

# HP1290i | High Power Speaker

Technical Information for System Engineers



**SOUNDTUBE**  
ENTERTAINMENT



## Specifications: HP1290i

System Type	12-inch, coaxial, open-ceiling, high SPL (150-watt transformer for 25/70.7/100-volt or transformer bypass)
Impedance (nominal) <sup>1</sup>	8 ohm
Sensitivity dB @ 2.83 V/1 m	96.0 dB
Sensitivity dB @ 1 W/1 m <sup>2</sup>	96.0 dB
Frequency Response (-3 dB) <sup>3</sup>	77 Hz - 19 kHz
Frequency Response (-10 dB) <sup>3</sup>	59 Hz - 22 kHz
Max. Program Power <sup>4</sup>	300 W
Max. Continuous Power RMS <sup>5</sup>	150 W
Max. Power SPL @ 1 m <sup>6</sup>	119.0 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 transformer bypass position
Transducer - Low-Frequency Driver	305 mm (12.0 in.) treated fiber cone, treated cloth surround
Transducer - High-Frequency Driver	35 mm (1.375 in.) mylar compression driver with waveguide
Low-Frequency Voice Coil	50.8 mm (2.0 in.)
Crossover Frequency	2.2 kHz
Network Type: Low Pass	24 dB per octave, 4th order
Network Type: High Pass	24 dB per octave, 4th order
Enclosure Material	Injection molded ABS
Grille	Steel with powder-coat finish
Inputs	Four-pin, 5.08 mm Euroblock for individual or daisy chain connection
Colors	Black or white
Height	579.1 mm (22.8 in.)
Diameter	528.3 mm (20.8 in.)
Weight	15.9 kg (35.0 lbs.)
Shipping Weight	20.4 kg (45 lbs.)
Included Accessories	Hanging hardware, Euroblock connector and terminal weather boot, main and safety cables w/ SpeedClamp™
Optional Accessories	Surface mount bracket (AC-HP-SM1290)
Packaging	One per box
Regulatory - UL	UL 1480 (UEAY) and 2239 approved
Regulatory - CE	Approved
RoHS	Approved

### Transformer Taps

	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
	38 W	112.0 dB	38 W	112.0 dB	4.8 W	103.0 dB
3 Frequency response measured in half or full space as dictated by speaker mounting configuration	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

## Key Features

- Patented BroadBeamHP® waveguide technology delivers a consistent dispersion pattern (2 to 10 kHz, independently verified) for maximum coverage area per speaker.
- One 12 inch (305 mm) treated fiber cone with a cloth surround concentrically mounted to a 1.375 inch (35 mm) mylar compression driver with waveguide.
- Weatherized components for both indoor and outdoor applications.
- 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.
- Easy-access five-position tap switch with 25/70.7/100-volt and transformer bypass position.
- High efficiency (96 dB sensitivity) for reduced amplification costs and max output (118 dB SPL) for distributed or 8 ohm systems.
- Low insertion loss 150-watt transformer
- UL 1480 (UEAY) and 2239 (hanging hardware) approved.
- High quality black or white painted finish. Custom colors available.
- Included accessories: impact-resistant steel grille, hanging hardware, Euroblock connector, terminal weather boot.
- Optional accessories: surface-mount bracket (AC-RS-SM1290).

## 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.

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 transformer bypass 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.

## BroadBeam® Wide Dispersion Technology

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

## 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](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

### Data Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWAA Labs ([www.nwaalabs.com](http://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.).

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 tap switch with transformer bypass position. 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 low-frequency transducer shall have treated fiber cone material with a treated cloth surround. The high-frequency transducer shall be constructed of Mylar material.

Installation for the speaker shall be by

galvanized steel cable affixed to the speaker chassis via an integrated snap hook. For safety redundancy, a secondary steel cable shall be included. The external wiring input connector shall be a four-pin, 5.08 mm Euroblock for 8 ohm or distributed systems and shall accept 10-22-gauge wire. The unit shall be for indoor and outdoor applications and have a weather-resistant boot covering all wire connections. The system shall ship complete with hanging hardware including hanging and safety cables, Euroblock connector and terminal weather boot. The speaker has an optional surface mount bracket (AC-RS-SM1290).

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 unit 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.

