

8" Dual Cone Speaker (optional transformer)

Description

Lowell Model 805 is a commercial industry standard 8" full range, dual cone speaker with a 1" voice coil and a 5 oz. magnet. This workhorse of the industry provides good value in basic paging or background music systems. Standard features include a plated steel basket and copper voice coil. To meet a variety of applications, the speaker is available with a factory-wired dual voltage (70/25V) transformer and will fit standard 8" ceiling grilles and backboxes. Lowell Model 805 is often specified for reliable paging and background music performance in commercial, industrial, and institutional applications including offices, public buildings, educational, and medical facilities. The dual cone speaker assembly employs a highly efficient magnetic structure energized by a 5 oz. ceramic magnet. The use of a hard fiber whizzer cone mechanically coupled to the 1" voice coil provides extended high frequency response with fine clarity, while the molded fibre cone enhances mid- and low-range frequency performance. The speaker frame is stamped 20-gauge steel with a zinc-plated finish to prevent corrosion. The frame includes pre-punched holes for transformer mounting.

Features

- Reliable 12W 8" (5 oz.) speaker for value price.
- Dual cone 8-inch speaker provides clear and accurate reproduction of music and voice communications.
- Manufactured in USA to meet or exceed all applicable EIA standards.
- Optional factory-wired transformer (TLM-572): taps at 0.25, 0.5, 1, 2, 5W (70/25V)

A&E Specifications

The dual cone 8-inch speaker shall be Lowell Model 805. Speaker shall be of the permanent magnet type having a seamless molded fiber cone with a hard fiber whizzer cone mechanically coupled to the voice coil for extended high frequency response. It shall be capable of producing a uniform audible frequency response over the range of 47Hz-20kHz+6dB with a dispersion angle of 120-degrees @ 2000Hz-6dB. The average sensitivity shall measure 93dB (SPL at 1W/1M). Rated power handling capacity shall be 12 watts RMS. The voice coil shall have 1-in. dia. and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 5 oz. The voice coil impedance shall be 8 ohms. The speaker 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 speaker shall have an overall diameter of 8.062 in. with eight obround holes equally spaced at 45-degrees on a 7.625 inch dia. mounting bolt circle. The overall depth shall not exceed 2.688 in. (not including transformer). External metal parts shall be zinc-plated to resist rust and corrosion.

For 25 or 70.7 volt distributed systems: The speaker shall be equipped with a dual voltage transformer, factory-mounted and wired. The transformer's primary voltage shall be 25/70V and shall provide selectable power taps of 0.25, 0.5, 1, 2, 5W watts. The transformer frequency response shall be from 40Hz to 20kHz ± 1dB, with a maximum insertion loss of 0.5dB.



