**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.

**Technical Information**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency Range</strong></td>
<td>25Hz – 125Hz (± 3dB)</td>
</tr>
<tr>
<td><strong>Nominal Impedance</strong></td>
<td>8Ω</td>
</tr>
<tr>
<td><strong>Maximum Acoustic Output</strong></td>
<td>109dB-SPL</td>
</tr>
<tr>
<td><strong>Sensitivity (1W, 1m)</strong></td>
<td>84dB-SPL</td>
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<tr>
<td><strong>Long Term Power Handling</strong></td>
<td>300W</td>
</tr>
<tr>
<td><strong>Recommended Amplifier Power</strong></td>
<td>600W</td>
</tr>
</tbody>
</table>

**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)

**Enclosure construction**

Custom-extruded polyvinyl chloride

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1. Full 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.
2. Full 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.
3. Full 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.
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.

The low-frequency device shall be a lightweight 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.