CSS8004/CSS8008/ CSS8018

100 mm (4 in) and 200 mm (8 in) Commercial Series Ceiling Speakers for Use with Pre-Install-Type Backcans.

With **CSS-BB4** and **CSS-BB8** Backcans and **CSS-TR4/8** Tile Rails

Commercial Series

Key Features:

- Affordably priced, high-quality dual-cone type ceiling speaker.
- Pre-assembled speaker / transformer / grille assembly.
- Suitable for most paging or background music applications, including retail stores, restaurants, schools, and other facilities.
- Very high sensitivity provides maximum sound levels using minimal amplifier power.
- Quality triple-voltage transformer (100V, 70V and 25V).
- Packs of six pieces contain individually packaged speakers for shipping non-pack quantities to jobsite.

JBL's Commercial Series Ceiling Speakers provide excellent performance for paging and background music applications. High sensitivity across the product line provides maximum sound level, even at low tap settings.

Model **CSS8004** is a 100 mm (4 in) speaker with 90 dB sensitivity and a 5-Watt multi-tap transformer.

Model **CSS8008** is an 200 mm (8 in) speaker with high 96 dB sensitivity, greater bass extension than the CSS8004, and a 5-Watt multi-tap transformer.

Model **CSS8018** is a higher-power 200 mm (8 in) speaker, with very high 97 dB sensitivity and a larger 10-Watt multi-tap transformer.

The speaker's pre-attached triple-voltage transformer provides versatility by allowing use on 100V, 70V or 25V distributed loudspeaker lines.

The drivers feature a full 25 mm (1 in) diameter voice coil with a Kapton coil-former and high-temperature wire for better power dissipation and long-term reliability. For installation convenience, the speaker grille and transformer are pre-attached to the driver. Grilles are painted, zinc-plated, cold-rolled steel. The 200 mm (8 in) models feature a standard 286 mm (11¼ in) bolt-mounting diameter. Matching CSS backcans are made of zinc-plated steel with powder-coated finish. CSS steel pre-install backcans can be installed, wired, and inspected prior to installation of the speaker.

Loudspeaker Assemblies:

	CSS8004	CSS8008	CSS8018
Driver Size (dual-cone)	100 mm (4 in)	200 mm (8 in)	200 mm (8 in)
Driver Sensitivity (mid-range) (1W [2.83V], 1m, 2k – 6k Hz)	90 dB	96 dB	97 dB
Frequency Range (-10 dB) Driver/Grille Assembly: Installed in CSS-BB backcan:	85 Hz – 18 kHz 130 Hz – 18 kHz	55 Hz – 16 kHz 100 Hz – 16 kHz	50 Hz – 17 kHz 90 Hz – 17 kHz
Coverage (2 kHz)	175°	120°	110°
Driver Continuous Power Handling[1]	15 Watts	15 Watts	20 Watts
100V Taps	5W, 2.5W, 1.3W	5W, 2.5W, 1.3W	10W, 5W, 2.5W
70V Taps	5W, 2.5W, 1.3W, 0.7W	5W, 2.5W, 1.3W, 0.7W	10W, 5W, 2.5W, 1.3W
25V Taps	5W, 2.5W, 1.3W, 0.7W	5W, 2.5W, 1.3W, 0.7W	10W, 5W, 2.5W, 1.3W
Transformer Insertion Loss	1.5 dB Maximum	1.5 dB Maximum	1.5 dB Maximum
Transformer Connection	Bare wire	Bare wire	Bare wire
Motor Mass	200 g (7 oz)	200 g (7 oz)	283 g (10 oz)
Safety Agency	Suitable for use in air handling spaces per UL1480, UL2043, NFPA 90 & NFPA 70, when installed with corresponding UL Listed backcan, below. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.		
Matching CSS Backcan	CSS-BB4	CSS-BB8 (0.15 cu ft)	CSS-BB8 (0.15 cu ft)
Other Compatible Backcans	n/a	MTC-81BB8 (0.26 cu ft) MTC-200BB6 (0.5 cu ft) MTC-300BB8 (1.0 cu ft)	MTC-81BB8 (0.26 cu ft) MTC-200BB6 (0.5 cu ft) MTC-300BB8 (1.0 cu ft)
Bolt Mounting Circle to Backcan	4 points on 165 mm (6.5 in) diameter	4 points on 286 mm (11.25 in) diameter	4 points on 286 mm (11.25 in) diameter
Cutout Diameter Open-back: In CSS-BB backcan	125 mm (5.0 in) 170 mm (6.7 in)	216 mm (8.5 in) 295 mm (11.7 in)	216 mm (8.5 in) 295 mm (11.7 in)
Depth (behind grille)	94 mm (3.7 in)	71 mm (2.8 in)	73 mm (2.9 in)
Grille Diameter	198 mm (7.8 in)	327 mm (12.9 in)	327 mm (12.9 in)
Net Weight (ea)	0.90 kg (1.0 lb)	1.27 kg (2.8 lb)	1.58 kg (3.5 lb)
Shipping Weight (ea)	1.26 kg (2.8 lb)	1.94 kg (4.3 lb)	2.25 kg (5.0 lb)
Included Accessories	4 pcs M4 x 40 mm sheet metal screws for attaching speaker/driver/transformer assembly to corresponding backcan.		

[1] Continuous Pink Noise Rating (IEC-shaped pink noise with a 6 dB crest factor, for 100 hrs continuously), 2.83V input level.

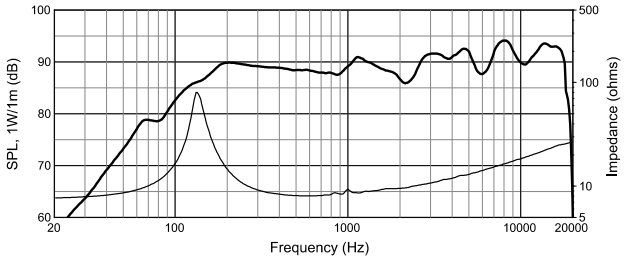
Backcans & Tile Rails

	CSS-BB4	CSS-BB8	CSS-TR4/8
Compatibility	CSS-8004 speaker, CSS-TR4/8 tile rails	CSS-8008 and CSS-8018 speakers, CSS-TR4/8 tile rails	CSS-BB4 and CSS-BB8 backcans
Dimensions	89 deep x 214 diameter mm (3.5 x 8.4 in)	108 deep x 334 diameter mm (4.3 x 13.2 in)	600 x 36 x 8 mm (23.6 x 1.4 x 0.3 in)
Bolt Mount Circle	4 points on 165 mm (6.5 in) diameter	4 points on 286 mm (11.25 in) diameter	n/a
Air Space	1.4 liters (0.05 cu ft)	4.0 liters (0.15 cu ft)	n/a
Material	Steel, zinc-plated, powder-coated	Steel, zinc-plated, powder-coated	Punched/formed steel, zinc-plated
Conduit Knockouts	Five (5) knockouts: 4 on sides spaced at 90° and 1 at center of top panel	Five (5) knockouts: 4 on sides spaced at 90° and 1 at center of top panel	n/a
Attachment Points	4 points on 165 mm (6.5 in) diameter with clip nuts for 4 screws.	4 points on 286 mm (11.25 in) diameter. Clip nuts for 4 screws.	2 points screw onto backcan, each rail.
Safety Agency	Suitable for use in air handling spaces per UL1480, UL2043, NFPA 90 & NFPA 70, when installed with corresponding UL Listed loudspeaker, above. S7232/UL Listed, Signaling Speaker. CUL Listed. In accordance with IEC60849/EN60849.		
Net Weight (ea)	0.38 kg (0.9 lb)	0.87 kg (2.0 lb)	0.18 kg (0.4 lb)
Shipping Weight (ea)	0.47 kg (1.1 lb)	1.04 kg (2.3 lb)	0.21 kg (0.5 lb)
Included Accessories	4 pcs M4 x 8 mm machine screws for attaching two tiles rails to backcan		*(M4 x 8 mm machine screws for attaching rails are packaged with backcans)*

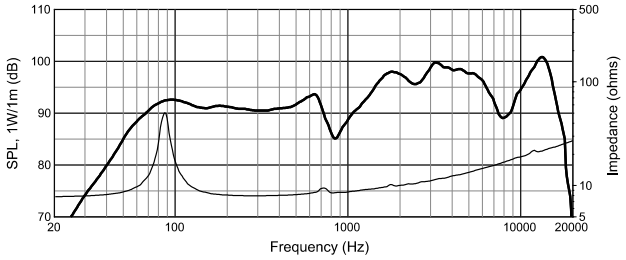
Frequency Response & Impedance

Transformer bypassed, 10° off-axis (typical for coverage area), driver/grille assembly

CSS8004



CSS8008



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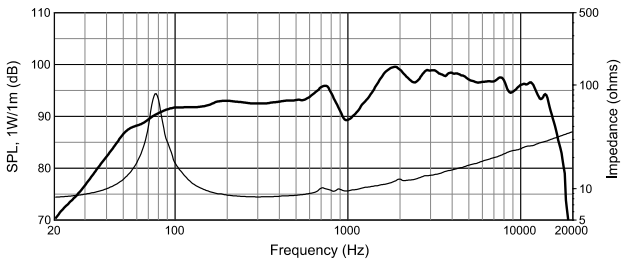


Connection:

CSS8004 and CSS8008

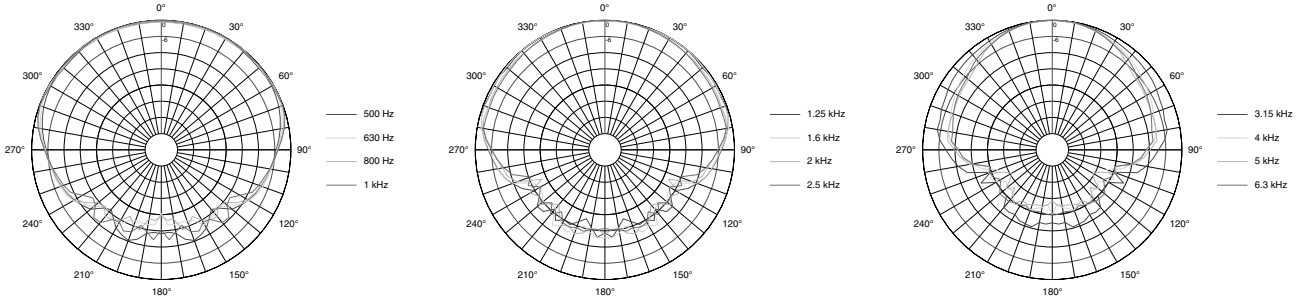
	Orange	Green	Gray	Yellow	Black
25V	0.7W	1.3W	2.5W	5W	COM
	White	Blue	Brown	Orange	Black
70V	0.7W	1.3W	2.5W	5W	COM
100V	1.3W	2.5W	5W	N/C	COM

CSS8018

	Orange	Green	Gray	Yellow	Black
25V	1.3W	2.5W	5W	10W	COM
	White	Blue	Brown	Orange	Black
70V	1.3W	2.5W	5W	10W	COM
100V	2.5W	5W	10W	N/C	COM

Coverage:

CSS8004



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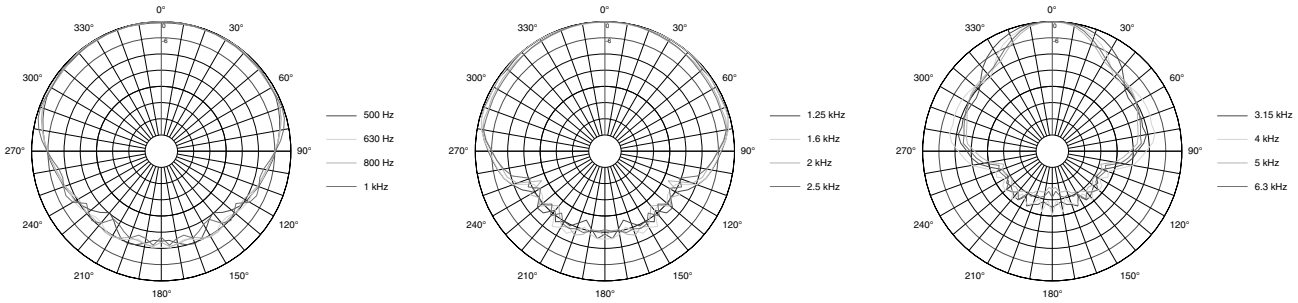
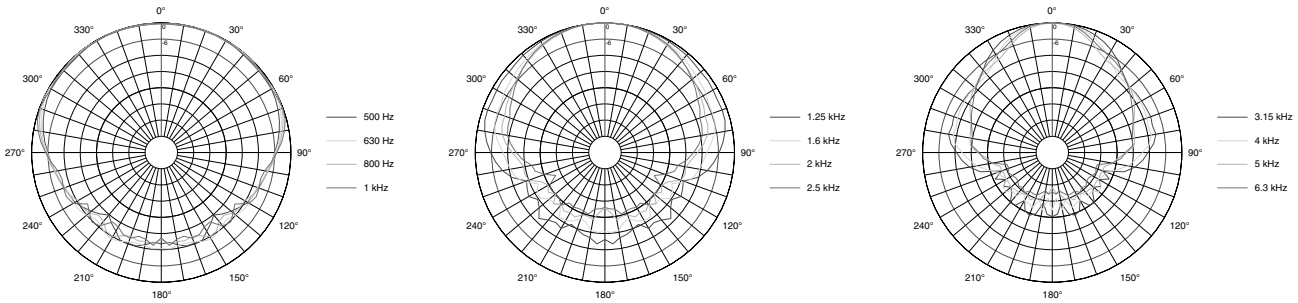
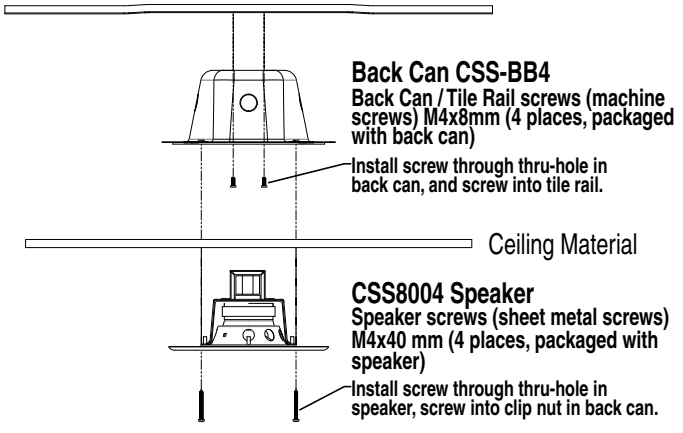


CSS8018

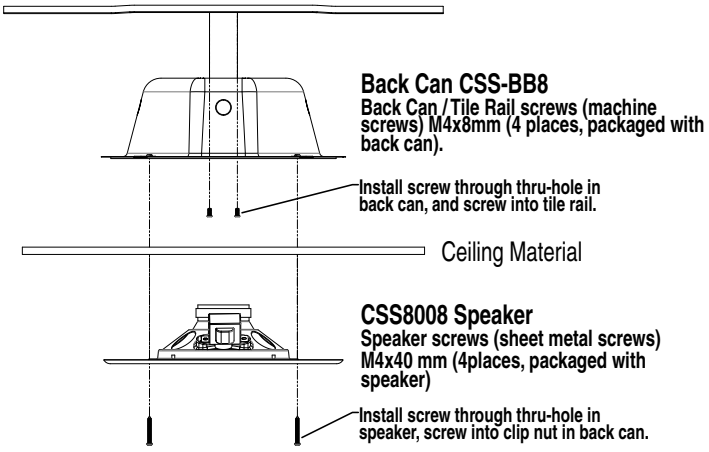


Assembly:

CSS8004



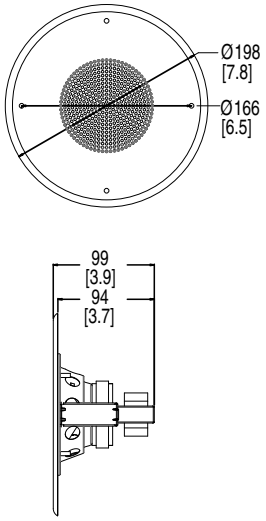
CSS8008 & 8018



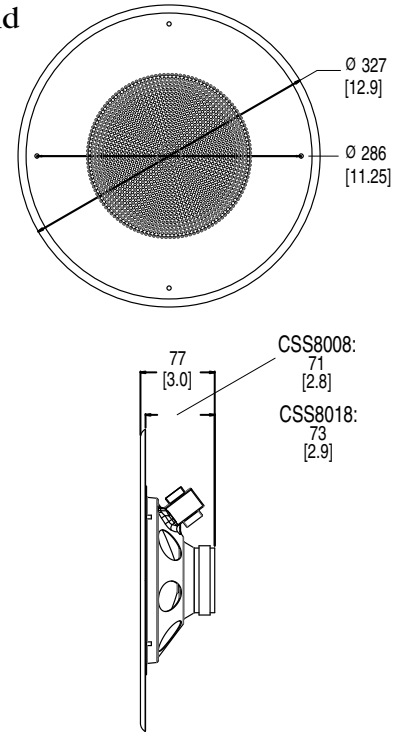
CSS8004/CSS8008/CSS8018 Commercial Series Ceiling Speakers

Dimensions:

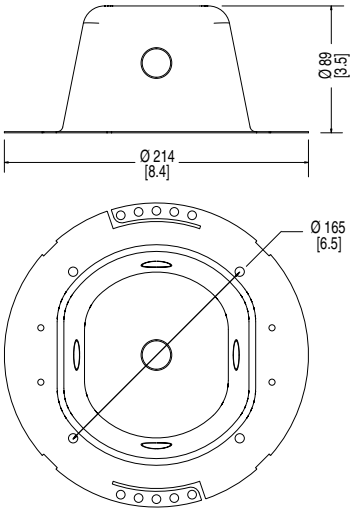
CSS8004



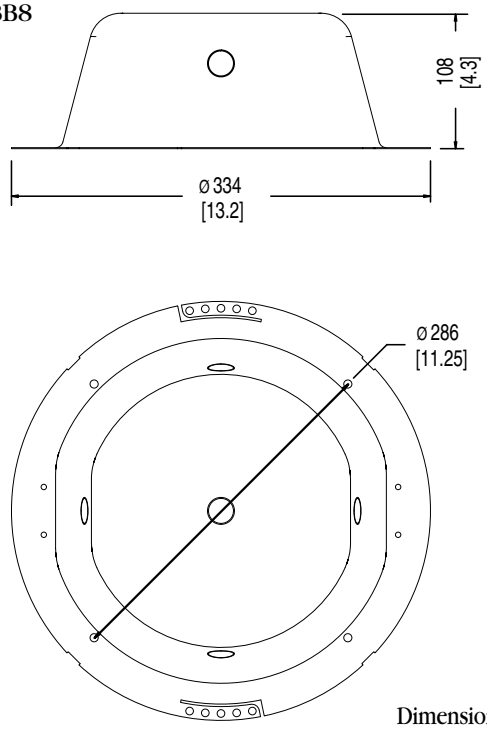
CSS8008 and CSS8018



CSS-BB4

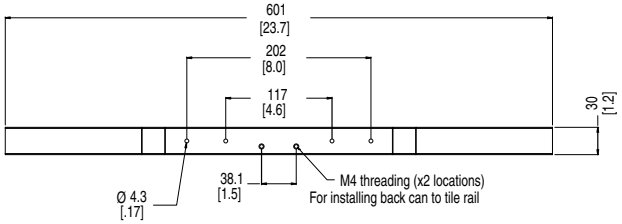


CSS-BB8



Dimensions in mm (in)

CSS-TR4/8



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SS CSS CEILING
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Control 12C-VA

3" Compact Ceiling Loudspeaker for EN54-24 Applications

Professional Series

Key Features:

- Components:
  - 76 mm (3 in) full-range driver
- EN54-24 Compliant
- Blind-mount backcan for quick and easy install
- Combined 70V/100V and low impedance direct operation
  - 20 Watts at 8Ω nominal setting
  - 15W multi-tap at 70V/100V
- 68 Hz – 17 kHz bandwidth with wide 130° coverage

Applications:

Control 12C-VA is a full-range, EN54-24 certified ceiling speaker consisting of a 76 mm (3 inch) full-range driver mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5VB flammability-rated material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of low to medium volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more. The speaker delivers consistent sound quality for listeners located both off and on axis.

The high technology cone driver is designed with a lightweight, high temperature Kapton™ voice coil former and aluminum coupling ring to reduce distortion and extend the high frequency response of the system. The FEA-optimized motor construction and cone geometry allow for a smooth frequency response and more consistent off-axis performance. A high temerature grade voice coil insures stable performance under long term high power working conditions. The butyl rubber surround provides long-term durability and good sonic dampening, and the polypropylene cone is water and humidity resistant.

A high temperature ceramic input connector with brass inserts secures bare wire terminations for +, -, and case ground connections, complying with the BS5839 Part 8 requirements for voice alarm systems for buildings. The included gland nut fitting forms a water-tight seal with round jacketed cable, and the highly water resistant terminal cover prevents ingress of water to a minimum of IP-21, per IEC529/60529.

Ideal for a wide variety of projects, the Control 12C-VA is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 15 Watt multi-tap transformer. Each speaker comes complete with gland nut, two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the terminal cover.

Included grille not shown.

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	68 Hz – 17 kHz
	Frequency Response (±3 dB)[1]:	95 Hz – 15 kHz
	Power Capacity (at low-Z)[2]:	40 Watts Continuous Program Power 20 Watts Continuous Pink Noise
	Rated Noise Power:	15W (15W tap)
	Rated Noise Voltage:	70V/100V (with 70V/100V tap settings)
	Nominal Sensitivity[3]: EN54 Sensitivity (@ 4m)[4 5]:	84 dB: 8 ohm tap 72 dB (per EN54-24 spectrum and measurement conditions at 4 meters.)
	Coverage Pattern[3]: Coverage Angles (by Frequency): Conical (Vertical & Horizontal):	130° conical coverage (1 kHz - 16 kHz) 500 Hz 1000 Hz 2000 Hz 4000 Hz 180° 175° 170° 160°
	Reference Axis[4]:	Specification and measurement reference is directly on-axis vertically and horizontally, directly below the speaker as speaker it is installed in the horizontal ceiling plane
	Directivity Factor (Q)[3]:	9.8
	Directivity Index (DI)[3]:	7.4 dB
	Rated Maximum SPL: EN54 Max SPL (@ 4m)[4 5]:	97 dB @ 1 m (3.3 ft) average, 103 dB peak 84 dB (per EN54-24 spectrum and measurement 15W tap, at 4 meters)
	Nominal Impedance:	8 ohms (in direct/bypass 8Ω setting) 1.9W@70V; 3.8W@100V Tap: 2667Ω 3.8W@70V; 7.5W@100V Tap: 1333Ω 7.5W@70V; 15W@100V Tap: 667Ω 15W@70V; N/C@100V Tap: 333Ω
	Transformer Taps:	15W, 7.5W, 3.8W @ 70V or 100V (plus 1.9W @ 70V only)
Electrical:	Fuse:	Thermal Fuse, open temperature 152 degrees C, Rating >= 10A @ 250VAC
Transducers:	Driver:	76 mm (3 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high temperature voice coil
Enclosure:	Connections:	Input +, Input -, Earth (connected to backcan). Ceramic block with brass inserts (3.2 mm/0.126 in opening), accommodates 2.5 sq mm / 12 AWG wire.
	Gland Nut/Strain Relief:	Accommodates round jacketed cables 4.0 mm (0.16 in) through 9.0 mm (0.36 in)
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating; Zinc-plated steel backcan
	Safety Agency:	EN54-24:2008 certified Type A (Certificate No. 0359-CPR-00485); Compliant with BS5839/8; UL1480, UL2043, NFPA90 & NFPA70; Suitable for use in air handling spaces, Signaling Speaker; rated IP-21 per IEC529/60529; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/ EN60849 systems

Specifications continued on back...

Control 12C-VA 3" Compact Ceiling Loudspeaker for EN54-24 Applications

Enclosure:	Dimensions:	196 mm diameter x 174 mm from back of baffle to back of gland nut (7.7 in diameter x 6.9 in in depth)
	Ceiling Cutout Size:	Circular cutout with 170 mm (6.7 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 35 mm (1.4 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 55 mm (2.2 in) ceiling thicknesses
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	1.6 kg (3.5 lbs, one speaker)
	Shipping Weight:	6.7 kg (14.7 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, grille
	Optional Accessories:	MTC-12WG high humidity grille MTC-24NC new construction bracket MTC-24MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 55 mm (2.2 in, ordering one set = 24 dogears for 8 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans

Contribution of Each One-Third Octave Frequency Band when Speaker is Driven at Full Volume, measured at 4 meter distance (req'd in this manual by EN54-24):

Freq (Hz)	Value (dB)
500	57.4
630	57.2
800	57.4
1000	57.8
1250	57.4
1600	59.9
2000	58.9
2500	54.7
3150	57.3
4000	59.2

[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 1 kHz to 16 kHz.

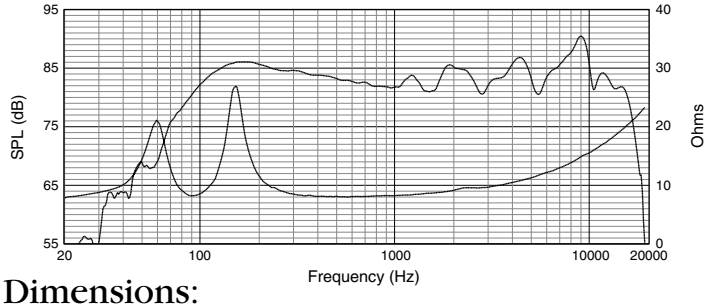
[4] EN54 acoustical loading baffle utilized for EN54 measurements.

[5] Per EN54-24 Components of voice alarm system - loudspeakers: Input signal for Sensitivity and Max SPL has 2-to-1 peak-to-average ratio. Measurements taken at distance of 4 meters. Max SPL measured with 100V RMS input signal at top 100V tap.

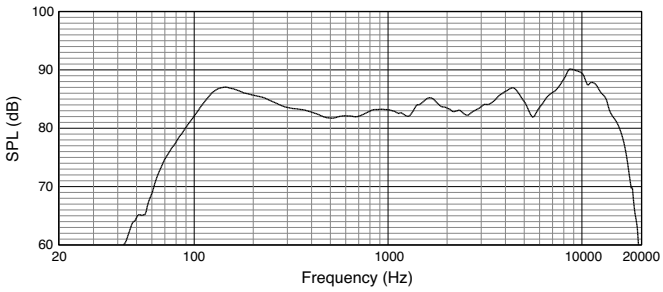
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy

Frequency Response, Impedance:

Frequency Response in Half-Space (2π, mounted in ceiling, 1W, 1m)
Impedance at 8Ω (low-impedance) setting



Frequency Response chart (2π, mounted in ceiling), 100V input on 15W tap, measured at 4 meters



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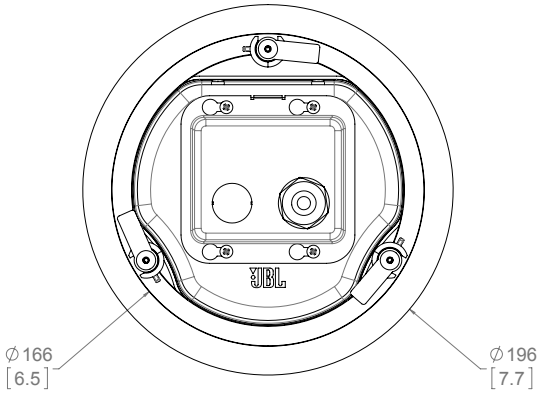

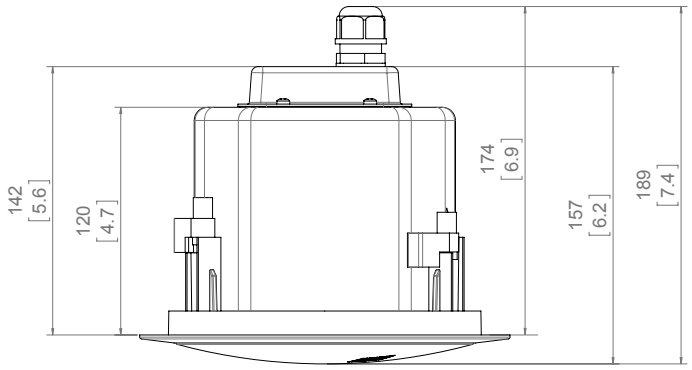

Dimensions in mm (inches)

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SSC12VA, Rev A
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10/15

Control 12C/T Compact Ceiling Loudspeaker

Professional Series

Key Features:

- 76 mm (3 in) full-range driver
- Blind-mount backcan for quick and easy install
- Dual conduit/cable clamps
- Combined 70V/100V and low impedance direct operation
  - 20 Watts at 8Ω nominal setting
  - 15W multi-tap at 70V/100V
- 68 Hz – 17 kHz bandwidth with wide 130° coverage
- White or black (-BK)

Applications:

Control 12C/T is a full-range ceiling speaker consisting of 76 mm (3 inch) wide-bandwidth cone driver mounted in a vented, paintable baffle made of UV resistant UL94-V0 material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of low to medium volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more.

