



CMS 501DC

TANNOY®



LISTED

UL-1480,
UL-2043

Product Description

The Tannoy CMS 501DC is a full bandwidth; high power and high sensitivity ceiling monitor system. The 130mm (5.00") Tannoy Dual Concentric™ is a point source drive unit design comprising a multi fibre paper pulp mid bass cone and a 19mm (0.75") ferrofluid cooled, titanium dome HF unit with neodymium magnet system. The driver and passive frequency dividing network are mounted in a vented, injection moulded, paintable front baffle manufactured from UV/weather resistant UL94V-0 ABS material.

The mid-bass and tweeter sections of the Tannoy Dual Concentric™ constant directivity driver are coincidentally aligned to a true point source; ensuring a wide and controlled dispersion for optimum coverage; this while avoiding the massive loss of energy in the vertical plane, at the crossover frequency, inherent in two-way discreet designs. This high power and high sensitivity design, with extended frequency response and very low distortion, is equipped with dynamic high frequency protection.

This compact unit is specifically designed for applications requiring the combination of premium sonic quality for music and speech reinforcement with exceptional reliability and intelligibility.

The CMS 501DC is equipped with a low insertion loss 30W line transformer easily configurable to the following settings via front baffle mounted rotary tapping switch:

70V systems: 30W / 15W / 7.5W / 3.75W / OFF & low Impedance operation
100V systems: 30W / 15W / 7.5W / OFF & low Impedance operation

Two CMS 501DC model versions and a separate back can are available to satisfy the vast majority of installation application requirements:

CMS 501DC BM (Blind Mount) - supplied with an integral back can.
CMS 501DC PI (Pre-Install) - supplied without a back can.
CMS 501PI Back Can (Pre-wire back can) - use with the CMS 501DC PI.

The zinc plated steel back cans have an integrated, recessed termination box. The removable locking connector has screw terminals for secure wire termination and "loop through" facility. Strain relief is provided by a clamping mechanism for use with plenum rated cable or conduit.

Spring loaded self-aligning clamps make for quick and easy installation, while all models are also supplied with two tile support rails and one C-ring included in the package.
A plaster (mud) ring is available as an optional accessory.

Features

- 130mm (5.00") point source Dual Concentric™ Driver
- High power & high sensitivity with extended frequency response and very low distortion
- Wide, controlled constant directivity dispersion for optimum coverage.
- Does not suffer from massive loss of energy in the vertical plane at crossover caused by two way discreet designs
- UV/weather resistant UL94V-0 ABS front baffle
- Blind Mount & Pre Install options
- Dynamic high frequency protection
- Easily accessible tapping switch on front baffle.
- Low insertion loss 30W line transformer
- Ferrofluid cooled neodymium HF
- Packaged with tile rails and C-ring for quick & easy installation and simple stocking logistics

Applications

- Multi-zone foreground music & paging systems
- Boardrooms & offices
- Business music systems
- Airports, convention centres, hotels
- Reception and waiting rooms
- Houses of worship
- Retail outlets and shopping malls
- Lounges and bars
- Cruise ships
- Courtrooms

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TECHNICAL SPECIFICATIONS

System	CMS 501DC	
Frequency Response (-3dB) ⁽¹⁾ BM Back can	85Hz - 50kHz	
Frequency Range (-10dB) ⁽¹⁾ BM Back can	74Hz - 54kHz	
Frequency Range (-10dB) ⁽¹⁾ PI Back can	70Hz - 54kHz	
System Sensitivity (1W @1m) ⁽²⁾	89dB (1W = 2.83V for 8 Ohms)	
Nominal Coverage Angle	90 degrees conical	
Coverage Angle (1kHz to 6kHz)	109 degrees conical	
Directivity Factor (Q)	5.9 averaged 1kHz to 6kHz	
Directivity Index (DI)	6.9 averaged 1kHz to 6kHz	
Rated Maximum SPL ⁽²⁾		
Average	107dB	
Peak	113dB	
Power Handling		
Average	60W	
Programme	120W	
Peak	240W	
Recommended Amplifier Power	120W @ 8 Ohms	
Nominal Impedance	8 Ohms	
Transformer Taps (via front rotary switch)		
70V	30W / 15W / 7.5W / 3.75W / OFF & Low Impedance operation	
100V	30W / 15W / 7.5W / OFF & Low Impedance operation	
Distortion		
10% Full Power	2nd Harmonic	3rd Harmonic
250Hz	2.91%	0.1%
1kHz	0.18%	0.9%
10kHz	0.79%	0.14%
1% Full Power	2nd Harmonic	3rd Harmonic
250Hz	0.5%	0.07%
1kHz	0.25%	0.32%
10kHz	0.45%	0.07%
Crossover	2kHz - 2nd order LF, 2nd order HF (with dynamic HF protection)	

