

## **421-8H Musical Instrument Loudspeaker**

**421-8H**



The ALTEC 421-8H Musical Instrument Loudspeaker is a rugged, 15" loudspeaker designed for use in musical entertainment systems of moderate size and coverage area where true high-fidelity reproduction must be combined with high power output.

The 421-8H has a heavy permanent magnet, a structurally reinforced die-cast aluminum frame, a 3"-diameter edge-wound voice coil of copper ribbon and a cone suspension having exceptional compliance. It is sealed against dust and dirt.

The smooth response and excellent linearity of the 421-8H loudspeaker is achieved by strict adherence to precision design and manufacturing tolerances. The axial retention of the voice coil in a magnetic field, uniform over the full excursion, ensures clarity of music reproduction at high power levels. The low cone resonance, when the speaker is mounted in a suitable enclosure, virtually eliminates all 'doubling' or self-generation of unwanted harmonic components.

The 421-8H has a continuous power rating of 150 watts and a frequency response from 35 to 8000 Hz. Its design provides high efficiency, high linearity, low distortion, wide range and optimum cone resonance.

**ALTEC**

A DIVISION OF ALTEC CORPORATION

1515 S. Manchester Ave., Anaheim, Calif. 92803

# ALTEC 421-8H Loudspeaker

## SPECIFICATIONS

Type:	Musical instrument loudspeaker
Power Rating:	For sound system use with amplifiers having continuous power rating of up to 150 watts with program material
Frequency Response:	35 Hz to 8000 Hz (see Figure 1)
Pressure Sensitivity:	97 dB SPL with 1 watt input of band-limited pink noise from 100 Hz to 10 kHz measured on axis 4' from cone (Ref.: 0.0002 dyne/cm <sup>2</sup> ). Equal to EIA rating of 50 dB SPL measured on axis 30' from cone with 1 milliwatt input. 98 dB SPL with 1 watt input of band-limited pink noise from 100 to 1000 Hz measured on axis 4' from cone (Ref.: 0.0002 dyne/cm <sup>2</sup> ). 99 dB SPL measured at 4' on axis with 1 watt input of pink noise from 500 Hz to 1 kHz (Ref.: 0.0002 dyne/cm <sup>2</sup> ).
Nominal Impedance:	8 ohms (other impedances available in production quantities)
Nominal Free-Air Cone Resonance:	40 Hz
Voice Coil Diameter:	3"
Magnetic Assembly —	
Magnet Weight:	4.875 pounds
Assembly Weight:	17.5 pounds
Magnet Type:	Ceramic Ferrimag
Flux Density:	14,400 gauss
Construction —	
Frame (Basket):	Structurally reinforced die-cast aluminum
Cone:	Molded fiber
Cone Suspension:	High-compliance cloth surround with mechanical resistance
Voice Coil:	Edge-wound copper ribbon
Voice Coil Support Material:	Aluminum with *Kapton <sup>®</sup> insulation
Maximum Cone Excursion:	1/2"
Diameter:	15-5/16" (38.89 cm)
Weight:	20 pounds, 11 ounces (9.40 kg)
Mounting Data —	
Mounting Hole Diameter:	13-5/8" (34.61 cm) (may be either front or rear mounted)
Mounting Bolt Centers:	8 holes equally spaced on 14-9/16" (36.99 cm) diameter circle
Loudspeaker Depth:	6-1/4" (15.88 cm)

\*Kapton<sup>®</sup> is a registered trademark of DuPont.

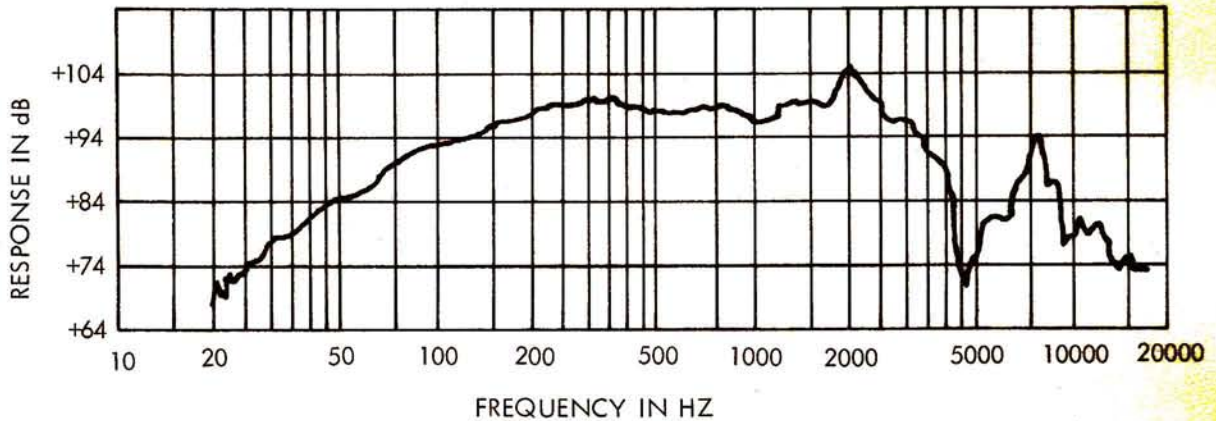


Figure 1. 421-8H Frequency Response Measured at 4' on Axis with 1 Watt Input

#### ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The musical instrument loudspeaker shall have a maximum diameter of 15-5/16" and shall weigh 20 pounds, 11 ounces. It shall have a structurally reinforced die-cast aluminum frame which shall be rigid enough to permit front or rear mounting. The voice coil shall be 3" in diameter, of edge-wound aluminum ribbon, and shall operate in a magnetic gap having a flux density of 14,400 gauss. The loudspeaker shall have a Ceramic Ferrimag permanent magnet weighing not less than 4.875 pounds. The magnetic structure shall have a metal dust cover to protect it from dirt, iron particles and magnetic dust. The cone-surround area shall be of high-compliance cloth. The musical instrument loudspeaker shall meet the following performance criteria. Power rating, up to 150 watts of continuous program material. Frequency response, uniform from 35 to 8000 Hz. Pressure sensitivity; 97 dB SPL with 1 watt input of band-limited pink noise from 100 Hz to 10 kHz measured on axis 4' from cone, 98 dB SPL with 1 watt input of band-limited pink noise from 100 to 1000 Hz measured on axis 4' from cone (Ref.: 0.0002 dyne/cm<sup>2</sup>), 99 dB SPL with 1 watt input of band-limited pink noise from 500 Hz to 1 kHz measured on axis 4' from cone (Ref.: 0.0002 dyne/cm<sup>2</sup>). Equivalent EIA rating, 50 dB SPL measured on axis 30' from cone with 1 milliwatt input. Nominal impedance, 8 ohms. Nominal free-air cone resonance, 40 Hz.

The musical instrument loudspeaker shall be the ALTEC Model 421-8H.

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