



### Model #ES-4T includes:

- 4 inch dual cone driver
- 16W transformer
- Metal enclosure (attached)
- Press-fit grille, scrim, pull-tool
- C-ring with support rails
- Paper template for cut-outs
- Paint shield for driver

UL1480A — General Signaling, USA

UL2043 — Return air plenum space

CSA C22.2 No.205-12 — General Signaling, Canada



## features.

- **Description:** Model #ES-4T produces excellent intelligibility for speech and full-frequency response for music making it ideal for retail, commercial, industrial, institutional, and residential applications. This self-contained in-ceiling or in-wall speaker system with 4" dual cone full range driver has a high-frequency whizzer cone to provide the kind of crisp, high-frequency response that would typically only be produced by a coaxial speaker. The ported enclosure is tuned for extended low-frequency response, while the speaker's wide dispersion can actually reduce the number of speakers required to produce even coverage in distributed speaker systems.
- **Driver:** 4" dual cone full range driver
- **Transformer:** 16W transformer with tap selector switch mounted behind grille. Tap selections for 25V, 70V or 100V speaker systems, and 8ohm transformer bypass position.
- **Enclosure:**
  - Factory-mounted enclosure ships attached to the driver (non-removable).
  - Durable 20 gauge steel, painted grey.
  - Ported enclosure is tuned for extended bass response
  - Built-in reversible mounting dogs aid fast installation, while allowing the speaker to be mounted in drywall, wood, tile or almost any type of ceiling with thickness up to 2.125"
  - Removable (4 pin) Phoenix-style connector with 2 terminals for input to speaker and 2 parallel terminals for output to next speaker in string.
  - Internal volume = 113 cu.in.
- **Baffle:** Low-profile front baffle formed from UV-rated high impact plastic.
- **Grille:** Fine mesh press-fit grille (white) includes scrim and pull tool.
- **Installation Aids:** (included)
  - **C-Ring:** Reinforces the edge of drywall ceiling cut-outs and works with the support rails to uphold the weight of the speaker assembly.
  - **Support Rails (2):** Rails are used with the C-ring to uphold the weight of the speaker assembly and help prevent sagging tiles when the speaker is installed in a lay-in tile ceiling.
  - **Template:** Paper template is used to properly mark cut-outs for mounting holes.
  - **Paint Shield:** Plastic shield fits over the driver to protect it if the baffle is to be painted.
- **Installation Aids:** (optional, order separately)
  - **#ES-4-RIB Rough-in Bridge:** For new construction (drywall or plaster ceiling) before finished ceiling is installed, the bridge serves as a placeholder for the speaker.
  - **#ES-4-RTR:** Retrofit trim ring mounts this speaker to an existing (pre-installed) 8" speaker enclosure with 11.25" diameter mounting bolt circle. Includes hardware and rubber bumpers. *NOTE: Minimum enclosure depth is 5.75" from edge of ring (that touches ceiling) to rear of enclosure. Minimum backbox opening dia. is 9" to allow dog ears to fit.*

### ES Speaker Series Summary

ES Speaker Series Summary						OPTIONS (order separately)	
Model No.	Driver	Transformer	Overall Depth*	Overall Diameter*	Net Weight*	Rough-in Bridge	Retrofit Trim Ring
▶ ES-4T	4" 25W dual cone driver	16W	6.22"	8.27"	4.1 lbs	#ES-4-RIB	#ES-4-RTR
ES-52T	5-1/4" 30W coaxial driver	16W	10.16"	9.84"	6.5 lbs	#ES-6-RIB	#ES-6-RTR
ES-62T	6-1/2" 50W coaxial driver	32W	10.16"	9.84"	7.5 lbs	#ES-6-RIB	#ES-6-RTR
ES-82T	8" 120W coaxial driver	120W	11.03"	12.89"	14.6 lbs	#ES-8-RIB	-----
ES-82CDT	8" 150W coaxial w/HF compression driver	120W	11.03"	12.89"	18.0 lbs	#ES-8-RIB	-----
ES-8TSUB	8" 120W subwoofer driver	120W	11.03"	12.89"	16.6 lbs	#ES-8-RIB	-----

\*Overall Depth includes grille and enclosure. Overall Diameter includes trim ring. Net weight includes speaker, enclosure and grille (no installation aids).

