CM801i Sub

In-Ceiling Speaker
Technical Information for System Engineers

SOUNDTUBE ENTERTAINMENT

Specifications: CM801i

Tile bridge included

System Type	8" Subwoofer, in-ceiling, sealed (66 Watt transformer for 25/70.7/100 Volt or voice coil/4 Ohm direct)
Frequency Response (-3 dB)[1]	60 Hz - 120 Hz
Low Frequency (-10 dB)[1]	43 Hz - 190 Hz
Max. Program Power	250 Watts
Max. Continuous Power RMS[2]	125 Watts
Max. SPL dB @ 1 M	112.5 dB (Peak @ 80 Hz)
Sensitivity dB @ 2.83/1M[3]	91.5 dB (Peak @ 80 Hz)
Impedance (nominal)	4 Ohm (nominal value)
Coverage Angle (-6 dB @ 2 kHz)	N/A
Coverage Angle (-6 dB @ 10 kHz)	N/A
Directivity Factor (Q)	N/A
Directivity Index (DI)	N/A
Tap Selector	6-Position rotary switch with voice coil/4 Ohm direct

Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
66 W	110.5 dB	66 W	110.5 dB	9 W	102.0 dB
35 W	108.0 dB	35 W	108.0 dB	4.5 W	99.0 dB
19 W	105.5 dB	19 W	105.5 dB	2.3 W	96.0 dB
10 W	102.5 dB	10 W	102.5 dB	1.1 W	93.0 dB
5 W	99.5 dB				

Transducers	
Low Frequency Driver	1 x 203 mm (8.0 in) Polypropylene cone, butyl rubber surround
High Frequency Driver	N/A
Low Frequency Voice Coil	30.4 mm (1.2 in)
Crossover Frequency	100 Hz
Network Type	
Low Pass	12 dB per octave, 2nd order
High Pass	N/A
Enclosure Material	Drawn aluminum backcan with ABS baffle
Motor Board	Cast aluminum
Grille	Iridite-plated steel with powder-coat finish
Inputs	4 Pin, 5 mm Euroblock for individual or daisy chain connection
Colors	Black or white
Backcan Diameter	296.7 mm / 11.68 in
Backcan Height	201.7 mm / 7.94 in
Visible Diameter	27.5 mm / 1.08 in
Visible Height	375.0 mm / 14.76 in
Weight	7.0 kG / 15.5 lbs
Shipping Weight	10.2 kG / 22.5 lbs (includes tile bridge)
Accessories	
Included	Tile bridge, Euroblock connector & installation aid
Optional	Pre-Construction Bracket (AC-CM8-PCB), Junction Box (AC-CM-JBOX)
Packaging	1 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] 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

- One 203 mm (8.0 in) polypropylene woofer mounted to a proprietary cast-aluminum M8™ baffle 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 withvoice coil/4 Ohm direct simplifies ordering & inventory tracking.
- 91.5 dB peak sensitivity offers high-output capabilities & reduced amplification costs.
- UL 1480 rev. 5 & 2043, CE (EMC Directive 89/366/EEC, EN55020, EN55013), Milspec 810 & IEC529 approval pending.
- Included accessories: Tile bridge, Euroblock connector & paint mask.
- Optional accessories: Pre-construction bracket, junction box and square grille for architectural specifications.
- High-quality black or white paint finish. Custom paint colors optional.

Description

The CM801i is an 8" in-ceiling subwoofer design that delivers additional low-end response (43 Hz) for satellite/subwoofer applications. The CM801i speaker design incorporates a low-profile grille, proprietary M8™ motor-board and 6-position tap switch with voice coil/4 Ohm direct. All mounting hardware is included & features a fast & secure fixed-wing mounting system.

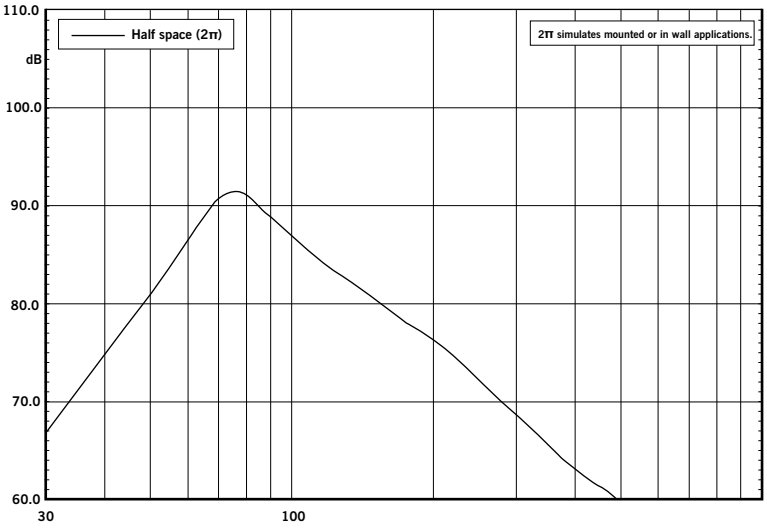
Applications

Designed for in-ceiling background subwoofer applications, the CM801i includes a proprietary fixed-wing constant-tension mounting system for ease of installation. True low-end response (43 Hz) and high sensitivity (91.5 dB 1W/1M) make the CM801i ideal for additional bass response in retail, restaurants and other in-ceiling subwoofer applications.

