



Quality Features

- Provides 25W power handling with great low-end for superior background music and paging performance in retail and commercial applications.
- Available with a 16, 8, or 4 watt transformer factory-wired for fast jobsite installation.
- Match with a wide selection of companion backboxes with extra depth and acoustic fiberglass lining for optimum low-end performance (see page 4).
- Compatible with Lowell's extensive selection of 8" grilles including steel, aluminum or plastic styles to meet aesthetic and application needs.

Description

Lowell Model CT8320 is a top-shelf commercial 8-inch coaxial driver. This 25 watt assembly features a large 18.7oz. magnet to provide increased power handling and bass response. The 3-inch post mounted, coaxially positioned tweeter provides wide dispersion in the high frequency range preventing *dullness* in the areas between speaker locations. The tweeter is equipped with a first-order high-pass filter to protect it from harmful bass energy. Frequency response of the CT8320 assembly is 48Hz-18kHz+6dB with a crossover at 4000Hz.

The CT8320 is well suited to "better" grade music systems as well as paging systems. It performs with outstanding quality in nicer retail establishments, restaurants, and distributed systems with moderately high ceilings. Assembly is available with a variety of 4, 8, or 16-watt factory wired transformers for ready-to-install convenience in 70V distributed system applications.

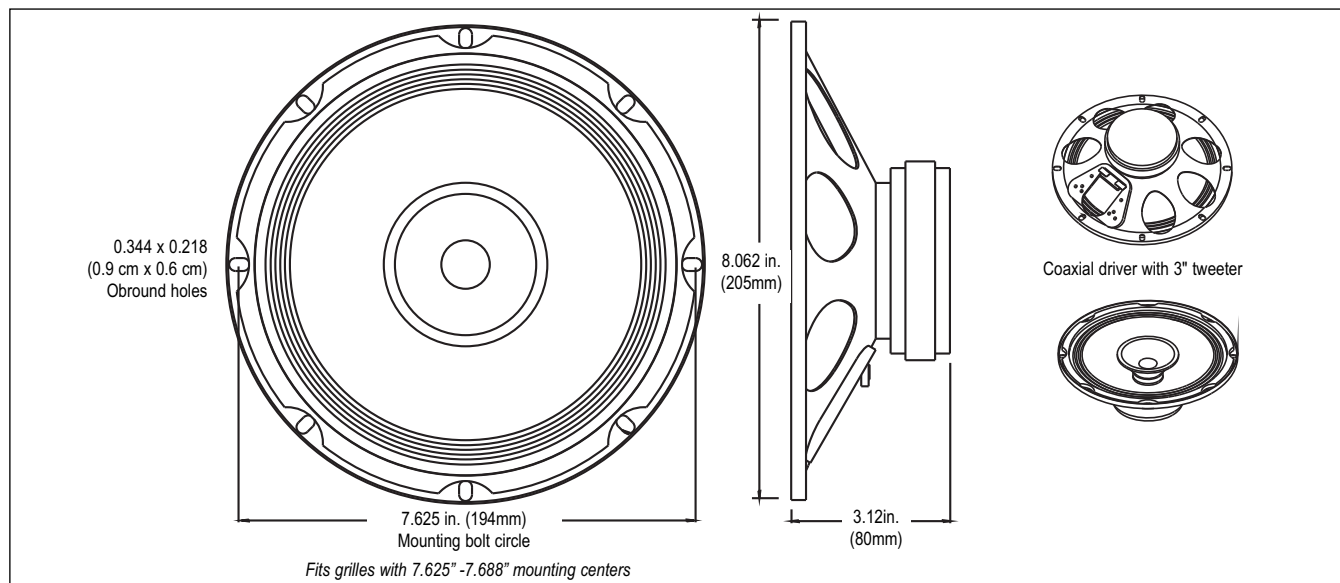
Model CT8320 utilizes precision ground, highly efficient ceramic magnets (18.7oz. LF, 2.1oz. HF) and permanently aligned voice coils (1" LF, 0.57" HF) to achieve outstanding smoothness and intelligibility. The loudspeaker frame is 20-gauge stamped steel with a zinc plated finish to prevent corrosion. The frame also includes pre-punched holes for transformer mounting. See factory wired speaker/transformer assemblies on page 2.