The 130° coverage is especially wide, delivering consistent sound quality for listeners located both off and on axis.

The high technology cone driver is designed with a lightweight high temperature Kapton™ voice coil former and aluminum coupling ring to reduce distortion and extend the high frequency response of the system. The FEA-optimized motor construction and cone geometry allow for smooth frequency response and improved off-axis performance. A high temperature grade voice coil insures stable performance under long term high power working conditions. The butyl rubber surround provides long-term durability and good sonic damping, and the polypropylene cone is water and humidity resistant.

The removable locking connector has screw terminals for secure wire termination and “loop through” terminals. A dual strain relief assembly provides clamping for use with cable or flex conduit.

The compact backcan extends only 138 mm (5.4 inches) behind the baffle, allowing the speaker to fit into more shallow ceiling areas.

Ideal for a wide variety of projects, the Control 12C/T is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 15 Watt multi-tap transformer. The speaker comes complete with two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the top surface. Available in white or black (-BK).

Included grille not shown.

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	68 Hz – 17 kHz
	Frequency Response (±3 dB)[1]:	95 Hz – 15 kHz
	Power Capacity (at low-Z)[2]:	40 Watts Continuous Program Power 20 Watts Continuous Pink Noise
	Nominal Sensitivity[3]:	84 dB
	Nominal Coverage Angle[3]:	130° conical coverage
	Directivity Factor (Q)[3]:	9.8
	Directivity Index (DI)[3]:	7.4 dB
	Rated Maximum SPL:	97 dB @ 1 m (3.3 ft) average, 103 dB peak
	Nominal Impedance:	8 ohms (in direct/bypass 8Ω setting)
	Transformer Taps:	15 W, 7.5 W, 3.8 W @ 70V and 100V (& 1.9 W @ 70V only)
Transducers:	Full-Range Driver:	76 mm (3 inch) with polypropylene cone, butyl rubber surround, Kapton™ voice coil former, high temperature voice coil, aluminum coupling ring for low distortion and HF extension
Enclosure:	Input Connector:	Removable locking 4-pin connector with screw-down terminals. Max wire size 12 AWG (2.5 mm²)
	Connector Wiring:	Pin 1 = + In; Pin 2 = - In; Pin 3 = + Loop Thru; Pin 4 = - Loop Thru
	Strain Reliefs:	Strain relief for two cables or two flex conduits via coupled clamping mechanism
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating. Zinc-plated steel backcan
	Safety Agency:	UL1480, UL2043, NFPA90 & NFPA70; S7232/UL Listed, Suitable for use in air handling spaces, Signaling Speaker; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/EN60849 systems
	Dimensions:	196 mm diameter x 138 mm depth from back of baffle (7.7 in diameter x 5.4 in depth)
	Ceiling Cutout Size:	Circular cutout with 170 mm (6.7 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 35 mm (1.4 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 55 mm (2.2 in) ceiling thicknesses.
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	1.6 kg (3.5 lbs, one speaker)
	Shipping Weight:	6.7 kg (14.7 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, removable locking multi-pin connector, grille.
	Optional Accessories:	MTC-24NC new construction bracket MTC-24MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 55 mm (2.2 in, ordering one set = 24 dogears for 8 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans MTC-14WG (& 14WG-BK) high humidity grille

[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.

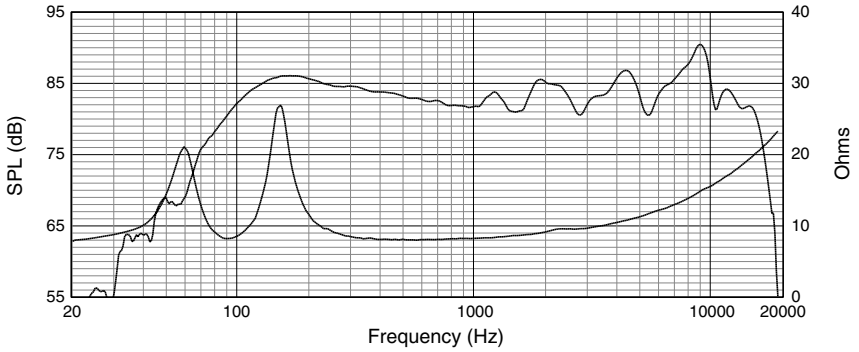
[3] Half-space (in ceiling) average 1 kHz to 16 kHz.

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

Control 12C/T Compact Ceiling Loudspeaker

Frequency Response, Impedance:

Frequency Response in Half-Space (2π, mounted in ceiling)
Impedance at 8Ω (low-impedance setting)



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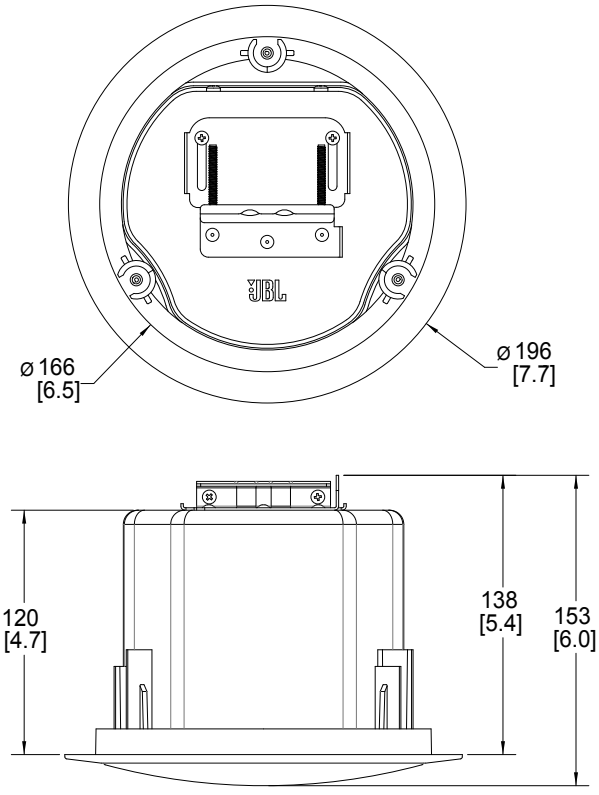

Dimensions in mm (inches)

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Control 14C/T Two-Way 4" Coaxial Ceiling Loudspeaker

Professional Series

Key Features:

- Components:
  - 100 mm (4.0 in) high output driver with polypropylene cone and butyl rubber surround
  - 19 mm (0.75 in) soft-dome liquid-cooled tweeter
- Blind-mount backcan for quick and easy install
- Dual conduit/cable clamps
- Combined 70V/100V and low impedance direct operation
  - 30 Watts at 8Ω nominal setting
  - 25W multi-tap at 70V/100V
- 74 Hz – 20 kHz bandwidth with wide 120° coverage
- White or black (-BK)

Applications:

Control 14C/T is a full-range ceiling speaker consisting of a 100 mm (4 inch) high tech cone driver and a 19 mm soft-dome liquid cooled tweeter mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5HB material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of medium volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more.

The 120° coverage delivers consistent sound quality for listeners located both off and on axis.

The high technology 100 mm (4.0 in) low-frequency driver is designed with a lightweight, high temperature anodized aluminum voice coil former and high temperature grade voice coil for stable performance and reliability under long-term high power working conditions. The butyl rubber surround provides long-term durability and excellent sonic damping while the polypropylene cone is water and humidity resistant. The FEA-optimized motor construction and cone geometry, along with linear suspension spider design, allows for a smooth frequency response and more consistent off-axis performance. The 19 mm (3/4 in) high frequency driver features a highly damped treated silk dome for clear and warm sound, a lightweight Kapton™ voice coil for better high frequency response and excellent reliability, low viscosity liquid cooling for power handling and reliability, and a wide dispersion waveguide design to produce wide coverage and smooth frequency response.

The removable locking connector has screw terminals for secure wire termination and "loop through" terminals. A dual strain relief assembly provides clamping for use with cable or flex conduit.

Ideal for a wide variety of projects, the Control 14C/T is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 25 Watt multi-tap transformer. The speaker comes complete with two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the top surface. Available in white or black (-BK).

Included grille not shown.

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	74 Hz – 20 kHz
	Frequency Response (±3 dB)[1]:	100 Hz – 20 kHz
	Power Capacity (at low-Z)[2]:	60 Watts Continuous Program Power 30 Watts Continuous Pink Noise
	Nominal Sensitivity[3]:	87 dB
	Nominal Coverage Angle[3]:	120° conical coverage
	Directivity Factor (Q)[3]:	7.6
	Directivity Index (DI)[3]:	8.1 dB
	Rated Maximum SPL:	102 dB @ 1 m (3.3 ft) average, 108 dB peak
	Nominal Impedance:	8 ohms (in direct/bypass 8Ω setting)
	Transformer Taps:	25 W, 12.5 W, 6.3 W @ 70V or 100V (plus 3.2 W @ 70V only)
	Crossover Network:	12 dB/oct (2nd order) low-pass to LF driver, 12 dB/oct (2nd order) high-pass to HF driver
Transducers:	LF Driver:	100 mm (4.0 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high temperature voice coil
	HF Driver:	19 mm (3/4 in), highly-damped treated-silk dome, Kapton™ voice coil, liquid cooling, wide dispersion waveguide
Enclosure:	Input Connector:	Removable locking 4-pin connector with screw-down terminals. Max wire size 12 AWG (2.5 mm²)
	Connector Wiring:	Pin 1 = + In; Pin 2 = - In; Pin 3 = + Loop Thru; Pin 4 = - Loop Thru
	Strain Reliefs:	Strain relief for two cables or two flex conduits via coupled clamping mechanism
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating. Zinc-plated steel backcan
	Safety Agency:	UL1480, UL2043, NFPA90 & NFPA70; S7232/UL Listed, Suitable for use in air handling spaces, Signaling Speaker; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/EN60849 systems
	Dimensions:	196 mm diameter x 181 mm depth from back of baffle (7.7 in diameter x 7.1 in depth)
	Ceiling Cutout Size:	Circular cutout with 170 mm (6.7 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 35 mm (1.4 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 55 mm (2.2 in) ceiling thicknesses
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	2.2 kg (4.8 lbs, one speaker)
	Shipping Weight:	8.2 kg (17.9 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, removable locking multi-pin connector, grille
	Optional Accessories:	MTC-24NC new construction bracket MTC-24MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 55 mm (2.2 in, ordering one set = 24 dogears for 8 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans MTC-14WG (& 14WG-BK) high humidity grille

[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 1 kHz to 16 kHz.

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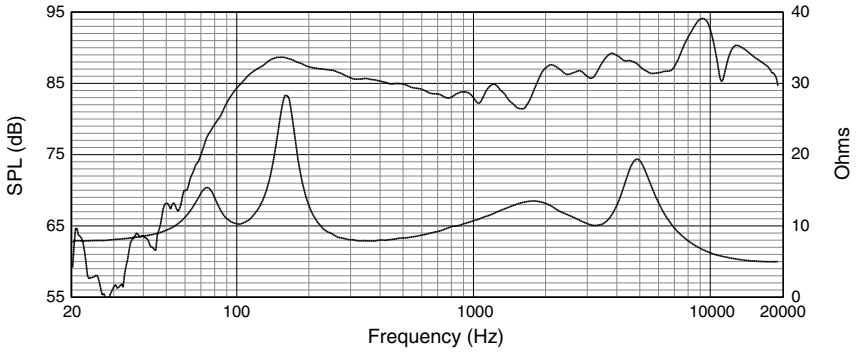
Control 14C/T Two-Way 4" Coaxial Ceiling Loudspeaker

Frequency Response, Impedance:

Frequency Response in Half-Space (2π, mounted in ceiling)
Impedance at 8Ω (low-impedance) setting



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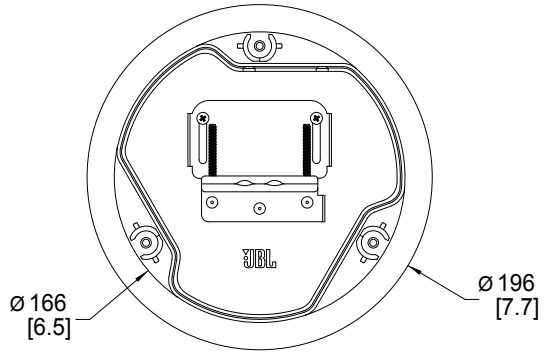

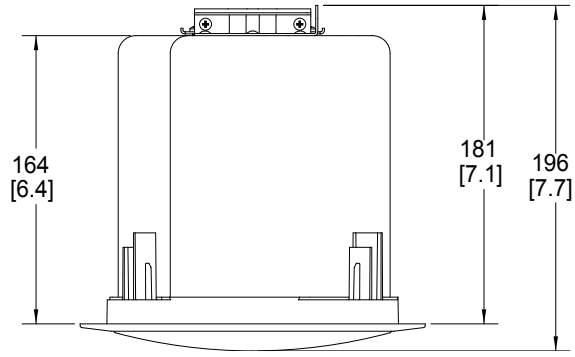

Dimensions in mm (inches)

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Control 16C/T Two-Way 6.5" Coaxial Ceiling Loudspeaker

Professional Series

Key Features:

- Components:
  - 165 mm (6.5 in) high output driver with polypropylene cone and butyl rubber surround
  - 19 mm (0.75 in) soft-dome liquid-cooled tweeter
- Blind-mount backcan for quick and easy install
- Dual conduit/cable clamps
- Combined 70V/100V and low impedance direct operation
  - 50 Watts at 8Ω nominal setting
  - 30W multi-tap at 70V/100V
- 62 Hz – 20 kHz bandwidth with wide 110° coverage
- High 91 dB sensitivity for high maximum SPL
- White or black (-BK)

Included grille not shown.

Applications:

Control 16C/T is a full-range ceiling speaker consisting of a 165 mm (6.5 inch) high tech cone driver and a 19mm soft-dome liquid cooled tweeter mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5HB material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of medium to high volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more.

The speaker delivers consistent sound quality for listeners located both off and on axis.

The high technology 165 mm (6.5 in) low-frequency driver is designed with a lightweight, high temperature anodized aluminum voice coil former and high temperature grade voice coil for stable performance and reliability under long-term high power working conditions. The butyl rubber surround provides long-term durability and excellent sonic damping while the polypropylene cone is water and humidity resistant. The FEA-optimized motor construction and cone geometry, along with linear suspension spider design, allow for a smooth frequency response and more consistent off-axis performance. The 19 mm (3/4 in) high frequency driver features a highly damped treated silk dome for clear and warm sound, a lightweight Kapton™ voice coil for better high frequency response and excellent reliability, low viscosity liquid cooling for power handling and reliability, and a wide dispersion waveguide design to produce wide coverage and smooth frequency response.

The removable locking connector has screw terminals for secure wire termination and "loop through" terminals. A dual strain relief assembly provides clamping for use with cable or flex conduit.

Ideal for a wide variety of projects, the Control 16C/T is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 30 Watt multi-tap transformer. The speaker comes complete with two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the top surface. Available in white or black (-BK).

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	62 Hz – 20 kHz
	Frequency Response (±3 dB)[1]:	96 Hz – 15 kHz
	Power Capacity (at low-Z)[2]:	100 Watts Continuous Program Power 50 Watts Continuous Pink Noise
	Nominal Sensitivity[3]:	91 dB
	Nominal Coverage Angle[3]:	110° conical coverage
	Directivity Factor (Q)[3]:	7.8
	Directivity Index (DI)[3]:	8.2 dB
	Rated Maximum SPL:	108 dB @ 1 m (3.3 ft) average, 116 dB peak
	Nominal Impedance:	8 ohms (in direct/bypass 8Ω setting)
	Transformer Taps:	30 W, 15 W, 7.5 W @ 70V or 100V (plus 3.8 W @ 70V only)
	Crossover Network:	12 dB/oct (2nd order) low-pass to LF driver, 12 dB/oct (2nd order) high-pass to HF driver
Transducers:	LF Driver:	165 mm (6.5 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high temperature voice coil
	HF Driver:	19 mm (3/4 in), highly-damped treated-silk dome, Kapton™ voice coil, liquid cooling, wide dispersion waveguide
Enclosure:	Input Connector:	Removable locking 4-pin connector with screw-down terminals. Max wire size 12 AWG (2.5 mm²)
	Connector Wiring:	Pin 1 = + In; Pin 2 = - In; Pin 3 = + Loop Thru; Pin 4 = - Loop Thru
	Strain Reliefs:	Strain relief for two cables or two flex conduits via coupled clamping mechanism
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating; Zinc-plated steel backcan
	Safety Agency:	UL1480, UL2043, NFPA90 & NFPA70; S7232/UL Listed, Suitable for use in air handling spaces, Signaling Speaker; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/EN60849 systems
	Dimensions:	253 mm diameter x 225 mm depth from back of baffle (10.0 in diameter x 8.8 in depth)
	Ceiling Cutout Size:	Circular cutout with 223 mm (8.8 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 38 mm (1.5 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 60 mm (2.4 in) ceiling thicknesses
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	3.4 kg (7.4 lbs, one speaker)
	Shipping Weight:	11.2 kg (24.7 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, removable locking multi-pin connector, grille
	Optional Accessories:	MTC-26NC new construction bracket MTC-26MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 60 mm (2.4 in, ordering one set = 24 dogears for 6 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans MTC-16WG (& 16WG-BK) high humidity grille

[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 1 kHz to 16 kHz.

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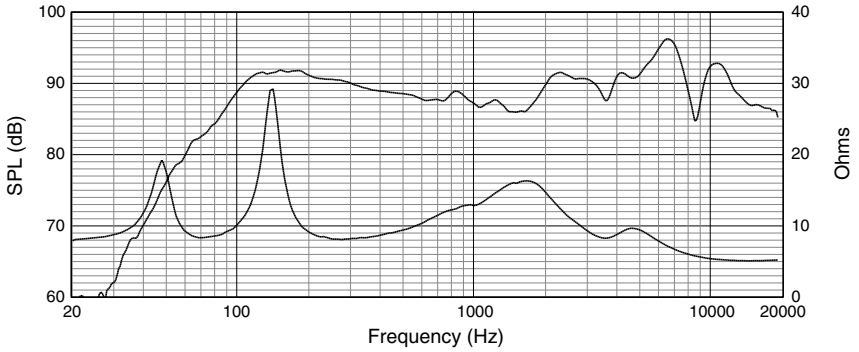
Control 16C/T 6.5" Coaxial Ceiling Loudspeaker

Frequency Response, Impedance:

Frequency Response in Half-Space (2π, mounted in ceiling)
Impedance at 8Ω (low-impedance) setting



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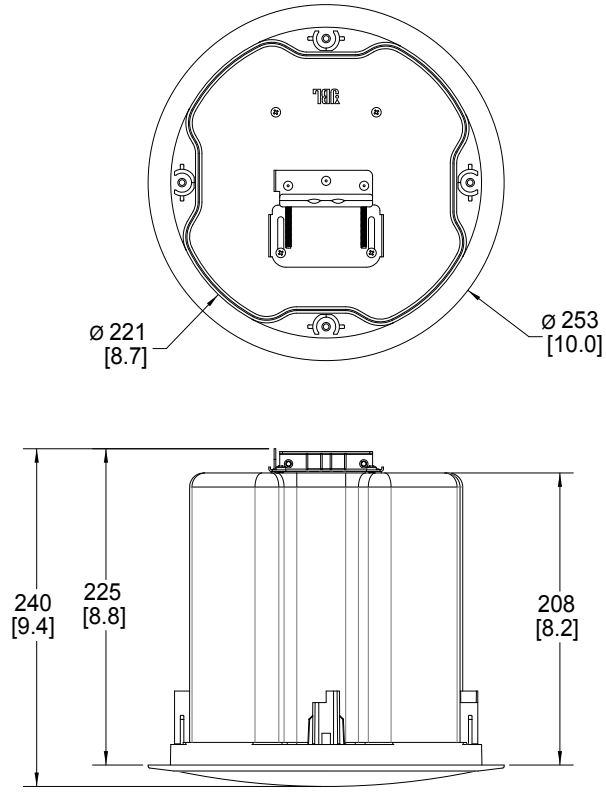

Dimensions in mm (inches)

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SPECSHEET

Control® 16C-VA

Professional Series – Two-Way 6.5” Coaxial Ceiling Loudspeaker for EN54-24 Applications

Key Features:

- Components:
  - 165 mm (6.5 in) high output driver with polypropylene cone and butyl rubber surround
  - 19 mm (0.75 in) liquid cooled soft-dome tweeter
- EN54-24 compliant
- Blind-mount backcan for quick and easy install
- Combined 70V/100V and low impedance direct operation:
  - 50W at 8Ω nominal setting
  - 30W multi-tap at 70V/100V
- 62 Hz – 20 kHz bandwidth with wide 110° coverage
- High 91 dB sensitivity for high maximum SPL

Included grille not shown

Description:

Control 16C-VA is a full-range, EN54-24 certified ceiling speaker consisting of a 165 mm (6.5 inch) high-tech cone driver and a 19 mm liquid cooled soft-dome tweeter mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5VB flammability-rated material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of medium to high volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more. The speaker delivers consistent sound quality for listeners located both off and on axis.

The high-technology low frequency driver is designed with a lightweight, high-temperature anodized aluminum voice coil former and high-temperature-grade voice coil for stable performance and reliability under long-term/high-power working conditions. The butyl rubber surround provides long-term durability and excellent sonic damping while the polypropylene cone is water and humidity resistant. The FEA-optimized motor construction and cone geometry, along with linear suspension spider design, allow for a smooth frequency response and more consistent off-axis performance. The high frequency driver features a highly damped and treated silk dome for clear and warm sound, a lightweight Kapton™ voice coil for better high frequency response and excellent reliability, low viscosity liquid cooling for power handling and reliability, and a wide dispersion waveguide design to produce wide coverage and smooth frequency response.

A high-temperature ceramic input connector with brass inserts secures bare wire terminations for +, -, and case ground connections, complying with the BS5839 Part 8 requirements for voice alarm systems for buildings. The included gland nut fitting forms a water-tight seal with round jacketed cable, and the highly water resistant terminal cover prevents ingress of water to a minimum of IP-21, per IEC529/60529.

Ideal for a wide variety of projects, the Control 16C-VA is switchable for use as either an 8-ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 30W multi-tap transformer. Each speaker comes complete with gland nut, two tile rail supports, one C-ring support backing plate, cutout template, paint shield, and grille. A safety seismic attachment ring is provided on the terminal cover.

Specifications:

System				
Frequency Range (-10 dB)[1]	62 Hz – 20 kHz			
Frequency Response (±3 dB)[1]	96 Hz – 15 kHz			
Power Capacity (at low-Z)[2]	100W Continuous Program Power 50W Continuous Pink Noise			
Rated Noise Power	30W (30W tap)			
Rated Noise Voltage	70V/100V (with 70V/100V tap settings)			
Nominal Sensitivity[3]	91 dB: 8 ohm tap			
EN54 Sensitivity (@ 4m)[4 5]	77 dB (per EN54-24 spectrum and measurement conditions at 4 meters)			
Coverage Pattern[3] Coverage Angles (by Frequency) Conical (Vertical & Horizontal)	110° conical coverage (1 kHz – 16 kHz) 500 Hz 160°	1000 Hz 160º	2000 Hz 155°	4000 Hz 92°
Reference Axis[4]	Specification and measurement reference is directly on-axis vertically and horizontally, directly below the speaker installed in the horizontal ceiling plane			
Directivity Factor (Q)[3]	7.8			
Directivity Index (DI)[3]	8.2 dB			
Rated Maximum SPL	108 dB @ 1 m (3.3 ft) average, 116 dB peak			
EN54 Max SPL (@ 4m)[4 5]	91 dB (per EN54-24 spectrum and measurement conditions, 30W tap, at 4 meters)			
Nominal Impedance	» 8 ohms (in direct/bypass 8 ohm setting); EN54 nominal impedance 7 ohms (based on min Z of 5.7 ohms at 11.2 kHz) » 3.8W@70V; 7.5W@100V Tap: 1333Ω » 7.5W@70V; 15W@100V Tap: 667Ω » 15W@70V; 30W@100V Tap: 333Ω » 30W@70V; N/C@100V Tap: 166Ω			
Transformer Taps	30W, 15W, 7.5W @ 70V or 100V (plus 3.8W @ 70V only)			
Crossover Network	12 dB/oct (2nd order) low-pass to LF driver, 12 dB/oct (2nd order) high-pass to HF driver			

SPECSHEET

Control® 16C-VA

Professional Series – Two-Way 6.5” Coaxial Ceiling Loudspeaker for EN54-24 Applications

Specifications (Continued):

Electrical	
Fuse	Thermal Fuse, open temperature 152 degrees C, Rating >= 10A @ 250VAC
Transducers	
LF Driver	165 mm (6.5 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high-temperature voice coil
HF Driver	19 mm (3/4 in), highly damped and treated silk dome, Kapton™ voice coil, liquid cooling, wide dispersion waveguide
Enclosure	
Connections	Input +, Input -, Earth (connected to backcan); ceramic with brass inserts (3.2 mm/0.126 in opening); accommodates 2.5 sq mm/12 AWG wire
Gland Nut/Strain Relief	Accommodates round jacketed cables 4.0 mm (0.16 in) through 9.0 mm (0.36 in)
Materials	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating; zinc-plated steel backcan
Safety Agency	EN54-24:2008 certified Type A (Certificate No. 0359-CPR-00485); compliant with BS5839/8; UL1480, UL2043, NFPA90 & NFPA70; suitable for use in air handling spaces, signaling speaker; rated IP-21 per IEC529/60529; transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; baffle meets UL94-V0 and UL94-5VB flammability rating; in accordance with IEC60849/ EN60849 systems
Dimensions	253 mm diameter x 262 mm from back of baffle to back of gland nut (10.0 in diameter x 10.3 in depth)
Ceiling Cutout Size	Circular cutout with 223 mm (8.8 in) diameter (cardboard cutout template included)
Ceiling Thickness Range	Up to 38 mm (1.5 in) with stock dogears; MTC-TCD thick-ceiling dogears available for up to 60 mm (2.4 in) ceiling thicknesses
Safety Seismic Attachment	One point, top surface
Net Weight	3.4 kg (7.4 lbs, one speaker)
Shipping Weight	11.2 kg (24.7 lbs, pair in master carton)
Included Accessories	» C-ring support backing plate » 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans) » Cutout template » Paint shield » Grille
Optional Accessories:	» MTC-16WG high-humidity grille » MTC-26NC new construction bracket » MTC-26MR mud-ring construction bracket » MTC-TCD thick-ceiling dogears for ceiling thicknesses up to 60 mm (2.4 in, ordering one set = 24 dogears for 6 speakers) » MTC-48TR tile rail for 1200 mm (4 ft) tile spans

[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 1 kHz to 16 kHz

[4] EN54 acoustical loading baffle utilized for EN54 measurements

[5] Per EN54-24 Components of voice alarm system—loudspeakers: Input signal for Sensitivity and Max SPL has 2-to-1 peak-to-average ratio. Measurements taken at distance of 4 meters. Max SPL measured with 100V RMS input signal at top 100V tap.

