

# CM62-EZs-II

## In-Ceiling Speaker Preliminary Technical Information



**SOUNDTUBE**  
ENTERTAINMENT



### Preliminary Specifications:

CM62-EZs-II-WH & CM62-EZs-II-BK

Tile bridge included

|  |   |      |
|--|---|------|
| System Type                              | 6.5-inch coaxial, in-ceiling, sealed (32-watt transformer for 25/70.7/100-volt or transformer bypass) |      |
| Impedance (nominal)                      | 16 ohm  |      |
| Sensitivity dB @ 2.83 v/1 m              | 87.5 dB   |      |
| Sensitivity dB @ 1 W/1 m <sup>1</sup>    | 90.5 dB   |      |
| Sensitivity dB @ 1 W/4 m                 | 73.8  |      |
| Frequency Response (-3 dB) <sup>2</sup>  | 135 Hz - 22 kHz   |      |
| Frequency Response (-10 dB) <sup>2</sup> | 75 Hz - 22 kHz  |      |
| Max. Program Power <sup>3</sup>          | 100 W   |      |
| Max. Continuous Power RMS <sup>4</sup>   | 50 W  |      |
| Max. Power SPL @ 1 m <sup>5</sup>        | 107.5 dB  |      |
| Max. Power SPL @ 4 m                     | 92.9 dB   |      |
| Coverage Angle Horizontal @-6dB          | 500Hz   | 179° |
|  | 1Khz  | 161° |
|  | 2Khz  | 110° |
|  | 4Khz  | 76°  |
| Coverage Angle Vertical @-6dB            | 500Hz   | 180° |
|  | 1Khz  | 162° |
|  | 2Khz  | 122° |
|  | 4Khz  | 80°  |
| Coverage Angle (averaged 2 - 10 kHz)     | 80°   |      |
| Directivity Factor (Q)                   | 5.1 (averaged 100 Hz - 10 kHz) ; 5.2 (2 kHz)  |      |
| Directivity Index (DI) dB                | 6.2 dB (averaged 100 Hz - 10 kHz) ; 7.2 dB (2 kHz)  |      |
| Tap Selector                             | Six-position rotary switch with transformer bypass position   |      |
| Transducer - Low-Frequency Driver        | 165 mm (6.50 in) Treated fiber cone, cloth surround   |      |
| Transducer - High-Frequency Driver       | 25.4 mm (1.00 in) Silk dome tweeter   |      |
| Low-Frequency Voice Coil                 | 25.4 mm (1.00 in)   |      |
| Crossover Frequency                      | 4.0 kHz   |      |
| Network Type: Low Pass                   | 12 dB per octave, 2nd order   |      |
| Network Type: High Pass                  | 6 dB per octave, 1st order  |      |
| Enclosure Alignment                      | Sealed  |      |
| Enclosure Material                       | Drawn steel backcan with ABS baffle   |      |
| Grille                                   | Painted Steel (paintable)   |      |
| Inputs                                   | 4 position ceramic terminal strip   |      |
| Colors                                   | Black or white  |      |
| Backcan Diameter                         | 245.6 mm (9.67 in)  |      |
| Backcan Height                           | 95.3 mm (3.75 in)   |      |
| Visible Diameter                         | 298.5 mm (11.75 in)   |      |
| Visible Height                           | 8.6 mm (0.34 in)  |      |
| Mounting Hole Diameter                   | 266.7 mm (10.50 in)   |      |
| Min. / Max. Ceiling Thickness            | 0.9 mm (0.04 in) – 40.6 mm (1.60 in)  |      |
| Weight                                   | 3.2 kg (7.0 lbs)  |      |
| Shipping Weight                          | 3.6 kg (8.0 lbs)  |      |
| Packaging                                | One per box   |      |
| Included Accessories                     | Tile bridge, UL-listed flex conduit clamp, paint shield, hole template, wire nuts                     |      |
| Optional Accessories                     | Pre-construction bracket (AC-CMEZ6/8-PCB); junction box (AC-CM-EZ-JBOX)                               |      |
| Regulatory - UL                          | 1480 (UEAY) and 2043 approved   |      |
| Regulatory - CE                          | Approved  |      |
| RoHS                                     | Approved  |      |
|  | Transformer Taps  |      |

