



Specifications: CM600i

Tile bridge included

System Type	6.5" Coax outdoor (voice coil / 8 Ohm direct, 33 Watt transformer for 25/70.7/100 Volt applications)
Frequency Response (-3 dB) ¹	70 Hz - 22 kHz
Low Frequency (-10 dB) ¹	60 Hz - 22 kHz
Max. Program Power	180 Watts
Max. Continuous Power RMS ²	90 Watts
Max. UL Program Power ³	60 Watts
Max. SPL dB @ 1 M	111 dB
Sensitivity dB @ 1W/1M ⁴	91.5 dB (average over published frequency response range, 2.83 V)
Impedance (nominal)	8 Ohm (nominal)
Tap Selector / Inputs	6-Position rotary switch with voice coil direct (8 Ohm)
Coverage Angle (-6 dB@ 2 kHz)	90°
Coverage Angle (-6 dB@ 10 kHz)	130°
Directivity Factor (Q)	6.4 (Averaged 100 Hz – 10 kHz); 9.1 @ 2 kHz
Directivity Index (DI)	7.64 dB (Averaged 100 Hz – 10 kHz); 9.59 dB @ 2 kHz

Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
33 W	106.5 dB	33 W	106.5 dB	5 W	98.5 dB
17 W	104 dB	17 W	104 dB	2.5 W	95.5 dB
9 W	101 dB	9 W	101 dB	1.3 W	92.5 dB
6 W	99.5 dB	6 W	99.5 dB	0.5 W	88.5 dB
3 W	96.5				

Transducers	
Low-Frequency Driver	1 x 165 mm (6.5 in) Polypropylene cone, butyl rubber surround
High-Frequency Driver	1 x 25 mm (1.0 in) Convex aluminum tweeter with waveguide
Low-Frequency Voice Coil	25 mm (1.0 in)
Network Type	
Low Pass	12 dB per octave, 2nd order
High Pass	12 dB per octave, 2nd order
Crossover Frequency	3.0 kHz
Enclosure Material	Drawn aluminum backcan with ABS baffle
Grille	Iridite-plated steel with powder-coat finish
Inputs	4 Pin, 5 mm Euroblock for individual or daisy chain connection
Color Options	White or black
Backcan Diameter	296.7 mm / 11.68 in
Backcan Deight	201.7 mm / 7.94 in
Visible Diameter	375.0 mm / 14.76 in
Visible Height	27.5 mm / 1.08 in
Weight	4.6 kG / 10.1 lbs
Shipping Weight	7.5 kG / 16.5 lbs
Accessories	
Included	Tile bridge, Euroblock connector, conduit plate
Optional	Pre-Construction Bracket (AC-CM8-PCB), Junction Box (AC-CM-BOX)
Packaging	2 per box

¹ Frequency response is measured in half space and includes a low-frequency peak > +3 dB.

² Continuous power rating, EIA-426-B test.

³ UL testing specifies band-limited pink noise over the indicated frequency spectrum.

⁴ 2.83 Volts at a distance of 1 meter.

SoundTube continually develops new product innovations and improvements. Updates to existing products without prior notice are an example of SoundTube's drive for constant improvement.