Model CT8320 is manufactured in the United States of America and meets or exceeds all applicable EIA standards. Lowell also manufactures a complete selection of architectural ceiling grilles, acoustic, protective, and special application backboxes and baffles to facilitate speaker installation wherever audio communications are desired.



CT8320

25-Watt 8" Coaxial Driver 18.7oz. LF / 2.1oz. HF Magnet



Specifications: Lowell Model CT8320 Coaxial Driver

PERFORMANCE

Power Handling, Nominal	25 watts RMS (nominal) measured per EIA Standard RS-426BA
Sensitivity	93dB Average SPL (measured 2.83V @ 1m) 107 dB Maximum SPL (calculated based on power rating and measured sensitivity).
Impedance	8 ohms (nominal), 7.5 ohms @220Hz (minimum)
Frequency Response	48Hz-19kHz (nominal), 48Hz-18kHz (±6dB)
Crossover Frequency	4000Hz, 1st order high pass filter
Dispersion Angle	100° conical @ 2000Hz octave (-6dB)

PHYSICAL - WOOFER

Cone Material	Paper with foam half-roll (up) surround
Magnet Weight, Material	18.7oz. (530g), strontium ferrite ceramic
Voice Coil Diameter, Material	1 inch (26mm), copper wire over aluminum former
Terminals	Quick disconnect type - spade lugs

PHYSICAL - TWEETER

Diameter	3.04 inch (77mm)
Cone Material	Paper
Magnet Weight, Material	2.1oz. (60g), strontium ferrite ceramic
Voice Coil Diameter, Material	0.57 inch (14.5mm) with Ferrofluid, copper wire

MECHANICAL

Basket	20 gauge stamped steel with zinc plating
Outside Diameter	8.062 inch (205mm)
Mounting Bolt Circle	7.625 inch (194mm) with 8 obround holes equally spaced at 45 degrees.
Cutout Diameter	7.15 inch (182mm)
Mounting Depth	3.12 inch (80mm)
Net Weight	3.7 lbs. (1.7kg)

THIELE-SMALL PARAMETERS

Pe25W	Qts.....0.42	BL6.5Tm	Sd33.2 in ² , 214cm ²
Fs51Hz	Qes0.51	Efficiency, η1.6%	Mms10.2g
Xmax.....0.10 in., 2.5mm	Qms.....2.38	Vas62 liters, 3781 cu.in	Cms0.95mm/N
Re6.7Ω			

CT8320 Factory-Wired Loudspeaker / Transformer Assemblies

Assembly Model	Mounted Xfmr	Assembly Depth*	Assembly Weight	Xfmr Power Rating	Xfmr Voltage (Pri)	Xfmr Taps(Pri)	Xfmr Response	Xfmr Insertion Loss
CT8320-T470	TLM470	3.12"	4.3 lb	4 Watts	70V	.5, 1, 2, 4W	60Hz - 15kHz +1dB	0.8dB
CT8320-T870	TLM870	3.12"	4.6 lb	8 Watts	70V	1, 2, 4, 8W	50Hz - 15kHz +1dB	0.8dB
CT8320-TM1670	TLM1670A	3.37"	5.8 lb	16 Watts	70V	4, 8, 16W	50Hz - 15kHz +1dB	0.6dB

* Minimum depth required for the speaker transformer assembly to be rear mounted in an enclosure.

