SOUNDTUBE

CM82-EZ-II

In-Ceiling Speaker

CM82-EZ-II PRODUCT SPECIFICATIONS

System Type	8” coax, in-ceiling, sealed (64 W transformer for 25/70.7/100 V or 16 Ω direct)
Impedance (Nominal) [1]	16 Ω
Sensitivity dB @ 2.83 V/1 M	86 dB
Sensitivity dB @ 1 W/1 M [2]	89 dB
Frequency Response (±3 dB) [3]	92 Hz - 18 kHz
Frequency Response (±10 dB) [3]	65 Hz - 22 kHz
Max. Program Power [4]	128 W
Max Continuous Power RMS [5]	64 W
Max. Power SPL @ 1 M [6]	107 dB
Coverage Angle (±6 dB @ 2 kHz)	105°
Coverage Angle (±6 dB @ 10 kHz)	40°
Coverage Angle (Averaged 2-10 kHz)	95°
Directivity Factor (Q)	5.4 (Averaged 100 Hz - 10 kHz) | 7.2 (2 kHz)
Directivity Index (DI)	5.5 dB (Averaged 100 Hz - 10 kHz) | 8.6 dB (2 kHz)
Tap Selector	Six-position rotary switch with transformer bypass position
Transducer: Low-Frequency Driver	203 mm (8”) polypropylene cone, butyl rubber surround
Transducer: High-Frequency Driver	25.4 mm (1”) silk dome tweeter
Low-Frequency Voice Coil	25.4 mm | 1”
Crossover Frequency	3.0 kHz
Network Type: Low Pass	6 dB per octave, 1st order
Network Type: High Pass	6 dB per octave, 1st order
Enclosure Material	Drawn steel backcan with ABS baffle
Grille	Steel with painted finish
Inputs	4 position ceramic terminal strip
Backcan Diameter	245.6 mm | 9.67”
Backcan Height	146.1 mm | 5.75”
Visible Diameter	298.5 mm | 11.75”
Visible Height	8.6 mm | 0.34”
Mounting Hole Diameter	266.7 mm | 10.5”
Min. / Max. Ceiling Thickness	0.9 mm | 0.04” - 40.6 mm | 1.6”
Weight	4.1 kg | 9 lbs
Packaging	One per box
Included Accessories	Tile bridge, UL-listed flex conduit clamp, paint shield, cutout template, and wire nuts
Optional Accessories	Pre-construction bracket (AC-CMEZ-6/8-PCB), junction box (AC-CM-EZ-JBOX)
Certifications	CE, RoHS, 1480A, U;2043

[1] Impedance listed per IEC 60268-5
[2] 1 W/1 M sensitivity determined using nominal impedance
[3] Frequency response measured in half or full space as dictated by speaker mounting configuration
[4] Max program power is 3 dB above max continuous power
[5] Continuous power rating, EIA-426-B test
[6] Max output based on max continuous power

Description

The CM82-EZ-II is an 8”, coaxial, two-way, blind-mount, in-ceiling speaker which delivers true high efficiency and performance across the operating bandwidth. By incorporating an 8” polypropylene driver with a butyl rubber surround in a sealed drawn steel backcan, this speaker delivers maximum frequency response (65 Hz – 22 kHz, ±10 dB) in an integrated enclosure design.

Mounting hardware is included and features a constant-tension fixed-wing mounting system with a 21-gauge “full-metal” steel tile bridge ensuring rapid and secure installation in any sheetrock or drop-tile application. For easy ordering, stocking and installation, this series includes a color-coded (green) tile bridge and optional pre-construction bracket, six-position tap switch for 25, 70.7, and 100 V applications with transformer bypass position.

