



Product Description

The Tannoy CMS401e Ceiling Monitor System is suited to high-level music and speech reinforcement applications requiring exceptional sonic quality with uncompromised reliability.

The point source configuration of the Tannoy ICTTM driver's mid-bass and tweeter sections ensures 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 discrete designs. The ICTTM (Inductive Coupling Technology) drive unit also addresses the two most common component failures experienced in background music and sound reinforcement systems, the tweeter and the crossover reliability. The use of a wireless electromagnetic tweeter means that no crossover is required in the design; this therefore ensures that an ICTTM unit is exceptionally reliable and therefore ideal for applications where constant heavy usage is the norm. This aluminium high frequency dome has a deep drawn skirt that sits on the inside of the low frequency voice coil in the same magnetic gap. The skirt is like a single shorted turn that is induced with high frequency information generated by the low frequency voice coil, which is fed a full bandwidth signal. The mineral loaded polypropylene cone material and nitrile rubber surround further enhance durability and long-term reliability.

The inclusion of a premium quality Tannoy THP 30 multi-tap transformer, for distributed-line operation, provides high system sensitivity, wide bandwidth and dynamic range; achieved with very low insertion loss.

Specifically designed for fast, simple and cost effective installation in new and existing buildings, the CMS401e can be entirely angled towards the listener within the fixed ceiling-mounting ring. The challenge of difficult speaker placement, in less than perfect room configurations, is therefore eliminated by being able to discreetly pivot the loudspeaker towards the desired area of coverage.

Features

- 100mm (4.00") ICT™ Transducer for greater durability and longevity.
- High power & high sensitivity with extended frequency response.
- 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 discrete designs.
- UV/weather resistant UL94V-0 ABS construction for structural integrity.
- No crossover required.
- Easily accessible transformer tapping switch.
- Low insertion loss 30W line transformer
- Packaged with tile rails and C-ring for quick & easy installation and simple stocking logistics.
- 3 clamp self-aligning mounting system.
- 5 Year Warranty.

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
- Multi-room stereo systems
- Home theatre

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TECHNICAL SPECIFICATIONS

System	CMS401e	
Frequency Response (-3dB) ⁽¹⁾	110Hz - 22kHz	
Frequency Range (-10dB) ⁽¹⁾	80Hz - 24kHz	
System Sensitivity (1W @1m) ⁽²⁾	88dB (1W = 2.45V for 6 Ohms)	
Nominal Coverage Angle	90 degrees conical	
Coverage Angle (1kHz to 6kHz)	120 degrees	
Directivity Factor (Q)	5.26 averaged 1kHz to 6kHz	
Directivity Index (DI)	6.3 averaged 1kHz to 6kHz	
Rated Maximum SPL ⁽²⁾		
Average	105dB	
Peak	111dB	
Power Handling		
Average	50W	
Programme	100W	
Peak	200W	
Recommended Amplifier Power	100W @ 6 Ohms	
Nominal Impedance	6 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 (5.4V)	2nd Harmonic	3rd Harmonic
250Hz	1.38%	0.14%
1kHz	0.93%	0.23%
10kHz	1.34%	0.34%
1% Full Power (1.73V)	2nd Harmonic	3rd Harmonic
250Hz	0.43%	0.19%
1kHz	0.35%	0.18%
10kHz	0.47%	0.33%
Crossover	7kHz inductively coupled	

Transducers	
Low Frequency	100mm (4.00") mineral loaded polypropylene
High Frequency	19mm (0.75") ICTTM aluminium dome.
Physical	
Enclosure	
Back can	Reflex loaded UL 94V-0 rated ABS
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
Back Can	Complete with fixed back can
Connectors	Removable locking connector with screw terminals with "loop through" facility
Hole Cutout Diameter	187mm (7.36")
Dimensions	
Bezel diameter	205mm (8.07")
Front of ceiling to rear of pod	147.6mm (5.81")
Net Weight (ea)	3.05kg (6.72lb)
Included Accessories	C Ring, tile bridge, paint mask, cutout template, grille
Optional Accessories	Plaster (Mud) Ring
Clamping Design	Security toggle clamp
Min / Max Clamping Range	0.0mm (0.0") / 20.0mm (0.79")
Recommended Clamp Torque	1.5Nm

Notes:

- (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 NWA 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.