Note: Speakers are sold in pairs.

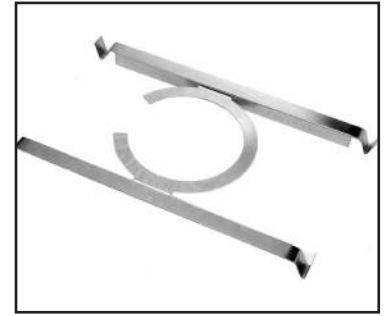




Use the paper template to mark the ceiling or wall for speaker cut-outs.



A plastic shield is included to protect the driver if the baffle is to be painted.



The C-ring and support rails distribute speaker weight to avoid sagging ceiling tiles.



The dog ears on the enclosure speed installation in almost any type of ceiling.



The front tap selector switch is protected behind the grille.



The fine-mesh grille is designed to press into position.



**OPTIONAL  
Retrofit Ring No. ES-4-RTR.**

Retrofit trim ring mounts speaker #ES-4T to an existing (installed) 8" speaker enclosure with 11.25" dia. mounting bolt circle. Minimum enclosure depth is 5.75" from edge of ring (touching ceiling) to rear of enclosure. Minimum backbox opening diameter is 9" to allow dog ears to fit through.



**OPTIONAL  
Bridge No. ES-4-RIB.**

Steel rough-in bridge with galvanized finish reserves space for speaker placement.

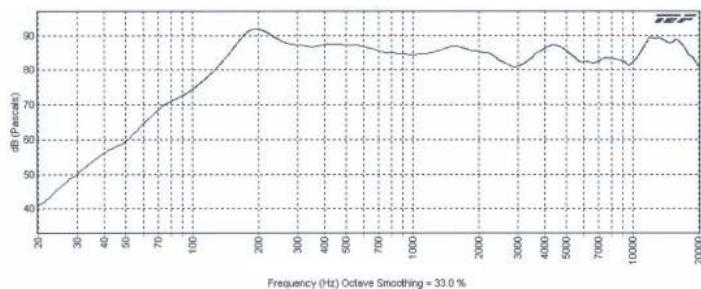
## a&e specifications . . . . .

The loudspeaker shall be Lowell #ES-4T. It shall include a high-performance 4" dual cone loudspeaker, ported bass reflex enclosure and press-fit grille for recessed ceiling/wall installation. Frequency response shall be 108Hz-20kHz  $\pm$ 6dB. Sensitivity for the system shall be 85.7dB log average @1W/1M over the frequency response range, measured in half-space. The speaker shall be constructed of a polypropylene cone with rubber surround and a PEI whizzer cone. Magnet weight shall be a minimum of 7.35 oz. (208.4g) and the voice coil diameter shall be 0.8" (20.38mm). The transformer shall have primary taps for 100V (16, 8, 4, 2 watt); 70V (16, 8, 4, 2, 1 watt); and 25V (2, 1, .5, .25, .13 watt) with a selector switch mounted on the front under the grille that will include an 8 ohm transformer bypass position. The factory-mounted enclosure shall be 20-gauge steel (painted grey) with internal volume of 113 cu.in. It shall have a seismic restraint ring tie-point on the rear for use where required by code or ordinance. It shall feature four dog-mount ears that allow it to be mounted in a ceiling with a maximum thickness of 2.125" (54mm). A template shall be provided to assist in cutting mounting holes. A rear access cable or flexible conduit entrance strain relief shall be provided with a termination cavity that encloses a four-pin Phoenix-style connector. The connector shall include two terminals for input to the speaker and two parallel terminals for output to the next speaker in the string. The system shall include a C-ring for use in reinforcing the edge of drywall ceiling cutouts, or for use with the included support rails to guard against ceiling tile sag from speaker weight. The unit shall also include a press-fit, fine mesh steel grille with white finish and a grille pull tool.

