

BOSE®

Bose® 802® Series II Loudspeaker

General Description

The Bose 802 Series II sound components provide a fully modular system designed for high quality reinforcement of voice and music.

Bose 802 Series II loudspeakers work with the 802C Series II systems controller for active equalization of the system. The 802 Series II loudspeaker is preferred for applications requiring a rugged, portable enclosure, but can be used in permanent indoor sound system installations.

The 802C Series II systems controller assures smooth, accurate spectral response across the entire operating range of the 802 Series II loudspeaker. Sharp subsonic and ultrasonic band-limiting filters reduce power waste, stage noise, high-frequency instability, and interference. The systems controller also provides two independent signal channels.

Component Description

Each 802 Series II loudspeaker uses eight 4½" full-range drivers mounted in symmetric vertical pairs on a faceted Articulated Array® baffle assembly. The drivers feature low-impedance, edge-wound aluminum voice coils, 12-ounce Ferrite V ceramic magnets, and molded polyester frames. Their advanced cone and motor system give them high linear excursion capability and power output.

Tuned reactive air columns reduce distortion by controlling the cone excursion required to reproduce deep bass frequencies. A built-in directivity control circuit maintains the vertical dispersion pattern through the high-frequency range. It also protects the drivers from high-frequency overload.

The 802C Series II systems controller is a single-rack sized device. It is capable of providing crossover functions, active electronic equalization, and dual channel signal processing for both the 802 Series II loudspeakers and the 502®B or 502BP Acoustimass® enclosure. It features -10/+4dB-V input sensitivity switches, all-balanced inputs and outputs, -18/+3dB bass level control, and a bass mono sum switch. It also provides automatic output muting on turn-off, and a secure rear-panel operating mode switch.



- **Modular components for system design flexibility**
- **High linear excursion and power output**
- **Electronic systems controller**

Technical Information

Frequency range
55Hz – 16kHz

Active equalization
(with 802C Series II systems controller)
Required

Nominal impedance
8Ω

Maximum acoustic output
114dB-SPL average, 123dB-SPL peak

Power handling capacity
240W continuous pink noise, 55Hz – 16kHz

Recommended amplifier power
240W minimum, 480W maximum

Sensitivity
Full-range, 91dB-SPL (1W, 1m)

Horizontal beamwidth
120°

Vertical beamwidth
100°

Enclosure construction
Mica-reinforced polyethylene copolymer
structural foam

Fusing
Built-in 4-ampere quick-acting fuse
(replaceable)

Insert locations
Four M8 (8 mm)

Connectors
Two (2) parallel-wired ¼" (6.3 mm) phone
jacks and two (2) parallel-wired male XLR
connectors

Dimensions
13" (H) x 20½" (W) x 12½" (D)
(33 x 52 x 32 cm)

Weight
31 lb (14 kg)

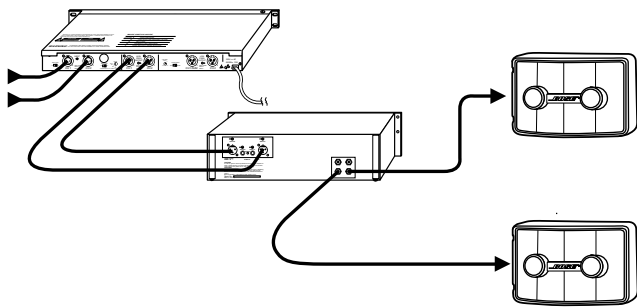


Figure 1

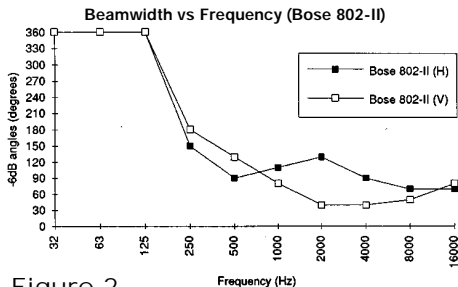


Figure 2

For information on the 502^B and 502BP Acoustimass[®] enclosure, refer to the technical data sheet for those products.

