



Specifications: SM590i

Mounting hardware included

System Type	5.25-inch coaxial, surface-mount, ported, high power (33-watt transformer for 25/70.7/100-volt or transformer bypass)
Impedance (Nominal)	8 ohm
Sensitivity dB @ 2.83V / 1 M	87 dB
Sensitivity dB @ 1 W / 1 m ³	87 dB
Frequency Response (-3 dB) ¹	100 Hz - 22 kHz
Frequency Response (-10 dB) ¹	69 Hz - 22 kHz
Max. Program Power	160 W
Max. Continuous Power RMS ²	80 W
Max. SPL dB @ 1 m	106 dB
Coverage Angle (-6 dB @ 2 kHz)	90° horizontal / 90° vertical
Coverage Angle (-6 dB @ 10 kHz)	65° horizontal / 65° vertical
Coverage Angle (Avg. 2 to 10 kHz)	80° horizontal / 85° vertical
Angle of Pointability (vertical)	0 - 18° upward / 0 - 29° downward
Angle of Pointability (horizontal)	+/- 33°
Directivity Factor (Q)	5.69 (Averaged 100 Hz - 10 kHz); 9.3 @ 2 kHz
Directivity Index (DI)	6.0 dB (Averaged 100 Hz - 10 kHz); 9.7 dB @ 2 kHz
Tap Selector	Six-position rotary switch with transformer bypass
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 horn-loaded tweeter
Low-Frequency Voice Coil	25 mm (1.0 in)
Crossover Frequency	3 kHz
Network Type: Low-Pass	N/A
Network Type: High-Pass	12 dB per octave, 2nd order
Enclosure Material	Injection-molded ABS
Motor Board	Cast aluminum
Grille	Powder-coated aluminum
Inputs	Four-pin, 5.08 mm Euroblock for individual or daisy chain connection
Colors	Black or white (Custom colors available)
Height	317.0 mm (12.48 in)
Width	216.7mm (8.53 in)
Depth (Including Bracket)	305.1 mm (12.01 in)
Weight	4.3 kg (9.5 lbs)
Shipping Weight	10.9 kg (24.0 lbs) two per box
Included Accessories	Mounting hardware, safety cable, Euroblock connector and terminal weather boot
Optional Accessories	Stainless steel U-bracket (AC-SM-UB5), pole mount adaptor (AC-SM-PMA5), bent shaft (AC-SM-BS5)
Packaging	Two per box, can ship individually
Regulatory - CE	Approved
Regulatory - IP	*Port plugs must be installed to meet IP55
RoHS	Approved

Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
33 W	102.0 dB	33 W	102.0 dB	5 W	94.0 dB
17 W	99.5 dB	17 W	99.5 dB	2.5 W	91.0 dB
9 W	96.5 dB	9 W	96.5 dB	1.3 W	88.0 dB
6 W	95.0 dB	6 W	95.0 dB	0.63 W	85.0 dB
3 W	92.0 dB				

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 2.83 Volts at a distance of 1 meter.

Key Features

- High-power output (106.0 dB) for long throw and high SPL requirements.
- One 5.25 inch (133 mm) polypropylene woofer and one 1.0 inch (25 mm) horn-loaded convex titanium dome tweeter mounted to a proprietary cast-aluminum baffle and heat sink.
- 87.0 dB average sensitivity offers high output capabilities and reduced amplification costs.
- Includes weatherized components for indoor/outdoor applications.
- Easy-access, six-position selectable tap switch for 25-, 70.7- and 100-volt applications with transformer bypass position.
- Aluminum grille with powder-coat finish
- Includes a tool-free SpeedLever™ captured ball mounting system for a fast and secure installation.
- Vertical and horizontal pivoting offer precision aiming for indoor and outdoor applications.
- Pan and tilt capabilities
- CE approved
- High quality black or white paint finish. Custom colors available.
- Included Accessories: Corrosion-resistant captured ball mount, safety cable, Euroblock connector and terminal weather boot
- Optional accessories: Pole-mount adaptor (AC-SM-PMA5), bent shaft (AC-SM-BS5), U-bracket (AC-SM-UB5).