(1) Average over stated bandwidth. Measured at 1 metre on axis.
 (2) Unweighted pink noise input, measured at 1 metre in an anechoic chamber
 (3) Long term power handling capacity as defined in EIA - 426B test

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from www.tannoy.com

Full independent verification of published specifications carried out by NWAAL Labs, California can also be obtained from the downloads section of www.tannoy.com

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

Transducers	
Low Frequency	130mm (5.00") Dual Concentric™ constant directivity driver with multi fibre paper pulp cone
High Frequency	19mm (0.75") titanium dome with neodymium magnet system
Physical	
Enclosure	
Back can	Zinc plated steel
Baffle	Reflex loaded UL 94V-0 rated ABS
Grille	Steel, with weather resistant coating
Safety Features	Safety ring located at rear of enclosure for load bearing safety bond
Clamping Design	Security toggle clamp
Min / Max Clamping Range	0.0mm (0.0") / 20.0mm (0.79")
Recommended Clamp Torque	1.5Nm
Back Can Options	
Blind Mount (BM)	Complete with fixed back can
Pre Install (PI)	Separate back can for pre installation
Cable Entry Options	Cable clamp and squeeze connector for conduit up to 22mm
Conduit Knockouts	3 Sets of horizontal positions 19 / 22 / 28mm (0.75" / 0.87" / 1.10")
Connectors	Removable locking connector with screw terminals with "loop through" facility
Safety Agency Ratings	UL-1480, UL-2043, CE
BM Hole Cutout Diameter	190mm (7.48")
PI Hole Cutout Diameter	190mm (7.48")
Dimensions	
Bezel diameter	210mm (8.27")
Front of ceiling to rear of back can (BM)	189.5mm (7.46")
Front of ceiling to top of safety loop (BM)	206.80mm (8.14")
Front of ceiling surface to rear of speaker unit (PI)	135.60mm (5.34")
Front of accessory back can bezel to top of safety loop (PI)	153.50mm (6.04")
Net Weight (ea)	
CMS 501DC BM	3.90kg (8.60lbs)
CMS 501DC PI	2.90kg (6.39lbs)
CMS 501DC PI back can	2.60kg (5.73lbs)
Included Accessories	C Ring, tile bridge, paint mask, cutout template, grille
Optional Accessories	Plaster (Mud) Ring

Ordering Information

PART NUMBER	MODEL NAME	BAFFLE / GRILLE COLOUR	PACKED QUANTITY
8001 4450	CMS 501BM	White / paintable	2
8001 4460	CMS 501PI	White / paintable	2
8001 4180	CMS 501 Plaster (Mud) Ring	Zinc plated steel	10
8001 3830	CMS 501PI back can	Zinc plated steel	1

