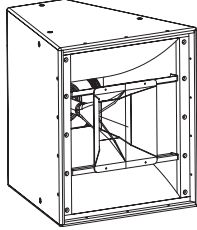


ALTEC LANSING®

PROFESSIONAL DE9412-8A



FEATURES - THE ALTEC LANSING DIFFERENCE

- 12" Two-Way High Output Speaker System
- High Fidelity 12" / 300mm Duplex® Point-Source Component
- Bass Horn Cabinet for LF control down to 500 Hz
- Excellent Broadband Efficiency – 102 dB 1 W 1 m
- High Output Performance – 127 dB continuous, 133 dB peak
- Large Format 1.4" Exit Throat HF Driver
- 90° x 40° Mantaray™ High Frequency Horn
- Available in Charcoal Grey or White finishes
- Eyebolt suspension hardware included

GENERAL PRODUCT DESCRIPTION

Altec Lansing's new DE9412-8A two-way 12" Duplex® point-source speaker system is designed to provide a high output solution for reverberant spaces. The DE9412-8A is an excellent choice for Auditoriums, Performing Arts Centers, Houses of Worship or any application requiring high output reproduction of both music and speech program material.

The DE9412-8A features Altec's unique 12" Duplex® point-source speaker component. This Duplex® "Engine" uses a single magnet structure, with the high frequency diaphragm on the back of the magnet and the low frequency voice coil and cone on the front of the structure. The result of the proximity of the voice coils is a point-source alignment. Altec Lansing's use of this point-source Duplex®, or coaxial, design maximizes speech intelligibility by minimizing the interference from adjacent devices that so often occurs in traditional two-way speaker systems.

The 12" Duplex® "Engine" is installed in a bass horn cabinet. This trapezoid enclosure provides predictable control in both the horizontal and vertical planes to below 500 Hz (see polar charts, page 3). The use of a bass horn cabinet insures that much of the low frequency energy is kept off the performance area, even when the speakers are flown overhead.

The DE9412-8A "Engine" is built around Altec's large format 1.4" exit throat high frequency compression driver, using a 2.8" Pascalite™ aluminum alloy diaphragm. The high frequency energy is fed from the driver through the center of the magnet structure into a 90° x 40° Mantaray® high frequency horn. On the front of the magnet structure, Altec uses a high efficiency 12" / 300mm cone woofer optimized for bass horn enclosures.

The paintable trapezoid cabinet is constructed from strong 13-ply birch plywood, with steel reinforced suspension points. Altec includes the suspension hardware kit with each speaker. Color choices are charcoal grey or white, with contrasting cloth covered metal grille. The DE9412-8A has an internal 1,000 Hz passive network that can be easily switched over to bi-amp operation. Connectors are barrier strip or Neutrik® Speaker® connectors. Altec Lansing includes neutral grille cloth with each subwoofer, allowing you to dye the cloth to integrate the subwoofer into the surroundings.

For extended low frequency performance, the LF215-4A is a dual 15" / 380mm flyable subwoofer that has the same trapezoid footprint as the DE9412-8A. Altec Lansing's model 4048A 4-in x 8-out DSP processor has available presets for a variety of design requirements.

FREQUENCY RESPONSE ^{1,2}

110 Hz - 15 kHz (±3 dB)

USABLE LOW FREQUENCY LIMIT (-10 dB) ^{1,2}

85 Hz

SENSITIVITY ³

Full Range: 102 dB SPL
Low Frequency Section: 103 dB SPL, (2.83 V input)
High Frequency Section: 108 dB SPL, (2.83 V input)

POWER HANDLING ⁴

Full Range: 300 W continuous; 1,200 W peak
Low Frequency Section: 200 W continuous; 800 W peak
High Frequency Section: 75 W continuous; 300 W peak

MAXIMUM OUTPUT (1 m) ⁵

Full Range: 127 dB SPL continuous; 133 dB SPL peak
Low Frequency Section: 126 dB SPL continuous; 132 dB SPL peak
High Frequency Section: 127 dB SPL continuous; 133 dB SPL peak

COVERAGE ANGLES ⁶

90° (horizontal) x 40° (vertical)

