



### IPD-CM82-BGM PRODUCT SPECIFICATIONS

System Type	8" coaxial, in-ceiling, ported, Dante™ and AES67 enabled, network
Frequency Response ( $\pm 3$ dB) <sup>1</sup>	80 Hz - 20 kHz
Frequency Response ( $\pm 10$ dB) <sup>1</sup>	55 Hz - 22 kHz
Max. Power SPL @ 1 M <sup>2</sup>	103 dB
Coverage Angle ( $\pm 6$ dB @ 2 kHz)	110°
Coverage Angle ( $\pm 6$ dB @ 10 kHz)	66°
Coverage Angle (Averaged 2-10 kHz)	82°
Directivity Factor (Q)	7.6 (Averaged 100 Hz - 10 kHz)   8.2 (2 kHz)
Directivity Index (DI)	6.9 dB (Averaged 100 Hz - 10 kHz)   6.6 dB (2 kHz)
Transducer: Low-Frequency Driver	203 mm (8") polypropylene cone, rubber surround
Transducer: High-Frequency Driver	25.4 mm (1") silk dome tweeter
Low-Frequency Voice Coil	25.4 mm   1.0"
Crossover Frequency	3 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
Grille	Powder-coated plated steel seamless magnetic
Inputs	RJ45 Ethernet port
Backcan Diameter	245.6 mm   9.67"
Backcan Height	203.2 mm   8"
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   0.035" - 63.5 mm   2.5"
Weight	4.1 kg   9 lbs
Packaging	One per box
Included Accessories	Tile bridge, UL-listed flex conduit clamp, paint shield
Optional Accessories	Pre-construction bracket (AC-CMEZ-6/8-PCB)
Certifications	UL 60065, UL 2043, CE, RoHS, ETL-c/US

<sup>1</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>2</sup> Max output based on max continuous power

### Description

The IPD-CM82-BGM-II is an 8" coaxial in-ceiling speaker for IP-addressable audio networks on the Dante and AES67 platforms. It incorporates an 8" polypropylene driver with butyl rubber surround and a 1" silk dome tweeter in a sealed drawn steel backcan with a tuned port. The speaker delivers frequency response of 55 Hz - 22 kHz ( $\pm 10$  dB) with consistent, broad high-frequency dispersion supplied through SoundTube's proprietary BroadBeam Ring™ technology. Power, audio, and control are delivered to the speaker via a CAT5 or CAT6 cable; connection on the other end is made to the STNet Switch, which provides 40 W PoE (Power over Ethernet) to each speaker. Configuration and zoning of the speaker is done via software. Should any problem occur with the speaker during operation, it will be reported immediately via SoundTube monitoring software. Mounting hardware for the IPD-CM82-BGM is included and features SoundTube's SpeedWing™ constant-tension fixed-wing mounting system, along with a 21-gauge steel tile bridge which ensures rapid and secure installation in any drywall or drop-tile application. The tile bridge is color-coded to match the speaker. An optional pre-construction bracket is also available.

### Features

- IP-addressable, self-powered (PoE) speaker.
- Dante™ and AES67 interconnectivity with any Dante and AES67 enabled audio systems.
- One 8" (203 mm) polypropylene woofer with rubber surround and one 1" (25.4 mm) silk dome tweeter.
- BroadBeam Ring™ technology for mid-range clarity and ultra wide off-axis performance
- Fast connection of power, audio, and control functions via one CAT5 or CAT6 cable.
- 40 W PoE provided by SoundTube STNet Switch; also works with standard PoE+ and PoE switches.
- Provides report-back on any problems via SoundTube software.
- Tuned port on baffle for added musicality and bass response down to 55 Hz ( $\pm 10$  dB).
- Incorporates a painted steel grille for lasting durability.
- SpeedWing™ clamping system is adaptable to material thicknesses ranging from 0.035" (0.9 mm) to 2.5" (63.5 mm)
- UL 60065 and 2043 listed.
- High-quality white painted finish. Custom colors available.
- Included accessories: color-coded (green) tile bridge, UL listed 0.5" conduit clamp, paint shield.
- Optional accessories: color-coded (green) pre-construction bracket (AC-CMEZ6/8-PCB).

## Applications

Developed for Dante and AES67 audio platforms, the IPD-CM82-BGM is ideal for hotels, museums, education, retail stores, restaurants, airports, or corporate installations. This speaker is based on SoundTube's CM-BGM series, which was engineered for high efficiency, good musicality, and added bass response, so it is suitable for both background music and paging.

## 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](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 and verified by NWAALabs ([www.nwaalabs.com](http://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 are 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 rubber 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 55 Hz - 22 kHz ( $\pm 10$  dB). The frequency dividing network shall have a crossover frequency of 3 kHz. The unit shall accept 40 W PoE, as well as the audio signal from a provided network switch, and shall be configurable via software. Maximum continuous output at 1 meter shall be at least 103 dB.

