and bottom endcaps, all powder-coated |
| Grille | Powder-coated aluminum grille |
| Environmental | Outdoor per IEC 529 IPX5 |
| Connectors | Two (2) parallel-wired NL4 Neutrik® Speakon® connectors Two (2) two-conductor barrier strips |
| Suspension/Mounting | Six (6) × M6 threaded inserts (back) |
| Dimensions (H × W × D) | 985 mm × 104 mm × 139 mm (38.8 in × 4.1 in × 5.5 in) |
| Net Weight | 9.4 kg (21.0 lb) |
| Shipping Weight | 10.4 kg (23.0 lb) |
| PRODUCT CODES | |
| Black | 317302-0100 |
| White | 317302-0200 |

Footnotes

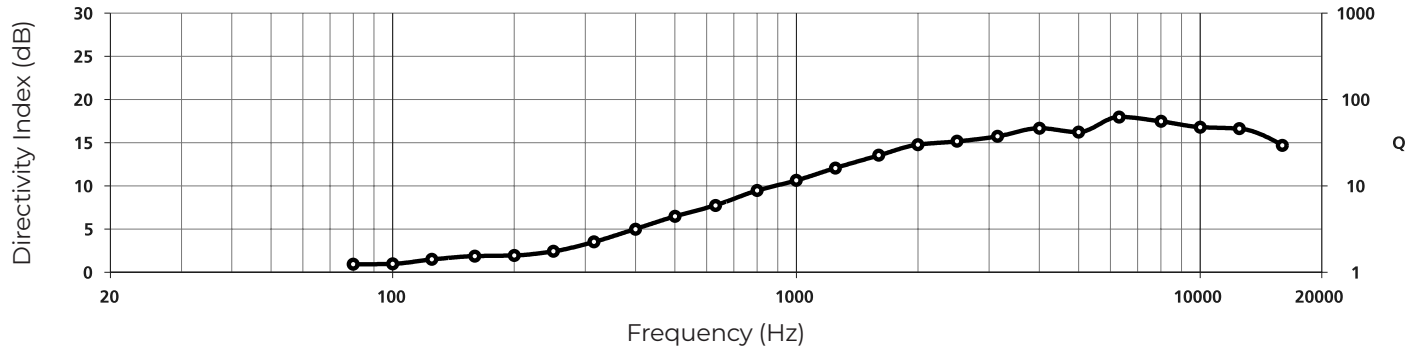
1. Frequency response and range measured on-axis with recommended active EQ in an anechoic environment.
2. Vertical coverage varies by number of modules vertically arrayed and distance from line-source boundary. Use Bose Professional Modeler software for the best prediction.
3. Power handling tested using pink noise filtered to meet IEC 268-5, 6 dB crest factor, 100 hours, with recommended EQ.
4. Power handling: 150 W for full-range music and speech applications. Speech-only applications (155 Hz to 12 kHz), power handling (continuous) at 300 W / 1200 W.
5. Sensitivity measured in free field (no boundary-loading gain) with recommended active EQ, referenced to 1 W/1 m.
6. Maximum SPL calculated from sensitivity and power handling specifications exclusive of power compression.

For additional specifications and application information, please visit [BoseProfessional.com](https://www.boseprofessional.com). Specifications subject to change without notice. 06/2023

