

# IPD-SM500i-II

## Surface-Mount PoE Speaker Preliminary Technical Information



### Preliminary Specifications: IPD-SM500i-II

### Mounting hardware included

System Type	5.25-inch, coaxial, surface-mount, ported, Dante™-enabled, network
Frequency Response (-3 dB) <sup>1</sup>	86 Hz - 22 kHz
Frequency Response (-10 dB) <sup>1</sup>	60 Hz - 22 kHz
Max. SPL dB @ 1 M RMS <sup>2</sup>	98.0 dB
Coverage Angle (-6 dB @ 2 kHz)	75° horizontal / 90° vertical
Coverage Angle (-6 dB @ 10 kHz)	120° horizontal / 125° vertical
Coverage Angle (Avg. 2 to 10 kHz)	100° horizontal / 100° vertical
Aiming Angle (radial)	360°
Aiming Angle (horizontal)	0 - 90°
Directivity Factor (Q)	4.6 (Averaged 100 Hz - 10 kHz); 9.8 @ 2 kHz
Directivity Index (DI)	5.6 dB (Averaged 100 Hz - 10 kHz); 9.9 dB @ 2 kHz
Low-Frequency Driver	1 x 133 mm (5.25 in) polypropylene cone, butyl rubber surround
High-Frequency Driver	25 mm (1.0 in) convex titanium tweeter with waveguide
Low-Frequency Voice Coil	25 mm (1.0 in)
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	Injection-molded ABS, glass fiber reinforced
Grille	Aluminum with powder-coat finish
Inputs	RJ45 ethernet port
Colors	Black or white (Custom colors available)
Height	289.56 mm (11.40 in)
Width	212.26 mm (8.36 in)
Depth (Including Bracket)	266.30 mm (10.48 in)
Weight	4.3 kg (9.5 lbs)
Shipping Weight	5.0 kg (11 lbs)
Included Accessories	Safety cable with speaker mounting bolt, wall mount bracket
Optional Accessories	N/A
Packaging	One per box
Regulatory - UL	UL 60065 listed
Regulatory - CE	Approved
RoHS	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

- IP addressable, self powered (PoE) speaker.
- Dante™ I/O for interconnectivity with Dante-enabled audio systems.
- BroadBeam® waveguide technology delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker.
- One 5.25 inch (133 mm) polypropylene woofer and one 1.0 inch (25 mm) convex titanium tweeter with FerroFluid™ cooling.
- 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.
- Includes Stealth™ bracket mounting system.
- Vertical and horizontal pivoting allow the IPD-SM500i-II to be aimed anywhere within the installation space.
- Low profile enclosure design keeps the speaker close to the wall.
- UL 60065 listed.
- High-quality black or white paint finish.
- Included Accessories: Safety cable with speaker mounting bolt and wall mount bracket.

### Description

The IPD-SM500i-II is a 5.25-inch, two-way surface-mount speaker for IP-addressable audio networks on the Dante platform. It incorporates a 5.25-inch polypropylene woofer and 1-inch convex titanium tweeter with waveguide in an injection-molded, glass fiber reinforced ABS enclosure. The speaker delivers a frequency response of 60 Hz – 22 kHz (-10 dB) with consistent, broad high frequency dispersion supplied through SoundTube's proprietary BroadBeam® 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 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-SM500i-II is included and features SoundTube's proprietary Stealth™ bracket mounting system, with a security knob to reduce tampering after placement. The speaker also offers unlimited directional aiming and a low profile. The system includes a detachable mounting plate designed for premounting in either wall or pole applications.

## Applications

Developed for Dante audio platforms, the IPD-SM500i-II is ideal for hotels, museums, education, retail stores, restaurants, casinos, airports or corporate installations. This speaker ideal for both indoor and damp outdoor uses. The full frequency dispersion pattern and high sensitivity make the IPD-SM500i-II ideal for both music and paging.

