SPECSHEET

Control® 24CT-BK

Professional Series – Background/Foreground Ceiling Speaker

Key Features:

- Coaxially mounted 100 mm (4 in) woofer with butyl rubber surround and 19 mm (¾ in) titanium coated diffraction-loaded tweeter
- High power, wide frequency response and low distortion for high sound level capability
- Wide coverage allows fewer speakers, reducing the cost of the installed sound system without sacrificing performance
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking
- Black baffle and grille works well in black and dark ceiling



Description:

The Control 24CT-BK is a compact ceiling speaker providing premium performance in background, foreground and music-plus-paging sound systems. The Control 24CT-BK is perfectly suited for a wide variety of applications from professional offices and airports to restaurants and specialty retail stores. High power handling, wide frequency response and low distortion make the Control 24CT-BK ideal for sound systems requiring a higher fidelity sound from ceiling loudspeakers. The premium performance capability ensures excellent sound character, providing pleasant, enveloping sound throughout the listening area.

The Control 24CT-BK includes a multitap transformer for 70V/100V systems.

The computer-optimized ported enclosure delivers warm, smooth bass response. Low frequency output can be further augmented with the addition of one of the Control Contractor subwoofer models.

The 100 mm (4 in) woofer features a polypropylene-coated cone and pure butyl rubber surround for long life, even in high humidity environments. An aluminum voice coil former provides extra cooling for greater long-term power handling.

The coaxially mounted 19 mm (¾ in) titanium coated tweeter provides crisp, clear highs. Diffraction-loading of the tweeter provides wide, even coverage of the listening area. The extremely broad 130° coverage pattern allows for fewer speakers to be used, making for a simpler and less expensive installation.

Specifications:

System	
Frequency Range (-10 dB)[1]	80 Hz – 20 kHz
Power Capacity[2]	80 Watts Continuous Program Power 40 Watts Continuous Pink Noise
Nominal Sensitivity[3]	86 dB SPL @ 1 m (3.3 ft)
Nominal Coverage Angle[4]	130° conical coverage
Directivity Factor (Q)	2.4 averaged 500 Hz to 4 kHz
Directivity Index (DI)	3.8 averaged 500 Hz to 4 kHz
Rated Maximum SPL	102 dB @ 1 m (3.3 ft)
Transformer Insertion Loss	Max 0.8 dB
Transformer Taps	70V: 30W, 15W, 7.5W & 3.7W taps 100V: 30W, 15W, & 7.5W taps
Transducers	
Low Frequency	100 mm (4.0 in) Polypropylene-coated, 1" coil on aluminum former
High Frequency	19 mm (0.75 in) Titanium-coated polyester
Physical	
Enclosure	Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0
Termination	Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm^2).
Safety Agency Rating	In accordance with IEC60849 / EN60849. Suitable for use in air handling spaces, per U.L.-2043, U.L.-1480, NFPA90, NFPA70A. Baffle UL-94V0 rated. Transformer UL813 registered.
Outside Dimensions (H x Dia)	200 x 195 mm (7.9 x 7.7 in) 184 mm (7.2 in) front of ceiling tile to back of backcan
Cutout Size	168 mm (6.6 in)
Net Weight (each)	3.5 kg (8 lb)
Shipping Weight (pair)	8.0 kg (18 lb)
Included Accessories	» C-shaped support backing plate » 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) » Cutout template » Paint shield » Removable locking wiring connector

[1] Half-space (flush mounted in ceiling)

[2] Continuous Pink Noise rating is IEC-shaped pink noise with a 6 dB crest factor for 100 hours continuously. Continuous Program power is a conservative expression of the system's ability to handle normal speech and music program material and is defined as 3 dB above the Continuous Pink Noise Rating.

[3] Half-space (in ceiling), average 100 Hz to 10 kHz

[4] 500 Hz to 4 kHz

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

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Input connection is conveniently provided on a removable locking connector (included), providing secure connection via screw-down terminals and allowing a system to be prewired before installing the speaker for fast snap-on convenience. Separate connector terminals are available for the input and for the loop-through wires, making it easy to jumper the speaker signal to additional speakers. The input terminal plate provides strain relief for either bare wire, plenum cable or 1/2-inch conduit (12 mm I.D.). The terminal box is securely enclosed to meet safety codes.