DIRECTIVITY FACTOR, Q ⁶

13.97

DIRECTIVITY INDEX, Di ⁶

11.45 dB

TRANSDUCER COMPONENTS

LF: 1x 12 in. Woofer in a Sealed Mid-Bass Horn (E1012)
HF: 1x 1.4 in. Exit Compression Driver (E1012 on a Constant Directivity Mantaray™ Horn)

IMPEDANCE ⁷

Full Range:
Nominal: 8.0 Ω
Minimum: 6.6 Ω at 140 Hz
Low Frequency:
Nominal: 8.0 Ω
Minimum: 7.3 Ω at 290 Hz
High Frequency:
Nominal: 8.0 Ω
Minimum: 6.5 Ω at 3,500 Hz

CROSSOVER FREQUENCY

Passive LF - HF: 1,000 Hz

HARMONIC DISTORTION ⁸

1% rated power
2nd Harmonic 0.97%
3rd Harmonic 0.31%
THD 1.01%
10% rated power
2nd Harmonic 2.85%
3rd Harmonic 0.81%
THD 2.80%

INPUT CONNECTIONS

2x 4 position barrier strip and 2x NL4

CONTROLS

Lowpass On/Off and Highpass On/Off switches

ENCLOSURE MATERIALS & FINISH

18 mm, 13 ply Birch Plywood Finished with Charcoal Grey or White Catalyzed Polyurethane

SUSPENSION SYSTEM ⁹

Working Load Limit (maximum weight applied to uppermost mounting point): tbd lbs. (tbd kg)
(12) 3/8 in.-16 Threaded Mounting Suspension Points
(3 each top & bottom and 2 each sides & back)

DIMENSIONS

27.13 in. (H) x 24.13 in. (W) x 26.13 in. (D) x 10.13 in. (W rear)
689 mm (H) x 613 mm (W) x 664 mm (D) x 257 mm (W rear)

WEIGHT

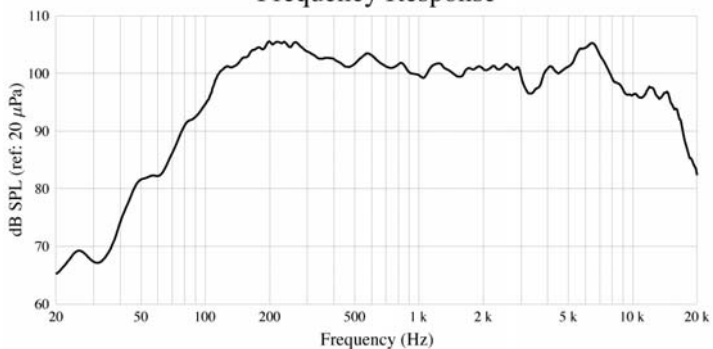
Net 97 lbs. (44.1 kg)
Shipping 116 lbs. (52.7 kg)

ARCHITECTS & ENGINEERS SPECIFICATION

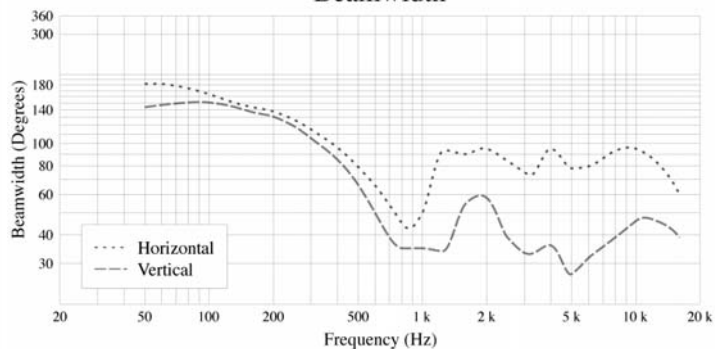
The loudspeaker system shall be a two-way multi-purpose type consisting of a 12 inch / 300mm Duplex® point-source loudspeaker component featuring a 12" / 300mm low frequency speaker combined in a single magnet structure with a large format 1.4" exit throat high frequency compression driver mated to a 90° x 40° Mantaray™ high frequency horn. The crossover network shall be a dual-section, 12 dB / octave slope low pass and 12 dB / octave slope high pass with an electro-acoustic crossover frequency of 1,000 Hz, switchable for bi-amp operation. The loudspeaker system shall have an operating bandwidth of 110 Hz - 15 kHz with a sensitivity of 102 dB when measured at a distance of one meter. The power handling capability shall be 300 W AES (1,200 W peak). Nominal impedance shall be 8.0 ohms

