

IPD-SM82-EZ-II

Surface-Mount Speaker Dante™ IP Speaker Technical Information for System Engineers



Specifications: IPD-SM82-EZ-II

Mounting hardware included

System Type	8-inch, coaxial, surface-mount, ported, Dante™ IP Controlled
Frequency Response (-3 dB) ¹	50 Hz - 20 kHz Sealed: 70 Hz - 20 kHz
Frequency Response (-10 dB) ¹	38 Hz - 20 kHz Sealed: 50 Hz - 20 kHz
Max. Power SPL @ 1 m ²	101.0 dB
Coverage Angle (-6 dB @ 2 kHz)	70° Horizontal / 90° Vertical
Coverage Angle (-6 dB @ 10 kHz)	110° Horizontal / 100° vertical
Coverage Angle (averaged 2-10 kHz)	90° horizontal / 105° vertical
Aiming Angle	0°-90°
Directivity Factor (Q)	5.20 (Averaged 100 Hz - 10 kHz); 12.0 @ 2 kHz
Directivity Index (DI)	6.20 (Averaged 100 Hz - 10 kHz); 10.8 @ 2 kHz
Transducer - Low-Frequency Driver	203.0 mm (8.0 in.) polypropylene woofer with butyl rubber surround
Transducer - High-Frequency Driver	25.0 mm (1.0 in) soft dome tweeter
Low-Frequency Voice Coil	38.1 mm (1.50 in) high temperature Kapton
Crossover Frequency	2.5 kHz
Network Type - Low Pass	12 dB per octave, 2nd order
Network Type - High Pass	12 dB per octave, 2nd order
Enclosure Material	High Impact Poly Styrene (HIPS)
Grille	Aluminum with powder-coat finish
Inputs	RJ45 Ethernet Port
Colors	Black or white
Height	457.2 mm (18.00 in.)
Width	292.1 mm (11.50 in.)
Depth	251.0 mm (9.88 in.)
Weight	6.3 kg (13.9 lbs.)
Shipping Weight	7.0 kg (15.4 lbs.)
Included Accessories	Safety cable, wall mount bracket, port plug, allen wrench and watertight strain-relief bushing
Packaging	One per box
Regulatory - CE	Approved
Regulatory - UL	UL 60065 Listed
RoHS	Approved
IP65 (sealed version)	Approved

¹ Frequency response measured in half or full space as dictated by speaker mounting configuration

² Max output based on max continuous power

Key Features

- STNet™ IP-addressable, self powered (PoE) speaker.
- Dante™ I/O for interconnectivity with Dante-enable audio systems.
- BroadBeam Ring® delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker.
- One 8 inch (133 mm) polypropylene woofer and one 1.0 inch (25 mm) soft dome tweeter.
- Fast connection of power, audio and control functions via one CAT5 or CAT6 cable.
- 40 watts PoE provided by SoundTube STNet™ Switch; also works with Standard PoE plus and PoE switches.
- Provides report-back on any problems via SoundTube software.
- Aluminum grille with powder-coat finish.
- Vertical and horizontal mounting offer precision aiming for indoor and outdoor applications.
- UL 60065 listed
- High-quality black or white paint finish.
- Included Accessories: Safety cable, wall mount bracket, port plug, allen wrench and watertight strain-relief bushing.

Description

The IPD-SM82-EZ-II is a 8-inch, two-way surface-mount speakers for IP-addressable audio networks on the Dante™ platform. It incorporates a 8-inch polypropylene woofer and 1-inch soft dome tweeter in an injection-molded enclosure. The speaker delivers a frequency response of 38 Hz – 20 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 watts PoE (Power over Ethernet) to each speaker. Configuration of the speaker is done via software. Should any problems occur with the speaker during operation, it will be reported immediately via SoundTube® monitoring software.



Applications

Engineered for cost-conscious applications requiring true intelligibility, quality low-frequency response and quick installation, the versatile IPD-SM82-EZ-II delivers smooth and even coverage ideal for casinos, convention centers, gyms, nightclubs, aerobic rooms, airports, super stores, arenas, theme parks, transportation hubs, shipping centers and stadiums.

Patented SoundTube Technologies

SoundTube Entertainment and MSE Audio Group constantly develop new technologies that enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. and international patents, which explicitly cover SoundTube dispersion, enclosure and dome technologies. 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.

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 is independently collected and verified by a third party. 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 a 203.2 mm (8 in) low-frequency transducer and a 25.0 mm (1.00 in) high-frequency transducer with a frequency-dividing network installed in a vented enclosure. The low-frequency voice coil diameter shall be 25.4 mm (1.00 in). The high-frequency transducer shall be constructed of silk material with a proprietary BroadBeam Ring® waveguide.

Performance specifications of a typical production unit shall be as follows: Usable frequency response shall extend from 38 Hz – 20 kHz (-10 dB, half space, independently verified). The frequency-dividing network shall have a crossover frequency of 3.5 kHz. The unit shall accept 40 watts PoE in addition to PoE plus 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 watt input shall be 101dB.