<sup>1</sup> 1 W/1 m sensitivity determined using nominal impedance

<sup>2</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>3</sup> Max program power is 3 dB above max continuous power

<sup>4</sup> Continuous power rating, EIA-426-B test

<sup>5</sup> Max output based on max continuous power

The specifications data was measured in an anechoic chamber, according to EN 54-24. Reference axis: Axis is on the center of speaker grille and perpendicular to the speaker grille. Reference plane: Plane is on the speaker grille and perpendicular to the reference axis. Horizontal plane: Plane is containing the reference axis and perpendicular to the reference plane.

EQ settings required for the EN54-24 specific installations

| Model       | EQ-1         | BANDWIDTH  | EQ-2          | BANDWIDTH  |
|-------------|--------------|------------|---------------|------------|
| CM62-EZs-II | -6dB @ 200Hz | 1.0 Octave | +3dB @ 4800Hz | 0.7 Octave |

### Key Features

- Engineered for applications with limited plenum space, incorporating a SoundTube-specific shallow backcan with an installed depth of only 3.5 inches.
- One 6.50 in (165.0 mm) treated fiber woofer with cloth surround and one 1.00 in (25.4 mm) silk dome tweeter.
- Easy-access six-position tap switch for 25/70.7/100-volt and 16 ohm transformer bypass position allows for easy ordering, stocking and installation.
- Reduced amplification costs with maximum efficiency including 90.5 dB sensitivity and 16 ohm impedance.
- Ceramic input terminal accepts up to 10 gauge plenum rated signal wire and includes thermal fuse. Suitable for use in voice alarm applications subject to EU regulations EN60849 and BS5839-8.
- Superior voice intelligibility with a 10 kHz coverage angle of 80° (independently verified).
- Cost-effective 16 ohm 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 for lasting durability.
- Adaptable to material thicknesses ranging from 0.04 inch (0.9 mm) – 1.60 inch (40.6 mm).
- UL 1480 (UEAY) and 2043, cUL, CE (EMC Directive 89/366/EEC, EN55020, EN55013) approved.
- High-quality black or white paint finish. Custom colors available. Grille is paintable (custom colors are not EN54-24 2008 certified).
- Included accessories: Tile bridge, UL-listed 0.5-inch flex conduit clamp, paint shield and two wire nuts.
- Optional accessories: Color-coded (green) pre-construction bracket (AC-CMEZ6/8-PCB) ; junction box (AC-CM-EZ-JBOX).

### Description

The CM62-EZs-II is a 6.5-inch, coaxial, two-way, blind-mount, in-ceiling speaker which delivers true high efficiency and performance across the operating bandwidth. By incorporating a 6.5-inch treated-fiber driver with cloth surround in a sealed drawn-steel backcan, this speaker delivers maximum frequency response (75 Hz – 22 kHz, -10 dB) in a compact design.



The CM62-EZs-II features a ceramic input terminal that accepts up to 10 gauge plenum rated signal wire and includes a thermal fuse for use in voice alarm applications subject to EU regulations EN60849 and BS5839-8.

Mounting hardware is included and features a constant-tension winged 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 a six-position tap switch for 25-, 70.7- and 100-volt applications with transformer bypass position.

### Applications

Developed specifically for the paging and background music applications where cost, quality and fit are paramount, the CM62-EZs-II is ideal for hotels, retail stores, restaurants, airports, churches (under eave) 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 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, that 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](http://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 Data

#### Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWAALabs ([www.nwaalabs.com](http://www.nwaalabs.com)) using their proprietary MACH testing system. All data are collected and analysed 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 6.5 in (165 mm) low-frequency transducer and one 1.0 in (25.4 mm) high-frequency transducer with a frequency-dividing network installed in a sealed enclosure. The low-frequency voice coil diameter shall be 1 in (25 mm). The low-frequency transducer shall have a treated fiber cone material with cloth surround. The high-frequency transducer shall be constructed of silk material using a balanced-dome configuration.