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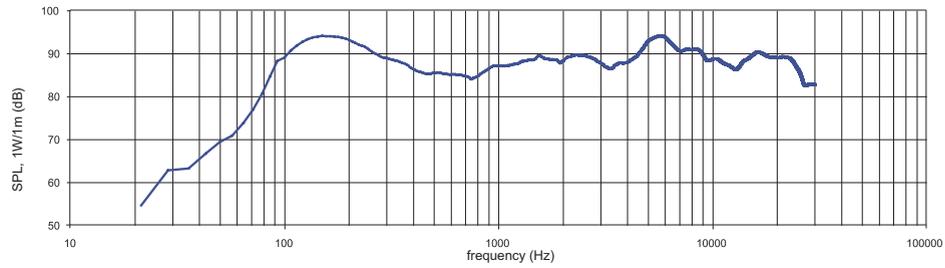
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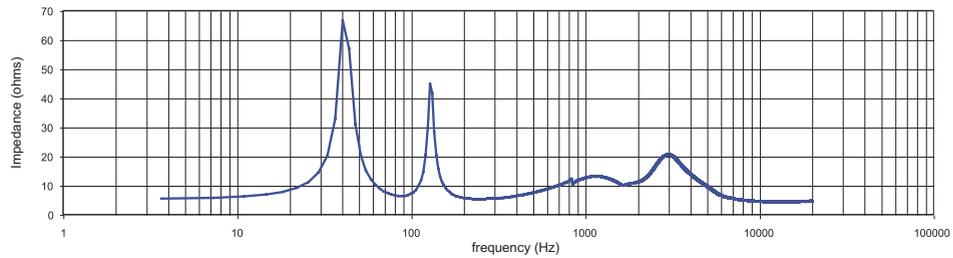
PERFORMANCE MEASUREMENTS

