

## 8" In-ceiling loudspeaker #ES-82CDT

ready for recessed installation in ceiling or wall  
features 8" 150W coaxial driver & 120W transformer



**Model #ES-82CDT includes:**

- 8 inch 150W coaxial driver
- 120W transformer
- Metal enclosure (attached)
- Press-fit grille, scrim, pull-tool
- C-ring with support rails
- Cardboard 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



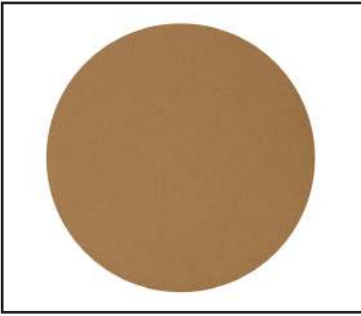
### features . . . . .

- **Description:** Model #ES-82CDT 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 8" coaxial driver has a high-frequency horn-loaded compression driver that provides the kind of crisp, high-frequency response expected from high quality coaxial speakers. The ported enclosure is tuned for extended low-frequency response, while the controlled pattern dispersion is ideal for higher ceiling distributed speaker systems.
- **Driver:** 8" 150W coaxial driver
- **Transformer:** 120W transformer with tap selector switch mounted behind grille. Tap selections for 25V, 70V or 100V speaker systems, and 8 ohm 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 3.4" [86.4mm]
  - 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 = 900 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:** Cardboard 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-8-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 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	-----
<b>ES-82CDT</b>	<b>8" 150W coaxial w/HF compression driver</b>	<b>120W</b>	<b>11.03"</b>	<b>12.89"</b>	<b>18.0 lbs</b>	<b>#ES-8-RIB</b>	<b>-----</b>
ES-8TSUB	8" 120W subwoofer driver	120W	11.03"	12.89"	16.6 lbs	#ES-8-RIB	-----

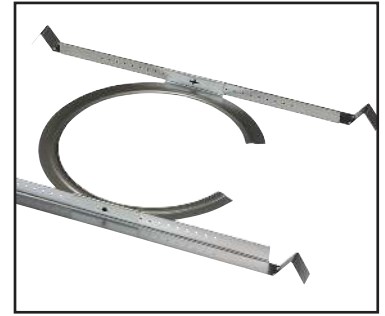
\*Overall Depth includes grille and enclosure. Overall Diameter includes trim ring. Net weight includes speaker, enclosure and grille (no installation aids).  
 Note: Speakers are sold in pairs.



Use the cardboard 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.



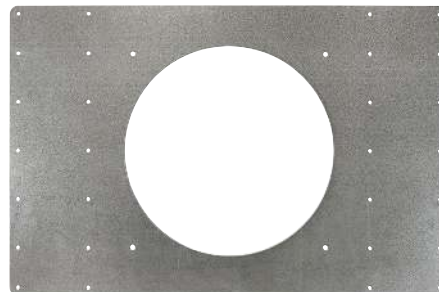
The dog ears on the enclosure speed installation in almost any type of ceiling.



The front tap selector switch is protected behind the grille.



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



### OPTIONAL Bridge No. ES-8-RIB.

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

## a&e specifications . . . . .

The loudspeaker shall be Lowell #ES-82CDT. It shall include a high-performance 8" coaxial loudspeaker, ported bass reflex enclosure and press-fit grille for recessed ceiling/wall installation. Frequency response shall be 67Hz-20kHz  $\pm$ 6dB. Sensitivity shall be 91.5dB log average @1W/1M over the frequency response range, measured in half-space. The speaker shall be constructed of a coated paper cone with rubber surround and a titanium laminated compression driver high frequency. The woofer magnet weight shall be a minimum of 28.8 oz. (816g) and the woofer voice coil diameter shall be 2" (49.6mm). The transformer shall have primary taps for 100V (120, 60, 30, 15 watt); 70V (120, 60, 30, 15, 7.5 watt); and 25V (15, 7.5, 3.75, 1.88, 0.94 watt) with a selector switch mounted on the front under the grille that will include an 8ohm transformer bypass position. The factory-mounted enclosure shall be 20-gauge steel (painted grey) with internal volume of 900 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 five dog-mount ears that allow it to be mounted in a ceiling with a maximum thickness of 3.375" (85.7mm). 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. Front baffle shall have a diameter not more than 12.89" (327.45mm). The unit shall also include a press-fit, fine mesh 20-ga. CRS grille with UV rated powder coating (epoxy white), and shall include a thin piece of white scrim and a grille-pulling tool.