An optional plug-in card is available for the 802^C Series II systems controller. This allows the 802 Series II sound system to include the Bose[®] Acoustic Wave[®] Cannon[™] System Series II loudspeaker.

For information on the Acoustic Wave[®] Cannon System II loudspeaker, refer to the technical data sheet for that product.

System Configurations

The Bose 802 Series II system provides a flexible, building-block approach to meet the sound reinforcement requirements in many applications.

Figure 1 shows a basic 802 system configuration. It consists of two 802 Series II loudspeakers and one 802C Series II systems controller. This system provides 117dB-SPL @ 1 m average acoustic output.

Figure 2 provides a graph of the basic system's vertical and horizontal beamwidth.

Figure 3a and **b** show the front and back of the 802C Series II systems controller.



Figure 3a



Figure 3b

Systems Controller Technical Information

Audio channels
Two

Operating modes

Full-range, bi-amp, option (w/option card)

Rear panel connectors

Balanced in-out x 2 (XLR)

Balanced high-frequency output x 2 (XLR)

Balanced low-frequency output x 2 (XLR)

Crossover

140Hz with 502B bass enclosure

125Hz with OC-1 option card

Rear panel controls

Mode switch

Input sensitivity switch x 2 (-10dB-V, +4dB-V)

Bass level control (range -18dB, +3dB)

Bass mono switch (norm/sum)

Electrical specifications

Channel separation: >60dB @ 1kHz

Input impedance: 2.4k Ω nominal

Output impedance: 600 Ω nominal

Output level: 8.0V RMS max. into 600 Ω

Mechanical specifications

Dimensions: 1 $\frac{3}{4}$ " (H) x 19.0" (W) x 8.0" (D)
(4 x 48 x 20 cm)

Weight: 5.5 lb (2.5 kg)

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 eight (8) full-range drivers of 11.4 cm diameter, mounted symmetrically in vertical pairs on a faceted, removable baffle assembly. Each driver shall have a rated impedance of 1 Ω and shall be wired in series, resulting in a composite nominal impedance of 8 Ω .

The loudspeaker system sensitivity shall be 99dB-SPL in the 300Hz - 3kHz range and 92dB-SPL in the 50Hz - 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 100 degrees. The power handling capacity of

the loudspeaker shall be 240 Watts continuous pink noise, band limited from 50Hz to 16kHz.

The loudspeaker shall be provided with a ducted vent system, tuned at 55Hz. The input connectors of the 802 Series II loudspeaker shall consist of two (2) parallel-wired $\frac{1}{4}$ inch (6.3 mm) phone jacks and two parallel-wired male XLR connectors.

The loudspeaker enclosure of the 802 Series II loudspeaker shall be composed of mica-reinforced polyethylene copolymer structural foam. Outer dimensions of the 802 Series II loudspeaker shall be 13" (H) x 20 $\frac{1}{2}$ " (W) x 12 $\frac{1}{2}$ " (D) (33 x 52 x 32 cm); its weight shall be 31 lb (14 kg).

The loudspeaker shall be the Bose 802 Series II loudspeaker system.

The loudspeaker system shall be supplied with a separate systems controller, to be connected before the input(s) of the system power amplifier(s).

The fixed, 2-channel systems controller shall provide active electronic equalization and crossover functions. It shall include an operating mode switch, input sensitivity switch, low-frequency output level control, and mono sum switch.

The systems controller shall use screw-type terminal strips for balanced input and output wiring connections. Outer dimensions of the systems controller shall be 1 $\frac{3}{4}$ " (H) x 19.0" (W) x 8.0" (D) (4 x 48 x 20 cm). It shall fit in the single space of a standard 19" equipment rack for mounting. Its weight shall be 5.5 lb (2.5 kg).

The electronic controller shall be the Bose 802C Series II systems controller.

Safety and EMC Compliance

Safety: UL 813
CSA C22.1 #1
IEC65/EN60065

EMC: EN55013
EN55020

Product CE is compliant for EMC and Safety.

Warranty Information

The Bose 802 Series II loudspeaker is covered by a 5-year, transferable limited warranty. The Bose 802C Series II systems controller is covered by a 2-year, transferable limited warranty.

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