Installation and safety attachment for the speaker shall be by U-bracket affixed to the speaker chassis with steel insert. For safety redundancy, a secondary cable shall be included and attached to the speaker chassis.

The external wiring input connector shall be via RJ45 ethernet port, accepting standard RJ45 ethernet cable. The system shall be for indoor/outdoor applications and shall include a weather resistant cover over all wire connections.

The enclosure shall be constructed of injection-molded, High Impact Poly Styrene (HIPS). The grille shall be constructed of powder-coated aluminium for lasting performance. Overall cabinet dimensions shall be no more than 292 mm (11.49 in) in height by 457.2 mm (18.00 in) in width by 254 mm (10 in) in depth (without SM bracket). The unit shall include port plug, allen wrench and watertight strain-relief bushing.

The system shall be the SoundTube IPD-SM82-EZ-II for audio over IP Dante™ applications.

SoundTube Entertainment

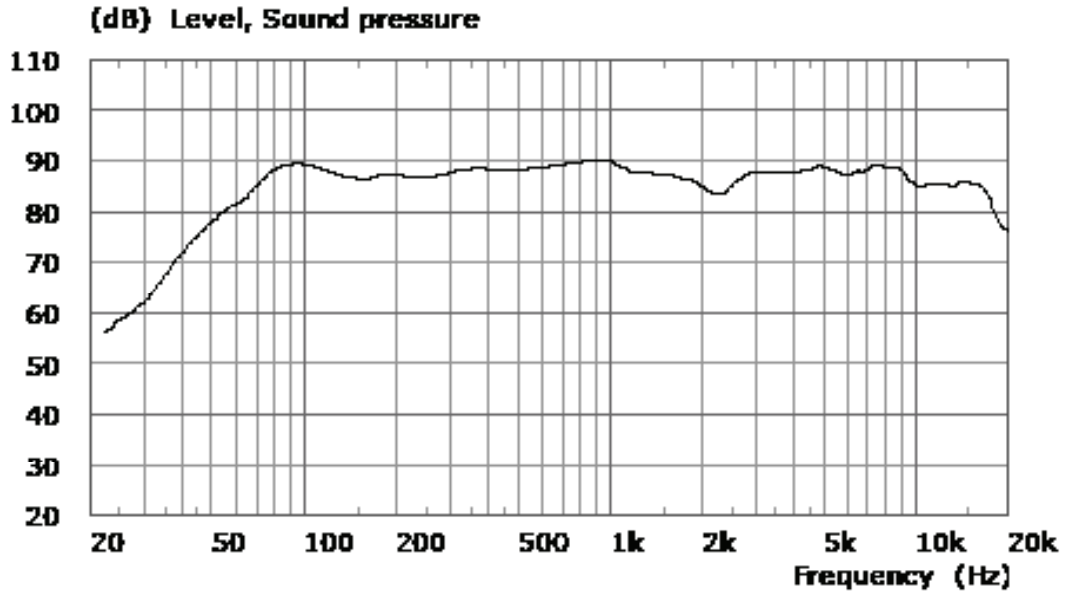
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All SoundTube products come with a 5-year limited warranty.

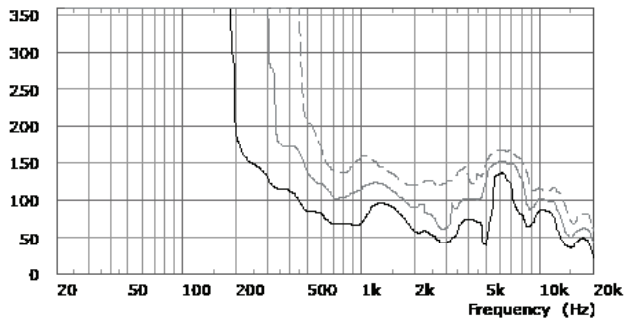


Graphs and Plots

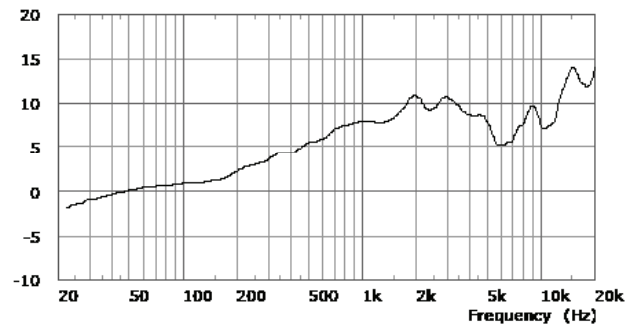
Frequency Response



Vertical Beamwidth



Directivity Index (DI)

