

TANNOY®

CMS

CEILING MONITOR SYSTEMS INSTALLATION MANUAL

CMS801 DC BM
CMS801 DC PI
CMS801 sub BM
CMS801 sub PI
CMS801 PI back can

Revision date: 07/09/09

CMS

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Tannoy adopts a policy of continuous improvement and product specification is subject to change.

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6481 0499

CMS801 TEMPLATE HOLE CUTOUT SIZE: 295mm (11.61")

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1. QUICK START GUIDE

1. Cut hole using provided template.
2. Attach rails to C ring.
3. Install assembled unit on grid.
4. Drop can in through C Ring.
5. Perform wiring and affix conduit if necessary.
6. Finish with PI speaker from below by turning screws to extend clamps.

2. INTRODUCTION

Thank you for purchasing this Tannoy Ceiling Monitor System product. This product range is suited for high-level music and speech reinforcement applications requiring exceptional sonic quality with uncompromised reliability.

3. UNPACKING

Every Tannoy product and accessory is carefully inspected before packing. After unpacking, please inspect your product to make sure no damage has occurred in transit. In the unlikely event of any damage, would you please notify your dealer immediately and retain your shipping carton, as your dealer may ask you to return the faulty unit to him for inspection.

Each CMS loudspeaker is packed in pairs and provided with the following accessories as standard; C Ring, tile-bridge kit, grille, cut-out template, and paint mask. A plaster (mud) ring is also available as an optional extra.

4. SAFETY NOTICES

Some regional construction codes require the use of a secondary method of securing loudspeakers in ceiling to provide security of a back up support. A secondary support line should be attached from the safety loop on the rear of the product to a source point on the ceiling. Please consult the relevant construction codes in your region.

When using a power driver to install the product it is essential to use the correct torque level settings to avoid over tightening and damage to the ceiling material or clamps.

Recommended torque setting: 1.5Nm

Tannoy will not be held responsible for any damages caused by the improper installation of these loudspeakers.

ELECTRICAL SAFETY NOTICE:

To comply with the standard UL1480, metal - clad flexible conduit (BX) is required for connection to the terminal block for proper earth grounding.

In order to comply with UL regulations, the PI back-can must always be used with the CMS PI models.

SAFETY NOTE:

In order to comply with relevant fire safety regulations (i.e. BS 5839:1998), it is required that in the event of fire, that failure of the circuit to which the loudspeaker is connected does not occur before evacuation of the building is complete. Suitable measures include: -

- a) use of terminal blocks (for connection to primary) with a melting point of not less than 650°C, for example constructed from ceramic materials;*
- c) use of terminal blocks of a lower melting point but protected with thermal insulation;*
- d) use of terminal blocks such that, on melting, an open-circuit or a short-circuit does not occur.*

