



Specifications: IW500b

System Type	5.25-inch coaxial, in-wall, sealed (32-watt transformer for 25/70.7/100-volt or transformer bypass)
Impedance (nominal) ¹	8 ohm
Sensitivity dB @ 2.83 V/1 m	87.5 dB
Sensitivity dB @ 1 W/1 m ²	87.5 dB
Frequency Response (-3 dB) ³	140 Hz - 22 kHz
Frequency Response (-10 dB) ³	69 Hz - 22 kHz
Max. Program Power ⁴	150 W
Max. Continuous Power RMS ⁵	75 W
Max. Power SPL @ 1 m ⁶	106.5 dB
Coverage Angle (-6 dB @ 2 kHz)	90° horizontal / 95° vertical
Coverage Angle (-6 dB @ 10 kHz)	115° horizontal / 110° vertical
Coverage Angle (Avg. from 2 to 10 kHz)	100° horizontal / 100° vertical
Directivity Factor (Q)	4.9 (Avg. 100 Hz - 10 kHz) / 8.3 (2 kHz)
Directivity Index (DI) dB	6.0 dB (Avg. 100 Hz - 10kHz) / 9.2dB (2 kHz)
Tap Selector	Six-position rotary switch with transformer bypass position
Transducer - Low-Frequency Driver	1 x 133 mm (5.25 in.) polypropylene cone, butyl rubber surround
Transducer - High-Frequency Driver	25 mm (1 in.) convex titanium tweeter with waveguide
Low-Frequency Voice Coil	25.4 mm (1.00 in.)
Crossover Frequency	3.0 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, steel back can
Motorboard	Cast aluminum
Grille	Iridite-plated steel with powder-coat finish
Inputs	Wire leads
Colors	White (only), paintable
Height	300.7 mm (11.84 in.)
Width	219.5 mm (8.64 in.)
Depth	99.1 mm (3.90 in.)
Weight	4.0 kg (8.9 lb)
Shipping Weight	5.0 kg (11.0 lb)
Included Accessories	One UL-listed 1/2-inch conduit connector, two wire nuts, paint mask, hole template
Optional Accessories	Pre-construction bracket (AC-IW5-PCB)
Packaging	One per box
Regulatory - UL	Backbox listed to UL 1480A (UEAY)
Regulatory - CE	Approved
RoHS	Approved

Transformer Taps

- Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance
- 1 W 1 m sensitivity determined using nominal impedance
- Frequency response measured in half or full space as dictated by speaker mounting configuration
- Max program power is 3 dB above max continuous power
- Continuous power rating, EIA-426-B test
- Max output based on max continuous power
- Max useable SPL based on testing by NWA Labs

70.7 V	Output	100 V	Output	25 V	Output
33 W	102.5 dB	33 W	102.5 dB	5 W	94.5 dB
17 W	100.0 dB	17 W	100.0 dB	2.5 W	92.5 dB
9 W	97.0 dB	9 W	97.0 dB	1.3 W	88.5 dB
6 W	95.5 dB	6 W	95.5 dB	0.63 W	85.5 dB
3 W	92.5 dB				

Key Features

- BroadBeam® waveguide technology delivers a consistent dispersion pattern (2 to 10 kHz, independently verified) for maximum coverage area per speaker.
- One 5.25 inch (133 mm) polypropylene woofer and one 1 inch (25 mm) convex titanium tweeter with FerroFluid cooling mounted to an aluminum motorboard.
- 106.5 dB Max. SPL offers high output capabilities and reduced amplification costs.
- Rapid installation blind-mount system for quick and secure installation.
- Easy-access six-position tap switch for 25-, 70.7- and 100-volt applications with a transformer bypass position.
- Integrated UL-listed steel enclosure with conduit connections.
- High-quality white paint finish. Custom paint colors optional.
- Included accessories: mounting hardware, paint mask, hole template and conduit connector.
- Optional accessory: pre-construction bracket (AC-IW5-PCB).

Description

The IW500b is a 5.25-inch, coaxial, in-wall loudspeaker that delivers effective low-end response (69 Hz, -10 dB) and optimal off-axis performance (2 to 10 kHz, independently verified). SoundTube's proprietary BroadBeam® waveguide tweeter system delivers consistent high-performance audio across the operating bandwidth. The IW500b speaker design incorporates a low-profile grille and six-position tap switch with transformer bypass position. Mounting hardware is included and features a fast and secure optimally engineered constant-tension mounting system and an integrated backcan for maximum efficiency and applications where UL approval is required. A pre-construction bracket is offered as an optional accessory.

