



Specifications: SM500i

Mounting hardware included

System Type	
	5.25" Coax, surface-mount, ported (32 Watt transformer available for 25/70.7/100 Volt or voice coil/8 Ohm direct)
Frequency Response (-3 dB) ¹	70 Hz - 22 kHz
Low Frequency (-10 dB) ¹	45 Hz - 22 kHz
Max. Program Power	150 Watts
Max. Continuous Power RMS ²	75 Watts
Max. UL Power Rating ³	50 Watts
Max. SPL dB @ 1 M	107.5 dB
Sensitivity dB @ 1W/1M ⁴	88.5 dB
Impedance (nominal)	8 Ohm (nominal value)
Coverage Angle (-6 dB @ 2 kHz)	120°
Coverage Angle (-6 dB @ 10 kHz)	130°
Directivity Factor (Q)	3.28 (Averaged 100 Hz - 10 kHz); 4.83 @ 2 kHz
Directivity Index (DI)	4.43 dB (Averaged 100 Hz - 10 kHz); 6.84 dB @ 2 kHz
Tap Selector	6-Position rotary switch with voice coil/8 Ohm direct
Transformer Taps	
70.7 V Output	100 V Output 25 V Output
33 W 103.5 dB	33 W 103.5 dB 5 W 95.5 dB
17 W 101.0 dB	17 W 101.0 dB 2.5 W 92.5 dB
9 W 98.0 dB	9 W 98.0 dB 1.3 W 89.5 dB
6 W 96.5 dB	6 W 96.5 dB 0.63 W 86.5 dB
3 W 93.5 dB	
Transducers	
Low Frequency Driver	1 x 133 mm (5.25 in) Polypropylene cone, butyl rubber surround
High Frequency Driver	25 mm (1.0 in) Convex aluminum 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
High Pass	12 dB per octave, 2nd order
Enclosure Material	Injection molded ABS, glass fiber reinforced
Motor Board	Cast aluminum with integrated heat sink
Grille	Iridite-plated aluminum with powder-coat finish
Inputs	4 Pin, 5 mm Euroblock for individual or daisy chain connection
Colors	Black or white
Length (Including Bracket)	305.1 mm / 12.01 in
Height	316.9 mm / 12.48 in
Weight	216.6 mm / 8.53 in
Weight	4.3 kG / 9.5 lbs
Shipping Weight	10.9 kG / 24 lbs (2 per box)
Accessories	
Included	Corrosion-resistant captured ball mount, safety cable, Euroblock connector & terminal weather boot
Optional	U-Mount Bracket (AC-SM-UB5), Pole Mount Adaptor (AC-SM-PMA5), Bent Shaft (AC-SM-BS5)
Packaging	2 Per box, can ship as single

Key Features

- BroadBeam® waveguide technology delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker (EASE™ documented).
- One 133 mm (5.25 in) polypropylene woofer and one 25 mm (1.0 in) convex aluminum tweeter with FerroFluid™ cooling mounted to a proprietary cast-aluminum M5™ baffle and heat sink.
- 88.5 dB Average sensitivity offers high output capabilities & reduced amplification costs.
- Weatherized components for indoor & outdoor applications.
- Includes a tool-free SpeedLever™ captured ball mounting system for fast & secure installation. Included accessories: Mounting hardware, Euroblock connector & terminal weather boot.
- Vertical & horizontal pivoting offer precision aiming for indoor & outdoor applications.
- Patented ZeroReflection™ enclosure technology for optimal sound reproduction & cabinet rigidity.
- Easy access 6-position selectable tap switch for 25, 70.7 and 100 Volt applications with voice coil/8 Ohm direct simplifies ordering and inventory tracking.
- UL 1480 rev. 5, CE approval (EMC Directive 89/366/EEC, EN55020, EN55013) or MilSpec 810 & IEC529 approval pending.
- High-quality black or white paint finish.

Description

The SM500i is a 5.25" 2-way surface-mount speaker with a midsize enclosure design that delivers effective low-end response (45 Hz) and optimal off-axis performance (up to 10 kHz, EASE™ documented). SoundTube's proprietary BroadBeam® waveguide tweeter system delivers consistent high-performance audio across operating bandwidth.

The SM500i speaker design incorporates a low-profile grille, proprietary M5™ motor-board, 6-position tap switch with voice coil/8 Ohm direct and mounting hardware, including a fast SpeedLever™ mounting system.

Applications

Designed for indoor & outdoor background to mid-level SPL surface-mount applications, the SM500i includes a

¹ Frequency response is measured in half space and includes a low-frequency peak > + 3 dB.