Description

The SM590i is a high-powered 5.25-inch, two-way, horn-loaded loudspeaker in a ported surface-mount enclosure that delivers effective low-end response (69 Hz @ -10 dB) and consistent dispersion pattern (2 to 10 kHz, independently verified). The SM590i incorporates a low-profile grille, proprietary motor-board and six-position tap switch with transformer bypass. Mounting hardware is included and features a fast-action Speed Lever™ for easy and secure installation with a proprietary captured ball mounting system. Optional accessories include a pole mount adaptor, a bent shaft and a U-bracket.

Applications

Engineered for high SPL and effective low-end response, the SM590i delivers



consistent high-performance music and paging for applications requiring longer throw or higher volume above the existing ambient noise level. The SM590i is ideal for surface-mount sound reinforcement/PA in applications with high ambient noise levels including casinos, warehouses, airports, transportation and shipping centers, schools, gyms, arenas and stadiums. For applications where additional bass is required, SoundTube's RS1001i-II-T and SM1001p subwoofers provide bass down to 41 Hz (-10 dB).

Patented SoundTube Technologies

SoundTube Entertainment and the MSE Audio Group consistently develop 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, mounting 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.

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 are independently collected 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 are 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 ported enclosure. The low-frequency voice coil diameter shall be 25 mm (1 in).

Performance specifications of a typical production unit shall be as follows: Usable frequency response shall extend from 69 Hz – 22 kHz (-10 dB, half space, independently verified). Measured sensitivity (2.83-volt input, 1 meter) shall be at least 87 dB. The speaker shall have a nominal impedance of 8 ohms and shall be available for 25/70.7/100-volt modes with transformer bypass. The frequency-dividing network shall have a crossover frequency of 3 kHz with a slope of 12 dB per octave (second order) for the high-pass filter. Rated power capacity shall be at least 80 watts continuous (RMS), and conforms to EIA-426-B testing. Maximum continuous output at 1 meter shall be 106 dB.

The low-frequency transducer shall have a polypropylene cone with butyl rubber surround. The high-frequency transducer shall be constructed of titanium material and incorporate a high-SPL horn.

Installation for the speaker shall be by proprietary and corrosion-resistant captured-ball mounting system. A tool-free captured ball mounting system with a locking zinc alloy lever and cast-aluminum ball shall be used. For safety redundancy, a secondary safety cable shall be included and attached to the speaker chassis via ¼ - 20 UNC bolt. The external wiring input connector shall be a four-pin, 5.08 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 aluminum 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 unit shall include mounting hardware, safety cable, Euroblock connector and terminal weather boot.

The system shall be the SoundTube SM590i with mounting hardware for both low- and high-impedance applications.

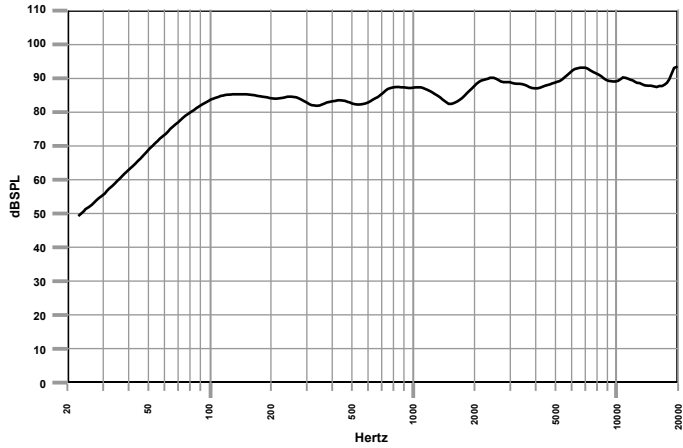
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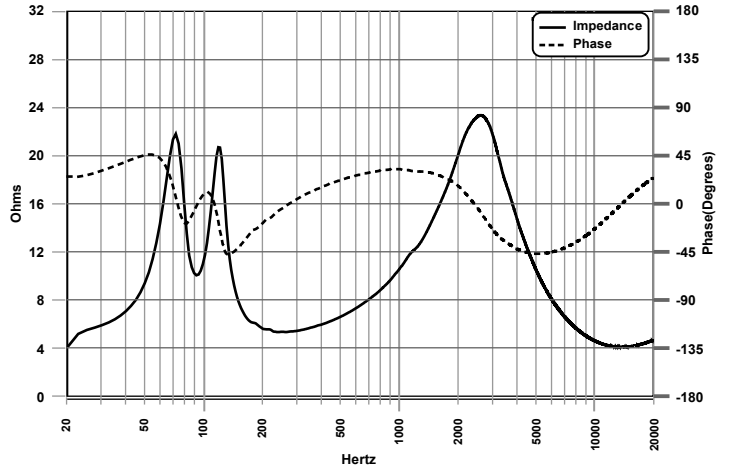
All SoundTube products come with a 5-year limited warranty.



