SOUNDTUBE®

IPD4-CM52-BGM-II
In-Ceiling Master PoE Speaker

STNET®

Description

The IPD4-CM52-BGM-II is a 5.25" coaxial in-ceiling speaker for IP-addressable audio networks on the Dante platform which can provide economical system expansion through connection of up to three non-IP SoundTube CM52-BGM-II speakers directly to the IPD4 unit. It incorporates a 5.25" 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 56 Hz - 22 kHz (±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. The speaker may also be connected to standard PoE or PoE+ switches, which will provide lower input power to the speaker cluster; input power to the IPD4-CM52-BGM-II is shared among all speakers in the master-slave cluster. Audio connection to non-IP speakers in the cluster is made via a terminal strip on the IPD4 speaker; two channels of audio are available at each IPD4-CM52-BGM-II master unit and may be directed to the other speakers as needed.

Configuration and zoning of the IPD4 master 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 IPD4-CM52-BGM-II 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.

IPD4-CM52-BGM PRODUCT SPECIFICATIONS

System Type	5.25" coaxial, in-ceiling, ported, Dante™-enabled network
Frequency Response (±3 dB) [1]	67 Hz - 20 kHz
Frequency Response (±10 dB) [1]	56 Hz - 22 kHz
Max. Power SPL @ 1 M [2]	93 dB
Coverage Angle (±6 dB @ 2 kHz)	180°
Coverage Angle (±6 dB @ 10 kHz)	112°
Coverage Angle (Averaged 2-10 kHz)	141°
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)
Transducer: Low-Frequency Driver	134 mm (5.25") polypropylene cone, rubber surround
Transducer: High-Frequency Driver	19 mm (0.75") silk dome tweeter
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	RJ45 Ethernet port
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	0.035" - 63.5 mm	2.5"
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	CE, UL 2043, UL 60065, ETL-c/US

[1] Frequency response measured in half or full space as dictated by speaker mounting configuration
[2] Max output based on max continuous power

Features

- IP-addressable, self-powered (PoE) speaker with audio and power outputs for three standard CM52-BGM-II speakers.
- Dante™ I/O for interconnectivity with Dante-enabled audio systems.
- One 5.25" (134 mm) polypropylene woofer with rubber surround and one 0.75" (19 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.
- Input power is shared among speakers connected to IPD4 unit.
- Two output channels available to additional speakers.
- Provides report-back on any problems via SoundTube software.
- Tuned port on baffle for added musicality and bass response down to 56 Hz (±10 dB).
- Incorporates a plated and powder coated 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).
- High-quality white painted finish. Custom colors available.
- Included accessories: color-coded (green) tile bridge, UL listed conduit clamp.
- Optional accessories: color-coded (green) pre-construction bracket (AC-CMEZ-6/8-PCB), black grille (GRL-CM-BGM-II-BK).

Applications

Developed for economical audio coverage expansion in Dante audio platforms, the IPD4-CM52-BGM-II is ideal for hotels, museums, houses of worship, education, retail stores, restaurants, airports, or corporate installations. This speaker is based on SoundTube's CM-BGM-II 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.

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) 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 operate on the Dante™ IP platform and shall accept audio signals directly from Dante-enabled devices through a PoE switch. In addition to its direct connection to the Dante network, the speaker shall provide audio and power outputs for three non-IP speakers of the same sonic performance and construction. Connection to the Dante network shall be made via category cable with Ethernet connector.

Connections to three auxiliary speakers shall be made via terminal strip on the backcan of the speaker. Two audio channels shall be available to auxiliary speakers. Input power to the speaker shall be shared among all speakers connected at the terminal strip.

Performance specifications of a typical unit shall be as follows: Usable frequency range shall extend from 56 Hz - 22 kHz (±10 dB). The frequency dividing network shall have a crossover frequency of 5 kHz. The unit shall accept 40 W PoE in addition to PoE+ and standard PoE, as well as the audio signal from a provided network switch, and shall be configurable via software. Maximum continuous output at 1 meter with a 40 W input shall be 93 dB for each speaker in the cluster.