Key Features

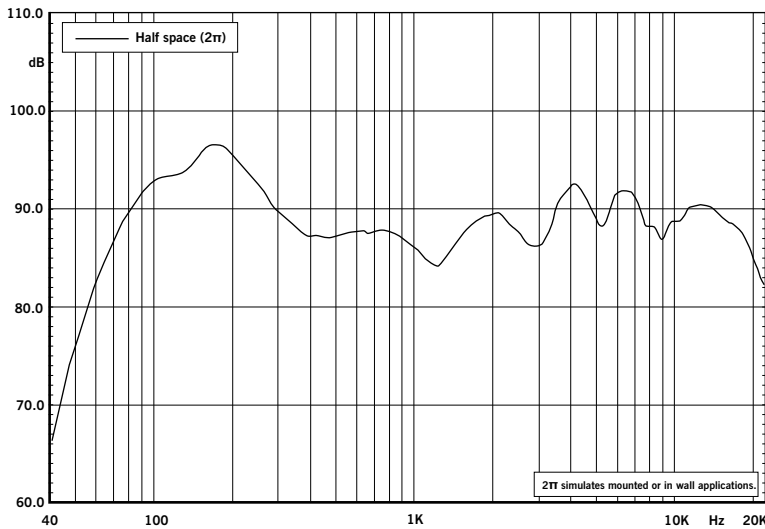
- BroadBeam[®] waveguide technology delivers a consistent BroadBeam[®] dispersion pattern for maximum coverage area per speaker (up to 10 kHz, EASE[™] documented).
- One 165 mm (6.5 in) polypropylene woofer and one 25 mm (1.0 in) convex aluminum tweeter with FerroFluid[™] cooling mounted to a proprietary cast-aluminum M6[™] motor-board and heat sink.
- Rapid-installation blind-mount, fixed-wing mounting mechanism with constant-tension design affixing to ceiling thickness tolerances ranging from 6.4 mm (0.25 in) to 42.9 mm (1.69 in).
- Separate tool-free magnetic grille & bezel assembly for ease of install & in-field painting.
- Iridite-plated steel grille with protective powder-coated finish for lasting durability.
- Easy access 6-position selectable tap switch for 25, 70.7 and 100 Volt applications with voice coil/8 Ohm direct simplifies ordering & inventory tracking.
- 91.5 dB average sensitivity offers high-output capabilities & reduced amplification costs.
- Approval pending for UL 1480 rev. 5 & 2043, CE (EMC Directive 89/366/EEC, EN55020, EN55013 & IEC529, and MilSpec 810).
- Included accessories: Tile bridge, Euro-block connector, paint mask, conduit plate.
- Optional accessories: Pre-construction bracket, junction box.
- High-quality black or white paint finish. Custom paint colors optional.

Description

The CM600i is a 6.5" 2-way blind-mount in-ceiling speaker design that delivers extended low-end response (60 Hz) and optimal off-axis performance (up to 10 kHz, EASE[™] documented). SoundTube's proprietary BroadBeam[®] waveguide tweeter system delivers consistent high-performance audio across the operating bandwidth. The CM600i speaker design incorporates a low-profile grille, proprietary M6[™] motor-board and 6-position tap switch with voice coil/8 Ohm direct. Mounting hardware is included and features a fast and secure constant tension fixed-wing mounting system.



Frequency Response



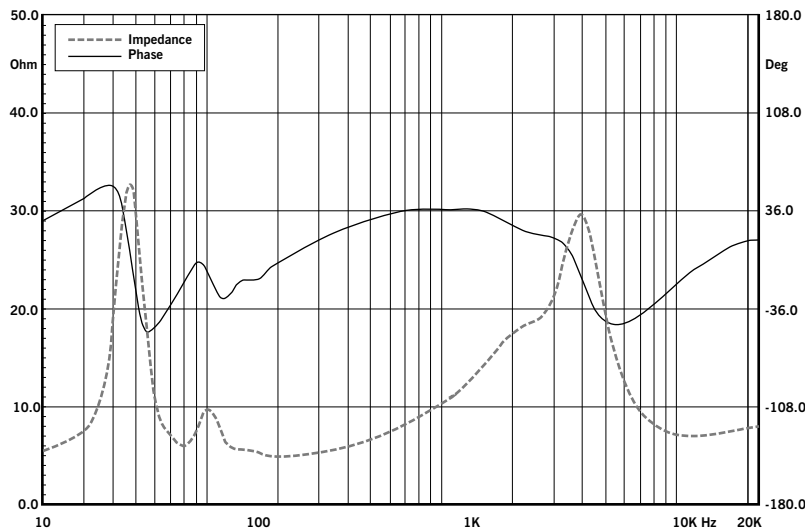
Applications

Designed for in-ceiling background to foreground SPL applications, the CM600i delivers a broad dispersion pattern (1 kHz – 10 kHz, EASE™ documented with outside verification) and high sensitivity (91.5 dB 1W/1M). The CM600i is ideal for nightclubs, bars, fitness centers, hotels, airports, convention centers, casinos, corporate venues, churches and other in-ceiling applications requiring background to foreground SPL. For applications where additional bass is required, SoundTube's CM801i 8" subwoofer provides low-end response down to 43 Hz.