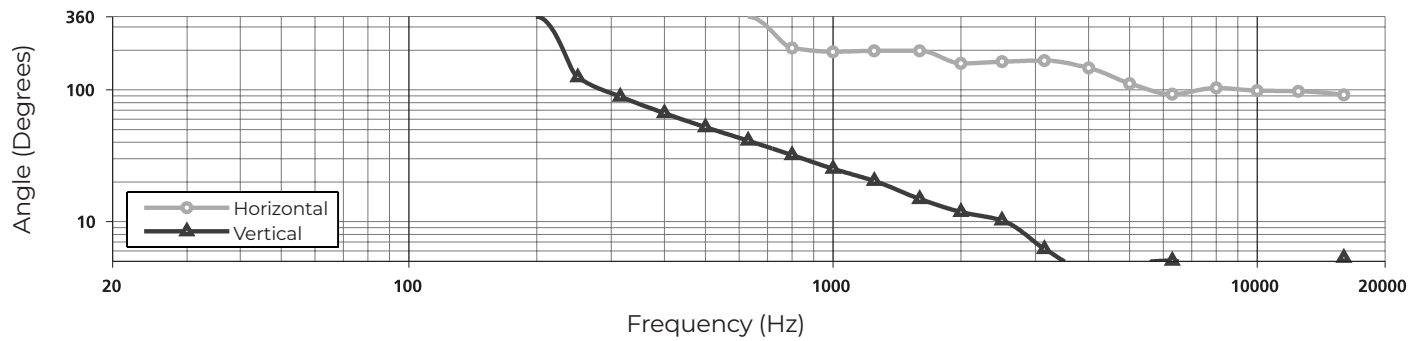
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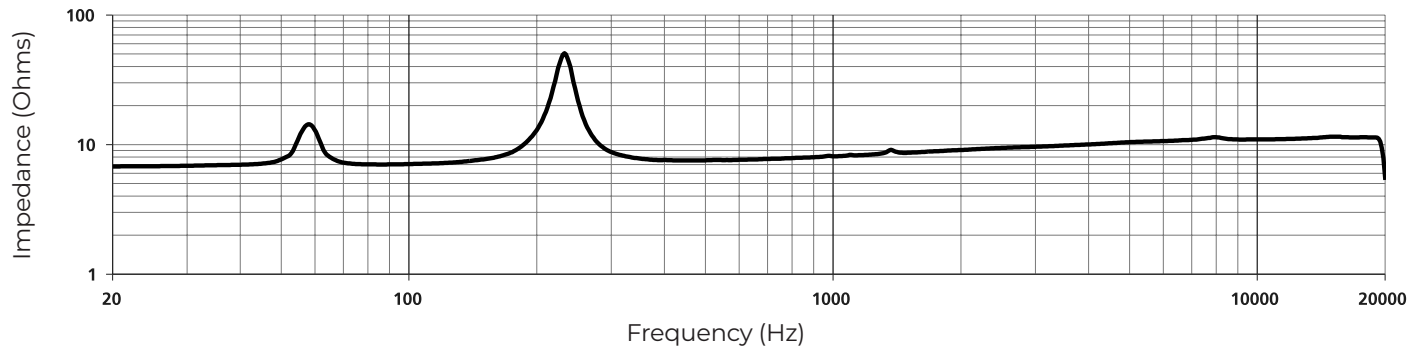
Directivity Index & Q



