

BOSE®

PANARAY® 402® Series II Loudspeaker

General Description

The Bose® 402 Series II loudspeaker is a 120-watt speaker designed for permanent installations and portable use indoors and outdoors. As a new addition to the Bose line of *Installed AnyWhere™* loudspeakers, it meets our strict standards for outdoor use.

The 402 Series II loudspeaker offers the following features:

- Voice and music reproduction over a broad dispersion area
- A rugged, portable enclosure with metal grille
- Slim, aesthetic styling in black or white
- Weather-resistant design to ensure reliable performance indoors and outdoors
- A full complement of brackets and stands available for a variety of product uses

Each 402 Series II loudspeaker uses four (4) 11.34 cm full-range drivers mounted in symmetric vertical pairs on a faceted Articulated Array® loudspeaker baffle assembly. The drivers feature low-impedance, edge-wound Ferrite V ceramic magnets, and molded polyester frames. Their advanced cone and motor system gives them high linear excursion capability and power output. Environmental durability is built into soft parts – cone, surround and spider – and coated onto the hard parts of the driver. These materials optimize the weather resistance of the loudspeaker when it is installed outdoors.

402 Series II loudspeakers are used in combination with the PANARAY® system digital controller or the Bose 1600 or 1800 amplifiers. The amplifiers work in combination with the 402 plug-in EQ card to provide active equalization for the system.

The PANARAY system digital controller assures smooth, accurate spectral

Technical Information

Frequency Range

90Hz to 16kHz ± 3 dB

Sensitivity¹

91dB-SPL @ 1W, 1m (pink noise)

Maximum Acoustic Output²

111dB-SPL @ 1m (pink noise)

115dB-SPL @ 1m (IEC³ noise)

Dispersion (-6dB point, average, 1-4kHz)

Horizontal 120°

Vertical 60°

Long-Term Power Handling⁴

120W continuous

Impedance

8 Ω nominal

Mechanical Specifications

Dimensions: 23.25"H x 8.1"W x 7.25"D (59 cm H x 21 cm W x 18 cm D)

Weight: 15 lb (7 kg)

Available colors: black or white

Connectors: Two (2) parallel-wired NL4 connectors

Enclosure construction: Mica-reinforced polyethylene copolymer structural foam

Installation

Installation and use instructions are included with the loudspeaker.

The 402 Series II loudspeakers are designed to be wall or ceiling mounted, or mounted on stands for portable use. The following versatile accessories are available from Bose:

- WBP4 402 Wall Mount Bracket (0-45° pitch, $\pm 60^\circ$ yaw in vertical orientation; $\pm 28^\circ$ in horizontal orientation), black or white
- SB4 402 Speaker Single Fly Bracket (0-45° pitch), black or white
- SS10 Speaker Stand with Mounting Adapter and Carry Bag, black
- TK-402 Speaker Transit Kit, black