## BroadBeam® Wide Dispersion Technology

SoundTube's proprietary BroadBeam® technology incorporates a high-frequency waveguide mated to a 1-inch convex aluminum tweeter. BroadBeam® waveguide technology delivers a consistent BroadBeam® dispersion pattern across the upper registers of the frequency spectrum. The result is an audio system requiring fewer speakers with higher intelligibility, offering reduced power needs, shorter installation time and cost savings on shipping and labor.

## Patented SoundTube Technologies

SoundTube Entertainment and the MSE Audio Group are constantly developing new technologies that 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.

## Architectural Specifications

The loudspeaker shall consist of a 133 mm (5.25 in) low-frequency transducer and a 25 mm (1.0 in) high-frequency transducer with a frequency-dividing network installed in a vented enclosure. The low-frequency voice coil diameter shall be 25 mm (1.0 in). The high-frequency transducer shall be constructed of titanium with a proprietary BroadBeam® waveguide.

Performance specifications of a typical production unit shall be as follows: Usable frequency range shall extend from 60 Hz – 22 kHz (-10 dB). The frequency dividing network shall have a crossover frequency of 3 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 98 dB.

Installation for the speaker shall be by the new Stealth™ bracket mounting system. A tool-free system with locking mounting plate for either wall or pole mount applications shall be used. For safety redundancy, a secondary cable shall be included and attached to the speaker chassis via an included 1/4-20 UNC bolt. 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 have a weather-resistant terminal boot covering all wire connectors.

The enclosure shall be constructed of injection-molded, glass-reinforced ABS. The grille shall be constructed of powder-coated aluminium for lasting performance. Overall cabinet dimensions shall be no more than 289.56 mm (11.40 in) in height by 212.26 mm (8.36 in) in width by 266.30 mm (10.48 in) in depth (including SM bracket). The unit shall include Euroblock connector and weather boot.

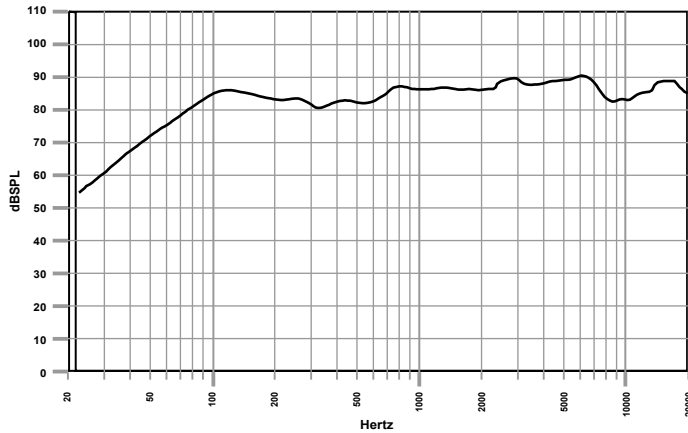
The system shall be the SoundTube IPD-SM500i-II for for Dante™ applications.

## SoundTube Entertainment

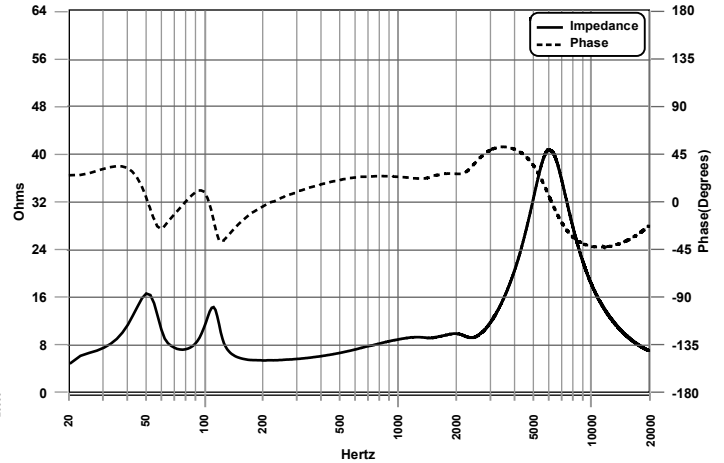
6430 Business Park Loop Road  
Park City, Utah 84098  
Phone 435.647.9555  
Fax 435.647.9666  
Toll Free 800.647.TUBE  
www.soundtube.com  
All SoundTube products come with a 5-year limited warranty.