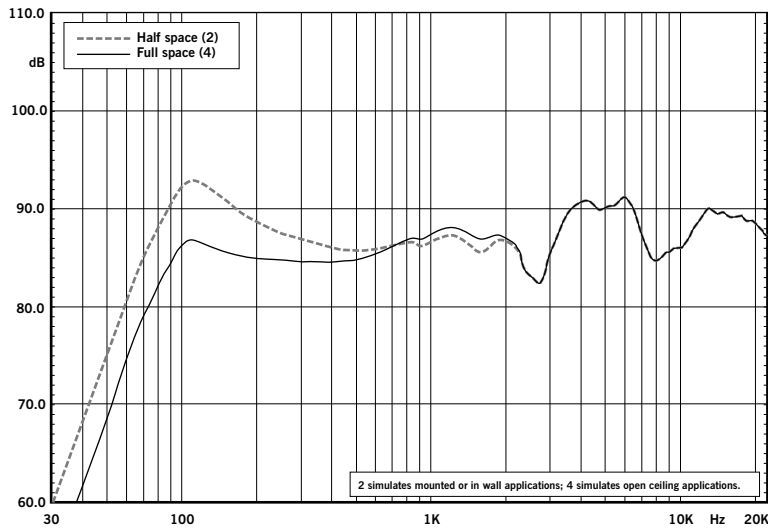
² Continuous power rating, EIA-426-B test.

³ UL testing specifies band-limited pink noise over the indicated frequency spectrum.

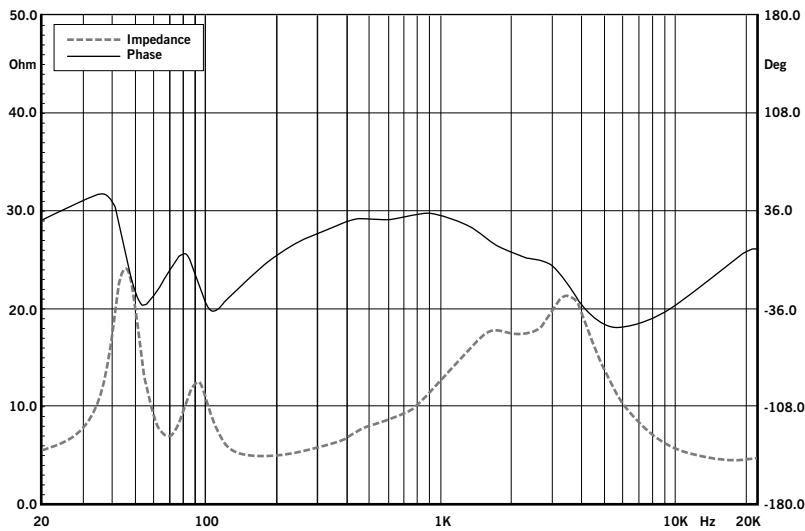
⁴ 2.83 Volts at a distance of 1 meter.

SoundTube continually develops new product innovations and improvements. Updates to existing products without prior notice are an example of SoundTube's drive for constant improvement.

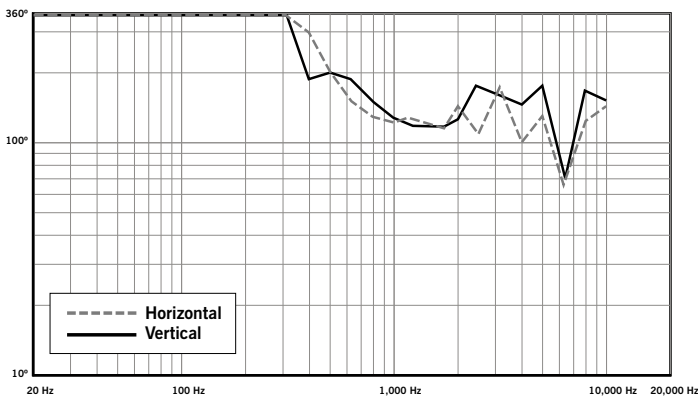
Frequency Response



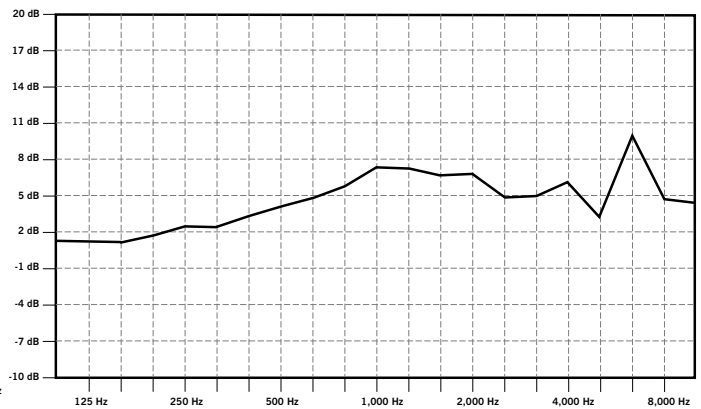
Phase/Impedance Reponse



Beamwidth (-6dB)