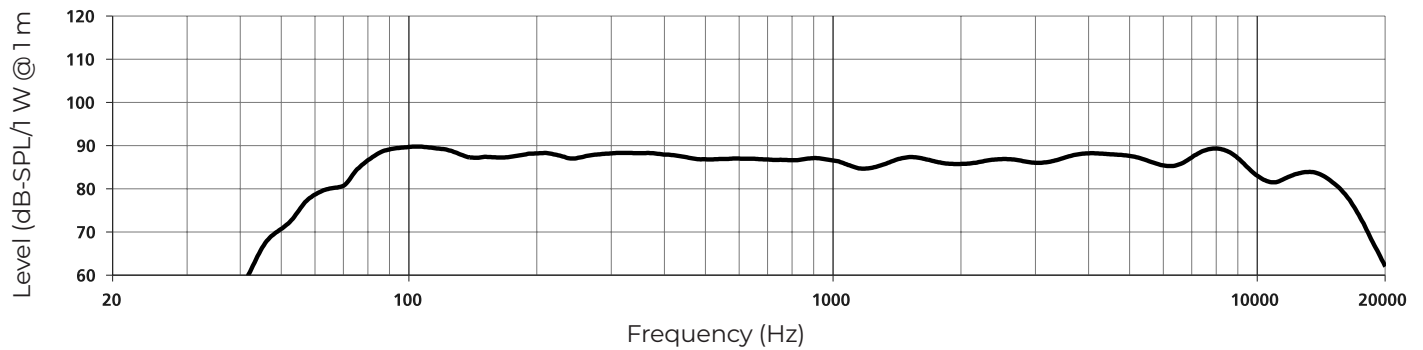
Beamwidth



Impedance



On-axis Response

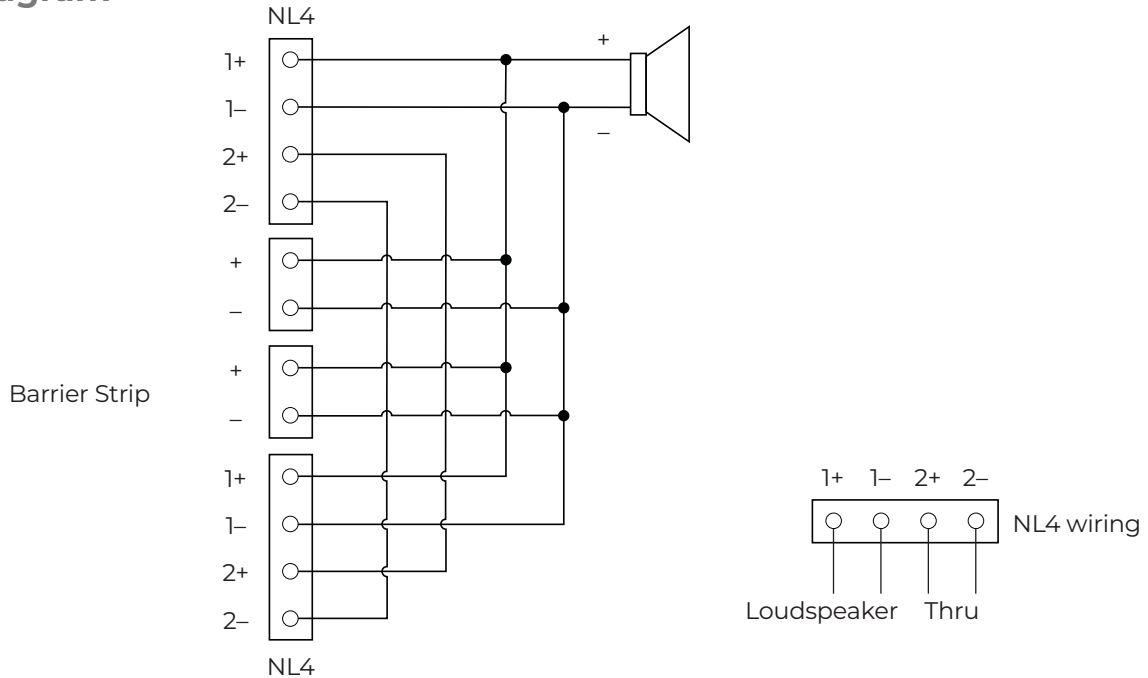


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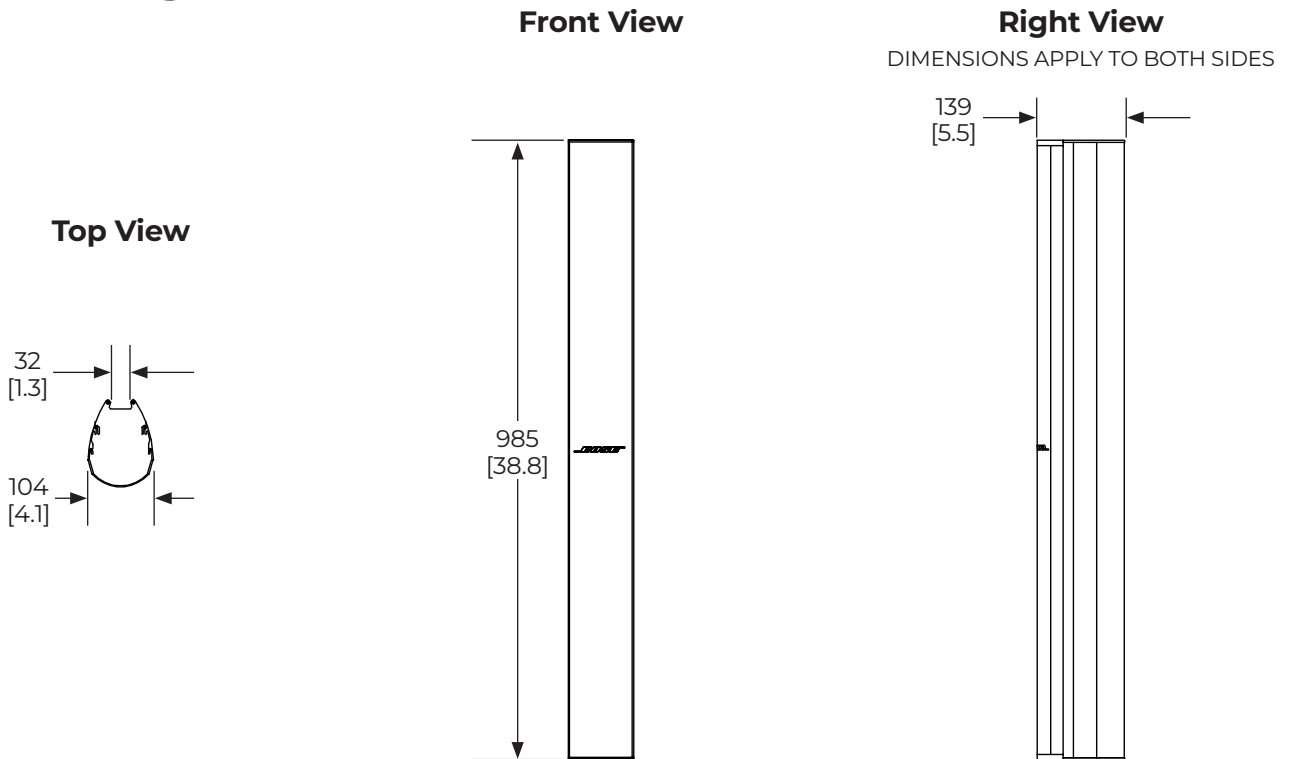
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Wiring Diagram