AUDIO

12"/10" Speakers & Accessories

8" Speakers & Accessories

6" Speakers & Accessories

4" Speakers & Accessories

Horn Speakers & Accessories

Masking Speakers & Generators

Control Accessories & Electronics

Drivers



CT8320

25-Watt 8" Coaxial Driver 18.7oz. LF / 2.1oz. HF Magnet

Scope of Lowell Model CT8320 performance and power tests

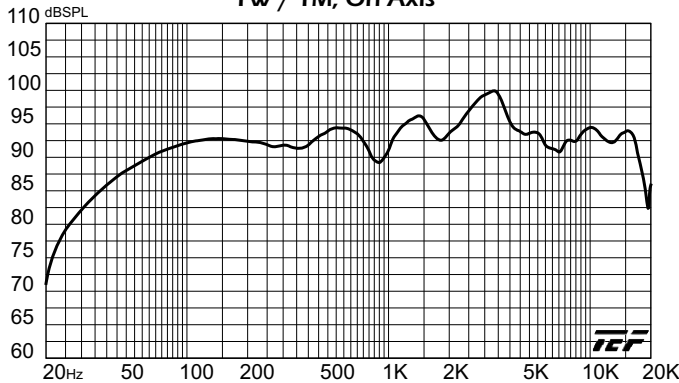
Lowell loudspeakers are thoroughly tested to provide specifiers and contractors with solid data that accurately reflects the performance of production drivers. Performance tests are conducted on randomly selected final production assemblies. Testing equipment includes the GoldLine TEF-20 analyzer and a LinearX LMS measurement system. The power handling capability is based on EIA Standard RS-426B.

Frequency Response data is provided in two ways: *Nominal* - which is the generally usable response range and *Limited Bandwidth* - (defined by \pm dB) which is useful in predictive engineering calculations. Resonance frequency (F_s) is also provided in Thiele-Small parameters as the recommended limit from which to drive a speaker. Sensitivity (SPL) is presented two ways: *Average* - which is based on a computer measurement and calculation of the log average SPL over the given frequency response bandwidth with 1 watt input measured at 1 meter. *Maximum* - which is calculated based on the average sensitivity and the power rating of the driver. Dispersion Angle is defined as the angle of coverage that is no more than

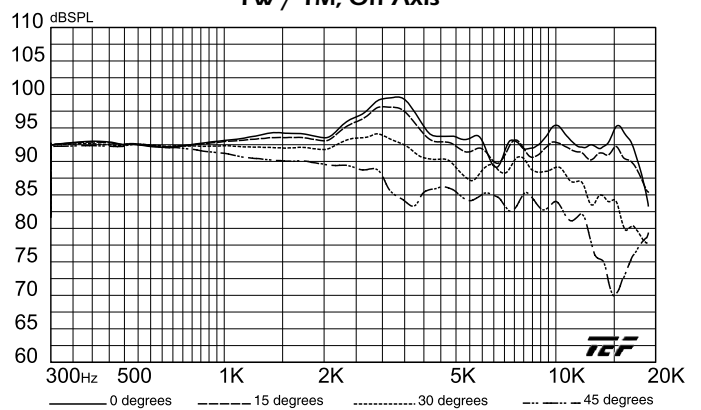
6dB down from the on-axis value averaged over the 2000 Hz octave band. Since speech intelligibility is very dependent upon the 2000 Hz octave, this specification is quite useful in designing paging systems that provide even coverage and intelligibility. Thiele-Small Parameters were measured with the LMS system using the delta mass method. These parameters are useful in determining the appropriate type and size of enclosure for a specific driver.

In addition to the standard frequency response (on axis), impedance, and polar curves, off-axis frequency response and impulse curves are presented. Off-axis Response is another way of looking at the polar response of a speaker. It is especially useful in displaying the relative change in the sound of a speaker as one increasingly moves off-axis. Each curve is the average of response over a 15° range. Therefore, the 0° curve is the average of -5°, 0°, and +5°. The 15° curve is the average of -10°, -15°, -20°, +10°, +15°, and +20°. The final graph is an Impulse Curve which displays how well the electro-magnetic motor and the mechanical suspension work together to control the motion of the cone.

