AcousticDesign Series

AD-C820R and AD-C820S Ceiling-Mount Loudspeaker Systems

Summary description:

A high-output full-range two-way loudspeaker system that includes coentrant low- and high-frequency transducers, passive crossover electronics, and a multi-tap transformer in a backbox with grille.

Drivers:

The loudspeaker system shall incorporate an 8-inch (203 mm) ferrite cone transducer of treated paper on a steel frame with a coentrant 1.4-inch (44 mm) neodymium diaphragm compression driver that is acoustically mated to the woofer for a smooth transition at the crossover point.

Enclosure:

The loudspeaker system shall be mounted on a ported ABS baffle within an acoustically optimized AD-C800BB enclosure with a volume of 0.64 cubic feet (18 L). The baffle shall have captive, integral mounting clamps and accept a magnetically-attached white paintable grille, either round (AD-C800RG) or square (AD-C800SG).

Electronics:

The loudspeaker baffle shall include a passive crossover. The loudspeaker enclosure shall include a custom low-distortion, wide-bandwidth laminated-core transformer that shall be switchable between 16 Ohm bypass and constant-voltage operation. Transformer taps at 70V shall be 100, 50, 25, and 12.5 watts. Transformer taps at 100V shall be 100, 50, and 25 watts.

Connectors:

Input to the AD-C820 loudspeaker baffle shall be via 10-pin MATE-N-LOK™ connector and Faston connectors. The input connectors on the AD-C800BB enclosure shall be ceramic block input and through connectors (rated for 400 W max).

Performance criteria:

The AD-C820 loudspeaker system shall meet the following performance criteria when the baffle is mounted into the AD-C800BB enclosure:

- Frequency response shall be within -6 dB at 61 Hz to 18 kHz;

- Useable frequency range shall be within -10 dB at 52 Hz to 18 kHz;

- Peak output at 1 meter (calculated) shall be 120 dB SPL in half space at rated RMS power (pink noise input, 50 Hz – 20 kHz);

- Continuous output at 1 meter (calculated) shall be 114 dB SPL in half space;

- Nominal coverage shall be 90 degrees horizontal and vertical;

- Nominal impedance shall be 16 ohms;

- RMS power handling shall be 200 watts tested per IEC recommendations;

- Recommended max amplifier power shall be 400 watts RMS;

- Sensitivity shall be 91 dB SPL at 1 watt/1 meter.

Agency Rating:

The loudspeaker system shall have the following agency ratings:

- CE

- UL 1480 (commercial/professional use)

- UL 2043 (air handling spaces)

Mounting hardware:

The AD-C800BB enclosure shall include four integrated metallic vertical mounting straps.

Dimensions and weight:

The AD-C820R and AD-C820S shall each have the following physical characteristics:

- Diameter shall be 14.9 inches (379 mm);

- Depth shall be 8.3 inches (211 mm) enclosure-only, or 11.2 inches (284 mm) including mounting straps;

- Net weight shall be no more than 17 pounds (7.7 kg), 8 pounds (3.6 kg) for the AD-C820 and 9 pounds (4 kg) for the AD-C800BB.

Model:

The loudspeaker system shall be the QSC Audio Products AD-C820R or AD-C820S.