Model No. 805



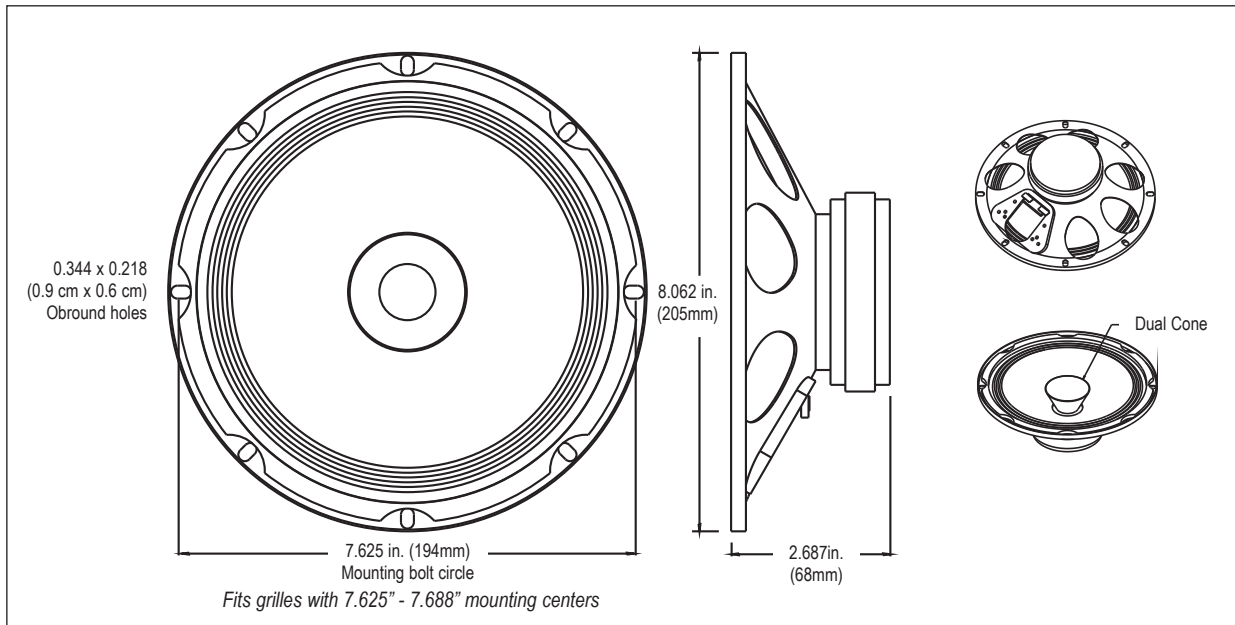
Model No. 805-T72

Optional Accessories (order separately):

Recessed Backbox (for screw-mount grille)	
CP84	11.938Dia x 4.063D, Ext. lip for sheetrock
CP87	11.938Dia x 6.687D, Ext. lip for sheetrock + batting
CP810	11.938Dia x 10.063D, Ext. lip for sheetrock + batting
8XD4	10Dia x 4D (stacks for warehousing)
8PSBX	Plastic 10Dia x 4D (stacks for warehousing)
IX810	CRS 10.063Dia x 10D Direct mnt 8in rec rd
IX810-EL	CRS 10.063Dia x 10D Direct mnt 8in rec rd, Ext. lip
P68X	10Sq x 4D
P68X-6	10Sq x 6D
Recessed Backbox (for screw-mount or torsion grille)	
XCP84	10.063Dia x 4.063D, flat flange for tile ceiling
XCP87	10.063Dia x 6.687D, flat flange for tile ceiling + batting
XCP810	10.063Dia x 10.063D, flat flange for tile ceiling + batting
Surface Backbox (for screw-mount grille)	
CB84	12.25Sq x 4D, white finish
CB84-SG	12.25Sq x 4D, white finish (for SG8 grille only)

Model No.	Mounted Xfmr	Assembly Depth*	Assembly Weight	Xfmr Power Rating	Xfmr Primary Voltage	Xfmr Primary Taps	Xfmr Response	Xfmr Insertion Loss
805	---	---	---	---	---	---	---	---
805-T72	TLM572	2.68"	1.7 lb	5 Watts	25/70V	0.25, 0.5, 1, 2, 5W	40Hz - 20kHz ±1dB	<0.5dB

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



Driver (only) Specifications:

PERFORMANCE

Power Handling	12 watts RMS (nominal) measured per EIA Standard RS-426B
Sensitivity	93dB Average SPL (measured 2.83V @ 1m) 103.8 dB Maximum SPL (calculated based on power rating and measured sensitivity).
Impedance	8 ohms (nominal), 8.6 ohms @235Hz (minimum)
Frequency Response	47Hz-20kHz (+6dB)
Dispersion Angle	120° conical @ 2000Hz octave (-6dB)

PHYSICAL - WOOFER

Magnet Weight, Material	5oz. (134g), strontium ferrite ceramic
Voice Coil Diameter, Material	1 inch (26mm), copper wire
Cone Material	Dual cone paper with self edge surround
Terminals	Quick disconnect type - spade lugs

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	2.68 inch (68mm)
Net Weight	1.3 lbs. (0.58kg)

THIELE-SMALL PARAMETERS

Pe.....12W	Qts.....1.9	BL.....3.9Tm	Sd.....33.2 in ² , 214cm ²
Fs.....105Hz	Qes.....2.9	Efficiency, h.....0.68%	Mms.....8.6g
Xmax.....0.08 in., 2mm	Qms.....6.2	Vas.....17.3 liters, 1056 cu.in.	Cms.....0.27mm/N
Re.....7.8w			

Scope of Lowell Performance & Power Tests:

Lowell drivers and loudspeaker systems are tested to provide specifiers and contractors with data that reflects the performance of production products. Testing equipment includes the GoldLine TEF-20 analyzer (for performance measurements) and the LinearX LMS measurement system (for Thiele-Small Parameters).

Power Handling capability is tested based on EIA Standard RS-426B.

Frequency Response data is provided which is the measured frequency response range (defined by + 6dB) which is useful in predictive engineering calculations.

Sensitivity (SPL) data is presented in two ways: Log Average SPL is a computer calculated log average of the SPL measured at 1 meter with 1 watt input over the stated frequency response range. Maximum SPL is calculated based on the measured log average SPL and the 8-ohm power rating of the speaker. Maximum SPL for loudspeakers which do not include an 8 ohm input, is calculated based on the measured log average SPL and the highest transformer power tap.