Features

- One 8” (203 mm) polypropylene woofer with butyl rubber surround and one 1” (25.4 mm) silk dome tweeter
- Easy-access six-position tap switch for 25/70.7/100 V and 16 Ω settings allows for easy ordering, stocking, and installation
- Reduced amplification costs and maximum efficiency including 89 dB sensitivity and 16 Ω impedance and a sealed enclosure
- Superior voice intelligibility with an average coverage angle of 95° (2-10 kHz, independently verified)
- Cost-effective 16 Ω settings allows for the use of multiples of two, four, or six speakers in a system using a standard amplifier without a transformer
- Incorporates a painted steel grille with rust inhibitor for lasting durability
- Adaptable to ceiling thicknesses ranging from 0.04” (0.9 mm) to 1.6” (40.6 mm)
- UL1480A and 2043, cUL, CE (EMC Directive 89/366/EEC, EN55020, EN55013) approved
- High-quality black or white painted finish. Custom colors available
- Included accessories: tile bridge, UL-listed 0.5” flex conduit clamp, paint shield, and two wire nuts
- Optional accessories: color-coded (green) pre-construction bracket (AC-CMEZ-6/8-PCB), junction box (AC-CM-EZ-JBOX)

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Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
64 W	107 dB	64 W	107 dB	8 W	98 dB
32 W	104 dB	32 W	104 dB	4 W	95 dB
16 W	101 dB	16 W	101 dB	2 W	92 dB
8 W	96 dB	8 W	98 dB	1 W	89 dB
4 W	95 dB			0.5 W	86 dB

Applications

Developed specifically for paging and background music applications where cost, quality and fit are paramount, the CM82-EZ-II is ideal for hotels, education, healthcare, retail stores, restaurants, airports, churches, or boardrooms. Indeed, the entire CM-EZ-II series is engineered for installations where high-efficiency and rapid installation are critical attributes. For applications requiring additional bass response, SoundTube's CM1001d-T subwoofer provides true low-end response down to 41 Hz.

Patented 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

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data is 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

Independent Acquisition and Verification

All data for SoundTube speakers is independently collected from and verified by NWAA Labs (www.nwaalabs.com) using their proprietary MACH testing system. All data is 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 one 203 mm (8") low-frequency transducer and one 25.4 mm (1") high-frequency transducer with a frequency dividing network installed in a sealed enclosure. The low-frequency voice coil diameter shall be 25.4 mm (1"). The low-frequency transducer shall have a polypropylene cone material with a butyl rubber surround. The high-frequency transducer shall be constructed of silk material using a balanced-dome configuration.

Performance specifications for a typical production unit shall be as follows: Usable frequency range shall extend from 65 Hz - 22 kHz (±10 dB). The loudspeaker shall include a selectable 25, 70.7, and 100 V modes with a 16 Ω transformer bypass position. The frequency dividing network shall have a crossover frequency of 3.0 kHz. Rated power capacity shall be at least 64 watts continuous (RMS) and conform to EIA-426-B testing. Maximum continuous power output at 1 meter shall be 107 dB SPL.

The backcan shall be constructed of galvanized steel with an ABS plastic baffle. The grille shall be constructed of painted steel treated with a rust-inhibiting paint adhesive. Shipped complete with UL-listed flex conduit connector, color-coded tile bridge (to match color-coded backcan), grille, wire nuts, cutout template and paint shield. The integrated in-ceiling speaker is engineered for high performance and rapid installation in plenum spaces. The unit incorporates three additional attachment points for added security and code satisfaction where required.

Installation for the speaker shall be by two-screw, blind-mount, constant tension fixed-wing assembly and shall attach to ceiling thicknesses ranging from 0.9 mm (0.04 in) to 40.6 mm (1.6 in). The external wiring shall be via 4 position ceramic terminal strip accepting up to 12-gauge wire.

The maximum backcan dimensions shall be no more than 245.6 mm (9.67") in diameter by 146.1 mm (5.75") in height. The maximum visible dimensions shall be no more than 8.6 mm (0.34") in height by 298.5 mm (11.75") in diameter. The unit is factory preset to the 64 W setting in the 70.7 V operating mode with a tap switch located on the front baffle.

The system shall be the SoundTube CM82-EZ-II for both low- and high-impedance applications.

SoundTube®

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All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics.

