

**Model No.**

# 810

## 8" 15W Dual Cone Driver

Eight inch driver with 10 oz. magnet provides a step up in full range performance from the commercial industry standard 8" 5 oz. driver. It provides solid performance and value in just about any basic paging or background music system requiring clear reproduction of music and voice communications.

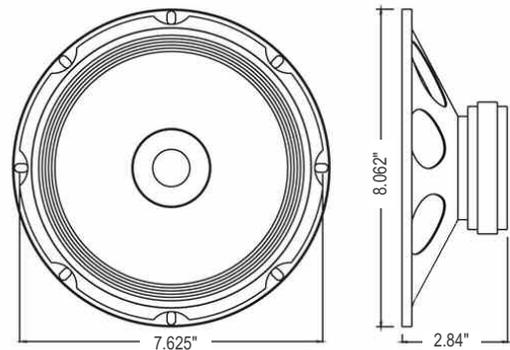
**Features**

- Highly efficient magnetic structure energized by 10 oz. ceramic magnet.
- 3/4" hard fiber whizzer cone is mechanically coupled to 1" voice coil for extended high frequency response with fine clarity
- Molded fibre cone enhances mid- and low-range frequency performance.
- Frame is stamped 20-gauge steel with zinc-plated finish to prevent corrosion.
- Power rating 15W
- Average sensitivity 97.9dB (SPL at 1W/1M)
- Frequency response 54Hz-11.6kHz ( $\pm 6$ dB), 50Hz-20kHz ( $\pm 6$ dB)
- Dispersion angle 95 degrees @2000Hz (-6dB)
- Manufactured in USA to meet or exceed all applicable EIA standards.

0.344 x 0.218  
(0.9 cm x 0.6 cm)  
Obround holes

**A&E Specifications**

The dual cone 8-inch speaker shall be Lowell Model No. 810 which shall be of the permanent magnet type having a seamless molded fiber cone with a hard fiber whizzer cone mechanically coupled to a voice coil for extended high frequency response. It shall be capable of producing a uniform audible frequency response over the range of 54Hz-11.6kHz ( $\pm 6$ dB), 50Hz-20kHz ( $\pm 6$ dB) with dispersion angle of 95 degrees @2000Hz (-6dB). Average sensitivity shall measure 97.9dB (SPL at 1W/1M). Power rating shall be 15 watts RMS. The voice coil shall have a 1-in. dia. and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 10 oz. Voice coil impedance shall be 8ohms. The driver shall have a round, structurally reinforced stamped 20-ga. steel frame with 8.062" overall diameter and eight obround holes equally spaced at 45 degrees on a 7.625" dia. mounting bolt circle. Overall depth shall not exceed 2.84". External metal parts shall be zinc-plated to resist rust and corrosion.

**Drawings**

Fits grilles with 7.625" - 7.688" mounting centers

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## Driver Specifications

### PERFORMANCE

Power Rating	15 watts RMS measured per EIA Standard RS-426B
Sensitivity	97.9dB Average SPL (measured 2.83V @ 1m) 109.7dB Maximum SPL (calculated based on power rating and measured sensitivity)
Impedance	8 ohms (nominal), minimum 7.6ohms @342Hz
Frequency Response	54Hz-11.6kHz ( $\pm 6$ dB), 50Hz-20kHz ( $\pm 6.6$ dB)
Dispersion Angle	95 degrees conical @ 2000Hz octave (-6dB)

### PHYSICAL - WOOFER

Magnet Weight, Material	10 oz. (264g), strontium ferrite ceramic
Voice Coil Diameter, Material	1 in. (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	2.84 inch (72mm)
Net Weight	2.0 lbs. (0.91kg)

### THIELE-SMALL PARAMETERS

Pe.....15 W	Qts.....0.779	BL.....5.9 Tm	Sd.....227.0 cm <sup>2</sup>
Fs.....96.8 Hz	Qes.....0.859	Efficiency, h.....2.8 %	Mms.....7.23 g
Xmax.....0.3 mm	Qms.....8.43	Vas.....27.4 liters, 1672 cu.in.	Cms.....374.8 uM/N
Re.....6.9 ohms			

## Scope of Performance and 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 Rating** is tested based on EIA Standard RS-426B.