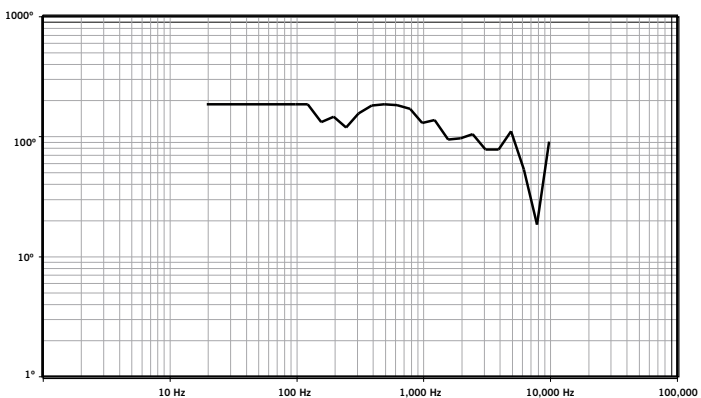
BroadBeam® Wide Dispersion Technology

More than 3 years in development, SoundTube's proprietary BroadBeam® technology incorporates a high-frequency waveguide mated to a 1" convex aluminum tweeter. The BroadBeam® high-frequency waveguide delivers a consistent dispersion pattern across the upper registers of the frequency spectrum (up to 10 kHz, EASE™ documented). The result is an audio system with fewer speakers, reduced power needs, shorter installation time and cost savings on shipping and labor.

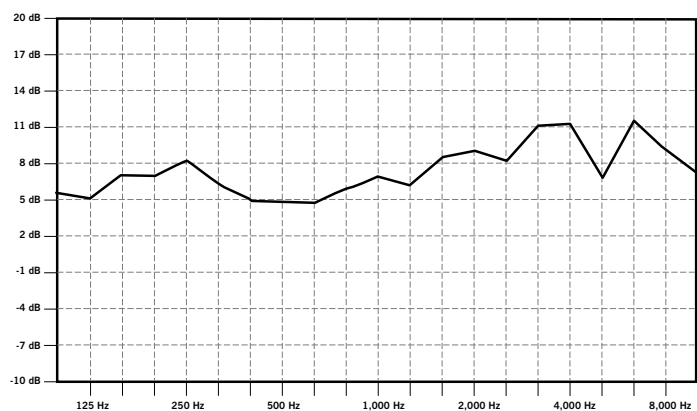
Phase/Impedance Reponse



Beamwidth (-6 dB)



Directivity Index (DI)





Patented SoundTube Technologies

SoundTube Entertainment is constantly developing new technologies that enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. & international patents, which explicitly cover SoundTube dome, enclosure and dispersion technologies. SoundTube Entertainment actively defends its patents in order to protect SoundTube resellers and end users.

Technical Data and Specification Tools

Technical Data

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data are available from SoundTube Entertainment or at www.soundtube.com.

Data Acquisition

All performance data acquired at SoundTube's Technical Measurement Center (TMC) are analyzed using a variety of standard measurement techniques, including Measured Length

Sequence (MLS) and Time Delay Spectrometry (TDS). Performance, development and data acquisition tools include: Gold Line TEF 20, CLIO, LMS, LEAP, and proprietary modeling software. EASE™ data are acquired through an automated TEF 20/Outline/EASE™ interface.

EASE™ Data – 3-D polar plots.

SoundTubeSPEC™ – Proprietary SoundTube speaker placement software.

Architectural Specifications

The loudspeaker shall consist of a 165 mm (6.5 in) low-frequency transducer and a 25 mm (1.0 in) high-frequency transducer with a crossover network installed in the ported enclosure. The low-frequency voice coil diameter shall be 25 mm (1.0 in).