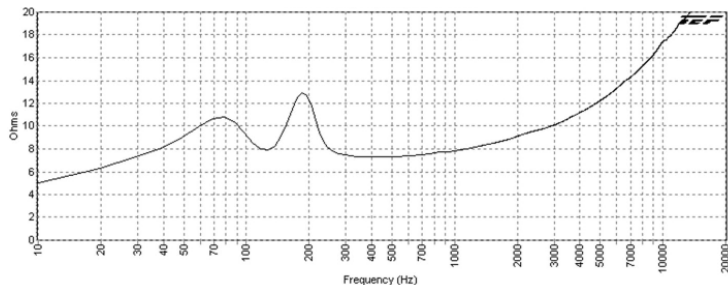
### technical specifications

PERFORMANCE	Power Handling:	25W RMS (at 8 ohms) measured per EIA Standard RS-426B
	Sensitivity:	85.7dB log average SPL (at 8 ohms) @ 1W/1M over the frequency response range, measured in half-space.
	Maximum SPL:	99.7dB (calculated based on power rating and measured 8 ohm sensitivity).
	Impedance:	8 ohms (nominal), 7.3 ohms @ 342 Hz (min).
	Frequency Response:	108Hz – 20kHz ± 6dB
	Conical Dispersion Angle:	175° conical @ 2kHz octave (-6dB)
PHYSICAL	Transformer Taps:	100V (16, 8, 4.2W); 70V (16, 8, 4, 2, 1W); 25V (2, 1, .5, .25, .13W)
	Speaker Cone:	Specially formulated polypropylene
	Whizzer Cone:	PEI
	Surround:	Rubber
	Magnet Weight:	7.35 oz. (208.4g)
MECHANICAL	Voice Coil Dia.:	0.8" (20.38mm)
	Input Terminals:	4-conductor removable Phoenix-style connector.
	Net Weight (speaker & grille):	4.1 lbs. (1.9kg)
MOUNTING	Shipping Weight (pair):	14.6 lbs. (6.6kg)
	C-ring:	One included with each speaker
	Tile Support Rails:	Two included with each speaker
	Rough-in Bridge:	Optional rough-in bridge for new construction—drywall or plaster ceiling—before the finished ceiling is installed. Order separately.

SPL vs. FREQUENCY (1W/1M)