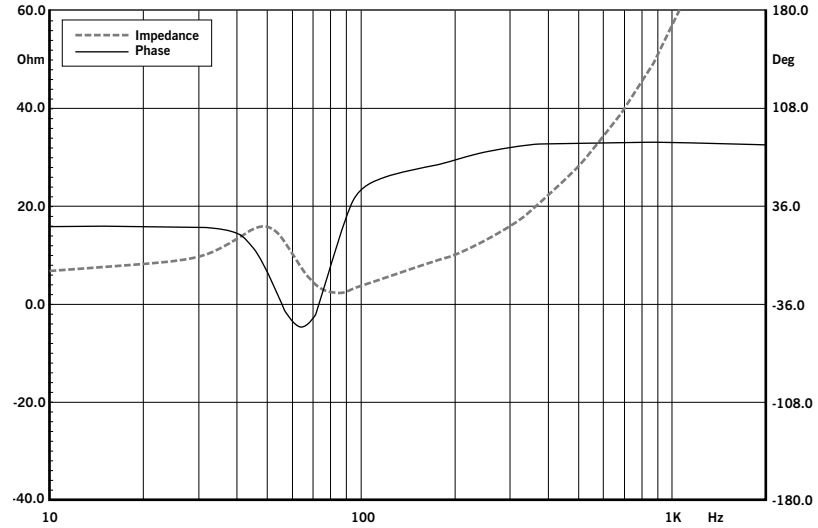
Patented SoundTube Technologies

SoundTube Entertainment is constantly developing new technologies that enhance audio product performance. SoundTube

Frequency Response



Phase/Impedance Reponse



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 203 mm (8.0 in) low-frequency transducer with a frequency-dividing network installed in the vented 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 43 Hz – 190 Hz (-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 impedance of 4 Ohms and be available for 25, 70.7 & 100 Volt modes with voice coil/4 Ohm direct. The frequency-dividing network shall have a crossover frequency of 100 Hz with a 12 dB per octave (2nd order) slope for the low pass filter. Rated power capacity shall be at least 125 Watts continuous power (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 112.5 dB.

Installation for the CM801i 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

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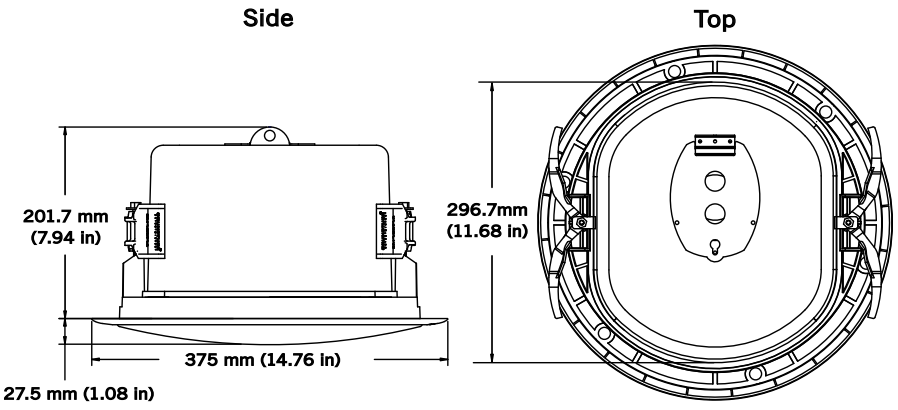
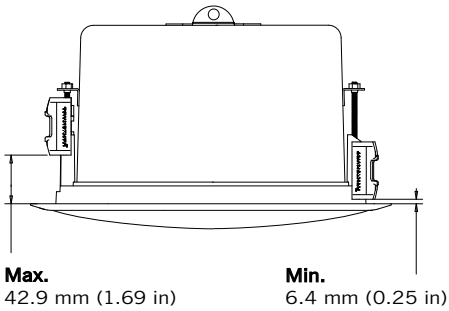
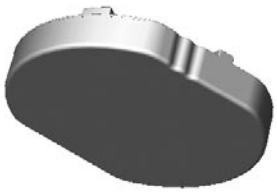
Mechanical Drawings



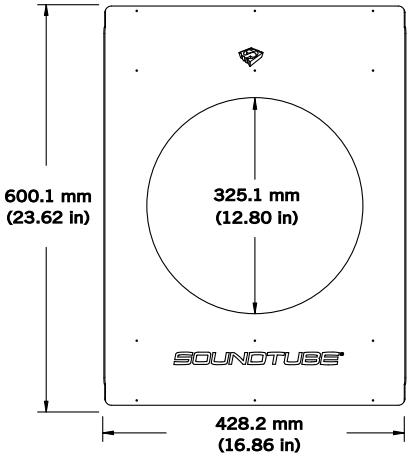
Included Accessories



Fixed Wing Mounting System

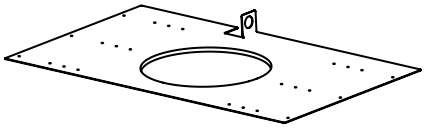


Paint Mask

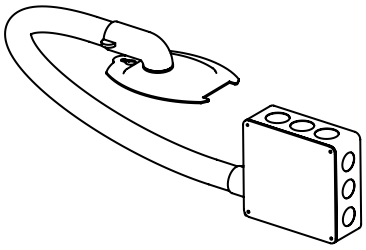


Tile Bridge

Optional Accesories



Pre-Construction Bracket (AC-CM8-PCB)



Junction Box (AC-CM-JBOX)

input connector shall be a 4-pin, 5 mm Euroblock for 4 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 27.5 mm (1.08 in) in height by 375 mm (14.76 in) in diameter. 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 magnetic strip. Also included are a paint mask for in-field painting and an installation aid that serves as a handhold during mounting.

The CM801i has an optional Pre-Construction Bracket (AC-CM8-PCB) that shall be compatible with an optional Junction Box (AC-CM-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 thickness with a 326.5 mm (12.85 in) cutout for speaker mounting.

The system shall be the SoundTube CM801i subwoofer for both low & high impedance applications.

SoundTube Entertainment

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