### Preliminary Graphs

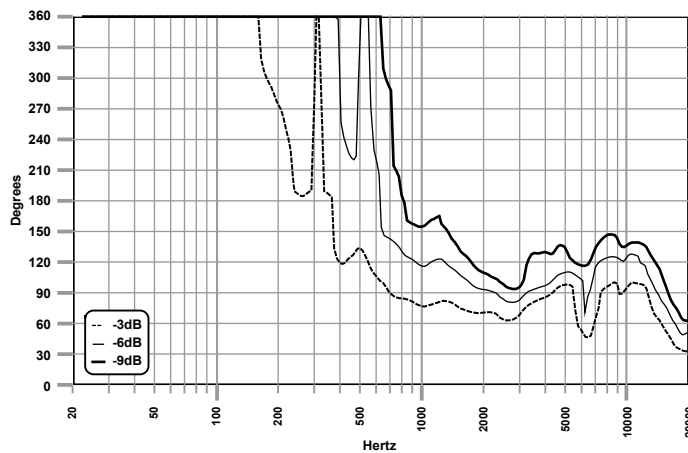
#### Frequency Response



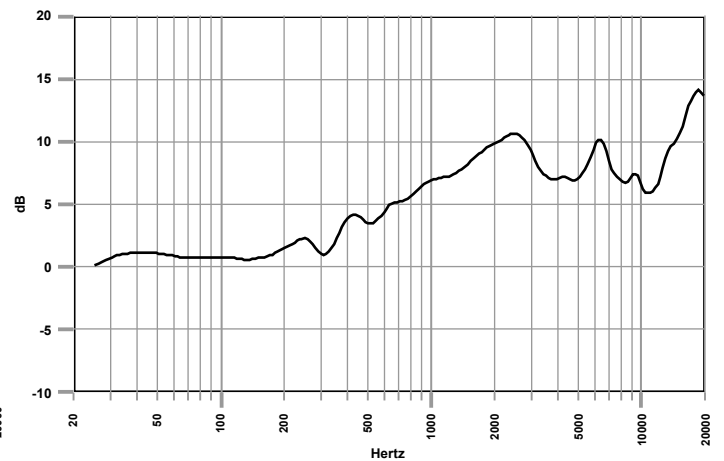
#### Phase/Impedance Response



#### Vertical Beamwidth (-6dB)