Applications

Designed for in-wall applications, the IW500b is ideal for music and messaging in boardroom, church, corporate A/V and education applications. For additional bass response down to 41 Hz (-10 dB), the CM1001d-T or SM1001p subwoofer may be used.



Patented SoundTube 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

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 and include EASE™ Data – 3-D polar plots and SoundTubeSPEC™ – proprietary SoundTube speaker placement software.

Independent Data Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWAALabs (www.nwaalabs.com) using their proprietary MACH test-

ing 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, is compiled into a variety of formats, including EASE 4.x, GLL and CLF.

Architectural Specifications

The loudspeaker shall consist of a 133 mm (5.25 in.) low-frequency transducer and a 25 mm (1 in.) 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 in.).

Performance specifications of a typical production unit shall be as follows: Useable frequency response shall extend from 69 Hz – 22 kHz (-10 dB, half space, no external equalization). Measured sensitivity (2.83 volts, 1 meter) shall be at least 87.5 dB. The speaker shall have a nominal impedance of 8 ohm and shall be available for 25/70.7/100-volt modes with transformer bypass position. The frequency-dividing network shall have a crossover frequency of 3 kHz with slopes of 12 dB per octave (second order) for both low- and high-pass filters. Rated power capacity shall be at least 75 watts continuous (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 106.5 dB.

The low-frequency transducer shall have a polypropylene cone with a butyl rubber surround. The high-frequency transducer shall be constructed of titanium with a proprietary BroadBeam® waveguide.

Installation for the IW500b shall be by four-screw, constant-tension, optimally engineered mounting assembly. The external wiring input connector shall be by hard wired leads for 8-ohm or distributed systems.

The grille shall be constructed of powder-coated steel for lasting performance and attach via pressure fit directly to the ABS bezel. The backcan shall be constructed of drawn steel.

The system shall be the SoundTube IW500b with mounting hardware for both low- and high-impedance applications.

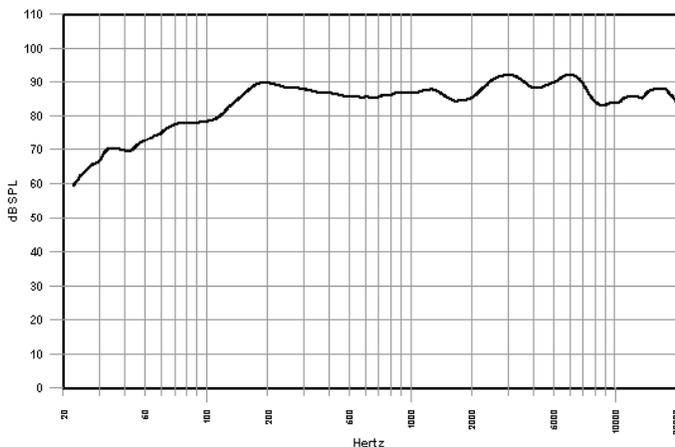
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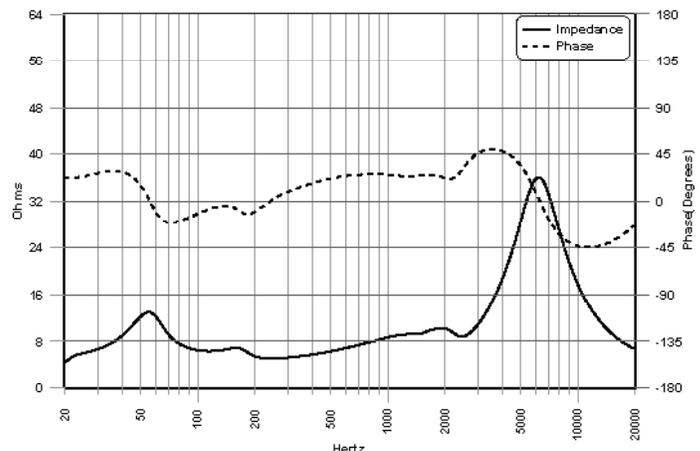
All SoundTube products come with a 5-year limited warranty.