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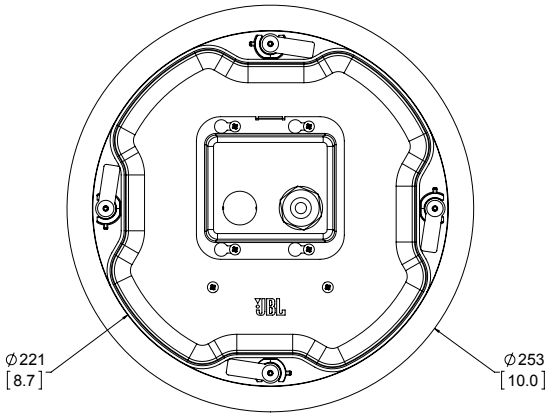
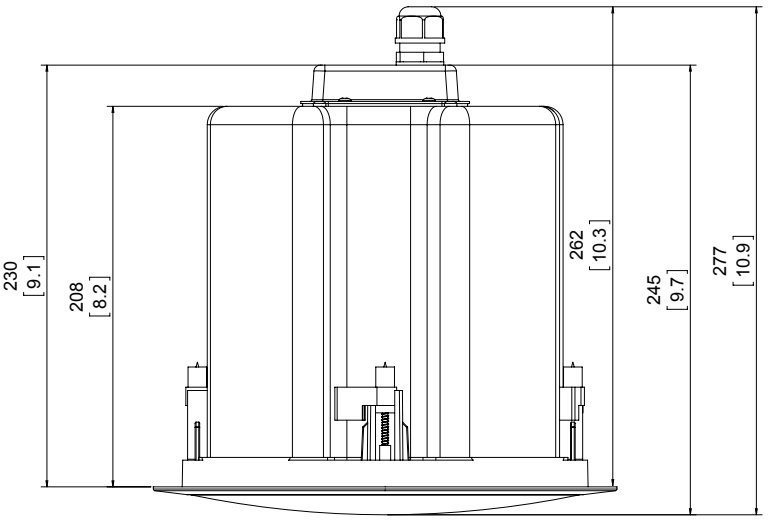
Mounting Dimensions:

Dimensions in mm (inches)

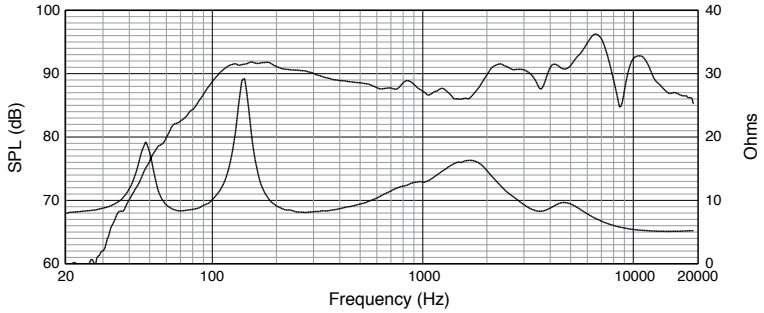




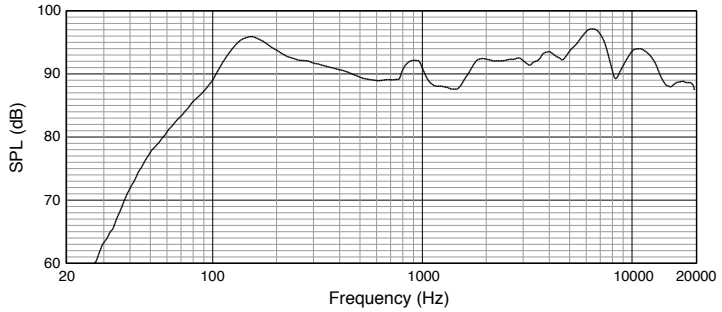
Control® 16C-VA

Professional Series – Two-Way 6.5” Coaxial Ceiling Loudspeaker for EN54-24 Applications

Frequency Response, Impedance:



Frequency response in half-space (2pi, mounted in ceiling, 1W, 1m), impedance at 8Ω (low-impedance) setting; input impedance (lower solid line)



Frequency response chart (2pi, mounted in ceiling), 100V input on 30W tap, measured at 4 meters

Contribution of each one-third octave frequency band when speaker is driven at full volume, measured at 4 meter distance (req’d in this manual by EN54-24):

Freq (Hz)	Value (dB)
500	62.5
630	62.3
800	63.7
1000	65.6
1250	62.2
1600	62.9
2000	63.8
2500	64.4
3150	63.7
4000	65.4

Control 18C/T

Two-Way 8" Coaxial Ceiling Loudspeaker

Professional Series

Key Features:

- Components:
  - 200 mm (8.0 in) high output driver with polypropylene cone and butyl rubber surround
  - 25 mm (1.0 in) soft-dome liquid-cooled tweeter
- Blind-mount backcan for quick and easy installation
- Dual conduit/cable clamps
- Combined 70V/100V and low impedance direct operation
  - 90 Watts at 8Ω nominal setting
  - 60W multi-tap at 70V/100V
- 58 Hz – 20 kHz bandwidth with 90° coverage
- High 92 dB sensitivity for high maximum SPL
- White or black (-BK)

Included grille not shown.

Applications:

Control 18C/T is a full-range ceiling speaker consisting of a 200 mm (8.0 inch) high tech cone driver and a 25 mm soft-dome liquid cooled tweeter mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5HB material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of medium to high volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more.

The speaker delivers consistent sound quality for listeners located both off and on axis.

The high technology 200 mm (8.0 in) low-frequency driver is designed with a lightweight, high temperature anodized aluminum voice coil former and high temperature grade voice coil for stable performance and reliability under long-term high power working conditions. The butyl rubber surround provides long-term durability and excellent sonic damping while the polypropylene cone is water and humidity resistant. The FEA-optimized motor construction and cone geometry, along with linear suspension spider design, allow for a smooth frequency response and more consistent off-axis performance. The 25 mm (1.0 in) high frequency driver features a highly damped treated silk dome for clear and warm sound, a lightweight Kapton™ voice coil for better high frequency response and excellent reliability, low viscosity liquid cooling for power handling and reliability, and a wide dispersion waveguide design to produce wide coverage and smooth frequency response.

The removable locking connector has screw terminals for secure wire termination and “loop through” terminals. A dual strain relief assembly provides clamping for use with cable or flex conduit.

Ideal for a wide variety of projects, the Control 18C/T is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 60 Watt multi-tap transformer. The speaker comes complete with two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the top surface. Available in white or black (-BK).

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	58 Hz – 20 kHz
	Frequency Response (±3 dB)[1]:	80 Hz – 16 kHz
	Power Capacity (at low-Z) [2]:	180 Watts Continuous Program Power 90 Watts Continuous Pink Noise
	Maxium Input Voltage:	31.8 V RMS (2hrs), 63.6 V peak
	Nominal Sensitivity[3]:	92 dB
	Nominal Coverage Angle[3]:	90° conical coverage
	Directivity Factor (Q) [3]:	6.0
	Directivity Index (DI) [3]:	7.8 dB
	Rated Maximum SPL:	112 dB @ 1 m (3.3 ft) average, 118 dB peak
	Nominal Impedance:	8 ohms (in direct/bypass 8Ω setting)
	Transformer Taps:	60 W, 30 W, 15 W @ 70V or 100V (plus 7.5 W @ 70V only)
	Recommended Protective High-Pass[4]:	45 Hz high-pass (24 dB/oct) for 8ohm operation, 60 Hz for 60 W tap, 50 Hz for 30 W, 15 W & 7.5 W tap setting
	Crossover Network:	12 dB/oct (2nd order) low-pass to LF driver, 12 dB/oct (2nd order) high-pass to HF driver
Transducers:	LF Driver:	200 mm (8.0 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high temperature voice coil
	HF Driver:	25 mm (1.0 in), highly damped treated-silk dome, Kapton™ voice coil, liquid cooling, wide dispersion waveguide
Enclosure:	Input Connector:	Removable locking 4-pin connector with screw-down terminals. Max wire size 12 AWG (2.5 mm²)
	Connector Wiring:	Pin 1 = + In; Pin 2 = - In; Pin 3 = + Loop Thru; Pin 4 = - Loop Thru
	Strain Reliefs:	Strain relief for two cables or two flex conduits via coupled clamping mechanism
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating; Zinc-plated steel backcan
	Safety Agency:	UL1480, UL2043, NFPA90 & NFPA70; S7232/UL Listed, Suitable for use in air handling spaces, Signaling Speaker; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/EN60849 systems
	Dimensions:	307 mm diameter x 274 mm depth from back of baffle (12.1 in diameter x 10.8 in depth)
	Ceiling Cutout Size:	Circular cutout with 282 mm (11.1 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 38 mm (1.5 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 60 mm (2.4 in) ceiling thicknesses
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	6.4 kg (14.1 lbs, one speaker)
	Shipping Weight:	17.7 kg (39.0 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, removable locking multi-pin connector, grille with safety tether.
	Optional Accessories:	MTC-47NC new construction bracket MTC-47MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 60 mm (2.4 in, ordering one set = 24 dogears for 6 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans

[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 1 kHz to 16 kHz.

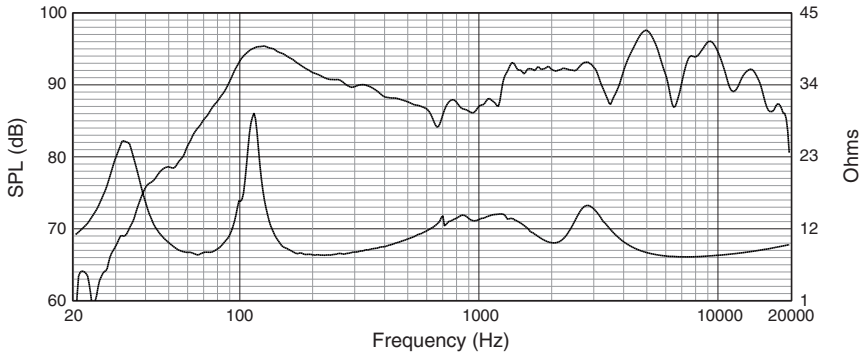
[4] For protection against driving below resonant frequency and to keep transformer out of saturation.

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

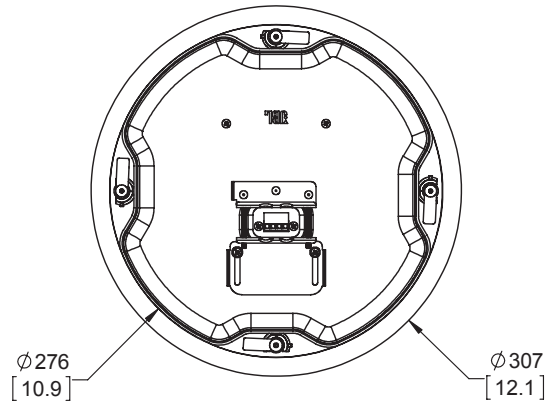
▶ Control 18C/T 8" Coaxial Ceiling Loudspeaker

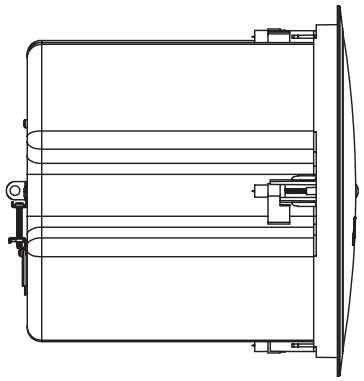
Frequency Response, Impedance:

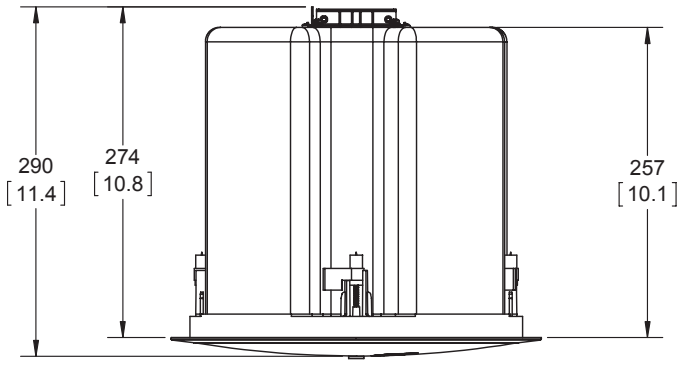
Frequency Response in Half-Space (2π, mounted in ceiling)
Impedance at 8Ω (low-impedance) setting



Dimensions:







Dimensions in mm (inches)

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Control 14C-VA

Two-Way 4" Co-axial Ceiling Loudspeaker for EN54-24 Applications

Professional Series

Key Features:

- Components:
  - 100 mm (4 in) high output driver with polypropylene cone and butyl rubber surround
  - 19 mm (0.75 in) soft-dome liquid-cooled tweeter
- EN54-24 Compliant
- Blind-mount backcan for quick and easy install
- Combined 70V/100V and low impedance direct operation
  - 30 Watts at 8Ω nominal setting
  - 25W multi-tap at 70V/100V
- 74 Hz – 20 kHz bandwidth with wide 120° coverage

Applications:

Control 14C-VA is a full-range, EN54-24 certified ceiling speaker consisting of a 100 mm (4 inch) high tech cone driver and a 19 mm soft-dome liquid cooled tweeter mounted in a vented, paintable baffle made of UV resistant UL94-V0 and UL94-5VB flammability-rated material, with a pre-attached blind-mount backcan for quick and easy installation. The speaker is designed to provide excellent sound quality for a wide variety of medium to high volume applications such as music cafes, business music systems, retail stores, music/paging systems, airports, reception/waiting rooms, lounges, courtrooms, convention centers, hotels, educational facilities, and more. The speaker delivers consistent sound quality for listeners located both off and on axis.

The high technology low frequency driver is designed with a lightweight, high temperature anodized aluminum voice coil former and high temperature grade voice coil for stable performance and reliability under long-term high power working conditions. The butyl rubber surround provides long-term durability and excellent sonic damping while the polypropylene cone is water and humidity resistant. The FEA-optimized motor construction and cone geometry, along with linear suspension spider design, allow for a smooth frequency response and more consistent off-axis performance. The high frequency driver features a highly damped treated silk dome for clear and warm sound, a lightweight Kapton™ voice coil for better high frequency response and excellent reliability, low viscosity liquid cooling for power handling and reliability, and a wide dispersion waveguide design to produce wide coverage and smooth frequency response.

A high temperature ceramic input connector with brass inserts secures bare wire terminations for +, -, and case ground connections, complying with the BS5839 Part 8 requirements for voice alarm systems for buildings. The included gland nut fitting forms a water-tight seal with round jacketed cable, and the highly water resistant terminal cover prevents ingress of water to a minimum of IP-21, per IEC529/60529.

Ideal for a wide variety of projects, the Control 14C-VA is switchable for use as either an 8 ohm low-impedance speaker or as part of a 70V or 100V distributed loudspeaker system with a 25 Watt multi-tap transformer. Each speaker comes complete with gland nut, two tile rail supports, one C-ring support backing plate, cutout template, paint shield and grille. A safety seismic attachment ring is provided on the terminal cover.

Included grille not shown.

Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	74 Hz – 20 kHz
	Frequency Response (±3 dB)[1]:	100 Hz – 15 kHz
	Power Capacity (at low-Z)[2]:	60 Watts Continuous Program Power 30 Watts Continuous Pink Noise
	Rated Noise Power:	25W (25W tap)
	Rated Noise Voltage:	70V/100V (with 70V/100V tap settings)
	Nominal Sensitivity[3]: EN54 Sensitivity (@ 4m)[4 5]:	87 dB: 8 ohm tap 75 dB (per EN54-24 spectrum and measurement conditions at 4 meters.)
	Coverage Pattern[3]: Coverage Angles (by Frequency): Conical (Vertical & Horizontal):	120° conical coverage (1 kHz - 16 kHz) 500 Hz 1000 Hz 2000 Hz 4000 Hz 175° 170° 150° 89°
	Reference Axis[4]:	Specification and measurement reference is directly on-axis vertically and horizontally, directly below the speaker as speaker it is installed in the horizontal ceiling plane
	Directivity Factor (Q)[3]:	7.6
	Directivity Index (DI)[3]:	8.1 dB
	Rated Maximum SPL: EN54 Max SPL (@ 4m)[4 5]:	102 dB @ 1 m (3.3 ft) average, 108 dB peak 87 dB (per EN54-24 spectrum and measurement 25W tap, at 4 meters)
	Nominal Impedance:	8 ohms (in direct/bypass 8 ohm setting); EN54 nominal impedance 7 ohms (based on min Z of 5.7 ohms at 11.2 kHz) 3.2W@70V; 6.3W@100V Tap: 1600Ω 6.3W@70V; 12.5W@100V Tap: 800Ω 12.5W@70V; 25W@100V Tap: 400Ω 25W@70V; N/C@100V Tap: 200Ω
	Transformer Taps:	25W, 12.5W, 6.3W @ 70V or 100V (plus 3.2W @ 70V only)
	Crossover Network:	12 dB/oct (2nd order) low-pass to LF driver, 12 dB/oct (2nd order) high-pass to HF driver
Electrical:	Fuse:	Thermal Fuse, open temperature 152 degrees C, Rating >= 10A @ 250VAC
Transducers:	LF Driver:	100 mm (4 inch) with polypropylene cone, butyl rubber surround, anodized aluminum voice coil former, high temperature voice coil
	HF Driver:	19 mm (3/4 in), highly-damped treated-silk dome, Kapton™ voice coil, liquid cooling, wide dispersion waveguide
Enclosure:	Connections:	Input +, Input -, Earth (connected to backcan). Ceramic block with brass inserts (3.2 mm/0.126 in opening), accommodates 2.5 sq mm / 12 AWG wire.
	Gland Nut/Strain Relief:	Accommodates round jacketed cables 4.0 mm (0.16 in) through 9.0 mm (0.36 in)
	Materials:	ABS baffle with UL94-V0 and UL94-5VB flame class fire rating; Zinc-plated steel backcan
	Safety Agency:	EN54-24:2008 certified Type A (Certificate No. 0359-CPR-00485); Compliant with BS5839/8; UL1480, UL2043, NFPA90 & NFPA70; Suitable for use in air handling spaces, Signaling Speaker; rated IP-21 per IEC529/60529; Transformer UL registered per UL1876; ROHS, C-tick N108, CE compliant; Baffle meets UL94-V0 and UL94-5VB flammability rating; In accordance with IEC60849/EN60849 systems

Specifications continued on back...

Control 14C-VA Two-Way 4" Co-axial Ceiling Loudspeaker for EN54-24 Applications

Enclosure:	Dimensions:	196 mm diameter x 217 mm from back of baffle to back of gland nut (7.7 in diameter x 8.6 in in depth)
	Ceiling Cutout Size:	Circular cutout with 170 mm (6.7 in) diameter (cardboard cutout template included)
	Ceiling Thickness Range:	Up to 35 mm (1.3 in) with stock dog-ears. MTC-TCD thick-ceiling dog-ears available for up to 55 mm (2.2 in) ceiling thicknesses
	Safety Seismic Attachment:	One point, top surface
	Net Weight:	2.2 kg (4.8 lbs, one speaker)
	Shipping Weight:	8.2 kg (17.9 lbs, pair in master carton)
	Included Accessories:	C-ring support backing plate, 2 tile support rails (for 2 ft or 600 mm tile spans; optional MTC-48TR extension available for larger 4 ft or 1200 mm tile spans), cutout template, paint shield, grille
	Optional Accessories:	MTC-14WG high humidity grille MTC-24NC new construction bracket MTC-24MR mud-ring construction bracket MTC-TCD thick-ceiling dog-ears for ceiling thicknesses up to 55 mm (2.2 in, ordering one set = 24 dogears for 8 speakers) MTC-48TR tile rail for 1200 mm (4 ft) tile spans

Contribution of Each One-Third Octave Frequency Band when Speaker is Driven at Full Volume, measured at 4 meter distance (req'd in this manual by EN54-24):

Freq (Hz)	Value (dB)
500	58.8
630	58.0
800	58.4
1000	58.1
1250	57.7
1600	59.1
2000	59.0
2500	58.6
3150	60.8
4000	62.8

[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 1 kHz to 16 kHz.

[4] EN54 acoustical loading baffle utilized for EN54 measurements.

[5] Per EN54-24 Components of voice alarm system - loudspeakers: Input signal for Sensitivity and Max SPL has 2-to-1 peak-to-average ratio. Measurements taken at distance of 4 meters. Max SPL measured with 100V RMS input signal at top 100V tap.

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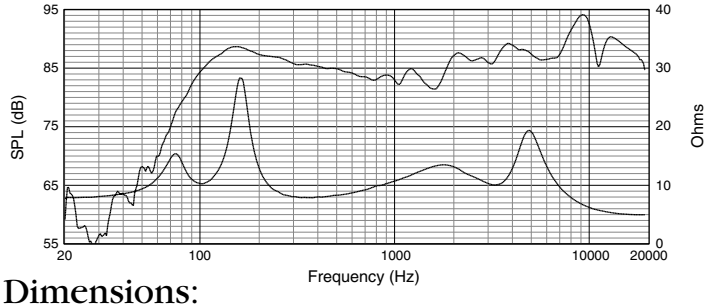
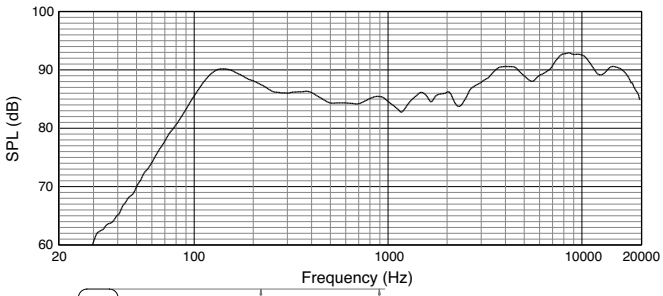
Frequency Response, Impedance:

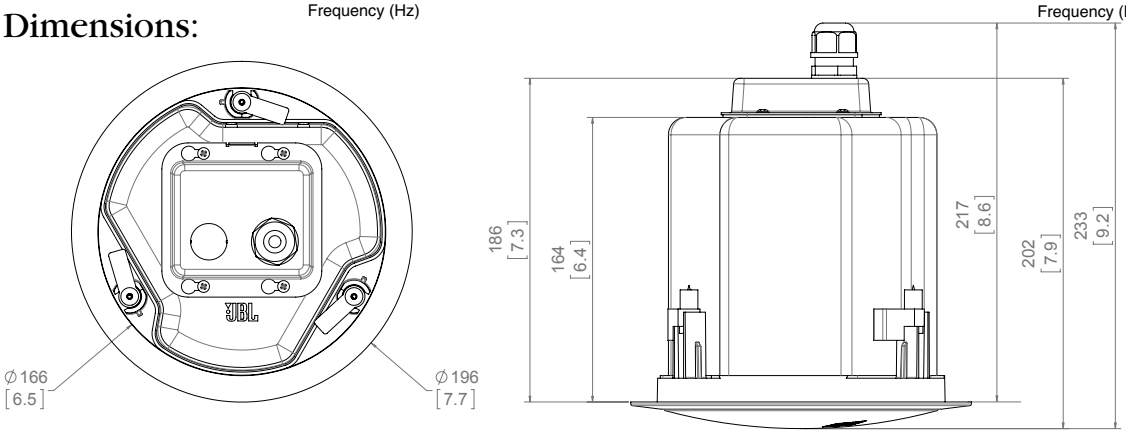
Frequency Response in Half-Space (2π, mounted in ceiling, 1W, 1m)
Impedance at 8Ω (low-impedance) setting



Frequency Response chart (2π, mounted in ceiling), 100V input on 25W tap, measured at 4 meters



Dimensions:



Dimensions in mm (inches)

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SPECSHEET

Control® 19CS/CST

Professional Series – In-Ceiling Subwoofer

Key Features:

- Unique Nested Chamber™ design and Linear Dynamic Aperture™ port design delivers high output from a compact enclosure
- JBL's exclusive SonicGuard™ overload protection allows higher operational levels and improved system reliability (19CS only)
- Component: Long excursion 200 mm (8 in) driver
- Packaged with grille, backcan and tile rails for fast installation and easy stocking
- Simple installation and wire connection method

Description:

The Control 19CS uses advanced proprietary technologies to produce powerful bass from a low profile in-ceiling design. The Control 19CS is perfectly suited to augment the low frequency output of any of the Control Contractor loudspeakers. High power handling and low distortion make the Control 19CS an ideal addition for sound systems requiring a higher fidelity sound from ceiling loudspeakers.

The unique Nested Chamber design delivers high output from a compact enclosure, while the acoustic lowpass character of this design means it is easy to augment a full-range sound system without an external crossover or separate amp channel. The Linear Dynamics™ port design originally developed for JBL's concert speaker systems, produces extended deep bass output.

The Control 19CS is protected from overload damage by JBL's exclusive SonicGuard™ circuitry, a protection system that is inaudible to the listener, ensuring reliability while providing full-fidelity sound. The premium performance capability ensures excellent sound character, providing pleasant, enveloping sound throughout the listening area.

The 200 mm (8 in) transducer features a pure butyl rubber surround for extended life and long excursion capability. The pole piece is vented for low distortion.

The Control 19CS can be connected into a system in a number of configurations: In parallel with full-range speakers resulting in a bass-overlap configuration (which is often acceptable); with an electronic crossover and separate amplifier channel, or; In conjunction with an active or passive high-pass filter on the full-range speakers, thus taking advantage of the Control 19CS's natural acoustic low-pass character.

Specifications:

System	
Frequency Range (-10 dB)[1]	42 Hz – 200 Hz
Power Capacity[2]	200W Continuous Program Power 100W Continuous Pink Noise
Nominal Sensitivity[3]	95 dB SPL, 1W @ 1 m (3.3 ft) in ceiling near corner (pi/2) 89 dB SPL, 1W @ 1 m (3.3 ft) in center of ceiling (2)
Nominal Coverage Angle	180° conical coverage
Rated Maximum SPL[3]	115 dB @ 1 m (3.3 ft) in ceiling near corner (pi/2)
Nominal Impedance (19CS)	8 ohms
Transformer Taps (19CST)	070V: 75W, 30W, 15W and 7.5W taps 100V: 75W, 30W and 15W taps
Transducer	
Low Frequency	200 mm (8.0 in) Polypropelene cone 38 mm (1.5 in) coil on aluminum former
Physical	
Enclosure	Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0
Overload Protection	Full-range power limiting to protect network and transducers (Control 19CS only).
Termination	Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm²)
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 and NFPA 70. S7232/UL listed, signaling speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Outside Dimensions (H x Dia.)	345 x 345 mm (13.6 x 13.6 in) 318 mm (12.5 in) front of ceiling tile to back of backcan
Cutout Size	305 mm (12.0 in)
Net Weight (each)	Control 19CS: 5.5 kg (12 lb) Control 19CST: 6.3 kg (14 lb)
Shipping Weight (pair)	Control 19CS: 12.7 kg (28 lb) Control 19CST: 14.3 kg (32 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] Mounted in ceiling near corner (pi/2 loading).

[2] Continuous Pink Noise rating is shaped pink noise, 40 Hz to 400 Hz, 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] Average 60 Hz to 100 Hz.