1m on-axis frequency response



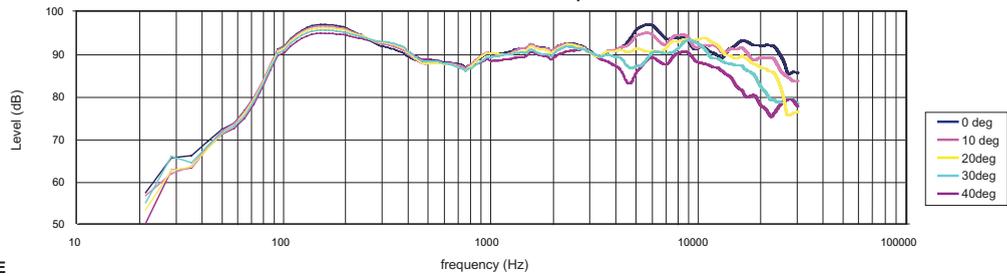
**ANECHOIC
FREQUENCY
RESPONSE**

Impedance vs frequency



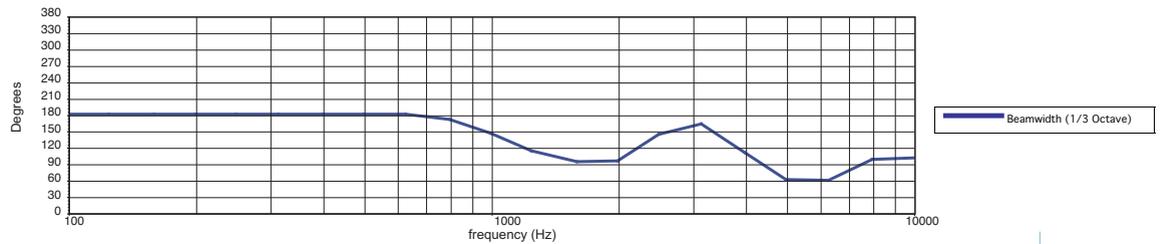
IMPEDANCE

Horizontal off-axis response



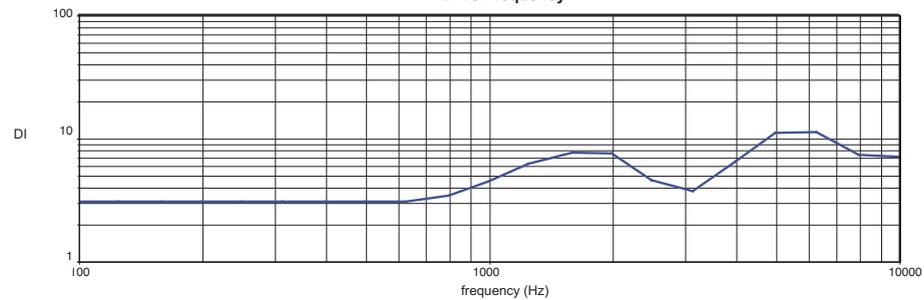
OFF AXIS RESPONSE

Beamwidth v Frequency



BEAMWIDTH

DI vs Frequency



**DIRECTIVITY
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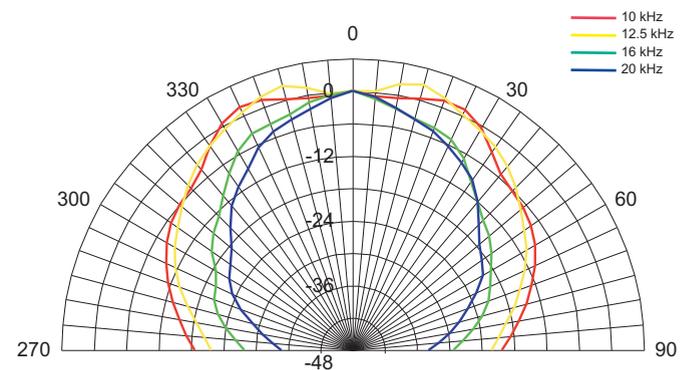
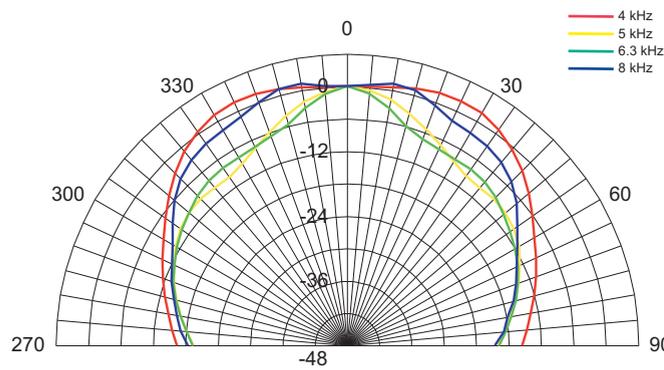
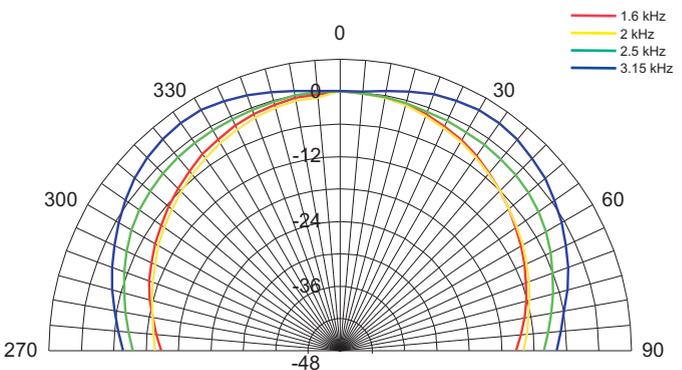
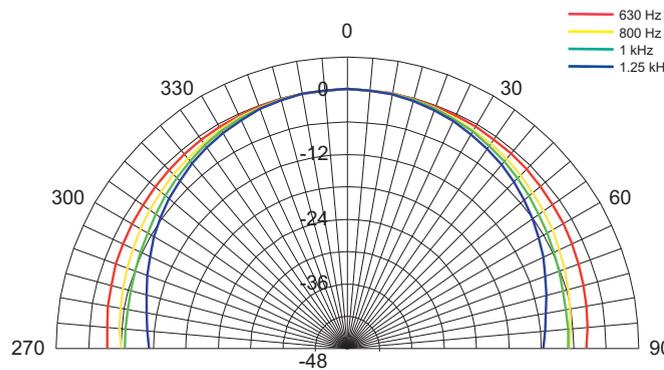
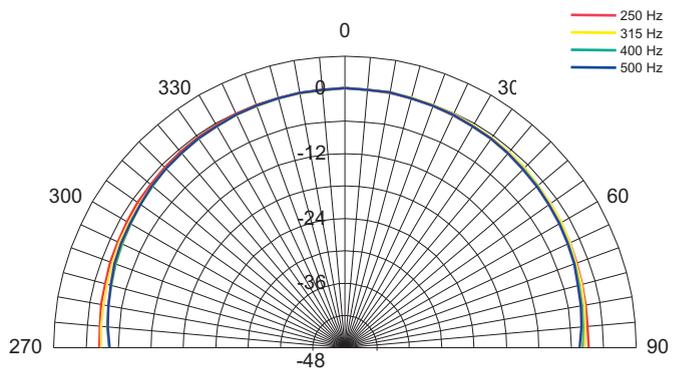
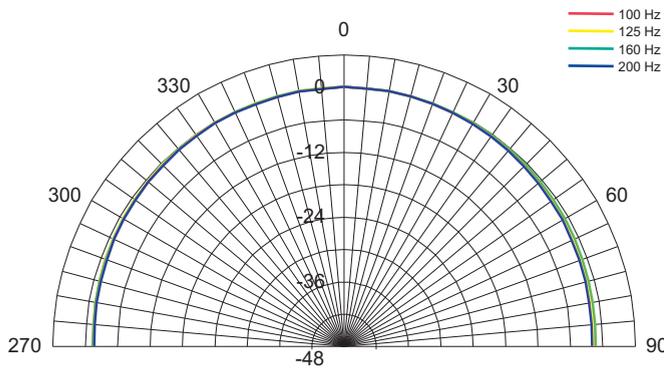
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PERFORMANCE MEASUREMENTS POLAR PLOTS (1/3 OCTAVE)



