



## Features

- Advanced new Dual Concentric driver design utilizing Omnimagnet technology
- Torus Ogive Waveguide device for improved broadband directivity
- Improved time alignment and phase coherence, delivering even better sonic performance
- High power and high sensitivity with extended frequency response and very low distortion
- Improved LF performance for applications where genuine bottom-end is a must
- Low insertion-loss, 30 watt line transformer for a more powerful and dynamic performance
- Convenient front-tapping switch for settings
- Magnetically-adhering grille system for easy custom painting and optional Arco designer grilles for minimal architectural impact
- Three-clamp, self-aligning mounting system
- UV resistant baffle and grille
- Packaged with classic grille, tile rails and C-ring for quick and easy installation and simple stocking logistics

## Applications

- Voice Alarm Systems
- Multizone Foreground Music & Paging Systems
- Boardrooms & Offices
- Business Music Systems
- Airports, Convention Centres, Hotels
- Reception / Waiting Rooms
- Houses of Worship
- Retail Outlets / Shopping Malls
- Lounges / Bars
- Cruise Ships
- Courtrooms

## Product description

The Tannoy CMS 503DC PI is a full bandwidth, high power-handling and high sensitivity loudspeaker built around CMS 3.0 – the third generation of Tannoy’s revolutionary Ceiling Monitor System technology. Based on an all-new evolution of Tannoy’s proprietary Dual Concentric point-source driver, the CMS 503DC PI has been fundamentally re-engineered to deliver wider and more consistent broadband directivity, even greater intelligibility, and a more accurate and linear response.

The new Dual Concentric driver design features revolutionary Omnimagnet™ technology and unique patent-pending Torus Ogive Waveguide™ device, together providing more consistent and controlled directivity along with improved high frequency response. Improved time-alignment and greater coherence between LF and HF results in a wider sweet spot for enhanced performance both on- and off-axis. The re-designed baffle provides a subtle extension to the waveguide effect for additional sonic benefits.

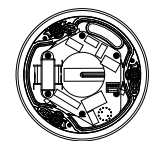
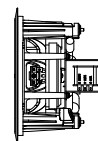
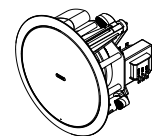
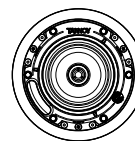
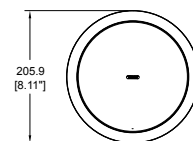
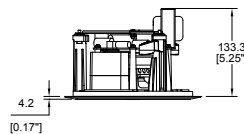
The CMS 503DC PI also features extra clamp extension to accommodate thicker ceiling panels, and a locking design that prevents inadvertent over-screwing. Magnetic grille attachment enables easy removal and fitting for custom painting and tapping changes with grilles now available as either traditional style (inset in bezel) or new Arco™ style which conceals the entire unit for more architect-friendly aesthetic appeal.

The CMS 503DC PI utilizes a 16 ohm driver, making it ideal for use in high performance low-impedance systems (with optimized performance when used in conjunction with Lab.gruppen LUCIA amplifiers). A low-insertion loss 30 W transformer is included, with convenient front bezel switching for taps at 30 W, 15 W and 7.5 W, with an additional 3.75 W tap for traditional constant voltage systems.

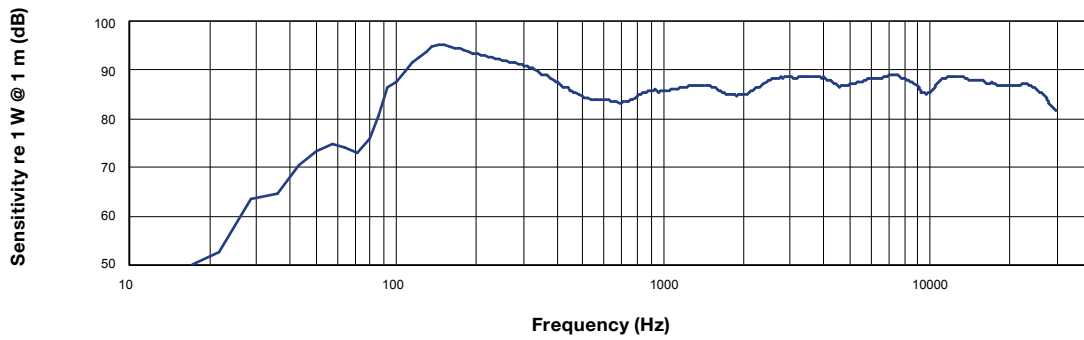
The CMS 503DC PI is supplied without a back-can. All models are supplied with classic grille, two tile support rails and one C-ring; Arco grille back-can and plaster (mud) ring are available as optional accessories.

