# RF122-150 | In-Ceiling Speaker

Technical Information for System Engineers

SOUNDTUBE ENTERTAINMENT

## Specifications: RF122-150

| | |
|---|---|
| System Type | 12" Coax, in-ceiling, raw frame, high SPL (150 Watt transformer for 25/70.7/100 Volt or 8 ohm direct) |
| Impedance (nominal) [1] | 8 ohm |
| Sensitivity dB @ 2.83V/1M | 99.0dB |
| Sensitivity dB @ 1W/1M [2] | 99.0dB |
| Distance Factor | N/A |
| Frequency Response (- 3 dB) [3] | 70 Hz - 17kHz |
| Frequency Response (-10 dB) [3] | 50 Hz - 22 kHz |
| Max. Program Power [4] | 200w |
| Max. Continuous Power RMS [5] | 100w |
| Max. UL program power | 100w |
| Max. Power SPL @ 1 M [6] | 119.0dB |
| Max. SPL @ x% distortion [7] | N/A |
| Coverage Angle (-6 dB @ 2 kHz) | N/A |
| Coverage Angle (-6 dB @ 10 kHz) | N/A |
| Directivity Factor (Q) | N/A |
| Directivity Index (DI) dB | N/A |
| Tap Selector | 5-Position Euroblock with 8 ohm direct |
| Transducer - Low Frequency Driver | 305mm (12in) Treated fiber cone, treated cloth surround |
| Transducer - High Frequency Driver | 1 x 35mm (1.375in) Mylar compression driver with waveguide |
| Low Frequency Voice Coil | 35.0mm 1.38in |
| Crossover Frequency | 2.2 kHz |
| Network Type: Low Pass | 24dB per octave, 4th order |
| Network Type: High Pass | 24dB per octave, 4th order |
| Enclosure Material | N/A |
| Motor-board | N/A |
| Grille | N/A |
| Inputs | 6 Pin, 5mm Euroblock |
| Colors | Black |
| Height (SM = Height) | 10.0 in / 254.0 mm |
| Diameter (SM = Width) | 12.0 in / 304.8 mm |
| Weight | 12.0 lb / 5.5 kg |
| Shipping Weight | 16.0 lb / 7.3 kg |
| **Accessories** | |
| Included | N/A |
| Packaging | 1 per box |

**Transformer Taps**

| 70.7 V | Output | 100 V | Output | 25 V | Output |
|---|---|---|---|---|---|
| 150w | 121.0dB | 150w | 121.0dB | 19w | 112.0dB |
| 75w | 118.0dB | 75w | 118.0dB | 9.5w | 109.0dB |
| 38w | 115.0dB | 38w | 115.0dB | 4.8w | 106.0dB |
| 19w | 112.0dB | | | 2.4w | 103.0dB |

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

[2] 1w1m 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] Continuous power rating, EIA-426-B test

[6] Max output based on max continuous power

[7] Max useable SPL based on testing by NWAA Labs

## Key Features

- BroadBeam® waveguide technology delivers a consistent dispersion pattern up to 10 kHz for maximum coverage area per speaker (EASE™ documented).
- One 305 mm (12 in) treated fiber cone with treated cloth surround and one 35 mm (1.375 in) mylar compression driver with waveguide.
- Easy access 5-position Euroblock for 25, 70.7 and 100 Volt applications with voice coil/8 Ohm direct simplifies ordering & inventory tracking.
- High-quality black paint finish. Custom paint colors optional.

## Description

The RF122-150 is a 12" coaxial, High SPL speaker with an in-ceiling enclosure design. SoundTube's custom-engineered driver and electro-acoustic network delivers high-performance sound in a cost-effective speaker design. The RF122-150 speaker incorporates a 5-position Euroblock with voice coil/8 Ohm direct.

## Applications

Designed for indoor & outdoor background to mid-level SPL applications, the RF122-150 includes a single-point mounting system for rapid in-ceiling installations. Cost-effective engineering with high-performance sound makes the RF122-150 speaker ideal for music & paging applications in retail, grocery stores, restaurants, hotels, casinos, museums, trade shows & conference rooms.

## BroadBeam® Wide Dispersion Technology

More than 3 years in development, SoundTube's proprietary BroadBeam® technology incorporates a high-frequency waveguide mated to a 1" convex metal tweeter. BroadBeam® waveguide technology delivers a consistent BroadBeam® dispersion pattern across the upper registers of the frequency spectrum (up to 10 kHz, EASE™ documented). The result is an audio system with fewer speakers, reduced power needs, shorter installation time and cost savings on shipping & labor.

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*SoundTube continually develops new product innovations and improvements. Updates to existing products without prior notice are an example of SoundTube's drive for constant improvement.*

**Frequency Response**

**N/A**

**Phase/Impedance Reponse**

**N/A**

**Beamwidth (-6 dB)**

**N/A**

**Directivity Index (DI)**

**N/A**

## Patented SoundTube Technologies

SoundTube Entertainment is constantly developing 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. SoundTube Entertainment 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.

### Data Acquisition

All performance data acquired at SoundTube's Technical Measurement

Center (TMC) are analyzed using a variety of standard measurement techniques, including Measured Length Sequence (MLS) and Time Delay Spectrometry (TDS). Performance, development and data acquisition tools include: Gold Line TEF 20, CLIO, LMS, LEAP, and proprietary modeling software. EASE™ data are acquired through an automated TEF 20/Outline/EASE™ interface.

**EASE™ Data** – 3-D polar plots.

**SoundTubeSPEC™** – Proprietary SoundTube speaker placement software.

## Technical assistance:

### SoundTube SPEC™ software and engineering support

For quick and easy specification, visit www.soundtube.com and use SoundTube's proprietary specification software. For technical assistance, including detailed EASE™ plots, contact SoundTube Entertainment directly at techinfo@soundtube.com or call us at 435-647-9555 or 800-647-8823.

## Architectural Specifications

The loudspeaker shall consist of a 305 mm (12 in) treated fiber cone and one 35 mm (1.375 in) mylar compression driver with waveguide.

Performance specifications of a typical production unit shall be as follows: Useable frequency response shall extend to 50 Hz (-10 dB, no external equalization). Measured sensitivity (2.83 Volt input, 1 meter) shall be at least 99.0 dB. The speaker shall have a nominal impedance of 8 Ohms and be available for 25, 70.7 & 100 Volt modes with voice coil/8 Ohm direct. The frequency dividing network shall have a crossover frequency of 2.2 kHz with slopes of 24 dB per octave (4th order) for both low and high pass filters. Rated power capacity shall be at least 100 Watts continuous power (RMS) and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be 119.0 dB.

The low-frequency transducer shall have a treated fiber cone with treated cloth surround. The high-frequency transducer shall be constructed of mylar with a proprietary BroadBeam® waveguide.

The external wiring input connector shall be a 6-pin, 5 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.

Overall cabinet dimensions shall be no more than 254.0 mm (10.0 in) in height by 304.8 mm (12.0 in) in diameter.

The system shall be the SoundTube RF122-150 for both low & high impedance applications.

## SoundTube Entertainment

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

**Polar Plots**

**N/A**