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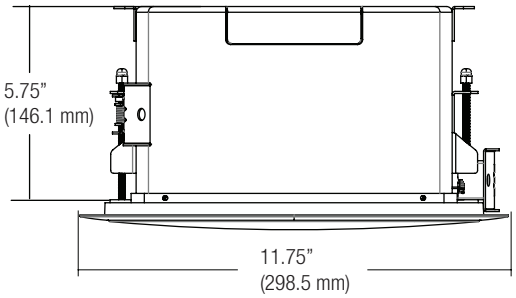
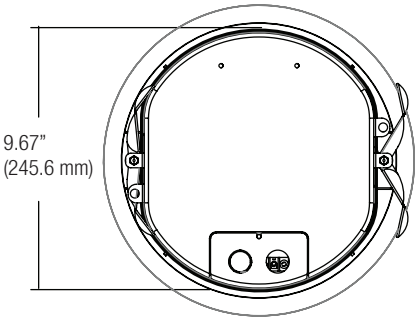
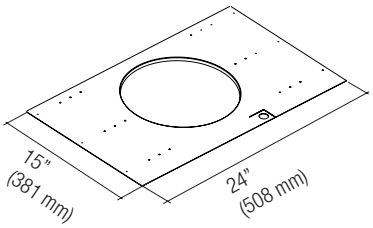
Side

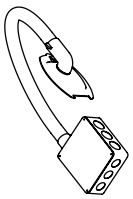


Top

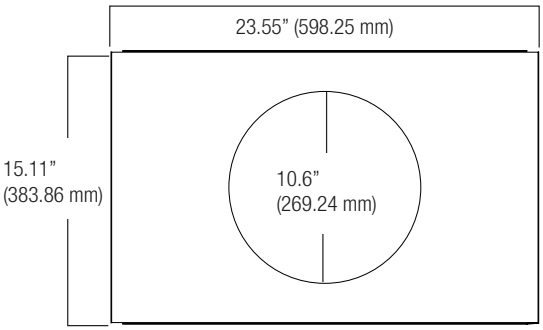




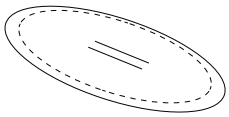
Pre-Construction Bracket
(AC-CMEZ-6/8-PCB)



Junction Box
(AC-CM-EZ-JBOX)