Graphs and Plots

Frequency Response

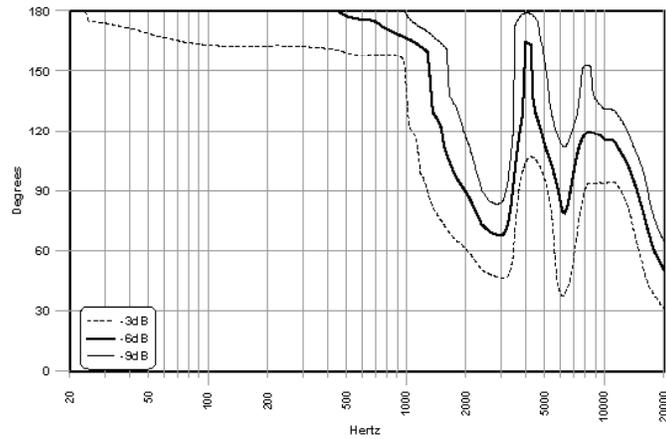


Phase/Impedance Response

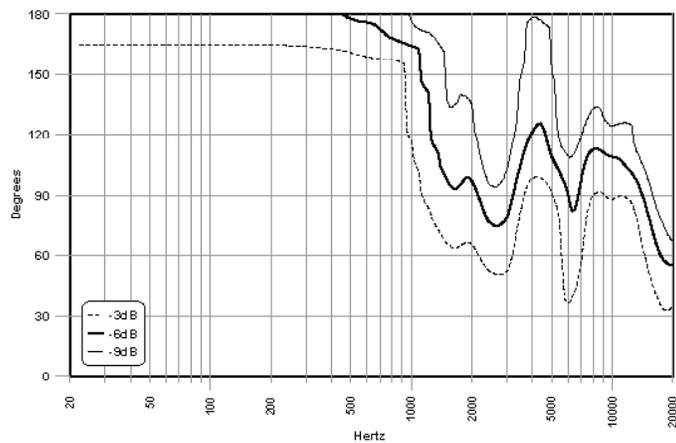




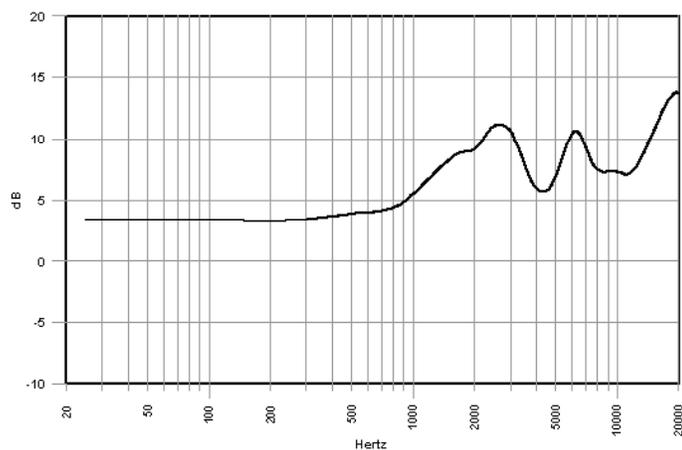
Horizontal Beamwidth



Vertical Beamwidth



Directivity Index (DI)

