

HP1290i | High Power Speaker

Technical Information for System Engineers



Specifications: HP1290i

System Type	12-inch, coax, open-ceiling, high SPL (150-watt transformer for 25/70.7/100-volt or voice-coil-direct)
Impedance (nominal) ¹	8 ohm
Sensitivity dB @ 2.83 V/1 m	96.0 dB
Sensitivity dB @ 1 W/1 m ²	96.0 dB
Frequency Response (-3 dB) ³	77 Hz - 19 kHz
Frequency Response (-10 dB) ³	59 Hz - 22 kHz
Max. Program Power ⁴	300 W
Max. Continuous Power RMS ⁵	150 W
Max. Power SPL @ 1 m ⁶	118.0 dB
Coverage Angle (-6 dB @ 2 kHz)	60°
Coverage Angle (-6 dB @ 10 kHz)	85°
Coverage Angle (averaged 2 - 10 kHz)	100°
Directivity Factor (Q)	6.2 (averaged 100 Hz – 10 kHz) 16.2 (2 kHz)
Directivity Index (DI)	6.7 dB (averaged 100 Hz – 10 kHz) 12.1 dB (2 kHz)
Tap Selector	Five-position rotary switch with voice coil direct
Transducer - Low-Frequency Driver	305 mm (12.0 in.) treated fiber cone, treated cloth surround 35 mm (1.375 in.) mylar compression driver with waveguide
Transducer - High-Frequency Driver	50.8 mm (2.0 in.) 2.2 kHz
Low-Frequency Voice Coil	24 dB per octave, 4th order
Crossover Frequency	24 dB per octave, 4th order
Network Type: Low Pass	Injection molded ABS
Network Type: High Pass	Steel with powder-coat finish
Enclosure Material	Four-pin, 5 mm Euroblock for individual or daisy chain connection
Grille	
Inputs	Black or white
Colors	579.1 mm (22.8 in.)
Height	528.3 mm (20.8 in.)
Diameter	15.9 kg (35.0 lbs.)
Weight	528.3 kg (44.9 lbs.)
Shipping Weight	Hanging hardware, Euroblock connector and terminal weather boot
Included Accessories	Surface mount bracket (AC-HP-SM1290) One per box
Optional Accessories	UL 1480 and 2239 approved
Packaging	Approved
Regulatory - UL	
Regulatory - CE	

Key Features

- High-SPL, high-efficiency system for the sound reinforcement and PA markets.
- An impressive 2 cubic foot, ported Zero-Reflection™ enclosure for added bass response, rigidity and optimal sound reproduction.
- BroadBeamHP® waveguide technology delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker (Independently verified by NWAALabs, www.nwaalabs.com).
- One 305 mm (12 in.) treated fiber cone with a cloth surround concentrically mounted to a 35 mm (1.375 in.) mylar compression driver with waveguide.
- High efficiency (96 dB sensitivity) for reduced amplification costs and max output (118 dB SPL) for distributed or 8 ohm systems.
- Weatherized components for both indoor and outdoor applications.
- Low insertion loss 150-watt transformer and an easy-access five-position tap switch with 25/70.7/100-volt and voice-coil-direct settings allows for easy ordering, stocking and installation.
- UL 1480-listed; hanging hardware is UL 2239-rated.
- Included accessories: impact-resistant steel grille, hanging hardware, Euroblock connector, terminal weather boot.
- Optional accessories: surface-mount bracket (AC-RS-SM1290).
- High quality black or white painted finish. Custom colors available.

Description

The HP1290i is a 12-inch, coaxial, two-way, hanging speaker with a surface-mount option and a proprietary BroadBeamHP® waveguide. Engineered to deliver true high-SPL performance, the HP1290i incorporates a 12-inch treated fiber cone and one coaxially-mounted 35 mm (1.375 in.) mylar compression driver. The result is a pendant-mount speaker with maximum efficiency (96 dB 1 W/1 m) and an extended frequency response from 59 Hz – 22 kHz (-10 dB). For lasting performance and maximum rigidity, the enclosure is made from injection-molded, glass-filled ABS.