## Physical data

<b>Bezel diameter:</b>	205.9 mm (8.11")	<b>Hole Cutout Diameter:</b>	190.0 mm (7.48")
<b>Front of ceiling to rear of speaker unit:</b>	133.3 mm (5.25")	<b>Front of accessory backcan bezel to top of safety loop:</b>	153.5 mm (6.04")



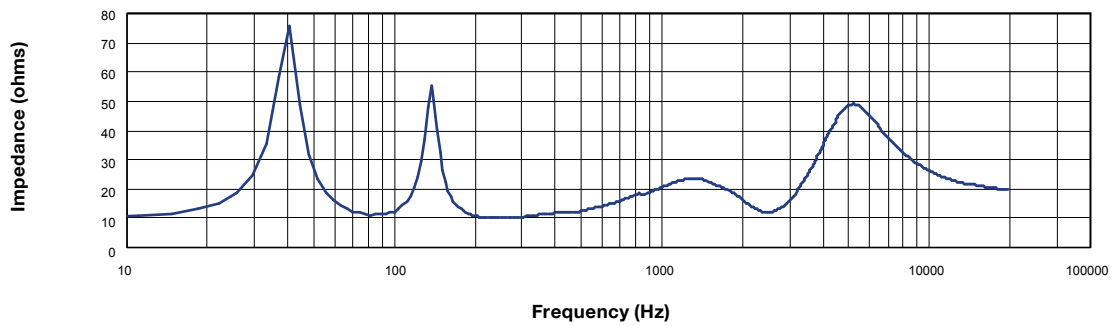
### 1 m on-axis Frequency Response



## Anechoic Frequency Response

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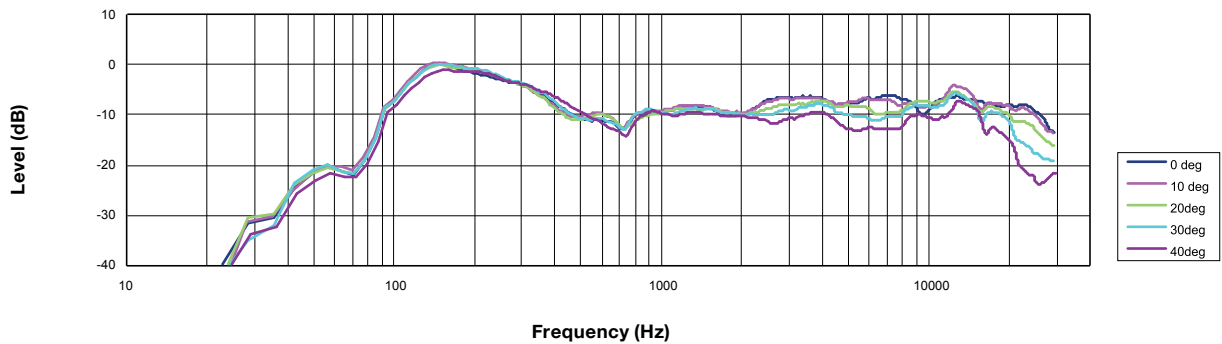
### Impedance vs frequency