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

SPECSHEET

Control® 19CS/CST

Professional Series – In-Ceiling Subwoofer

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.

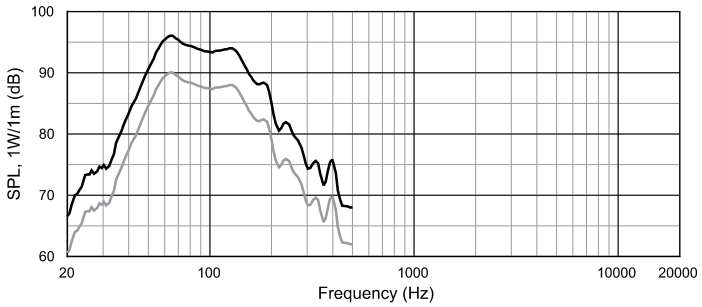
Installation of the Control 19CS is quick and easy. The loudspeaker is packaged complete with the backcan, grille, support backing bracket and tile rails.

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 19CS 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.

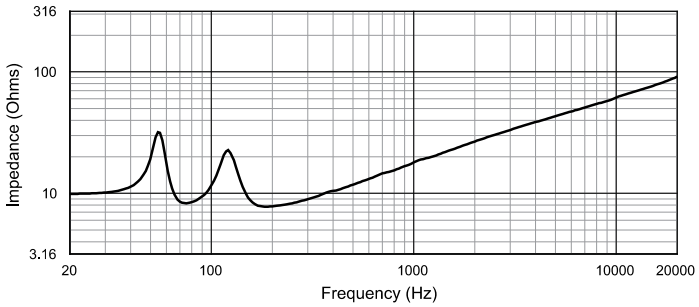
The optional Control 19CST version includes a high quality multitap transformer designed specifically for subwoofer use in either 70.7V or 100V distributed-line systems. Multiple transformer taps at 75W, 30W and 15W (plus 7.5W at 70.7V) allow the Control 19CST to fit a wide variety of listening situations. Taps are selected with a rotary switch conveniently located on the front panel, protected under the grille, so that the speaker does not have to be removed to adjust tap settings. The transformer effectively limits the power to the speaker, so SonicGuard is not included in the Control 19CST.

Frequency Response:



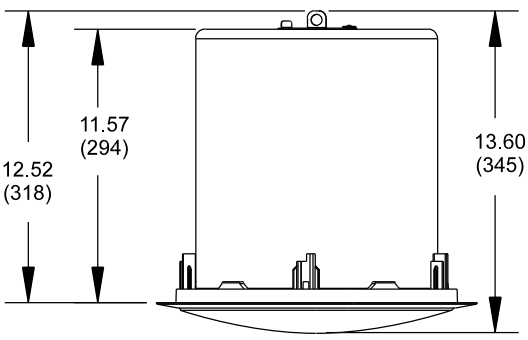
Frequency response (1W, 1 m) is measured on-axis with two boundary junction (pi loading, gray line) and with three-boundary junction (pi/2 loading, black line)

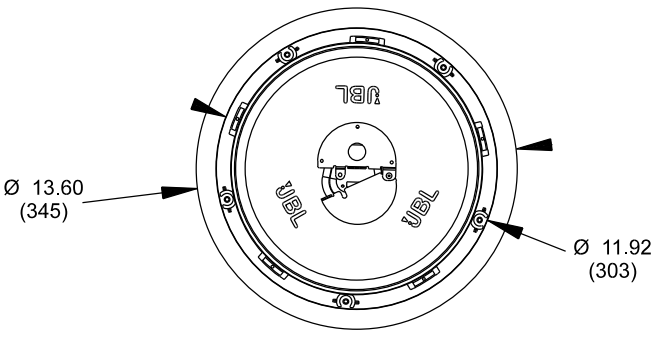
Impedance vs. Frequency:



Mounting Dimensions:

Dimensions in inches (mm)





SPECSHEET

Control® 19CS/CST

Professional Series – In-Ceiling Subwoofer

Architectural Specifications:

The subwoofer loudspeaker shall be of in-ceiling design, consisting of a 200 mm (8.0 in) low frequency transducer in a Nested Chamber™ ported enclosure. The low frequency voice coil shall be 38 mm (1½ 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 [3.3 ft] with 2.83V input, averaged from 60 Hz to 100 Hz) shall be at least 95 dB-SPL (pi/2 loading). Usable frequency response shall extend from 42 Hz to 200 Hz (10 dB below rated sensitivity) with no external equalization. Rated power shall be at least 100 watts continuous pink noise power, AES spectrum (shaped pink noise, 40 Hz to 400 Hz, with peak-to-average ratio of 6 dB) for a period of 100 continuous hours.

The system shall be protected against damage from occasional overpowering via full range series lamps that limit the power to the transducer (Control 19CS, not Control 19CST).

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 tying to building structure as a secondary support point.

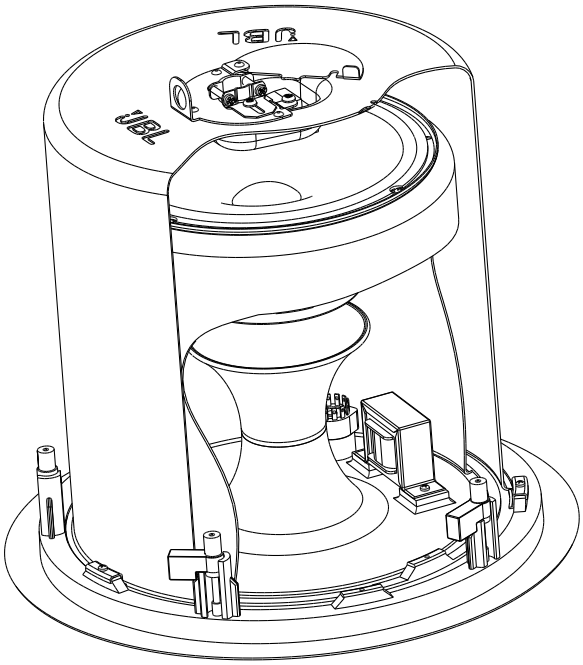
The system shall include a support backing plate to reinforce the ceiling material and tile support rails for use on either 2 x 4 ft or 600 x 1200 mm suspended ceiling tiles and which can all be installed from beneath the ceiling tile.

Overall front face diameter shall not exceed 345 mm (13.6 in), overall depth from the bottom of the ceiling shall not exceed 318 mm (12.5 in).

Control 19CS: The loudspeaker shall weigh no more than 5.5 kg (12 lb) and nominal impedance shall be 8 ohms.

Control 19CST: The loudspeaker shall weigh no more than 6.3 kg (14 lb) and shall be equipped with a special subwoofer-capable 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 75W @ 70V, 30W@ 70V (75W @ 100V), 15W @70V (30W @ 100V), and 7.5W @ 70V (15W @ 100V).

The loudspeaker shall be the JBL Model Control 19CS (Control 19CST).



Control19CS Nested Chamber™ Design

Issued: 9/2019

SPECSHEET

Control® 24C/CT Micro

Professional Series – Background Music Ceiling Speaker

Key Features:

- Extremely wide 150° coverage
- Smooth frequency response
- Components:
  - 4.5 inch (115 mm) woofer, injection molded graphite cone with butyl rubber surround
  - 0.5 inch (12 mm) polycarbonate tweeter for extended response
- Control 24C Micro is 8 ohms and handles 15W
- Control 24CT Micro includes 9W multi-tap transformer for 70V/100V systems
- Shallow 4-inch (100 mm) depth
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking

Included grille not shown

Description:

The Control 24C Micro and Control 24CT Micro are compact in-ceiling speakers, providing full, high quality sound for background music and music-plus-paging systems. These speakers are ideally suited for a wide variety of applications, from restaurants and specialty retail stores to professional offices and airports. Low distortion and a smooth, natural frequency response make the Control 24C/CT Micro ideal for medium volume business music systems as well as for the medium to low SPL segments of larger or louder systems. Low frequency output can be augmented with the addition of one of the Control Contractor subwoofer models. Similar mid/high frequency voicing to other JBL Control Contractor loudspeakers can, in many systems, allow for mixing and matching of models within zones without requiring separate equalization.

Installation of the Control 24C/CT Micro is quick and easy. The loudspeaker is packaged with the backcan, grille, support backing bracket and tile rails. In addition, optional new construction brackets are available. 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 mounting tabs which tighten onto the C-plate, if used, or directly onto the ceiling material.

The Control 24C/CT Micro backcan is made of formed steel and the speaker is suitable for use in air handling spaces per UL2043. An attachment loop is provided on the backcan for cabling. A seismic tab is provided as a secondary support. The Control 24C/CT Micro trim and baffle are paintable to match any decor.

Specifications:

System	
Frequency Range[1]	85 Hz – 25 kHz
Power Capacity[2] (24C Micro)	30W Continuous Program Power 15W Continuous Pink Noise
Nominal Sensitivity[3]	86 dB SPL @ 1 m (3.3 ft)
Crossover Frequency	3.5 kHz
Rated Maximum SPL	Control 24C Micro: 98 dB @ 1 m (3.3 ft) Control 24CT Micro: 94 dB @ 1 m (3.3 ft), 9W tap
Nominal Impedance (24C Micro)	7.1 ohms
Transformer Taps (24CT Micro)	70V: 9W, 4W, 2W, 1W & 0.5W taps 100V: 9W, 4W, 2W, 1W taps
Transducers	
Low Frequency	115 mm (4.5 in) IMG (injection molded graphite), 24 mm (1 in) voicecoil
High Frequency	12 mm (0.5 in) polycarbonate
Physical	
Enclosure	Backcan : Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0 Secondary Attachment Point: Included
Termination	Screw-down terminals, touch-proof, UL, CE and VDE rated, outside of backcan
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849
Outside Dimensions (H x Dia)	106 x 195 mm (4.2 x 7.7 in) 105 mm (4.1 in) front of ceiling tile to back of the backcan
Cutout Size	167 mm (6.6 in)
Net Weight (each)	24C Micro: 1.6 kg (3.6 lb) 24CT Micro: 2.0 kg (4.4 lb)
Shipping Weight (pair)	24C Micro: 3.6 kg (7.9 lb) 24CT Micro: 4.4 kg (9.7 lb)
Included Accessories	» C-shaped support backing plate 2 tile support rails (fits both 2 ft and 600 mm tiles) » Cutout template
Optional Accessories	» MTC-24TR trim ring for retrofit installations » MTC-24NC optional new construction bracket, flat » MTC-24MR optional mud ring construction bracket

[1] Measured in half-space (flush mounted in ceiling) at 1W @ 1m from 200 Hz to 3 kHz.

[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), averaged 100 Hz to 10 kHz.

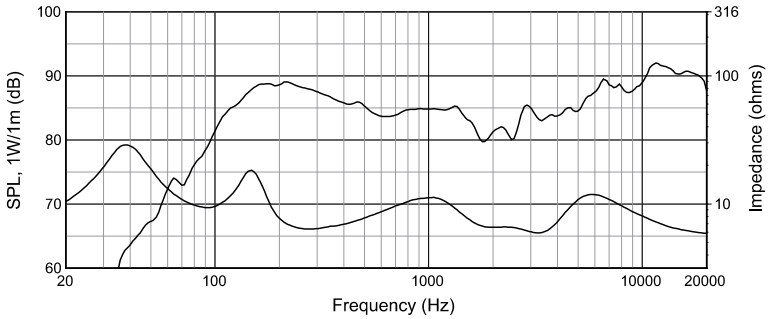
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

SPECSHEET

Control® 24C/CT Micro

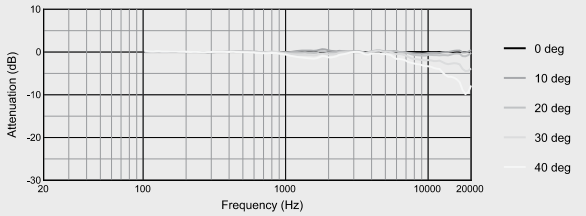
Professional Series – Background Music Ceiling Speaker

Frequency Response:

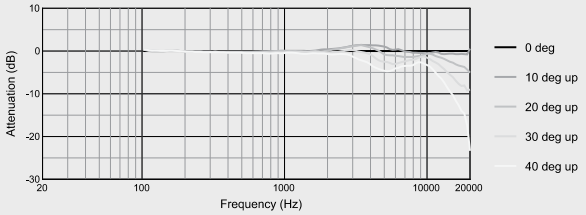


On axis in half-space (2pi, flush mounted in ceiling);
thru (8W); input impedance (lower solid line)

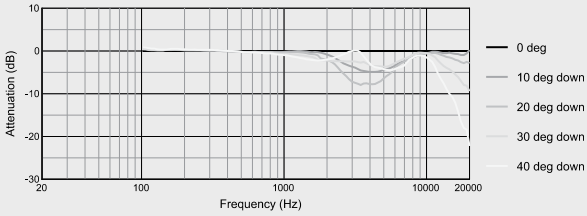
Horizontal Off Axis Frequency Response:



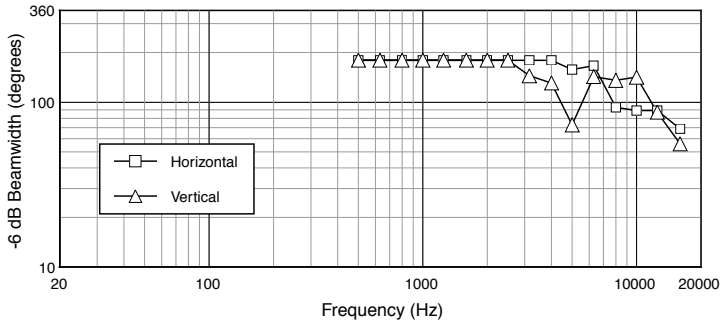
Vertical Off Axis Frequency Response (up):



Vertical Off Axis Frequency Response (down):

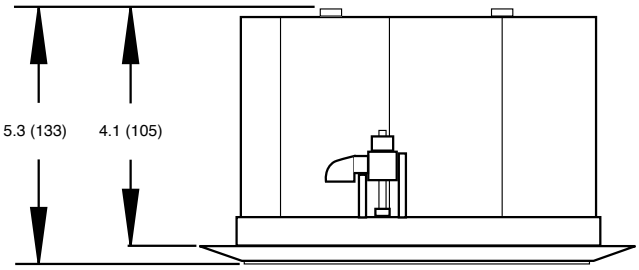


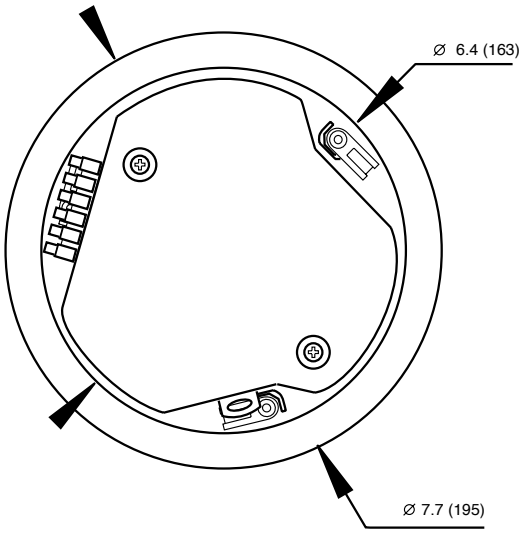
Beamwidth vs. Frequency:



Mounting Dimensions:

Dimensions in inches (mm)



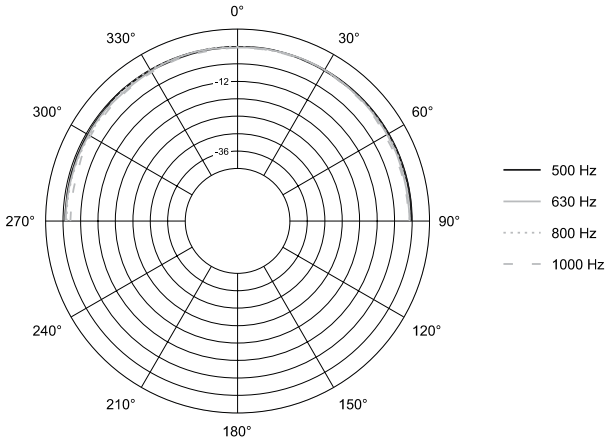


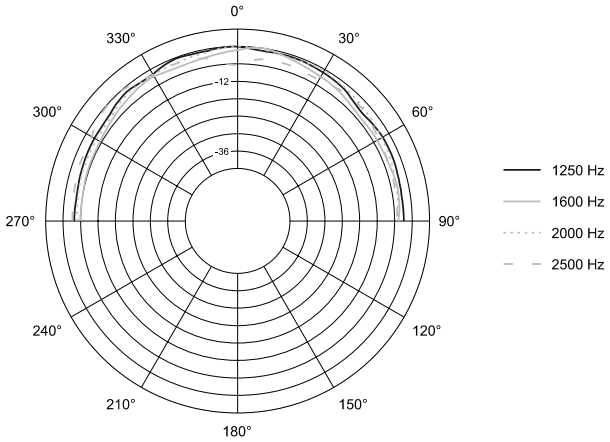
SPECSHEET

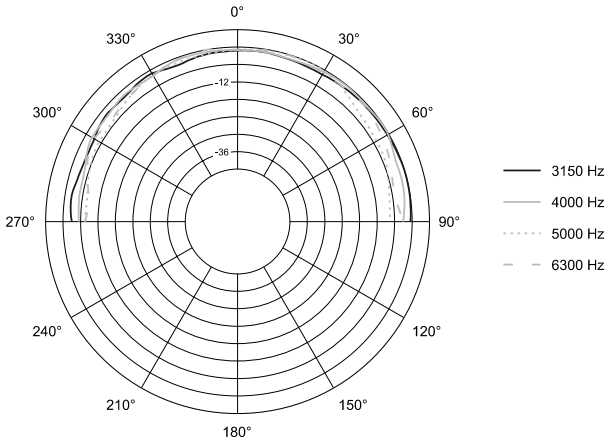
Control® 24C/CT Micro

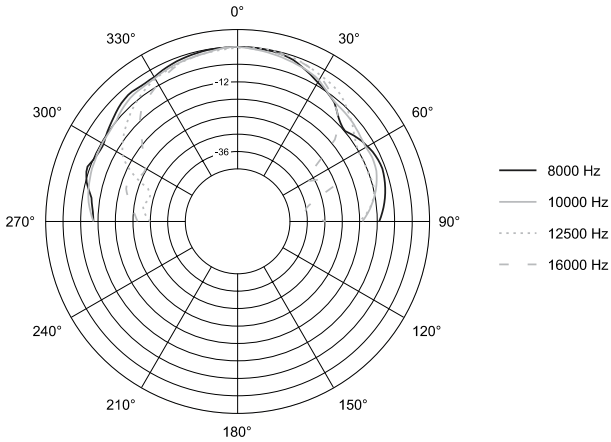
Professional Series – Background Music Ceiling Speaker

Horizontal 1/3 Octave Polars:









Architectural Specifications:

The loudspeaker shall be of in-ceiling design, consisting of a 114 mm (4.5 in) low frequency transducer, a 12 mm (0.5 in) tweeter, and frequency dividing network installed in an integral ported enclosure. The low frequency voice coil shall be 24 mm (1 in) in diameter and the cone shall be of lightweight injection molded graphite.

Performance specification of a typical production unit shall be as follows: Measured sensitivity (SPL at 1m [3.3 ft] with 2.83V input, averaged from 100 Hz to 10 kHz) shall be at least 86 dB-SPL. Usable frequency response shall extend from 85 Hz to 25 kHz (10 dB below rated sensitivity) with no external equalization. Rated power for 8 ohm unit shall be at least 15 watts continuous pink noise power, defined as conforming to international standard IEC 268-5 (shaped pink noise with peak-to-average ratio of 6 dB) for a period of 100 continuous hours.

The speaker shall have a nominal conical polar coverage pattern of 150 degrees (at -6 dB point), averaged 500 Hz to 10 kHz, and shall hold the same consistent polar coverage pattern when averaged in the intelligibility frequency band from 1 kHz to 4 kHz.

The backcan shall be constructed of formed steel and the baffle of UL94V-0 fire rated medium impact polystyrene. An agency-rated enclosed-terminal wiring block shall be provided on the side of the backcan to allow positive screw-down connection of wiring.

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

Overall front face diameter shall not exceed 195 mm (7.7 in) and overall depth from the bottom of the ceiling shall not exceed 105 mm (4.1 in).

Control 24C Micro: Nominal impedance shall be 8 ohms. The loudspeaker shall weigh no more than 1.6 kg (3.6 lb).

Control 24CT Micro: The loudspeaker shall be equipped with transformer for use in either 70.7V or 100V distributed-line speaker systems, with taps selectable by connecting the input wire to the selected enclosed wiring block terminal. Taps shall be nominally 9W @ 70V, 4W @ 70V (9W @ 100V), 2W @ 70V (4W @ 100V), 1W @ 70V (2W @ 100V) and 0.5W @ 70V (1W @ 100V). The loudspeaker shall weigh no more than 2.0 kg (4.4 lb).

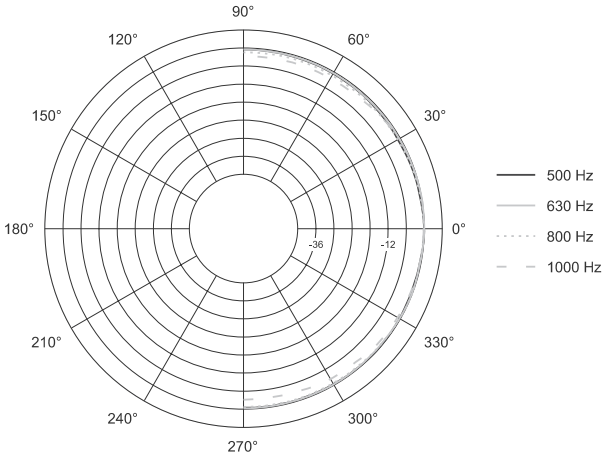
The loudspeaker shall be the JBL Model Control 24C Micro (Control 24CT Micro).

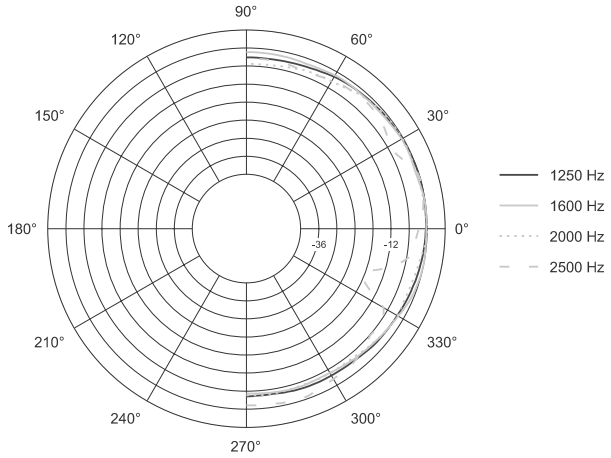
SPECSHEET

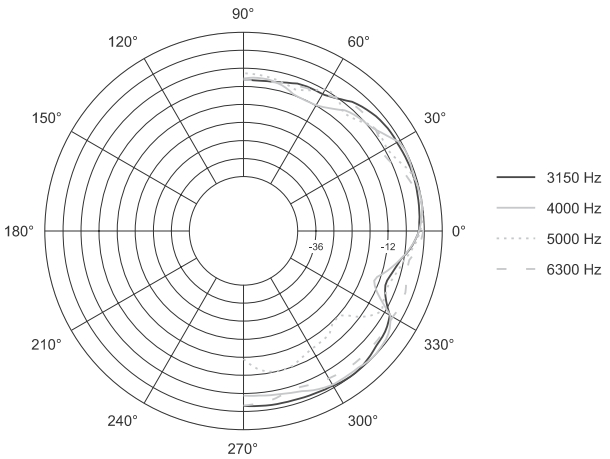
Control® 24C/CT Micro

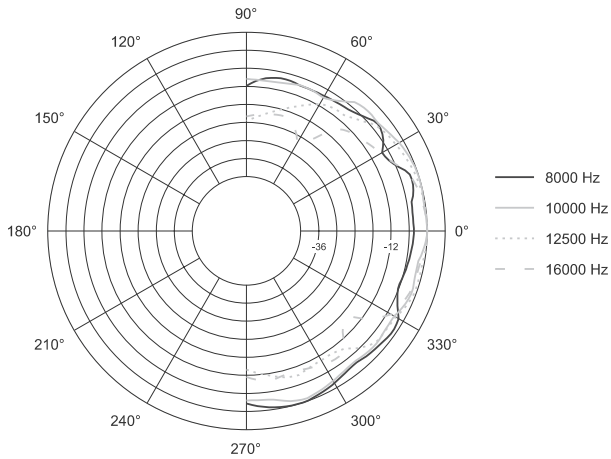
Professional Series – Background Music Ceiling Speaker

Vertical 1/3 Octave Polars:









Issued: 9/2019

SPECSHEET

Control® 24C/CT

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
- JBL's exclusive SonicGuard™ overload protection allows higher operational levels and improved system reliability (24C only)
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking

Included grille not shown

Description:

The Control 24C is a compact ceiling speaker providing premium performance in background, foreground and music-plus-paging sound systems. The Control 24C 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 24C 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 24C's 16 ohm impedance allows use of multiple speakers in parallel without having to use a more expensive constant voltage distributed system. The optional Control 24CT version includes a multitap transformer for 70V/100V systems.

JBL's exclusive SonicGuard overload protection is a non-invasive loudspeaker protection system that is inaudible to the listener, ensuring reliability while providing full fidelity sound. 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]	80W Continuous Program Power 40W 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)
Nominal Impedance (24C)	16 ohms (Min Z 16.1 Ω @ 320 Hz)
Transformer Taps (24CT)	070V: 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
Overload Protection	Full-range power limiting to protect network and transducers. (On Control 24C, not on Control 24CT)
Termination	Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm²).
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
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)	2.7 kg (6 lb) 1 CT: 3.5 kg (8 lb)
Shipping Weight (pair)	6.4 kg (15 lb) CT: 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.

SPECSHEET

Control® 24C/CT

Professional Series – Background/Foreground Ceiling Speaker

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 24C is quick and easy. The loudspeaker is packaged complete with the backcan, grille, support backing bracket and tile rails.

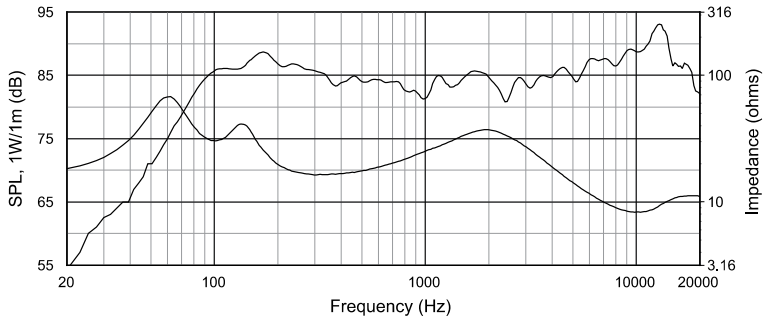
The entire installation can be accomplished without requiring access above the ceiling. A template is provided for marking the cutout. An innovative C-shaped support backing plate can be installed from below through the cutout to reinforce the top of the ceiling material. Tile bridge rails are included 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 24C 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 optional Control 24CT includes a 30W multitap transformer for use in either 70.7V or 100V distributed-line systems. The transformer effectively limits the power to the speaker, so SonicGuard is not included in the Control 24CT. 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.