The speaker trim and grille are paintable to match any decor. A paint shield is provided for covering the drivers while painting the rim.

Installation of the Control 24CT-BK is quick and easy. The loudspeaker is packaged complete with the backcan, grille, support backing bracket and tile rails.

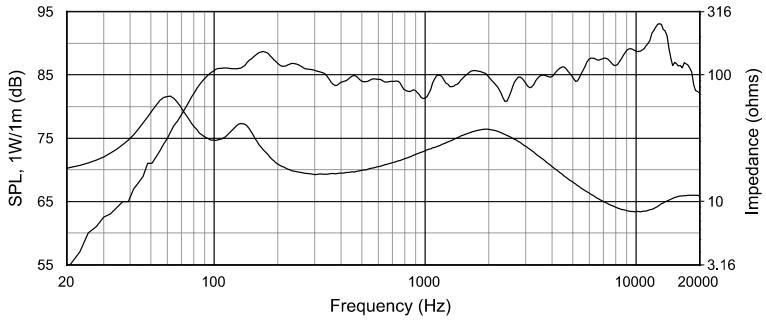
The entire installation can be accomplished without requiring access above the ceiling. A template is provided for marking the cutout. An innovative C-shaped support backing plate can be installed from below through the cutout to reinforce the top of the ceiling material. Tile bridge rails are included which can be screwed onto the C-plate to extend support to the T-channel grid in suspended ceiling installations. After the speaker is fitted through the cutout, it is held securely in place via three mounting tabs which tighten onto the C-plate, if used, or directly onto the ceiling material.

The Control 24CT-BK backcan is made of formed steel and the speaker is suitable for use in air handling spaces, per U.L.-2043. An attachment loop is provided on the backcan for cabling to the building structure as a secondary support in seismic areas or where required by code.

The 30W multitap transformer is for use in either 70.7V or 100V distributed-line systems. Taps are selected with a rotary switch conveniently located on the front panel, but protected under the grille, so that the speaker does not have to be removed to adjust tap settings.

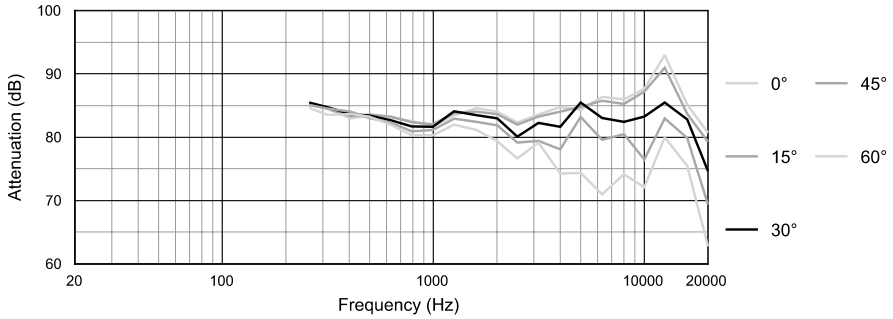
All JBL Control Contractor loudspeakers - both ceiling speakers and surface-mount models - are designed with a similar sonic signature, allowing for mixing and matching of the various models within an application, providing a similar tonal character throughout the entire listening area.

Frequency Response:



Measured on-axis with a distance referenced to 1 meter at 1 watt.
Shown as a half-space (2pi) environment. (X-former bypassed.)

Off Axis Frequency Response (1/3 Oct Avg):