Directivity Index (DI)



proprietary captured ball mounting system with security screw for theft prevention. The full frequency dispersion pattern (45 Hz – 10 kHz, EASE™ documented) and high sensitivity (88.5 dB 1W/1M) make the SM500i surface-mount speaker ideal for music & paging in retail, amusement, restaurant, airports, hotels, schools and casinos. For applications where additional bass is required, SoundTube's RS801i subwoofer provides bass down to 40 Hz.

BroadBeam® Wide Dispersion Technology

More than 3 years in development, SoundTube's proprietary BroadBeam® technology incorporates a high-frequency waveguide mated to a 1" convex metal tweeter. BroadBeam® waveguide technology delivers a consistent BroadBeam® dispersion pattern across the upper registers of the frequency spectrum (up to 10 kHz, EASE™ documented). The result is an audio system with fewer speakers, reduced power needs, shorter installation time and cost savings on shipping & labor.

Patented SoundTube Technologies

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

Data Acquisition

All performance data acquired at SoundTube's Technical Measurement Center (TMC) are analyzed using a variety of standard measurement techniques,

including Measured Length Sequence (MLS) and Time Delay Spectrometry (TDS). Performance, development and data acquisition tools include: Gold Line TEF 20, CLIO, LMS, LEAP, and proprietary modeling software. EASE™ data are acquired through an automated TEF 20/Outline/EASE™ interface.

EASE™ Data – 3-D polar plots.

SoundTubeSPEC™ – Proprietary SoundTube speaker placement software.

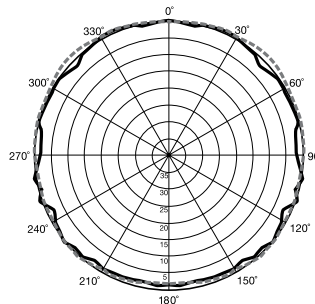
Architectural Specifications

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 the vented enclosure. The low-frequency voice coil diameter shall be 25 mm (1.0 in).

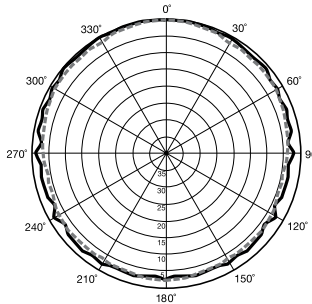
Performance specifications of a typical production unit shall be as follows: Usable frequency response shall extend from 45 Hz – 22 kHz (-10 dB, half space, no external equalization). Measured sensitivity (2.83 Volt input, 1 meter) shall be at least 88.5 dB. The speaker shall have a

