



SM890i PRODUCT SPECIFICATIONS

System Type	8" offset, surface-mount, ported, high power (150 W transformer for 25/70.7/100 V or transformer bypass)
Impedance (Nominal) ¹	8 Ω
Sensitivity dB @ 2.83 V / 1 M	93 dB
Sensitivity dB @ 1 W / 1 M ²	93 dB
Frequency Response (±3 dB) ³	100 Hz - 22 kHz
Frequency Response (±10 dB) ³	63 Hz - 22 kHz
Max. Program Power ⁴	300 W
Max. Continuous Power RMS ⁵	150 W
Max. SPL dB @ 1 M ⁶	115 dB
Coverage Angle (±6 dB @ 2 kHz)	90° Vertical 77° Horizontal
Coverage Angle (±6 dB @ 10 kHz)	127° Vertical 89° Horizontal
Coverage Angle (Avg. 2-10 kHz)	98° Vertical 71° Horizontal
Angle of Pointability	0° - 90° Horizontal
Directivity Factor (Q)	5.5 (averaged 100 Hz - 10 kHz) 8.7 (2 kHz)
Directivity Index (DI)	6.7 dB (averaged 100 Hz - 10 kHz) 9.4 dB (2 kHz)
Tap Selector	Six-position rotary switch with transformer bypass
Transducer: Low-Frequency Driver	203 mm (8") treated paper cone with treated cloth surround
Transducer: High-Frequency Driver	36 mm (1.42") titanium compression driver with waveguide
Low-Frequency Voice Coil	34 mm (1.34")
Crossover Frequency	2.5 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	Powder-coated steel
Inputs	Four-pin, 5.08 mm Euroblock for individual or daisy chain connection
Color	Black or white
Height	477 mm 18.78"
Width	295.9 mm 11.65"
Depth (Including Bracket)	355.62 mm 14"
Weight	9.5 kg 21 lbs
Included Accessories	Surface-mount bracket, safety cable, Euroblock connector, terminal weather boot, and paint mask
Optional Accessories	Wall-mount bracket (AC-SM82-WM)
Packaging	One per box
Certifications	CE, RoHS, UL 1480A

¹ Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance

² 1 W / 1 M sensitivity determined using nominal impedance

³ Frequency response measured in half or full space as dictated by speaker mounting configuration

⁴ Max program power is 3 dB above max continuous power

⁵ Continue power rating, EIA-426-B test

⁶ Max output based on continuous power

Description

The SM890i is a premium high SPL, high-efficiency surface-mount loudspeaker for distributed or 8 Ω systems. The SM890i incorporates a dedicated 8" treated fiber woofer and a high-power compression horn transducer with a BroadBeamHP® waveguide to deliver a consistent dispersion pattern and superb intelligibility for the foreground music, sound reinforcement and PA markets.

The SM890i uses a 150 W low-insertion loss transformer and a six-position tap switch with a transformer bypass position. Mounting hardware includes SoundTube's proprietary tool-free, low-profile Stealth™ bracket with an integrated internal wedge cam, which allows for stable and precise aiming from 0° to 90°.

Corrosion-resistant materials, including powder-coated steel grille plus all-aluminum mounting hardware, make the SM890i ideal for indoor/outdoor use.

Features

- Patented BroadBeamHP® waveguide technology delivers a consistent dispersion pattern for maximum intelligibility and edge-to-edge coverage (up to 8 kHz, independently verified).
- One 8" (203 mm) treated fiber driver with an offset 1.42" (36 mm) compression horn configuration.
- Engineered with corrosion-resistant materials for indoor/outdoor applications.
- Proprietary tool-free rotatable 110° x 85° bayonet-mounted horn for tailored dispersion and throw.
- 150 W low-insertion loss transformer and maximum output (115 dB max. SPL, 93 dB sensitivity) for short to medium throw, PA and sound reinforcement.
- Easy-access six-position tap switch for 25/70.7/100 V applications with transformer bypass position.
- Powder-coated steel grille with tool-free locking system.
- Tool-free, low-profile Stealth™ bracket with an integrated internal wedge cam for stable and precise aiming from 0° to 90°. Mounting hardware is constructed of die-cast aluminum.
- Included pre-mountable pole and surface-mount bracket allows for quick and easy division of labor.
- UL 1480A approved.
- High quality black or white paint finish, custom colors optional.
- Included accessories: surface-mount bracket, safety cable, paint mask, Euroblock connector, and terminal weather boot.

Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
150 W	115 dB	150 W	115 dB	19 W	106 dB
75 W	112 dB	75 W	112 dB	10 W	103 dB
38 W	109 dB	38 W	109 dB	5 W	100 dB
19 W	106 dB	19 W	106 dB	3 W	98 dB
10 W	103 dB				

Applications

Engineered for applications requiring high SPL and maximum intelligibility, the SM890i delivers a smooth and even coverage pattern ideal for casinos, convention centers, gyms, nightclubs, aerobic rooms, airports, super stores, arenas, theme parks, transportation hubs, shipping centers, and stadiums.

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.

BroadBeamHP® Wide Dispersion Technology

BroadBeamHP technology delivers a consistent dispersion pattern across the upper registers of the frequency spectrum and delivers maximum edge-to-edge coverage and intelligibility. For the SM890i, SoundTube's proprietary BroadBeamHP technology incorporates a high-frequency compression driver with a 1" exit and an 8" treated fiber woofer. For installer convenience, the SM890i 110° x 85° compression horn can be rotated 90° to tailor the speaker coverage to the venue.

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.

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) 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 one 203 mm (8") low-frequency transducer and one 36 mm (1.42") compression driver. The system shall include a crossover network and a 150 W low-insertion loss transformer installed in the enclosure. The low-frequency voice coil diameter shall be 34 mm (1.34").

Performance specifications of a typical production unit shall be as follows:

Usable frequency response shall extend from 63 Hz - 22 kHz (± 10 dB). Measured sensitivity (2.83 V input, 1 M) shall be at least 93 dB. The speaker shall have a nominal impedance of 8 Ω . The speaker shall be available for 25, 70.7, and 100 V modes and include a six-position tap switch with a transformer bypass. The frequency dividing network shall have a crossover frequency of 2.5 kHz with slopes of 12 dB per octave (2nd order) for both low and high pass filters. Rated power capacity shall be at least 150 W continuous (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 M shall be 115 dB.

The low-frequency transducer shall have a treated fiber cone with treated cloth surround. The high-frequency transducer shall be an offset compression driver with a proprietary 110° x 80° BroadBeamHP waveguide. The high-frequency transducer shall be bayonet-mounted to allow the horn to be rotated 90° to tailor the coverage pattern to the venue.

Installation for the speaker shall be by a tool-free, low-profile bracket with an integrated internal wedge cam for stable and precise aiming from 0° to 90°. Mounting hardware shall be constructed of die-cast aluminum.

The enclosure shall be constructed of injection-molded, glass reinforced ABS. The grille shall be powder-coated steel with tool-free locking system. Overall dimensions including the mounting plate and bracket for the SM890i are 477 mm (18.78") in height by 295.9 mm (11.65") in width by 390.4 mm (15.37") in depth.