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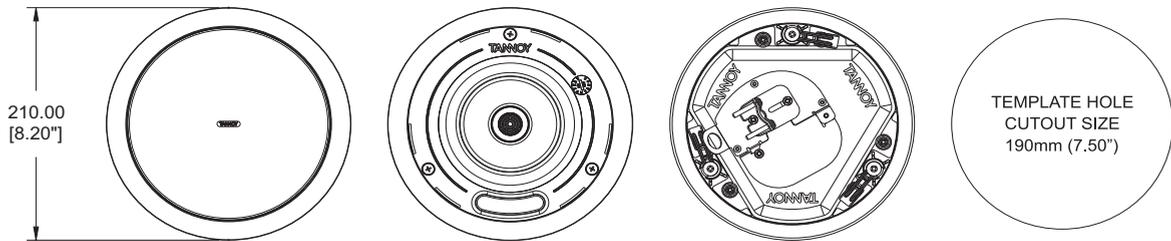
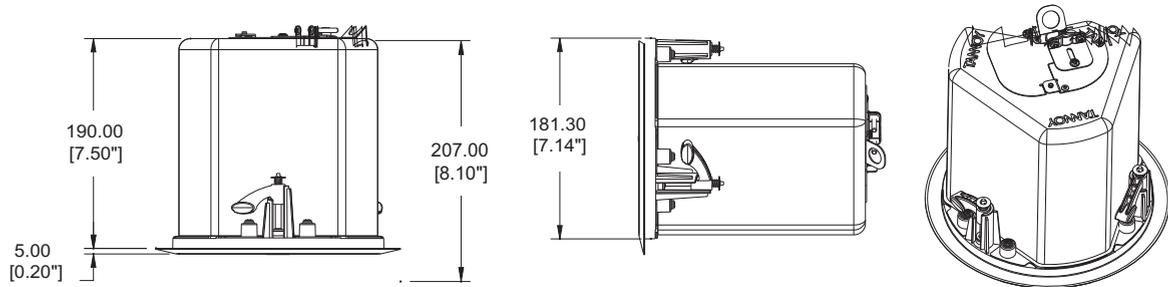
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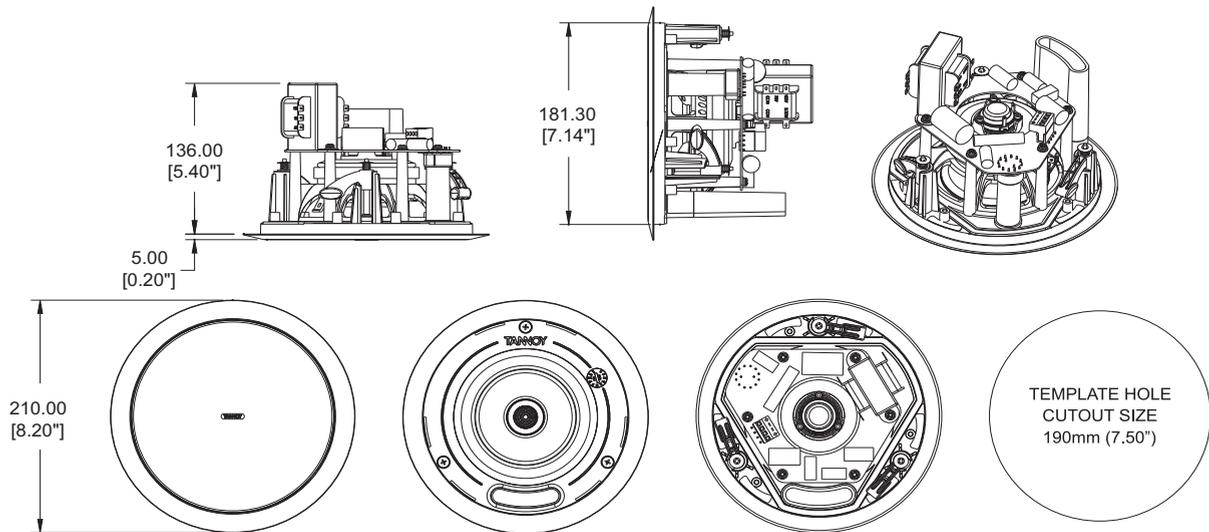
CMS 501DC