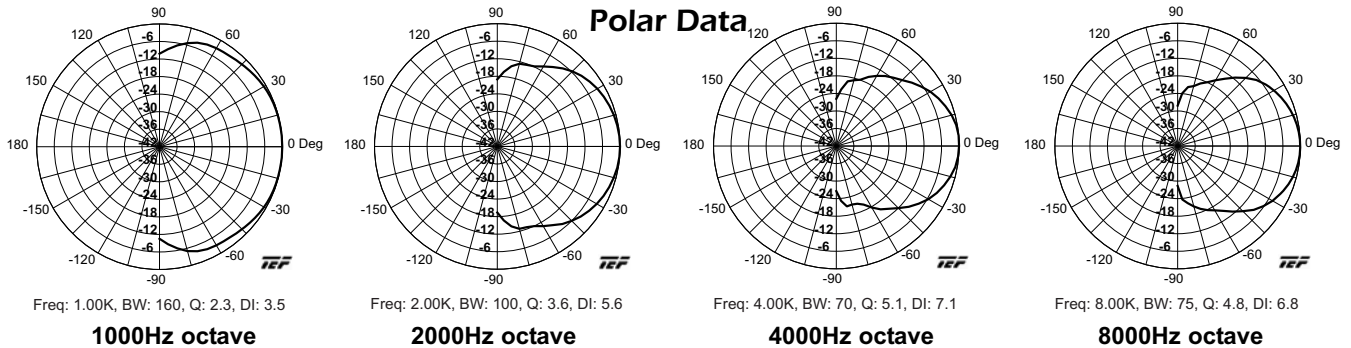
SPL vs. Frequency 1W / 1M, On Axis



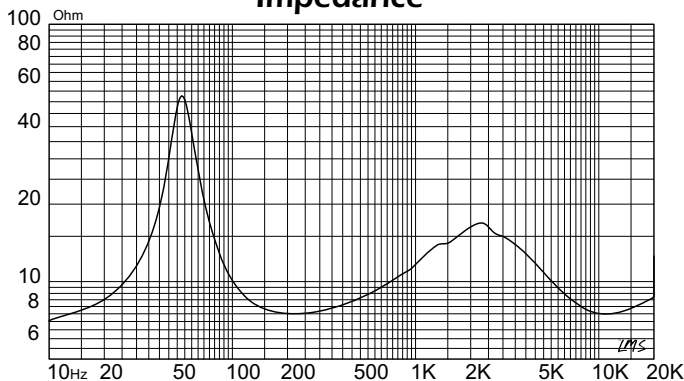
SPL vs. Frequency 1W / 1M, Off Axis



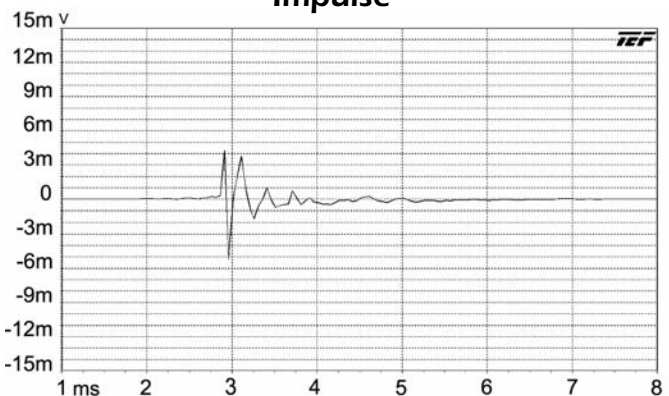
Polar Data



Impedance



Impulse





CT8320

25-Watt 8" Coaxial Driver 18.7oz. LF / 2.1oz. HF Magnet

A & E Specifications

The coaxial 8 inch loudspeaker shall be Lowell Model CT8320. Loudspeaker shall be furnished and installed at each designated location on the architectural plans and/or as specified herein. The loudspeaker shall be of the coaxial type having electrically independent high and low frequency transducers. The low frequency section shall have an 8 inch diameter cone and the high frequency section shall have a 3 inch diameter cone. A built-in electrical crossover network shall be employed to accomplish the proper frequency selection between the two drivers. The crossover frequency shall be at 4000Hz.