The backcan shall be constructed of galvanized steel with an ABS plastic

baffle. The grille shall be constructed of powder-coated plated steel. Shipped complete with UL-listed flex conduit connector, color coded tile bridge (to match color-coded backcan), grille, 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 where required by code.

Installation for the speaker shall be by two-screw blind-mount constant-tension fixed-wing assembly and shall attach to ceiling thicknesses ranging from 0.035" (0.9 mm) to 2.5" (63.5 mm). The external wiring shall be via RJ45 Ethernet port, accepting standard CAT5 or CAT6 Ethernet cable.

The maximum backcan dimension shall be no more than 203.2 mm (8") in height by 245.6 mm (9.67") in diameter. The maximum visible dimensions shall be no more than 8.6 mm (0.34") in height by 298.5 mm (11.75") in diameter.

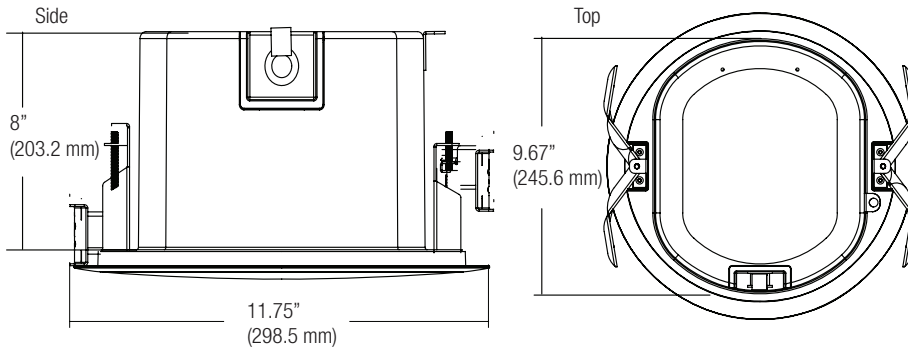
The system shall be the SoundTube IPD-CM82-BGM-II for Dante and AES67 applications.

## SoundTube®

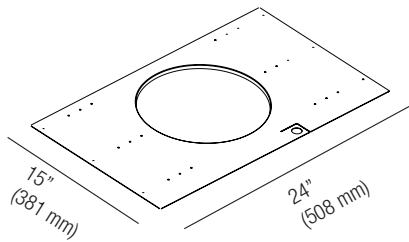
13720 W. 109th St.  
Lenexa, KS 66215  
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Toll Free: 855.663.5600  
[www.mseaudio.com](http://www.mseaudio.com)

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

## Mechanical Drawings

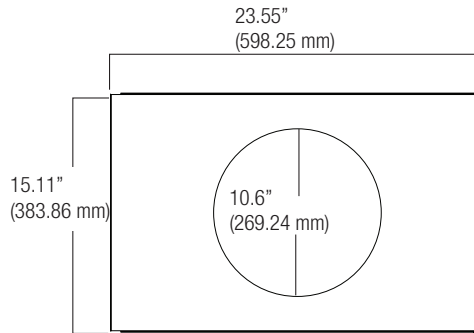


### Optional Accessories

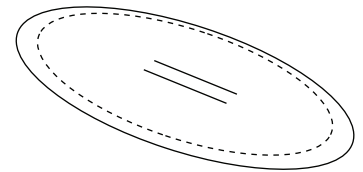


Pre-Construction Bracket  
(AC-CMEZ-6/8-PCB)