## Impedance

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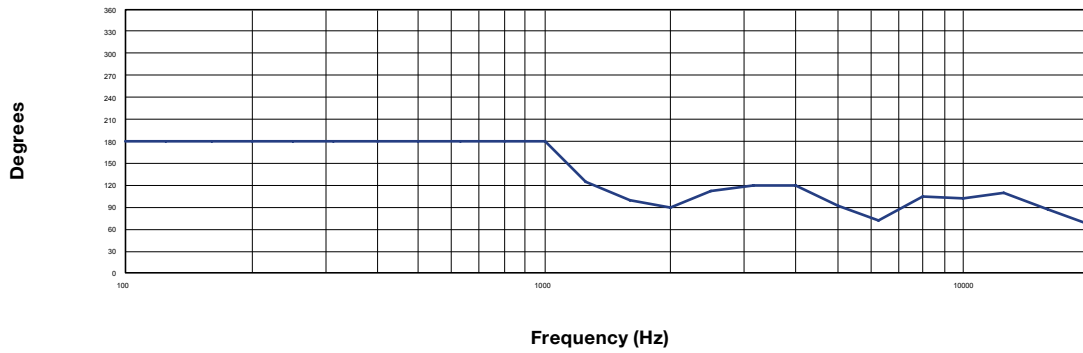
### Off-axis Frequency Response



## Off Axis Response

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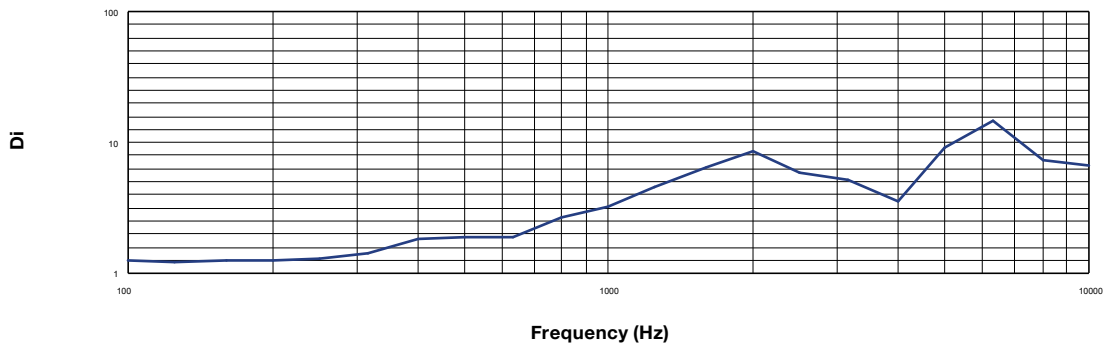
Beamwidth vs Frequency



Beamwidth

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Directivity Index (DI)