The loudspeaker shall be capable of producing a uniform audible frequency response over the range of 48Hz-18kHz+6dB with a dispersion angle of 100 degrees @ 2000Hz-6dB. The average sensitivity shall measure 93dB (SPL at 1W/1M). Rated power handling capacity shall be 25 watts RMS. The low frequency voice coil shall have a diameter of 1 inch and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 18.7oz. The high frequency voice coil shall have a diameter of 0.57 inches and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 2.1 oz. The voice coil impedance shall be 8 ohms.

The loudspeaker shall have a round, structurally reinforced stamped 20-gauge steel frame to maintain precise mechanical alignment and shall provide facilities for mounting a transformer. The loudspeaker shall have an overall diameter of 8.062 inches with eight obround holes equally spaced at 45 degrees on a 7.625 inch diameter mounting bolt circle. The overall depth shall not exceed 3.12 inches (not including transformer). All external metal parts shall be zinc plated to resist rust and corrosion. The loudspeaker specified herein shall be Model CT8320 as supplied by Lowell Manufacturing Company, Pacific, Missouri, 63069 U.S.A.

For 70.7 volt distributed systems:

The Model CT8320 coaxial loudspeaker shall be equipped with Lowell Model _____ transformer, factory mounted and wired. The transformers primary voltage shall be 70.7V and shall provide selectable power taps of _____ watts. The transformer frequency response shall be from _____ to _____ Hz ± _____ dB, with a maximum insertion loss of _____ dB. The loudspeaker and transformer assembly specified herein shall be referred to as the Lowell Model CT8320-_____(T470, T870, TM1670).

Companion Backboxes and Grilles (partial selection)

To meet performance, installation, and aesthetic requirements, CT8320 drivers may be matched with a variety of backboxes and attractive architectural grilles. Backbox models with batting include 1-1/2" thick acoustic fiberglass. Please note, a much larger selection of backboxes and grilles is available from Lowell; refer to the current Lowell catalog or website for complete information.



CP810
CP87 / CP84

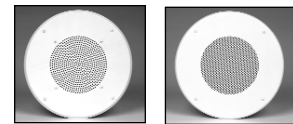
Recessed Backboxes for Screw-Mount Grilles - Partial selection on right

CP84	CRS 11.938Dia x 4.063D, Ext. lip for sheetrock
CP87	CRS 11.938Dia x 6.687D, Ext. lip for sheetrock + batting
CP810	CRS 11.938Dia x 10.063D, Ext. lip for sheetrock + batting



DX108 / DX58

DX58	CRS .5cuft 11.938Dia x 8D, Ext. lip for sheetrock + batting
DX108	CRS 1cuft 15Dia x 10.125D, Ext. lip for sheetrock + batting



A8-AW CS-8H



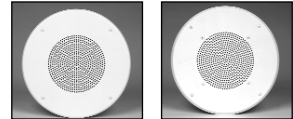
LO8-P OM8-P RS8-AW



XCP810
XCP87 / XCP84

Recessed Backboxes for Screw or Torsion Grilles - Partial selection on right

XCP84	CRS 10.063Dia x 4.063D, flat flange for tile ceiling
XCP87	CRS 10.063Dia x 6.687D, flat flange for tile ceiling + batting
XCP810	CRS 10.063Dia x 10.063D, flat flange for tile ceiling + batting



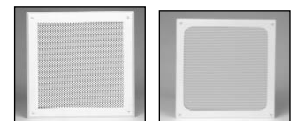
WB-8 WB-8H



DX198

Recessed Backboxes for Screw-Mount Grilles - Partial selection on right

DX198	CRS 1cuft 15Sq x 8D, Ext. lip for sheetrock + batting
-------	---



FW-8 JG-8X



P68X

P68X	CRS 10Sq x 4D
P68X-6	CRS 10Sq x 6D