



## SM500i-II-WX PRODUCT SPECIFICATIONS

System Type	5.25", coaxial, surface-mount, ported (64 W transformer for 25/70.7/100 V or transformer bypass)
Impedance (Nominal) <sup>1</sup>	4 Ω
Sensitivity dB @ 2.83 V / 1 M	86 dB
Sensitivity dB @ 1 W / 1 M <sup>2</sup>	83 dB
Frequency Response (±3 dB) <sup>3</sup>	86 Hz - 22 kHz
Frequency Response (±10 dB) <sup>3</sup>	60 Hz - 22 kHz
Max. Program Power <sup>4</sup>	150 W
Max. Continuous Power RMS <sup>5</sup>	75 W
Max. SPL dB @ 1 M <sup>6</sup>	102 dB
Coverage Angle (±6 dB @ 2 kHz)	75° Horizontal   90° Vertical
Coverage Angle (±6 dB @ 10 kHz)	120° Horizontal   125° Vertical
Coverage Angle (Avg. 2-10 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
Tap Selector	Six-position rotary switch with transformer bypass
Low-Frequency Driver	1 x 133 mm (5.25") polypropylene cone, butyl rubber surround
High-Frequency Driver	25.4 mm (1") convex titanium tweeter with waveguide
Low-Frequency Voice Coil	25.4 mm (1")
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 Material	Aluminum with powder-coat finish and dual-layer hydrophobic cloth
Inputs	Four-pin, 5.08 mm Euroblock for individual or daisy chain connection
Color	Black or white (custom colors available)
Height	289.6 mm   11.4"
Width	212.3 mm   8.36"
Depth (Including Bracket)	266.2 mm   10.48"
Weight	4.3 kg   9.5 lbs
Included Accessories	Safety cable with speaker mounting bolt, Euroblock connector, wall-mount bracket and terminal weather boot
Packaging	One per box
IP-Rating	IP44
Certifications	CE, RoHS, UL 1480A

## Description

The SM500i-II-WX is a 5.25", two-way surface-mount speaker with a mid-size enclosure design that delivers effective low-end response (60 Hz) and optimal off-axis performance (2-10 kHz). SoundTube's proprietary BroadBeam® waveguide tweeter system delivers consistent high-performance audio across operating bandwidth.

The SM500i-II-WX speaker design incorporates a low-profile grille, six-position tap switch with transformer bypass and mounting hardware, including the Stealth™ bracket mounting system. The SM500i-II-WX incorporates a security knob to reduce tampering after placement, unlimited directional aiming, and a low profile.

## Features

- BroadBeam® waveguide technology delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker.
- One 5.25" (133 mm) polypropylene woofer and one 1" (25.4 mm) convex titanium tweeter with FerroFluid cooling.
- 86 dB average sensitivity offers high output capabilities and reduced amplification costs.
- Includes stainless steel screws and rust-free grille for severe weather, outdoor applications.
- Easy access, six-position selectable tap switch for 25, 70.7, and 100 V applications with transformer bypass position.
- Patented ZeroReflection™ enclosure technology for optimal sound reproduction and cabinet rigidity.
- Aluminum grille with powder-coat finish.
- Includes the new SM500i-II-WX Stealth™ bracket mounting system.
- Vertical and horizontal pivoting allow the SM500i-II-WX to be aimed anywhere within the installation space.
- Low profile enclosure design keeps the speaker close to the wall.
- UL 1480A approved.
- High-quality black or white paint finish.
- Included accessories: safety cable with speaker mounting bolt, Euroblock connector, wall-mount bracket, and terminal weather boot

<sup>1</sup> Impedance listed per IEC 60268-5

<sup>2</sup> 1 W / 1 M sensitivity determined using nominal impedance

<sup>3</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>4</sup> Max program power is 3 dB above max continuous power

<sup>5</sup> Continuous power rating, EIA-426-B test

<sup>6</sup> Max output based on max continuous power

## Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
64 W	101 dB	64 W	101 dB	8 W	92 dB
32 W	98 dB	32 W	98 dB	4 W	89 dB
16 W	95 dB	16 W	95 dB	2 W	86 dB
8 W	92 dB	8 W	92 dB	1 W	83 dB
4 W	89 dB				

## Applications

Designed for severe weather, outdoor background to mid-level SPL surface-mount applications, the SM500i-II-WX utilizes SoundTube's WeatherX Technology for lasting performance in the harshest conditions. System includes the new Stealth™ bracket mounting system, allowing for an increased aiming angle. The system includes a detachable mounting plate designed for premounting in either wall or pole applications. The full-frequency dispersion pattern and high sensitivity make the SM500i-II-WX surface-mount speaker ideal for music and paging retail, amusement, restaurants, airports, hotels, schools, and casinos.

## BroadBeam® Wide Dispersion Technology

SoundTube's proprietary BroadBeam technology incorporates a high-frequency waveguide mated to a 1" 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 powder needs, shorter installation time and cost savings on shipping and labor.