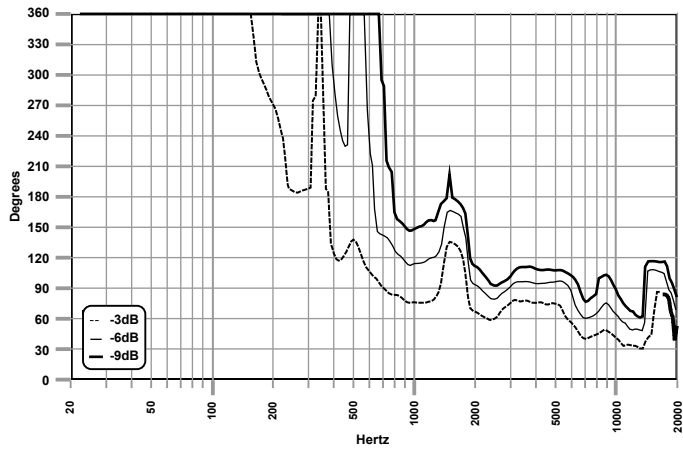
Frequency Response



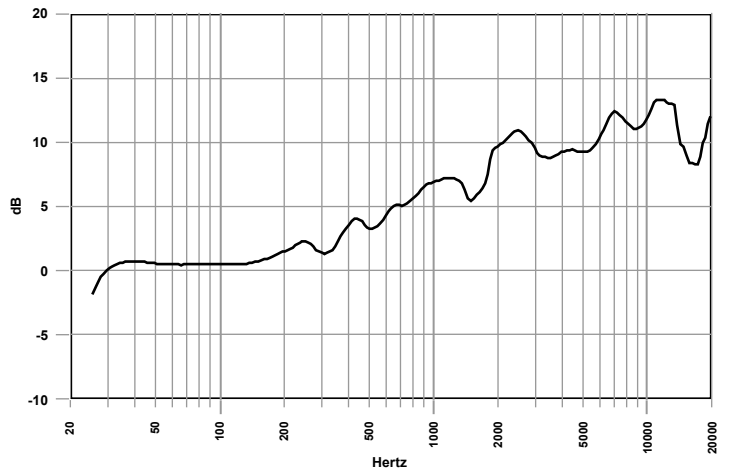
Phase/Impedance Response



Vertical Beamwidth (-6 dB)



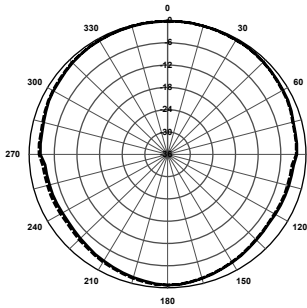
Directivity Index (DI)



