

Model No.

# 8C10MRB

8-inch 15W Moisture-Resistant Cone Driver



INCLUDES:

- 8-inch 15W moisture-resistant cone driver

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THE 8C10MRB MOISTURE-RESISTANT DRIVER is made for utility paging and low level background music systems that may be subjected to high humidity such as those in greenhouses, locker rooms, hot tub areas, protected spaces in outdoor cafes, and similar venues.

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## FEATURES

**DESCRIPTION:** The 8-inch single cone driver features a 10 oz. magnet, 1-inch voice coil, and cotton cloth cone that's treated with phenolic resin and coated with acrylic lacquer for moisture-resistant performance. The driver is made to mount to a standard 8-inch grille and backbox and is suitable for use in indoor areas or outdoor areas that protected from direct exposure to elements (rain, snow, sun, etc.).

**FRAME:** Stamped 20-gauge steel basket with zinc-plated finish to prevent rust and corrosion

**POWER RATING:** 15W RMS

**FREQUENCY RESPONSE:** 77Hz–7.5kHz ( $\pm 6$ dB);  
50Hz–20kHz ( $\pm 18.3$ dB)

**DISPERSION ANGLE:** 90 degrees conical @2kHz octave  
(-6dB).

**SENSITIVITY:** Average SPL = 96.7dB (@1W/1M);  
Maximum SPL = 108.5dB (calculated based on power rating and measured sensitivity)

**MOUNTING DEPTH:** 2.84 inches

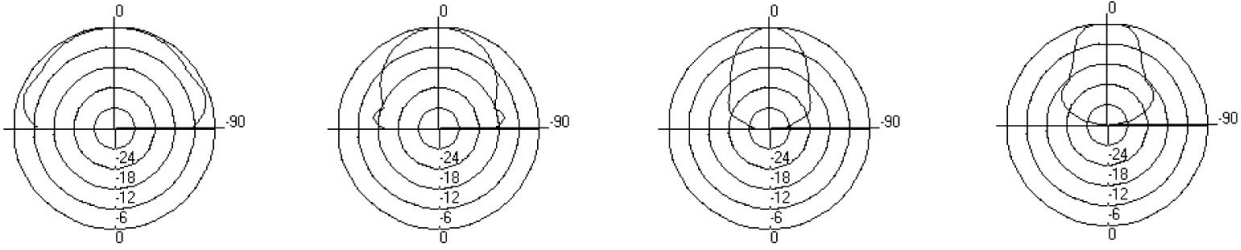
**NET WEIGHT:** 2.0 lbs.

**COUNTRY OF ORIGIN:** Assembled in U.S.A. with global components.

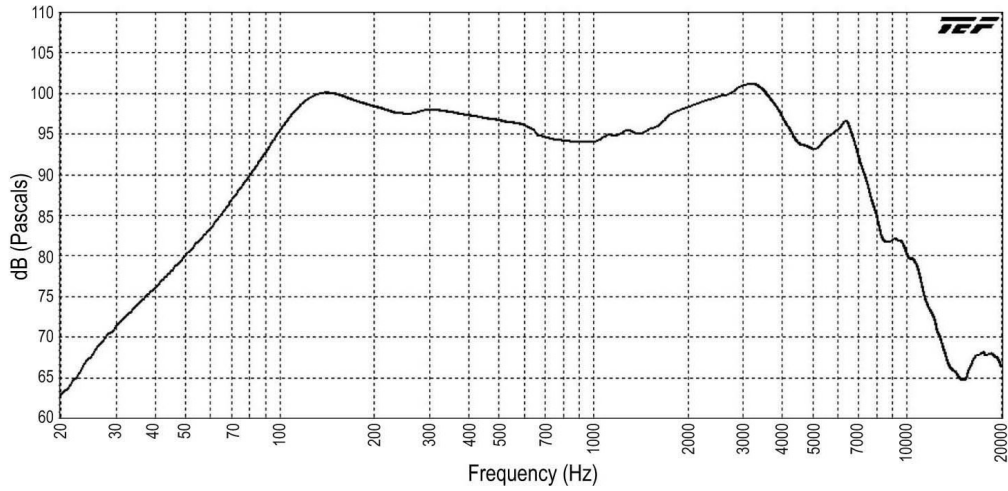
## A&E SPECIFICATIONS

The 8-inch driver shall be Lowell Model 8C10MRB, which shall be the permanent magnet type with a cotton cloth cone treated with phenolic resin and coated with acrylic lacquer for moisture-resistant performance. It shall be capable of producing a uniform audible frequency response over the range of 77Hz–7.5kHz ( $\pm 6$ dB) and 50Hz–20kHz ( $\pm 18.3$ dB) with dispersion angle of 90 degrees @2000Hz (-6dB). Average sensitivity shall measure 96.7dB SPL (at 1W/1M). Rated power capacity shall be 15 watts RMS. The voice coil shall have a diameter of 1-inch and 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 frame shall be stamped 20-gauge steel with 8.062-inch diameter and 8 obround holes equally spaced at 45 degrees on the 7.625-inch diameter mounting bolt circle. Overall depth shall not exceed 2.84 inches. External metal parts shall be zinc-plated to resist rust and corrosion.