### technical specifications

#### PERFORMANCE

Power Handling:	150W RMS (at 8 ohms) measured per EIA Standard RS-426B
Sensitivity:	91.5 dB log average SPL (at 8 ohms) @ 1W/1M over the frequency response range, measured in half-space.
Maximum SPL:	113.3 dB (calculated based on power rating and measured 8 ohm sensitivity).
Impedance:	8 ohms (nominal), 7.6 ohms @ 1367 Hz (min.)
Frequency Response:	67Hz–20kHz ±6dB
Conical Dispersion Angle:	70° conical @ 2kHz octave (-6dB)
Crossover Frequency:	1.8kHz
Transformer Taps:	100V (120, 60, 30, 15W); 70V (120, 60, 30, 15, 7.5W); 25V (15, 7.5, 3.75, 1.88, 0.94W)

#### PHYSICAL (Full Range Speaker)

Woofers Cone:	Coated paper cone
Surround:	Rubber
Woofers Magnet Weight:	28.8 oz. (816g)
Woofers Voice Coil Dia.:	2" (49.6mm)
HF Cone:	Titanium laminated
Tweeter Magnet Weight:	12.4 oz. (351.5g)
Tweeter Voice Coil Dia.:	1" (25.4mm)

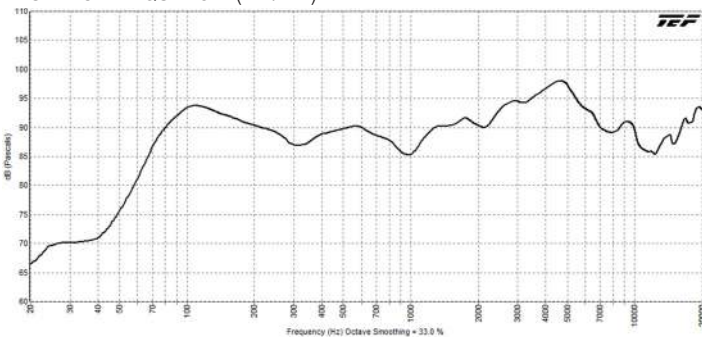
#### MECHANICAL

Input Terminals:	4-conductor removable Phoenix-style connector
Net Weight (speaker & grille):	18 lbs. (8.16kg)
Shipping Weight (pair):	50.6 lbs. (23.0kg)

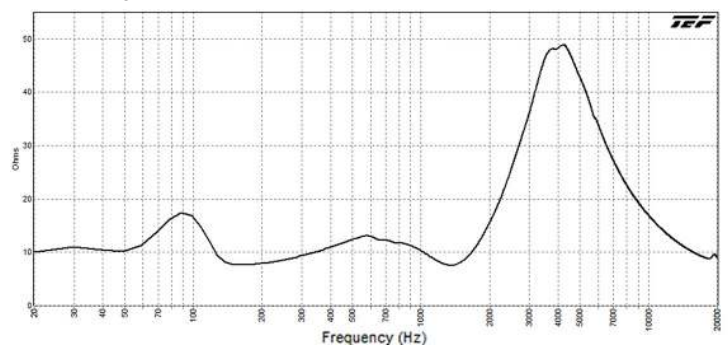
#### MOUNTING

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)

