

Professional Series Model 2231H 380 mm (15 in) Low Frequency Loudspeaker

200 W Continuous Program Power Capacity

100 mm (4 in) Edgewound Copper Ribbon Voice Coil

25 Hz - 2 kHz Response

94 dB Sensitivity, 1 W, 1 m



The Model 2231H low frequency loudspeaker provides accurate, solid low-frequency reproduction. Designed with free air resonance below the range of hearing, the 2231H has exceptional deep bass response and requires very little enclosure volume. Compared to other loudspeakers having similar sensitivity, its frequency response is unusually linear, varying only ± 2 dB from 40 Hz to 800 Hz. When housed in a properly constructed enclosure, the 2231H will exhibit exceptional efficiency and transient response as well as the ability to handle sustained signals at high power levels without danger of mechanical damage or excessive distortion.

The 2231H has a low-loss magnetic structure that weighs 8.5 kg (18½ lb) and incorporates JBL's unique Symmetrical Field Geometry (SFG). This design, in combination with the aluminum Flux Stabilizing Ring around the pole piece, reduces second harmonic distortion to inconsequential levels.

The combination of this powerful magnetic structure, a rugged cone assembly and 100 mm (4 in) diameter edgewound copper ribbon voice coil enable the 2231H to achieve 200 W continuous program power capacity, exceptional sensitivity and smooth acoustic output.

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Architectural Specifications

The low frequency transducer shall have a nominal diameter of 380 mm (15 in), overall depth not greater than 145 mm (5¾ in), and weigh at least 10.1 kg (22 lb). The frame shall be of cast aluminum to resist deformation, and the magnetic assembly shall utilize a ferrite magnet and produce a symmetrical magnetic field at the voice coil gap. In addition, an aluminum ring encircling the pole piece shall act to reduce flux modulation. The voice coil shall be 100 mm (4 in) in diameter and shall be made of edgewound copper ribbon operating in a magnetic field of not less than 1.2 T.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL, 1 W at 1 m, averaged from 100 Hz to 500 Hz) shall be at least 94 dB SPL on axis. As an indication of electromechanical conversion efficiency, the BI factor shall be at least 22 T•m.

Usable frequency response shall extend from 25 Hz to 2 kHz. On-axis response, measured at a distance of 2 m (6.6 ft) or more under free field conditions, shall be ± 2 dB from 40 Hz to 800 Hz. Nominal impedance shall be 8 Ω . Rated power capacity shall be at least 200 W typical program material. The transducer shall be the JBL Model 2231H. Other loudspeakers will be considered for equivalency provided that submitted data from a recognized independent test laboratory verify that the above performance specifications are met.

JBL continually engages in research related to product improvement. New materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description but is always warranted to equal or exceed the original design specifications unless otherwise stated.

Specifications

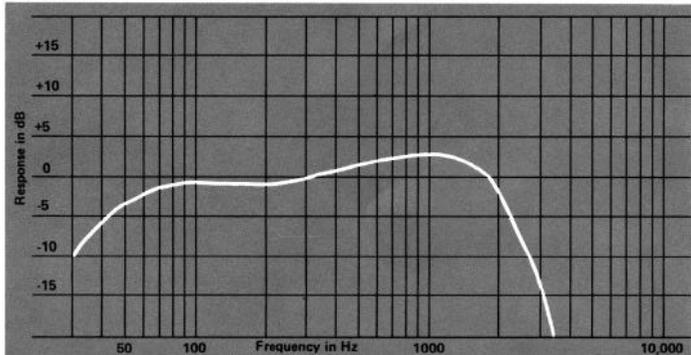
Nominal Diameter	380 mm	15 in
Nominal Impedance	8 Ω	
Power Capacity ¹	200 W continuous program	
Sensitivity ²	94 dB SPL, 1 W, 1 m	

Frequency Range	25 Hz - 2 kHz	
Highest Recommended Crossover Frequency	800 Hz	
Nominal Free Air Resonance	16 Hz	
Voice Coil Diameter	100 mm	4 in
Voice Coil Material	Edgewound copper ribbon	
Magnetic Assembly Weight	8.5 kg	18¾ lb
Flux Density	1.2 T (12,000 gauss)	
BI Factor	22 T•m	

Recommended Enclosure Volume	85 - 140 L	3 - 5 ft ³
Baffle Cutout Diameter		
Front Mount	355 mm	13¾ in
Rear Mount	343 mm	13½ in
Depth	143 mm	5¾ in
Net Weight	10.1 kg	22 lb
Shipping Weight	11.2 kg	24½ lb

¹Continuous program power is defined as 3 dB greater than continuous sine wave power ("RMS") and is a conservative expression of the transducer's ability to handle typical speech and music program material.

²The sensitivity rating of JBL low-frequency loudspeakers is based on a signal swept from 100 Hz to 500 Hz, rather than the conventional 1 kHz single frequency test signal, since these drivers are usually used below 800 Hz. Therefore, usable sensitivity of the 2231H may be substantially greater than that of loudspeakers with higher published ratings.



Frequency response contour of the 2231H in a closed box of 140 L (5 ft³) internal volume. Measured response of a typical production unit, including all peaks and dips, does not deviate more than 2 dB from the above curve. Additional acoustic loading (passive radiator or port) will further extend bass response.

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Professional Division

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