



Specifications: CM800d

Tile bridge included

System Type	8-inch coaxial, in-ceiling, ported (120-watt transformer for 25/70.7/100-volt or transformer bypass)
Impedance (nominal) ¹	8 ohm
Sensitivity dB @ 2.83 V / 1 m	90.5 dB
Sensitivity dB @ 1 W / 1 m ²	90.5 dB
Frequency Response (-3 dB) ³	73 Hz - 22 kHz
Frequency Response (-10 dB) ³	56 Hz - 22 kHz
Max. Program Power ⁴	250 W
Max. Continuous Power RMS ⁵	125 W
Max. Power SPL @ 1 M ⁶	111.5 dB
Coverage Angle (-6 dB @ 2 kHz)	125°
Coverage Angle (-6 dB @ 10 kHz)	95°
Coverage Angle (averaged from 2 to 10 kHz)	125°
Directivity Factor (Q)	3.8 (averaged 100 Hz - 10 kHz); 4.9 (2kHz)
Directivity Index (DI)	5.3 dB (averaged 100 Hz - 10 kHz); 6.9 dB (2kHz)
Tap Selector	Five-position rotary switch with transformer bypass position
Transducer - Low-Frequency Driver	203 mm (8 in.) Polypropylene cone, butyl rubber surround
Transducer - High-Frequency Driver	25 mm (1 in.) Convex titanium tweeter with waveguide
Low-Frequency Voice Coil	30.4 mm (1.20 in.)
Crossover Frequency	3.0 kHz
Network Type: Low Pass	12 dB per octave, 2nd order
Network Type: High Pass	12 dB per octave, 2nd order
Enclosure Material	Drawn steel backcan with ABS baffle
Motor-board	Cast aluminum
Grille	Steel with powder-coat finish with ABS bezel
Inputs	Four-pin, 5.08 mm Euroblock for individual or daisy chain connection
Colors	Black or white
Backcan Diameter	296.7 mm (11.68 in.)
Backcan Height	316.5 mm (12.46 in.)
Visible Diameter	374.9 mm (14.76 in.)
Visible Height	27.4 mm (1.08 in.)
Mounting Hole Diameter	323.9 mm (12.75 in.)
Min / Max Ceiling Thickness	6.4 mm (0.25 in.) – 48.5 mm (1.91 in.)
Weight	8.5 kg (18.8 lbs.)
Shipping Weight	10.8 kg (23.8 lbs.)
Packaging	One per box
Included Accessories	Tile bridge, conduit plate, Euroblock connector and installation aid
Optional Accessories	Pre-construction bracket (AC-CM8-PCB), junction box (AC-CMi-JBOX)
Regulatory - UL	UL 1480 (UEAY) and 2043 approved
Regulatory - CE	Approved
RoHS	Approved

Transformer Taps

	70.7 V Output	100 V Output	25 V Output
¹ Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance			
² 1 W 1 m sensitivity determined using nominal impedance	120 W 111.5 dB 60 W 108.5 dB	120 W 111.5 dB 60 W 108.5 dB	15 W 102.5 dB 8 W 99.5 dB
³ Frequency response measured in half or full space as dictated by speaker mounting configuration	30 W 105.5 dB	30 W 105.5 dB	3.8 W 96.5 dB
⁴ Max program power is 3 dB above max continuous power	15 W 102.5 dB		1.9 W 93.5 dB