### Included Accessories

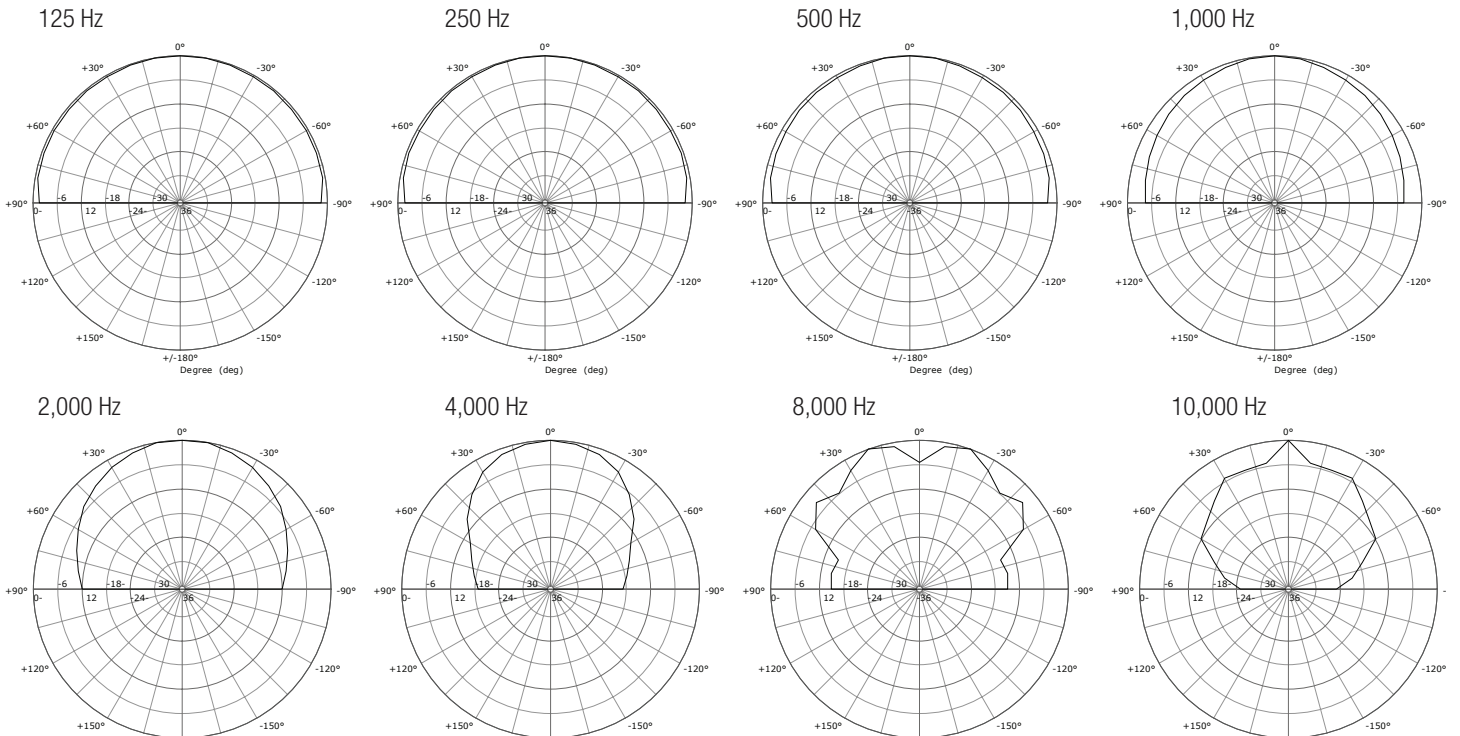


Tile Bridge



Paint Mask

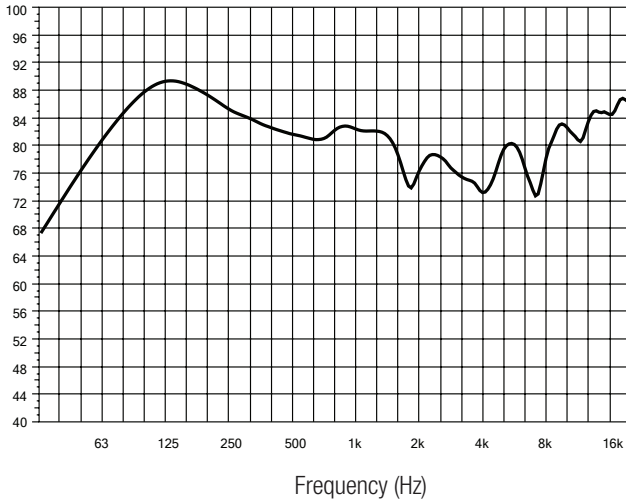
## Plots



## Graphs

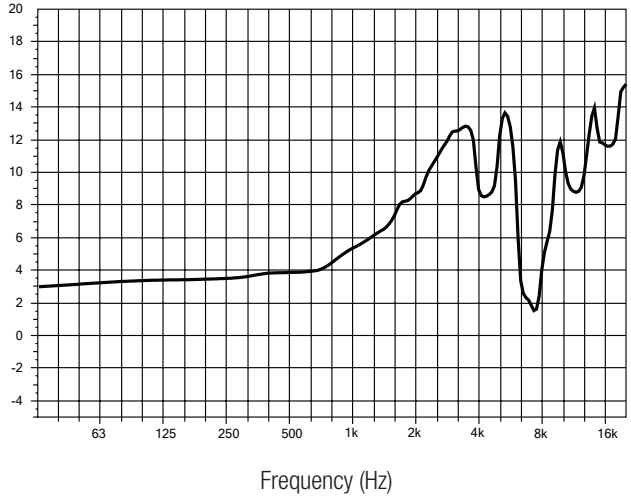
### Frequency Response

Level (dB SPL)



### Directivity Index (DI)

Level (dB)



### Vertical Bandwidth

Angle (°) Minimum H/V Beam Width (1/1-oct smoothed)

— -3 dB  
— -6 dB  
- - - -9 dB