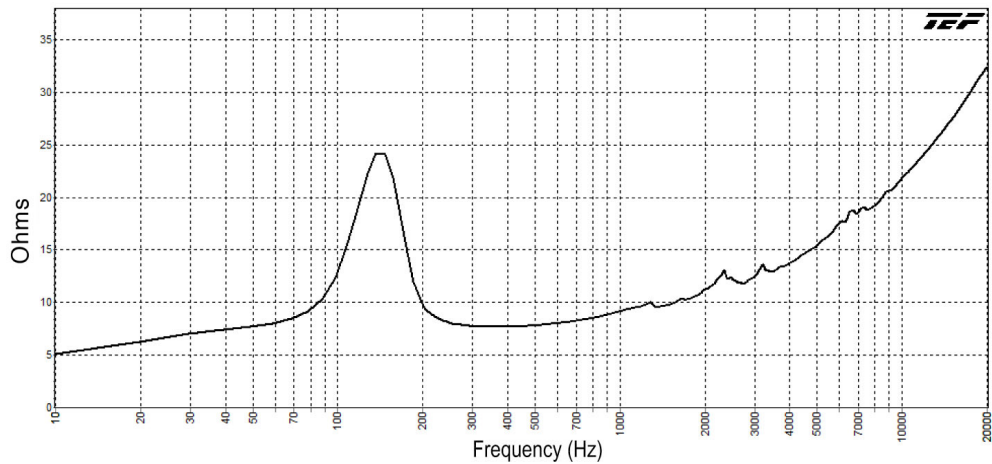
## POLAR DATA (HALF SPACE)



## SPL VS. FREQUENCY (1W/1M, HALF SPACE, ON-AXIS)



## IMPEDANCE



## DRIVER SPECIFICATIONS

### PERFORMANCE:

Power Rating .....	15 watts RMS (nominal) measured per E.I.A. Standard RS-426B
Sensitivity .....	96.7dB Average SPL (measured 2.83V @1m)
	108.5dB Maximum SPL (calculated based on power rating and measured sensitivity)
Impedance .....	Driver Nominal Impedance: 8 ohms
	Driver Minimum Impedance: 7.7 ohms @303Hz
Frequency Response .....	77–7.5kHz (±6dB); 50–20kHz (±18.3dB)
Dispersion Angle .....	90 degrees conical @2kHz octave (-6dB)

### PHYSICAL – WOOFER:

Cone .....	Moisture-resistant impregnated cloth with self edge surround
Magnet .....	10 oz. (264g), strontium ferrite ceramic
Voice Coil .....	1 in. (26mm) diameter, copper wire
Terminals .....	Quick disconnect type, spade lugs

### MECHANICAL:

Basket .....	20-gauge stamped steel with zinc plating
Outside Diameter .....	8.062 in. (205mm)
Mounting Bolt Circle.....	7.625"
	Fits grilles with 7.5 to 7.75-in. (190.5–196.9mm) mounting centers, with 8 obround holes equally spaced at 45 degrees
Cutout Diameter .....	For rear mounting: 6.875 in. (174.6mm)
	For front mounting: 7.15 in. (181.6mm)
Mounting Depth .....	2.84 in. (72mm)
Net Weight.....	2.0 lbs. (0.92kg)

### THIELE-SMALL PARAMETERS:

Pe .....	15 W	Qts.....	1.225	BL.....	6.3 Tm	Sd .....	227.0 cm <sup>2</sup>
Fs .....	123.4 Hz	Qes.....	1.451	Efficiency, h.....	1.71 %	Mms.....	9.01 g
Xmax.....	0.3 mm	Qms.....	7.91	Vas .....	13.7 liters	Cms .....	187.8 uM/N
Re .....	7.6 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 ±6dB) which is useful in predictive engineering calculations.

Sensitivity (SPL) data is presented in two ways:

1. 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.
2. Maximum SPL is calculated based on the measured log average SPL and the 8ohm power rating of the speaker. Maximum SPL for speakers that do not include an 8ohm 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.

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.

Impedance Data may be represented in four different ways depending on the particular model:

1. Nominal Impedance is the generally accepted impedance value for use in making comparisons with competitive products.
2. Impedance Curve is a graphical representation of the 8ohm driver impedance measured in the lab and gives the impedance of the device over the audio frequency range.
3. Minimum Impedance is the lowest impedance measurement of the 8ohm driver at a frequency within the specified frequency response range of the speaker.
4. Impedance Measured at 1kHz is the reading expected to be measured by a technician in the field using a typical industry 1kHz impedance meter.

## 8C10MRB SERIES OVERVIEW

THIS SPEC

Model No.	Driver	Transformer	Transformer Primary Taps	Mounting Depth*	Outside Diameter	Net Weight	Sensitivity***	System Specs Frequency Response	Dispersion Angle****
8C10MRB	8" 15W moisture-resistant cone	---	---	2.84"	8.062"	2 lbs.	96.7 dB	77Hz-7.5kHz (±6dB) 50Hz-20kHz (±18.3dB)	90°
8C10MRB-T72	8" 15W moisture-resistant cone	25V/70V	.25, .5, 1, 2, 5W	2.84"	8.062"	2.4 lbs.	96.8 dB	75Hz-7.5kHz (±6dB) 50Hz-20kHz (±17.8dB)	90°

\* Mounting Depth: Minimum depth required for assembly to be rear-mounted to grille in an enclosure.

\*\* Sensitivity: Average SPL (measured 2.83V @ 1M)

\*\*\* Dispersion Angle: Conical @ 2kHz octave (-6dB)

**Note on Speaker Spacing:** Conical dispersion measurements are provided for comparison with other speakers. To determine correct speaker spacing, see the technical paper "Distributed System Speaker Spacing for the Integrator" ([www.Lowellmfg.com](http://www.Lowellmfg.com)) which explains the difference between conical and linear dispersion and the measurements to use for best results. For quick calculations, a calculator for speaker spacing is also available online under Resources – Interactive Tools.