⁵ Continuous power rating, EIA-426-B test

⁶ Max output based on max continuous power

Key Features

- Patented BroadBeam[®] waveguide technology delivers a consistent dispersion pattern for maximum intelligibility and edge-to-edge coverage (2 to 10 kHz, independently verified).
- A 12.46-inch steel DeepCan provides additional bass response
- One 8.0 inch (203 mm) polypropylene woofer and one 1.0 inch (25 mm) convex titanium tweeter with FerroFluid cooling mounted to a proprietary cast-aluminum baffle and heat sink.
- Rapid-installation, blind-mount, fixed-wing mounting mechanism with constant-tension design affixing to ceiling thicknesses ranging from 0.25 inch (6.4 mm) to 1.91 inch (48.5 mm).
- Easy-access five-position selectable tap switch for 25-, 70.7- and 100-volt applications with transformer bypass position.
- Separate tool-free magnetic grille and bezel assembly for ease of install and in-field painting.
- Steel grille with protective powder-coated finish for lasting durability.
- Sensitivity of 90.5 dB (1 W/1 m) offers high-output capabilities and reduced amplification costs.
- UL 1480 (UEAY) and 2043 approved.
- High-quality black or white paint finish.
- Included accessories: tile bridge, Euroblock connector, conduit plate, support cable, paint mask/installation aid
- Optional accessories: color-coded (purple) pre-construction bracket (AC-CM8-PCB), junction box (AC-CMi-JBOX), safety restraint strap.

Description

The CM800d is an 8-inch, two-way, blind-mount, in-ceiling speaker that delivers extended low-end response (56 Hz) and optimal off-axis performance (2 to 10 kHz, independently verified). SoundTube's proprietary BroadBeam[®] waveguide tweeter system delivers consistent high-performance audio across the operating bandwidth. The CM800d speaker design incorporates an extra deep steel backcan (12.46 in.), a low-profile grille, a proprietary motor-board and a five-position tap switch with transformer bypass position. Mounting hardware is included and features a fast and secure constant-tension fixed-wing mounting system.



Applications

Designed for in-ceiling background to foreground SPL applications, the CM800d delivers a broad dispersion pattern, true low-end response and high sensitivity. The CM800d is ideal for casinos, convention centers, warehouses, nightclubs, gyms, aerobic rooms, airports, super stores, arenas, theme parks, transportation hubs, shipping centers, stadiums and applications requiring background to foreground SPL. For applications where additional bass is required, SoundTube's CM1001d-T 10-inch subwoofer provides enhanced low-end response down to 41 Hz.

BroadBeam® Wide Dispersion Technology

SoundTube's proprietary BroadBeam® technology incorporates a high-frequency waveguide mated to a 1-inch convex aluminum tweeter. The BroadBeam® high-frequency waveguide delivers a consistent dispersion pattern across the upper registers of the frequency spectrum (2 to 10 kHz, independently verified). The result is an audio system requiring fewer speakers with higher intelligibility, offering reduced power needs, shorter installation time and cost savings on shipping and labor.

Patented SoundTube Technologies

SoundTube Entertainment and the MSE Audio Group constantly develop new technologies which enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. and international patents, which explicitly cover SoundTube dome, enclosure and dispersion technologies. The MSE Audio Group 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.

Technical data and downloads include: EASE™ data – 3-D polar plots.

EASE™ Address – 2-D modeling for distributed systems

Autodesk® Revit® software

Tech Sheets – Technical information and architectural specs for system engineers

SoundTubeSPEC™ – Proprietary speaker placement software

Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWAALabs (www.nwaalabs.com) using their proprietary MACH testing system. All data are collected and analyzed according to ASTM, ISO and AES standards using EASERA, TEF and MLSSA. Full balloon data, including both phase and magnitude, is compiled into a variety of formats, including EASE 4.x, GLL and CLF.

Architectural Specifications

The loudspeaker shall consist of a 203 mm (8.0 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 30.4 mm (1.2 in.).

Performance specifications of a typical production unit shall be as follows: Useable frequency response shall extend from 56 Hz – 22 kHz (-10 dB, half space). Measured sensitivity (1 watt, 1 meter) shall be at least 90.5 dB. The speaker shall have a nominal impedance of 8 ohms. The speaker shall be available for 25-, 70.7- and 100-volt modes and shall include a five-position tap switch with a transformer bypass position. The frequency-dividing network shall have a crossover frequency of 3 kHz with slopes of 12 dB per octave (2nd order) for both low- and high-pass filters. Rated power capacity shall be at least 125 watts continuous (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 111.5 dB.