Performance specifications of a typical production unit shall be as follows: Usable frequency range shall extend from 75 Hz - 22 kHz, -10 dB. The loudspeaker shall include a selectable 25/70.7/100-volt and 16 ohm transformer bypass position. The frequency dividing network shall have a crossover frequency of 4.0 kHz. Rated power capacity of the components and network shall be at least 50 watts RMS and conform to EIA-426-B testing. Calculated maximum continuous output at 1 meter shall be at least 107.5 dB SPL.

The backcan shall be constructed of galvanized steel with an ABS plastic baffle. The grille shall be constructed of painted steel. Shipped complete with UL-listed flex conduit clamp, color coded tile

bridge (to match color-coded backcan), grille, wire nuts, cut-out 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 or code satisfaction where required.

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

The maximum backcan dimension shall be no more than 95.3 mm (3.75 in.) in height by 245.26 mm (9.67 in.) in diameter. The maximum visible dimensions shall be no more than 8.6 mm (0.34 in.) in height by 298.5 mm (11.75 in.) in diameter. The unit is factory preset to the 32-watt setting in the 70.7-volt operating mode.

The system shall be the SoundTube CM62-EZs-II for both low- and high-impedance applications.

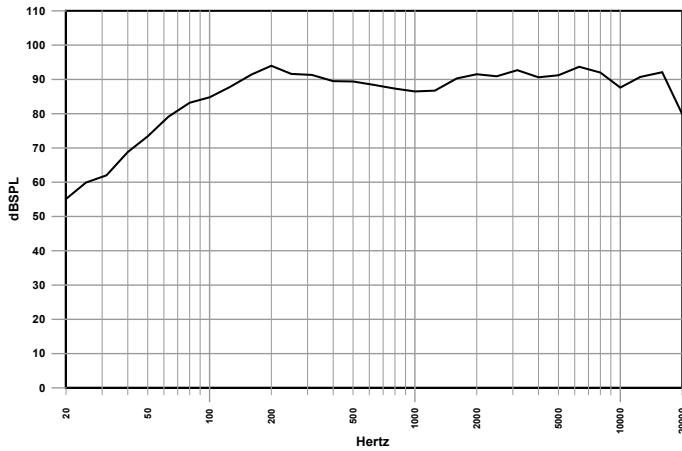
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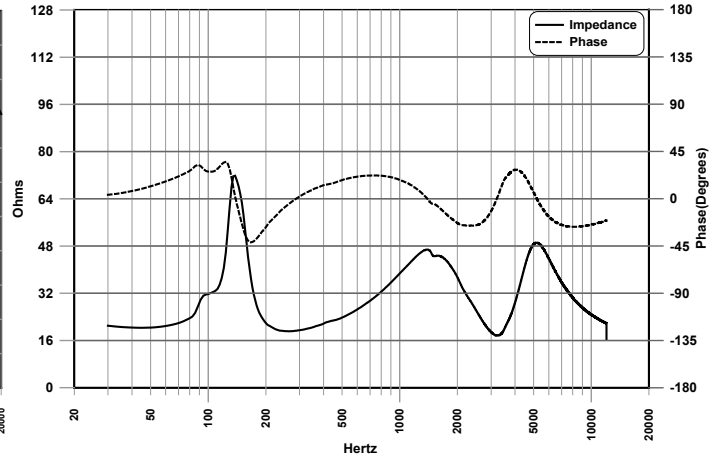
All SoundTube products come with a 5-year limited warranty.