## 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](http://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 from and verified by NWAALabs ([www.nwaalabs.com](http://www.nwaalabs.com)) using their proprietary MACH testing system. 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 133 mm (5.25") low-frequency transducer and a 25.4 mm (1") 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"). 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 response shall extend from 60 Hz - 22 kHz ( $\pm 10$  dB, half space, independently verified). Measured sensitivity (2.83 V input, 1 M) shall be at least 86 dB. The speaker shall have a nominal impedance of 4  $\Omega$  and be available for 25, 70.7, and 100 V modes with transformer bypass. The frequency dividing network shall have a crossover frequency of 3 kHz with slopes of 12 dB per octave (2nd order) for both low and high pass filters. Rated power capacity shall be at least 75 W continuous (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 M shall be 102 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 a four-pin, 5.08 mm Euroblock for 8  $\Omega$  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 powder-coated aluminum for lasting performance in the elements. Overall cabinet dimensions shall be no more than 289.6 mm (11.4") in height by 212.3 mm (8.36") in width by 266.2 mm (10.48") in depth (including SM bracket). The unit shall include Euroblock connector and weather boot.

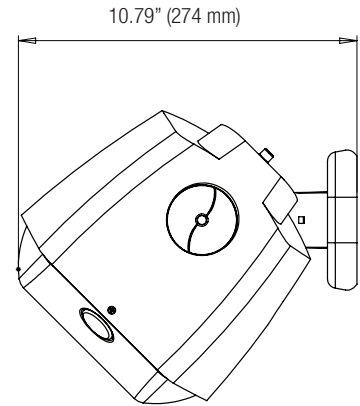
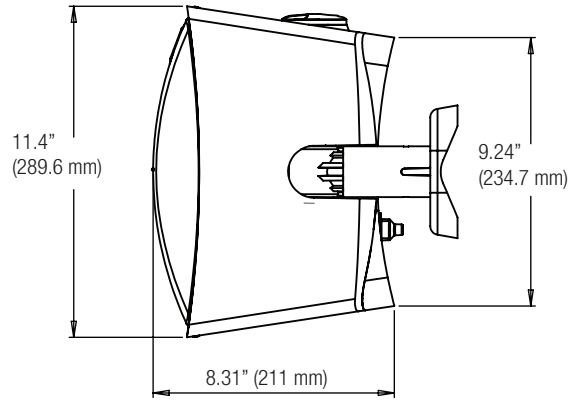
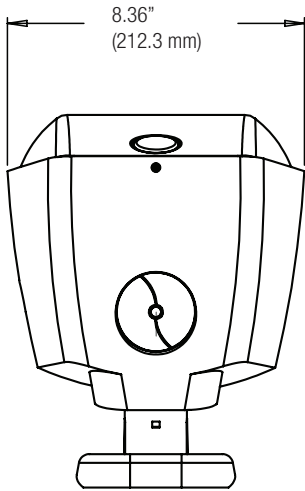
The system shall be the SoundTube SM500i-II-WX for both low and high impedance applications.

## SoundTube®

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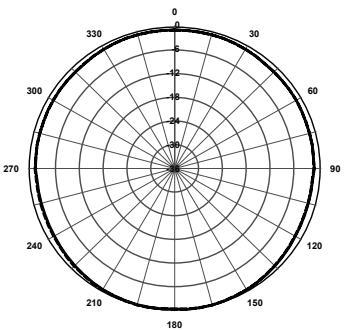
All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics.