Installation for the speaker shall be by two-screw, blind-mount, constant tension winged assembly and shall attach to ceiling thicknesses ranging from 6.4 mm (0.25 in.) to 48.5 mm (1.91 in.). The fixed-wing assembly shall be constructed of powder-coated steel and include a conduit cover plate. The external wiring input connector shall be a four-pin, 5.08 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 316.5 mm (12.46 in.) in height by 296.7 mm (11.68 in.) in diameter. The maximum visible dimensions shall be no more than 275 mm (10.8 in.) in height by 375.0 mm (14.76 in.) in diameter. The backcan shall be constructed of steel.

The system shall include a 21-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 height with 325.1 mm (12.80 in.) cut-out for speaker mounting. For additional hanging support, one adjustable cable and integrated hook shall also be included.

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

The unit has an optional pre-construction bracket (AC-CM8-PCB) that shall be compatible with an optional junction box (AC-CMi-JBOX). An 18-gauge wire whip 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 height (includes affixed junction box) with a 326.1 mm (12.85 in.) cutout for speaker mounting.

The system shall be the SoundTube CM800d for both low- and high-impedance applications.

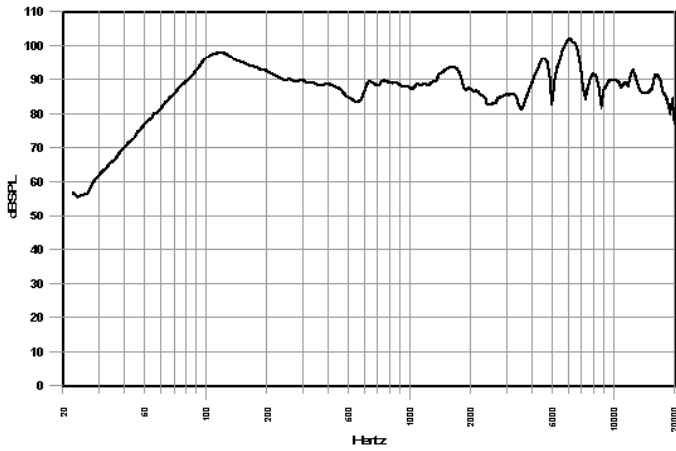
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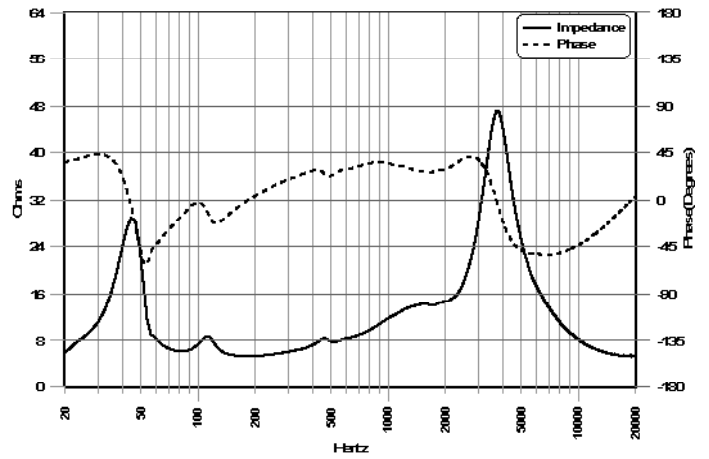
All SoundTube products come with a 5-year limited warranty.