Mechanical Diagrams¹

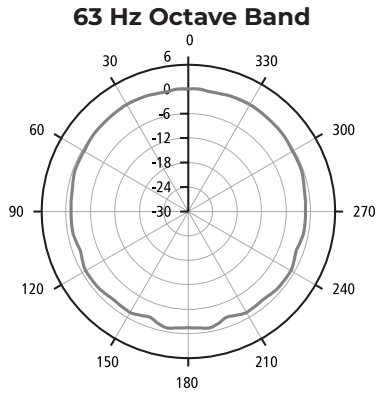


1. DIMENSIONS ARE SHOWN IN MILLIMETERS OVER INCHES.

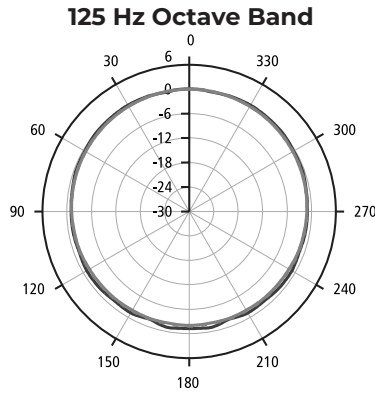
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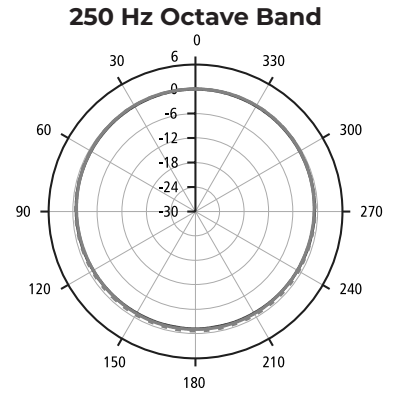
Horizontal Plots