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DIMENSIONAL SKETCHES



CMS 501DC BM TEMPLATE HOLE CUTOUT SIZE 190mm (7.50")



CMS 501DC PI TEMPLATE HOLE CUTOUT SIZE 190mm (7.50")

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PART NUMBER	MODEL NAME	BAFFLE / GRILLE COLOUR	PACKED QUANTITY
8001 4480	CMS 501DC BM	White / paintable	2
8001 4490	CMS 501DC PI	White / paintable	2
8001 4180	CMS 501 Plaster (Mud) Ring	Zinc plated steel	10
8001 3830	CMS 501DC PI back can	Zinc plated steel	1

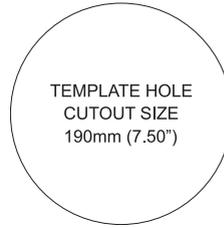
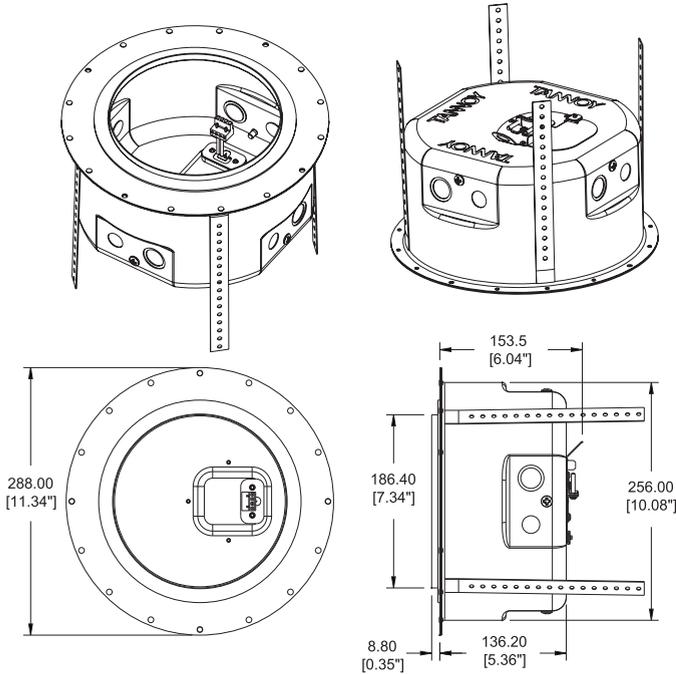
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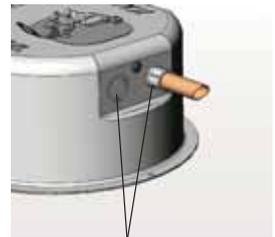
DIMENSIONAL SKETCHES



The PI back can accepts direct connection to installed conduit in two ways using squeeze connectors:



1 22mm (0.87") via the clamp location at the rear after first removing cable clamp

