

205 Series



4-Inch Full-Range Ceiling Loudspeakers

COMMERCIAL

General Product Description

The Electro-Voice® 205 is a high quality 4-inch, full-range loudspeaker for distributed sound systems.

An acoustically transparent dome encloses a small, centrally mounted free-edge cone which is used to improve high-frequency dispersion.

The 205 is suitable for use in applications requiring highly intelligible speech or smooth musical reproduction.

To ensure long-term reliability in installations, the 205-8A is designed to handle 10 watts continuous power (40 watts peak) of shaped white noise for eight hours per EIA Standard RS-426A 1980.

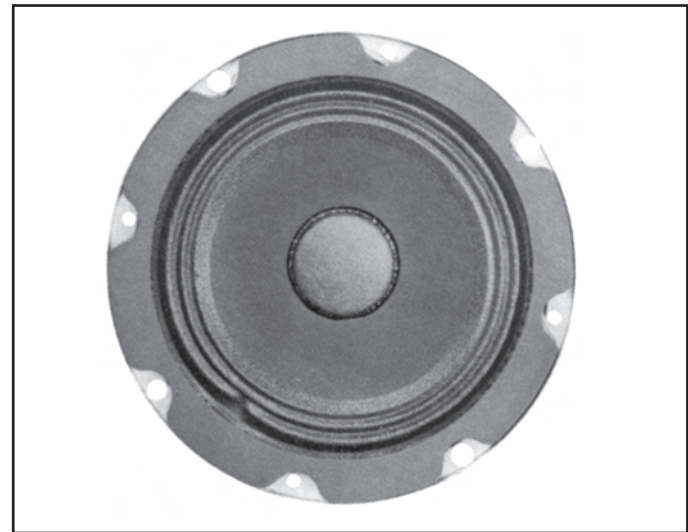
The 205-4T includes a 4 watt transformer, allowing connection to 25/70.7/100- volt line, with taps of 0.5 to 4 watts.

The 205-8T includes an 8 watt transformer, allowing connection to 70.7/100- volt line, with taps of 1 to 8 watts.

Architects' and Engineers' Specifications

The loudspeaker shall be a ceiling loudspeaker with a nominal diameter of 128 mm (5.1 in.), an overall depth of 56 mm (2.2 in.) for the 205 and 94 mm (3.7 in.) for the 205-4T, and shall weigh no more than 0.9 kg (2.0 lb) for the 205, 1.3 kg (2.8 lb) for the 205-8T. The voice coil shall have a nominal diameter of 25.4 mm (1.0 in.) and length of 7.6 mm (0.3 in.) and shall operate in a gap of not less than 1.0 T (10,000 Gauss).

The loudspeaker shall exhibit a sensitivity (SPL, 1 watt at 1 meter (3.28 ft) averaged (200 - 4,000 Hz) of no less than 91 dB on axis maintaining an essentially flat frequency response with 3 dB-down points at 65 Hz and 16,000 Hz in a two-cubic-foot sealed box in a free field. The half-space



reference efficiency shall be 0.8%. The nominal impedance shall be 8 ohms and the dc resistance shall be 6.5 ohms. The loudspeaker shall be capable of handling a continuous 10-watt (8.6 volts true RMS) shaped white-noise signal (as per EIA Standard RS-426A 1980) with a 6-dB crest factor for eight hours.

The loudspeaker shall be the model 205-8A. When fitted with a transformer that allows connection to 25/70.7/ 100-volt systems of 0.5 to 4 watts, the loudspeaker shall be referred to as the model 205-4T. When fitted with a transformer that allows connection to 70.7/100-volt systems of 1 to 8 watts, the loudspeaker shall be referred to as the model 205-8T.

Specifications:

- Frequency Response:** 90 - 18,000 Hz, ± 5 dB (see last page)
- Power-Handling Capacity:** 10 watts
(per EIA RS-426-A 1980 (85 - 15,000 Hz bandlimited pink noise, 6-dB crest factor):
- Impedance:**
 - Nominal:** 8 ohms
 - Minimum:** 6.7 ohms (230 Hz)
- Sound Pressure Level:** 91 dB
(at 1 Meter, 1 Watt Input, 200 - 4,000 Hz Average)
- Maximum SPL:** 101 dB for 10W @ 1M
- Voice-Coil Diameter:** 25.4 mm (1.0 in.)
- Magnet Weight:** 0.32 kg (0.72 lb)
- Magnet Material:** Barium Ferrite
- Flux Density:** 1.0 Tesla
- Speaker Frame:** 22-gauge stamped steel
- Frame Color:** Black