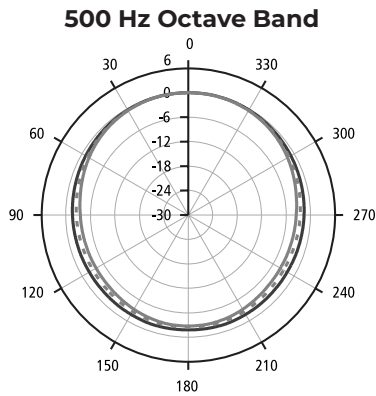
80 Hz



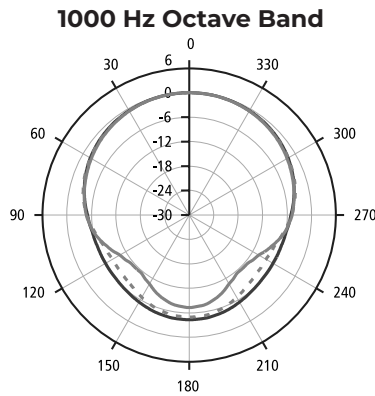
100 Hz
125 Hz
160 Hz



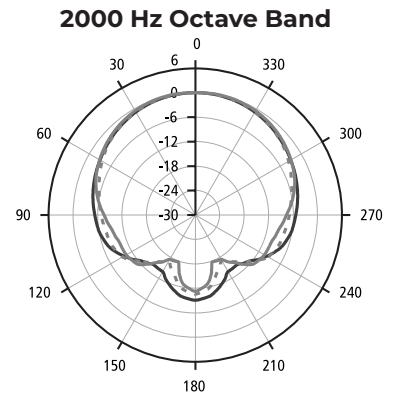
200 Hz
250 Hz
315 Hz



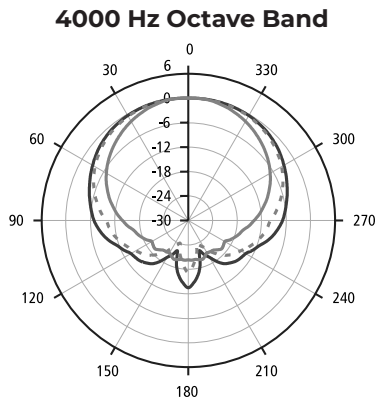
400 Hz
500 Hz
630 Hz



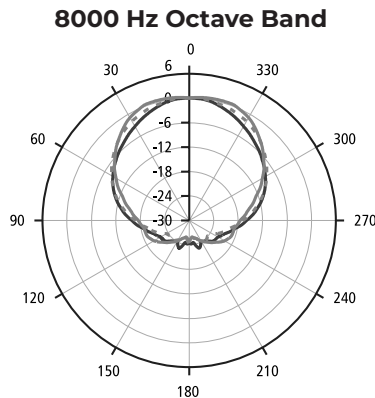
800 Hz
1000 Hz
1250 Hz



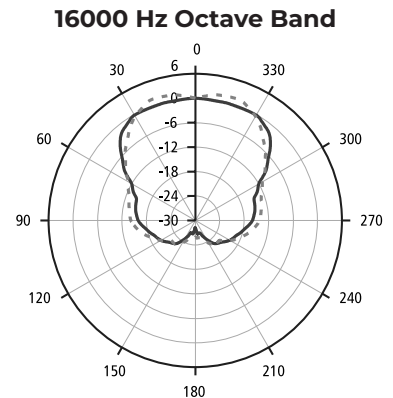
1600 Hz
2000 Hz
2500 Hz



3150 Hz
4000 Hz
5000 Hz



6300 Hz
8000 Hz
10000 Hz

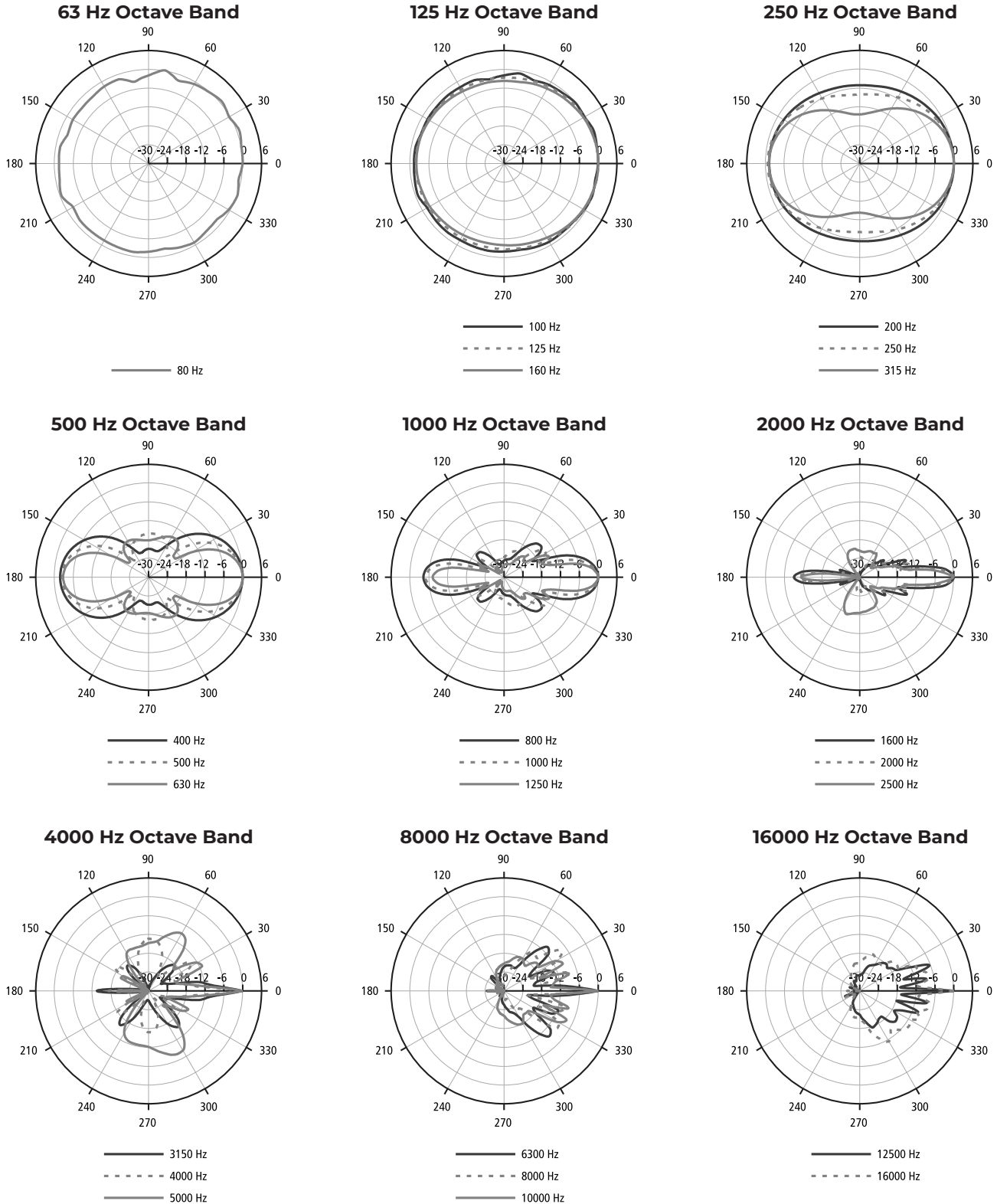


12500 Hz
16000 Hz

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Vertical Plots



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Architects' & Engineers' Specifications

The loudspeaker shall be a multiple-driver, full-range system with matched active equalization as follows.

The transducer complement shall consist of twelve (12) 2¼-in (57 mm) high-excursion, weather-resistant drivers mounted in an Articulated Array loudspeaker design. Each driver shall have a rated impedance of 5 ohms and wired in series/parallel, resulting in a composite nominal impedance of 8 ohms.

The nominal horizontal beamwidth of the loudspeaker shall be 160 degrees, and the vertical coverage is a band of constant height. The power handling capacity of the loudspeaker shall be 150 watts continuous pink noise, band-limited from 75 Hz to 13 kHz (± 3 dB).

The loudspeaker shall be provided with a ducted vent system, tuned at 75 Hz. The input connector of the loudspeaker module shall consist of two parallel-wired NL4 Neutrik® Speakon® connectors and two (2) two-conductor barrier strips.

The enclosure of the MA12EX loudspeaker module shall be extruded-aluminum sidewalls with zinc-plated steel top and bottom endcaps, all powder-coated. Its outer dimensions shall be 985 mm \times 104 mm \times 139 mm (38.8 in \times 4.1 in \times 5.5 in). Its weight shall be 9.4 kg (21.0 lb).

The loudspeaker shall be the Panaray MA12EX modular line array loudspeaker.