with a minimum impedance of 6.6 ohms at 140 Hz. The loudspeaker shall have nominal coverage angles of 90 degrees in the horizontal plane and 40 degrees in the vertical plane. The paintable cabinet shall be a Sealed Mid-Bass Horn, constructed of 18 mm Birch plywood painted grey or white with a cloth covered metal grille. The cabinet shall include integral suspension points. Forged shoulder machinery eye bolts shall be included to facilitate the suspension of the speaker system. The dimensions shall be 27.13 inches (689 mm) high by 24.13 inches (613 mm) wide by 26.13 inches (664 mm) deep. The loudspeaker system shall weigh 97 pounds (44.1 kg). The loudspeaker system shall be the Altec Lansing Professional model DE9412-8A.

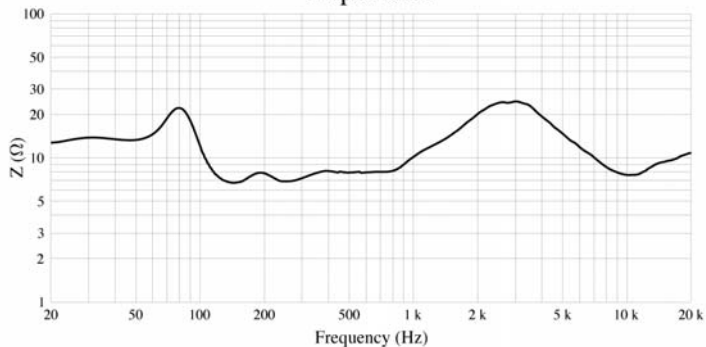
Frequency Response



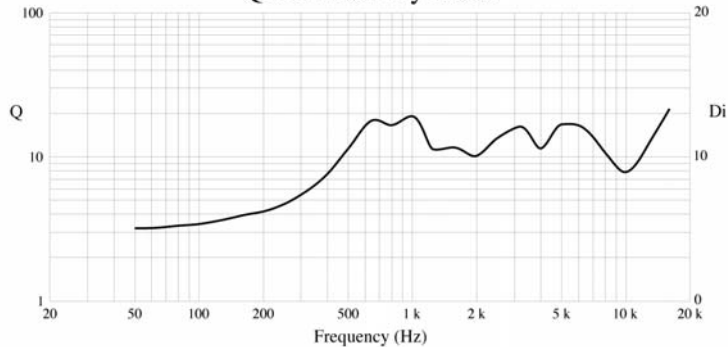
Beamwidth



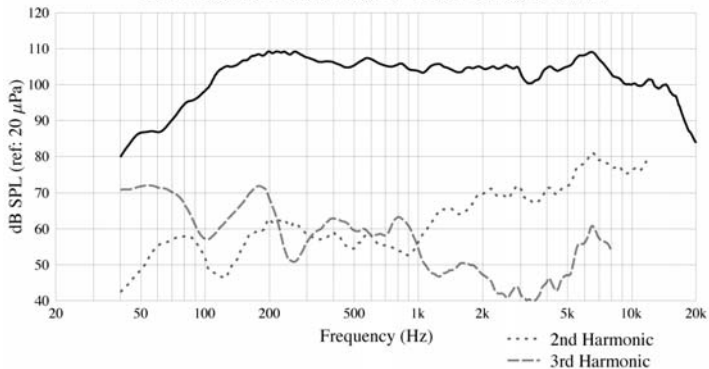
Impedance



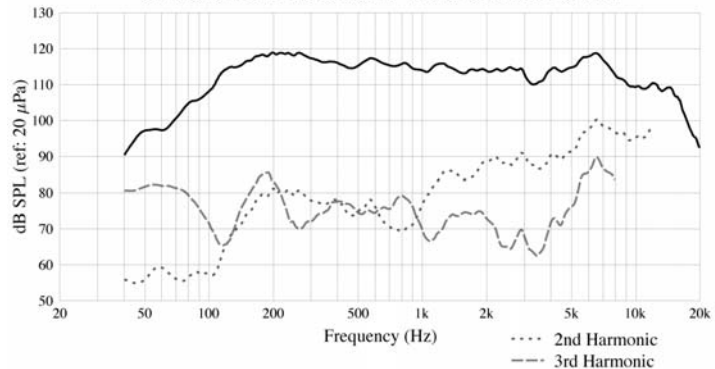
Q & Directivity Index



Harmonic Distortion : 1% Rated Power

