

Model No.

8C10DVCA-2T72

8-inch 15W Cone Driver with 2 Transformers



INCLUDES:

- 8-inch 15W cone driver
- 25V/70V dual-voltage transformer (2)

THE 8C10DVCA-3T72 8-inch cone driver features two voice coils for commercial, industrial and institutional facilities where individual speakers must be connected to two separate systems. While most dual-function systems today use head-end electronics to perform switching between separate paging and music sources (to eliminate dual wiring to speakers), this model is offered primarily for retrofit applications where a two circuit, dual-purpose voice paging/signal reproduction approach was used. See application note below.

FEATURES

DESCRIPTION: The 8-inch 15W cone speaker with two voice coils allows for mechanical mixing of two circuits, such as music and paging, at the speaker. The highly efficient magnetic structure is energized by a 10 oz. ceramic magnet.

FRAME: Stamped 20-gauge steel with zinc-plated finish to prevent corrosion.

POWER RATING: 15W RMS

TRANSFORMER: Includes two (2) dual-voltage 25V/70V transformers with primary taps at 0.25, 0.5, 1, 2 and 5W.

FREQUENCY RESPONSE: 54Hz–9kHz (± 6 dB);
50Hz–20kHz (± 13.4 dB)

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

SENSITIVITY: Average SPL = 95.8dB (@1W/1M);
Maximum SPL = 102.8dB (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.

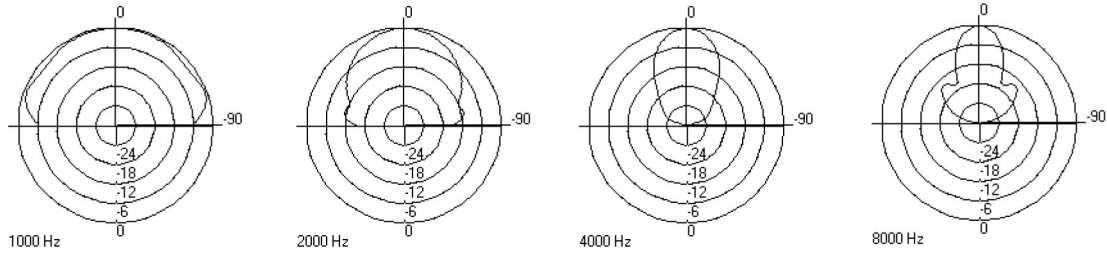
A&E SPECIFICATIONS

The 8-inch driver shall be Lowell Model 8C10DVCA-2T72, which shall be of the permanent magnet type with a dual voice coil and dispersion angle of 90 degrees @ 2000Hz (-6dB). Rated power handling capacity shall be 15 watts RMS. Each voice coil shall have a diameter of 1-inch and operate in a magnetic field derived from a ceramic magnet having a nominal weight of 10 oz., and an impedance of 8ohms. The driver shall have a stamped 20-gauge steel frame with 8.062-inch diameter and featuring 8 obround holes equally spaced on the 7.625-inch diameter mounting bolt circle. External metal parts shall be zinc plated. The driver shall include two dual-voltage (25V/70V) factory-wired transformers with primary taps at 0.25, 0.5, 1, 2, and 5W.