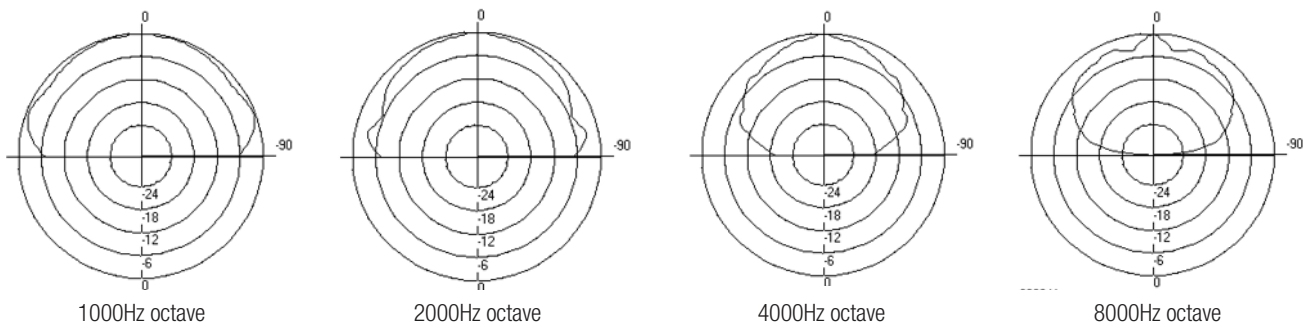


IMPEDANCE

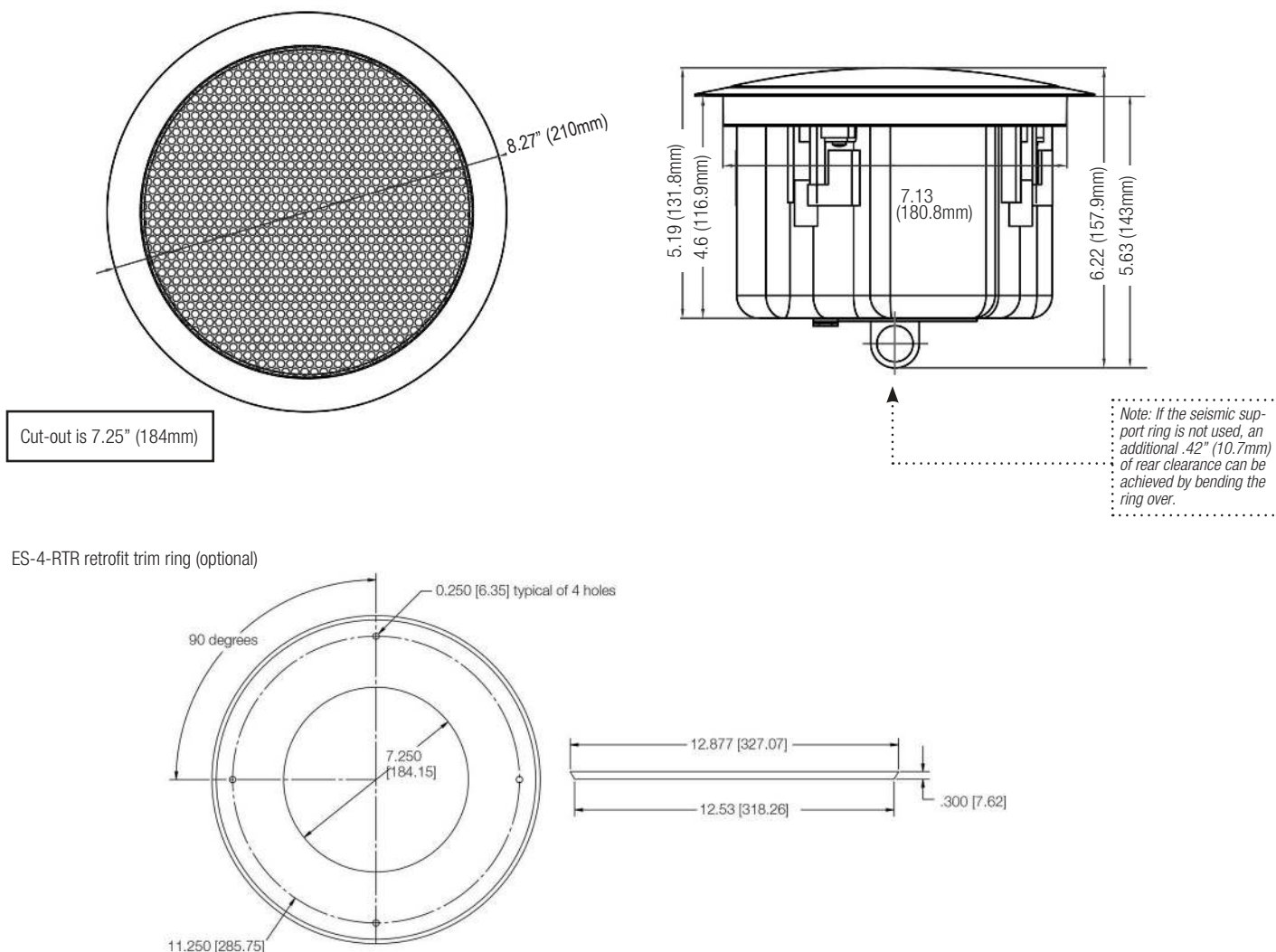


Impedance reading expected from a typical 1kHz impedance meter is 8 ohms with the selector switch in the 8 ohm position.

POLAR DATA 180° (half space mounting)



### technical drawings



### test methodologies

Lowell ES Series speaker systems are thoroughly tested to provide specifiers and contractors with accurate data. Test equipment includes the GoldLine TEF-20 analyzer.

- **Power Handling:** specification is based on E.I.A. Standard RS-426B.
- **Frequency Response:** describes the usable response range defined by a  $\pm 6$ dB window, which is useful in predictive engineering calculations.
- **Sensitivity:** is a computer calculation of the log average sound pressure level (SPL) over the entire engineering bandwidth as given in the Frequency Response ( $\pm 6$ dB).
- **Maximum SPL:** is calculated based on the Power Handling and the measured log average Sensitivity where Maximum SPL = (Sensitivity @ 1W1M) + 10 log (Power Handling).
- **Dispersion Angle:** is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2kHz octave band. Since speech intelligibility is dependent upon the 2kHz octave, this specification is useful in designing voice reinforcement and music systems that provide even coverage and intelligibility. The polar plots illustrate how the system performs when hung in free space (360°) or half-space (180°) in the case of a recessed speaker.