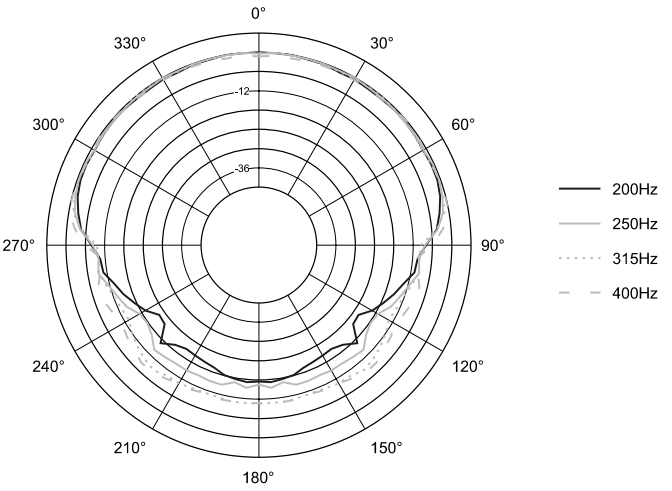


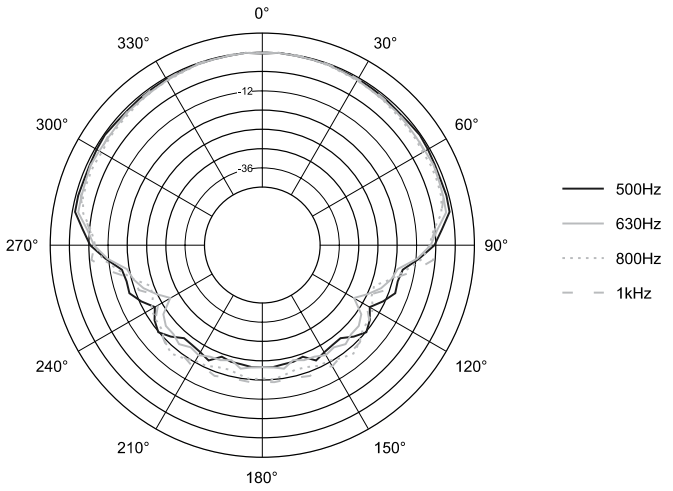
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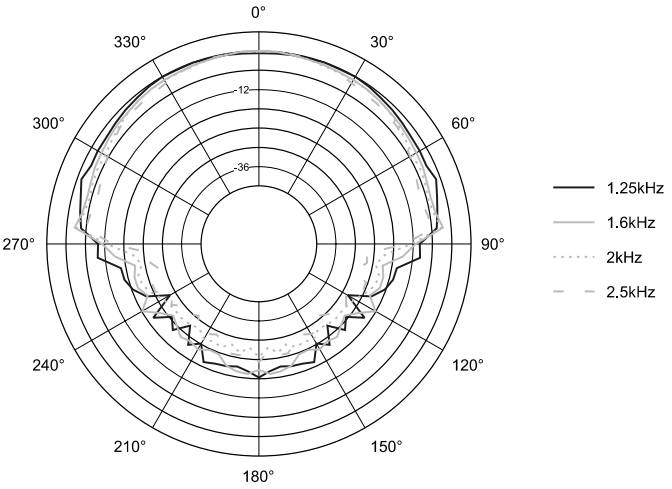
Control® 24CT-BK

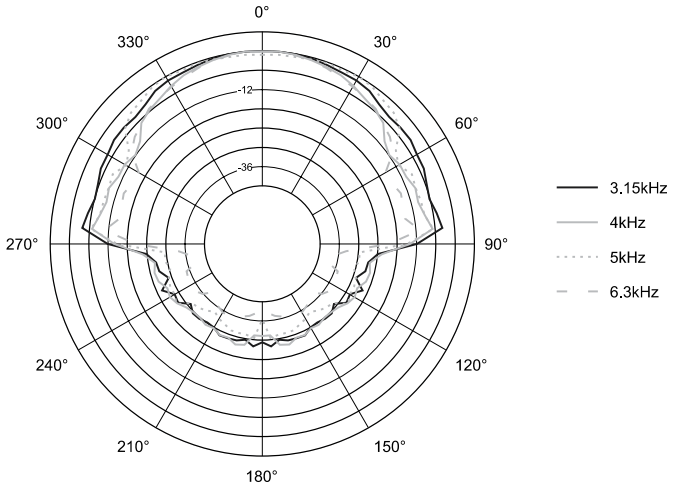
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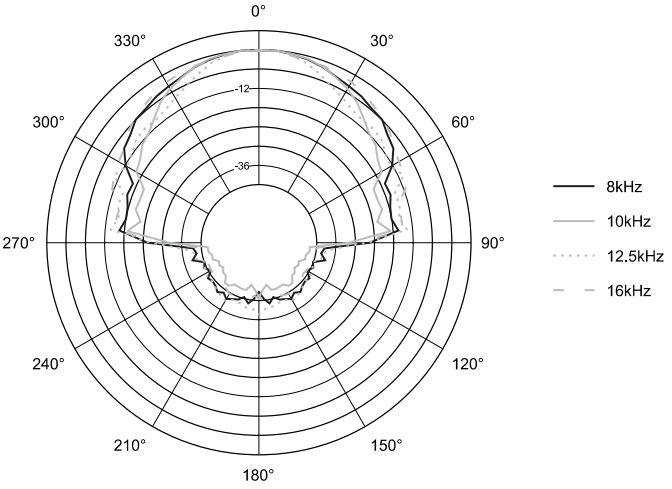
1/3 Octave Polars:











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Architectural Specifications:

The loudspeaker shall be of in-ceiling design, consisting of a 100 mm (4 in) low frequency transducer, a coaxially-mounted 19 mm (3/4 in) high frequency transducer, and frequency dividing network installed in a ported enclosure. The low frequency voice coil shall be 25 mm (1 in) in diameter and the coil former shall be of aluminum for maximum heat dissipation.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1m [3.3ft] with 4V input, averaged from 100 Hz to 10 kHz bypassing the transformer) shall be at least 86 dB-SPL. Usable frequency response shall extend from 80 Hz to 20 kHz (10 dB below rated sensitivity in half-space) with no external equalization.

The high frequency transducer shall be horn-loaded to more evenly cover a minimum 130° polar conical coverage area.

The backcan shall be constructed of formed steel and the baffle of UL94V-0 fire rated medium impact polystyrene. An enclosed terminal box shall be included proving strain relief for use with either plenum-rated wire, 1/2 in (13 mm inside diameter) conduit, or flexible conduit up to 22 mm (7/8 in) outside diameter. The external wiring shall be accomplished via a removable lockable wiring connector with screw-down terminals to provide both secure wire termination and prewiring capability before loudspeaker installation. An attachment loop shall be provided on the back panel for cabling to building structure as a secondary support point.

The system shall include a support backing plate to reinforce the ceiling material and tile support rails for use on either 2 x 4 ft or 600 x 1200 mm suspended ceiling tiles and which can all be installed from beneath the ceiling tile.

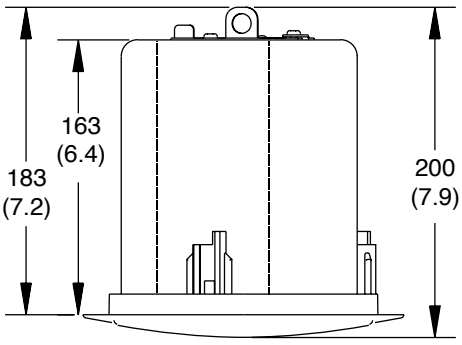
Overall front face diameter shall not exceed 195 mm (7.7 in), overall depth from the bottom of the ceiling shall not exceed 183 mm (7.2 in), and shall weigh no more than 2.7 kg (6 lb).

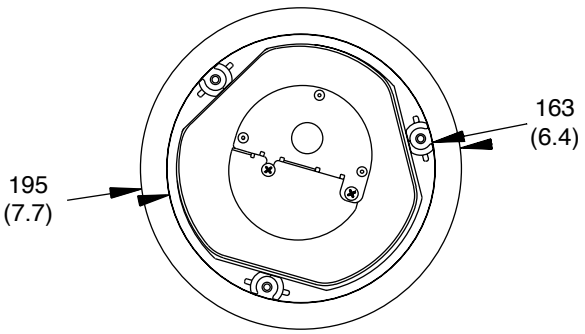
The loudspeaker shall be equipped with transformer for use in either 70.7 or 100V distributed-line speaker systems, with taps selectable by rotary switch located on the front panel so that the speaker does not have to be removed to adjust tap settings. Taps shall be nominally 30W @ 70V, 15W@ 70V (30W @ 100V), 7.5W @70V (15W @ 100V), and 3.7W @ 70V (7.5W @ 100V).

The loudspeaker shall be the JBL Model Control 24CT-BK.

Mounting Dimensions:

Dimensions in mm (inches)





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