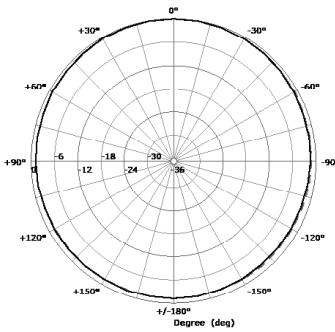




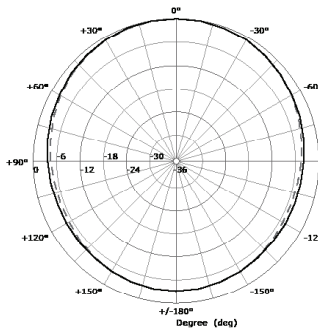
Polar Plots

—— Horizontal
 - - - Vertical

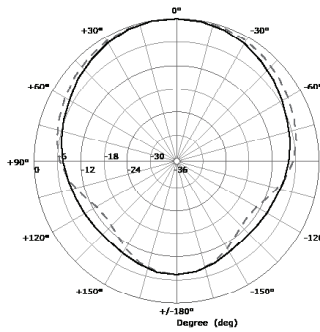
125 Hz



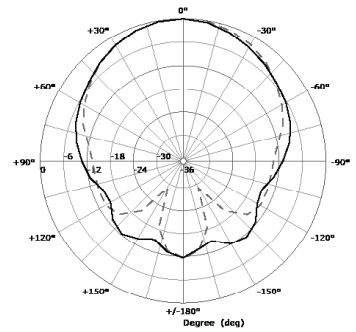
250 Hz



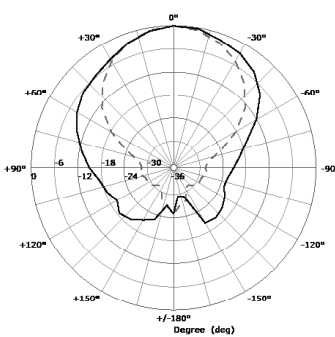
500 Hz



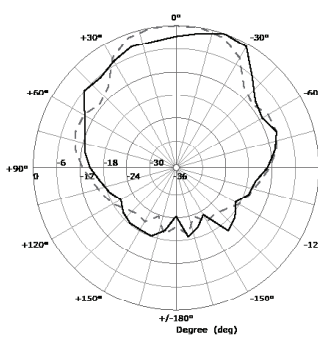
1,000 Hz



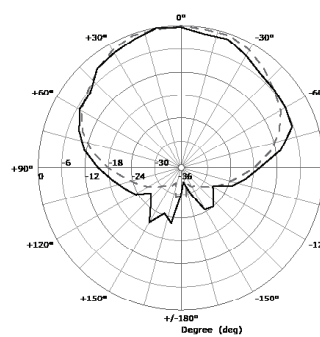
2,000 Hz



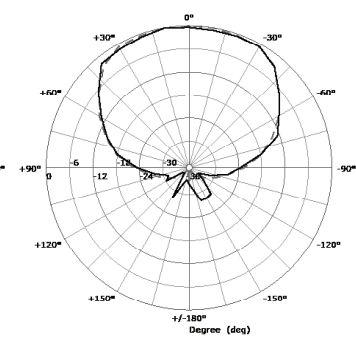
4,000 Hz



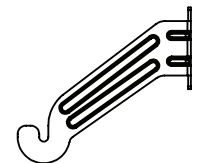
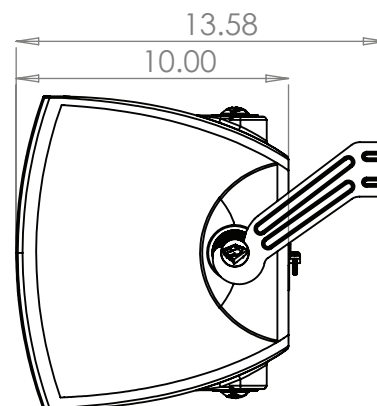
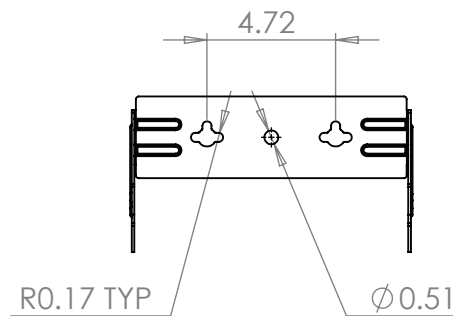
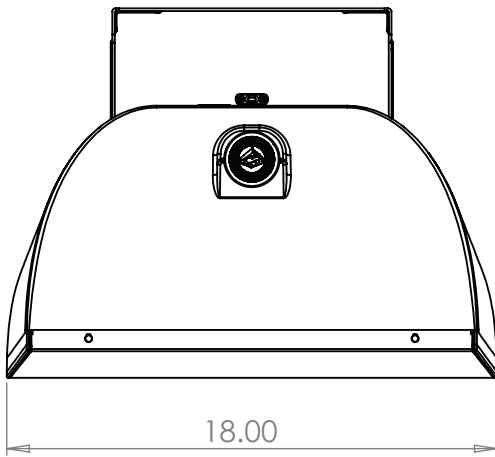
8,000 Hz



10,000 Hz



Mechanical Drawings



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 USA.