

## **JBL Control 226C/T 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 an in-ceiling-mount ported enclosure with pre-attached backcan of sufficient size as to allow for full low-frequency performance as stated below.

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 3<sup>rd</sup> order (18 dB per octave) with high frequency contour circuit for flat frequency response. The low-pass filter to the LF driver shall be 3<sup>rd</sup> 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 when set to the 8 ohm direct setting 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  $\pm 1$  dB at any one-third octave band. Usable frequency response shall extend from 47 Hz to 19 kHz (10 dB below rated sensitivity, measured in half-space, with no external equalization). 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 loudspeaker shall be equipped with a low-saturation transformer for use in either 70.7V or 100V distributed-line sound systems with taps selectable by rotary switch located on the front baffle for easy after-installation adjustment. Taps shall be nominally 8.5W at 70V (17W at 100V), 17W at 70V (34W at 100V), 34W at 70V (68W at 100V), and 68W at 70V (not used at 100V). The transformer shall have an insertion loss no greater than 1.1 dB at any tap. Transformer distortion shall be less than 0.2% at any tap (with full 70V sine wave drive signal). The transformer shall exhibit no more than 5% impedance sag at 40 Hz below its nominal impedance at any tap (measured with full 70V sine wave drive signal), to protect against excessive current demand from the power amplifier at low frequencies.

The wiring connection shall be via two removable lockable wiring connectors (one for input and one for loop-out to another loudspeaker) with screw-down terminals to provide secure wiring termination and to allow for pre-wiring of the connector before the loudspeaker installation. A lockable cover over the terminal compartment shall provide entrance strain relief for wires as small as 4 mm (0.15 in) diameter and for flex conduit as large as 19 mm ( 3.4 in) outside diameter.

The loudspeaker shall install via rotating dogears, with dogear lands at two different depths that accommodate ceilings up to 70 mm (2-3/4 in) thick. The loudspeaker shall be packaged complete with C-ring and tile rails for installation into both 24" and 600mm suspended ceiling tile systems, as well as hard ceilings. The tile rails 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. There shall be available optional new-construction ring and plaster ring for installation in new construction hard ceilings.

The baffle shall be no larger than 330 mm (13 in) in diameter and mounting depth behind the baffle shall extend no deeper than 246 mm (9.7 in).

The system shall be the JBL Model Control 226C/T., with optional MTC-NC19 new construction bracket or MTC-19MR plaster ring construction bracket.