Dimensions:

205-8A / 205-4T / 205-8T

- Diameter:** 206 mm (8.1 in.)
- Height:**
 - 205-8A 56 mm (2.2 in.)
 - 205-4T / 205-8T: 94 mm (3.7 in.)
- Net Weight:**
 - 205-8A: 0.9 kg (2.0 lb)
 - 205-4T / 205-8T: 1.3 kg (2.8 lb)
- Transformer Input:**
 - 205-4T 25 or 70.7 volt line (100 volt operation)
 - 205-8T 70.7 volt line (100 volt operation)

Recommended Connections

The 205 is a nominal 8-ohm impedance loudspeaker with a 10-watt input capability. The 205-4T utilizes a 4-watt, 25/70.7/100-volt universal line matching transformer with power taps ranging from 0.50 to 4 watts. The 205-8T utilizes an 8-watt, 70.7/100-volt universal line matching transformer with power taps ranging from 1 to 8 watts. The transformer is mounted to the frame and the primary winding is accessible for the user to select any of the power taps indicated in the following table for 205-4T. For use with 100-V lines, connect to the 70.7 V primary winding, and use the table below to determine the wattage ratings of various secondary winding taps. Do not use the tap marked 4 W.

All wattages marked for the various taps refer to the load on the amplifier, with the insertion loss of the transformer being less than 1.0 dB.

Recommended Enclosures and Baffles

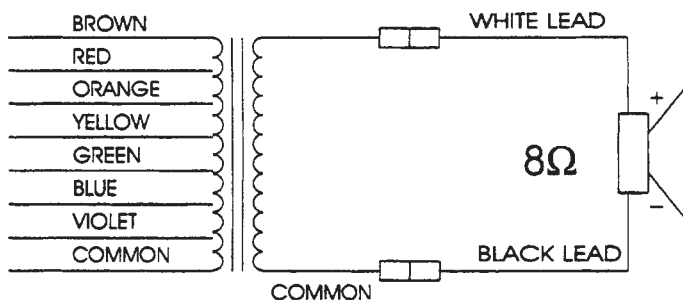
The 205-8A, 205-4T, and 205-8T are designed to fit on standard 4-inch ceiling speaker baffles. Additionally, these loudspeakers will accommodate the use of any standard back enclosure with a diameter of 5.5 inches or greater and a depth of at least 4.5 inches. Larger back volumes will increase the low-frequency output. The frequency response of a 205 in a typical 1.0-cubic-foot and 1.8-cubic-foot back enclosure are shown on the last page.

Mounting

The 205 may be front- or rear-mounted against either surface of its mounting flange and requires a 110 mm (4.35 in.) diameter cutout and a 120 mm (4.72 in.) bolt circle. Normal fasteners up to 5 mm (0.20 in.) will fit through the eight holes in the frame. The 205 is designed for mounting on standard ceiling speaker baffles.

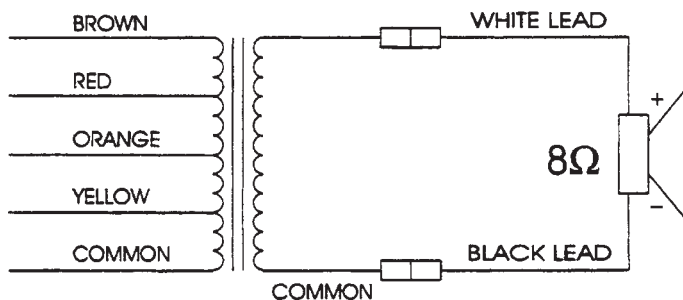
205-4T

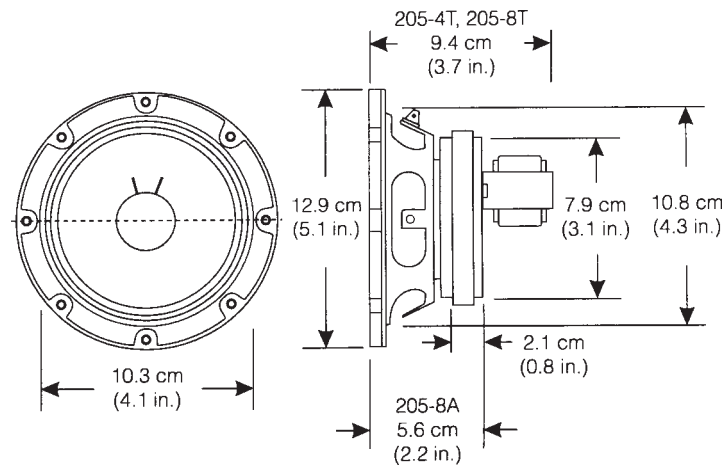
	25V	70V	100V
4.0W	Brown	Yellow	Green
2.0W	Red	Green	Blue
1.0W	Orange	Blue	Violet
.05W	Yellow	Violet	N/A
Common	Black	Black	Black
8 Ohms	White	White	White
Common	Black	Black	Black