Polar Plots

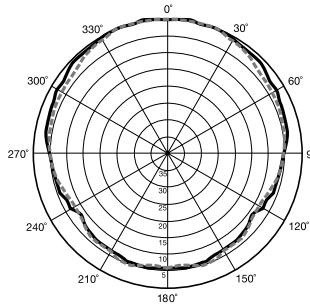
125 Hz



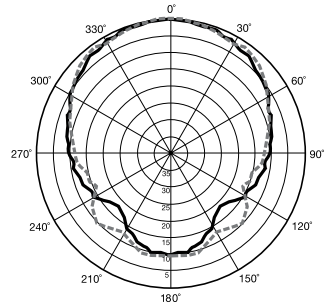
250 Hz



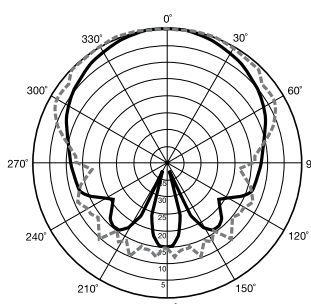
500 Hz



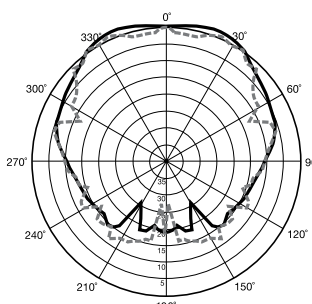
1,000 Hz



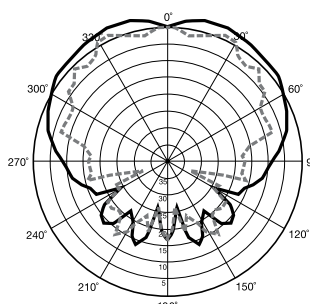
2,000 Hz



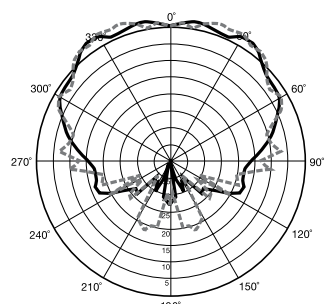
4,000 Hz



8,000 Hz

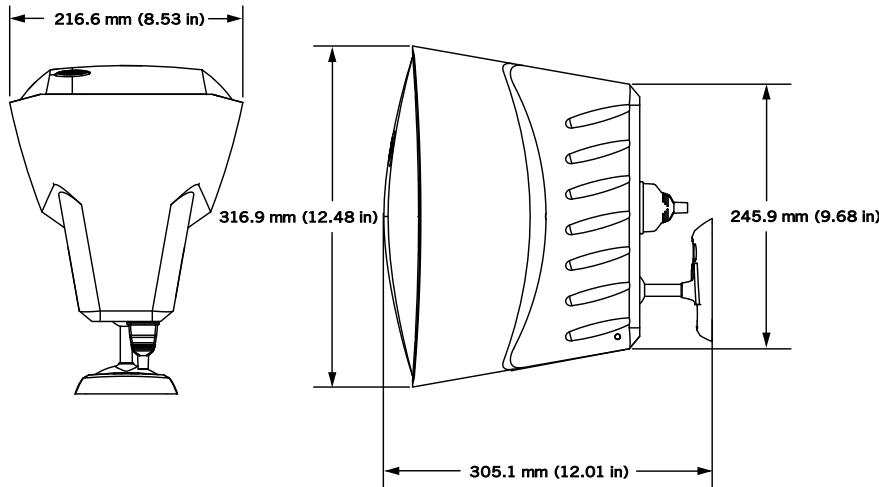


10,000 Hz



----- Horizontal
 _____ Vertical

Mechanical Drawings



Installation

Unlocked

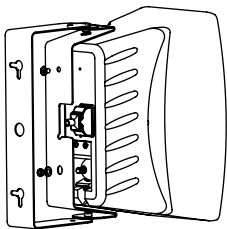


Locked

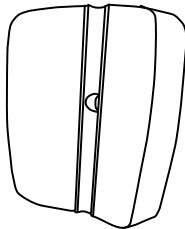


SoundTube's SM500i is a surface-mount speaker designed to mount to a wall, pole, ceiling or other rigid structure. Vertical & horizontal pivoting offer unlimited aiming for indoor & outdoor applications.

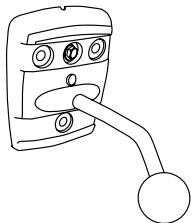
Optional Accessories



U-Mount Bracket (AC-SM-UB5)



Pole Mount Adaptor (AC-SM-PMA5)



Bent Shaft (AC-SM-BS5)

nominal impedance of 8 Ohms and be available for 25, 70.7 & 100 Volt modes with voice coil/8 Ohm direct. The frequency-dividing network shall have a crossover frequency of 3 kHz with slopes of 12 dB per octave (2nd order) for both low & high pass filters. Rated power capacity shall be at least 75 Watts continuous power (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 107.5 dB.

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

Installation for the SM500i shall be by a proprietary & corrosion-resistant captured-ball mounting system. SoundTube's tool-free captured ball mounting system incorporates a locking zinc alloy lever attaching to a cast-aluminum ball. For seismic & safety redundancy, a secondary aircraft cable shall be included and attached to the speaker chassis via #10 bolt. The external wiring input connector shall be a 4-pin, 5 mm Euroblock for 8 Ohm or distributed systems and shall accept from 10 – 22 gauge wire. 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 iridite-plated, powder-coated aluminium for lasting performance.

Overall cabinet dimensions shall be no more than 316.9 mm (12.48 in) in height by 216.6 mm (8.53 in) in width by 305.1 mm (12.01 in) in depth (including SM bracket). The SM500i shall include Euroblock connector & weather boot.

The system shall be the SoundTube SM500i for both low & high impedance applications.

SoundTube Entertainment

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