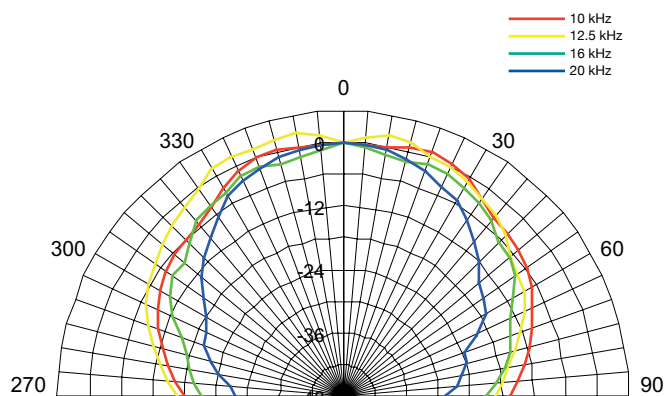
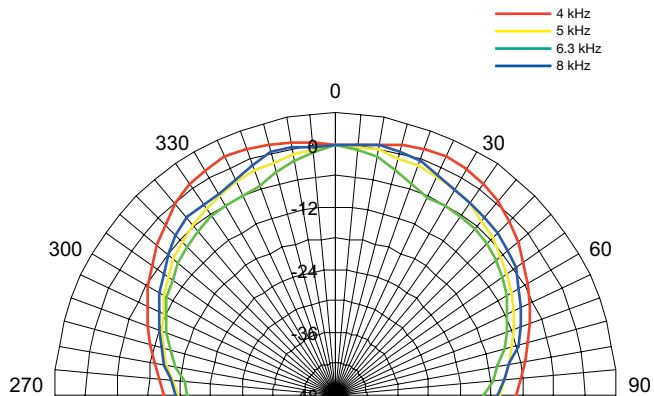
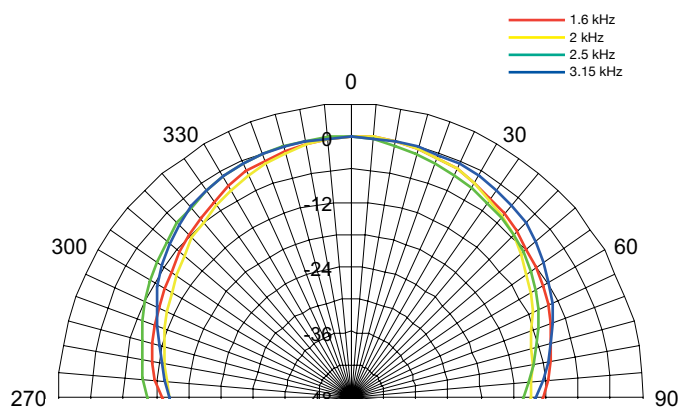
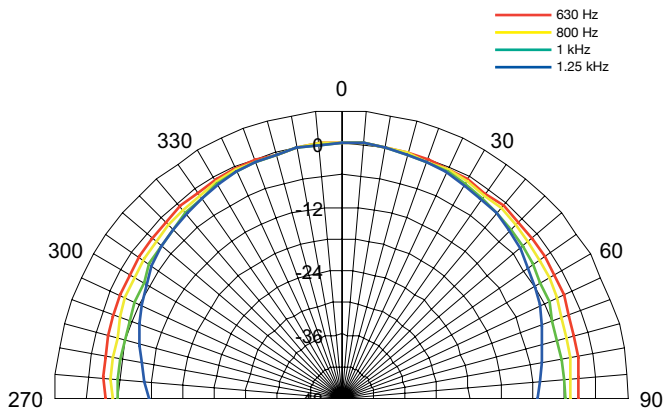
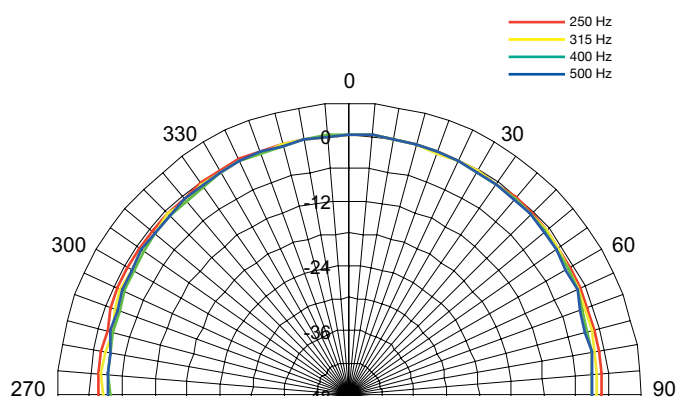
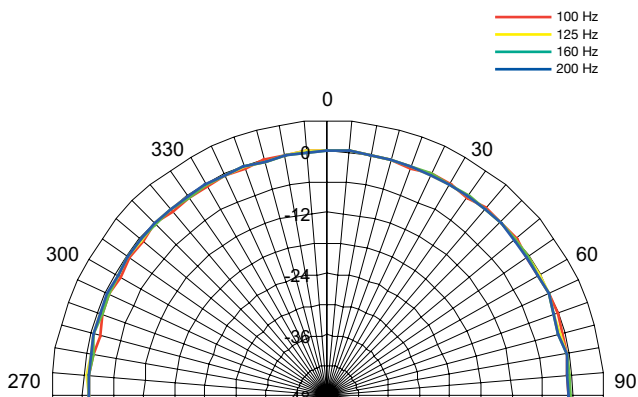
Directivity Index

