

EP950-60T EP950-100T

Duplex® Ceiling
Loudspeakers Systems



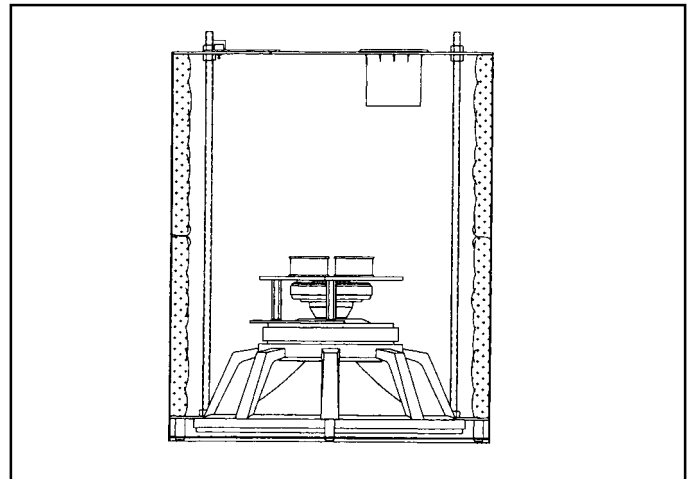
General Product Description

The Electro-Voice® EP950 series Duplex® loudspeaker systems are complete two-way ceiling loudspeaker packages. The package consists of a rear enclosure, grille, and a two-way 15-in. Duplex® loudspeaker which features a rectangular-coverage 90° x 90° horn driven by a 1-in. compression driver coaxially mounted to a 15-in. low-frequency cone driver with a high-temperature voice coil assembly. The system is offered in either a 60-watt or 100-watt line-matching transformer package. Each system utilizes a dual-section crossover network with a self-resetting protection circuit for the compression driver.

The EP950-60T utilizes a transformer that offers a selection of 7.5, 15, 30 and 60 watts delivered to the loudspeaker system using either 25-V, 70-V or 100-V lines.

The EP950-100T utilizes a transformer that offers a selection of 50, 70, 100, 140 and 200 watts delivered to the loudspeaker system using either 70-V or 100-V lines.

The rear enclosure provides an optimum internal volume, ensuring extended low-frequency performance. It is constructed from rugged heavy-gauge, cold-rolled steel, finished with a black-wrinkle epoxy powder coat. In addition, the interior is lined with a polyester batting blanket to ensure optimum acoustic performance. Three hanging points are provided through the rear cover each consisting of a 3/4-in. length of 3/8-16 threaded rod or "all-thread" (see Mounting the System in a Ceiling). For the EP950-60T and EP950-100T transformer models, the rear cover provides access to both a dual terminal block for direct connection to the speaker and an 8-pin terminal block that allows direct connection to each of the transformer taps.



The attached grille is constructed from 16 gauge perforated cold-rolled steel, finished in a semi-gloss black powder-coated enamel. These components have been designed to work together as a complete system in a wide range of different ceiling constructions. They provide wide dispersion, high efficiency, high-maximum output, ease of installation and wide-range reproduction of music or voice.

Specifications:

Frequency Response: 60-20,000 Hz
Pressure Sensitivity: 99 dB SPL
(1 W, 60 Hz-20 kHz, ref. 20 μ Pa)
Beamwidth, 500 Hz-20 kHz:
Horizontal & Vertical: 90° (+15°, -40°)
Directivity Factor, $R_0(Q)$, 500 Hz-20 kHz
..... 10.4 (+7.4, - 6.2)
Directivity Index, $D_i(Q)$, 500 Hz-20 kHz
..... 10.2 dB (+2.3 dB, - 3.9 dB)
Power Handling: 300 watts
(105 Hz-15 kHz, AES method)
Maximum Long-Term Output: 123 dB SPL
(16 watts input, 1 m, ref. 20 μ Pa)
Impedance:
Nominal: 8.0 ohms
Minimum at 650 Hz: 7.0 ohms
Components:
LF: 381 mm (15 in.) high-efficiency woofer
HF: 25.4 mm (1 in.) exit high-efficiency driver

Input Terminals:

EP950-60T & EP925-100T:

Dual terminal barrier strip with screw type connector for direct connection to woofer and an eight-way barrier strip with screw-type connector for transformer connections.