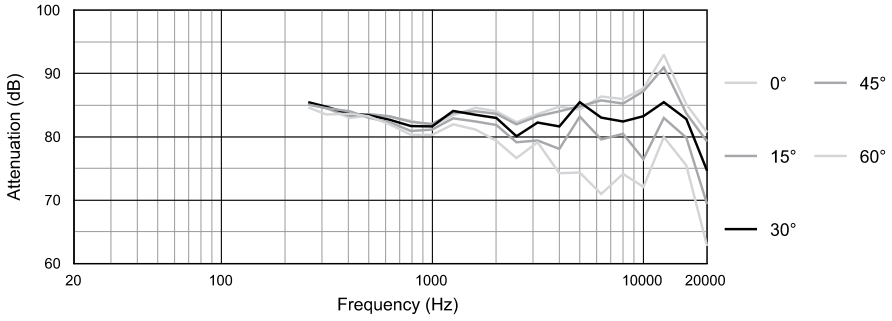
All JBL Control Contractor loudspeakers—both ceiling speakers and surface-mount models—are designed with a similar sonic signature, allowing for mixing and matching of the various models within an application, providing a similar tonal character throughout the entire listening area.

Frequency Response:



Measured on-axis with a distance referenced to 1 meter at 1 watt; shown as a half-space (2pi) environment

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

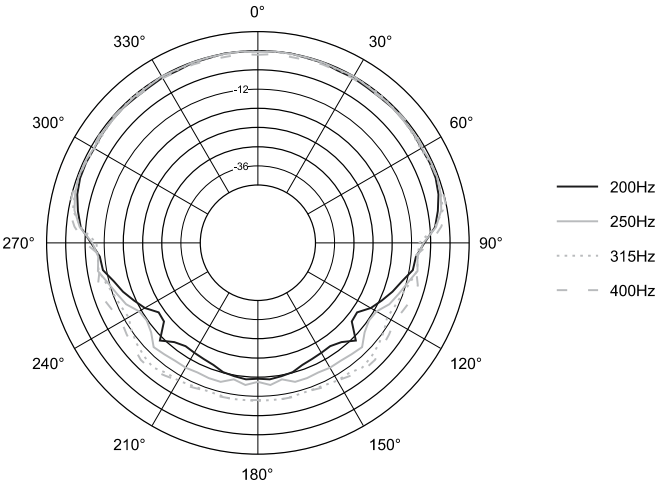


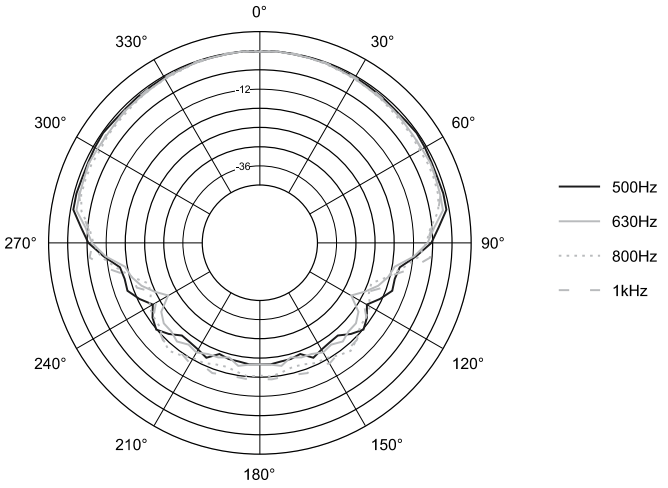
SPECSHEET

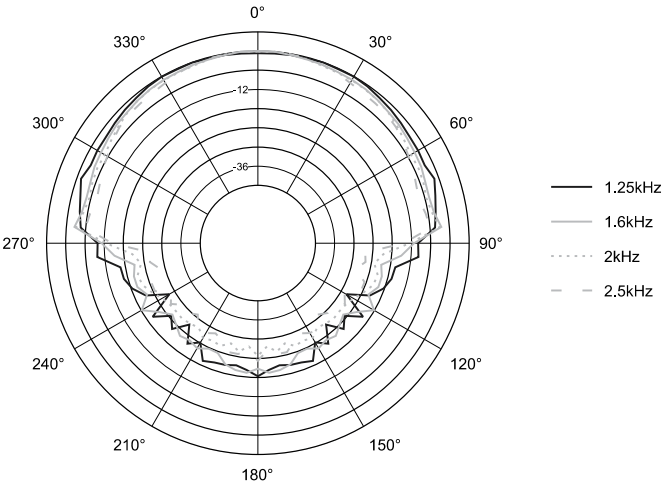
Control® 24C/CT

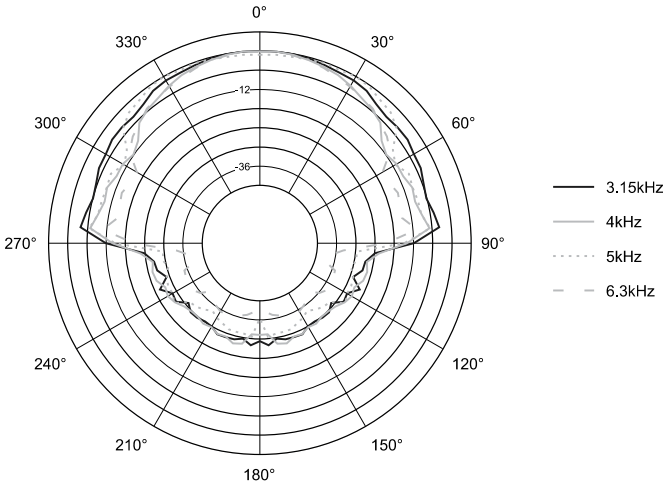
Professional Series – Background/Foreground Ceiling Speaker

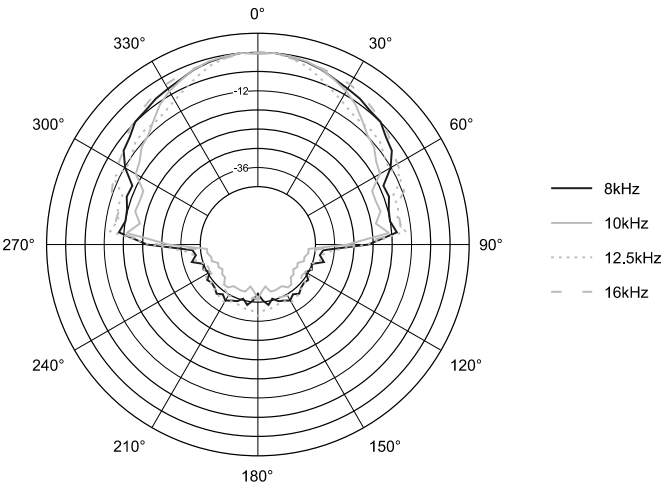
1/3 Octave Polars:











SPECSHEET

Control® 24C/CT

Professional Series – Background/Foreground Ceiling Speaker

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 (¾ 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) 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. Rated power shall be at least 40 watts continuous pink noise power, defined as conforming to international standard IEC268-5 (shaped pink noise with peak-to-average ratio of 6 dB) for a period of 100 continuous hours.

The system shall be protected against damage from occasional overpowering via full range series lamps that limit the power to the network and transducers (Control 24C, not Control 24CT). 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, ½ in (13 mm inside diameter) conduit, or flexible conduit up to 22 mm (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.

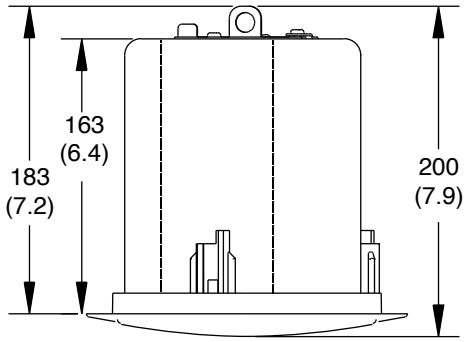
Overall front face diameter shall not exceed 195 mm (7.7 in), overall depth from the bottom of the ceiling shall not exceed 183 mm (7.2 in), and shall weigh no more than 2.7 kg (6 lb).

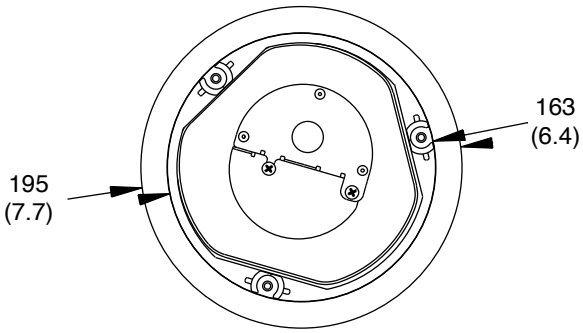
Control 24C: Nominal impedance shall be 16 ohms. Control 24CT: The loudspeaker shall be equipped with transformer for use in either 70.7 or 100V distributed-line speaker systems, with taps selectable by rotary switch located on the front panel so that the speaker does not have to be removed to adjust 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 24C (Control 24CT).

Mounting Dimensions:

Dimensions in mm (inches)





Issued: 9/2019

SPECSHEET

Control® 24CT MicroPlus

Professional Series – Background Music Ceiling Speaker

Key Features:

- Extremely wide 150° coverage
- Smooth frequency response
- Advanced crossover network provides very even coverage throughout listening area
- Components:
  - 115 mm (4.5 in) woofer, injection molded graphite cone with butyl rubber surround
  - 12 mm (0.5 in) polycarbonate tweeter for extended response
- Control 24CT MicroPlus includes 25W multi-tap transformer for 70V/100V systems
- Shallow 100 mm (4 in) depth
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking

Description:

The Control 24CT MicroPlus is a compact in-ceiling speaker, providing full, high quality sound for background music and music-plus-paging systems. These speakers are ideally suited for a wide variety of applications, from restaurants and specialty retail stores to professional offices and airports. Low distortion, a smooth, natural frequency response, and a 25W transformer make the Control 24CT MicroPlus ideal for medium volume business music. Low frequency output can be augmented with the addition of one of the Control Contractor subwoofer models. Similar mid/high frequency voicing to other JBL Control Contractor loudspeakers allows mixing and matching of models within zones without requiring separate equalization.

Installation of the Control 24CT MicroPlus is quick and easy. The loudspeaker is packaged with the backcan, grille, support backing bracket and tile rails. In addition, optional new construction brackets are available. The entire installation can be accomplished without requiring access above the ceiling.

The Control 24CT MicroPlus backcan is made of formed steel and the speaker is suitable for use in air handling spaces per UL2043. An attachment loop is provided on the backcan for cabling. A seismic tab is provided as a secondary support.

The Control 24CT MicroPlus trim and baffle are paintable to match any decor.

Specifications:

System	
Frequency Range (-10 dB)[1]	80 Hz – 25 kHz
Nominal Sensitivity[2]	85 dB SPL @ 1 m (3.3 ft)
Crossover	3.5 kHz, 3rd order low-pass plus 3rd order high-pass with conjugate
Rated Maximum SPL	99 dB @ 1 m (3.3 ft), 25W tap
Transformer Taps	70V: 25W, 12W, 6W taps 100V: 25W, 12W taps
Transducers	
Low Frequency	115 mm (4.5 in) IMG (injection molded graphite), 24 mm (1 in) voice coil
High Frequency	12 mm (0.5 in) polycarbonate
Physical	
Enclosure	Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0 Secondary Attachment Point: Included
Termination	Screw-down terminals, touch-proof, UL, CE and VDE rated, outside of backcan with conduit cover
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Outside Dimensions (H x Dia)	133 x 195 mm (5.3 x 7.7 in) 105 mm (4.1 in) front of ceiling tile to back of the backcan
Cutout Size	167 mm (6.6 in)
Net Weight (each)	2.5 kg (5.5 lb)
Shipping Weight (pair)	7.6 kg (17 lb)
Included Accessories	» C-shaped support backing plate » 2 tile support rails (fits both 2 ft and 600 mm tiles) » Cutout template, cardboard
Optional Accessories	» MTC-24TR trim ring for retrofit installations » MTC-24NC optional new construction bracket, flat » MTC-24MR optional mud ring construction bracket

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

[2] Half-space (in ceiling), averaged 100 Hz to 10 kHz

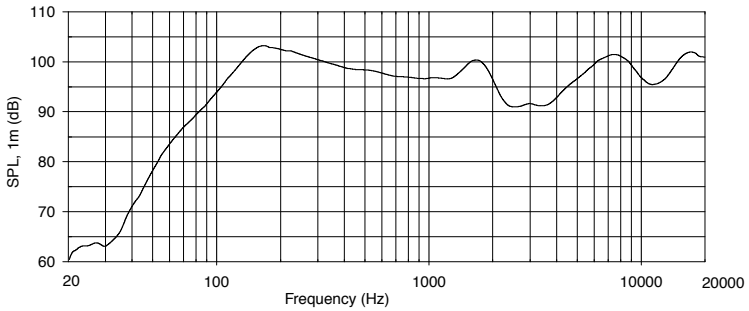
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

SPECSHEET

Control® 24CT MicroPlus

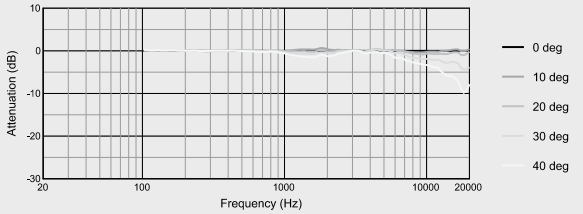
Professional Series – Background Music Ceiling Speaker

Frequency Response:

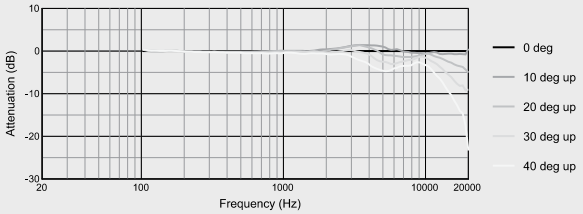


On axis in half-space, 70V input to 25W tap

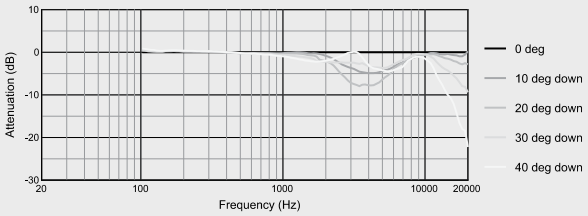
Horizontal Off Axis Frequency Response:



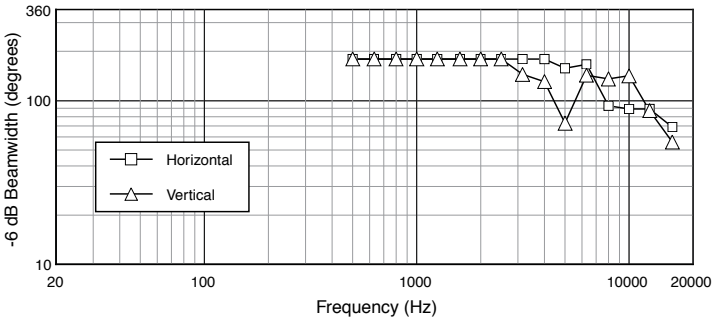
Vertical Off Axis Frequency Response (up):



Vertical Off Axis Frequency Response (down):

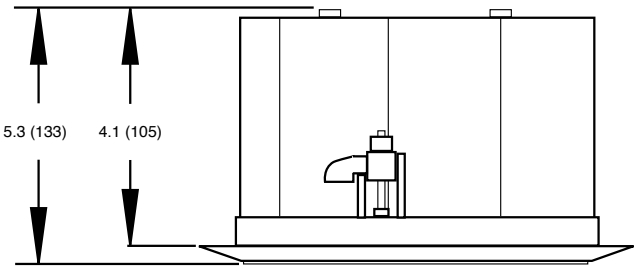


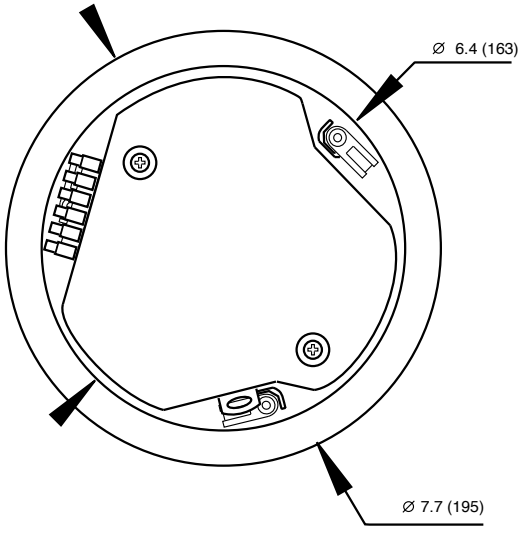
Beamwidth vs. Frequency:



Mounting Dimensions:

Dimensions in inches (mm)



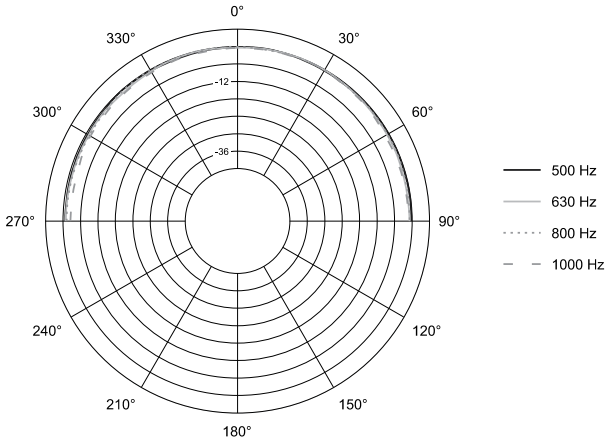


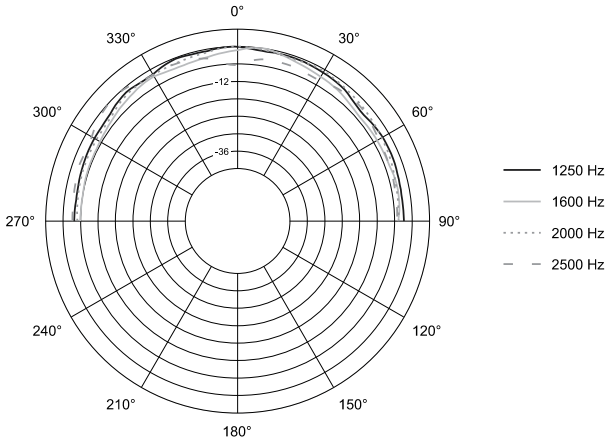
SPECSHEET

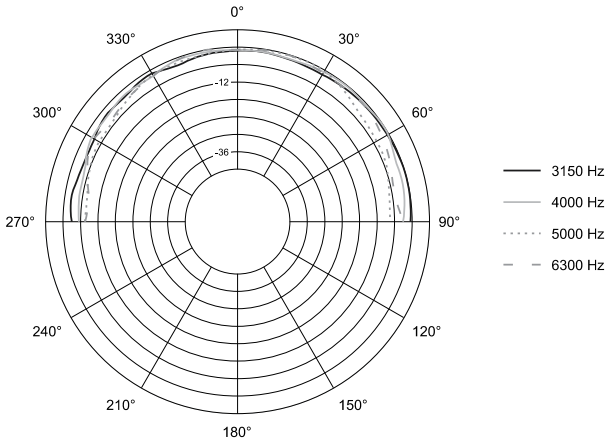
Control® 24CT MicroPlus

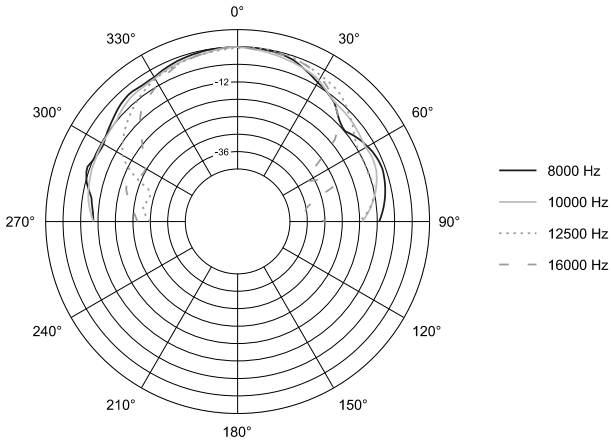
Professional Series – Background Music Ceiling Speaker

Horizontal 1/3 Octave Polars:









Architectural Specifications:

The loudspeaker shall be of in-ceiling design, consisting of a 115 mm (4.5 in) low frequency transducer, a 12 mm (0.5 in) tweeter, and frequency dividing network installed in an integral ported enclosure. The low frequency voice coil shall be 24 mm (1 in) in diameter and the cone shall be of lightweight injection molded graphite.

Performance specification of a typical production unit shall be as follows: Measured sensitivity (SPL at 1m [3.3 ft] with 2.83V input, averaged from 100 Hz to 10 kHz) shall be at least 85 dB-SPL. Usable frequency response shall extend from 80 Hz to 25 kHz (10 dB below rated sensitivity) with no external equalization.

The speaker shall have a nominal conical polar coverage pattern of 150 degrees (at -6 dB point), averaged 500 Hz to 10 kHz, and shall hold the same consistent polar coverage pattern when averaged in the intelligibility frequency band from 1 kHz to 4 kHz.

The backcan shall be constructed of formed steel and the baffle of UL94V-0 fire rated medium impact polystyrene. An agency-rated enclosed-terminal wiring block shall be provided on the side of the backcan to allow positive screw-down connection of wiring.

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

Overall front face diameter shall not exceed 195 mm (7.7 in) and overall depth from the bottom of the ceiling shall not exceed 105 mm (4.1 in).

The loudspeaker shall be equipped with transformer for use in either 70.7V or 100V distributed-line speaker systems, with taps selectable by connecting the input wire to the selected enclosed wiring block terminal. Taps shall be nominally 25W @ 70V, 12W @ 70V (25W @ 100V), and 6W @ 70V (12W @ 100V).

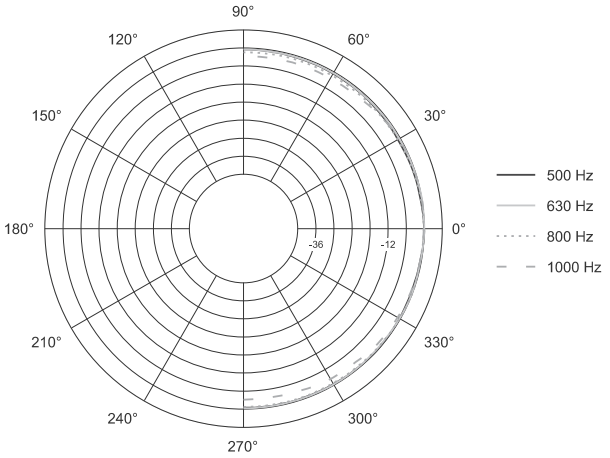
The loudspeaker shall weigh no more than 2.5 kg (5.5 lb). The loudspeaker shall be the JBL Model Control 24CT MicroPlus.

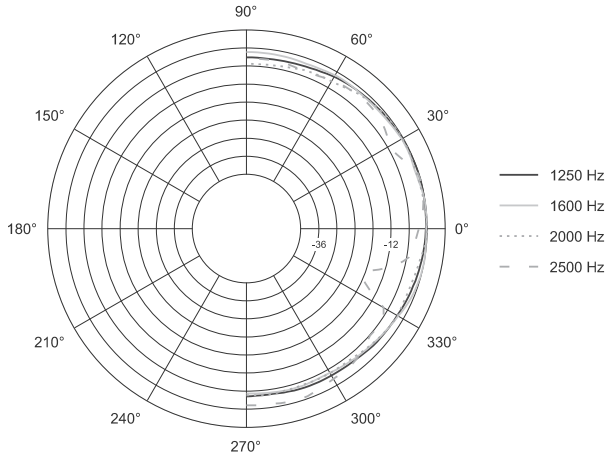
SPECSHEET

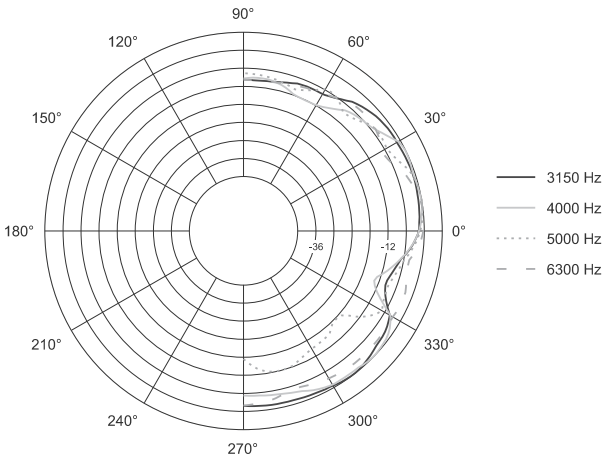
Control® 24CT MicroPlus

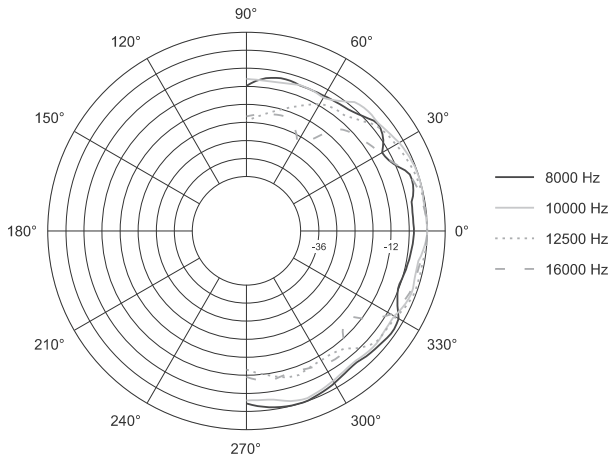
Professional Series – Background Music Ceiling Speaker

Vertical 1/3 Octave Polars:









Issued: 9/2019

SPECSHEET

Control® 26C/CT

Professional Series – Background/Foreground Ceiling Speaker

Key Features:

- Coaxially mounted 165 mm (6.5 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
- JBL's exclusive SonicGuardTM overload protection allows higher operational levels and improved system reliability (26C only)
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking

Included grille not shown

Description:

The Control 26C is a compact ceiling speaker providing premium performance in background, foreground music sound systems. The Control 26C is perfectly suited for a wide variety of applications from casinos and hotels to upscale restaurants and themed locations. High power handling, wide frequency response and low distortion make the Control 26C 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 26C's 16 ohm impedance allows use of multiple speakers in parallel without having to use a more expensive constant voltage distributed system. The optional Control 26CT version includes a multitap transformer for 70V/100V systems.

JBL's exclusive SonicGuard overload protection is a non-invasive loudspeaker protection system that is inaudible to the listener, ensuring reliability while providing full fidelity sound. 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 165 mm (6.5 in) woofer features a polyurethane-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 110° coverage pattern allows for fewer speakers to be used, making for a simpler and less expensive installation.

Specifications:

System	
Freq. Range (-10 dB)[1]	75 Hz – 20 kHz
Power Capacity[2]	150W Continuous Program Power 75W Continuous Pink Noise
Nominal Sensitivity[3]	89 dB SPL, 1W @ 1 m (3.3 ft)
Nominal Coverage Angle[4]	110° conical coverage
Directivity Factor (Q)	5.9 averaged 500 Hz to 4 kHz
Directivity Index (DI)	4.6 averaged 500 Hz to 4 kHz
Rated Maximum SPL	107 dB @ 1 m (3.3 ft)
Nominal Impedance (26C)	16 ohms (Min Z: 16.5 Ω @ 290 Hz)
Transformer Taps (26CT)	70V: 60W, 30W, 15W & 7.5W taps 100V: 60W, 30W, & 15W taps
Transducers	
Low Frequency	165 mm (6.5 in) polypropelene-coated, 1" coil on aluminum former
High Frequency	19 mm (¾ in) titanium-coated polyester
Physical	
Enclosure	Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0
Overload Protection	Full-range power limiting to protect network and transducers (Control 26C only).
Termination	Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire 12 AWG (2.5 mm²)
Safety Agency Rating	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Outside Dimensions (H x Dia)	210 x 252 mm (8.3 x 9.9 in) 190 mm (7.5 in) front of ceiling tile to back of backcan
Cutout Size	220 mm (8.75 in)
Net Weight (each)	3.4 kg (7.5 lb) CT: 4.2 kg (10 lb)
Shipping Weight (pair)	8.1 kg (18.0 lb) CT: 9.7 kg (21 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.