Performance specifications of a typical production unit shall be as follows: Useable frequency response shall extend from 60 Hz – 22 kHz (-10 dB, half space, no external equalization). Measured sensitivity (2.83 Volt input, 1 meter) shall be at least 91.5 dB. The speaker shall have a nominal imped-

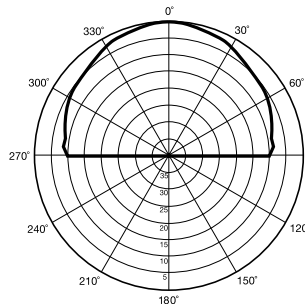
ance of 8 Ohms and be available for 25, 70.7 & 100 Volt modes with voice coil/8 Ohm direct. The frequency-dividing network shall have a crossover frequency of 3 kHz with slopes of 12 dB per octave (2nd order) for both low & high pass filters. Rated power capacity shall be at least 90 Watts continuous power (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 111 dB.

Installation for the CM600i shall be by 2-screw blind-mount, constant-tension winged assembly and shall attach to ceiling thickness tolerances ranging from 6.4 mm (0.25 in) to 42.9 mm (1.69 in). The fixed-wing assembly shall be constructed of glass filled ABS material. The external wiring input connector shall be a 4-pin, 5 mm Euroblock for 8 Ohm or distributed systems and shall accept from 10 – 22 gauge wire.

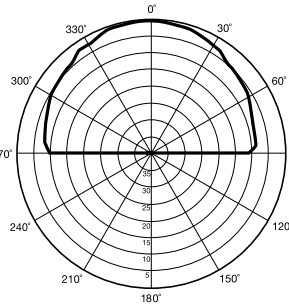
The maximum backcan dimensions shall be no more than 201.7 mm (7.94 in) in height by 296.7 mm (11.68 in) in diameter. The maximum visible dimensions shall be no more than 275 mm (1.08 in) in height by 375 mm (14.76 in) in diam-