	70.7 V	Output	100 V	Output	25 V	Output
1 Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance	150 W	118.0 dB	150 W	118.0 dB	19 W	109.0 dB
2 1 W 1 m sensitivity determined using nominal impedance	75 W	115.0 dB	75 W	115.0 dB	9.5 W	106.0 dB
3 Frequency response measured in half or full space as dictated by speaker mounting configuration	38 W	112.0 dB	38 W	112.0 dB	4.8 W	103.0 dB
	19 W	109.0 dB			2.4 W	100.0 dB

⁴ Max program power is 3 dB above max continuous power

⁵ Continuous power rating, EIA-426-B test

⁶ Max output based on max continuous power



UL 2239 rated mounting hardware is included and features hanging and safety cables, Euroblock connector and terminal weather boot. For easy ordering, stocking and installation, every speaker is equipped with a five-position tap switch for 25-, 70.7- and 100-volt applications with voice-coil-direct position. For surface-mount applications, SoundTube offers an optional surface mount adaptor (AC-RS-SM1290).

Applications

Developed specifically for true PA and sound reinforcement applications including convention centers, ballrooms, arenas, stadiums, gymnasiums, ice rinks, nightclubs and other open-ceiling or outdoor applications where rapid installation, high SPL and lasting durability are required.

Patented SoundTube Technologies

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

Data Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWAALabs (www.nwaalabs.com) using their proprietary MACH testing system. All data are collected and analysed according to ASTM, ISO and AES standards using EASRA, 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 one 305 mm (12.0 in.) low-frequency transducer and one 35 mm (1.375 in.) high-frequency transducer with a frequency-dividing network installed in a ported enclosure. The low-frequency voice coil diameter shall be 50 mm (2.0 in.). The low-frequency transducer shall have treated fiber cone material with a treated cloth surround. The high-frequency transducer shall be constructed of Mylar material.

Performance specifications of a typical production unit shall be as follows: Useable frequency range shall extend from 59 Hz - 22 kHz, -10 dB. The loudspeaker shall be available with selectable 25/70.7/100-volt and voice-coil-direct tap switch. The frequency-dividing network shall have a crossover frequency of 2.2 kHz. Rated

power capacity of the components and network shall be at least 150 watts continuous (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be at least 118 dB.

The ported enclosure shall be constructed from injection-molded, glass-reinforced ABS with a total volume of 2 cubic feet. The grille shall be constructed of powder-coated steel and affix to the speaker via friction fit with two blind-mounted, radial screws.

The HP1290i shall ship complete with hanging hardware including hanging and safety cables, Euroblock connector and terminal weather boot. The HP1290i has an optional surface mount bracket (AC-RS-SM1290).

The HP1290i is factory preset to the 150-watt setting in the 70.7-volt operating mode, with a tap switch located on the front baffle of the speaker, accessible by a removable grille plug. Signal input shall be by four-pin Euroblock connector, which accepts up to 10-gauge wire.

The system shall be the SoundTube HP1290i for both low- and high-impedance applications.

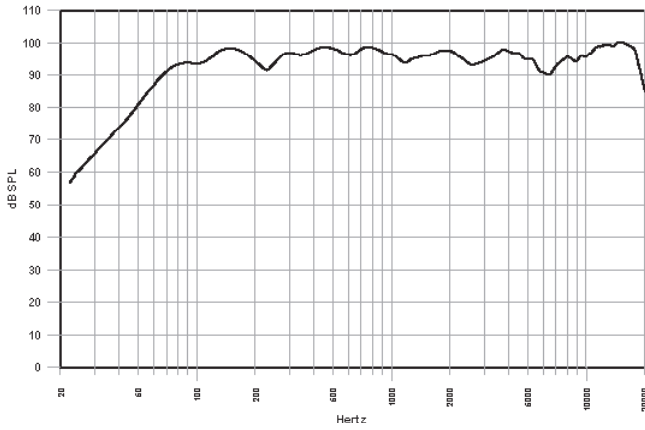
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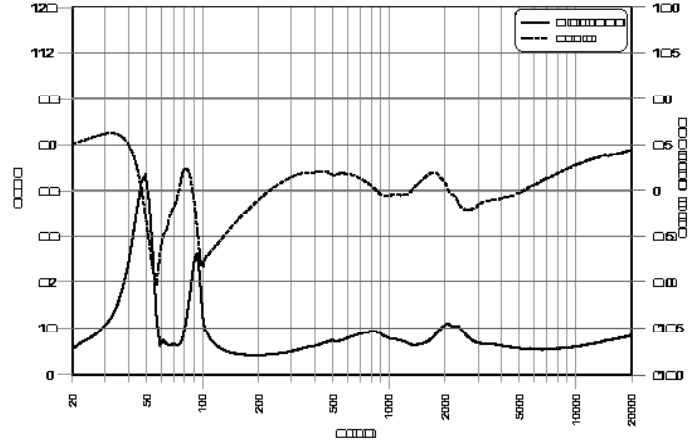
All SoundTube products come with a 5-year limited warranty.