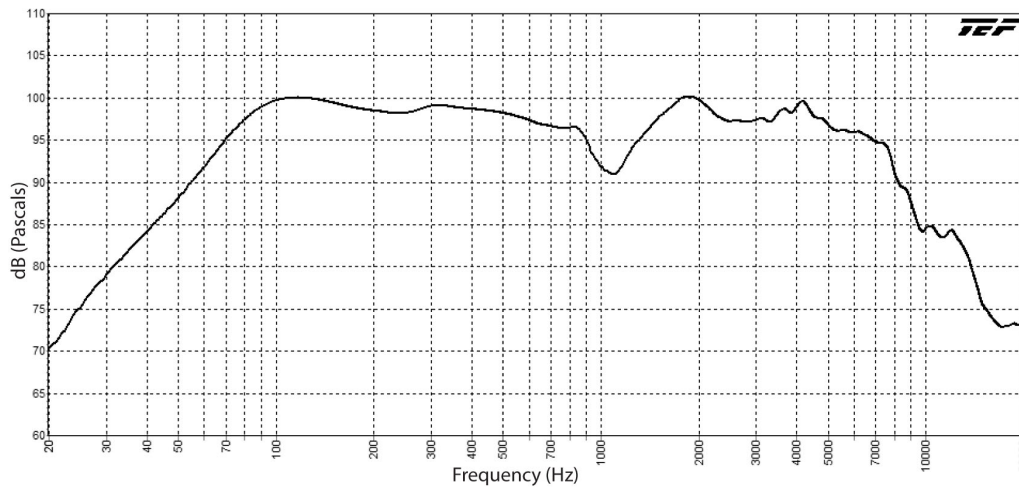
APPLICATION NOTE

Dual voice coil speakers should not be used when one voice coil is fed from a local (or zoned) sound system. For example, an application where a dual voice coil speaker is installed in a classroom with one voice coil connected to the school's all-call paging system and the other voice coil connected to a local sound system that is used only in that classroom. When the local sound system is playing, the all-call voice coil will also be traveling across the speaker's magnet which induces a small cross-talk voltage on the all-call speaker line. In the speakers in all other classrooms that are connected to the all-call speaker line, this will result in the audio from the local classroom sound system being heard softly. Only use dual voice-coil speakers when all of the speakers on the line are fed by the same two all-call amplifier systems.

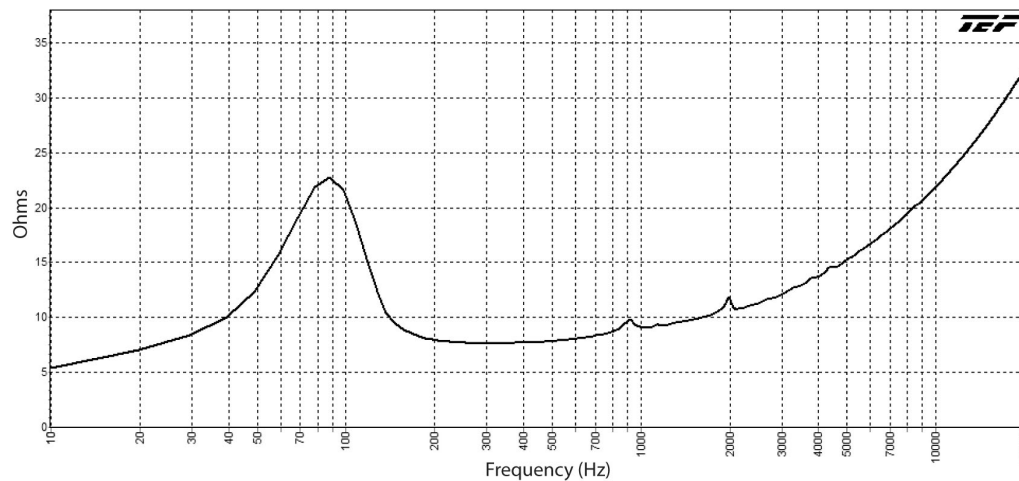
POLAR DATA (WITH TRANSFORMER, HALF SPACE)



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



IMPEDANCE (DRIVER VOICE COIL ONLY)



SPECIFICATIONS

PERFORMANCE:

Driver Power Rating	15 watts RMS total (7.5W per coil)
Driver Impedance (each voice coil)	Nominal Impedance: 8 ohms Minimum Impedance: 7.6 ohms @ 342Hz
System Sensitivity (driver/xfmr)	95.8dB Average SPL (measured 2.83V @1m) 102.8dB Maximum SPL (calculated based on 5W tap and measured sensitivity)
System Frequency Response (driver/xfmr) .	54Hz–9kHz (±6dB); 50Hz–20kHz (±13.4dB)
System Dispersion Angle	90 degrees conical @2kHz octave (-6dB)

PHYSICAL – WOOFER:

Cone	Paper 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 in. (194mm) with 8 obround holes equally spaced at 45 degrees
Cutout Diameter	7.15 in. (182mm)
Mounting Depth	2.84 in. (72mm)
Net Weight.....	2.0 lbs. (0.91kg)

THIELE-SMALL PARAMETERS:

Pe	15 W	Qts.....	1.068	BL.....	5.2 Tm	Sd	227 cm ²
Fs	86.0 Hz	Qes.....	1.219	Efficiency, h.....	1.56 %	Mms.....	811 g
Xmax.....	0.3 in.	Qms.....	8.65	Vas	30.9 liters	Cms	423.0 uM/N
Re	7.5 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.

8C10DVCA-T72 OVERVIEW

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SPEC

Model No.	Driver	Transformer	Transformer Primary Taps	Mounting Depth*	Outside Diameter	Net Weight	Sensitivity***	System Specs Frequency Response	Dispersion Angle****
8C10DVCA-T72	8" 15W cone	25V/70V (2)	.25, .5, 1, 2, 5W	2.84"	8.062"	2.0 lbs.	95.8 dB	54Hz–9kHz (±6dB) 50Hz–20kHz (±13.4dB)	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) 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.