5. PRODUCT FEATURE IDENTIFICATION:

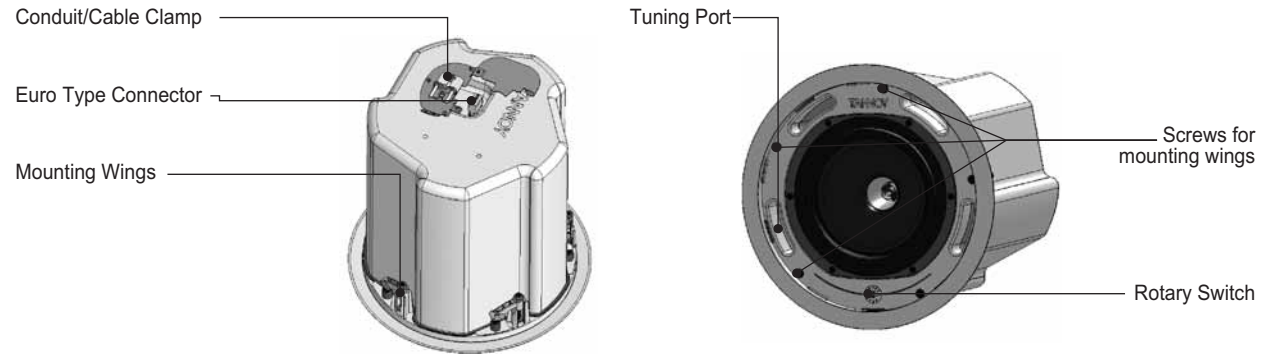


Fig 1.1: The blind-mount (BM) models come with a pre-fitted back can

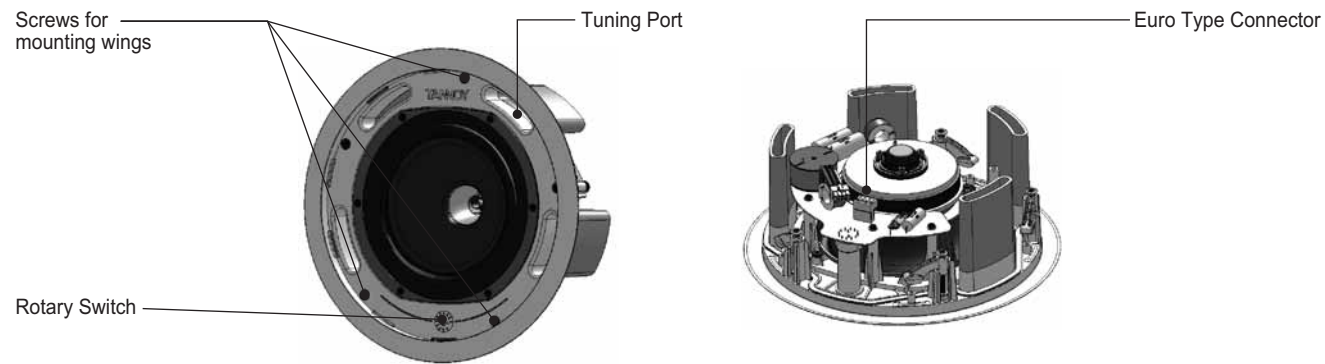


Fig 1.2: A pre-install (PI) model shown without pre-install back can

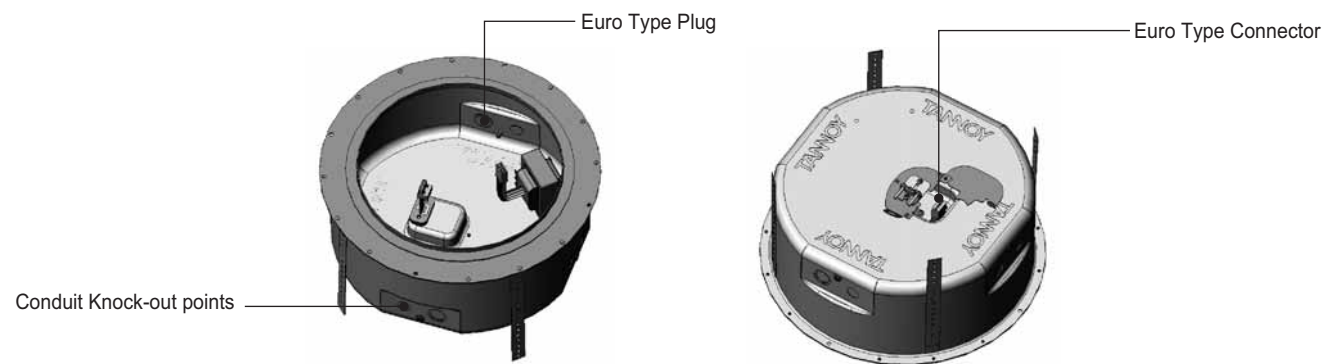
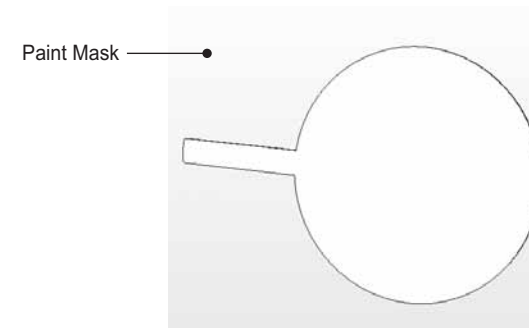
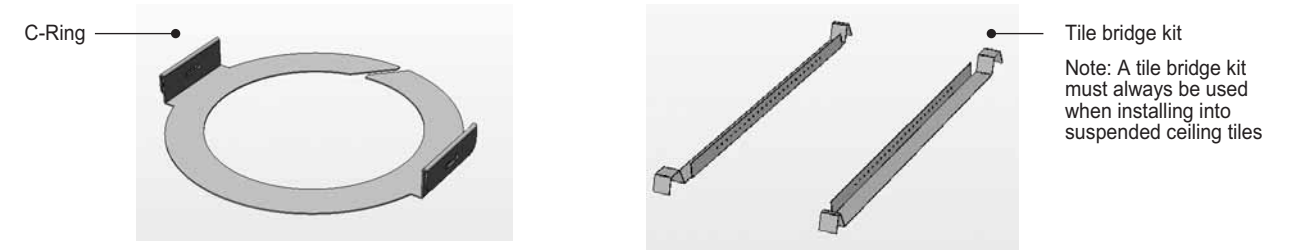


Fig 1.3: Pre-install (PI) back can for PI models

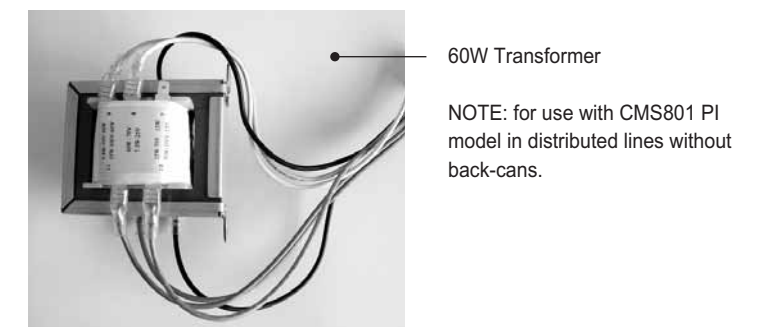
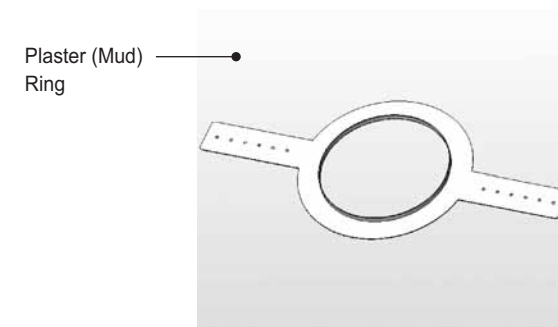
Note that the CMS801 PI model's transformer is pre-attached to the CMS801 PI back can for easy install.