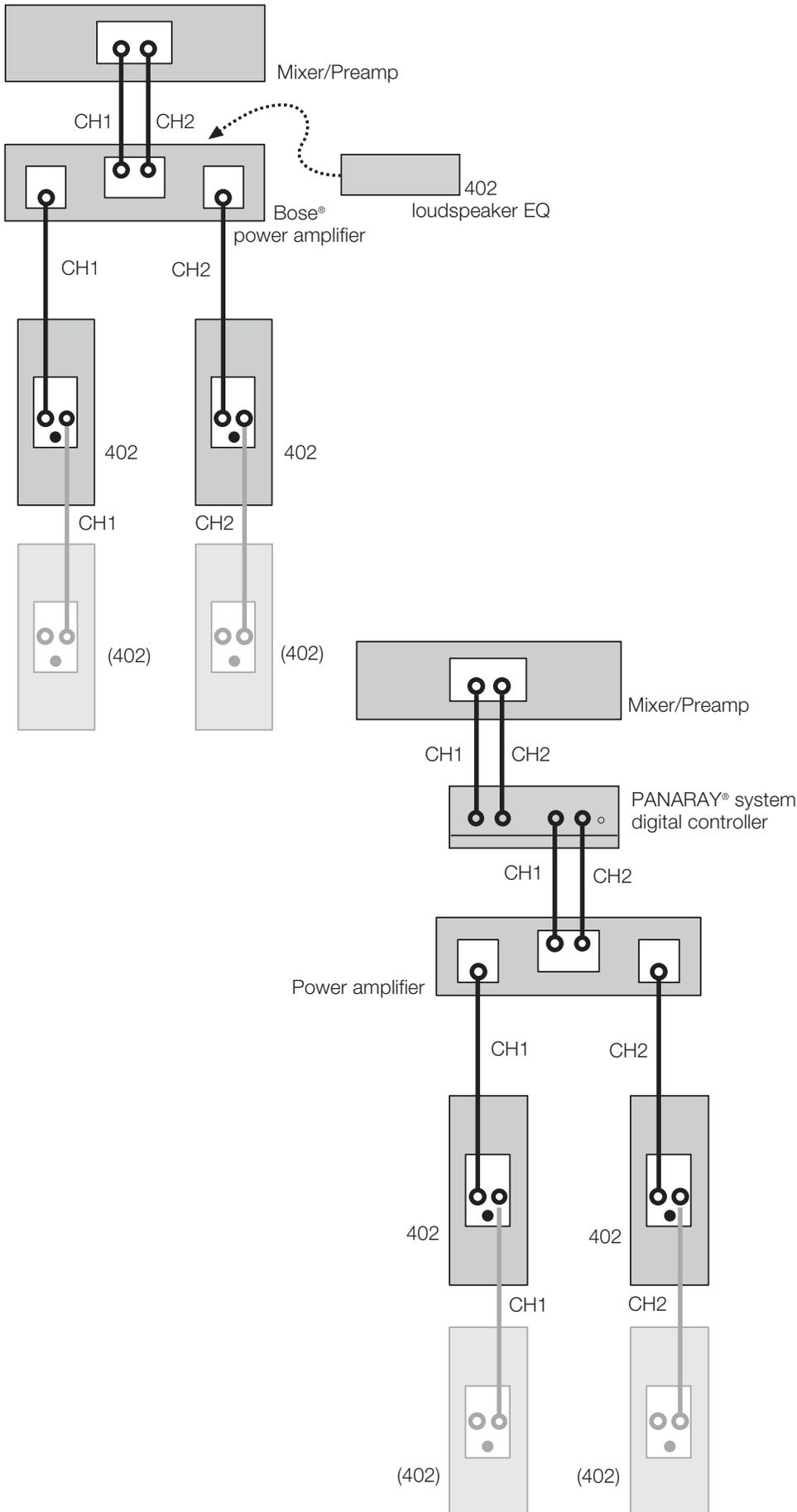
¹Full bandwidth pink noise is applied to the 402-II speaker and amplified to a level at the loudspeaker terminals corresponding to 1 watt as referenced to the nominal impedance. The average sound pressure level (dB-SPL) is measured at 1 meter from the speaker in an anechoic environment.

²Full bandwidth pink noise is applied to the 402-II speaker 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.

³Full bandwidth pink noise, meeting International Electrotechnical Commission (IEC) Standard #268-5, with a spectrum corresponding to average program material.

⁴Full bandwidth noise, meeting the IEC Standard #268-5 is applied to the 402-II speaker 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.

System Configurations



response across the operating range of the 402[®] Series II loudspeaker. Using a controller or EQ card also allows for crossover of the 402 Series II loudspeaker with a Bose[®] bass loudspeaker.

Loudspeaker Configuration

The 402 Series II loudspeaker can be used with the Bose 1600 and 1800 amplifiers. It is also compatible with industry standard amplifiers rated for 4-8 Ω loads.

The 402 speaker is packaged one per carton.

Engineers' and Architects' Specifications

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

The transducer complement shall consist of four (4) full-range environmental drivers of 11.4 cm diameter, mounted vertically in a faceted baffle. Each driver shall have a rated impedance of 1.6 Ω and shall be wired in series, resulting in a composite speaker assembly nominal impedance of 8 Ω .

The loudspeaker system sensitivity shall be 99dB-SPL in the 300Hz to 3kHz range and 91dB-SPL in the 90Hz to 16kHz range with both measurements referenced to a 1 watt (2.83V) pink noise input at 1 meter. The nominal horizontal beamwidth shall be 120 degrees, and the nominal vertical beamwidth shall be 60 degrees. The power handling capacity of the loudspeaker shall be 120 watts continuous pink noise, band-limited from 90Hz to 16kHz.

The loudspeaker shall be provided with a ducted vent system, tuned at 95Hz. The input connectors of the 402 Series II loudspeaker shall consist of two parallel Speakon[®] NL4 receptacles.

The enclosure of the 402 Series II loudspeaker shall be composed of mica-reinforced polyethylene copolymer structural foam. Its outer dimensions shall be 23.25"H x 8.1"W x 7.25"D (59 cm H x 21 cm W x 18 cm D); its weight shall be 15 lb (7 kg).

The loudspeaker shall be the Bose 402 Series II loudspeaker system.