SPECSHEET

Control® 26C/CT

Professional Series – Background/Foreground Ceiling Speaker

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 ½ 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 26C is quick and easy. The loudspeaker is packaged complete with the backcan, grille, support backing bracket and tile rails.

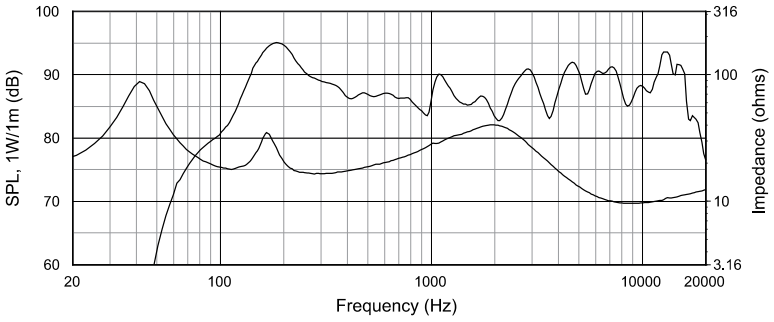
The entire installation can be accomplished without requiring access above the ceiling. A template is provided for marking the cutout. An innovative C-shaped support backing plate can be installed from below through the cutout to reinforce the top of the ceiling material. Tile bridge rails are included 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 26C 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 model Control 26CT includes a 60W multitap transformer for use in either 70.7V or 100V distributed-line systems. The transformer effectively limits the power to the speaker, so SonicGuard is not included in the Control 26CT. 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.

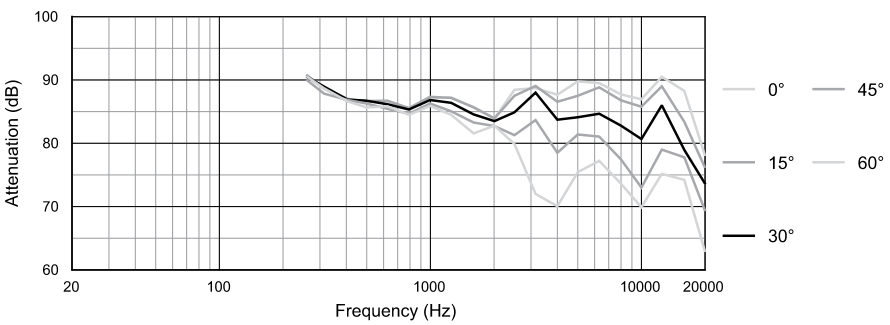
All JBL Control Contractor loudspeakers—both ceiling speakers and surface-mount models—are designed with a similar sonic signature, allowing for mixing and matching of the various models within an application, providing a similar tonal character throughout the entire listening area.

Frequency Response:



Measured on-axis with a distance referenced to 1 meter at 1 watt; shown as a half-space (2pi) environment

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

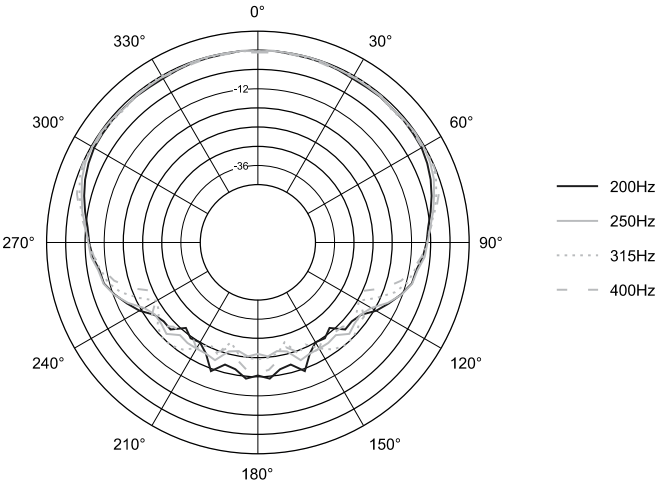


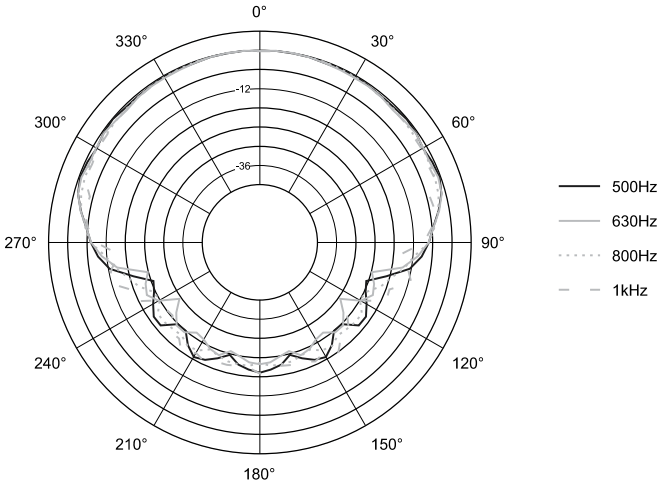
SPECSHEET

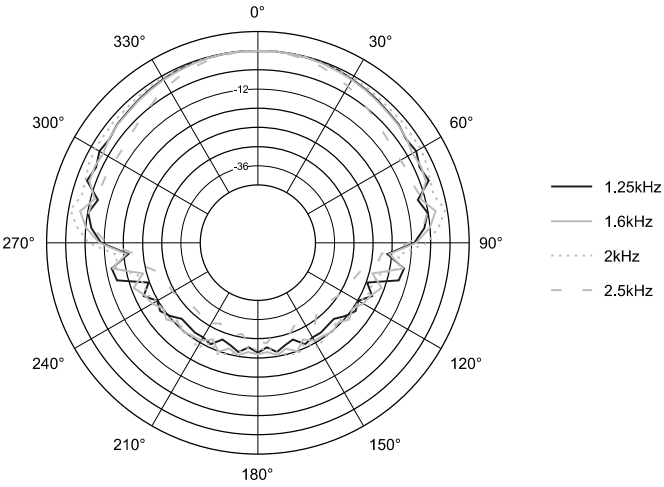
Control® 26C/CT

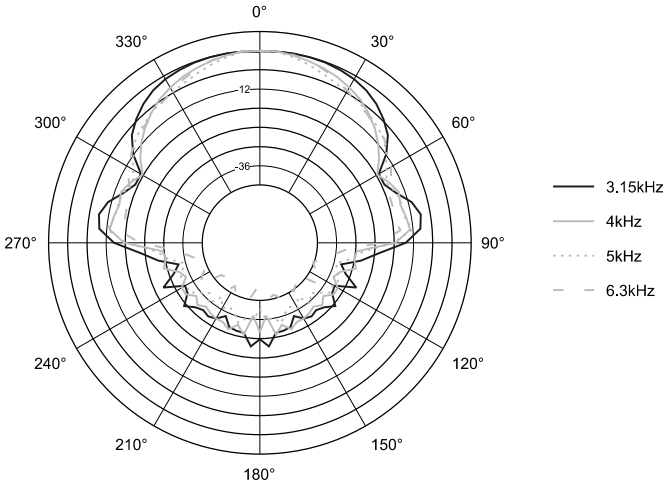
Professional Series – Background/Foreground Ceiling Speaker

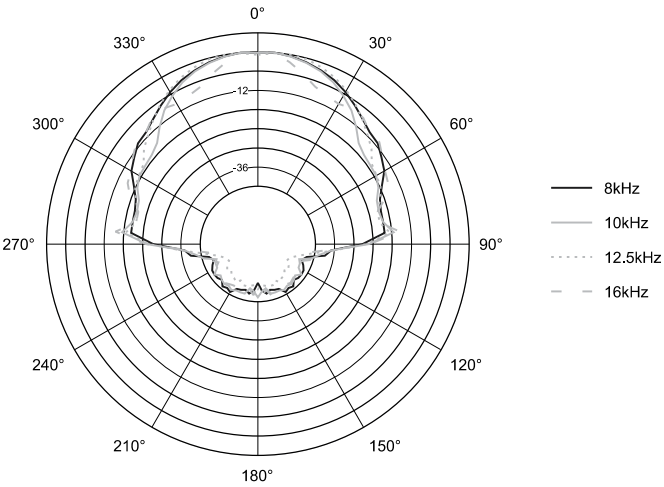
1/3 Octave Polars:











SPECSHEET

Control® 26C/CT

Professional Series – Background/Foreground Ceiling Speaker

Architectural Specifications:

The loudspeaker shall be of in-ceiling design, consisting of a 165 mm (6.5 in) low frequency transducer, a coaxially-mounted 19 mm (¾ 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 [3.3 ft] with 4V input, averaged from 100 Hz to 10 kHz) shall be at least 89 dB-SPL. Usable frequency response shall extend from 75 Hz to 20 kHz (10 dB below rated sensitivity in half-space) with no external equalization. Rated power shall be at least 75 watts continuous pink noise power, defined as conforming to international standard IEC268-5 (shaped pink noise with peak-to-average ratio of 6 dB) for a period of 100 continuous hours.

The system shall be protected against damage from occasional overpowering via full range series lamps that limit the power to the network and transducers (Control 26C, not Control 26CT). The high frequency transducer shall be horn-loaded to more evenly cover a minimum 110° 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 252 mm (9.9 in), overall depth from the bottom of the ceiling shall not exceed 190 mm (7.5 in), and shall weigh no more than 3.4 kg (7.5 lb).

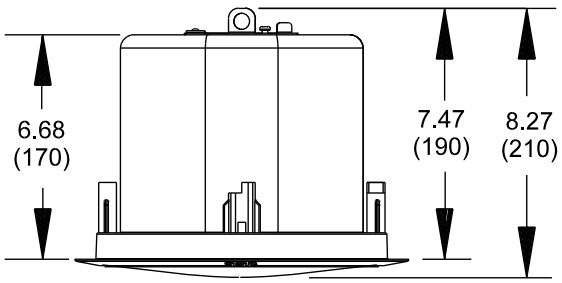
Control 26C: Nominal impedance shall be 16 ohms.

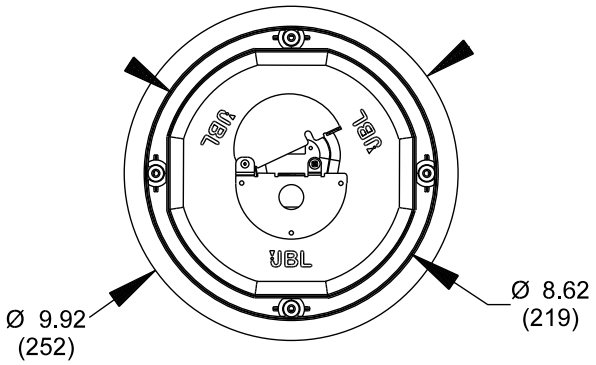
Control 26CT: The loudspeaker shall be equipped with transformer for use in either 70.7 or 100V distributed-line speaker systems, with taps selectable by rotary switch located on the front panel so that the speaker does not have to be removed to adjust tap settings. Taps shall be nominally 60W @ 70V, 30W @ 70V (60W @ 100V), 15W@ 70V (30W @ 100V), and 7.5W @70V (15W @ 100V).

The loudspeaker shall be the JBL Model Control 26C (Control 26CT).

Mounting Dimensions:

Dimensions in inches (mm)





Issued: 9/2019

SPECSHEET

Control® 26CT-LS

Professional Series – Professional Ceiling Loudspeaker for Life/Safety Applications

Key Features:

- UL1480 UUMW listed for use in fire alarm and/or emergency communication systems
- Coaxially mounted 165 mm (6.5 in) woofer with butyl rubber surround and 19 mm (3/4 in) titanium-coated diffraction-loaded tweeter
- High power, wide frequency response and low distortion for high sound level capability
- Packaged with grille, backcan and tile rails for fast installation and easy dealer stocking

Included grille not shown

Description:

The Control 26CT-LS is built on the same platform as our popular Control 26C and 26CT ceiling loudspeakers and is UL1480 UUMW listed for use in fire alarm and/or emergency communication systems.

The Control 26CT-LS is a compact ceiling speaker providing premium performance in background or foreground music sound systems. The Control 26CT-LS is perfectly suited for a wide variety of applications from casinos and hotels to upscale restaurants and themed locations. High power handling, wide frequency response and low distortion make the Control 26CT-LS 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 computer-optimized 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 165 mm (6.5 in) woofer features a polyurethane-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.

Specifications:

System	
Frequency Range (-10 dB)[1]	80 Hz – 20 kHz
Power Capacity[2]	150W Continuous Program Power 75W Continuous Pink Noise
Nominal Sensitivity[3]	89 dB SPL, 1W @ 1 m (3.3 ft)
Nominal Coverage Angle[4]	110° conical coverage
Directivity Factor (Q)	5.9 averaged 500 Hz to 4 kHz
Directivity Index (DI)	4.6 averaged 500 Hz to 4 kHz
Rated Maximum SPL	107 dB @ 1 m (3.3 ft)
Transformer Insertion Loss	Less than 0.8 dB
Transformer Taps	70V: 60W, 30W, 15W & 7.5W taps 100V: 60W, 30W, & 15W taps
Transducers	
Low Frequency	165 mm (6.5 in) polypropylene-coated, 1" coil on aluminum former
High Frequency	19 mm (¾ 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 12 AWG (2.5 mm²).
Safety Agency Rating	UL1480 UUMW listed. Suitable for use in air handling spaces per UL1480, UEAY, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Outside Dimensions (H x Dia)	210 x 252 mm (8.3 x 9.9 in) 190 mm (7.5 in) front of ceiling tile to back of backcan
Cutout Size	220 mm (8.75 in)
Net Weight (each)	4.2 kg (10 lb)
Shipping Weight (pair)	9.7 kg (21 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 – Euroblock

[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, average

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

SPECSHEET

Control® 26CT-LS

Professional Series – Professional Ceiling Loudspeaker for Life/Safety Applications

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 ½ 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 26CT-LS 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 26CT-LS backcan is made of formed steel. 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 Control 26CT-LS includes a 60W multitap transformer 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.

Safety and Regulatory Information:

The Control 26CT-LS has passed extensive testing and is in compliance with the following specifications and uses:

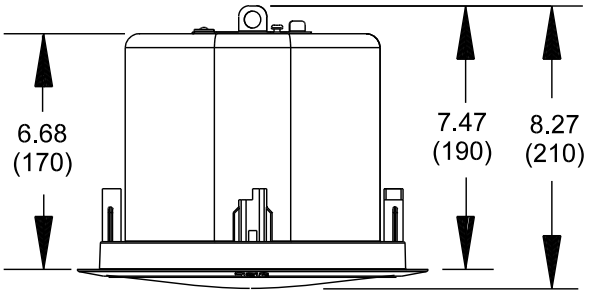
- Listed UL1480, category UUMW. For use with non-DC supervised systems.
- General Purpose Use Listed UL1480, Category UEAY
- Control 26CT-LS is suitable for use indoors in damp or dry locations
- Suitable for installation using Class 1, Class 2 or Class 3 wiring methods in accordance with NFPA 70, National Electric Code, 2002, Article 640, and with NFPA 72 for use with non-DC supervised control panels / amplifiers.
- Suitable with fire alarm circuit wiring methods in accordance with NFPA 70, National Electric Code, 2002, Article 760, and with NFPA 72 for use with non-DC supervised control panels/amplifiers.
- EMC Directive 89/336/EEC and Article 10 (1) of the directive EN50081-1 and EN50082-1
- Tested to IEC 60268-5

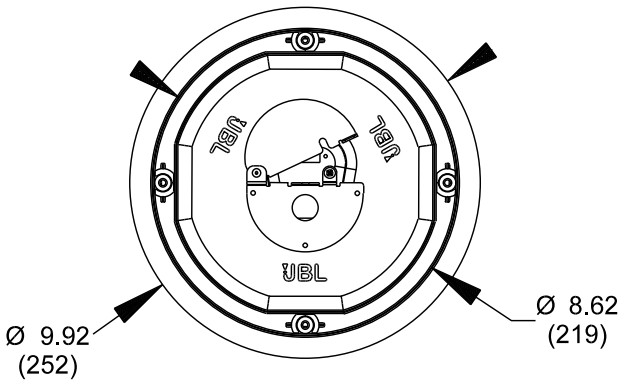
Measured audibility for the Control 26CT-LS at 10 feet (3.1 meters):

Tap	Sound Pressure Level dB(A)
70V, 7.5W	82 dB
70V, 15W	85 dB
70V, 30W	88 dB
70V, 60W	90 dB
100V, 15W	85 dB
100V, 30W	88 dB
100V, 60W	90 dB

Mounting Dimensions:

Dimensions in inches (mm)



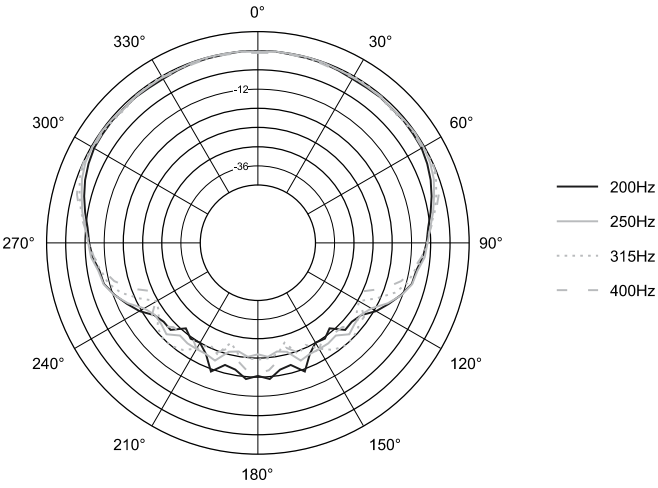


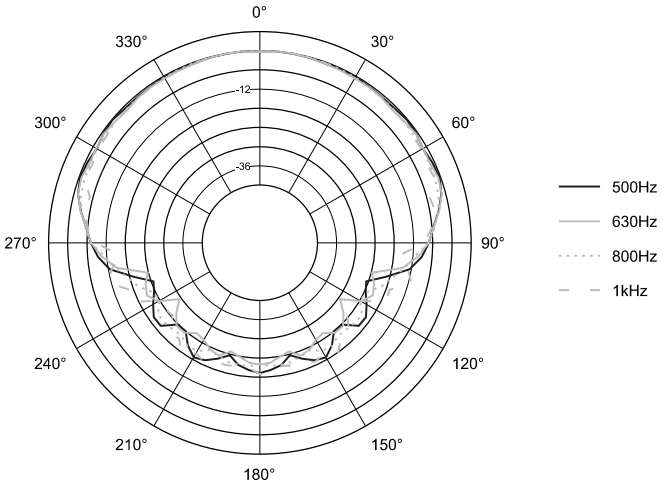
SPECSHEET

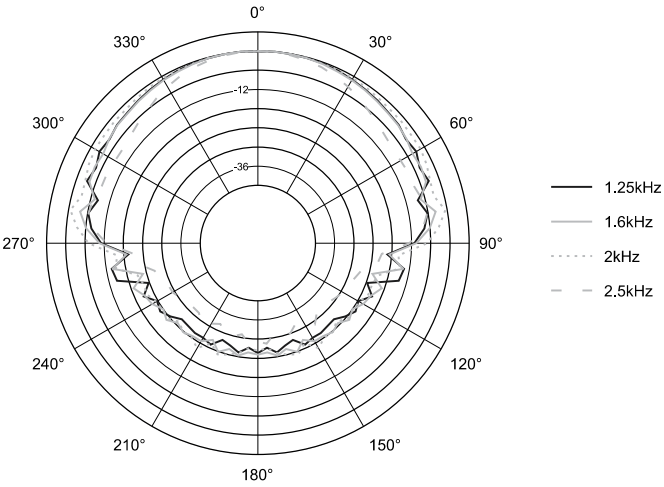
Control® 26CT-LS

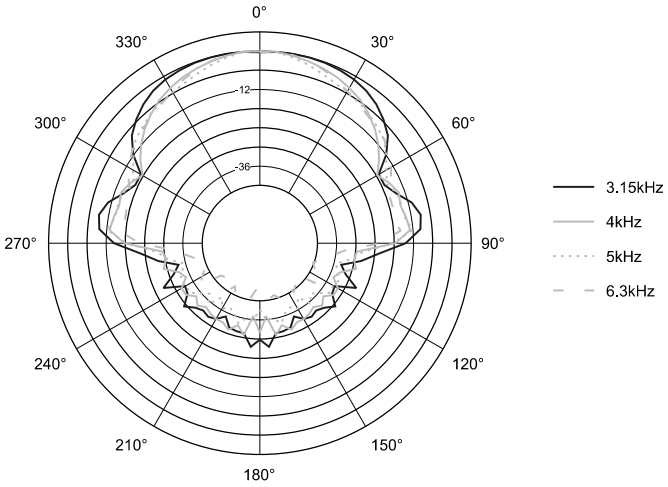
Professional Series – Professional Ceiling Loudspeaker for Life/Safety Applications

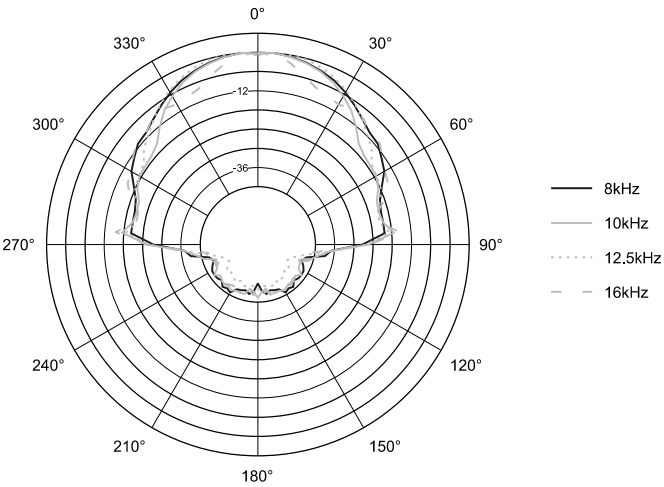
1/3 Octave Polars:









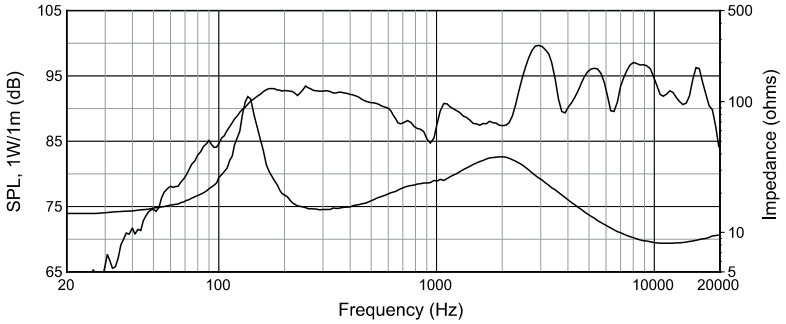


SPECSHEET

Control® 26CT-LS

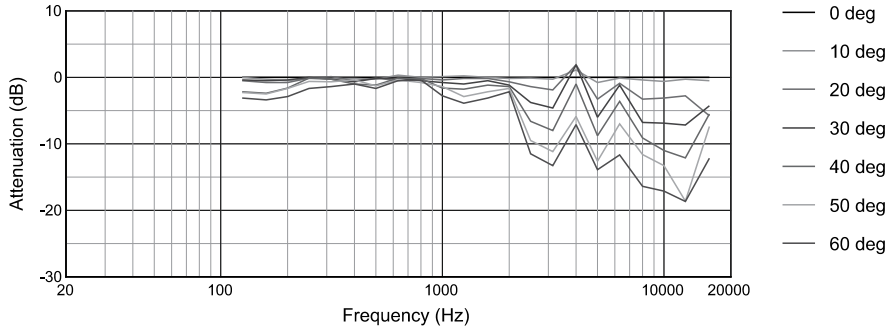
Professional Series – Professional Ceiling Loudspeaker for Life/Safety Applications

Frequency Response:



Measured on-axis with a distance referenced to 1 meter at 1 watt; shown as a half-space (2pi) environment

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



Architectural Specifications:

The loudspeaker shall be of in-ceiling design, consisting of a 165 mm (6.5 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 [3.3 ft] with 4V input, averaged from 100 Hz to 10 kHz) shall be at least 89 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 an average 110° polar conical coverage area (ave 500 Hz to 4 kHz).

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 252 mm (9.9 in), overall depth from the bottom of the ceiling shall not exceed 190 mm (7.5 in), and shall weigh no more than 4.2 kg (10 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 60W @ 70V, 30W @ 70V (60W @ 100V), 15W @ 70V (30W @ 100V), and 7.5W @70V (15W @ 100V).

The loudspeaker shall be UL certified under UL1480 UUMW for use in fire alarm systems and shall also be certified under UL2043. The transformer shall be UL registered under UL1876.

The loudspeaker shall be the JBL Model Control 26CT-LS.

Issued: 9/2019

Control® 40CS/T

8", In-Ceiling Subwoofer with Crossover

Professional Series

Key Features:

- High impact, direct radiating subwoofer with built-in passive crossover for two or four Control 42C satellite speakers.
- 200 mm (8 in) woofer with butyl rubber surround with long excursion.
- 8 ohm and 70V/100V operation.
- Integrated backcan for easy "blind-mount" install. Packaged with grille and tile rails for easy installation.

Applications:

Control 40CS/T is a direct radiating, high impact, 8" subwoofer designed to produce powerful bass performance in an in-ceiling loudspeaker. Featuring high power handling and low distortion, the Control 40CS/T subwoofer is perfect for in-ceiling sound systems requiring higher fidelity and low end extension.

The Control 40CS/T also features a built-in passive crossover network enabling the Control 40CS/T to be used as part of a subwoofer-satellite system. When combined with the Control 42C, the Control 40CS/T offers an extremely natural sounding and powerful subwoofer-satellite system that is perfect for applications requiring wide bandwidth and superior sonic performance.

Featuring a large backcan along with a high powered driver, the Control 40CS/T provides extended bass response for a warm full-bodied tone. The system's 200 mm (8 in) woofer features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity.

Ideal for small and large projects alike, the Control 40CS/T is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

(Shown with grille removed)

Specifications:

System:	
Frequency Range (-10 dB)[1]:	32 Hz - 300 Hz
Frequency Response (± 3 dB)[1]:	50 Hz - 180 Hz
Power Capacity[2]:	200 Watts Continuous Program Power 100 Watts Continuous Pink Noise
Nominal Sensitivity (2.83V/1m)[1]:	95 dB (near corner), 89 dB (center of ceiling)
Rated Maximum SPL:	109 dB @ 1 m (3.3 ft) average, 115 dB peak (center of ceiling) 115 dB @ 1 m (3.3 ft) average, 121 dB peak (near corner)
Rated Impedance:	8 ohms (in bypass mode)
Transformer Taps:	80 W 40 W, 20 W, (& 10 W @ 70V)
Transducer:	
Driver:	200 mm (8 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
Enclosure:	
Input Connectors:	Six removeable locking 2-pin connectors with screw-down terminals. Max wire 12 AWG (2.5 mm)
Knockouts:	Two (top and side)
Safety Agency:	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Dimensions:	332 mm Diameter x 338 mm Depth from back of baffle (13.1 in x 13.3 in)
Cutout Size:	307 mm Diameter (12.1 in)
Ceiling Thickness Range:	Accommodates tiles/drywall up to 70 mm (2.75 inches) thick
Weight:	8.1 kg (17.9 lbs)
Included Accessories:	C-ring support backing plate, 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles), knockout strain relief, cutout template, paint shield.
Optional Accessories:	MTC-19NC New Construction Bracket, MTC-19MR Mud Ring Construction Bracket

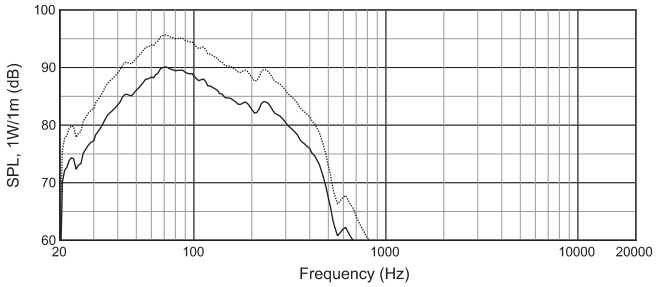
[1] Half-space (flush mounted in ceiling)
[2] Continuous Pink Noise rating is IEC-shaped pink noise with a 6 dB crest factor for 100 hours continuously. Continuous Program power is a conservative expression of the system's ability to handle normal speech and music program material, and is defined as 3 dB above the Continous Pink Noise Rating.
[3] Half-space (in ceiling) average 1 kHz to 16 kHz.