6. ACCESSORIES:

Each product is supplied with the following accessories as standard:



Optional accessories:

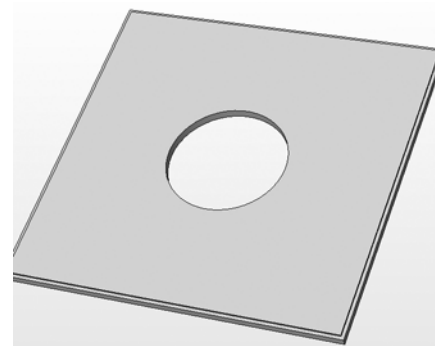


7.1 MECHANICAL INSTALLATION GUIDE FOR SUSPENDED CEILINGS

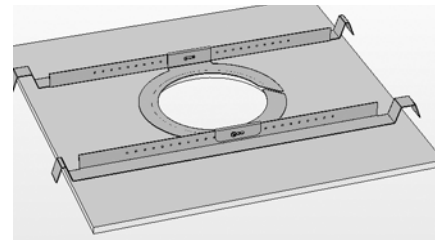
- 1 Remove the ceiling tile from its frame and place it on a flat surface. Mark the cut-out area on the ceiling tile by tracing around the template provided.



- 2 Cut out the hole in the ceiling tile using a circular saw or pad saw.



- 3 Place the C-ring and tile-bridge on top of the ceiling panel, aligning the C-ring over the hole, and screw the C-ring to the tile bridge using the fixings provided.



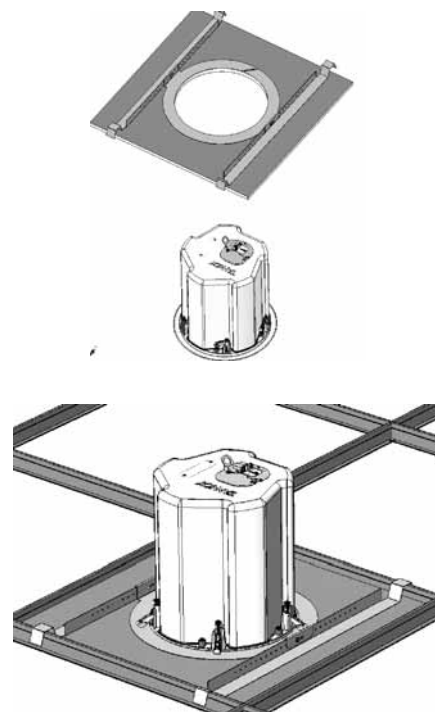
- 4 Slide the speaker assembly through the hole and turn the screws on the front of the speaker to extend the mounting wings. Tighten the screws until a firm grip is achieved.

If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!

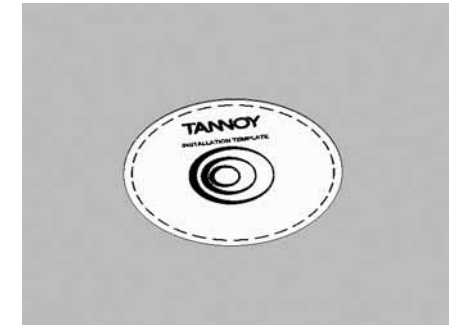
- 5 Slide the tile panel back into the suspended ceiling. The tile bridge ends will catch over the railings, supporting the weight of the speaker.

Go to section 6 for instructions on wiring and set-up instructions.

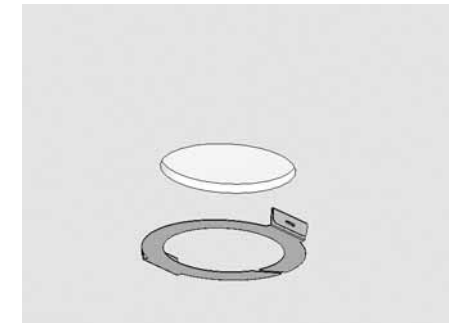


7.2 MECHANICAL INSTALLATION GUIDE FOR SHEET-ROCK (PLASTER BOARD) CEILINGS

- 1 Mark the cut-out area on the ceiling by tracing around the template provided.



- 2 Cut out the hole in the ceiling using a circular saw or pad saw, then slide the C-ring into the ceiling, aligning it over the cut-out hole.



- 3 Go to section 6 for wiring and set-up instructions then return to point 4 below.

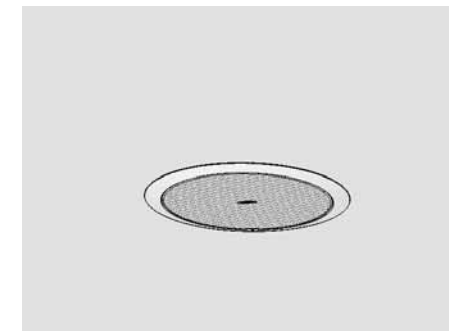
- 4 Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!



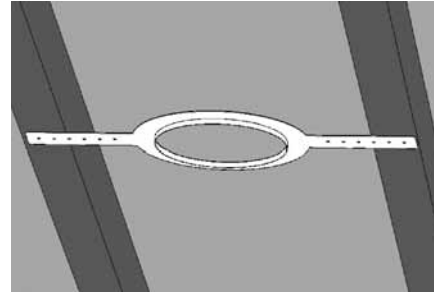
- 5 Insert grille by pushing it onto the speaker.



7.3 MECHANICAL INSTALLATION INSTRUCTIONS FOR OPTIONAL PLASTER RING:

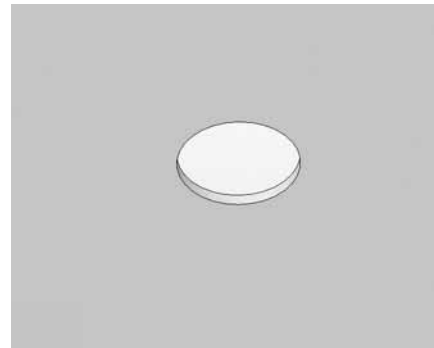
An optional plaster (mud) ring bracket is available from Tannoy. This bracket is designed to be pre-installed into newly constructed, non-suspended ceilings.