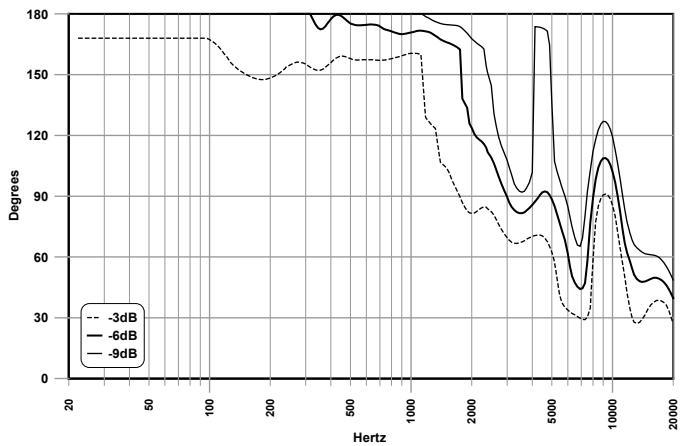
## Frequency Response



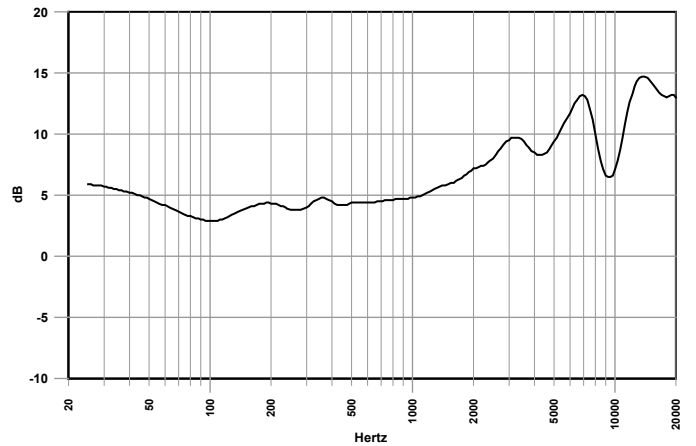
## Phase/Impedance Response



## Vertical Beamwidth



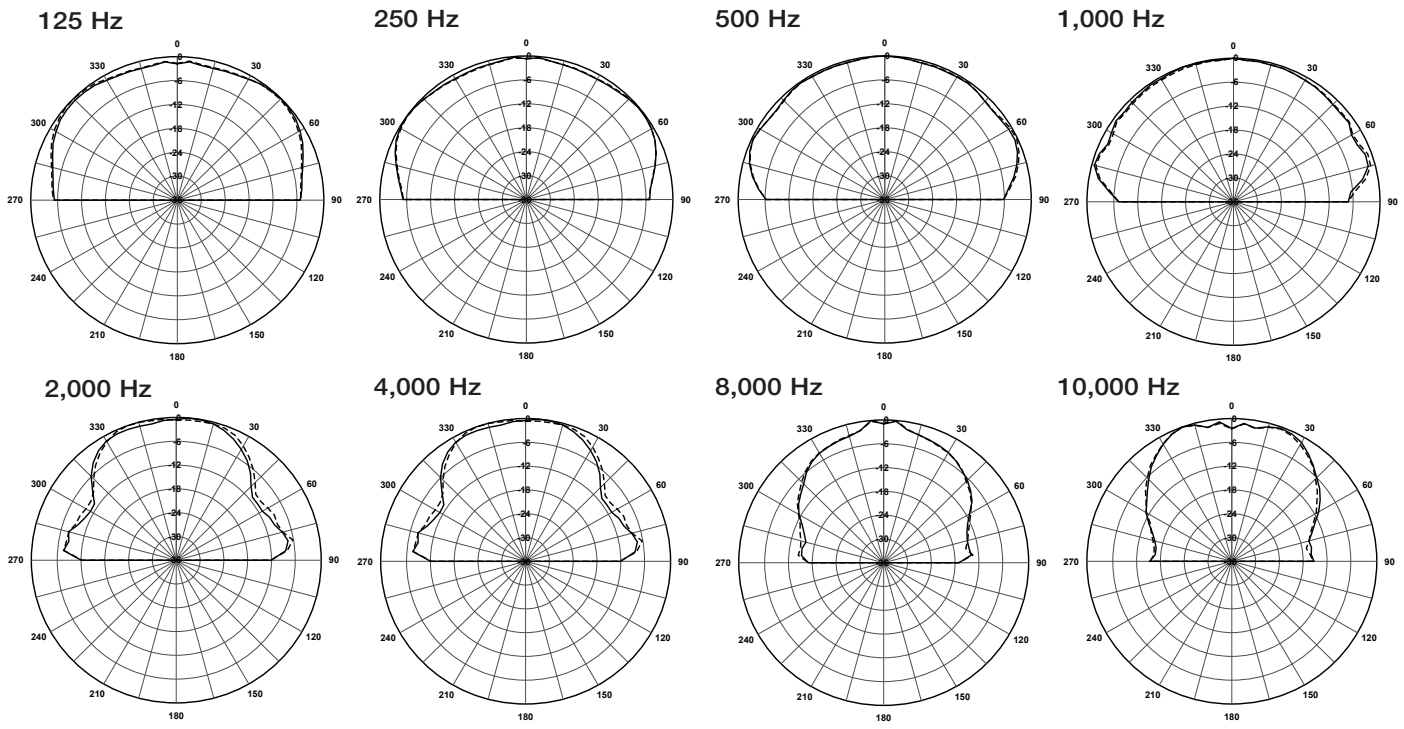
## Directivity Index (DI)