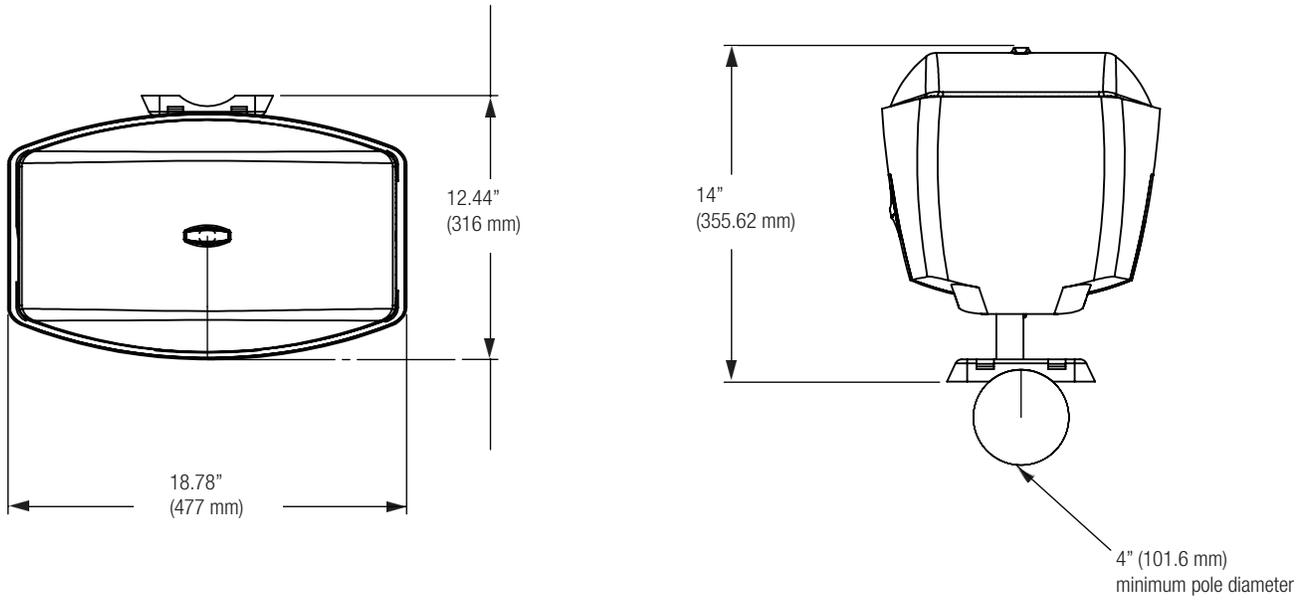
The system shall be the SoundTube SM890i for both low and high impedance applications.

SoundTube®

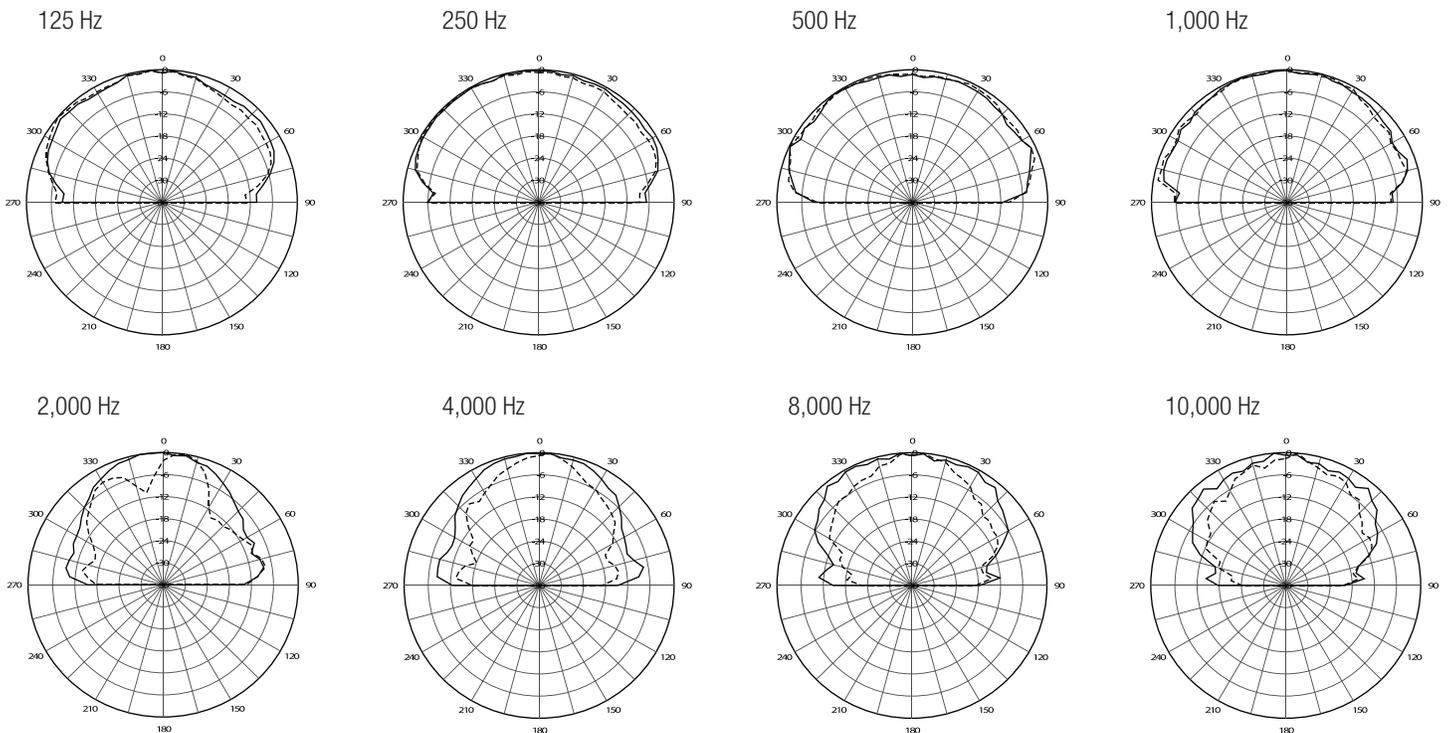
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All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics.

