



## CM52-BGM-II PRODUCT SPECIFICATIONS

System Type	5.25" coaxial, in-ceiling, ported (20 W transformer for 25/70.7/100 V or transformer bypass)
Impedance (Nominal) <sup>1</sup>	16 $\Omega$
Sensitivity dB @ 2.83 V/1 M	80.4 dB
Sensitivity dB @ 1 W/1 M <sup>2</sup>	83.5 dB
Frequency Response ( $\pm 3$ dB) <sup>3</sup>	67 Hz - 20 kHz
Frequency Response ( $\pm 10$ dB) <sup>3</sup>	56 Hz - 22 kHz
Max. Program Power <sup>4</sup>	80 W
Max Continuous Power RMS <sup>5</sup>	40 W
Max. Power SPL @ 1 M <sup>6</sup>	99.5 dB
Coverage Angle ( $\pm 6$ dB @ 2 kHz)	190°
Coverage Angle ( $\pm 6$ dB @ 10 kHz)	105°
Coverage Angle (Averaged 2-10 kHz)	100°
Directivity Factor (Q)	3.8 (Averaged 100 Hz - 10 kHz); 2.1 (2 kHz)
Directivity Index (DI)	5.1 dB (Averaged 100 Hz - 10 kHz); 3.3 dB (2 kHz)
Tap Selector	Six-position rotary switch with transformer bypass position
Transducer - Low-Frequency Driver	134 mm (5.25") polypropylene cone, rubber surround
Transducer - High-Frequency Driver	19 mm (0.75") silk dome tweeter with BroadBeam Ring™
Low-Frequency Voice Coil	25.4 mm (1.0")
Crossover Frequency	5.0 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
Grille	Plated and powder coated steel
Inputs	4 position ceramic terminal connector
Backcan Diameter	245.6 mm   9.6"
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   .035" - 40.6 mm   1.6"
Weight	3.6 kg   8 lbs
Packaging	One per box
Included Accessories	Tile bridge, UL-listed flex conduit clamp
Optional Accessories	Pre-construction bracket (AC-CMEZ-6/8-PCB), Black Grille (GRL-CM-BGM-II-BK)
Certifications	UL1480, UL2043, CE, RoHS

## Description

The CM52-BGM-II is a 5.25" coaxial two-way blind-mount in-ceiling speaker which delivers high-efficiency and performance across the operating bandwidth. By incorporating a 5.25" polypropylene driver with a rubber surround and a .75" silk dome tweeter in a drawn steel backcan (with a tuned port), this speaker delivers maximum frequency response (56 Hz - 22 kHz,  $\pm 10$  dB) in an integrated enclosure design.

Mounting hardware is included and features a constant-tension fixed-wing mounting system with a 21-gauge 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 color-coded (green) pre-construction bracket, as well as a six-position tap switch for 25, 70.7 and 100 V applications with a transformer bypass position.

## Features

- One 5.25" (130 mm) polypropylene woofer with rubber surround and one .75" (19 mm) silk dome tweeter
- BroadBeam Ring™ technology for mid-range clarity and ultra wide off axis performance
- Easy-access six-position tap switch for 25/70.7/100 V and transformer bypass settings allows for easy ordering, stocking and installation
- Tuned port on baffle for improved bass response down to 56 Hz ( $\pm 10$  dB)
- Reduced amplification costs and maximum efficiency of 83.5 dB sensitivity, 16  $\Omega$  impedance
- Incorporates a steel plated and powder coated flangeless magnetic grille for lasting durability and seamless aesthetic (White grille included, but also available in Black)
- Adaptable to material thicknesses ranging from 0.035" (0.9 mm) to 1.6" (40.6 mm)
- UL 1480 and 2043 approved
- High-quality black or white painted finish.
- Included accessories: tile bridge, UL listed 0.5 inch conduit clamp
- Optional accessories: Color-coded (green) pre-construction bracket (AC-CMEZ-6/8-PCB) Black Grille (GRL-CM-BGM-II-BK)