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# Technical Data Sheet

## Polar plots (1/3 octave)

# CMS 503DC PI



# Technical Data Sheet

## Specifications

# CMS 503DC PI

### Performance

<b>Frequency range (-10 dB) <sup>(1)</sup></b>	70 Hz - 54 kHz
<b>System sensitivity (1 W @ 1 m) <sup>(2)</sup></b>	89 dB (1 W = 4 V for 16 Ohms)
<b>Nominal Coverage Angle</b>	90 degrees conical
<b>Power Handling <sup>(3)</sup></b>	
Average	60 W
Programme	120 W
Peak	240 W
<b>Recommended Amplifier Power</b>	120 W @ 16 ohms
<b>Nominal Impedance (Lo, Z)</b>	16 ohms
<b>Rated maximum SPL</b>	
Average	107 dB
Peak	113 dB
<b>Transformer Taps (via front rotary switch)</b>	
70 V	30 W (165 Ω) / 15 W (330 Ω) / 7.5 W (660 Ω) / 3.75 W (1320 Ω) / OFF & low impedance operation
100 V	30 W (330 Ω) / 15 W (660 Ω) / 7.5 W (1320 Ω) / OFF & low impedance operation

### Transducers

<b>Dual Concentric point source driver</b>	1 x 130 mm (5.0") Dual Concentric driver, using Omnimagnet technology
<b>Low Frequency</b>	35 mm (1.38") voice coil, treated multi fiber paper pulp cone
<b>High Frequency</b>	20 mm (0.79") PEI dome

### Physical

<b>Enclosure</b>	
Backcan	Zinc plated steel
Baffle	Reflex loaded UL 94V-0 rated ABS
Grille	Steel, with weather resistant coating
<b>Safety Features</b>	Safety ring located at rear of enclosure for load bearing safety bond
<b>Clamping Design</b>	Security toggle clamp Min / Max clamping range 9.5 mm (0.37") / 60 mm (2.36") Recommended clamp torque: 1.5 Nm Separate backcan for pre-installation
<b>Backcan Options</b>	
<b>Cable Entry Options</b>	Cable clamp & squeeze connector for conduit up to 22 mm
<b>Conduit Knockouts on PI Backcan</b>	3 Sets of horizontal positions 19 / 22 / 28 mm (0.75" / 0.87" / 1.10")
<b>Connectors</b>	Removable locking connector with screw terminals with "loop through" facility
<b>Compliance</b>	UL-1480, UL-2043, CE
<b>Dimensions</b>	
Bezel diameter	205.9 mm (8.11")
Front of ceiling surface to rear of speaker unit	133.3 mm (5.25")
Front of accessory backcan bezel to top of safety loop	153.5 mm (6.04")
<b>Hole cutout diameter (all models)</b>	190 mm (7.48")
<b>Net Weight (ea)</b>	
CMS 503DC PI	3.1 kg (6.83 lbs)
PI Backcan	2.6 kg (5.73 lbs)
<b>Included Accessories</b>	C-Ring, tile-bridge kit, paint mask, cut-out template, grille
<b>Optional Accessories</b>	Plaster (mud) ring, Arco grille
<b>Packed Quantity</b>	2

### Ordering Information

Part Number	Colour
<b>8001 7430</b> CMS 503DC PI	White / Paintable
<b>8001 4180</b> CMS 503 Plaster (Mud) Ring	Zinc Plated Steel
<b>8001 7550</b> CMS 503 PI Backcan	Zinc Plated Steel
<b>8001 7880</b> CMS 503 Arco Grille	White / Paintable



#### Notes:

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

A full range of measurements, performance data, CLF and Ease™ Data for CMS 503DC PI can be downloaded from [www.tannoypro.com](http://www.tannoypro.com).

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods may introduce variations in actual performance; however, actual performance always will 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.

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