



Product Overview

The BOSE® PANARAY® 310M multi-position floor array is a high-performance compact solution that delivers multiple coverage options for a variety of professional and commercial applications. Its unobtrusive design and recessed NL4 connectors allow for easy cable concealment, which reduces clutter on stage. The frequency response and controlled coverage of the PANARAY® 310M multi-position floor array allows it to be used with many types of sources and applications.

An innovative combination of cabinet shape and unique Bose technology allows this model to be used in almost any type of floor-monitoring application. These include individual mixes, orchestra pits, group mixes for stage performances, choirs and almost any other application where common performers require a reference point.*

Product Information

Each PANARAY® 310M multi-position floor array is a full-range device that includes three 2.25" (57mm) mid-high frequency drivers in a proprietary Articulated Array loudspeaker design, combined with a single 5.25" (133mm) woofer. The benefit of this technology is smooth, even coverage throughout the listening area.

Sleek and compact, the PANARAY® 310M multiposition floor array provides high SPL with a maximum continuous SPL of 111 dB (117 dB peak) and wide bandwidth (70 Hz – 16 kHz). This allows the floor array to be used in a variety of different applications, from voice only to full range on both small and large stages.

The PANARAY® 310M multi-position floor array utilizes an internal passive crossover network, which does not require active equalization.

The PANARAY® 310M multi-position floor array is made out of molded polyethylene and includes a powder-coated steel grille. The result is a cabinet that is both lightweight and durable.

*See page 2 for coverage illustrations.

Key Features

- Proprietary Articulated Array loudspeaker design provides smooth response and even coverage
- Three-in-one cabinet design covers multiple floor-monitor applications
- Wide bandwidth with extension to 70 Hz
- Compact design with integrated handles
- Recessed rear NL4 connectors
- Lightweight, only 14lb (6kg)
- Rear bumper prevents unwanted movement
- Durable molded polyethylene cabinet with a steel grille
- Black

Applications

The PANARAY® 310M multi-position floor array is well-suited for professional installations such as:

- Houses of worship
- Auditoriums
- Performing arts
- Municipal multifacilities purpose spaces

And small- to medium-sized stage applications such as:

- School performances
- Orchestra pits

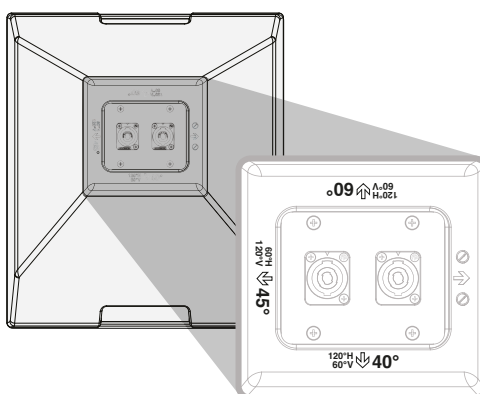
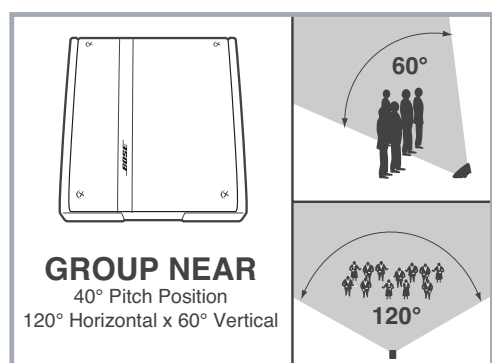
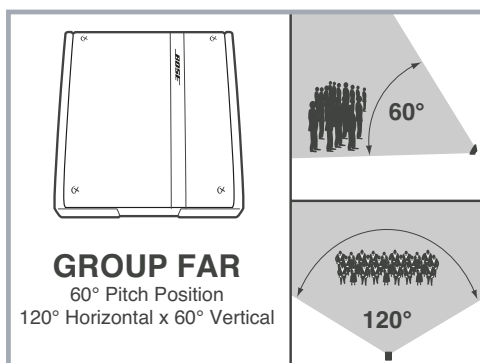
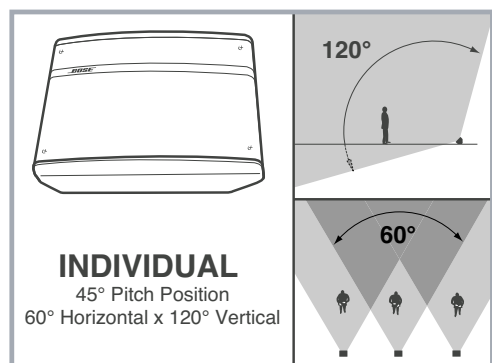
Detailed Product Specifications