Ordering Information

PART NUMBER	MODEL NAME	BAFFLE / GRILLE COLOUR	PACKED QUANTITY
8001 4090	CMS401e	White / paintable	2
8001 4180	CMS401 Plaster (Mud) Ring	Zinc plated steel	10

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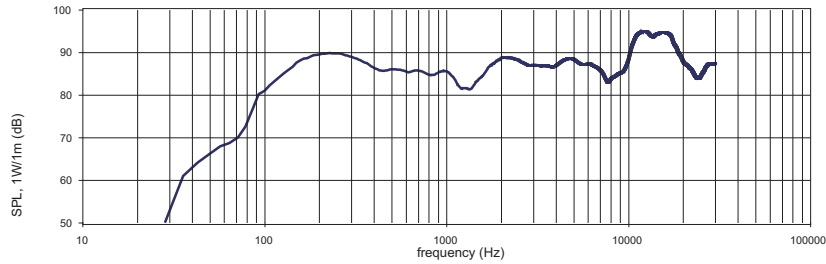
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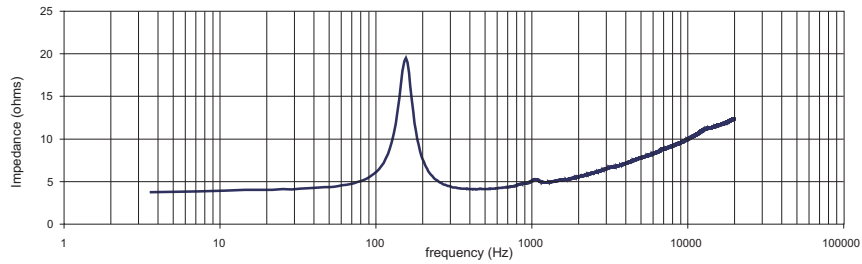
PERFORMANCE MEASUREMENTS