Graphs and Plots

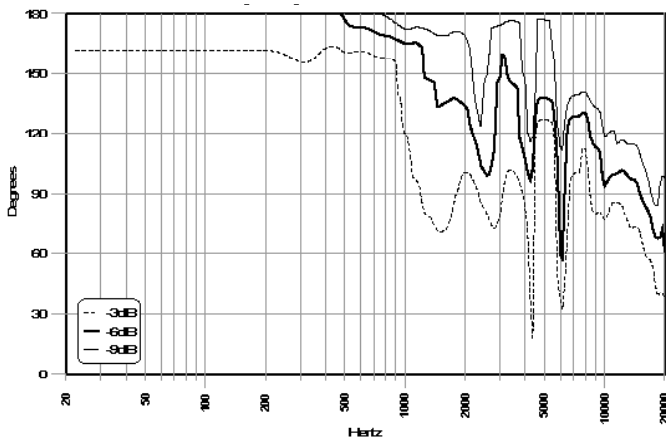
Frequency Response



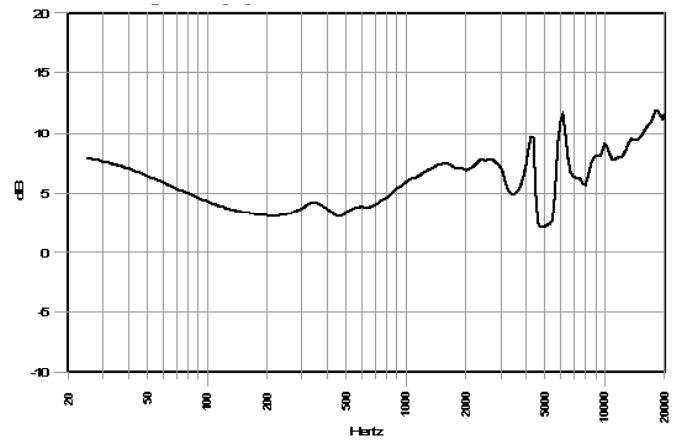
Phase/Impedance Response



Vertical Beamwidth (-6 dB)

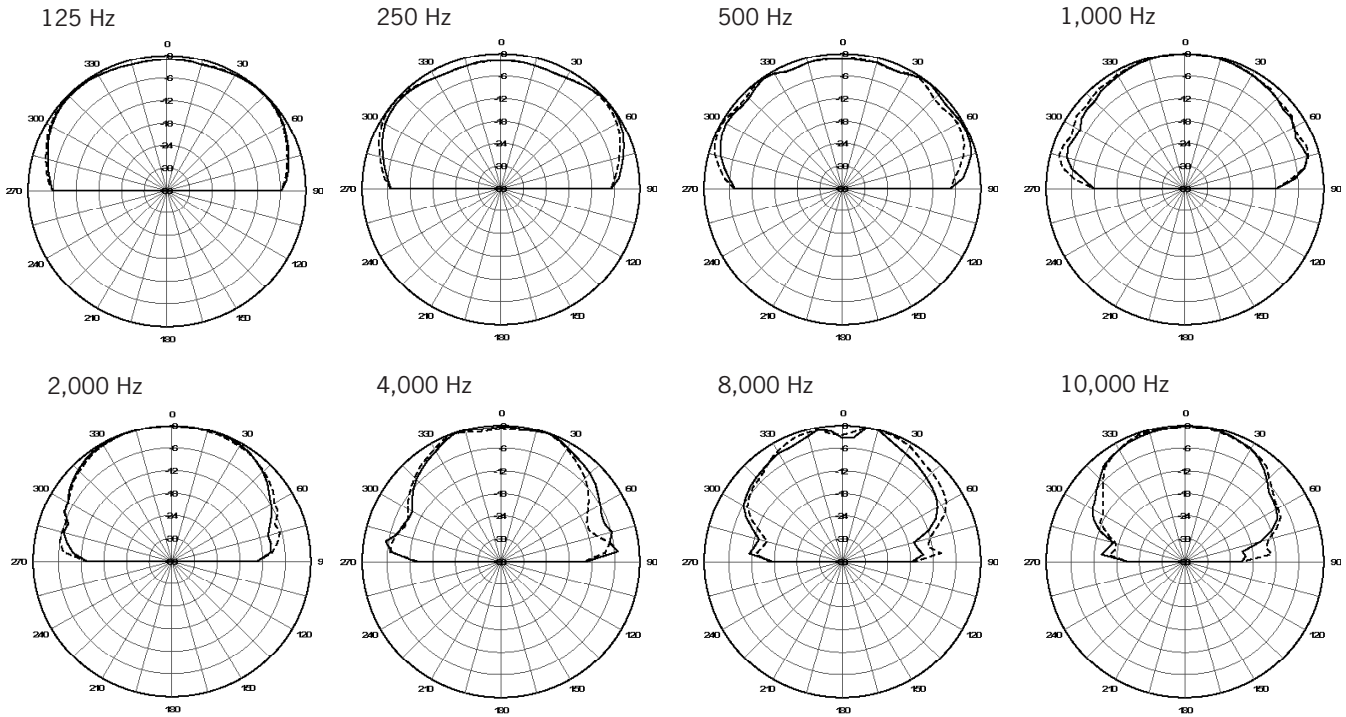


Directivity Index (DI)