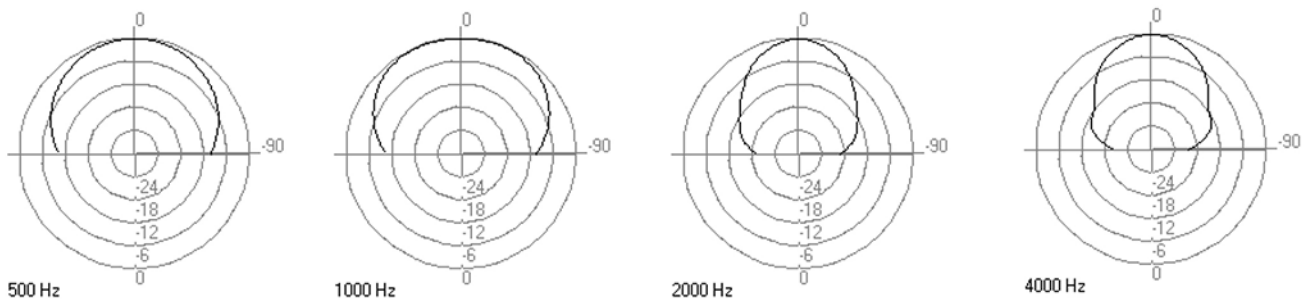


IMPEDANCE

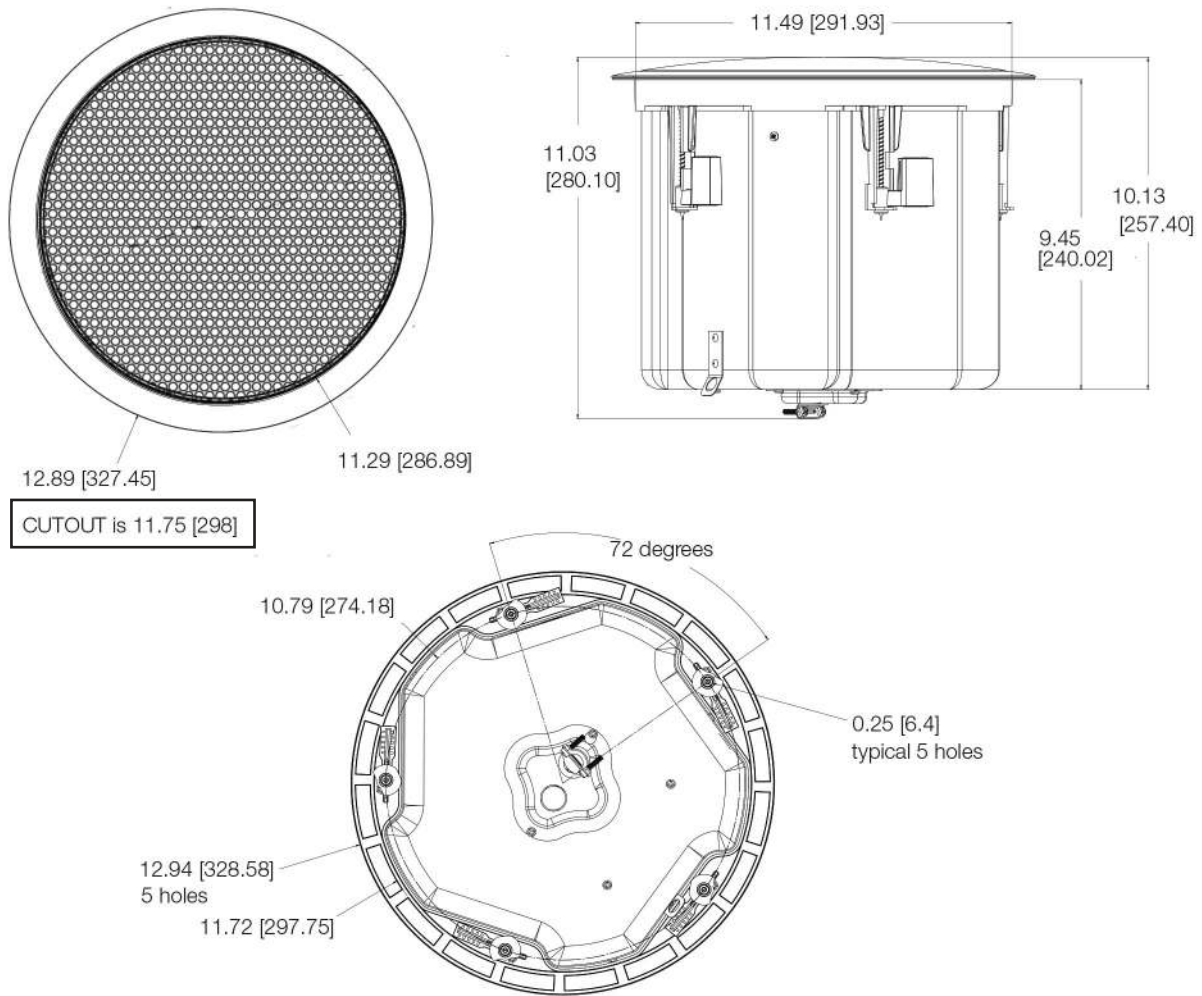


Impedance reading expected from a typical 1kHz impedance meter is 9.5 ohms with the selector switch in the 8 ohm position.

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.