## Mechanical Drawings

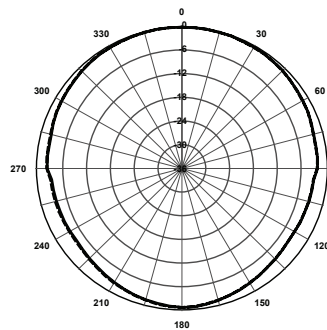


## Plots

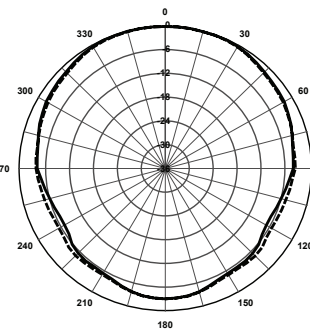
125 Hz



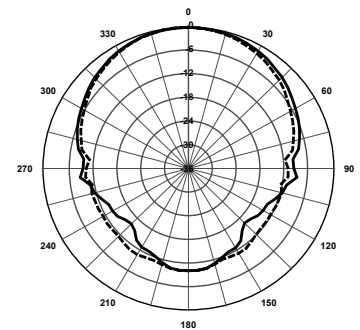
250 Hz



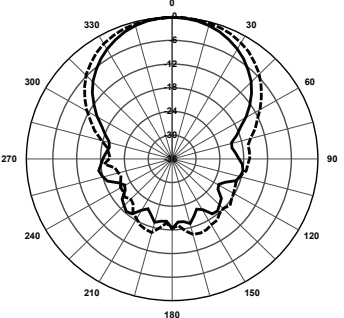
500 Hz



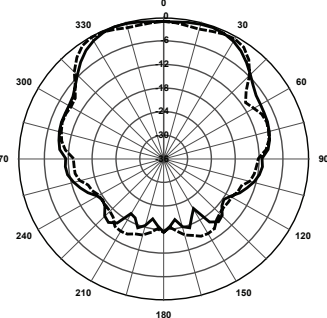
1,000 Hz



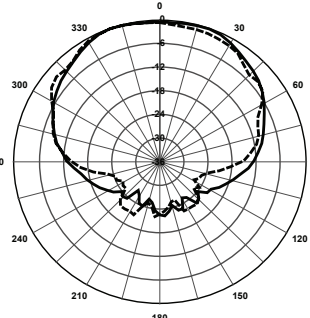
2,000 Hz



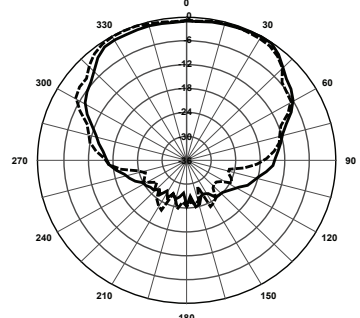
4,000 Hz



8,000 Hz

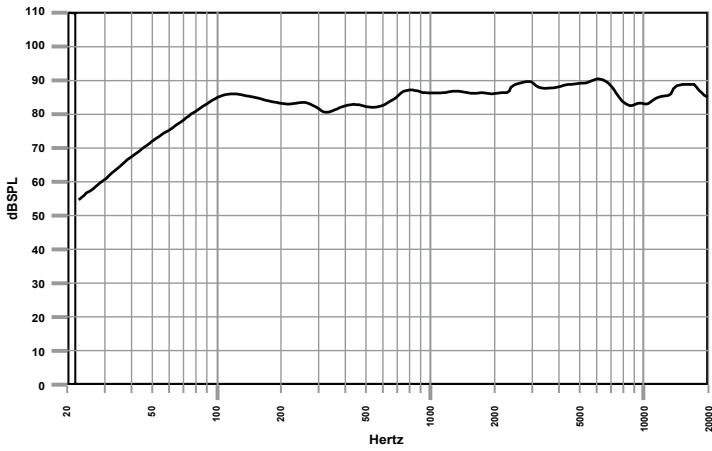


10,000 Hz

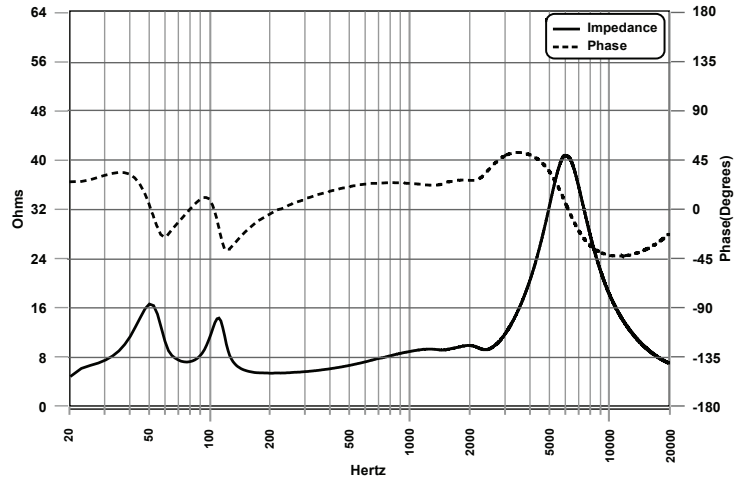


## Graphs

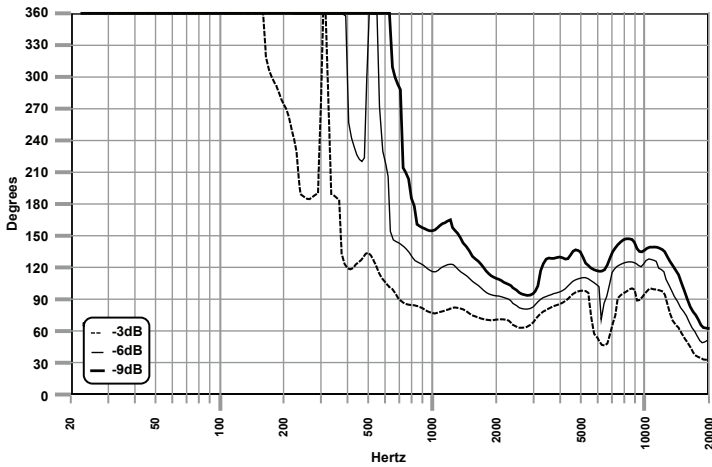
Frequency Response



Phase/Impedance Response



Vertical Beamwidth ( $\pm 6$  dB)



Directivity Index (DI)