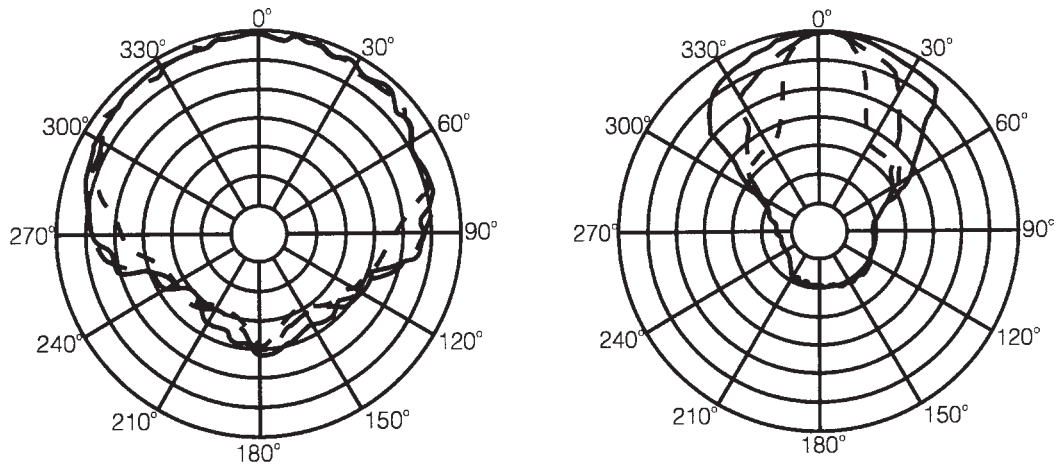
205-8T

	70V	100V
8.0W	Brown	Red
4.0W	Red	Orange
2.0W	Orange	Yellow
1.0W	Yellow	N/A
Common	Black	Black
8 Ohms	White	White
Common	Grey	Grey

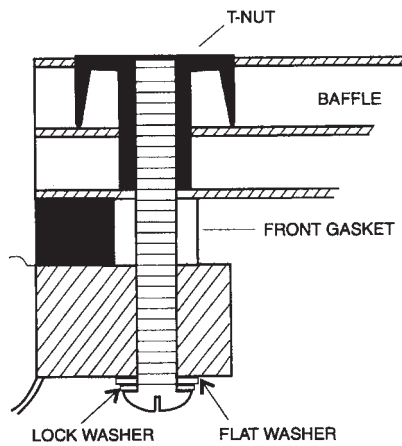




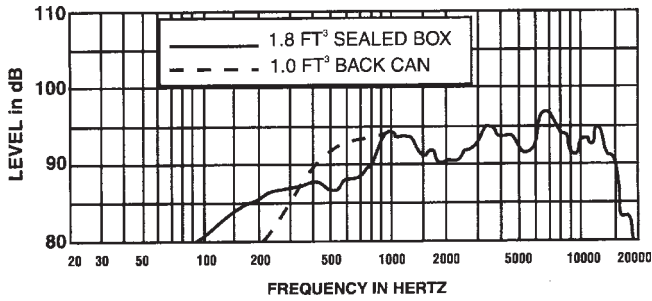
Dimensions



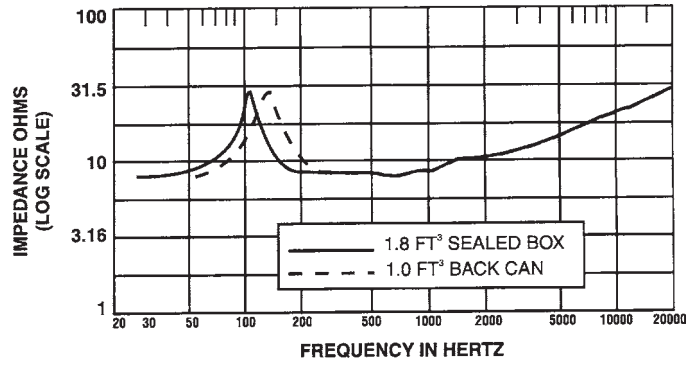
Polar Response in 1.8 ft³ Sealed box 4 volt RMS of 1/3 octave Band Limited Noise in Anechoic Environment, 20 feet on Axis.