- 1 | Nail or screw the plaster ring to the joists.



- 2 | Lay the speaker wiring to where the speaker will be fitted and complete the plastering work on the ceiling.

- 3 | Cut out the hole in the ceiling using a circular saw or pad saw.



- 4 | Go to section 6 for instructions on wiring then return to point 5 below.

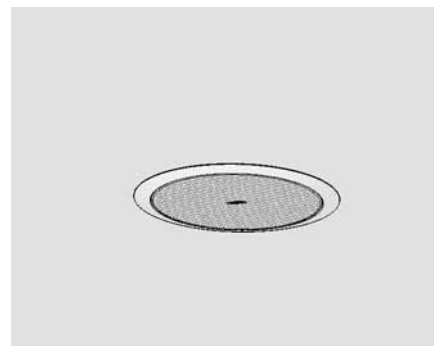
- 5 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!



- 6 | Insert grille by pushing it onto the speaker.



7.4 INSTRUCTIONS FOR PRE-INSTALLATION BACK CAN (PI MODELS ONLY):

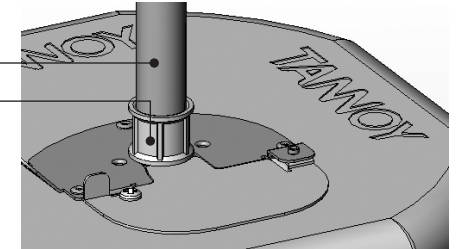
AN OPTIONAL PRE-INSTALL BACK-CAN IS AVAILABLE FOR ALL PI (PRE-INSTALL) MODELS. THIS BACK-CAN IS DESIGNED FOR EITHER PRE-INSTALLATION INTO NEWLY CONSTRUCTED, NON-SUSPENDED CEILINGS, OR INSTALLATION INTO SUSPENDED CEILINGS WHEN ATTACHED TO THE C-RING AND TILE BRIDGE SUPPLIED.

Note that the CMS801 PI model's transformer is pre-attached to CMS801 PI back can for easy install.

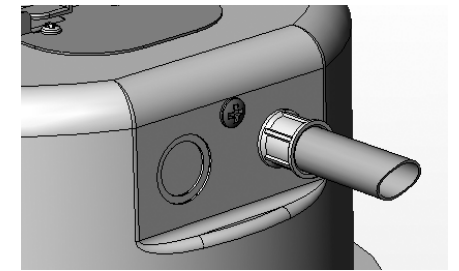
- 1 | Attach the back can to the installed conduit This can be attached in two ways:

a. You can use the clamp at the back of the pre-install back can. The product will accept a squeeze connector with a thread size of up to 22mm: To remove the cable clamp, simply unscrew the threaded washer (under the wiring cover) which holds the cable clamp in place and replace it with a conduit squeeze connector.

Conduit
Conduit Squeeze Connector

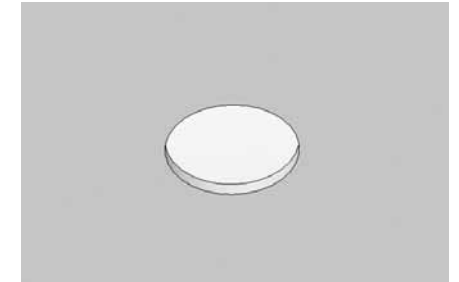


b. You can use any of the three knock-out points at the sides of the PI back can (19mm, 22mm or 28mm diameter):



- 2 | Lay the speaker wiring to where the speaker will be fitted and complete the plastering work on the ceiling.

- 3 | Cut out the hole in the ceiling using a circular saw or pad saw



- 4 | Go to section 6 for instructions on wiring and setting up then return to point 5 below.

- 5 | Slide the speaker assembly through the hole and turn the screws to extend the mounting wings. Tighten the screws until a firm grip is achieved.

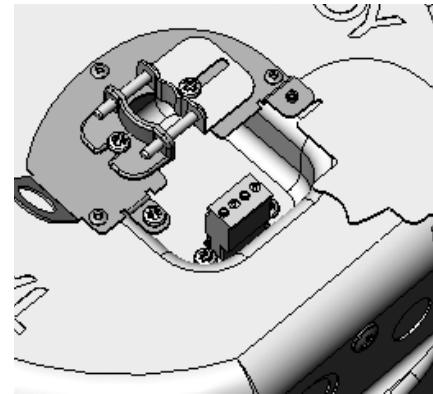
If using a power driver, Tannoy recommends a torque setting of 1.5Nm.

DO NOT OVERTIGHTEN!



8. WIRING AND SETTING UP:

1 | Open the wiring cover at the back of the speaker can to access the Euro type connector plug and socket.