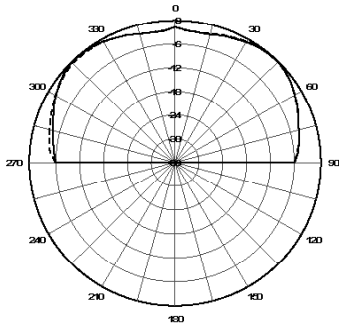


Tile Bridge

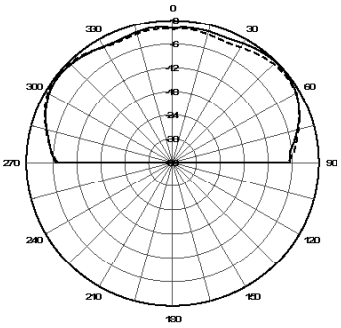


Paint Mask

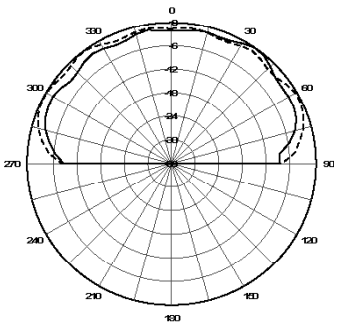
125 Hz



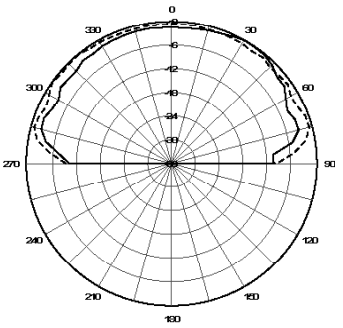
250 Hz



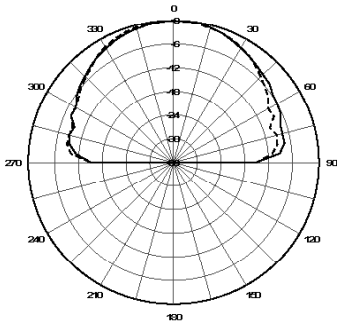
500 Hz



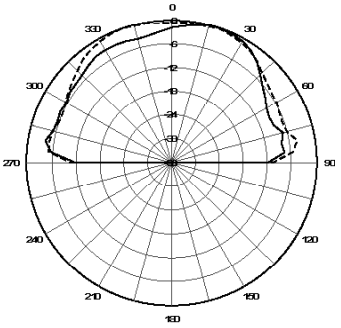
1,000 Hz



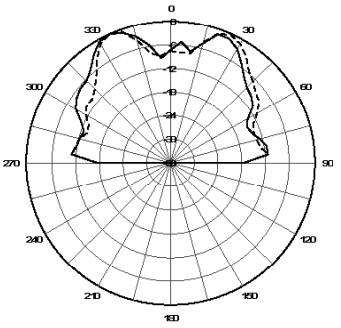
2,000 Hz



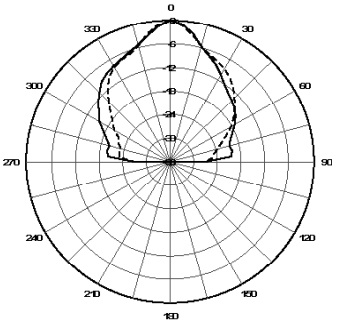
4,000 Hz



8,000 Hz



10,000 Hz



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

Horizontal
Vertical

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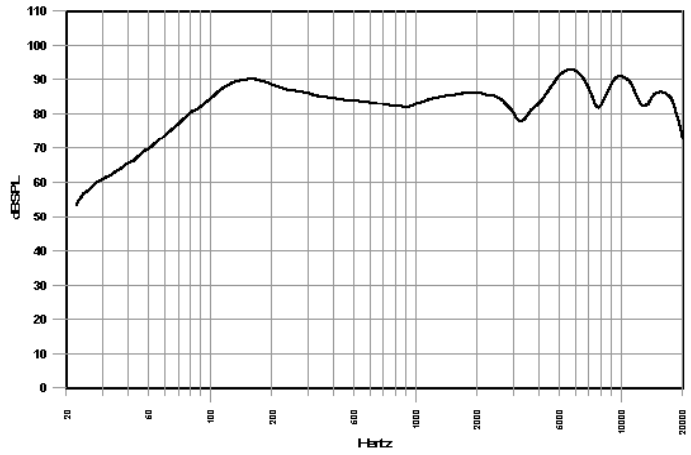
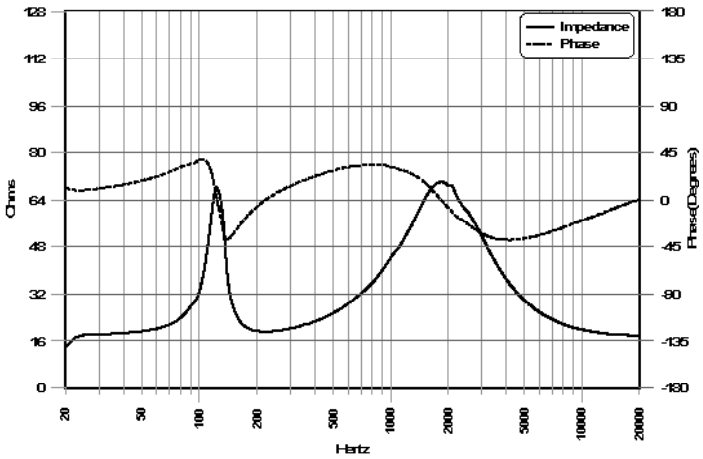
Graphs

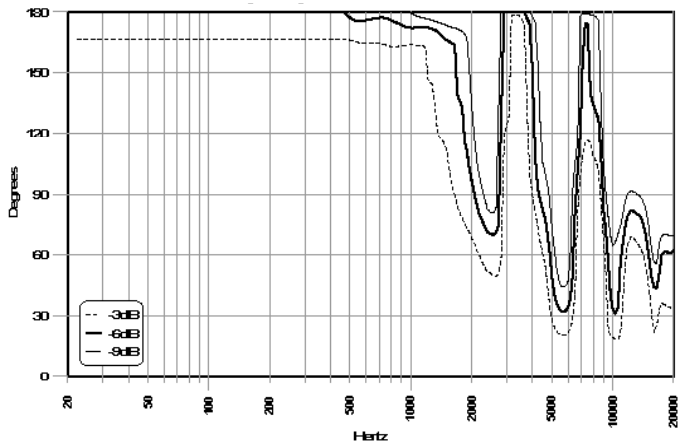
Frequency Response



Phase/Impedance Response



Vertical Beamwidth



Directivity Index (DI)