Dimensions:

Diameter: 451 mm (17.75 in.)
Depth: 553 mm (21.75 in.)

Net Weight:

EP950-60T	EP950-100T
28.6 kg (63.0 lb)	30.8 kg (68.0 lb)

Shipping Weight:

EP950-60T	EP950-100T
31.9 kg (70.2 lb)	34.1 kg (75.1 lb)

Finish: Black-wrinkle powder coat enamel

Accessories: EBK-2 hardware mounting kit
..... CG-1 24 in. x 24 in. white grille kit

Electro-Voice®

Mounting the System in a Ceiling

Three hanging points are provided through the rear cover consisting of 3/4-in. length of 3/8-16 threaded rod ("all-thread") for use with either the optional EBK-2 kit or by many other obtainable hardware options that can utilize the 3/8-16 male thread.

It is imperative, before beginning the installation, to determine the type of material employed in the ceiling to verify that it can safely accommodate the weight of the system(s).

It is recommended to use all three hanging points with the optional EBK-2 kit, which consists of three 3/8-16 eye-nuts which in turn are screwed securely into each of the "all-thread" protruding through the rear of the enclosure. From these points, the system can be suspended from a girder, beam or appropriate ceiling fixture depending on where the system is being used.

If the speaker system must be mounted inconspicuously, the system can be suspended above a drop ceiling as previously mentioned with an existing tile replaced with the optional CG-1, 24-in. x 24-in. white powder-coated perforated grille kit.

Selecting a Transformer Tap

The transformer tap of choice can be obtained by making connection between the ground terminal (#1) and any of the wattage taps indicated on the input label. For the EP950-100T, either 70-V or 100-V lines can be used. For the EP950-60T, either 25-V, 70-V or 100-V lines can be used- refer to the input panel label to determine the appropriate wattage for the line voltage used.

Architects' and Engineers' Specifications

The loudspeaker systems shall be of the ceiling Duplex® type consisting of a rear enclosure, front grille, transformer (for transformer models) and 15-inch Duplex-type loudspeaker. The loudspeaker will feature a single high-frequency compression driver coaxially mounted to a single 381 mm (15 in.) high-power woofer using a 90° x 90° coverage pattern horn. The loudspeaker system shall meet the following criteria: power handling shall be 300 watts of band-limited pink noise with 6-dB crest factor. Frequency response shall be smooth and uniformly usable from 60 Hz to 20

kHz. Pressure sensitivity shall be 99 dB SPL when measured at one meter on axis with one watt of pink noise. The loudspeaker shall weigh 27.2 kg (60.0 lb.) (nontransformer).

The Duplex® ceiling loudspeaker packages shall be the Electro-Voice® models EP950-60T with 60-watt transformer and EP950-100T with 100-watt transformer.

Transformer Specifications

EP950-60T:

Frequency Response:.....60 Hz to 10 kHz, +/-1 dB

Insertion Loss:.....<0.5 dB

Primary Voltage:.....70.7 Vrms

Secondary Impedance:.....8-16 ohms

EP950-100T:

Frequency Response:..... 20 Hz to 20 kHz, +/-1 dB

Insertion Loss:.....<0.5 dB

Primary Voltage:.....70.7 Vrms

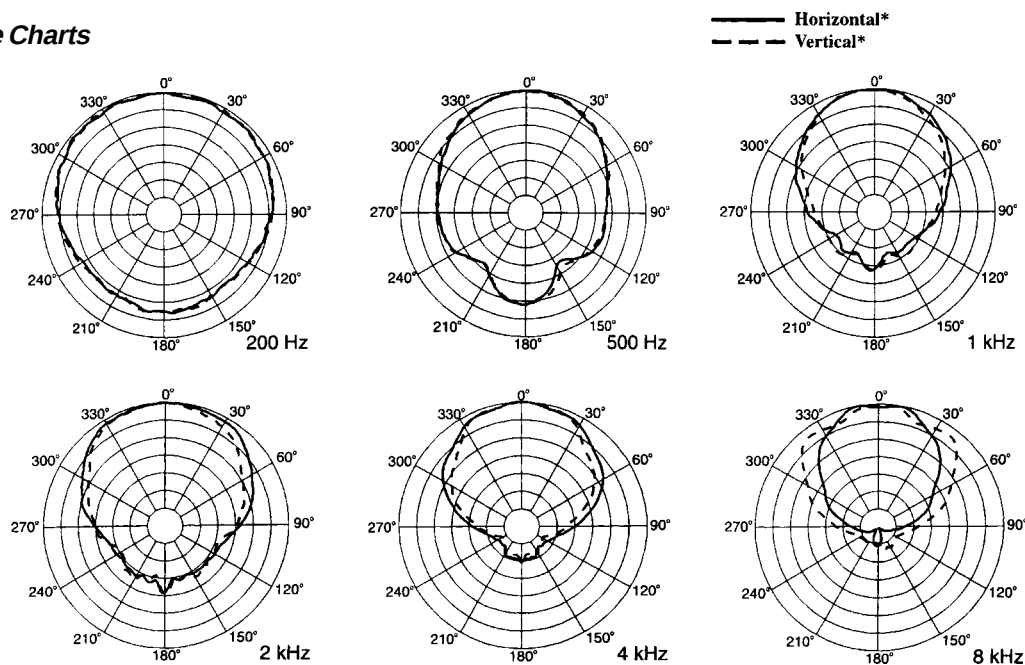
Secondary Impedance:.....8-16 ohms

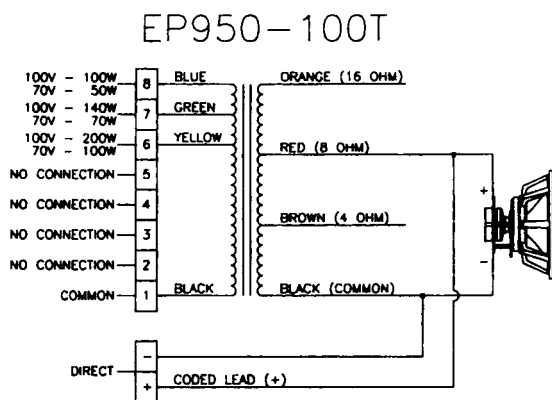
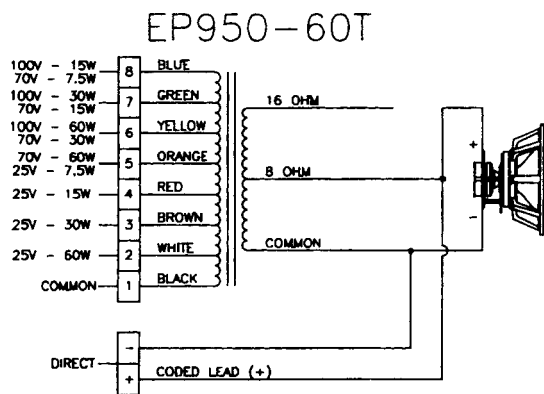
Primary Impedance and Power Drawn:

EP950-60T	EP950-100T
667 ohms / 7.5 watt	99 ohms / 50.0 watt
333 ohms / 15.0 watt	71 ohms / 70.0 watt
166 ohms / 30.0 watt	50 ohms / 100 watt
83 ohms / 60.0 watt	36 ohms / 140 watt
	25 ohms / 200 watt