1m on-axis frequency response

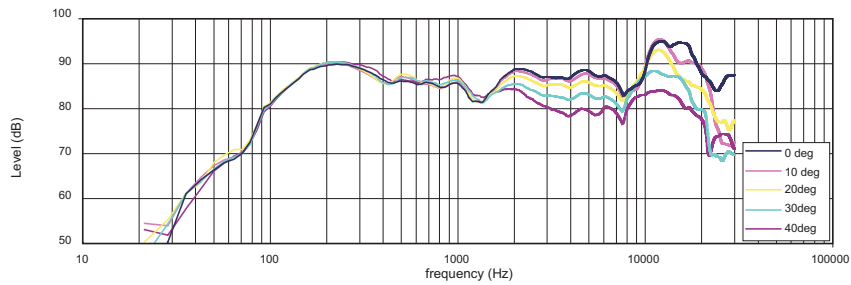


ANECHOIC
FREQUENCY
RESPONSE

Impedance vs frequency

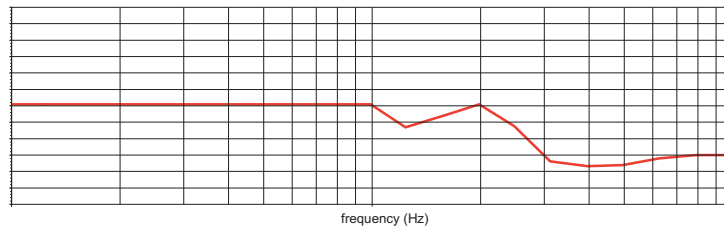


IMPEDANCE



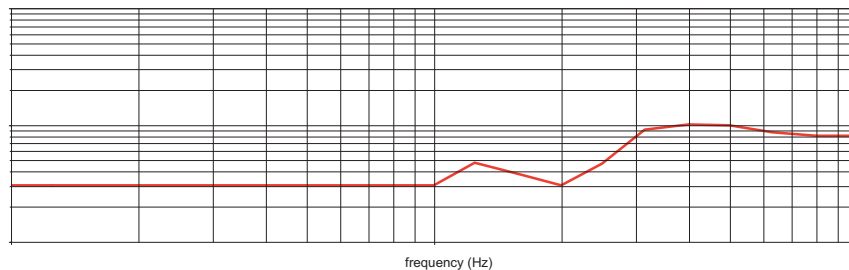
OFF AXIS RESPONSE

Horizontal off-axis response



BEAMWIDTH

Horizontal off-axis response



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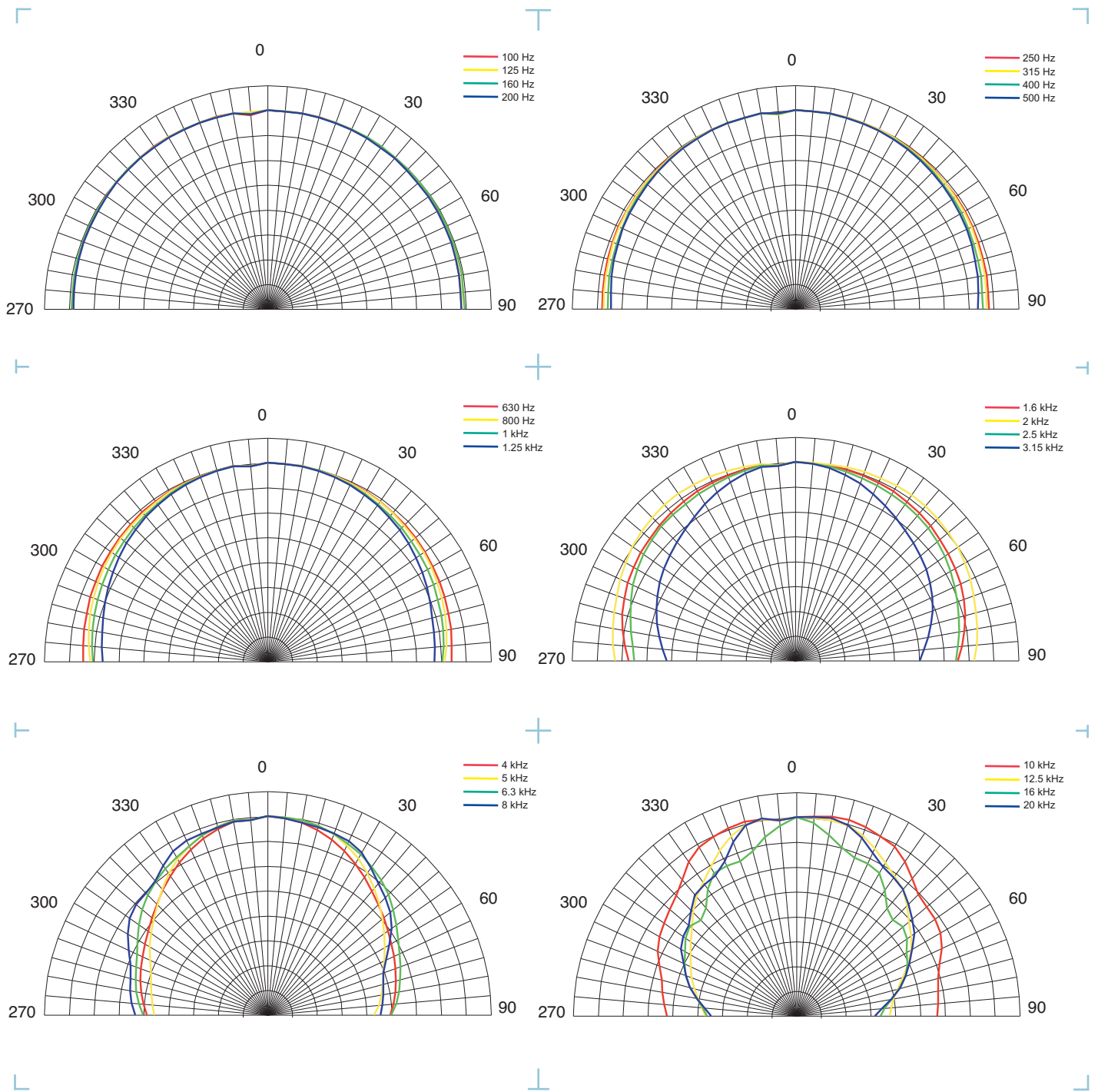
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PERFORMANCE MEASUREMENTS POLAR PLOTS (1/3 OCTAVE)