Polar Plots

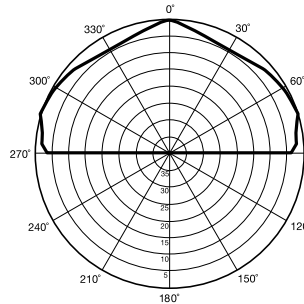
125 Hz



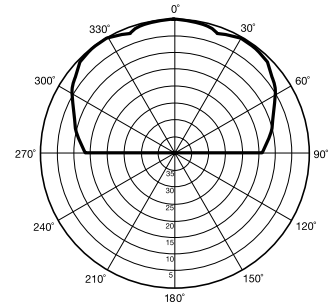
250 Hz



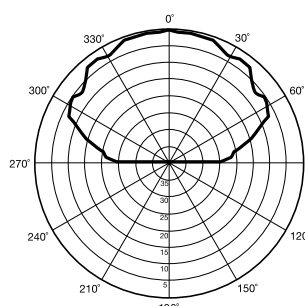
500 Hz



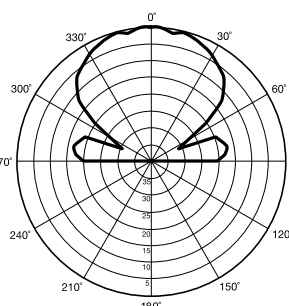
1,000 Hz



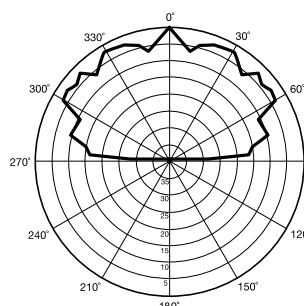
2,000 Hz



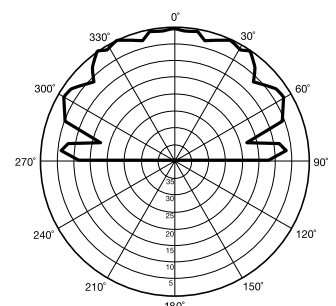
4,000 Hz



8,000 Hz



10,000 Hz



CM600i

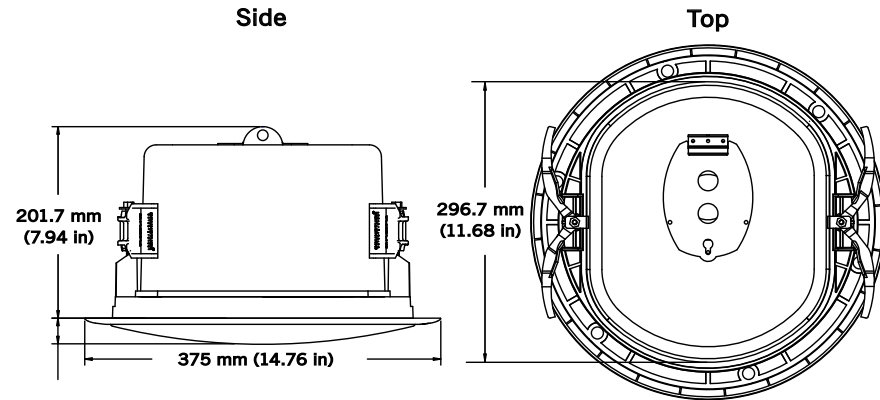
In-Ceiling Speaker

Technical Information for System Engineers



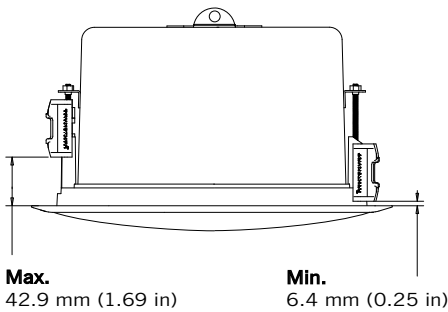
SOUNDTUBE
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Mechanical Drawings

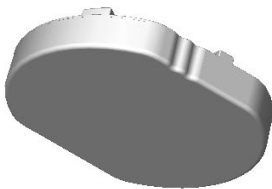


27.5 mm (1.08 in)

Included Accessories

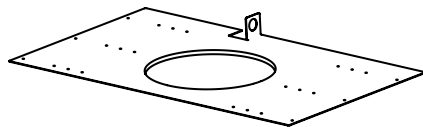


Fixed Wing Mounting System

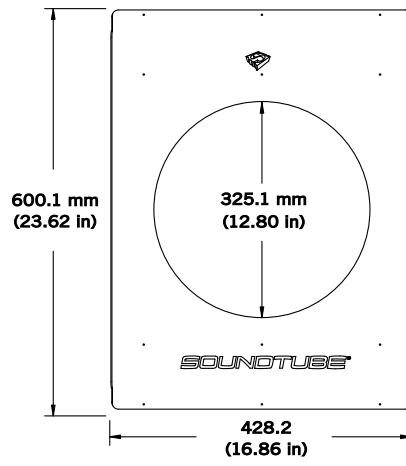


Paint Mask

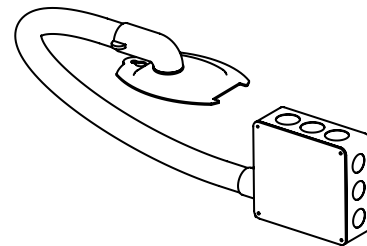
Optional Accessories



Pre-Construction Bracket (AC-CM8-PCB)



Tile Bridge



Junction Box (AC-CM-JBOX)

eter. The backcan shall be constructed of aluminum.

The system shall include a 16-gauge galvanized steel support backing plate (tile bridge) to reinforce the ceiling material and tile support rails. The maximum tile bridge dimensions shall be no more than 600.1 mm (23.62 in) in length by 428.2 mm (16.86 in) in width and 10.4 mm (0.41 in) in thickness with 325.1 mm (12.80 in) cutout for speaker mounting.

The grille shall be constructed of iridite-plated, powder-coated steel with an ABS bezel for lasting performance. The affixed grille and bezel shall be mounted to the speaker enclosure (backcan) via neodymium magnets and include safety wire. Also included are a paint mask for in-field painting and an installation aid that serves as a handhold during mounting.

The CM600i has an optional Pre-Construction Bracket (AC-CM8-PCB) that shall be compatible with an optional Junction Box (AC-CM-JBOX). An 18-gauge hardware lead, conduit connector and Euroblock connector shall be included with the Junction Box. The maximum dimensions of the Pre-Construction Bracket shall be no more than 635 mm (25.0 in) in length by 457.2 mm (18.0 in) in width and 127 mm (5.0 in) in thickness with a 326.1 mm (12.85 in) cutout for speaker mounting.

The system shall be the SoundTube CM600i for both low and high impedance applications.

SoundTube Entertainment

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