



BOSE

Acoustic Wave[®] Cannon[™] System II Loudspeaker

General Description

The Bose[®] Acoustic Wave[®] Cannon[™] system II (AWCS II) loudspeaker is the bass component for installed Bose sound systems designed for high quality reinforcement of voice and music. The AWCS II includes system equalization, when combined with a Panaray[®] system digital controller. This provides smooth, accurate spectral response across the entire operating range of the AWCS II system while providing loudspeaker protection on two independent mid/high frequency signal channels. Fourth order subsonic and ultrasonic band-limiting filters use power efficiently, reducing harmonic distortion and high-excursion cone instability.

Component Description

The Acoustic Wave[®] Cannon system II loudspeaker provides extended bandwidth high performance in permanent installations. When mounted near solid walls, ceilings, or floors its acoustic bass-loading delivers greater low-frequency sound pressure.

Each AWCS II enclosure houses a single high-power twelve-inch woofer, mounted between two different length waveguides. Molded flanges include steel reinforcing plates that provide secure mounting points.

The Panaray system digital controller provides crossover functions, active electronic equalization, and dual-channel signal processing for the AWCS II system.

- **Modular component for system design flexibility**
- **High performance in permanent installations**
- **Unique Bose[®] acoustic waveguide loudspeaker technology**

Technical Information

Frequency Range

25Hz – 125Hz (± 3dB)

Nominal Impedance

8Ω

Maximum Acoustic Output¹

109dB-SPL

Sensitivity (1W, 1m)²

84dB-SPL

Long Term Power Handling³

300W

Recommended Amplifier Power

600W

Enclosure construction

Custom-extruded polyvinyl chloride

Mounting points

Four ½"-diameter holes on two flanges

Connectors

2-conductor spade lugs (barrier strips)

Dimensions

150"L x 17"W (3.81 x 0.43 m)

Weight

63 lb (29 kg)

¹Full bandwidth pink noise is applied to the Panaray system digital controller and amplified to a level at the speaker 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 long tube of the speaker in an anechoic environment.

²Full bandwidth pink noise is applied to the Panaray system digital controller and amplified to a level at the speaker terminals corresponding to one watt as referenced to the nominal impedance. The average sound pressure level (dB-SPL) is measured at 1 meter from the long tube of the speaker in an anechoic environment.

³Full bandwidth noise, meeting the International Electrotechnical Commission standard #268-5, is applied to the Panaray system digital controller and amplified to a voltage at the speaker terminals corresponding to the power handling of the speaker. The speaker must show no visible or measurable loss of performance after 100 hours of continuous testing.

Warranty Information

The Acoustic Wave® Cannon system II loudspeaker is covered by a 5-year, transferable limited warranty. The Panaray system digital controller is covered by a 1-year, transferable limited warranty.

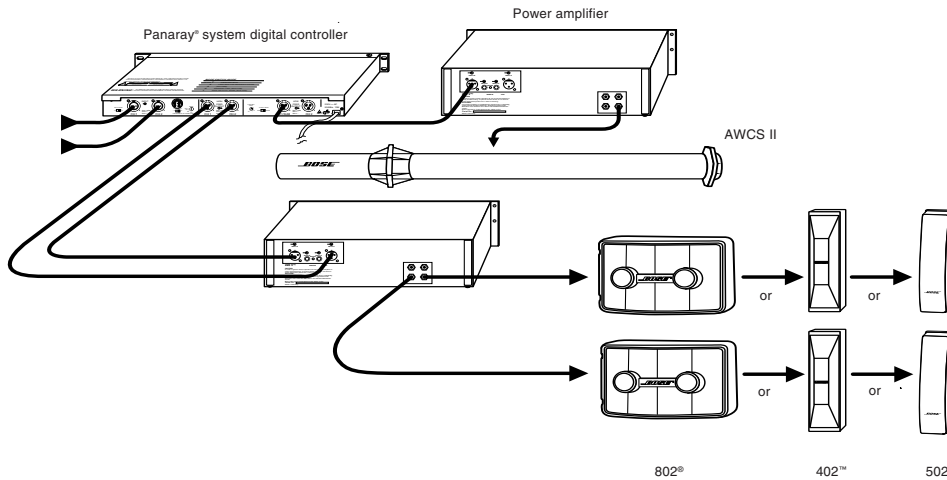


Figure 1

System Configurations

The Acoustic Wave® Cannon™ system II loudspeaker provides a flexible, building-block approach to meeting the sound reinforcement requirements of a wide variety of applications. You will find detailed installation and system design guidelines in the *Bose® Acoustic Wave® Cannon™ System II Loudspeaker Owner's Guide*.

Figure 1 shows three possible system configurations: one AWCS II loudspeaker, two 802, 402, or 502 loudspeakers, and the Panaray® system digital controller.

Architects' Specifications

The low-frequency device shall be a light-weight double barrel enclosure that uses two waveguides as the acoustic vehicle. The transducer shall consist of one (1) woofer of 12" (30 cm) diameter, mounted between the flanges that join the two waveguides. The waveguide design of the barrel shall limit cone excursion to 1" (2.54 cm) p-p, to reduce distortion. The operating frequency range shall be 25Hz to 125Hz. The input connector, located on the driver flange of the short barrel, shall be 2-conductor spade lugs (barrier strips).

The maximum acoustic output of the bass enclosure shall be 109dB-SPL from 25Hz to 125Hz, with measurements referenced to a full-bandwidth pink noise input at 1 meter at the enclosure's rated power. Its power handling capacity shall be 300 watts continuous, referenced to IEC noise for 100 hours.

The enclosure shall be made of custom-extruded polyvinyl chloride pipe. Outer dimensions of the enclosure shall be 150"L x 17"W (3.81 x .43 m); its weight shall be 63 lb (29 kg).

The low-frequency device shall be the Acoustic Wave® Cannon system II loudspeaker.

The AWCS II system shall be provided with a separate system controller, to be connected before the input(s) of the system power amplifier(s).

The Panaray system digital controller shall provide active electronic equalization and crossover functions.

The electronic controller shall be the Panaray system digital controller.

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