416-8B LOW FREQUENCY LOUDSPEAKER

SPECIFICATIONS

Frame Diameter: 16"  
*Power Rating: 150 watts program material  
75 watts continuous pink noise band-limited

Frequency Response (Hz): 30-1600

Pressure Sensitivity  
1 watt (E²/Z min) with pink noise band-limited  
100-1000 Hz): 98 dB at 1 meter

Maximum Sound Pressure (Full power (E²/Z min) with pink noise band-limited  
100-1000 Hz): 117 dB at 1 meter

Impedance: 8 ohms minimum

Maximum Excursion  
Before Damage (Peak to Peak): .70 in.

Voice Coil Diameter: 3 in.

Thiele-Small Parameters —  
Free-Air Resonance (f₀): 24 Hz  
Equivalent Volume Compliance (Vₐ₀): 22.9 ft³  
Total Q (Qₜ₀): .23  
Electrical Q (Qₑ₀): .24  
Mechanical Q (Qₘ₀): 6.4  
Reference Efficiency (Ƞ₀): 3.6%  
D.C. Resistance (Rₑ): 6.5 ohms  
Peak Linear Displacement (Xₚₐₓ): 0.33 in.  
Peak Linear Volume Displacement (Vₚ): 16.6 in.²  
effective Surface Area of Driver Diagram (S₀): 128 in.²

Additional Parameters —  
Effective Piston Diameter: 12.75 in.  
Voice Coil Inductance: 2.5 m H.  
BL Factor: 16.0  
Magnet Type: Alnico  
Magnet Weight: 39 oz.  
Flux Density: 1.1 Tesla

Mounting Information —  
Baffle Opening Diameter: 14¾" (37.47 cm)  
Mounting Bolt Circle Diameter: 15" (38.1 cm)  
Loudspeaker Depth (front mounting): 6¾" (17.1 cm)  
Loudspeaker Depth (rear mounting): 7" (17.78 cm)  
Weight: 17.5 lbs (7.94 kg)

*AES power rating measured E²/Z min where E = 25V, Z = 8Ω, band-limited 40-400 Hz.


DESCRIPTION

The ALTEC 416-8B is a 16" low-frequency loudspeaker of professional quality that is ideal for use in wide-range sound reinforcement and high-fidelity systems. Performance is characterized by smooth response with extraordinary linearity.

A structurally reinforced frame, rigid enough to permit front or rear mounting, supports a heavy permanent magnet providing high flux density.

The low-mass voice coil is made from edge-wound copper ribbon to provide more turns of wire in the voice-coil gap. The cone suspension has exceptionally high compliance for accurate reproduction of low frequencies.

The 416-8B loudspeaker complements a wide selection of ALTEC-designed enclosures.
LOUDSPEAKER MOUNTING DIMENSIONS

(A) Loudspeaker Diameter: 16" (40.64 cm)
(B_r) Depth When Rear Mounted: 7" (17.78 cm)
(B_f) Depth When Front Mounted: 6\frac{1}{4}" (15.88 cm)
(C) Baffle Opening Diameter: 14\frac{3}{8}" (35.87 cm)
(D) Bolt Circle Diameter: 15" (38.1 cm)
(E) Bolt Hole Slots: \frac{1}{4}" (0.64 cm) \times \frac{3}{4}" (2.02 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 75 watts of band-limited pink noise (40-400 Hz). Frequency response, uniform from 30-1600 Hz when mounted in a suitable enclosure. Pressure Sensitivity, 98 dB SPL 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, 24 Hz. The voice coil shall be 3" in diameter, driven by an alnico magnet having a flux density of 1.1 Tesla. Dimensions, 16" diameter \times 7" deep. Weight, 17.5 pounds.

The low frequency loudspeaker shall be the ALTEC LANSING Model 416-8B.