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

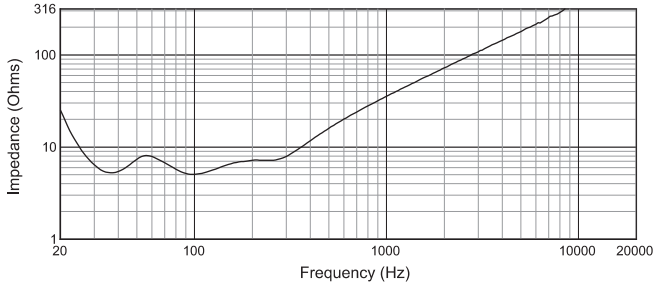
Control 40CS/T 8.5" In-Ceiling Subwoofer with Crossover

Frequency Response:

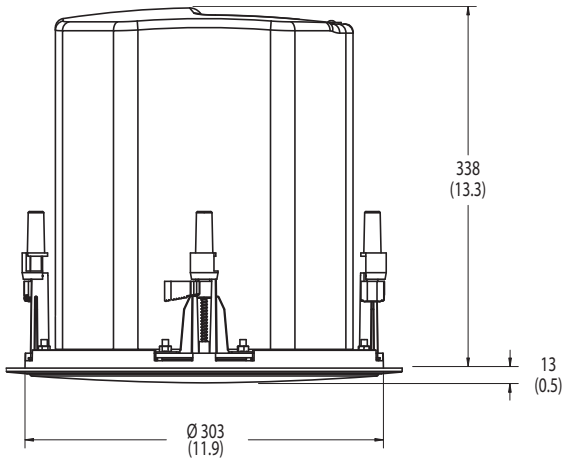
Half-space (2π, mounted in ceiling)_____
Eighth-space (π/2, mounted near corner).....

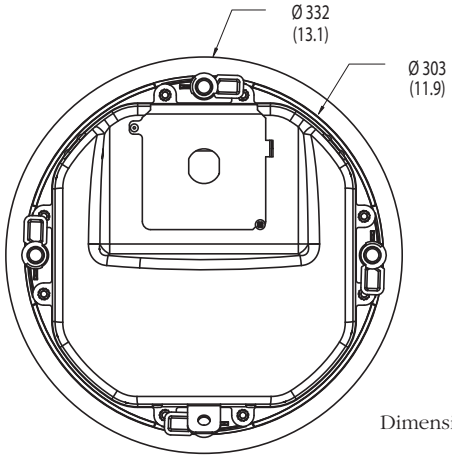


Impedance:



Dimensions:

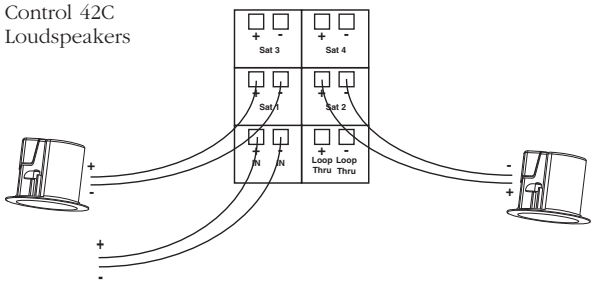




Dimensions in mm (in)

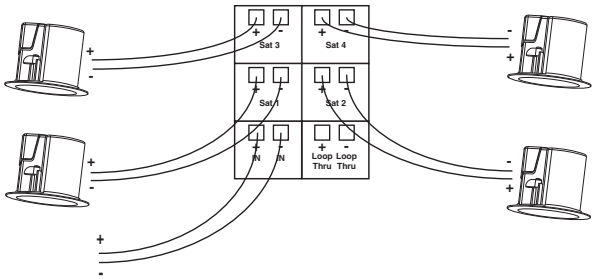
Subwoofer-Satellite Input / Ouput Termination

Using 2 Control 42C
Satellite Loudspeakers



From Power Amplifier

Using Four Control 42C
Satellite Loudspeakers



From Power Amplifier

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SS C40CS/T
CRP 5M
03/10

Control® 47C/T

Two-Way 6.5" Coaxial Ceiling Loudspeaker with Extended Bass

Professional Series

Key Features:

- Extremely consistent 120° broadband pattern control featuring JBL's exclusive conical Radiation Boundary Integrator® (RBI™) technology.
  - Provides very consistent coverage of listening area.
  - Wide coverage requires fewer speakers, reducing the cost of the installed system without sacrificing performance.
- Coaxial design featuring:
  - 165 mm (6.5 in) woofer with butyl rubber surround.
  - 25 mm (1 in) soft-dome tweeter on 250 mm (10 in) diameter wave guide.
- Bass extension to 55 Hz.
- 8 ohm and 70V/100V operation.
- Integrated backcan for easy "blind-mount" install. Packaged with grille and tile rails for easy installation.

Applications:

The Control 47C/T is a premium in-ceiling professional loudspeaker designed for applications that require extremely wide bandwidth along with very consistent coverage.

Featuring JBL's exclusive conical Radiation Boundary Integrator® (RBI™), the RBI provides a large waveguide for the tweeter while low-frequency sound projects through specially-designed apertures in the RBI, allowing for a seamless integration of coverage between the two coaxially-mounted drivers. The result is extremely consistent sound character with very little variation throughout the listening space. The wide coverage allows for the use of fewer loudspeakers compared to speakers with less consistent coverage control, while at the same time providing better coverage of the area.

The large backcan on the Control 47C/T, along with the LF driver design, provides extended bass response for a warm full-bodied tone. The system's 165 mm (6.5 in) woofer features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity. The coaxially mounted 25 mm (1 in) soft dome features internal damping for smooth extended response and ferrofluid cooling for enhanced power handling and reduced power compression. The result is crisp, clear highs.

Ideal for small and large projects alike, the Control 47C/T is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

(Shown with grille removed)

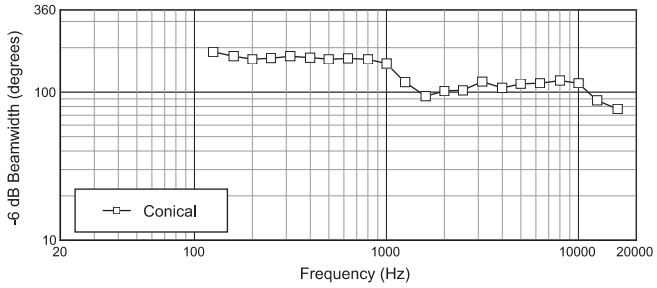
Specifications:

System:	
Frequency Range (-10 dB)[1]:	55 Hz - 20 kHz
Frequency Response (± 3 dB)[1]:	75 Hz - 17 kHz
Power Capacity[2]:	150 Watts Continuous Program Power 75 Watts Continuous Pink Noise
Nominal Sensitivity:	91 dB
Nominal Coverage Angle[3]:	120° conical coverage
Directivity Factor (Q)[3]:	6.5
Directivity Index (DI)[3]:	7.9 dB
Rated Maximum SPL:	110 dB @ 1 m (3.3 ft) average, 116 dB peak
Rated Impedance:	8 ohms (in bypass mode)
Transformer Taps:	60 W, 30 W, 15 W, (& 7.5 W @ 70 V)
Transformer Insertion Loss:	0.76 dB @ 60 W, 0.70 dB @ 30 W, 0.61 dB @ 15 W, 0.58 dB @ 7.5 W
Transducers:	
LF Driver:	165 mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
HF Driver:	25 mm (1 in) soft dome w/ dampening, ferrofluid-cooled.
Enclosure:	
Input Connectors:	Two removeable locking 2-pin connectors with screw-down terminals. Max wire 12 AWG (2.5 mm).
Knockouts:	Two (top and side)
Safety Agency:	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Dimensions:	305 mm Diameter x 259 mm Depth from back of baffle (12 in x 10.2 in)
Cutout Size:	282 mm Diameter (11.1 in)
Ceiling Thickness Range:	Accommodates tiles/drywall up to 70 mm (2.75 in) thick
Suspension Points:	Three, on top surface
Weight:	5 kg (11 lb)
Included Accessories:	C-ring support backing plate, 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles), knockout strain relief, cutout template, paint shield, 2 removable locking multi-pin connectors.
Optional Accessories:	MTC-47NC New Construction Bracket MTC-47MR Mud Ring Construction Bracket

[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 Continous Pink Noise Rating.
[3] Half-space (in ceiling) average 1 kHz to 16 kHz.

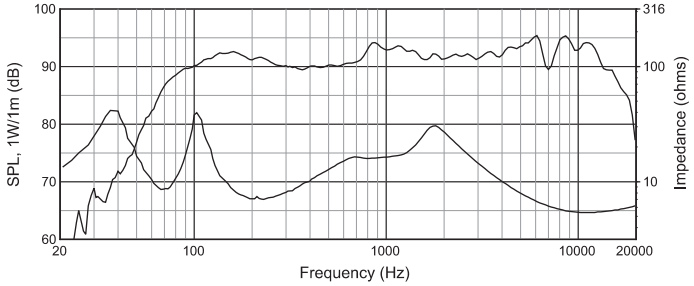
Control 47C/T Two-Way 6.5" Coaxial Ceiling Loudspeaker with Extended Bass

Beamwidth:

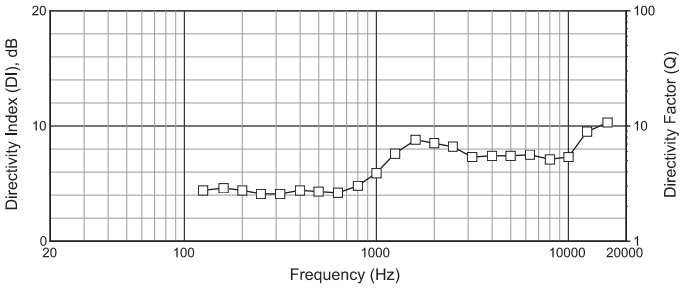


Frequency Response:

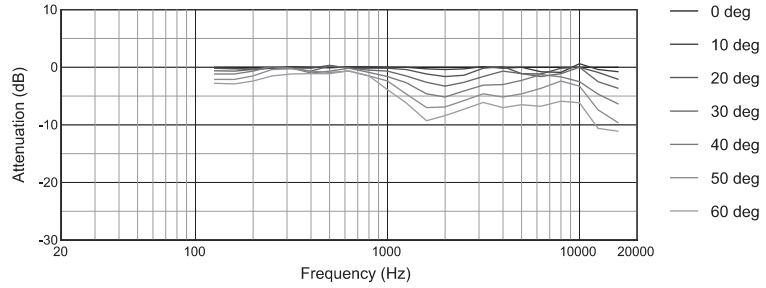
Half-space (2π, mounted in ceiling)



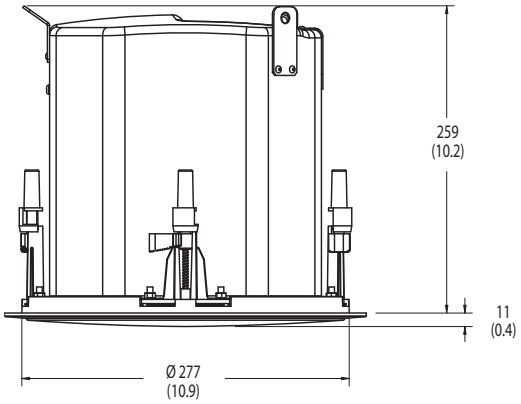
Directivity Index:

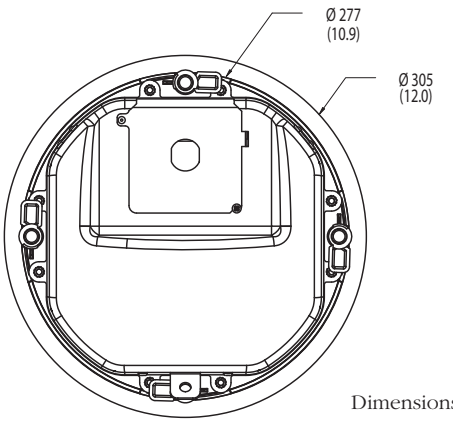


Off-Axis Frequency Response:



Dimensions:





Dimensions in mm (in)

JBL Professional
8500 Balboa Boulevard, P.O. Box 2200
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SS C47CT
CRP
03/10

Control® 42C

2.5" Ultra-Compact, In-Ceiling Satellite Loudspeaker

Professional Series

Key Features:

- Very broad 160° coverage pattern
- 60 mm (2.5 in) mid-high driver with butyl rubber surround
- 16-ohm driver, allows paralleling of multiple units on a low-Z amplifier
- Integrated backcan for easy "blind-mount" install. Packaged with grille and C-ring support backing plate for easy installation.

Applications:

The Control 42C is an ultra-compact in-ceiling professional satellite loudspeaker designed for use with the Control 40CS/T subwoofer. When combined with the Control 40CS/T, the Control 42C offers an extremely natural sounding and powerful subwoofer-satellite system that is perfect for applications requiring wide bandwidth and superior sonic performance with minimal visual impact.

The integrated backcan on the Control 42C combined with the C-ring support backing plate allows for a quick and easy installation of the unit. The system's 60 mm (2.5 in) mid-high driver features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former offers low distortion.

The 16-ohm impedance allows paralleling up to 4 speakers on a 4-ohm capable amplifier.

The Control 42C must be operated with either an active high-pass filter or a passive crossover, such as the one built into the Control 40CS/T subwoofer, to protect it against damage from low frequencies.

Because of the very light weight of Control 42C, tile rails may not be required for many in-ceiling applications. They are not packaged with this model, however MTC-RAIL tile rail sets are available separately.

Housed in a compact package, the lightweight Control 42C features an elegant, unobtrusive design and is ideal for both small and large projects alike.

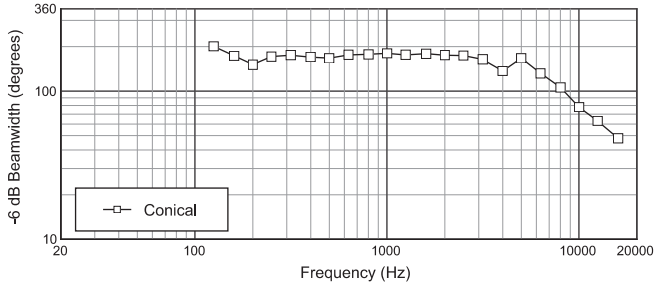
Specifications:

System:	
Frequency Range (-10 dB)[1]:	140 Hz - 20 kHz
Frequency Response (± 3 dB)[1]:	180 Hz - 17 kHz
Power Capacity[2]:	30 Watts Continuous Program Power 15 Watts Continuous Pink Noise
Nominal Sensitivity (2.83V/1m)[1]:	82 dB
Nominal Coverage Angle[3]:	160° conical coverage
Directivity Factor (Q)[3]:	6.6
Directivity Index (DI)[3]:	6.8 dB
Rated Maximum SPL:	94 dB @ 1 m (3.3 ft) average, 114 dB peak
Rated Impedance:	16 ohms
Transducer:	
Driver:	60 mm (2.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
Enclosure:	
Input Connectors:	Two removeable locking 2-pin connectors with screw-down terminals. Max wire 12 AWG (2.5 mm).
Knockouts:	Two (top and side)
Safety Agency:	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Dimensions:	127 mm Diameter x 94 mm depth (5.0 in x 4.2 in) from back of baffle
Cutout Size:	104 mm Diameter (4.1 in)
Ceiling Thickness Range:	Accommodates tiles/drywall up to 27 mm (1.1 inches) thick
Weight:	0.7 kg (1.6 lb)
Included Accessories:	C-ring support backing plate, knockout strain relief, cutout template, paint shield.
Optional Accessories:	MTC-RAIL tile rails MTC-42NC New Construction bracket MTC-42MR Mud Ring Construction Bracket

[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 Continous Pink Noise Rating.
[3] Half-space (in ceiling) average 1 kHz to 16 kHz.

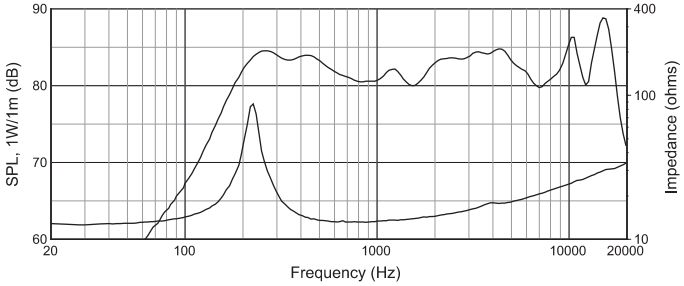
Control 42C 2.5" Ultra Compact, In-Ceiling Satellite Loudspeaker

Beamwidth:

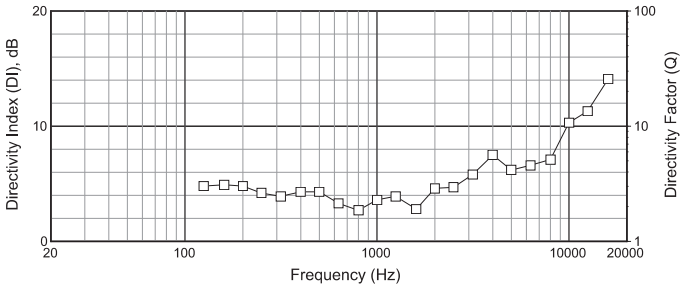


Frequency Response:

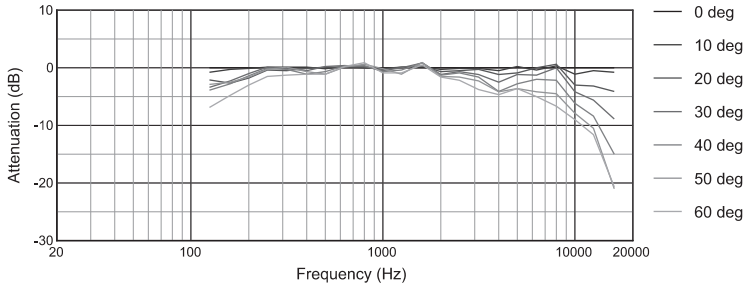
Half-space (2π, mounted in ceiling)



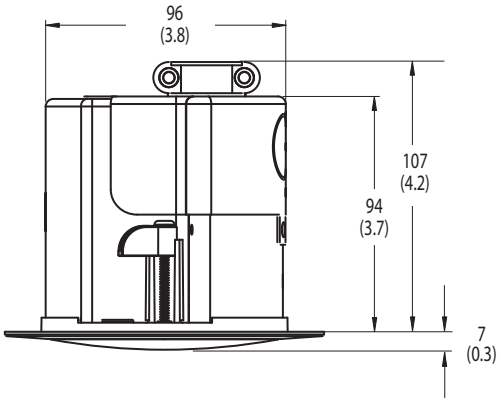
Directivity Index:

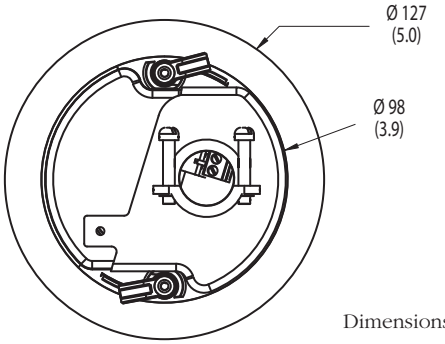


Off-Axis Frequency Response:



Dimensions:





Dimensions in mm (in)

JBL Professional
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Northridge, California 91329 U.S.A.
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SPECSHEET

Control® 47C/T

Professional Series – Two-Way 6.5” Coaxial Ceiling Loudspeaker with Extended Bass

Key Features:

- Extremely consistent 120° broadband pattern control featuring JBL’s exclusive conical Radiation Boundary Integrator® (RBI™) technology:
  - Provides very consistent coverage of listening area
  - Wide coverage requires fewer speakers, reducing the cost of the installed system without sacrificing performance
- Coaxial design:
  - 165 mm (6.5 in) woofer with butyl rubber surround
  - 25 mm (1 in) soft-dome tweeter on 250 mm (10 in) diameter wave guide
- Bass extension to 55 Hz
- 8 ohm and 70V/100V operation
- Integrated backcan for easy “blind-mount” install
- Packaged with grille and tile rails for easy installation

Included grille not shown

Description:

The Control 47C/T is a premium in-ceiling professional loudspeaker designed for applications that require extremely wide bandwidth along with very consistent coverage.

Featuring JBL’s exclusive conical Radiation Boundary Integrator® (RBI™), the RBI provides a large waveguide for the tweeter while low-frequency sound projects through specially-designed apertures in the RBI, allowing for a seamless integration of coverage between the two coaxially mounted drivers. The result is extremely consistent sound character with very little variation throughout the listening space. The wide coverage allows for the use of fewer loudspeakers compared to speakers with less consistent coverage control, while at the same time providing better coverage of the area.

The large backcan on the Control 47C/T, along with the LF driver design, provides extended bass response for a warm full-bodied tone. The system’s 165 mm (6.5 in) woofer features a polypropylene cone and pure butyl rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity. The coaxially mounted 25 mm (1 in) soft dome features internal damping for smooth extended response and ferrofluid cooling for enhanced power handling and reduced power compression. The result is crisp, clear highs.

Ideal for small and large projects alike, the Control 47C/T is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

Specifications:

System	
Frequency Range (-10 dB)[1]	55 Hz – 20 kHz
Frequency Response (± 3 dB)[1]	75 Hz – 17 kHz
Power Capacity[2]	150W Continuous Program Power 75W Continuous Pink Noise
Nominal Sensitivity	91 dB
Nominal Coverage Angle[3]	120° conical coverage
Directivity Factor (Q)[3]	6.5
Directivity Index (DI)[3]	7.9 dB
Rated Maximum SPL	110 dB @ 1 m (3.3 ft) average, 116 dB peak
Rated Impedance	8 ohms (in bypass mode)
Transformer Taps	60W, 30W, 15W, (& 7.5W @ 70 V)
Transformer Insertion Loss	0.76 dB @ 60W, 0.70 dB @ 30W, 0.61 dB @ 15W, 0.58 dB @ 7.5W
Transducers	
LF Driver	165 mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former
HF Driver	25 mm (1 in) soft dome w/ dampening, ferrofluid-cooled
Enclosure	
Input Connectors	Two removable locking 2-pin connectors with screw-down terminals; max wire size 12 AWG (2.5 mm)
Knockouts	Two (top and side)

Safety Agency	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70; S7232/UL listed, signaling speaker; transformer UL registered per UL1876; in accordance with IEC60849/EN60849
Dimensions	305 mm diameter x 259 mm depth from back of baffle (12 in x 10.2 in)
Cutout Size	282 mm diameter (11.1 in)
Ceiling Thickness Range	Accommodates tiles/drywall up to 70 mm (2.75 in) thick
Suspension Points	Three, on top surface
Weight	5 kg (11 lb)
Included Accessories	» C-ring support backing plate » 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) » Knockout strain relief » Cutout template » Paint shield » 2 removable locking multi-pin connectors » Grille
Optional Accessories	» MTC-47NC New Construction Bracket » MTC-47MR Mud Ring Construction Bracket

[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 1 kHz to 16 kHz

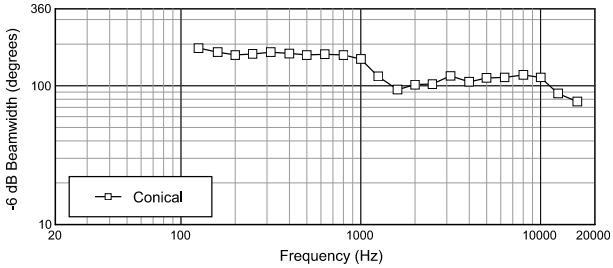
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

SPECSHEET

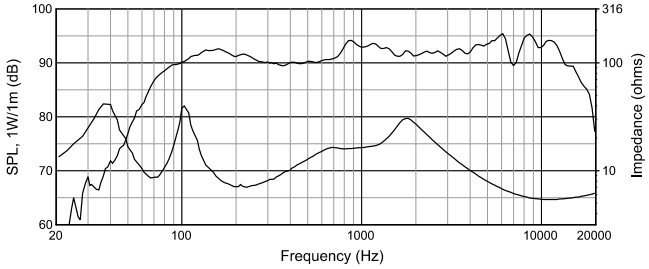
Control® 47C/T

Professional Series – Two-Way 6.5” Coaxial Ceiling Loudspeaker with Extended Bass

Beamwidth:

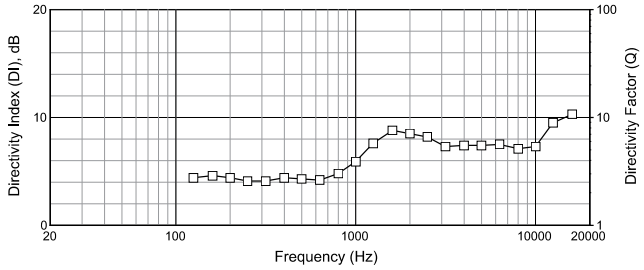


Frequency Response:

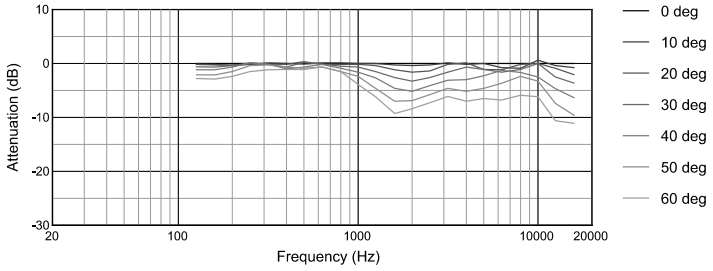


Half-space (2pi, mounted in ceiling); input impedance (lower solid line)

Directivity Index:

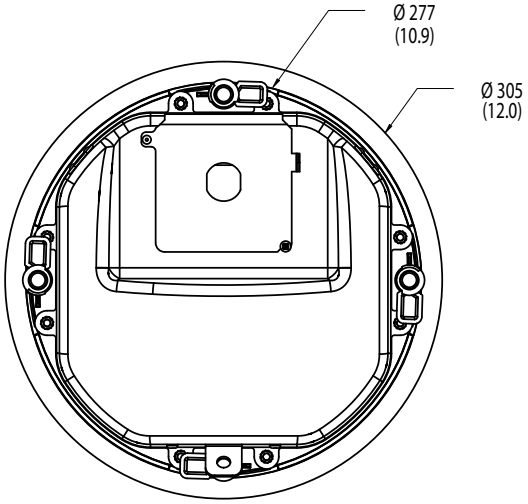


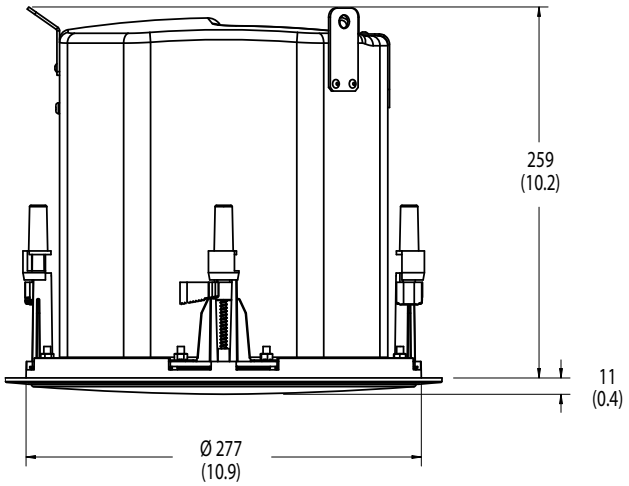
Off-Axis Frequency Response:



Mounting Dimensions:

Dimensions in mm (inches)





Issued: 9/2019

SPECSHEET

Control® 47LP

Professional Series – Two-Way 6.5” Coaxial Low-Profile Ceiling Loudspeaker

Key Features:

- Extremely consistent 120° broadband pattern control featuring JBL’s exclusive conical Radiation Boundary Integrator® (RBI™) technology:
  - Provides very consistent coverage of listening area
  - Wide coverage requires fewer speakers, reducing the cost of the installed system without sacrificing performance
- Coaxial design:
  - 165 mm (6.5 in) woofer with butyl rubber surround
  - 25 mm (1 in) soft-dome tweeter on 250 mm (10 in) diameter wave guide
- Slim design (142 mm / 5.6 in) for use in spaces with restricted / shallow mounting depths
- 8 ohm and 70V/100V operation
- Integrated backcan for easy “blind-mount” install
- Packaged with grille and tile rails for easy installation

Included grille not shown

Description:

The Control 47LP is a premium in-ceiling professional loudspeaker designed for applications that require extremely wide bandwidth along with very consistent coverage.