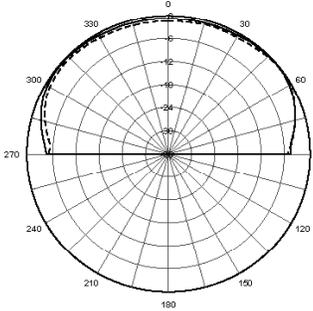




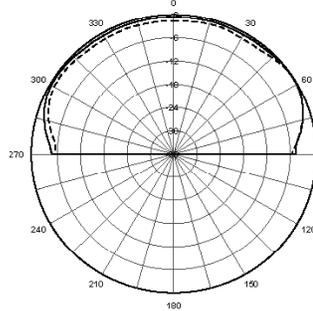
Polar Plots

— Horizontal
 - - - Vertical

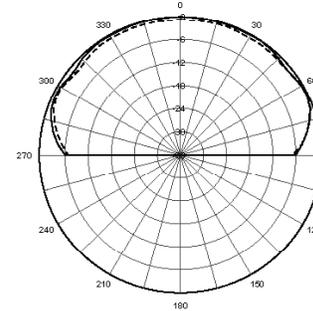
125 Hz



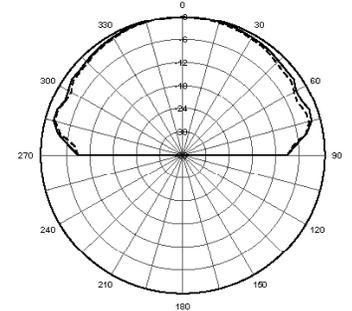
250 Hz



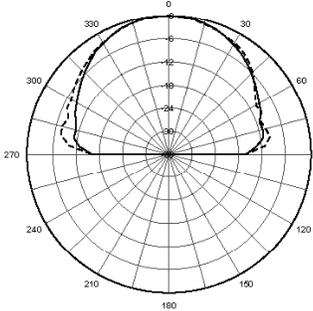
500 Hz



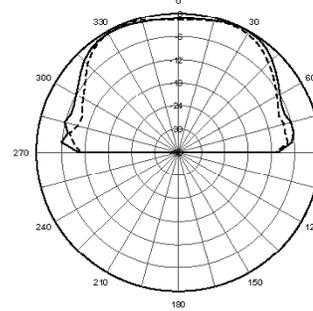
1,000 Hz



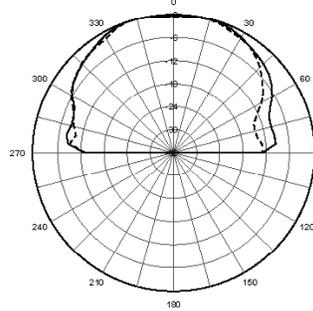
2,000 Hz



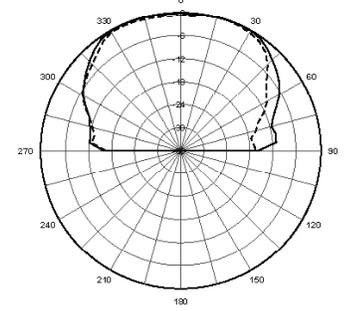
4,000 Hz



8,000 Hz

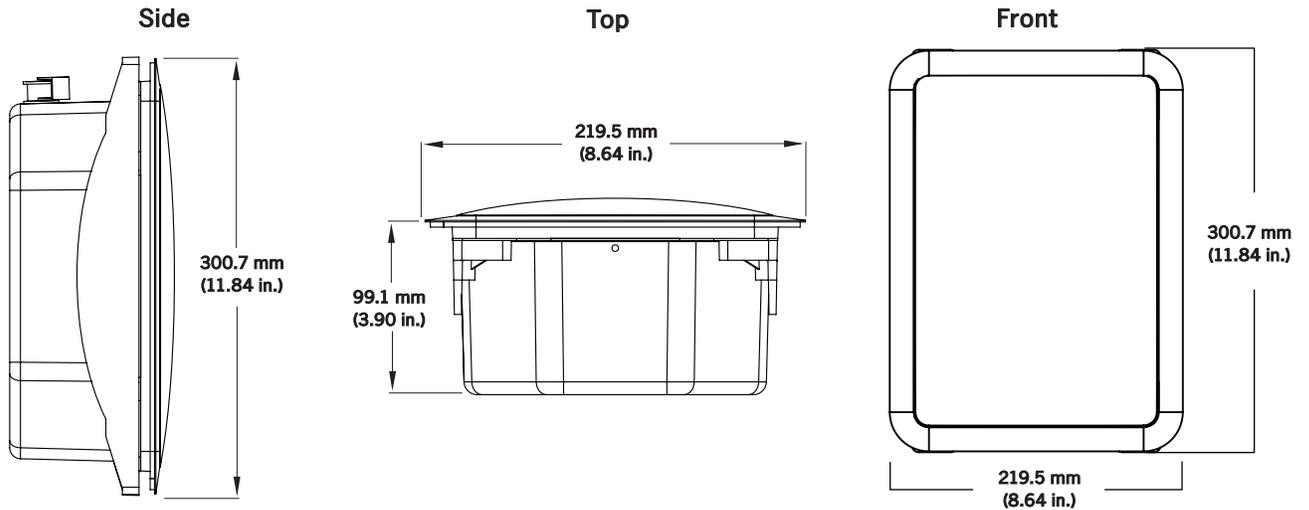


10,000 Hz

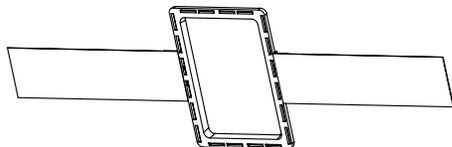


Technical data, EASE™ plots, SoundTubeSPEC™ software and product downloads available at www.soundtube.com

Mechanical Drawings



Optional Accessories - Pre-Construction Bracket (AC-IW5-PCB)



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 U.S.A.