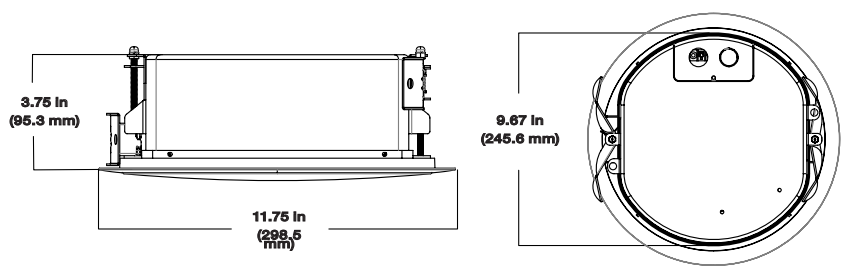
### Polar Plots

———— Horizontal  
 - - - - - Vertical

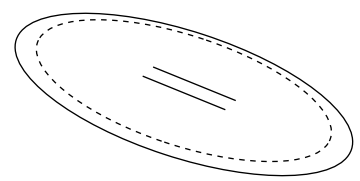


Technical data, EASE™ plots, SoundTube SPEC™ software and product downloads available at [www.soundtube.com](http://www.soundtube.com)

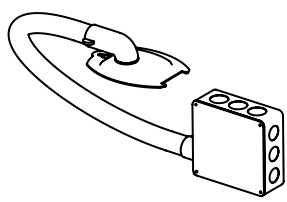
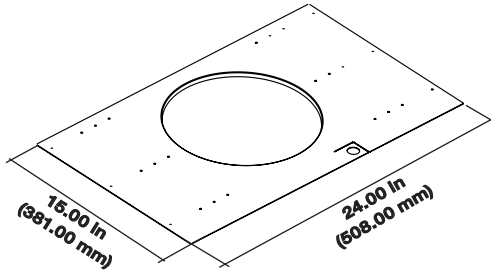
### Mechanical Drawings



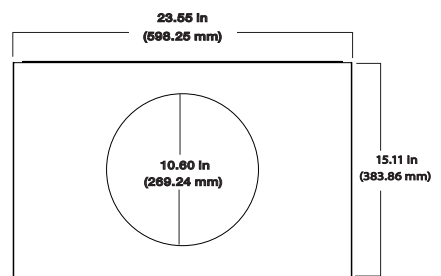
### Included Accessories



### Optional Accesories



### Paint Mask



Pre-Construction Bracket (AC-CMEZ6/8-PCB)

Junction Box (AC-CM-EZ-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 U.S.A.