<sup>1</sup> Impedance listed per IEC 60268-5

<sup>2</sup> 1 W/1 M sensitivity determined using nominal impedance

<sup>3</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>4</sup> Max program power is 3 dB above max continuous power

<sup>5</sup> Continuous power rating, EIA-426-B test

<sup>6</sup> Max output based on max continuous power

**Transformer Taps**

70.7 V	Output	100 V	Output	25 V	Output
20 W	96.5 dB	20 W	96.5 dB	2.5 W	87.5 dB
10 W	93.5 dB	10 W	93.5 dB	1.3 W	84.5 dB
5 W	90.5 dB	5 W	90.5 dB	0.63 W	81.5 dB
2.5 W	87.5 dB	2.5 W	87.5 dB	0.31 W	78.5 dB
1.25 W	84.5 dB				

**Applications**

Developed specifically for paging and background music applications where cost, quality and fit are paramount, the CM52-BGM-II is ideal for hotels, education, hospitals, retail stores, restaurants, airports, churches or boardrooms. The entire CM-BGM series is engineered for installations where high-efficiency, added bass response and rapid installation are critical attributes. For applications requiring additional bass response, SoundTube's CM1001d subwoofer provides true low-end response down to 50 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](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 NWAA Labs ([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 134 mm (5.25") low-frequency transducer and one 19 mm (0.75") 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 56 Hz - 22 kHz ( $\pm 10$  dB). The loudspeaker shall be available with selectable 25/70.7/100 V and transformer bypass tap switch. The frequency dividing network shall have a crossover frequency of 5.0 kHz. Rated power capacity of the components and network shall be at least 20 watts continuous RMS and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be at least 99.5 dB.

The backcan shall be constructed of drawn steel with an ABS plastic baffle. The grille shall be constructed of plated & powder coated steel. Shipped complete with UL-listed flex conduit connector, color coded tile bridge (to match color-coded backcan) and grille. 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 0.9mm (0.035") to 40.6mm (1.6"). The external wiring shall be via 4-position ceramic terminal strip, accepting up to 8-gauge wire.

The maximum backcan dimension shall be no more than 146.1 mm (5.75") 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 unit is factory preset to the 20 W setting in the 70.7 V operating mode, with a tap switch located on the front baffle.

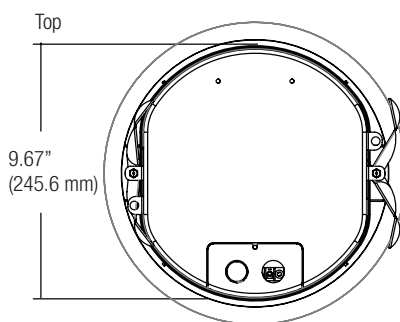
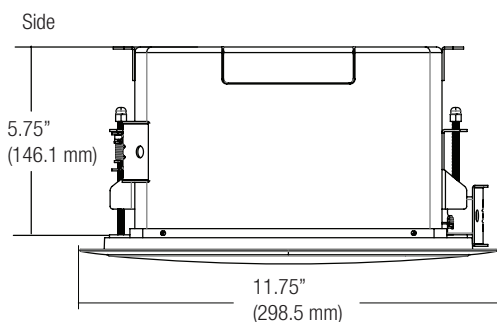
The system shall be the SoundTube CM52-BGM-II for both low- and high-impedance applications.

**SoundTube®**

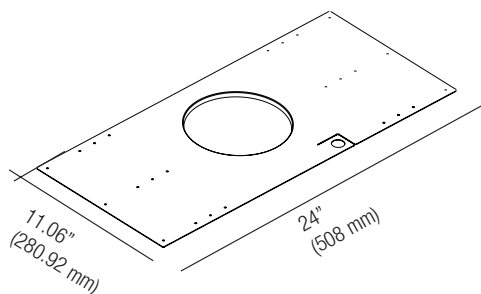
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All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics

## Mechanical Drawings

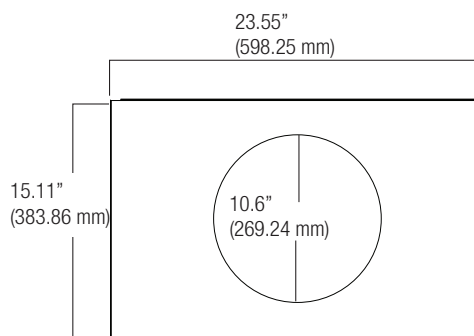


## Optional Accessories



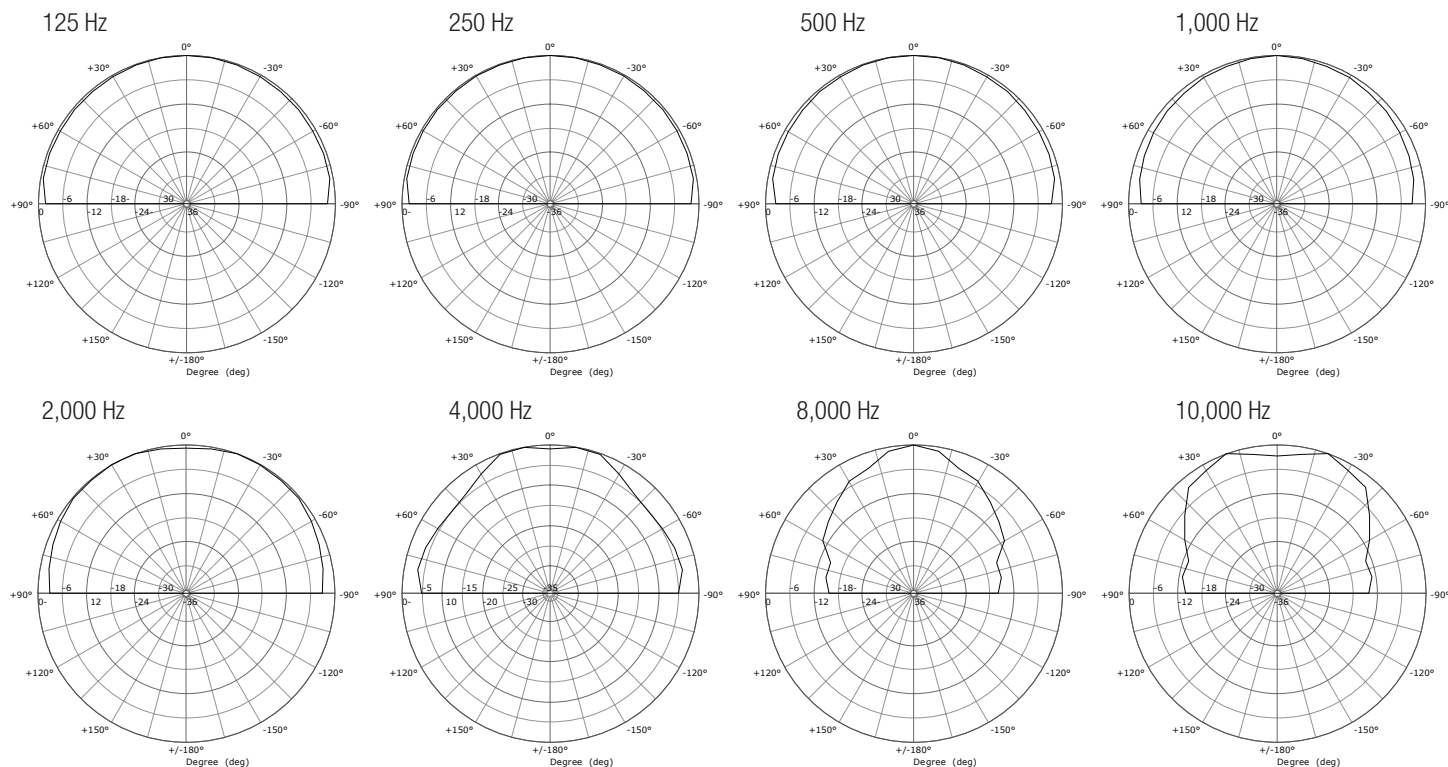
Pre-Construction Bracket  
(AC-CMEZ6/8-PCB)