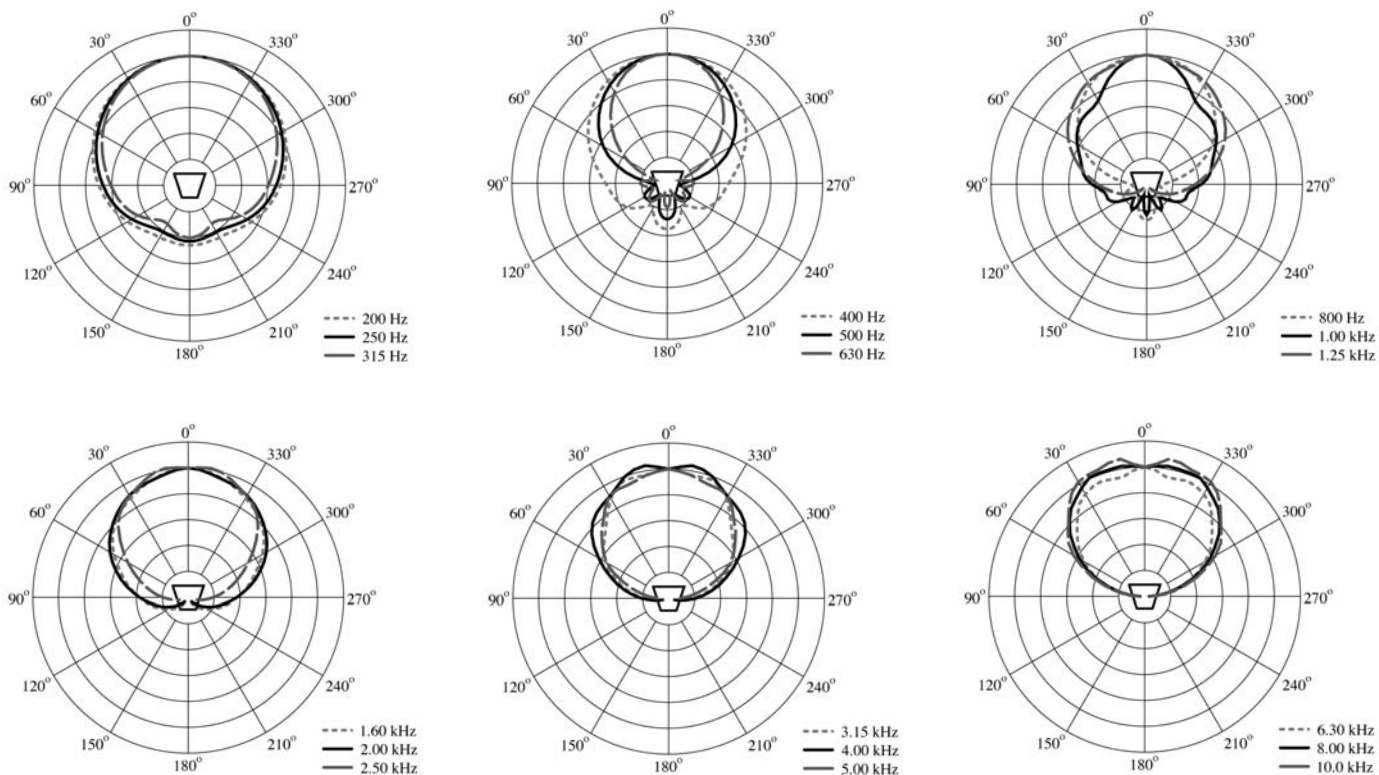


Harmonic Distortion : 10% Rated Power

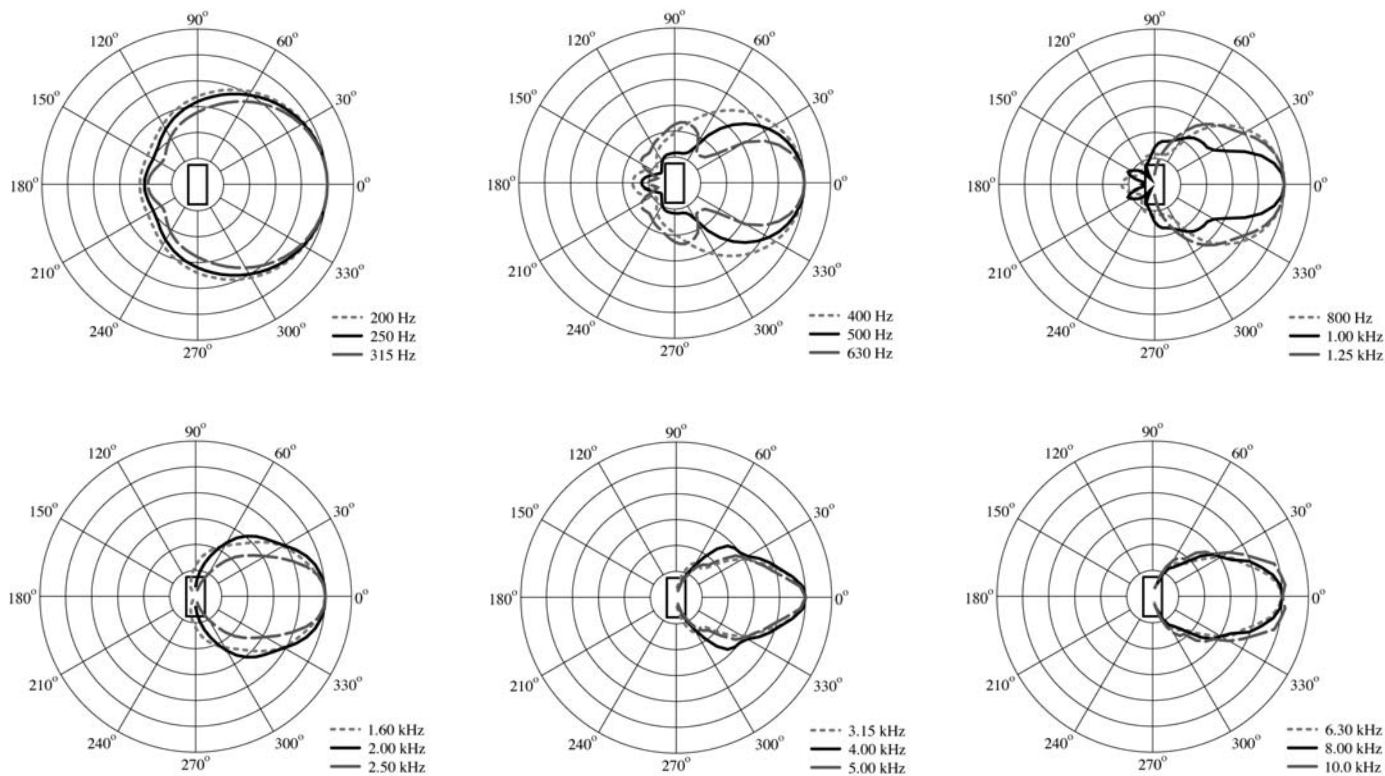


ONE-THIRD OCTAVE POLAR RESPONSE CHARTS 6 dB / DIVISION

Horizontal

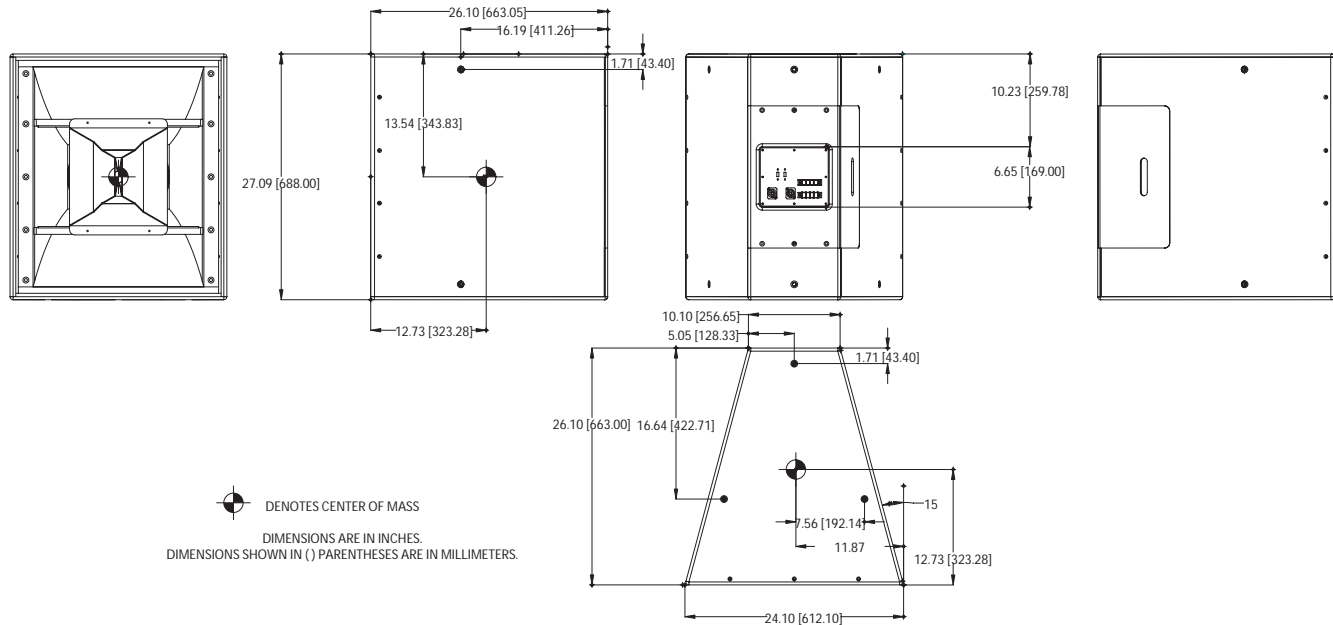


Vertical



As we are continually striving to improve Altec Lansing products, specifications are subject to change without notice. Please visit www.altecpro.com for the latest information on Altec Lansing Professional products.

MOUNTING DIMENSIONS



SPECIFICATION NOTES

- 1 The frequency response of the loudspeaker system is measured at a distance of no less than 3 meters to obtain full range data. The level is then corrected to be equivalent to a 2.83 V 1 m measurement. A near field measurement of the loudspeaker system is performed for frequencies below 500 Hz. This data is then combined with the full range measurement to give an accurate composite frequency response curve.
- 2 The limits of the frequency response are referenced to -3 dB of the systems rated sensitivity.