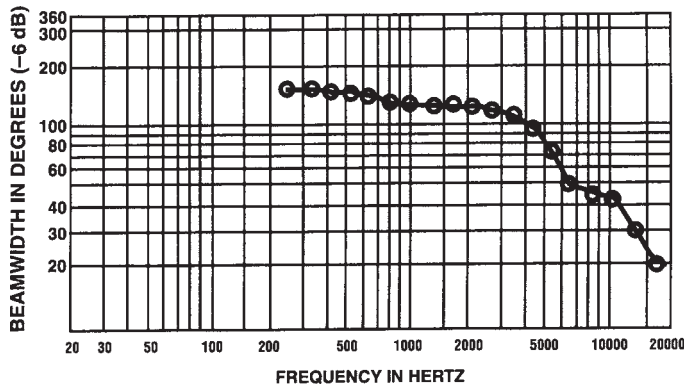
Mounting Diagram



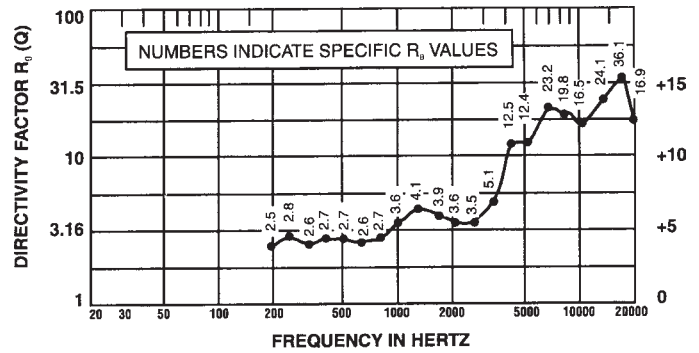
Axial Frequency Response
(1 watt / 1 meter)



Input Impedance vs. Frequency



Beamwidth vs Frequency



Directivity and Q

USA 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-884-4051, FAX: 952-884-0043
 Canada 705 Progress Avenue, Unit 46, Scarborough, Ontario, Canada, M1H2X1, Phone: 416-431-4975, 800-881-1685, FAX: 416-431-4588
 Switzerland Keltenstrasse 11, CH-2563 IPSACH, Switzerland, Phone: 41/32-331-6833, FAX: 41/32-331-1221
 Germany Hirschberger Ring 45, D94315, Straubing, Germany, Phone: 49 9421-706 392, FAX: 49 9421-706 287
 France Parc de Courcerin, Alle Lech Walesa, Lognes, 77185 Marne La Vallée, France, Phone: 33/1-6480-0090, FAX: 33/1-6480-4538
 Australia Unit 23, Block C, Slough Business Park, Slough Avenue, Silverwater, N.S.W. 2128, Australia, Phone: 61/2-9648-3455, FAX: 61/2-9648-5585
 Hong Kong Unit E & F, 21/F, Luk Hop Industrial Bldg., 8 Luk Hop St., San PO Kong, Kowloon, Hong Kong, Phone: 852-2351-3628, FAX: 852-2351-3329
 Japan 2-5-60 Izumi, Sugunami-ku, Tokyo, Japan 168, Phone: 81-3-3325-7900, FAX: 81-3-3325-7789
 Singapore 3015A Ubi Rd 1, 05-10, Kampong Ubi Industrial Estate, Singapore 408705, Phone: 65-746-8760, FAX: 65-746-1206
 Mexico Av. Parque Chapultepec #66-201, Col. El. Parque Edo. Mex. 53390, Phone: (52) 5358-5434, FAX: (52) 5358-5588
 UK 4, The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX, UK, Phone: 44 181 640 9600, FAX: 44 181 646 7084
 Africa, Mid-East 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7424, FAX: 952-887-9212
 Latin America 12000 Portland Ave South, Burnsville, MN 55337, Phone: 952-887-7491, FAX: 952-887-9212

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 For warranty repair or service information, contact the Service
 Repair department at 800/685-2606
 For technical assistance, contact Technical Support at 866/78 AUDIO
 Please refer to the Engineering Data Sheet for warranty information.
 Specifications subject to change without notice.