## SoundTube Entertainment

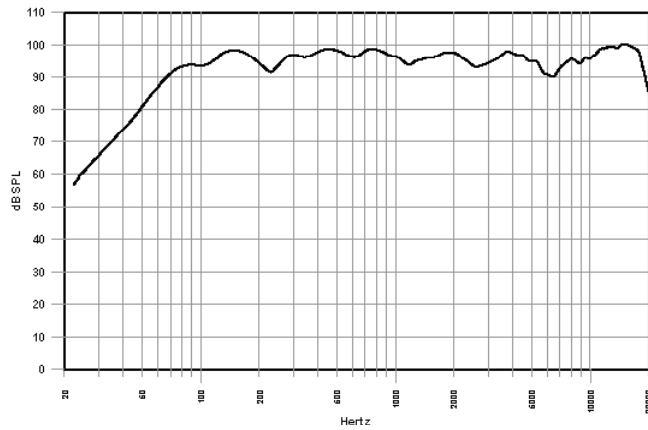
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Phone 913.663.5600  
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[www.soundtube.com](http://www.soundtube.com)

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

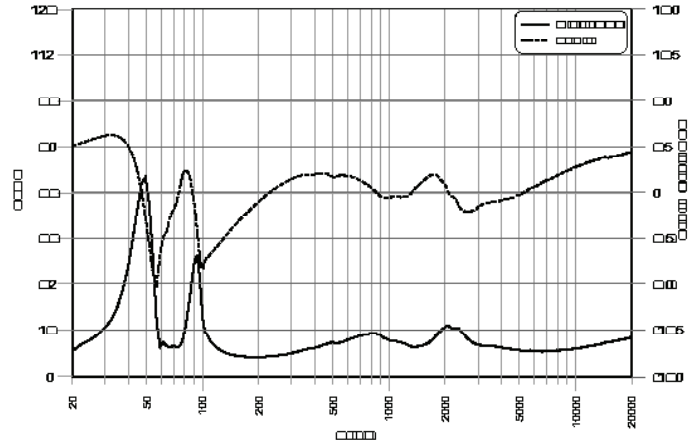


## Graphs and Plots

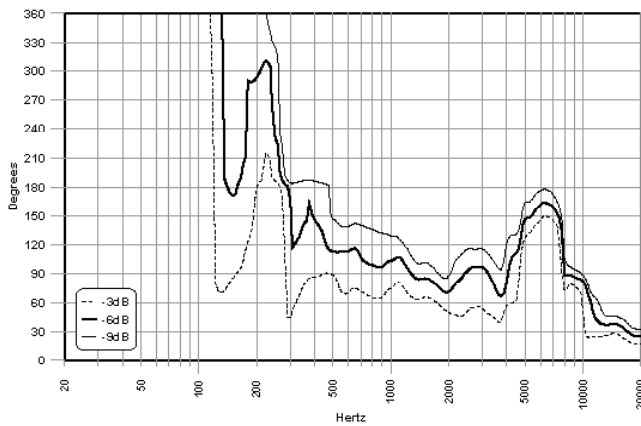
### Frequency Response



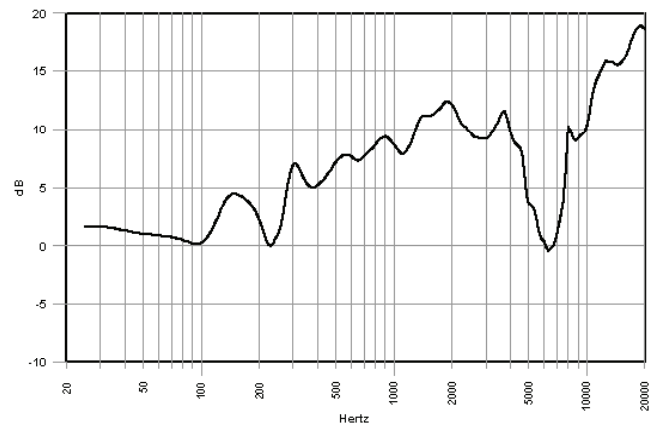