## Included Accessories



Tile Bridge

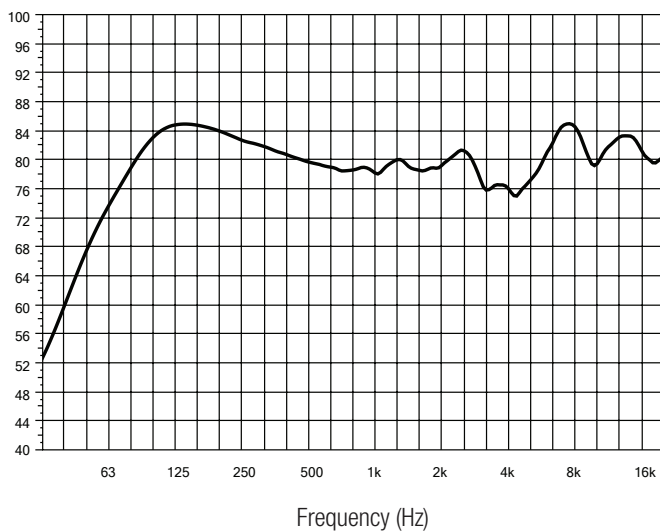
## Plots



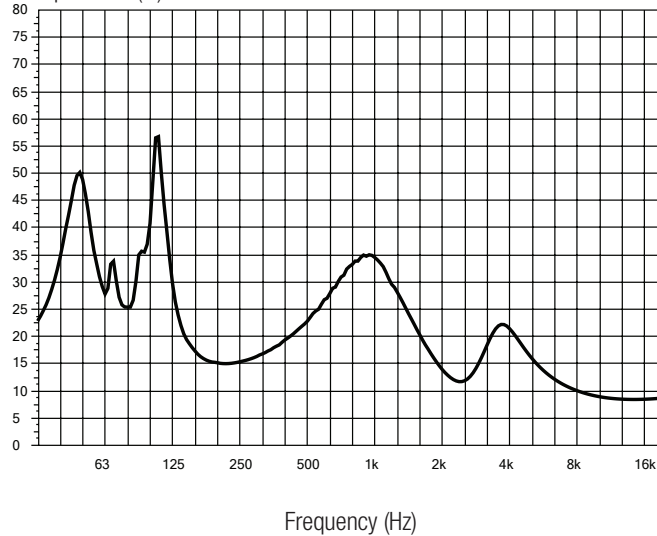
## Graphs

## Frequency Response

Level (dB SPL)



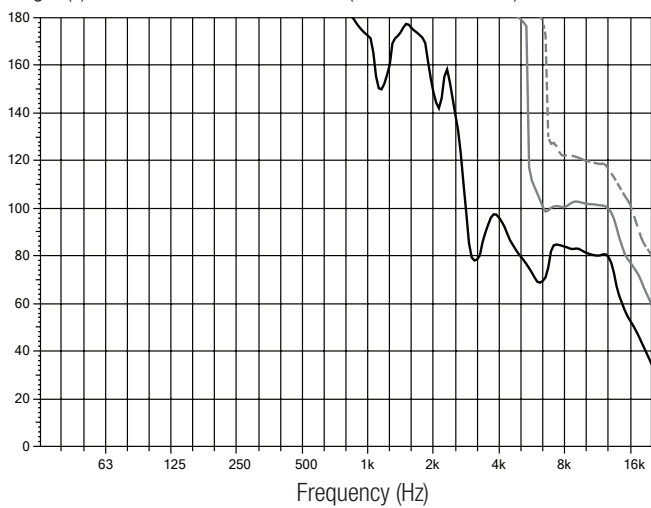
## Phase/Impedance Response

Impedance ( $\Omega$ )

## Vertical Bandwidth

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

— -3 dB  
— -6 dB  
- - -9 dB



## Directivity Index (DI)

Level (dB)