Graphs and Plots

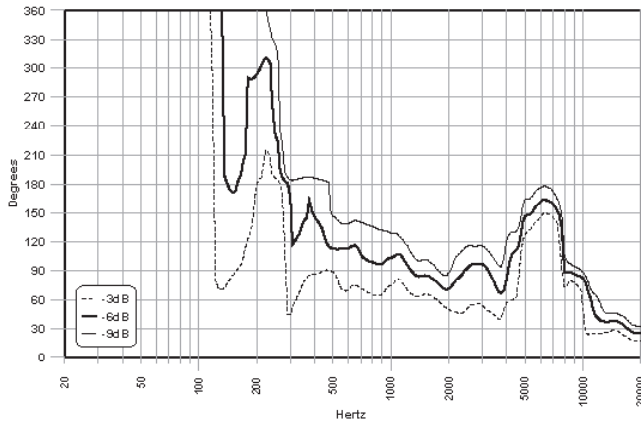
Frequency Response



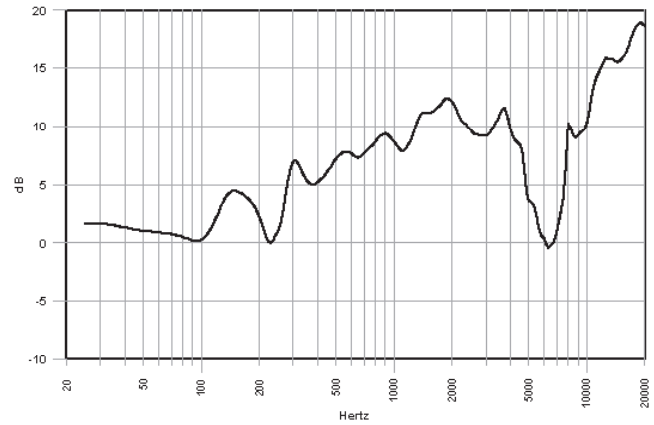
Impedance/Phase



Vertical Beamwidth



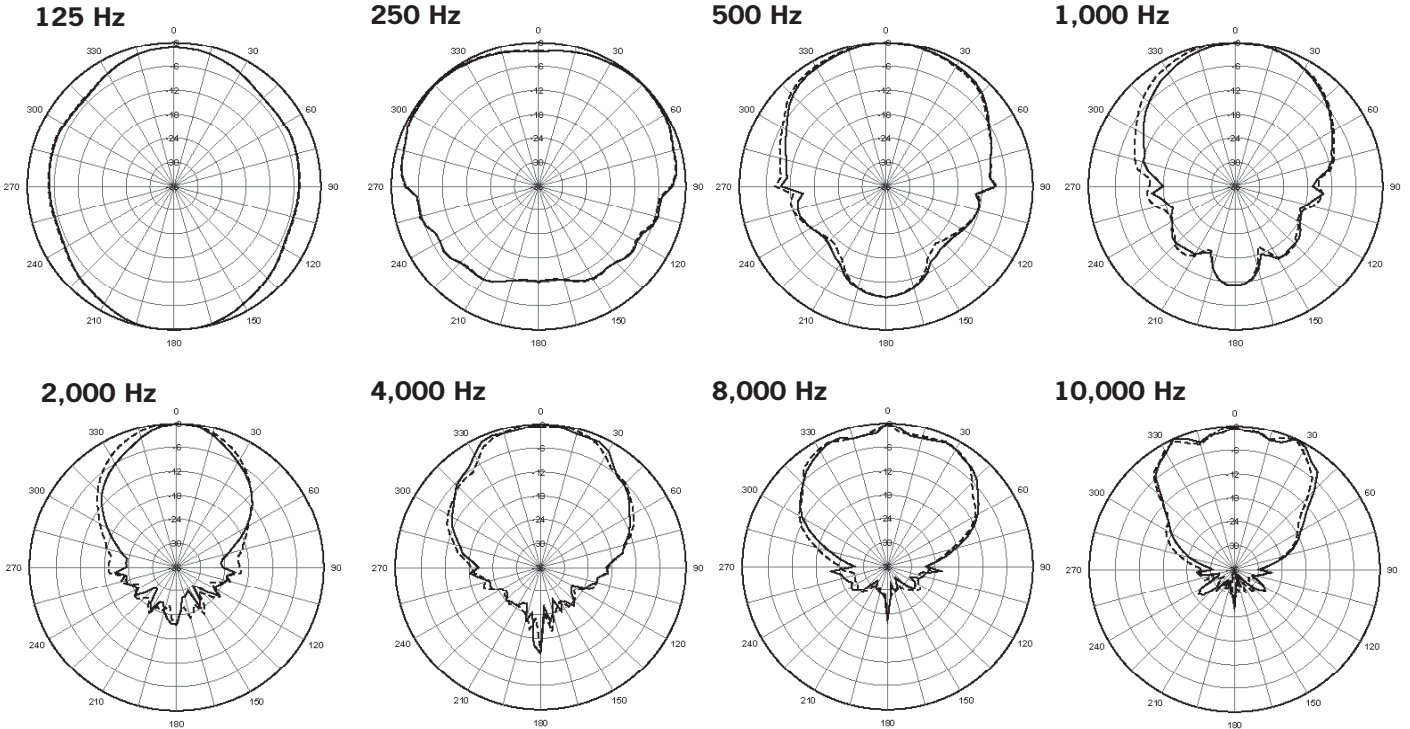
Directivity Index (DI)



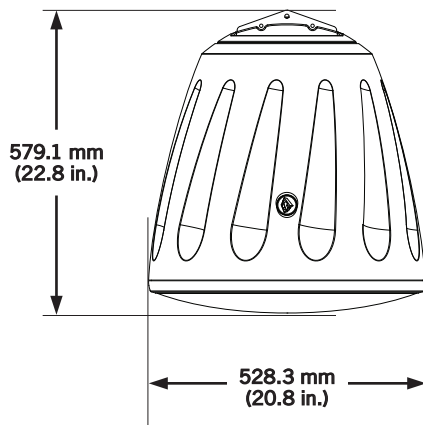


Polar Plots

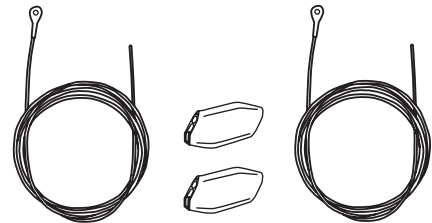
—— Horizontal
 - - - - Vertical



Mechanical Drawings



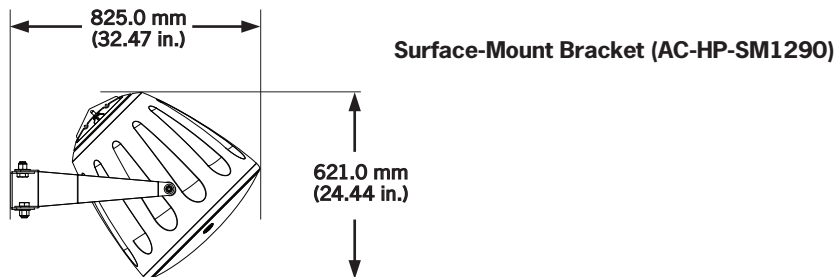
Included Accessories



Hanging Hardware: Main and Safety Cables w/ SpeedClamp™

SoundTube's hanging cable kit incorporates hanging and safety cables and fasteners for an integrated and easy-to-install system. Hanging and safety cables are infinitely adjustable to 2.74 m (9.0 ft).

Optional Accessory



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.