



SLC408-16T

Preassembled Ceiling Speaker System

FEATURES - THE ALTEC LANSING DIFFERENCE

- High Fidelity - 8 in. (203 mm) Duplex® Component
- Industry-Leading Efficiency - 98 dB SPL
- High Output - 113 dB Peak SPL (16 watt Tap)
- Preassembled Speaker System for Quick Installation
- Off-White Décor Snap-On One Piece Metal Grille
- 5-Position Switch for Easy Transformer Tap Selection
- Metal Tile Bridge Included

GENERAL PRODUCT DESCRIPTION

Over the past twenty-five years, Altec Lansing has sold more premium eight-inch Duplex® ceiling speakers than any other manufacturer. Consultants and sound contractors have long considered Altec's eight-inch ceiling speaker components their preferred choice for high fidelity music playback and critical speech intelligibility applications. The SLC408-16T takes our best-selling premium high fidelity 8 in. (203 mm) Duplex® component and offers it in a preassembled, quick-mount ceiling speaker package.

The SLC408-16T features Altec's premium CD408-16T component. The CD408 is an 8 in. (203 mm) Duplex® component rated at 32W AES / 128W peak power handling. The high quality 16 watt 70V/100V transformer has a broadband insertion loss of < 0.6 dB from 50 Hz to 15 kHz.

Altec's high efficiency Duplex® design delivers maximum output with minimum amplifier power. At an industry-leading broadband efficiency rating of 98 dB SPL (1W/1m), the SLC408-16T has rated peak output of 113 dB SPL using the 16 watt transformer tap at a distance of one meter. Less efficient ceiling speaker systems require 60W transformers to generate similar output. The high efficiency design of the SLC408-16T allows the systems integrator to downsize the amplifier channel assigned to each zone of ceiling speakers by a factor of two-thirds or more.

The CD408-16T is installed in a round, metal, dampened 0.25 cubic foot enclosure with metal strain relief strap. Three metal dogleg arms are screwed-down to secure the enclosure to the

included metal tile bridge. An off-white one piece metal décor grille snaps into the assembly. The SLC408-16T has a two-wire input connection (red & black), making it fool-proof for even the least experienced installers. The ½ in. (13 mm) connector easily mates to either metal or flex conduit.

Installers particularly like Altec's package. The mounting hole in the metal tile bridge serves as a hard template for cutting a perfect hole in the ceiling tile. A metal S-hook allows the installer to hang the enclosure from the ceiling grid of flex-conduit while wiring up the SLC408-16T.

In addition to industry-leading efficiency and output, the SLC408-16T is among the most lightweight packages available to sound contractors. The low-profile design allows the SLC408-16T to fit into tight ceiling spaces. An optional ring (SLC-RING) is required for plaster or sheetrock ceilings.

NOTE: SHIPPED IN PAIRS

SPECIFICATIONS

FREQUENCY RESPONSE ^{1,2}	
135 Hz - 16 kHz (± 5 dB)	
USABLE LOW FREQUENCY LIMIT (-10 dB) ^{1,2}	
115 Hz	
SENSITIVITY ³	
98 dB SPL	
POWER HANDLING ⁴	
32 W AES (continuous); 128 W peak	
PEAK OUTPUT (1 m) ⁵	
119 dB SPL; 113 dB SPL (16W transformer tap)	
COVERAGE ANGLES ⁶	
80° (horizontal) by 80° (vertical)	
DIRECTIVITY FACTOR, Q ⁶	
11.14	
DIRECTIVITY INDEX, DI ⁶	
10.47 dB	
TRANSDUCER COMPONENTS	
LF: 1 x 8-in. (203 mm), low frequency woofer	
HF: 1 x 3-in. (76 mm), high frequency tweeter	
IMPEDANCE ⁷	
Nominal:	8.0 ohms
Minimum:	7.8 ohms at approximately 8 kHz
CROSSOVER FREQUENCY	
Passive LF - HF: 2,500 Hz	
TRANSFORMER	
Premium 16 watt 70V/100V, switch selectable taps of 16W, 8W, 4W, and 2W; rated at < 0.6 dB insertion loss, 50Hz - 15 kHz	
INPUT CONNECTIONS	
Only 2 wires, pre-stripped, for simple, quick installation	
FINISH	
Enclosure - Black Painted Steel with internal damping material	
Grille - Matte White Décor Round Metal Grille	
DIMENSIONS	
Diameter:	Can - 9.25 in. (235 mm); Baffle - 11.75 in. (298 mm)
	Grille - 12.75 in. (324 mm)
Depth:	Can - 7.85 in. (199 mm)
NET WEIGHT	
9.8 lbs. (4.45 kg), one speaker system with grille	
SHIPPING WEIGHT	
34.3 lbs. (15.56 kg), (includes 2 speaker systems with grilles and tile bridges)	
CD408-8A - THEILE-SMALL PARAMETERS	
Free Air Resonance, f_s :	84.4 Hz
Equivalent Volume Compliance, V_{AS} :	1.0 ft. ³ (28.3 l)
Total Q, Q_{TS} :	0.94
Electrical Q, Q_{ES} :	1.10
Mechanical Q, Q_{MS} :	6.52
D.C. Resistance, R_E :	7.2 ohms
Peak Linear Displacement, X_{max} :	0.008 in. (0.2 mm)
Reference Efficiency, η_0 :	1.50%

INSTALLATION AND WIRING

Although the SLC408-16T can be mounted into a sheetrock or plaster ceiling, the following installation procedure is intended for suspended tile ceilings. Note: We recommend that you order the mounting ring (SLC-RING), not included, when installing the SLC408-16T into a sheetrock or plaster ceiling.

