



with domestic &
global components

Model No.

8A50

8" 50W Coaxial Driver

Eight inch coaxial driver is the flagship of Lowell's A-series and represents an upgrade in performance over standard commercial coaxial drivers – with greater power handling, lower distortion, and smoother musical sound. This driver is engineered for very high quality music and paging especially in large venues such as restaurants, hotel lobbies, retail stores and similar locations where the listening experience is a key part of customer satisfaction.

Features

- 20 oz. LF magnet coupled with 1.4" copper voice coil drive a polypropylene cone with half-roll rubber surround for long cone travel and good edge damping.
- Post-mounted tweeter is a 1" balanced-drive dome protected by Ferrofluid and a first-order high-pass filter.
- Frequency response is 40Hz-19.4kHz (+6dB), 40Hz-20kHz (+7.3dB) with a crossover at 4kHz. Driver's capacity to deliver a wide angle of sound distribution (90 degrees) over a large area with uniform response and voice clarity ensures complete coverage with minimum units.
- Average sensitivity 90.6dB (SPL at 1W/1M)
- Power rating 50W RMS
- Speaker frame is stamped 20-ga. steel with black enamel finish and zinc plated backplate.
- Meets or exceeds all applicable EIA standards.

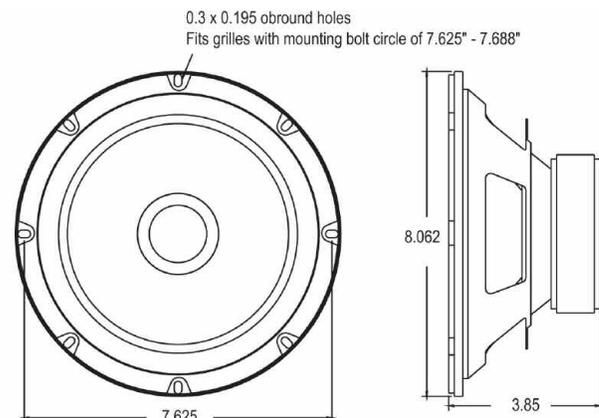
A&E Specifications

The 8" driver shall be AVLELEC Model No. 8A50 which shall be of the coaxial type having electrically independent high and low frequency transducers. The low frequency section shall have an 8" diameter polypropylene cone and the high frequency section shall have a tweeter with a 1" balanced-drive dome. A built-in electrical crossover network shall be employed to accomplish the proper frequency division between the 2 drivers. Crossover frequency shall be at 4000Hz with a first order high-pass filter. The driver shall be capable of producing a uniform audible frequency re-sponse over the range of 40Hz-19.4kHz (+6dB), 40Hz-20kHz (+7.3dB) with a dispersion angle of 90 degrees @2000Hz-6dB. Average sensitivity shall measure 90.6dB (SPL at 1W/1M). Power rating shall be 50 watts RMS. The low frequency voice coil shall have a diameter of 1.4" and operate in a magnetic field derived



from a ferrite (ceramic) magnet with nominal weight of 3.5 lbs. The high frequency voice coil shall have 0.53" diameter and operate in a magnetic field derived from a ferrite (ceramic) magnet with 2 oz. nominal weight. Voice coil impedance shall be 8 ohms. The driver shall have a round, structurally reinforced stamped 20-ga. steel frame with 8.08" overall diameter and 8 obround holes equally spaced at 45 degrees on 7.625" diameter mounting bolt circle. Overall depth shall not exceed 3.85". External metal parts shall be finished in black enamel coating or zinc plating to resist rust and corrosion.

Drawings



Driver Specifications

PERFORMANCE

Power Rating	50 watts RMS (nominal) measured per EIA Standard RS-426B
Sensitivity	90.6dB Average SPL (measured 2.83V @ 1m) 107.6dB Maximum SPL (calculated based on power rating and measured sensitivity). 8
Impedance Frequency	ohms (nominal), minimum 7.4ohms @176Hz
Response Crossover	40Hz-19.4kHz (+6dB), 40Hz-20kHz (+7.3dB)
Frequency Dispersion	4000Hz, 1st order high-pass filter
Angle	90 degrees conical @ 2000Hz octave (-6dB)

PHYSICAL WOOFER

Cone Material Magnet	Polypropylene with rubber half-roll (up) surround
Weight, Material	20oz. (567g), strontium ferrite ceramic
Voice Coil Diameter, Material	1.4 inch (36mm), copper wire over aluminum former
Terminals	Quick disconnect type - spade lugs

PHYSICAL TWEETER

Diameter	2.05 inch (52mm) housing with 1 inch (26mm) diameter balanced-drive dome 2
Magnet Weight, Material	oz. (57g), ceramic
Voice Coil Diameter, Material	0.53 inch (13.5mm), copper wire and ferrofluid

