



DESCRIPTION

The Altec Lansing Model 3127 12-inch low-frequency loudspeaker is part of Altec's new generation of woofers. Each loudspeaker in this line was engineered for a particular purpose. The 3127 is designed for applications requiring **high efficiency** and **linear response** with low distortion in a compact direct radiator enclosure.

When used as an integral component of the 8127 Loudspeaker System (1.5-cubic foot vented enclosure) or the 8227 Loudspeaker System (3-cubic foot vented enclosure with dual woofers), full capability of the 3127 is achieved. These systems provide a 3 dB down frequency of 70 Hz with an optimum Thiele-Small alignment.

Power capacity for the 3127 is 250 watts when measured by the new AES standard specifications. The 3127 will handle 500 watts of program material when configured as the 8127 system, or mounted in another suitable enclosure.

As with all Altec professional series woofers, the 3127 is built with a structurally reinforced die-cast frame. The ferrite magnet structure coupled with an exceptionally high power voice coil provides low distortion even at very high sound pressure levels.

SPECIFICATIONS

Frame Diameter: 12"
***Power Rating:** 500 watts program material
 250 watts continuous pink noise band-limited

Frequency Response (Hz): 50-2000

Pressure Sensitivity (1 watt (E x I) with pink noise band-limited 100-1000 Hz): 95 dB at 4 feet
 97 dB at 1 meter

****Maximum Sound Pressure (Full power (E²/Z) with pink noise band-limited 70-700 Hz):** 117 dB at 4 feet
 119 dB at 1 meter

Impedance: 8 ohms minimum

Recommended Systems: 8127 (1.5 ft³) and 8227 (3 ft³)
 System F₃: 70 Hz

Maximum Excursion Before Damage (Peak to Peak): 1.10 in.

Voice Coil Diameter: 3 in.

Thiele-Small Parameters—

Free-Air Resonance (f_s): 50 Hz
Equivalent Volume Compliance (V_{AS}): 2.5 ft³
Total Q (Q_{TS}): 0.22
Electrical Q (Q_{ES}): 0.26
Mechanical Q (Q_{MS}): 1.37
Reference Efficiency (η₀): 3.3%
D. C. Resistance (R_E): 6.4 ohms

Peak Linear Displacement (X_{MAX}): 0.15 in.
Peak Linear Volume Displacement (V_D): 11.8 in.³
Effective Surface Area of Driver Diagram (S_D): 78.5 in.²

Additional Parameters—

Effective Piston Diameter: 10.0 in.
Voice Coil Inductance: 4.0 mH
BL Factor: 18.2
Magnet Type: ferrite
Magnet Weight: 80 oz.
Flux Density: 1.25 Tesla

Mounting Information—

Baffle Opening Diameter: 11¹/₈" (28.26 cm)
Mounting Bolt Circle Diameter: 11⁵/₈" (29.52 cm)
Loudspeaker Depth (front mounting): 4¹/₂" (11.43 cm)
Loudspeaker Depth (rear mounting): 5¹/₈" (12.02 cm)
Weight: 18.9 lbs (8.6 kg)

*AES power rating measured E²/Z where E = 45V, Z = 8Ω, band-limited 70-700 Hz.

(AES Recommended Practice Specification of Loudspeaker Components Used in Professional Audio and Sound Reinforcement. See J. Audio Eng. Soc., Vol. 30, No. 3, 1982 March.)