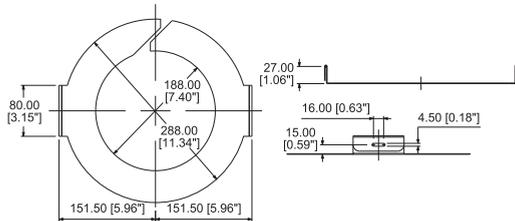


2 Any of the three knock-out points at the side 19mm / 22mm / 28mm (0.75" / 0.87" / 1.10")

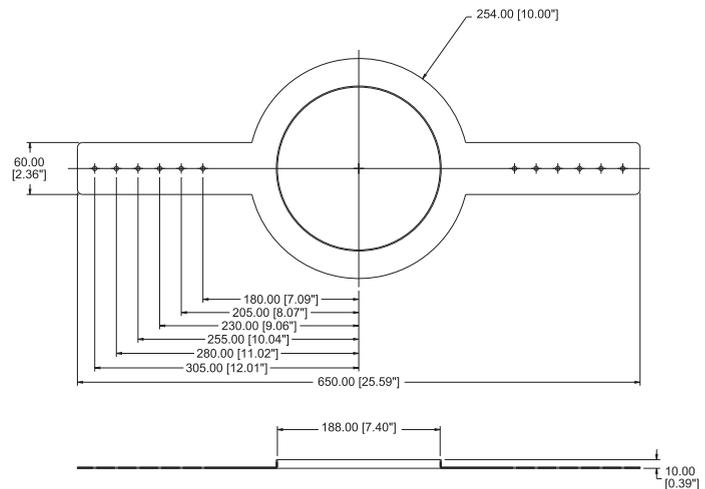
CMS 501PI BACK CAN

TEMPLATE HOLE CUTOUT SIZE 190MM (7.50")

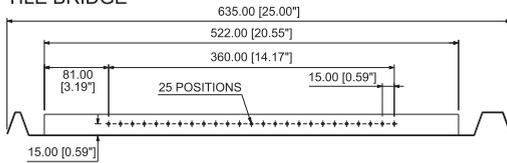
SUPPLIED ACCESSORIES C-RING



OPTIONAL ACCESSORIES PLASTER (MUD) RING



TILE BRIDGE



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Architectural specifications

The Ceiling Monitor System shall consist of a 130mm (5.00") full range, point source, constant directivity Dual Concentric™ transducer and passive frequency dividing network mounted in a vented, injection moulded, paintable front baffle in UL94V-0 ABS material.

The back can in both PI (pre-install) & BM (blind-mount variants) shall be constructed of zinc plated steel. A recessed termination box shall be integrated with the backcan, a removable locking connector with screw terminals for secure wire termination with "loop through" facility shall be provided. Strain relief will be provided by a clamping mechanism for use with plenum rated cable or conduit.

For prewiring the PI (pre-install) backcan is provided with conduit knockouts (19mm / 22mm / 28mm , 0.75" / 0.87" / 1.14"). A safety ring is located on the rear of the backcan for a load bearing safety bond.

Performance of the Ceiling Monitor System shall meet or exceed the following criteria: The system shall have a conical coverage pattern of 109 degrees (1kHz to 6kHz). Frequency response measured on axis shall be 74 Hz -54kHz (-10dB from rated sensitivity, measured in an IEC baffle in an anechoic chamber) with no equalization. Sensitivity shall be 89dB (1W @ 1m). Long term power handling capacity as defined in EIA-426B test shall be 60W, recommended amplifier power 120W. Dynamic high frequency protection is provided for occasional overpowering. The nominal system impedance shall be 8 Ohms (in low impedance setting).

The Ceiling Monitor System shall be equipped with a 30W high performance line transformer for use in 70.7 or 100 Volt distributed audio systems with 30, 15, 7.5, 3.75 Watt taps available. An easily accessible rotary switch located on the front baffle shall be available for selecting transformer and low impedance settings. A weather resistant perforated steel grille covers the transducer and switch.

Two support rails and one C-Ring shall be included with the ceiling monitor system.

Bezel diameter 210mm (8.27")

BM Front of ceiling to rear of back can) 189.5mm (7.46"), Front of ceiling to top of safety loop 206.80mm (8.14")

PI Front of ceiling surface to rear of speaker unit 135.60mm (5.34"), Front of accessory back can bezel to top of safety loop 153.50mm (6.04")

The Ceiling Monitor System shall be the.....CMS 501DC.

*70 Volt only