### Impedance/Phase



### Vertical Beamwidth



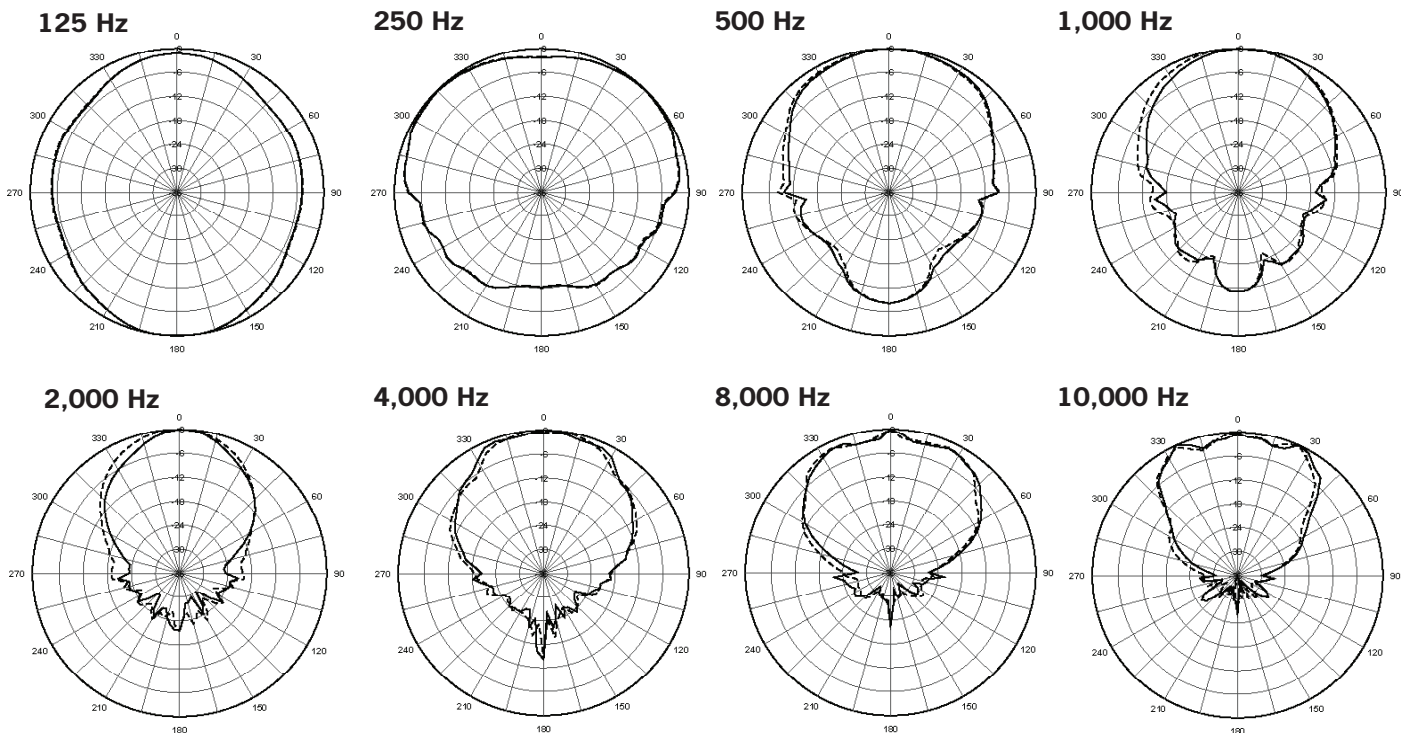
### Directivity Index (DI)



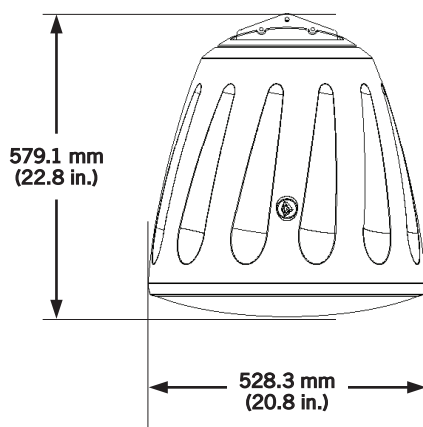


### Polar Plots

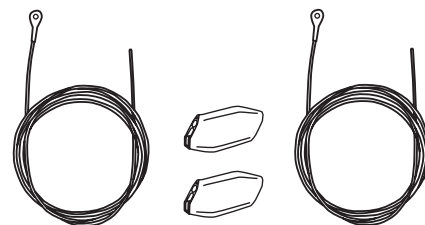
—— Horizontal  
- - - - Vertical



### Mechanical Drawings



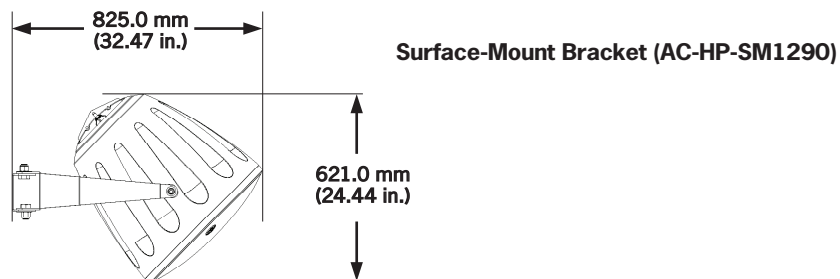
### Included Accessories



#### 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.