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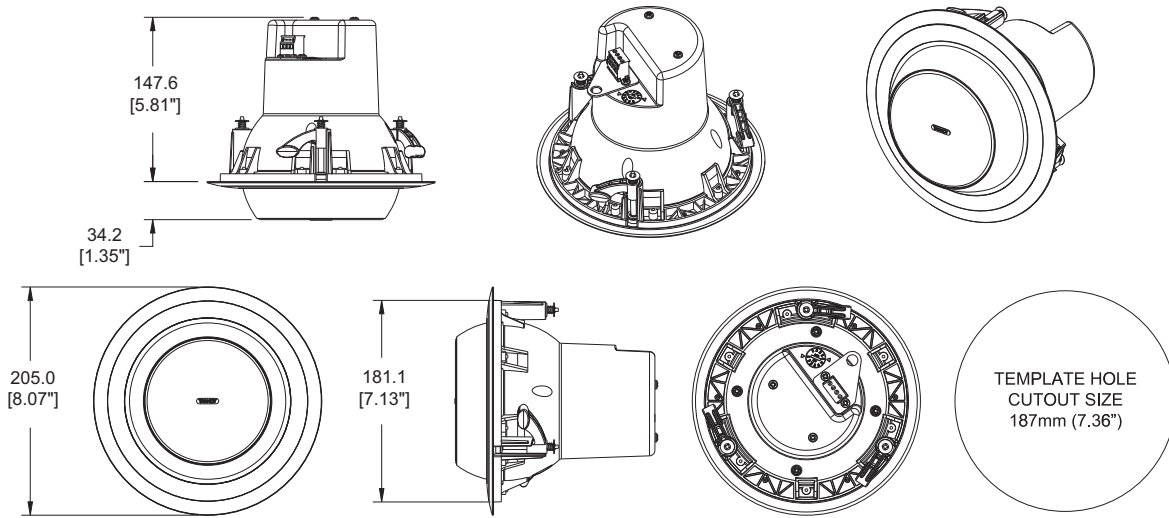
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CMS401e

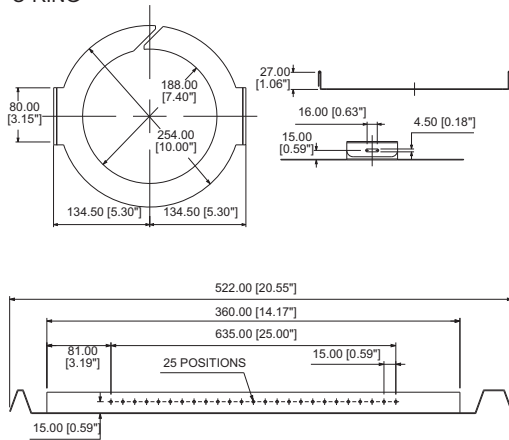
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DIMENSIONAL SKETCHES

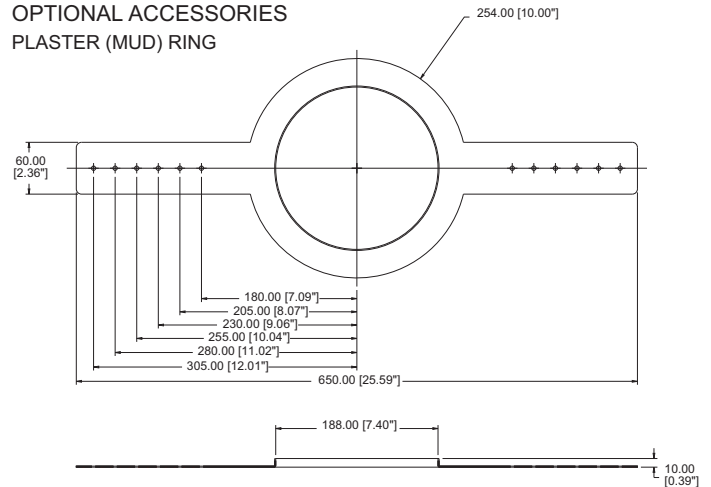


CMS401e TEMPL TE HOLE CUTOU SIZE - 187mm (7.36")

SUPPLIED ACCESSORIES C-RING



OPTIONAL ACCESSORIES PLASTER (MUD) RING



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Architectural specifications

The in ceiling system shall consist of one 100mm (4.00") ICTTM full range, point source, constant directivity transducer. Performance of the CMS401e shall meet or exceed the following criteria; Frequency response measured at 1 metre on axis with a swept sine wave shall be 80Hz-24kHz (-10dB), sensitivity shall be at least 88dB for 1W @ 1 metre with minimal loss accounted for.

The driver impedance and maximum power handling (without transformer) shall be 6 Ohms and 100W respectively. The dispersion of the in-ceiling system shall be 120 degrees conical (1kHz - 6kHz).

In 70V or 100V distributed audio systems the CMS401e shall use the integral THP30 high performance transformer with the optional 30, 15, 7.5 & 3.75W taps* available via the tapping switch. Utilising a self-aligning three way clamping mechanism, the baffle & enclosure shall be constructed from moulded ABS and supplied with a perforated metal grille.

The system shall not exceed the following dimensions:
205mm diameter x 147.6mm deep (8.07" diameter x 5.81" deep)
Front of ceiling to rear of pod: 147.60mm (5.81")
Hole cutout size shall be 187mm (7.36")

The in-ceiling system shall be...the Tannoy CMS401e.

*70 Volt only

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