**In 8127X Enclosure.

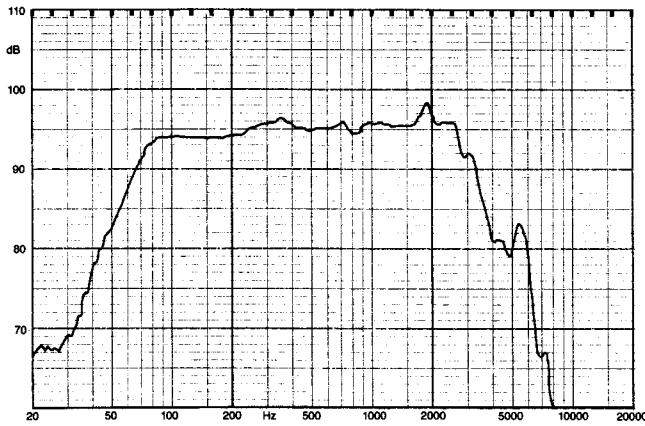


Figure 1. Frequency Response

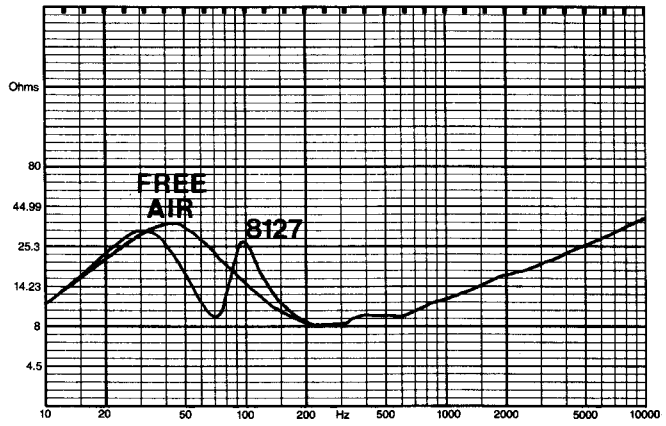
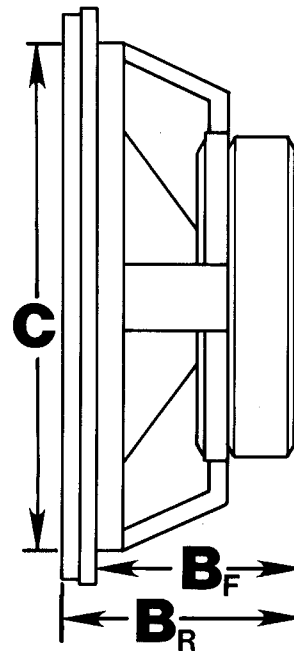
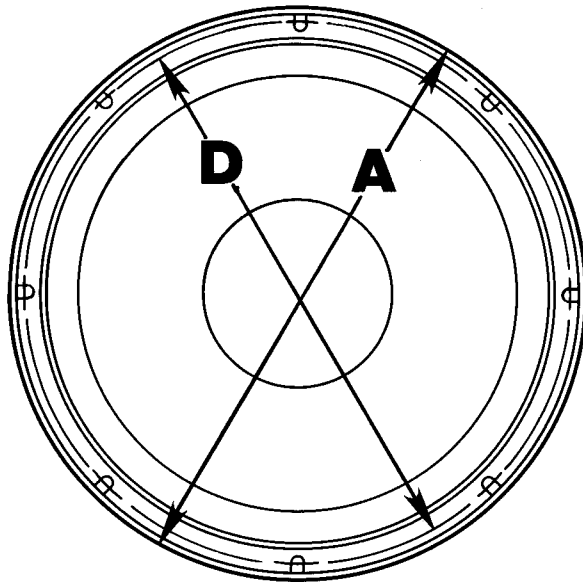


Figure 2. Impedance



LOUDSPEAKER MOUNTING DIMENSIONS

- (A) Loudspeaker Diameter: 12" (30.48 cm)
- (B_F) Depth When Front Mounted: 4 1/2" (11.43 cm)
- (B_R) Depth When Rear Mounted: 5 1/8" (12.02 cm)
- (C) Baffle Opening Diameter: 11 1/8" (28.26 cm)
- (D) Bolt Circle Diameter: 11 5/8" (29.52 cm)
- (E) Bolt Hole Slots: 1/4" (0.64 cm) x 1/32" (0.87 cm); 8 slots spaced 45° apart.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The low-frequency loudspeaker shall meet the following criteria. AES power rating, up to 250 watts of band-limited pink noise (70-700 Hz). Frequency response, uniform from 50-2000 Hz when mounted in a suitable enclosure. Pressure Sensitivity, 97 dB SPL for the 8127 Loudspeaker System (100 dB SPL for the 8227 Loudspeaker System) when measured at 1 meter on axis from front edge of the system with one watt

of band limited pink noise from 100-1000 Hz (Ref.: 0.0002 dyne/cm²). Minimum impedance, 8 ohms. Nominal free-air LF cone resonance, 50 Hz. The voice coil shall be 3" in diameter, driven by a ferrite magnet having a flux density of 1.25 Tesla. Dimensions, 12 1/4" diameter x 5 1/8" deep. Weight, 18.9 pounds.

The low-frequency loudspeaker shall be the ALTEC LANSING Model 3127.



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