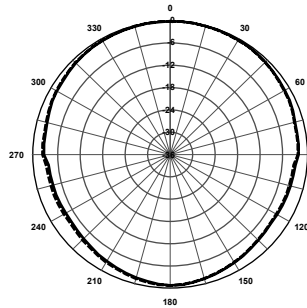


Polar Plots

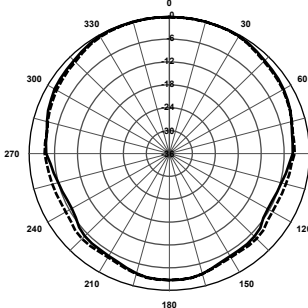
125 Hz



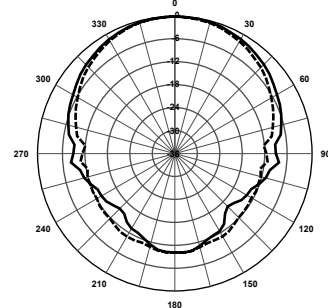
250 Hz



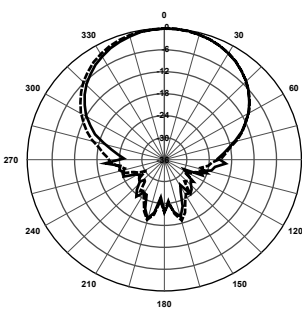
500 Hz



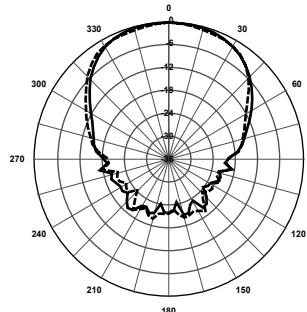
1,000 Hz



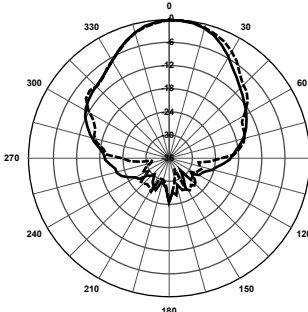
2,000 Hz



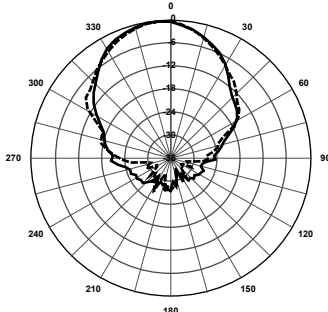
4,000 Hz



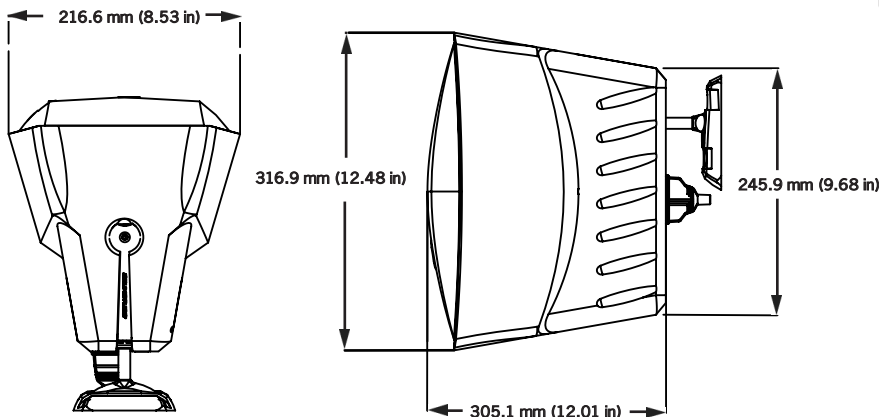
8,000 Hz



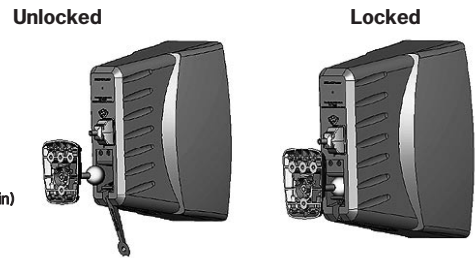
10,000 Hz



Mechanical Drawings

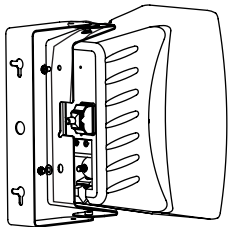


Installation

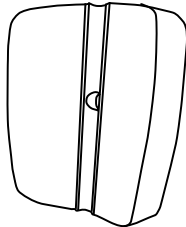


The captured ball mounting system in the SM590i permits mounting to a variety of rigid structures. Vertical and horizontal pivoting offer unlimited aiming for indoor and outdoor applications.

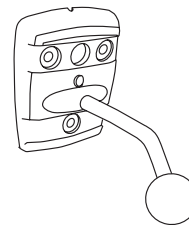
Optional Accessories



U-Mount Bracket (AC-SM-UB5)



Pole Mount Adaptor (AC-SM-PMA5)



Bent Shaft (AC-SM-BS5)

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.