MECHANICAL

Basket	20 gauge stamped steel with black enamel finish
Outside Diameter	8.08 inch (205mm)
Mounting Bolt Circle	7.625-7.688 inch with 8 obround holes equally spaced at 45 degrees.
Cutout Diameter	7.2 inch (182mm)
Mounting Depth	3.85 inch (94mm)
Net Weight	3.5 lbs. (1.6kg)

THIELE-SMALL PARAMETERS

Pe50 W	Qts.....0.68	BL7.5 Tm	Sd	33.2 in ² , 214 cm ²
Fs52 Hz	Qes0.87	Efficiency, h0.47 %	Mms	20.6 g
Xmax.....0.21 in., 6mm	Qms.....3.1	Vas.....29.2 liters, 1782 cu.in	Cms	0.45 uM/N
Re7.2 ohms				

Scope of Performance and Power Tests

AVLELEC 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 ± 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. Maximum SPL for loudspeakers which do not include an 8ohm input, is calculated based on the measured log average SPL and the highest transformer power tap.

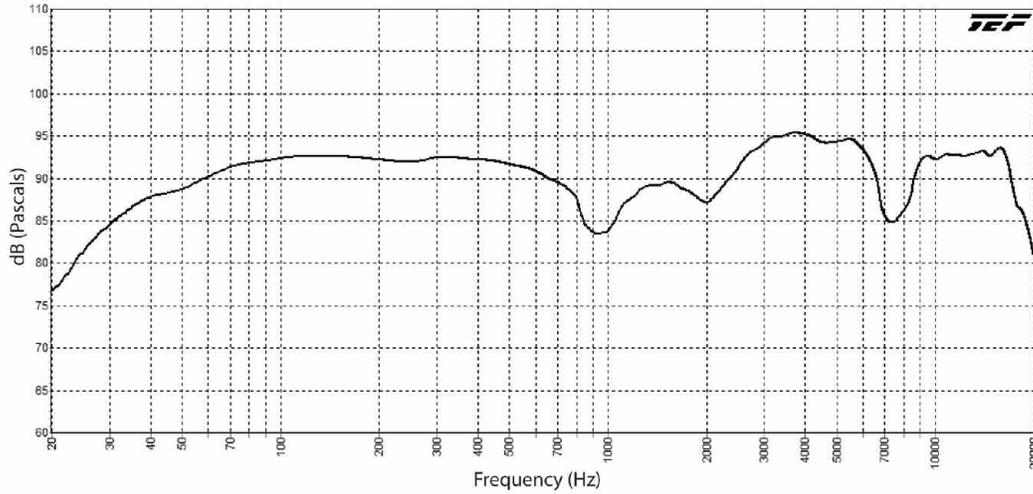
Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000Hz octave band. Since speech intelligibility is very dependent upon the 2000Hz octave, this specification is quite useful in designing speech reinforcement systems that provide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

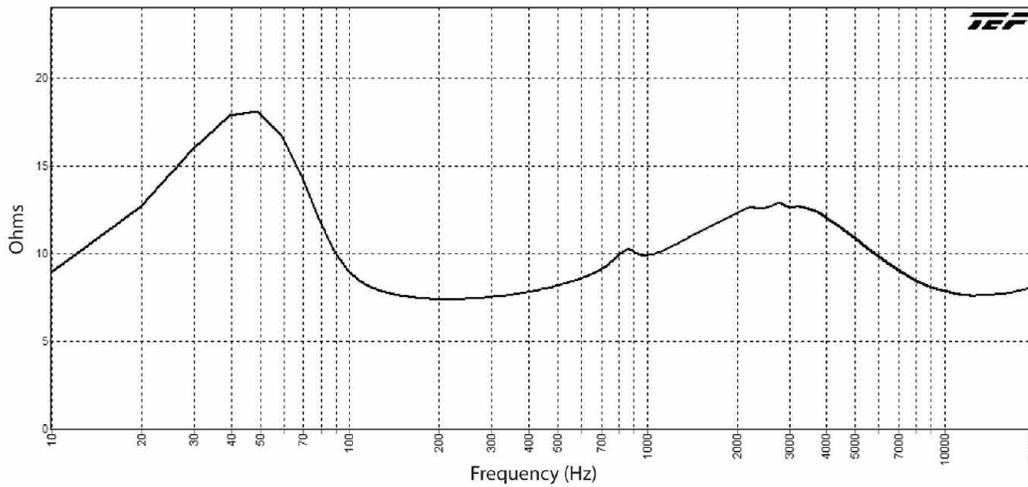
Impedance data is presented in three ways: Nominal Impedance is the generally accepted impedance for use in making comparisons with competitive products; the Impedance Curve is a graphical representation of the impedance that is measured in the lab and gives the impedance of the device over the audio 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. 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.

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



Impedance



Polar Data (half space)