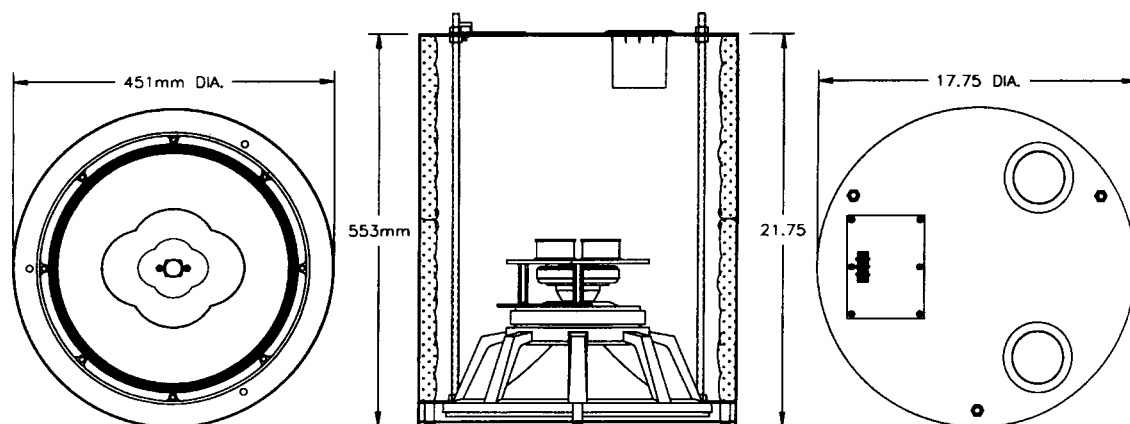
Versions: EP950-60T, EP950-100T

Polar Response Charts

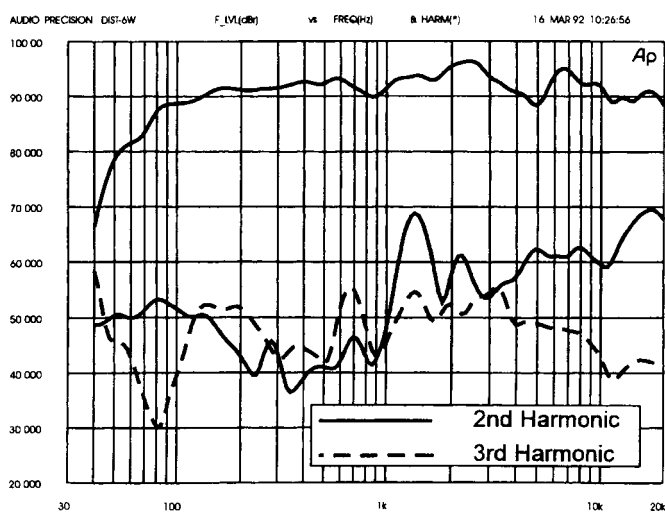




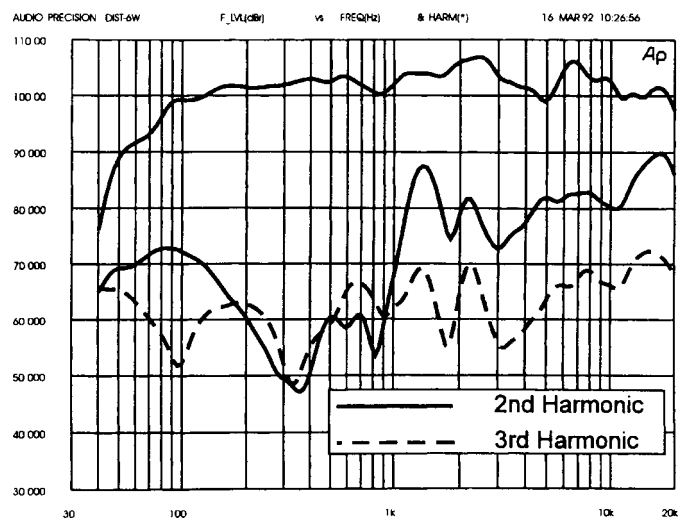
Wiring Diagrams



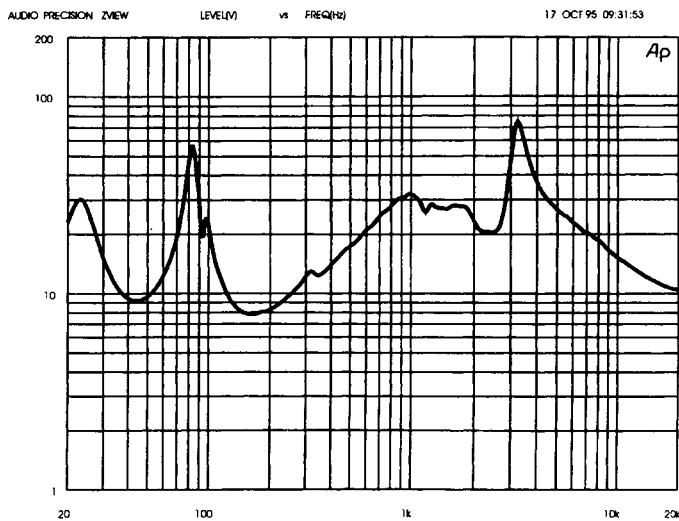
Dimensions



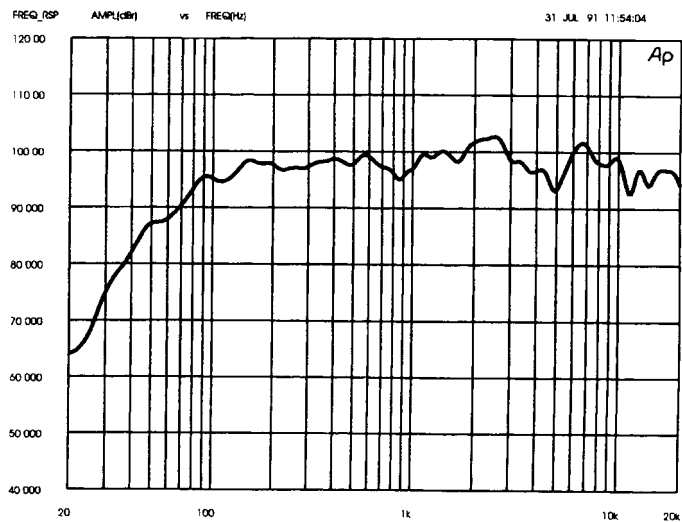
**Harmonic Distortion
 at 0.01 rated power (3.0 W)⁵**



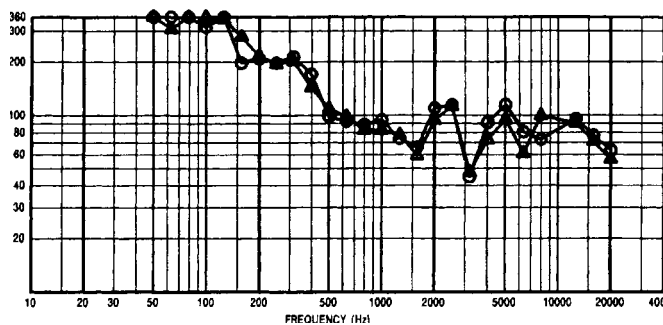
**Harmonic Distortion
 at 0.1 rated power (30 W)⁵**



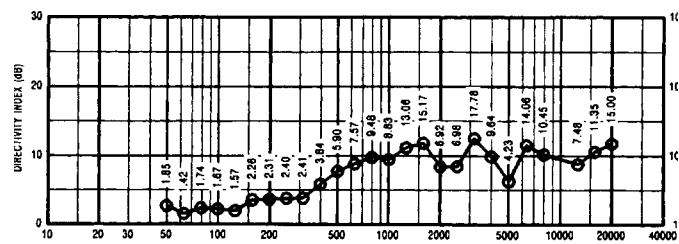
Impedance Response



Frequency Response



Beamwidth



Directivity

America:

USA: Telex Communications Inc. 12000 Portland Ave South, Burnsville, MN 55337, USA, Phone: 952-884-4051, Fax: 952-884-0043
 Western Canada: PAG Canada. 23 Hawkesbury Crescent, Winnipeg, MB R3P-1Y6, Canada, Phone: 888-850-8811, Fax: 204-489-7614
 Eastern Canada: PAG Canada. 728 Eglinton Ave. East, Toronto, ON M4G 2K7, Canada, Phone: 800-881-1685, 416-431-4975, Fax: 416-431-4588
 Québec: Acoustik GE Inc. 5715 Kincourt, Montréal, PQ H4W 1Y7, Canada, Phone: 866-369-2864, 514-369-2864, Fax: 514-487-9525
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Electro-Voice®

U.S.A. and Canada only.
 For customer orders, contact the Customer Service department at
 800/392-3497 Fax: 800/955-6831

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.