The backcan shall be constructed of galvanized 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 0.035" (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 146.1 mm (5.75") in height by 245.6 mm (9.67") in diameter. The maximum visible dimensions shall be no more than 8.4 mm (0.33") in height by 298.5 mm (11.75") in diameter.
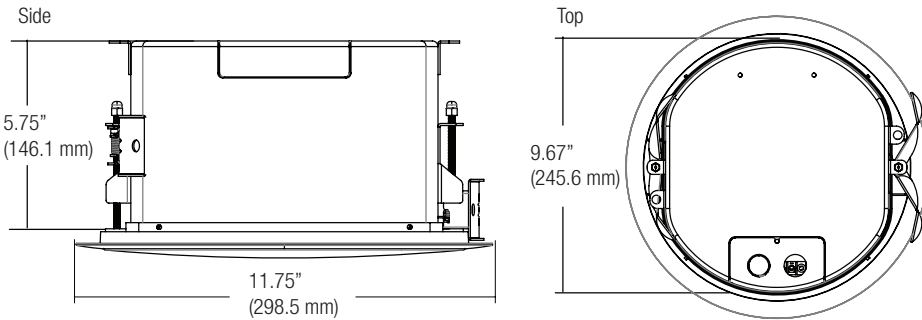
The system shall be the SoundTube IPD4-CM52-BGM-II for Dante operation.
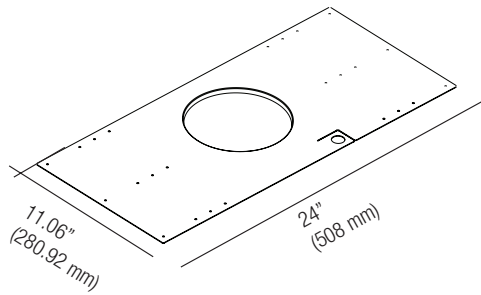
All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics

Mechanical Drawings

Side

5.75"
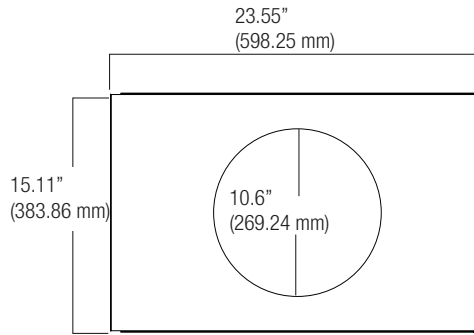(146.1 mm)
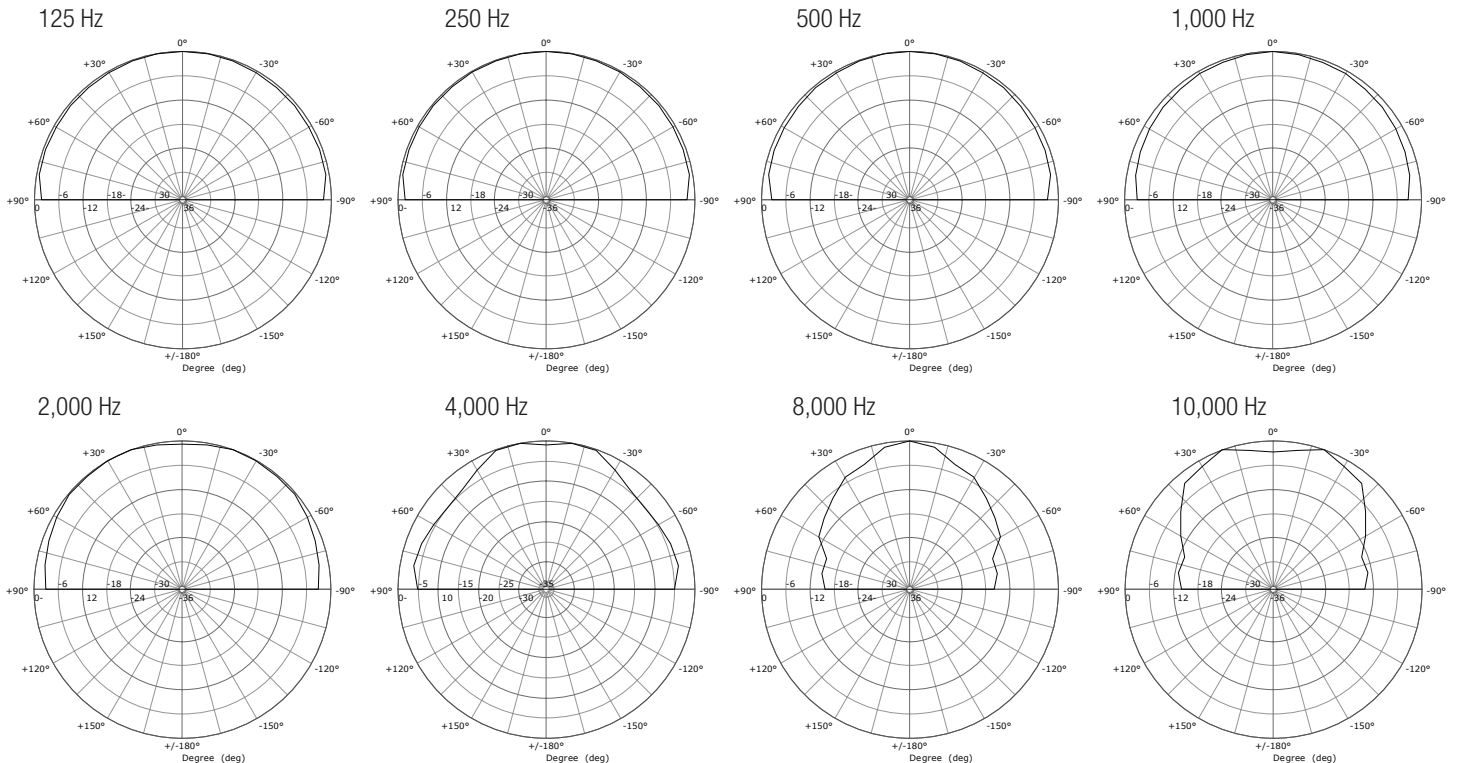
11.75"
(298.5 mm)