- 3 The sensitivity of the loudspeaker system is the log based average SPL taken over the intended bandwidth of operation for the system with a 2.83 V swept sine stimulus. The data is measured and level corrected in a manner consistent with note 1.
- 4 The power handling capacity of the loudspeaker system is tested using a full range form of AES Standard 2-1984. The test stimulus is band limited (40 Hz – 16 kHz) pink noise with a 6 dB crest factor. The applied RMS voltage is determined using the minimum impedance of the system. The amplifier used to drive the system has a minimum operating headroom of 6 dB referenced to the RMS voltage.
- 5 The maximum output level of the loudspeaker system is calculated based on the sensitivity and the power handling capabilities of the system.
- 6 The coverage angles for the loudspeaker system are taken as the -6 dB points of the directivity response and averaged from 500 Hz – 16 kHz.
- 7 The minimum impedance of the loudspeaker system is taken over its intended band of operation.
- 8 The distortion measurements of the loudspeaker system are performed at a distance of 1 m with RMS input voltages corresponding to 1% and 10% of rated system power handling calculated using minimum system impedance. The distortion percentages are log based averages from 300 Hz – 3 kHz.
- 9 Before attempting to suspend the loudspeaker system, consult a certified structural engineer. This loudspeaker system can fall from improper suspension, resulting in serious injury and property damage. Maximum enclosure rigging angle is 45°. Use only the correct mating hardware, forged shoulder machinery eye bolt, Mil Spec MIL 51937-3. All associated rigging is the responsibility of others.

VISIT WWW.ALTECPRO.COM FOR

- Authorized EASE® data on Altec Lansing Professional speakers.
- Specification sheets in .pdf format. Download page 1 of the specification sheet for your submittals.
- One paragraph A & E Specifications in .doc format.

**ALTEC
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