Mechanical Drawings

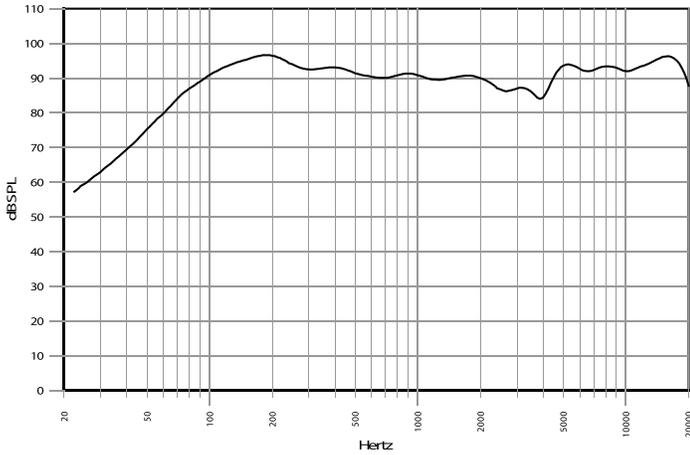


Plots

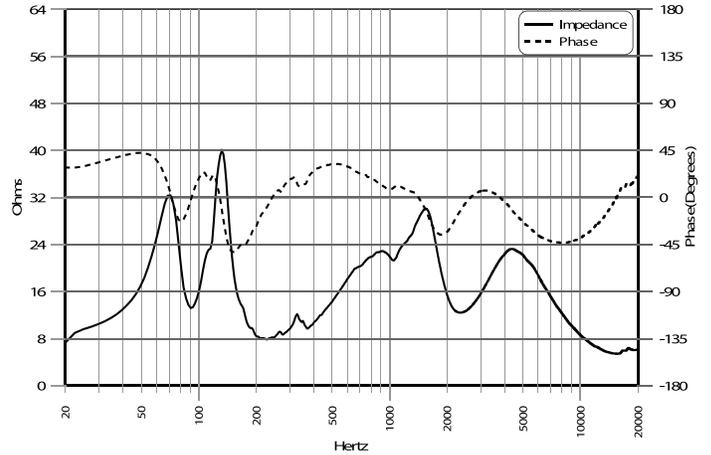


Graphs

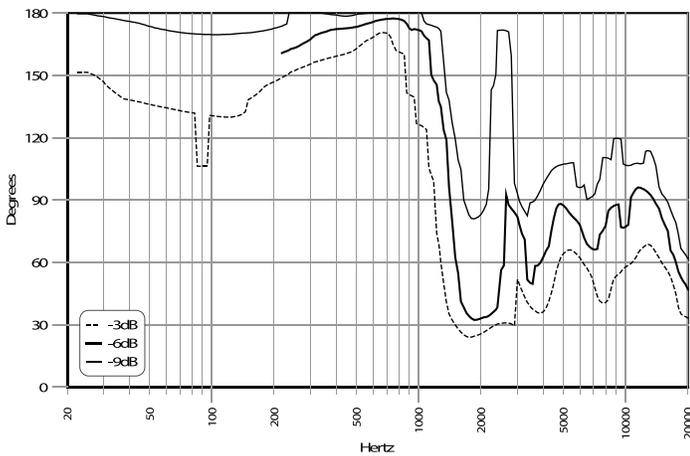
Frequency Response



Phase/Impedance Response



Vertical Beamwidth (± 6 dB)



Directivity Index (DI)