Featuring JBL’s exclusive conical Radiation Boundary Integrator® (RBI™), the RBI provides a large waveguide for the tweeter while low-frequency sound projects through specially-designed apertures in the RBI, allowing for a seamless integration of coverage between the two coaxially mounted drivers. The result is extremely consistent sound character with very little variation throughout the listening space. The wide coverage allows for the use of fewer loudspeakers compared to speakers with less consistent coverage control, while at the same time providing better coverage of the area.

The shallow backcan on the Control 47LP enable the system to be installed into areas with shallow or restricted mounting depths. The Control 47LP’s 165 mm (6.5 in) woofer features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity. The coaxially mounted 25 mm (1 in) soft dome features internal damping for smooth extended response and ferrofluid cooling for enhanced power handling and reduced power compression. The result is crisp, clear highs.

Ideal for small and large projects alike, the Control 47LP is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

Specifications:

System	
Frequency Range (-10 dB)[1]	68 Hz - 20 kHz
Frequency Response (± 3 dB)[1]	100 Hz - 17 kHz
Power Capacity[2]	150W Continuous Program Power 75W Continuous Pink Noise
Nominal Sensitivity	91 dB
Nominal Coverage Angle[3]	120° conical coverage
Directivity Factor (Q)[3]	6.5
Directivity Index (DI)[3]	7.9 dB
Rated Maximum SPL	110 dB @ 1 m (3.3 ft) average, 116 dB peak
Rated Impedance	8 ohms (in bypass mode)
Transformer Taps	60W, 30W, 15W, (& 7.5W @ 70 V)
Transformer Insertion Loss	0.76 dB @ 60W, 0.70 dB @ 30W, 0.61 dB @ 15W, 0.58 dB @ 7.5W
Transducers	
LF Driver	165 mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former
HF Driver	25 mm (1 in) soft dome w/ dampening, ferrofluid-cooled
Enclosure	
Input Connectors	Two removable locking 2-pin connectors with screw-down terminals; max wire 12 AWG (2.5 mm)
Knockouts	Two (top and side)

Safety Agency	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70; S7232/UL listed, signaling speaker; transformer UL registered per UL1876; in accordance with IEC60849/EN60849
Dimensions	305 mm diameter x 142 mm depth from back of baffle (12 in x 5.6 in)
Cutout Size	282 mm diameter (11.1 in)
Ceiling Thickness Range	Accommodates tiles/drywall up to 70 mm (2.75 in) thick
Weight	4.3 kg (9.5 lb)
Included Accessories	» C-ring support backing plate » 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) » Knockout strain relief » Cutout template » Paint shield » 2 removable locking multi-pin connectors » Grille
Optional Accessories	» MTC-47NC new construction bracket » MTC-47MR mud-ring construction bracket

[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 1 kHz to 16 kHz

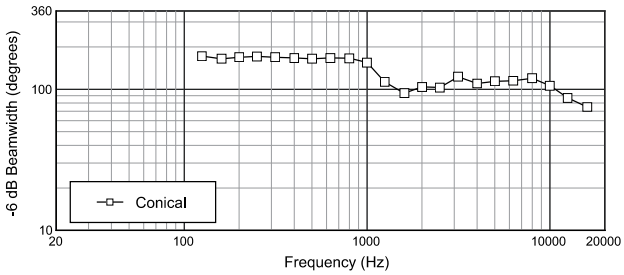
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

SPECSHEET

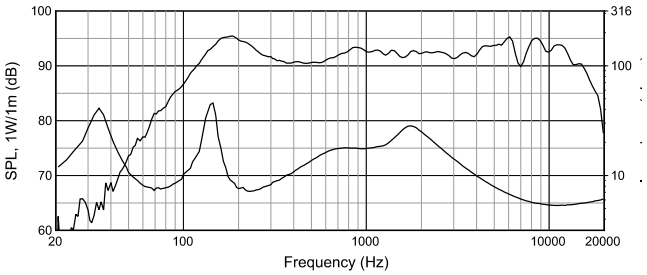
Control® 47LP

Professional Series – Two-Way 6.5” Coaxial Low-Profile Ceiling Loudspeaker

Beamwidth:

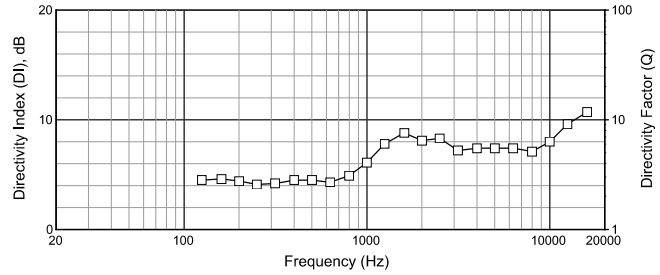


Frequency Response:

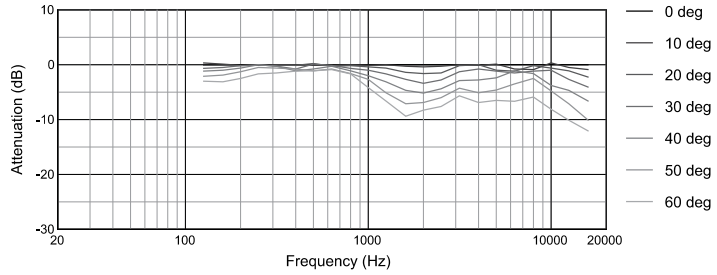


Half-space (2pi, mounted in ceiling); input impedance (lower solid line)

Directivity Index:

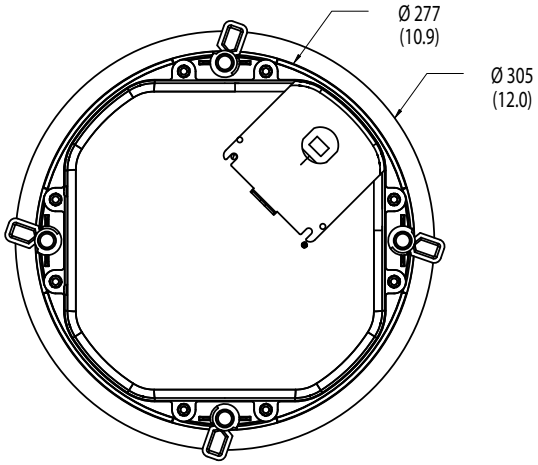


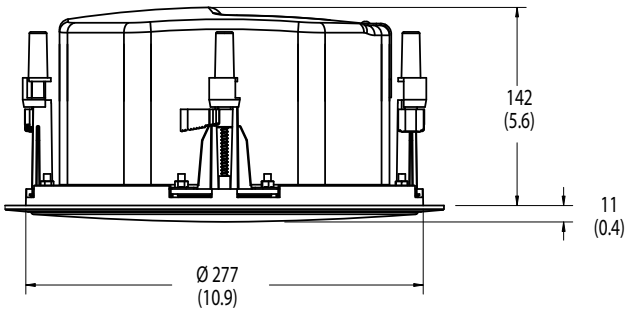
Off-Axis Frequency Response:



Mounting Dimensions:

Dimensions in mm (inches)





Issued: 9/2019

Control® 47HC

Two-Way 6.5" Coaxial Ceiling Loudspeaker for High Ceilings

Professional Series

Key Features:

- Focused 75° narrow pattern featuring JBL's exclusive conical Radiation Boundary Integrator® (RBI™) technology.
  - Provides consistent coverage within the listening area.
  - Narrow coverage makes the system ideal for high-ceiling applications, minimizing time arrival anomalies and improving speech intelligibility.
- Coaxial design featuring:
  - 165 mm (6.5 in) woofer with butyl rubber surround.
  - 25 mm (1 in) soft-dome tweeter on 280 mm (11 in) diameter wave guide.
- 8 ohm and 70V/100V operation.
- Integrated backcan for easy "blind-mount" install. Packaged with grille and tile rails for easy installation.

(Shown with grille removed)

Applications:

The Control 47HC is a premium in-ceiling professional loudspeaker designed for applications that require a focused beamwidth pattern along with very consistent coverage.

Featuring JBL's conical Radiation Boundary Integrator® (RBI™), the RBI provides a large waveguide for the tweeter while low-frequency sound projects through specially-designed apertures in the RBI, allowing for a seamless integration of coverage between the two coaxially-mounted drivers. The result is extremely consistent sound character with very little variation throughout the listening space. The Control 47HC's narrow coverage pattern makes the system ideal for high ceiling applications where the focused pattern helps minimized time arrival anomalies from adjacent loudspeakers, resulting in improved speech intelligibility.

The large backcan on the Control 47HC along with the LF driver design, provides extended bass response for a warm full-bodied tone. The system's 165 mm (6.5 in) woofer features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity. The coaxially mounted 25 mm (1 in) soft dome features internal damping for smooth extended response and ferrofluid cooling for enhanced power handling and reduced power compression. The result is crisp, clear highs.

Ideal for small and large projects alike, the Control 47HC is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

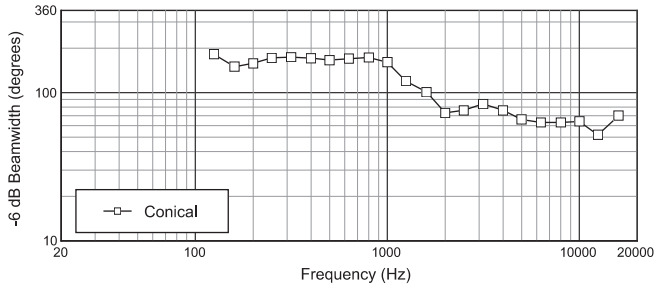
Specifications:

System:	
Frequency Range (-10 dB)[1]:	55 Hz - 17 kHz
Frequency Response (± 3 dB)[1]:	70 Hz - 14 kHz
Power Capacity[2]:	150 Watts Continuous Program Power 75 Watts Continuous Pink Noise
Nominal Sensitivity:	93 dB
Nominal Coverage Angle[3]:	75° conical coverage
Directivity Factor (Q)[3]:	10.2
Directivity Index (DI)[3]:	12.0 dB
Rated Maximum SPL:	112 dB @ 1 m (3.3 ft) average, 118 dB peak
Rated Impedance:	8 ohms (in bypass mode)
Transformer Taps:	60 W, 30 W, 15 W, (& 7.5 W @ 70 V)
Transformer Insertion Loss:	0.76 dB @ 60 W, 0.70 dB @ 30 W, 0.61 dB @ 15 W, 0.58 dB @ 7.5 W
Transducers:	
LF Driver:	165 mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
HF Driver:	25 mm (1 in) soft dome w/ dampening, ferrofluid-cooled.
Enclosure:	
Input Connectors:	Two removeable locking 2-pin connectors with screw-down terminals. Max wire 12 AWG (2.5 mm).
Knockouts:	Two (top and side)
Safety Agency:	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
Dimensions:	332 mm Diameter x 351 mm Depth from back of baffle (13.1 in x 13.8 in)
Cutout Size:	307 mm Diameter (12.1 in)
Ceiling Thickness Range:	Accommodates tiles/drywall up to 70 mm (2.75 in) thick
Suspension Points:	Three, on top surface
Weight:	6.4 kg (14 lb)
Included Accessories:	C-ring support backing plate, 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles), knockout strain relief, cutout template, paint shield, 2 removable locking multi-pin connectors.
Optional Accessories:	MTC-19NC New Construction Bracket MTC-19MR Mud Ring Construction Bracket

[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 Continous Pink Noise Rating.
[3] Half-space (in ceiling) average 1 kHz to 16 kHz.

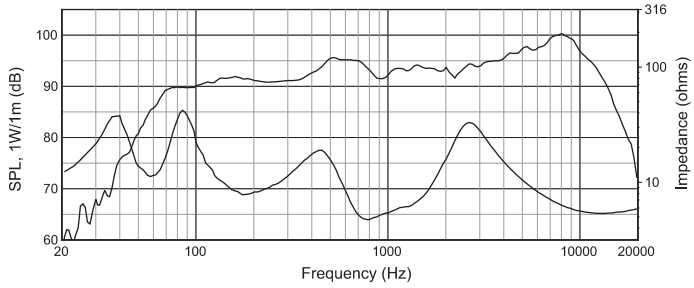
Control 47HC Two-Way 6.5" Coaxial Ceiling Loudspeaker for High Ceilings

Beamwidth:

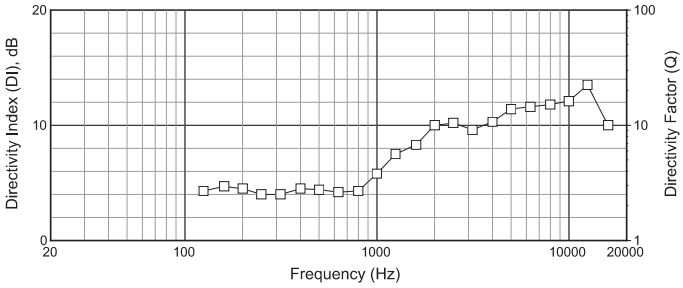


Frequency Response:

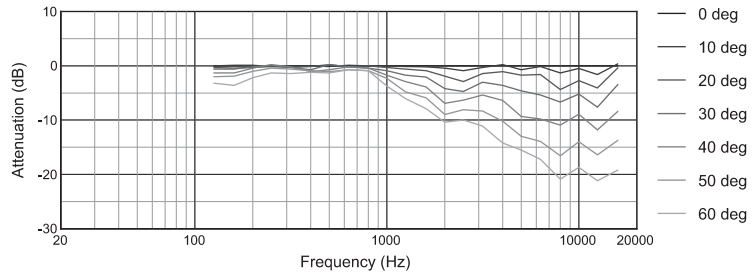
Half-space (2π, mounted in ceiling)



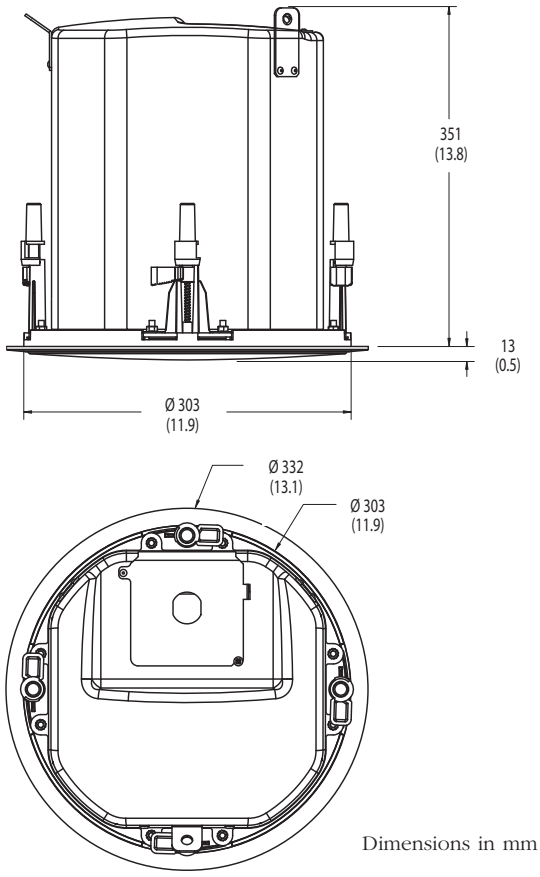
Directivity Index:



Off-Axis Frequency Response:



Dimensions:



Dimensions in mm (in)

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Control® 226C/T

6.5" Coaxial Ceiling Loudspeaker with HF Compression Driver

Professional Series

Key Features:

- Consistent 120° broadband pattern control for exceptional coverage.
- Coaxial design featuring:
  - Kevlar-reinforced 165 mm (6.5 in) woofer
  - 25 mm (1 in) compression driver.
- Extraordinary clarity for speech and vocals with extended frequency response for music.
- 150 Watts Power Handling.
- Advanced high-slope crossover network for constant coverage and smooth, natural midrange.
- Integrated back can with clean, contemporary grille.

Applications:

The JBL Professional Control 226C/T is a premium in-ceiling professional loudspeaker designed for applications requiring superior quality sound in ceiling-mount applications. Delivering exceptional next-generation performance in a medium format coaxial point source design, the Control 226C/T incorporates breakthrough performance features such as best-in-class pattern control to provide a consistent sound throughout the listening area. Especially wide coverage allows fewer speakers to cover the space, reducing both the material and labor cost for the installation.

The Control 226C/T features a 165 mm (6.5 in) Kevlar-reinforced low frequency driver coupled with a 25 mm (1 in) exit titanium compression driver for outstanding reliability and performance. The system is complete with a pre-attached back can and is designed for years of maintenance free use.

Easy to install, the Control 226C/T features JBL Professional's proven C-Ring with Tile Rail suspension system. Installation can be accomplished from beneath the ceiling structure for instances when access above the ceiling tile is not possible. Additionally, the removable multi-pin locking connector, with secure screw-down terminals, allows for pre-wiring the input wires for easy clip-on convenience during installation.

A top quality, low saturation 68 Watt multi-tap transformer comes pre-attached on the Control 226C/T enabling the system to be used on 70V or 100V distributed speaker lines. The system can be used in either 8 ohm (low impedance) or transformer mode by selecting the desired function via the baffle mounted impedance switch.

The clean, contemporary look of the Control 226C/T's grille is designed to suit a variety of settings, offering a simple, elegant appearance that fits into a wide variety of décors.

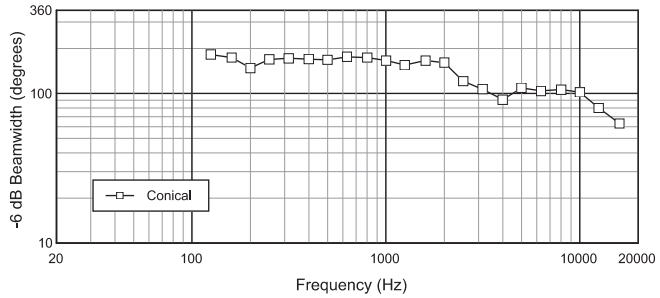
Preliminary Specifications:

System:	Frequency Range (-10 dB)[1]:	47 Hz - 19 kHz
	Frequency Response (±3 dB)[1]:	74 Hz - 17 kHz
	Coverage Pattern[2]:	120° conical, broadband
	Directivity Factor (Q):	6 (1 k - 16 kHz)
	Directivity Index (DI):	7.9 dB (1 k - 16 kHz)
	Long-Term System Power Rating, IEC[3]:	150 W (600 W peak), 2 hrs 100 W (400 W peak), 100 hrs
	Sensitivity (2.83V @ 1 m):	90 dB[4] measured half-space 95 dB[5] computed for competitive comparison
	Maximum SPL[6]:	112 dB continuous average (118 dB peak)
	Crossover Network:	2.2 kHz, 3rd order (18 dB/oct) high-pass plus conjugate to HF, 3rd order low-pass to LF.
	Nominal Impedance (bypass mode):	8 ohms
	Transformer Taps:	70V: 68W, 34W, 17W, 8.5W 100V: 68W, 34W, 17W
Transducers:	Low Frequency Driver:	165 mm (6.5 in) Kevlar reinforced cone
	High Frequency Driver:	25 mm (1 in) exit compression driver
Enclosure:	Input Connectors:	Two removable locking 2-pin connector with screw-down terminals. Max wire 12 AWG (2.5 mm) 1) + in, 2) – in, A) + loop thru, B) – loop thru
	Tap Settings:	8 ohm 8.5W @ 70V, 17W @ 100V 17W @ 70V, 34W @ 100V 34W @ 70V, 68W @ 100V 68W @ 70V, n/c @ 100V
	Safety Agency Rating:	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.
	Dimensions (Diameter x Depth):	Ø 330 mm (13 in) round baffle x depth from back of baffle of 246 mm (9.7 in)
	Cutout Size:	Ø 307 mm (12.1 in)
	Net Weight:	9.1 kg (20.0 lb)
	Shipping Weight (in pairs):	23.9 kg (52.5 lb)
	Included Accessories:	Press-in Grille, C-Ring, Tile Rails.
	Optional Accessories:	MTC-19NC New Construction Bracket MTC-19MR Mud Ring Construction Bracket

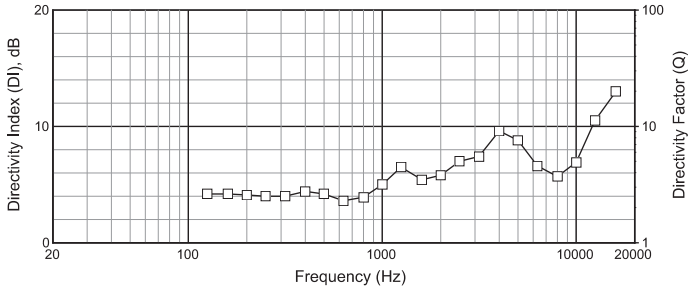
[1]In half space (in ceiling)
[2]Average 1 kHz to 16 kHz
[3]IEC standard, full bandwidth pink noise with 6 dB crest factor.
[4]Measured in half space (in ceiling), ave 100 Hz - 10 kHz
[5]Measured in full space with 6 dB added for half-space calculation. Method used by some European manufacturers, listed for comparison purposes.
[6]Calculated based on power rating and measured half-space sensitivity, exclusive of power compression.

Control® 226C/T 6.5" Coaxial Ceiling Loudspeaker

Beamwidth:

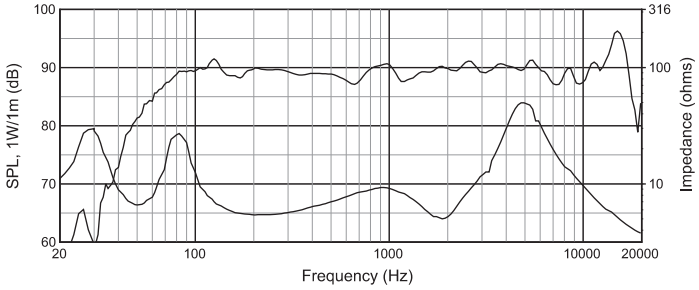


Directivity Index:

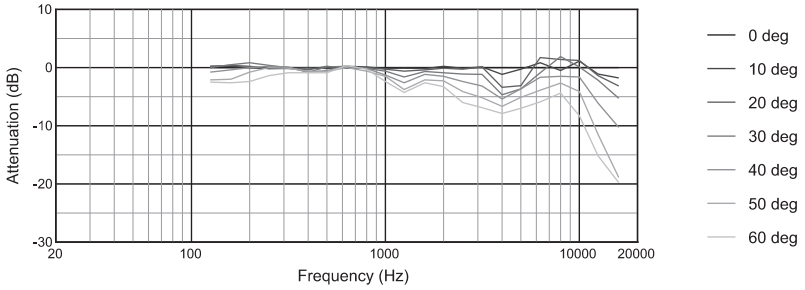


Frequency Response:

Half-space (2π, mounted in ceiling) in 0.5 cu ft Backbox

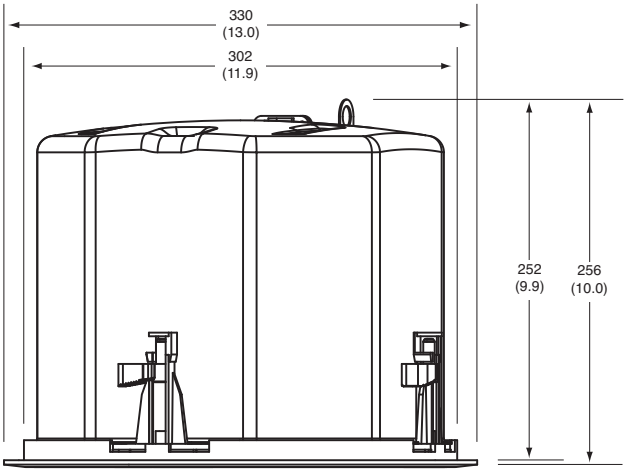


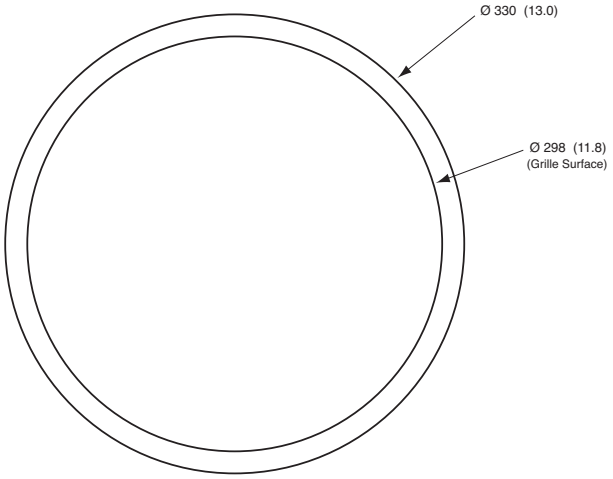
Horizontal Off-Axis Frequency Response:

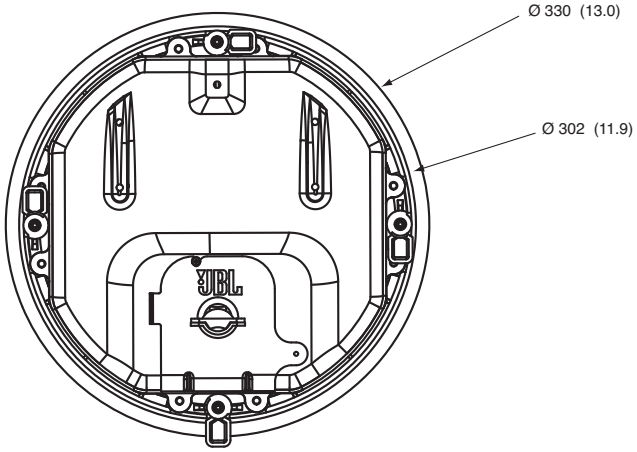


All measurements obtained without signal processing.
Graphs are from unaltered measurement data.

Dimensions:







Dimensions in mm (in)

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