**Frequency Response** data is provided which is the measured frequency response range (defined by  $\pm 6$ dB) 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 8ohm power rating of the speaker.

**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.

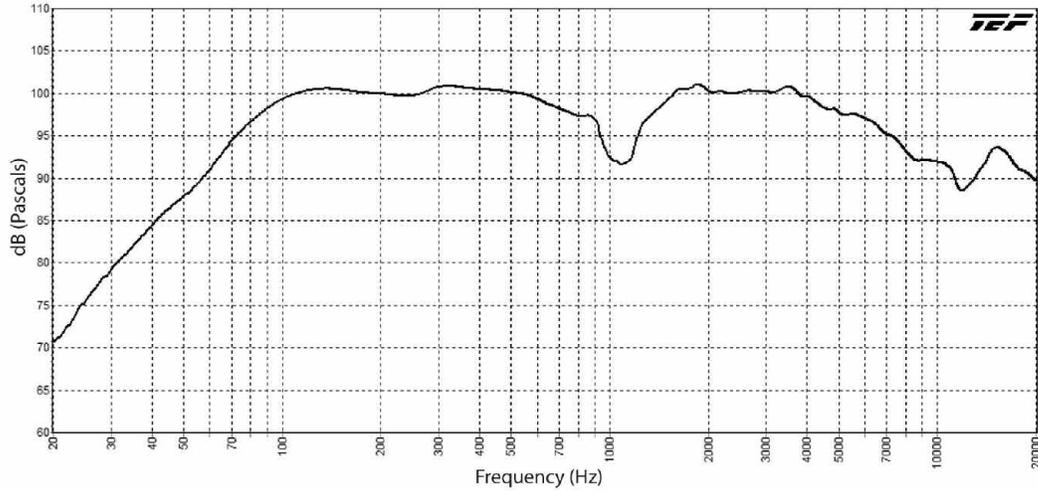
**Thiele-Small Parameters** for raw drivers are measured using the LinearX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

**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.

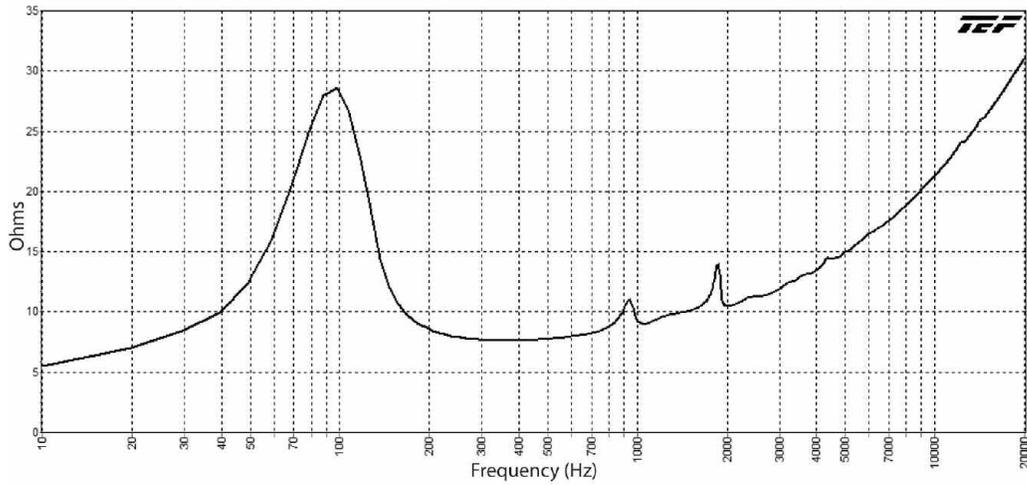
**Polar** data is presented for the averaged one octave band surrounding the center frequencies of 1000Hz, 2000Hz, 4000Hz, and 8000Hz. Radial polar response curves show the relative change in sound pressure level as one moves from directly on-axis to an increasingly off-axis listening position.

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## SPL vs. Frequency 1W/1M (half space) On-axis



## Impedance



## Polar Data (half space)