Power handling ¹	100W
Impedance	8 Ω
Sensitivity ² (at 1 W @ 1 m)	91 dB-SPL
Maximum SPL ³ (pink noise @ 1 m @ rated power)	111 dB-SPL 117 dB-SPL (Peak)
Internal Crossover	250 Hz
Frequency Range ⁴ (± 3 dB)	70 Hz – 16 kHz
Beamwidth	
45° position (individual mix)	Horizontal: 60°; Vertical: 120°
60° position (group mix – deep stage)	Horizontal: 120°; Vertical: 60°
40° position (group mix – shallow stage)	Horizontal: 120°; Vertical: 60°

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

PANARAY® 310M Multi-Position Floor Array Coverage Options

An innovative combination of cabinet shape and unique BOSE® technology allows each model to be used in almost any type of floor-monitoring application.



The three coverage options are clearly indicated on the rear of the PANARAY® 310M multi-position floor array.

Driver complement:

One 5.25" (133mm) driver
 Three 2.25" (57mm) drivers

Construction features:

Each loudspeaker is made of molded textured polyethylene material with a powder-coated steel grille.

Color:

Black

Dimensions:

8.3"D x 12.5"W x 14.2"H
 (211mm x 318mm x 361mm)

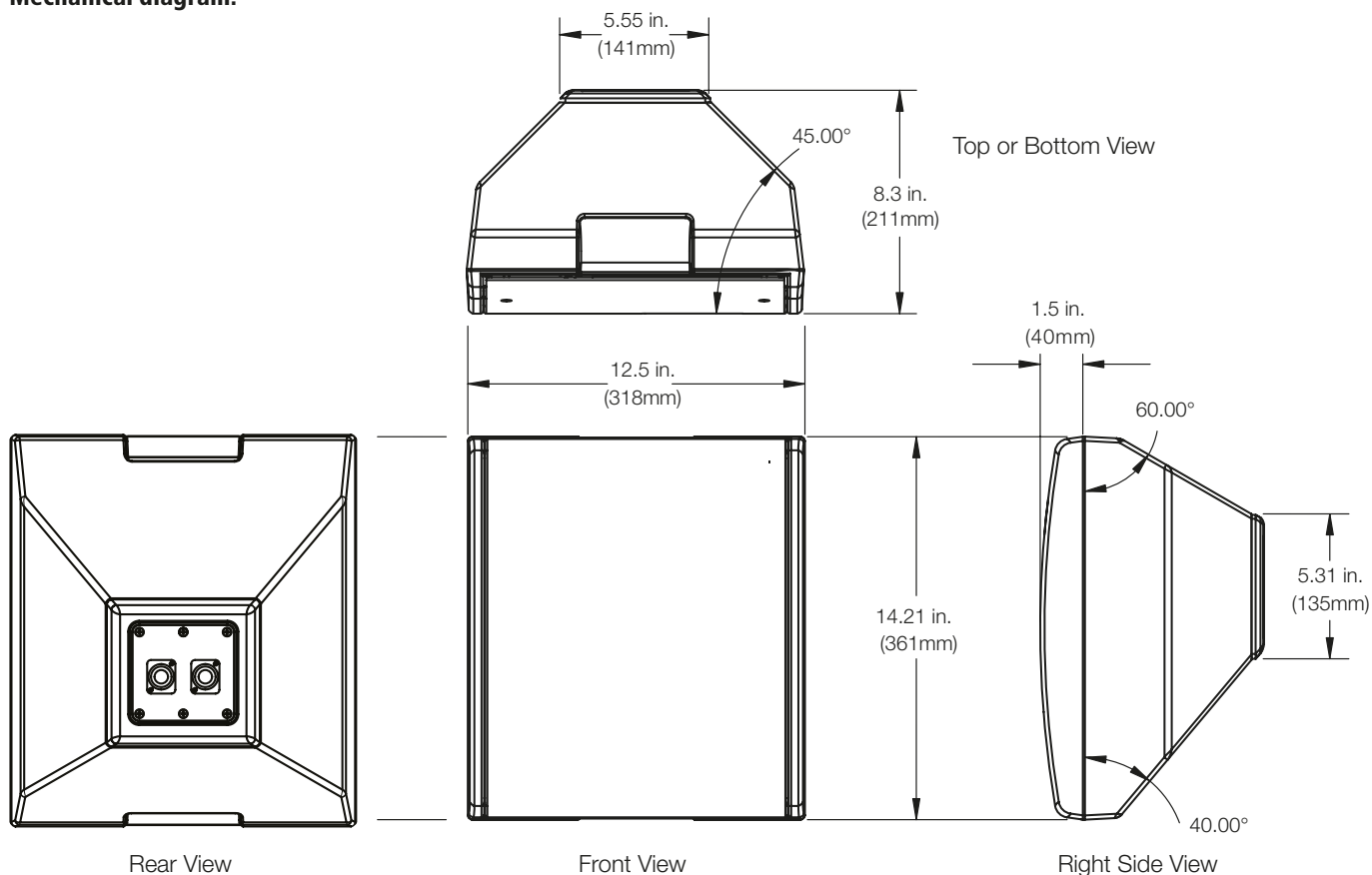
Weight:

Product: 14lb (6kg)
 Shipping: 20lb (9kg)

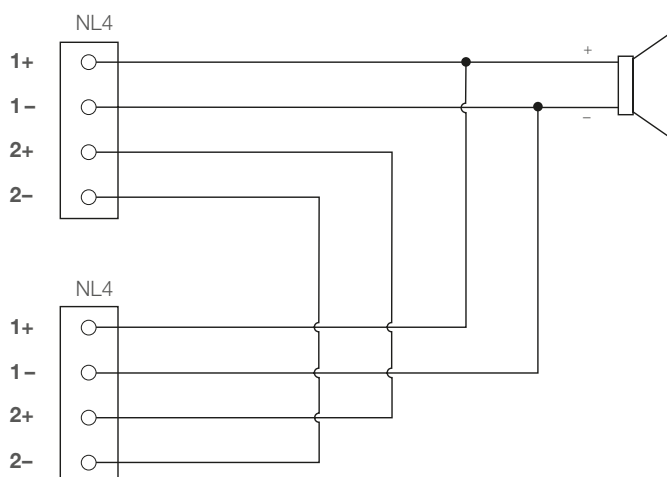
Connectors:

Two Neutrik® NL4 connectors wired in parallel

Mechanical diagram:



NL4 wiring diagram:



Engineers' and Architects' Specifications

The loudspeaker shall be a multiple-driver, fullrange loudspeaker. The transducer complement shall consist of two low-frequency drivers of 5.25" (133mm) diameter, mounted symmetrically in pairs, with six 2.25" (57mm) drivers in an Articulated Array loudspeaker design. The loudspeaker shall have a cabinet shape to enable the floor array to be used in three different floor positions.

The loudspeaker shall have a rated nominal impedance of 8 ohms. The loudspeaker system sensitivity shall be 90 dB-SPL in the 70 Hz – 16 kHz frequency range, with measurements referenced to 1 watt (2.85V) pink noise input at 1 meter. The dispersion shall be 40°H by 120°V in the individual position, 120°H by 40°V in the group-near position and 120°H by 40°V in the group-far position. The power-handling capacity of the loudspeaker shall be 200W IEC band-limited, from 70 Hz – 16 kHz.

The input connectors of the loudspeaker shall consist of two parallel Speakon® NL4 receptacles. The enclosure of the loudspeaker shall be composed of linear, low-density polyethylene. Its outer dimensions shall be 10.5"D x 12.5"W x 20.5"H (266mm x 318mm x 522mm). Its weight shall be 22lb (10kg). The loudspeaker is packaged one per carton.

The loudspeaker shall be the PANARAY® 320M multi-position floor array.

Technical Literature

The PANARAY® 320M multi-position floor array Installation Guide is available at pro.bose.com.

Safety and Regulatory Compliance

The PANARAY® 320M multi-position floor array complies with ANSI/EIA 636, Loudspeaker Safety EMC Directive 89/336/Article 10 (1) of the compliance with EN50081-50082-1, as signified by the CE mark.

Limited Warranty

The PANARAY® 320M multi-position floor array is covered by a five-year transferable limited warranty.

Product Codes

PANARAY® 320M multi-position floor array-Blk PC 039917

Replacement Parts

Grille kit-Blk PN 293305-001

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 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 ground plane in an anechoic environment.

3. Maximum SPL

Full-bandwidth pink noise is applied to the loudspeaker 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 ground plane in an anechoic environment.

4. Frequency range

Sine waves are injected into the loudspeaker, and the level is adjusted to 1 watt, as referenced to the nominal impedance, and the level measured at 1 meter. Resulting graph is smoothed by 0.05 octave-band.