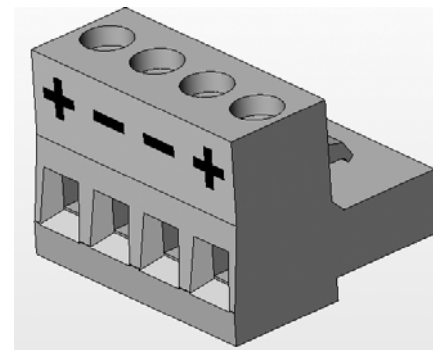


2 | For connection to an amplifier, use pins 1 and 2:

- Pin 1 is positive
- Pin 2 is negative

For connection to additional speakers in a distributed line, pins 3 and 4 are in parallel where:

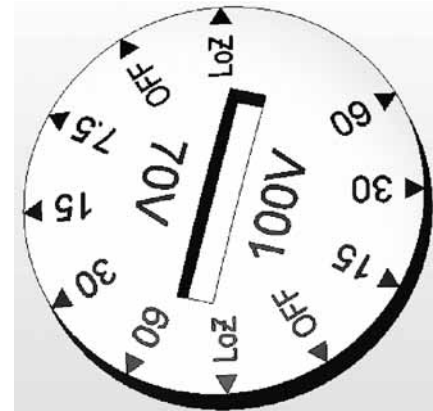
- Pin 3 is negative
- Pin 4 is positive



3 | Close the wiring cover and tighten both screws on the cable clamp. Use the rotary switch located on the front of the unit to select whether you wish to use the speaker in a low-impedance or distributed-line application.

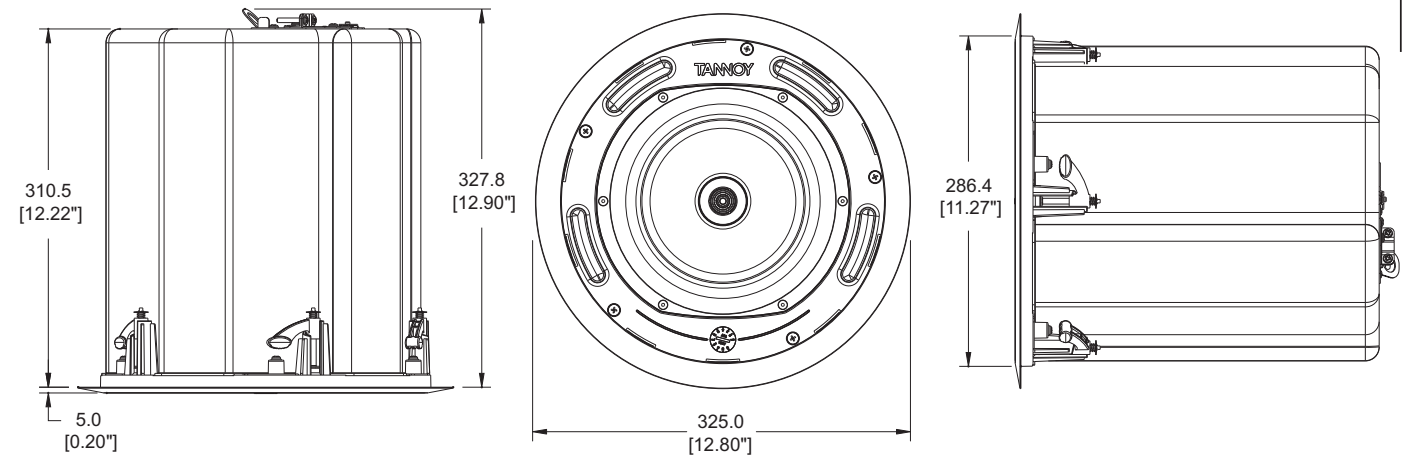
THE SPEAKER IS SUPPLIED IN LOW IMPEDANCE MODE. NEVER CONNECT THE SPEAKER TO A 70/100 VOLT AMPLIFIER WHILE IT IS SET FOR LOW IMPEDANCE.

All CMS801 models use a 60W transformer. When using distributed-line systems, the transformer can be tapped at 60W, 30W and 15W, with an additional 7.5W tapping for 70.7V line systems.



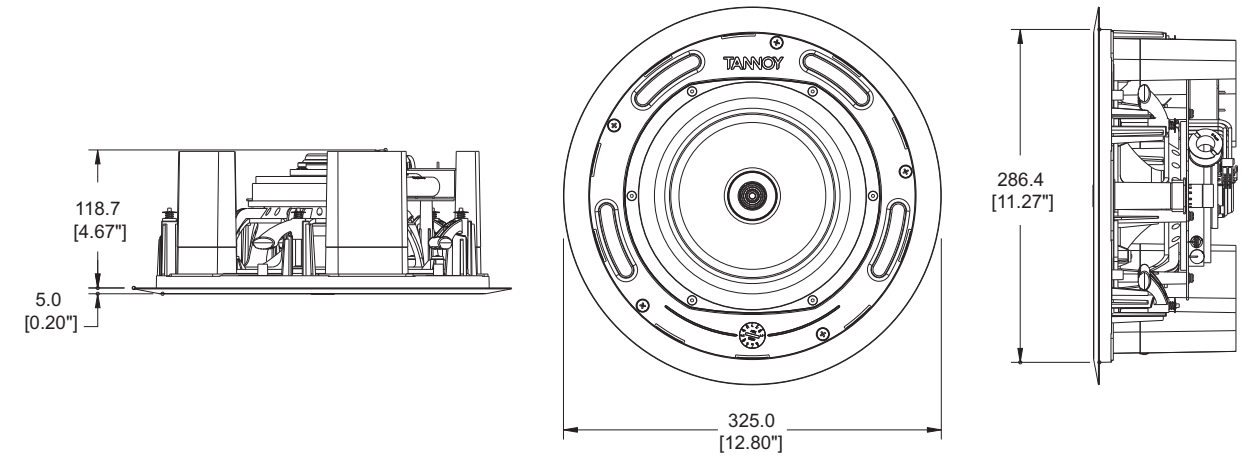
9.1 CMS801 DC BM DIMENSIONS:

TEMPLATE HOLE CUTOUT SIZE: 295mm



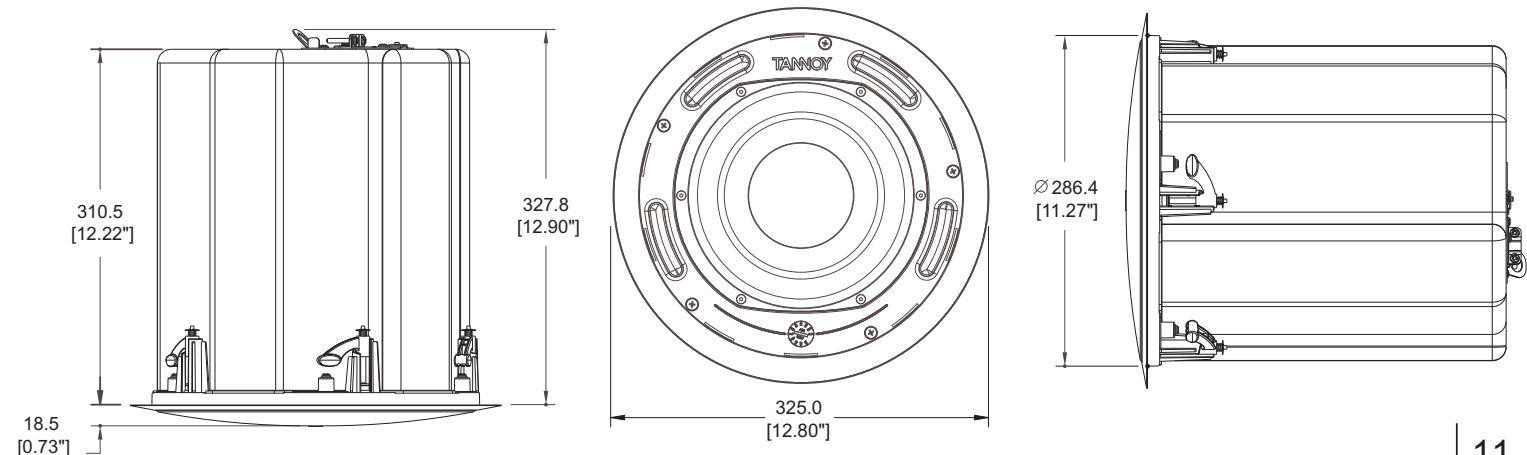
9.2 CMS801 DC PI DIMENSIONS:

TEMPLATE HOLE CUTOUT SIZE: 295mm



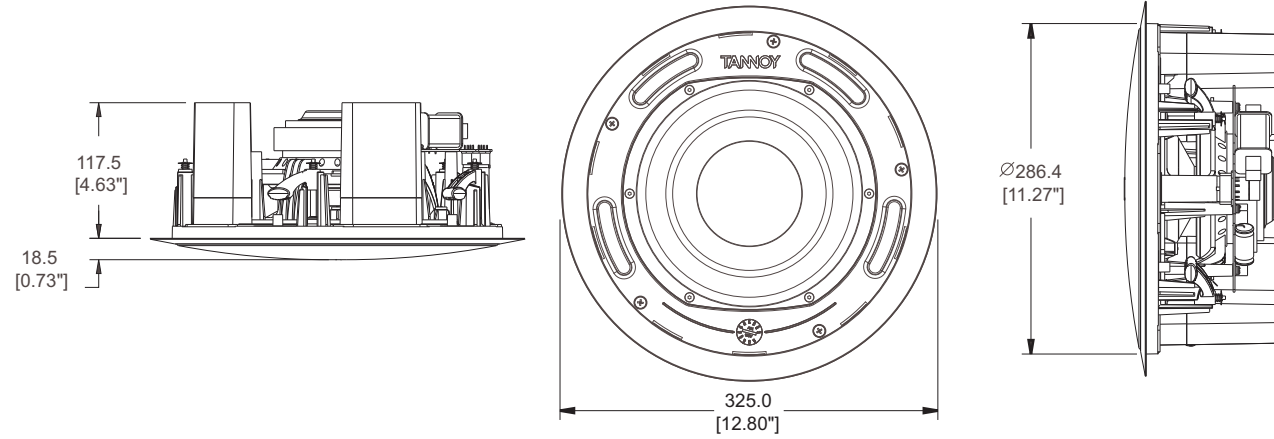
9.3 CMS801 sub BM DIMENSIONS:

TEMPLATE HOLE CUTOUT SIZE: 295mm



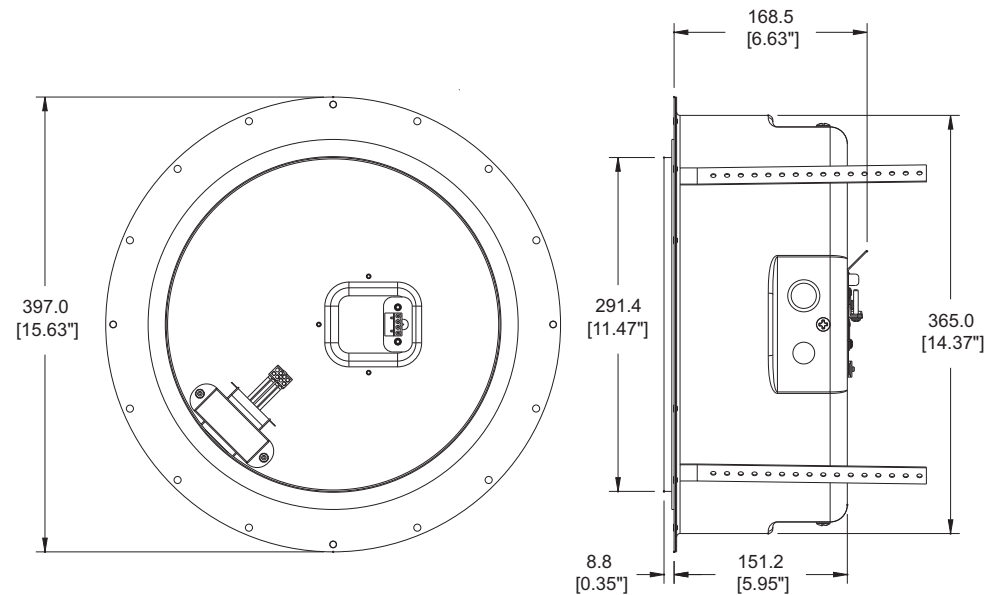
9.4 CMS801 sub PI DIMENSIONS:

TEMPLATE HOLE CUTOUT SIZE: 295mm



9.5 CMS801 PI BACK CAN DIMENSIONS:

TEMPLATE HOLE CUTOUT SIZE: 295mm



10.1 TECHNICAL SPECIFICATIONS:

MODEL	CMS801 DC	
System		
Frequency response (-3dB) ⁽¹⁾ BM back can	47Hz - 30kHz	
Frequency range (-10dB) ⁽¹⁾ BM back can	40Hz - 35kHz	
Frequency range (-10dB) ⁽¹⁾ PI back can	41Hz - 35kHz	
System sensitivity (1W @1m) ⁽²⁾	92dB (1W = 2.83V for 8 Ohms)	
Nominal coverage angle	90 degrees conical	
Coverage angle (1kHz to 6kHz)	100 degrees conical	
Directivity factor (Q)	5.5 averaged 1kHz to 6kHz	
Directivity index (DI)	7.2 averaged 1kHz to 6kHz	
Rated maximum SPL	112dB (average) 118dB (peak)	
With THP60	110 (average)	
Power handling		
Average	90W	
Programme	180W	
Peak	360W	
Recommended amplifier power	180W @ 8 Ohms	
Nominal impedance	8 Ohms	
Transformer taps (via front rotary switch)		
70V	60W/30W/15W/7.5W/OFF & Low impedance operation	
100V	60W/30W/15W/OFF & Low impedance operation	
Distortion		
10% full power (8.49V)	2nd Harmonic	3rd Harmonic
250Hz	0.65%	0.39%
1kHz	1.36%	0.29%
10kHz	1%	0.03%
1% full power (2.68V)	2nd Harmonic	3rd Harmonic
250Hz	0.20%	0.43%
1kHz	0.49%	0.28%
10kHz	0.42%	0.03%
Crossover	2kHz - 2nd order LF, 2nd order order HF (with dynamic HF protection)	
Transducers		
Low frequency	200mm (8.00") Dual Concentric™ constant directivity driver with multi fibre paper pulp cone	
High frequency	25mm (1.00") titanium dome with neodymium magnet system	
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	
Backcan Options		
Blind Mount (BM)	Complete with fixed back can	
Pre Install (PI)	Separate back can for pre installation	
Cable Entry Options	Cable clamp & squeeze connector for conduit up to 22mm	
Conduit Knockouts	3 sets of horizontal positions 19/22/28mm 0.75/0.87/1.1"	
Connectors	Removable locking connector with screw	
Safety agency ratings (pending)	UL-1480, UL-2043, CE	
BM hole cutout diameter	295mm (11.61")	
PI hole cutout diameter	295mm (11.61")	
Dimensions		
Bezel diameter	325mm (12.80")	
Front of ceiling to rear of back can (BM)	310.5mm (12.22")	
Front of ceiling to top of safety loop (BM)	327.8mm (12.90")	
Back of ceiling surface to rear of back can (PI)	151.2mm (5.95")	
Back of ceiling surface to top of safety loop (PI)	168.5mm (6.63")	
Front of ceiling to rear of bass ports (no back can) PI	123.7mm (4.87")	
Net Weight (ea)		
CMS801 BM	6.3kg	
CMS801 PI	3.0kg	
PI back can	4.3kg	
Shipping Weight		
CMS801BM (pair)	19.0kg	
CMS801PI (pair)	11.2kg	
PI back can (single)	5.7kg	
Included Accessories	C Ring, tile bridge, paint mask, cutout template, grille	
Optional Accessories	Plaster (Mud) Ring, line transformer for PI product installs without back can	