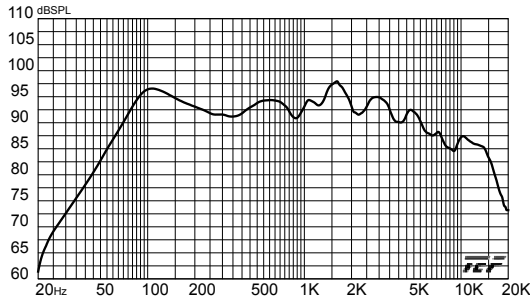
Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000Hz octave band. Since speech intelligibility is very dependent upon the 2000Hz octave, this specification is quite useful in designing speech reinforcement systems that provide even coverage and speech intelligibility.

Thiele-Small Parameters for raw drivers are measured using the LinearX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

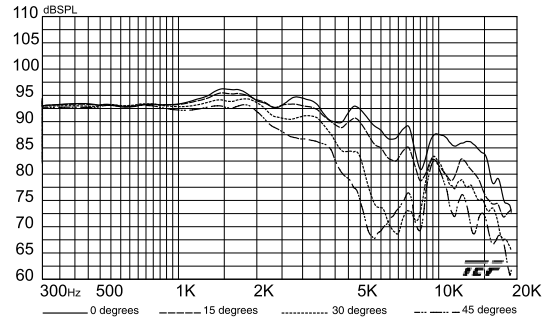
Impedance data is presented in three ways: Nominal Impedance is the generally accepted impedance for use in making comparisons with competitive products, the Impedance Curve is a graphical representation of the impedance that is measured in the lab and gives the impedance of the device over the audio frequency range, Minimum Impedance is the lowest impedance measurement at a frequency within the specified frequency response range of the speaker. If a line matching transformer is included in the speaker assembly, relative impedance curves of the primary windings of the transformer when loaded by the driver may be shown.

Polar data is presented for the averaged one octave band surrounding the center frequencies of 1000Hz, 2000Hz, 4000Hz, and 8000Hz. Radial polar response curves show the relative change in sound pressure level as one moves from directly on-axis to an increasingly off-axis listening position. Since coaxial speaker drivers are symmetrical in the vertical and horizontal directions, only one set of polar plots will be presented for coaxial drivers and speaker systems incorporating coaxial drivers. Vertical and horizontal polar plots will be presented for two-way speaker systems that incorporate separate low frequency and high frequency drivers.

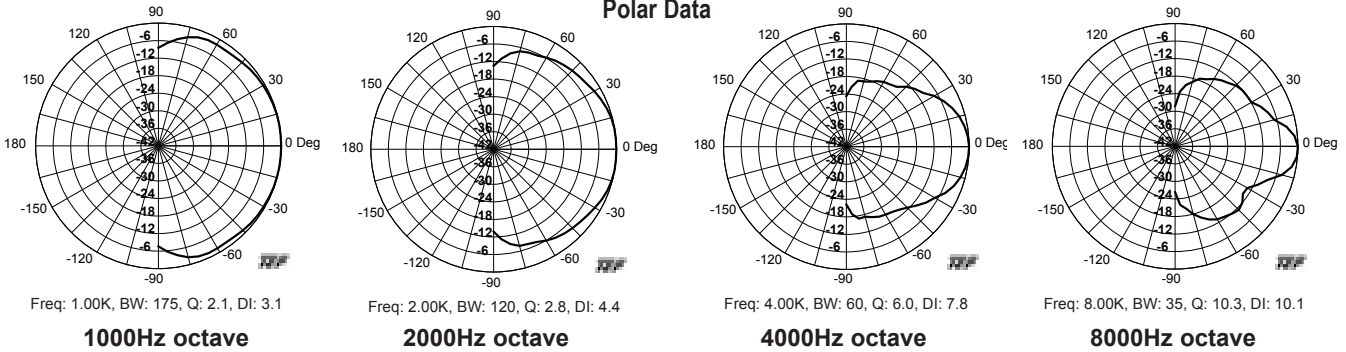
SPL vs. Frequency (1W / 1M, On Axis)



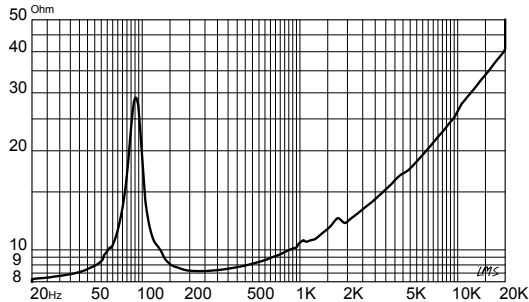
SPL vs. Frequency (1W / 1M, Off Axis)



Polar Data



Impedance



Impulse