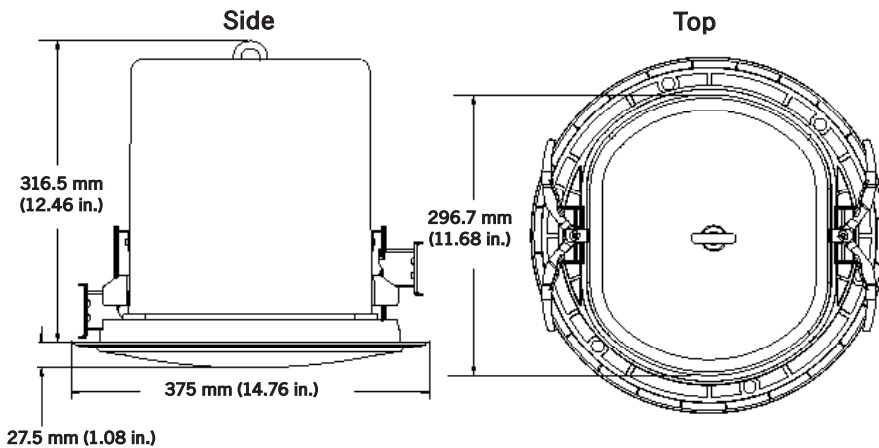
Polar Plots

— Horizontal
- - - Vertical

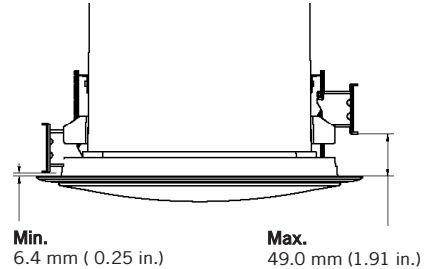


Technical data, EASE™ plots, SoundTubeSPEC™ software and product downloads available at www.soundtube.com

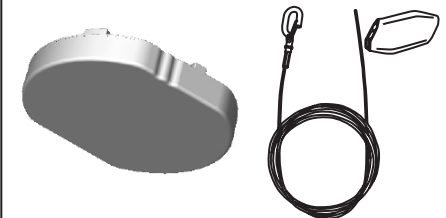
Mechanical Drawings



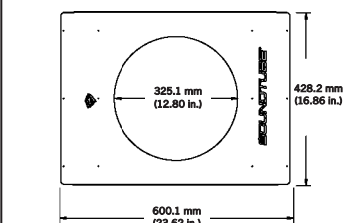
Minimum/Maximum Ceiling Thickness



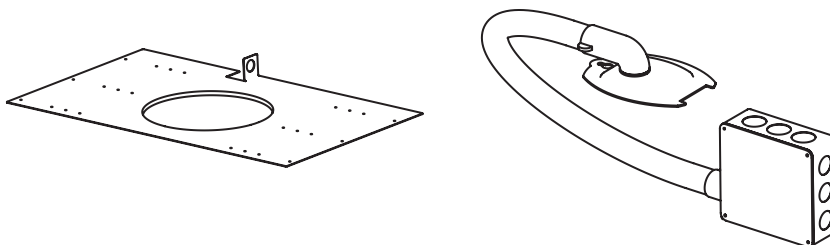
Included Accessories



Paint Mask **Suspension Cable and Hardware**



Optional Accessories



Pre-Construction Bracket (AC-CM8-PCB)

Junction Box (AC-CMi-JBOX)

Tile Bridge

SoundTube Entertainment manufactures a complete line of speakers for:
Open-Ceiling • In-Ceiling • Surface-Mount • Outdoor • Sound-Focusing

All SoundTube products are designed and engineered in the USA.