1. Place ceiling tile, finished side facing up, over the flat, 12 in. (305 mm) to 22 in. (559 mm) diameter opening of a container such as a Rubbermaid® 32 gallon Brute® model 2632.
2. Locate the approximate center of the mounting hole that is to be cut, and mark this spot on the ceiling tile. Note: This center can be located anywhere along the length of the ceiling tile that is at least 8 in. (203 mm) from either end and equidistant from each side edge.
3. Align the center of the 10.75 in. (273 mm) tile bridge hole with the spot marked as the center, and position the metal tile bridge flat against the ceiling tile with the ends of the tile bridge aligned to the side edges of the ceiling tile.
4. Carefully, so as not to damage the ceiling tile, temporarily secure the tile bridge in-place with adjustable torsion clamps such as C-clamps.
5. Guide the blade of a RotoZip® RZ01, or similar rotary cutting tool, against the edge of and completely around the 10.75 in. (273 mm) tile bridge hole, cutting the ceiling tile hole.
6. Remove the torsion clamps and tile bridge from the ceiling tile.
7. Install the ceiling tile in the ceiling's T-grid.
8. Install the tile bridge on top of the ceiling tile, and align the tile bridge hole with the newly cut ceiling tile hole.
9. Pull the wiring and or flex conduit through the tile bridge and ceiling tile holes.
10. Attach one end of the S-hook to the SLC408-16T's metal strain relief strap and rest the other end of the S-hook, through the mounting hole, on the top surface of the tile bridge.
11. Connect the audio transmission (-) wire (usually black) to the black wire of the SLC408-16T, and connect the audio transmission (+) wire to the red wire of the SLC408-16T. Secure a sufficient insulator cover over these connections. Note: Proper rated wire-nuts are recommended to insulate these connection points.

SPECIFICATION NOTES

- ¹ The frequency response of the loudspeaker system is measured at a distance of no less than 3 meters to obtain full range data. The level is then corrected to be equivalent to a 2.83 V 1 m measurement. A near field measurement of the system is performed for frequencies below 500 Hz. This data is then combined with the full range measurement to give an accurate composite frequency response curve.
- ² The limits of the frequency response are referenced to -5 dB of the loudspeaker's rated sensitivity in the SLC's 0.25 ft.³ sealed enclosure.
- ³ The sensitivity of the loudspeaker system is the log based average SPL taken over the intended bandwidth of operation for the system with a 2.83 V swept sine stimulus. The data is measured and level corrected in a manner consistent with note 1.
- ⁴ The power handling capacity of the loudspeaker system is tested using a full range form of AES Standard 2-1984. The test stimulus is band limited (40 Hz - 16 kHz) pink noise with a 6 dB crest factor. The applied RMS voltage is determined using the minimum impedance of the system. The amplifier used to drive the loudspeaker has a minimum operating headroom of 6 dB referenced to the RMS voltage.
- ⁵ The peak output level of the system is calculated based on the sensitivity and the peak power handling capabilities of the system.
- ⁶ The coverage angles for the loudspeaker are taken as the -6 dB points of the directivity response and averaged from 500 Hz to 16 kHz.
- ⁷ The minimum impedance of the loudspeaker is taken over its intended band of operation.

As we are continually striving to improve Altec Lansing products, specifications are subject to change without notice.

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- Authorized EASE data on all Altec Lansing Professional loudspeakers
- PDF specification sheets. Download page 1 of the specification sheet for you submittals.
- One paragraph A&E Specifications in .doc format
- The latest information on Altec Lansing Professional products.
- Performance specifications for the CD408-series speakers, including the one-octave polar response charts.

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12. If flex conduit is used, pack the excess wire into the conduit (including the wire nuts), and secure the flex conduit with the ½ in. (13 mm) connector.
13. Remove the S-hook and gently push the SLC408-16T (and excess conduit or wire) up into the hole and tighten the three mounting screws, causing the dogleg arms to swing out and anchor the enclosure to the metal tile bridge.
14. Snap on the metal grille.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker system shall be an in-ceiling design, consisting of a Duplex® 8 in. (203 mm) diameter cone woofer and a 3 in. (76 mm) diameter cone tweeter. This loudspeaker component shall have a power rating of 32W AES (128W peak). The loudspeaker system shall have an operating bandwidth of 135 Hz to 16 kHz, with a sensitivity of 98 dB at one watt, when measured at one meter. The loudspeaker system shall include a 5-position switch for adjustable load/output requirements. The switch shall terminate the two 18 gauge input wires directly to the nominal 8 ohm impedance of loudspeaker component, or indirectly to the loudspeaker component through a step-down, multi-tap 16W transformer. This transformer shall have an insertion loss of < 0.6 dB. The loudspeaker component, switch and transformer shall be assembled into a moisture resistant black-painted steel enclosure with internal damping material. The enclosure diameter shall be 9.31 in. (236 mm), the enclosure's baffle diameter shall be 11.75 in. (298 mm), and the enclosure's depth shall be 7.85 in. (199 mm), including the ½ in. (13 mm) flex-conduit connector. The loudspeaker system shall include a 12.75 in. (324 mm) diameter, one-piece, snap-on, off-white-painted steel grille; and a 23.75 in. (603 mm) long, 14 in. (356 mm) wide, 20 gauge galvanized steel tile bridge. The loudspeaker system shall be the Altec Lansing Professional model SLC408-16T.