Top

9.67"
(245.6 mm)

Optional Accessories

11.06"
(280.92 mm)

24"
(508 mm)

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

Included Accessories

23.55"
(598.25 mm)

15.11"
(383.86 mm)

10.6"
(269.24 mm)

Tile Bridge

Plots

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**

Graphs

Frequency Response

Level (dB SPL)

Frequency (Hz)
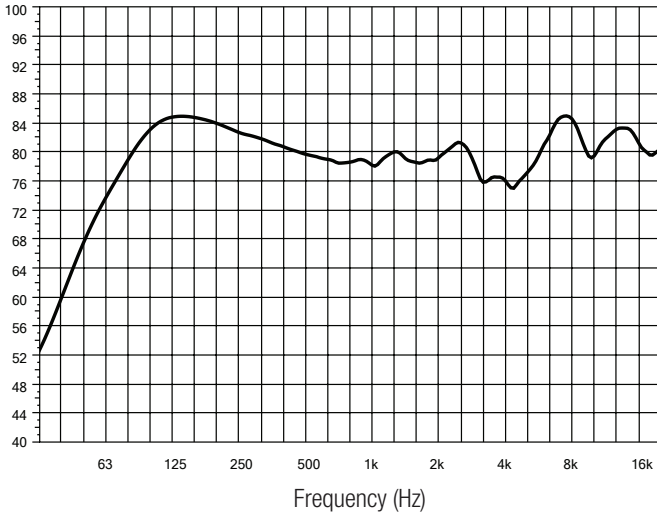
Phase/Impedance Response

Impedance (Ω)

Frequency (Hz)
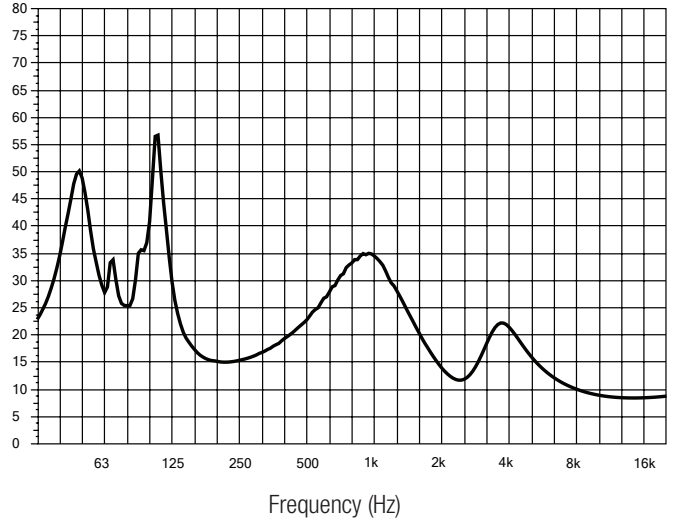
Vertical Bandwidth

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

—— -3 dB
—— -6 dB
– – – -9 dB

Frequency (Hz)
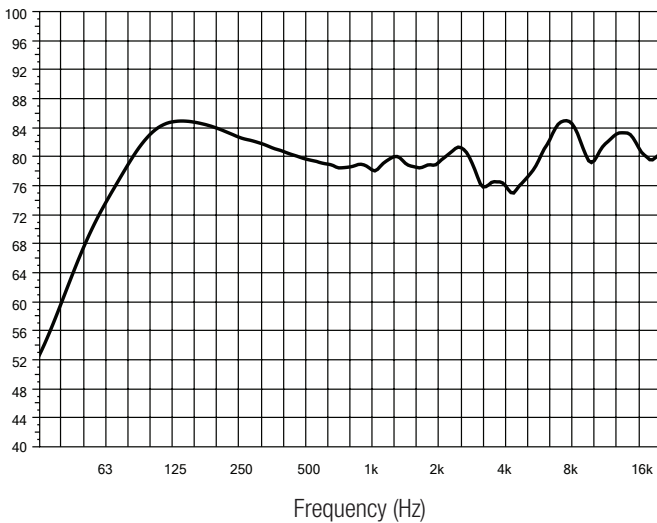
Directivity Index (DI)

Level (dB)

Frequency (Hz)

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