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

10.2 TECHNICAL SPECIFICATIONS:

System	CMS801 sub	Transducer
Frequency response (-3dB) ⁽¹⁾	58Hz - 160Hz	1x 200mm (8.00") long throw woofer with multi fibre paper pulp cone
Frequency range (-10dB) ⁽¹⁾	42Hz - 300Hz	
System sensitivity (1W @1m) ⁽²⁾	92dB (1W = 2.45V for 8 Ohms)	Physical Enclosure Back can Baffle Grille
Crossover	Integral 2nd order passive, 160 Hz	Zinc plated steel Reflex loaded UL 94V-0 rated ABS Steel, with weather resistant coating
Rated maximum SPL ⁽²⁾	112dB (average) 118dB (peak)	Safety features Safety ring located at rear of enclosure for load bearing safety bond
With THP60	110dB (average)	Clamping design Security toggle clamp
Power handling ⁽³⁾		Back can options Blind Mount (BM) Pre Install (PI)
Average	100W	Complete with fixed back can Separate back can for Pre Installation
Programme	200W	
Peak	400W	Cable entry options Cable clamp & squeeze connector for conduit up to 22mm
Recommended amplifier power	200W @ 8 Ohms	Conduit knockouts 3 Sets of horizontal positions 19 / 22 / 28mm (0.75 / 0.87 / 1.1")
Nominal Impedance	8 Ohms	Connectors Removable locking connector with screw terminals with "loop through" facility
Transformer taps (via front rotary switch)		Safety agency ratings (pending) UL-1480, UL-2043, CE
70V	60W / 30W / 15W / 7.5W / OFF & Low Impedance operation	BM hole cutout diameter 295mm (11.61")
100V	60W / 30W / 15W / OFF & Low Impedance operation	PI hole cutout diameter 295mm (11.61")
Distortion		Dimensions Bezel diameter 325mm (12.80")
10% Full Power (7.75V)	2nd Harmonic 70Hz 1.22% 100Hz 0.38%	Front of ceiling to rear of back can (BM) 310.5mm (12.22")
	3rd Harmonic 1.90% 0.49%	Front of ceiling to top of safety loop (BM) 327.8mm (12.90")
1% Full Power (2.45V)	2nd Harmonic 70Hz 0.91% 100Hz 0.04%	Back of ceiling surface to Rear of backcan (PI) 151.2mm (5.95")
	3rd Harmonic 1.28% 0.44%	Back of ceiling surface to top of safety loop (PI) 168.5mm (6.63")
Notes		Front of ceiling to rear of bass ports (no back can) (PI) 123.7mm (4.87")
⁽¹⁾ Average over stated Bandwidth. Measured in an IEC baffle in an Anechoic Chamber		Net weight (ea) CMS801 SUB BM 3.2kg (7.05lbs) CMS801 SUB PI 4.0kg (8.8lbs) PI Back can
⁽²⁾ Unweighted pink noise input, measured in an IEC baffle in an Anechoic Chamber. If the loudspeaker is placed in the ceiling near a corner ($\pi/2$) an increase of 6dB in sensitivity and maximum SPL can be realised.		Included accessories C Ring, tile bridge, paint mask, cutout template, grille
⁽³⁾ Long term power handling capacity as defined in EIA - 426B test		Optional accessories Plaster (Mud) Ring
A full range of measurements, performance data, and Ease™ Data can be downloaded from 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	PACKED WEIGHT kg (lbs)
8001 4730	CMS801 SUB BM	WHITE	2	19.0 (41.89)
8001 4740	CMS801 SUB PI	WHITE	2	11.5 (23.35)

11. PAINTING

If desired, the grille and baffle panel may be painted to match the surrounding décor.

Painting the baffle:

- Ⓢ Carefully mask off the driver assembly using the paint-mask provided to ensure that the paint does not come into contact with the cone and roll surround.
- Ⓢ Apply several thin coats of paint – this will provide a better finish than one overly thick coat.

Painting the grille:

- Ⓢ Carefully remove the acoustically transparent foam from the reverse side of the grille.
- Ⓢ Paint the grille and then replace the foam - several thin coats of paint will provide a better finish than one overly thick coat.
- Ⓢ Re-bond the foam to the grille over the entire area using a light spray-adhesive to avoid audible resonances.

12. WARRANTY

No maintenance of the CMS loudspeaker is necessary.

All Tannoy professional loudspeaker products are covered by a 5 year warranty from the date of manufacture subject to the absence of misuse, overload or accidental damage. Claims will not be considered if the serial number has been altered or removed. Work under warranty should only be carried out by a Tannoy Professional dealer or service agent. This warranty in no way affects your statutory rights. For further information please contact your dealer or distributor in your country. If you cannot locate your distributor please contact Customer Services, Tannoy Ltd at the address given below.

Customer Services

Tannoy Ltd.
Rosehall Industrial Estate
Coatbridge
Strathclyde
ML5 4TF
Scotland

Tel: 01236 420199 (National)
+44 1236 420199 (International)
Fax: 01236 428230 (National)
+44 1236 428230 (International)

E-mail: enquiries@tannoy.com

DO NOT SHIP ANY PRODUCT TO TANNOY WITHOUT PREVIOUS AUTHORISATION

Our policy commits us to incorporating improvements to our products through continuous research and development. Please confirm current specifications for critical applications with your supplier.

13. DECLARATION OF CONFORMITY:

The following apparatus is manufactured in China for Tannoy Ltd of Rosehall Industrial Estate, Coatbridge, Scotland, ML5 4TF and conform(s) to the protection requirements of the European Electromagnetic Compatibility Standards and Directives relevant to Domestic Electrical Equipment. The apparatus is designed and constructed such that electromagnetic disturbances generated do not exceed levels allowing radio and telecommunications equipment and other apparatus to operate as intended, and, the apparatus has an adequate level of intrinsic immunity to electromagnetic disturbance to enable operation as specified and intended.

Details of the Apparatus: Tannoy Contractor Loudspeaker

Model Numbers: CMS801 DC BM
 CMS801 DC PI
 CMS801 sub BM
 CMS801 sub PI
 CMS801 PI back-can

Applicable Standards: EN 50103-1 Emission
 EN 50103-1 Immunity

Electrical Safety: EN 60065

Signed:

A handwritten signature in black ink, appearing to read 'G. Hawley', with a horizontal line extending to the right from the end of the signature.

Position: Engineering Director - Professional Products

Tannoy Professional

Date: 26/05/2007

For Tannoy Ltd

NOTES

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