The loudspeaker system shall be used with a PANARAY® system digital controller, to be connected before the input(s) of the system power amplifier(s), or with a 402® loudspeaker EQ card, to be installed in a Bose® 1600 or 1800 amplifier.

The electronic controller shall be the Bose PANARAY system digital controller

Safety and Regulatory Compliance

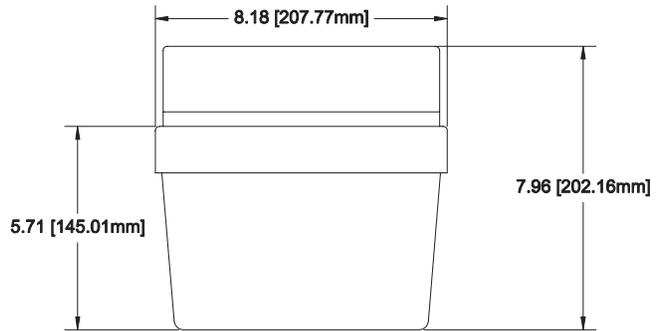
All versions of the Bose 402 Series II loudspeakers comply with ANSI/EIA 636, *Recommended Loudspeaker Safety Practices* and EMC Directive 89/336/EEC and Article 10 (1) of the Directive in compliance with EN50081-1, EN50082-1, as signified by the CE mark.

Warranty Information

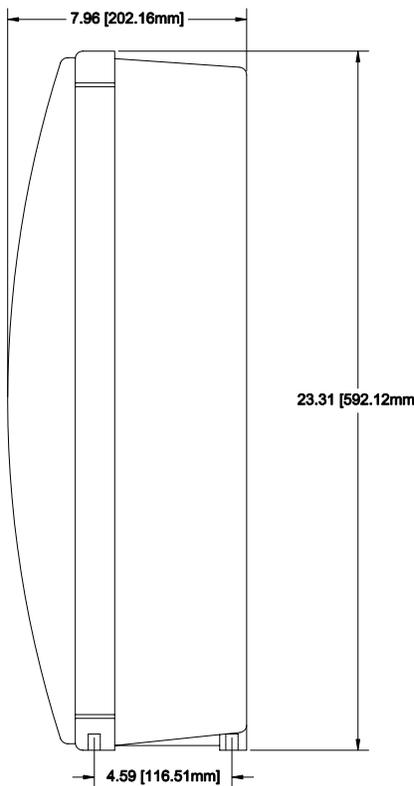
All versions of the Bose 402 Series II loudspeaker are covered by a 5-year, transferable limited warranty.

402® Series II Speaker Views

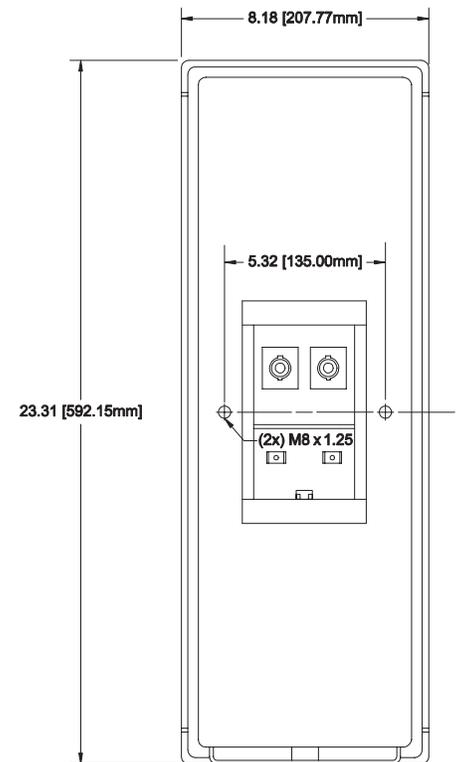
Top View



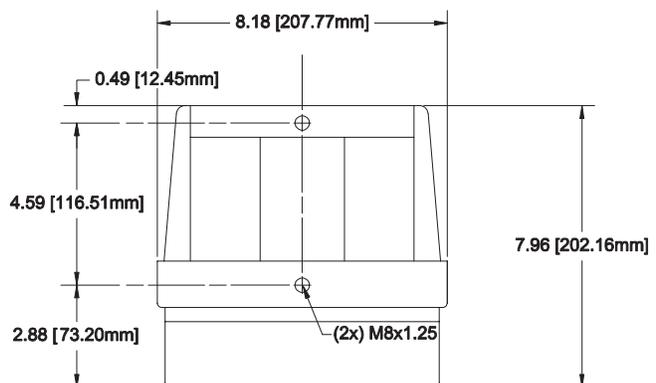
Side View



Rear View



Bottom View



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Better sound through research[®]

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