

JBL Control 227C

Architectural Specifications

The loudspeaker shall consist of a high-power 165 mm (6.5 in) low frequency (LF) transducer and coaxially-mounted compression driver (HF) with 25mm (1 in) diameter titanium diaphragm. The components shall be installed in a baffle and shall form an in-ceiling-mount ported enclosure when installed in conjunction with the separate backcan. Nominal impedance shall be 8 ohms.

The LF transducer shall be constructed on a cast aluminum frame, with Kevlar-reinforced cone, 40 mm (1-1/2 in) voice coil, wound with copper-clad aluminum wire on a high quality T.I.L. voice coil former, for high power handling and long-term reliability.

The HF driver shall project its sound coaxially through the center of the low frequency transducer, utilizing a flared throat milled through the LF driver's pole piece combined with the low frequency cone and the speaker baffle to form a 280 mm (11 in) diameter waveguide having a Progressive Transition contour to achieve pattern control and low distortion.

The crossover network shall consist of high-slopes for natural-sounding midrange and to achieve the smooth pattern control in the crossover region. The high-pass filter to the HF driver shall be 3rd order (18 dB per octave) with high frequency contour circuit for flat frequency response. The low-pass filter to the LF driver shall be 3rd order (18 dB per octave).

Performance specifications of a typical production unit shall be as follows: The coverage pattern (at 6 dB down from on-axis level) shall average 120 degrees from 2.5 kHz through 10 kHz with a maximum deviation of +15/-25 degrees at any one-third octave-band within that frequency range. Power handling shall be 150 Watts continuous pink noise power, as tested with a test signal of filtered random noise conforming to international standard IEC265-5 (shaped pink noise with a peak-to-average ratio of 6 dB) for 2 hours duration. Power handling shall be 100 Watts for 100 continuous hours duration. Frequency response between 80 Hz and 14 kHz shall be flat to within ± 1 dB at any one-third octave band. Usable frequency response shall extend from 43 Hz to 19 kHz (10 dB below rated sensitivity, measured in half-space, with no external equalization, in 0.7 cu ft backbox). Sensitivity measured in half-space (in-ceiling) shall be at least 90 dB (least mean squared averaged from 80 Hz to 16 kHz). The loudspeaker shall have a continuous sound level capability of at least 112 dB-SPL average (118 dB-SPL peak) measured at a distance of 1 meter using IEC265-5 pink noise.

The wiring connection shall be via a removable lockable wiring connector with screw-down terminals to provide secure wiring termination and pre-wiring capability before the loudspeaker installation.

The loudspeaker shall install into a separate backcan that is capable of being pre-installed during construction. The separate backcan shall be made of 16-gauge metal, be reinforced with 12 mm (1/2 in) thick MDF to eliminate resonances and support the bass performance of the system. The separate grille shall be of an architecturally pleasing sculpted shape and made of rugged 19-gauge metal with zinc-plated metal for long-term durability. An optional tile bridge shall be available for augmenting the direct ceiling attachment in instances of installation in suspended ceiling tile grids. The tile bridge shall be of such a design as to catch on ceiling grids in case of tile failure while not physically contacting the rail during normal operation so as to minimize transferring of low-frequency rattling to the ceiling grid system.

The system shall be the JBL Model Control 227C, with separate MTC-BB6 backcan, separate MTC-RG6/8 grille, and optional MTC-TB6/8 tile bridge.