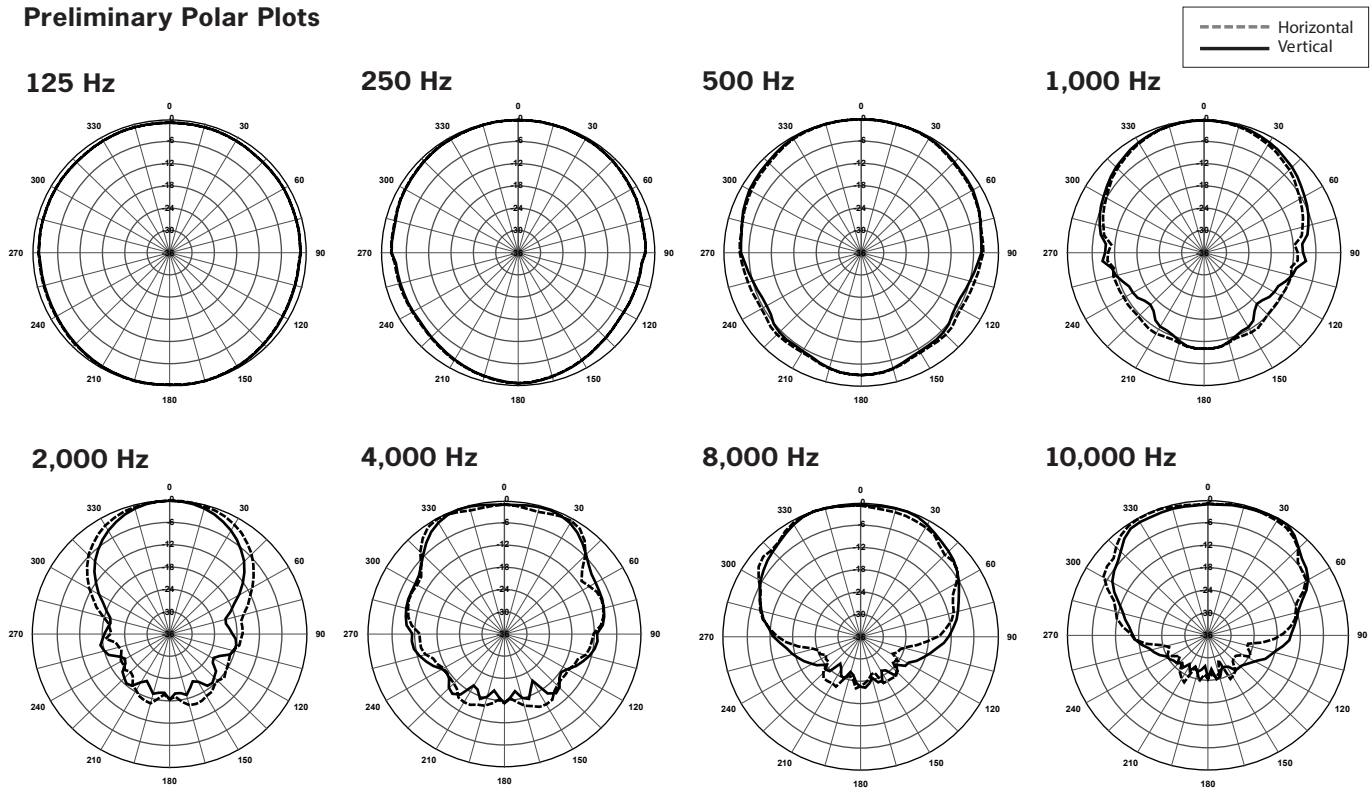


#### Directivity Index (DI)

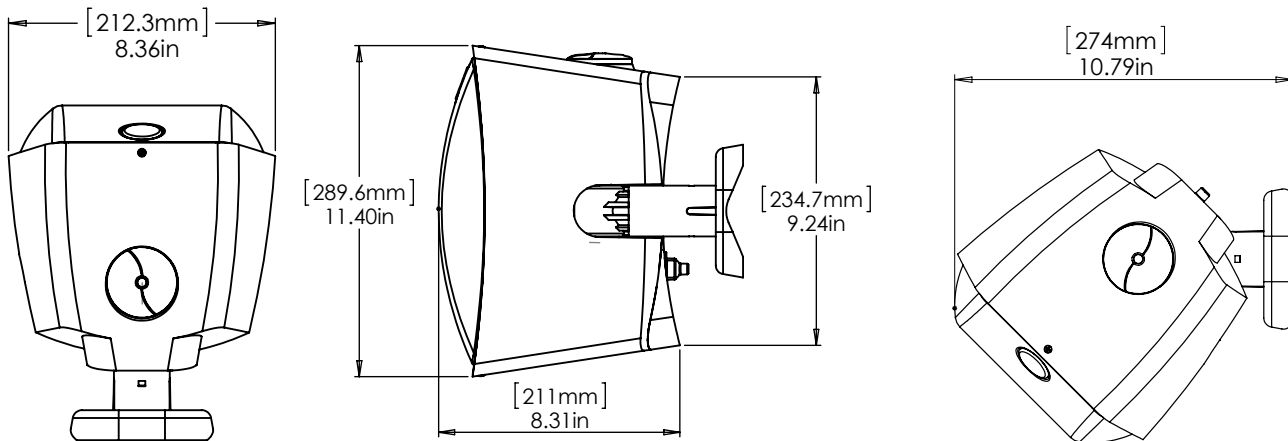




## Preliminary Polar Plots



## 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.