

2123H/J

250 mm (10 in)
MIDRANGE
TRANSDUCER



FEATURES:

- 250 W continuous pink noise power capacity
- 76 mm (3 in) edgewound aluminum ribbon voice coil
- 80 Hz-6 kHz response
- 101 dB sensitivity, 1 W, 1 m (3.3 ft)

The JBL Model 2123H/J provides smooth, low-distortion midrange output for high quality sound reinforcement and studio monitor applications. Features of the 2123H/J include a die-cast aluminum frame that is manufactured to extremely tight tolerances. The truncated frame style allows tight packing of the active piston in multiple-transducer arrays. The 76mm (3 in) diameter voice coil operates in a magnetic field of 1.07 T (10,700 gauss). The SFG (Symmetrical Field Geometry) magnetic structure reduces second harmonic distortion to inconsequential levels.

Specifically tooled curvilinear cone and double half-roll surround, and overhanging aluminum ribbon voice-coil topology, provide unusually linear frequency response, varying only ± 2 dB from 200 Hz to 5 kHz. The use of new adhesive and materials technology

provides high power handling and efficiency from a transducer of small size. Like all JBL loudspeakers, the Model 2123H/J is noted for its clean, crisp response and incisive reproduction of transients. Built to traditional JBL standards of precision, it will continue to deliver exceptional performance year after year, without special care or attention.

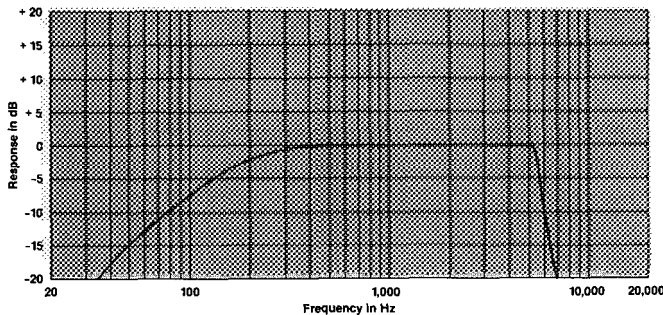
ARCHITECTURAL SPECIFICATIONS:

The low frequency transducer shall have a nominal diameter of 250 mm (10 in), overall depth not greater than 105 mm (4 1/4 in), and weigh at least 5.4 kg (11 7/8 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 76 mm (3 in) in diameter and shall be made of edgewound aluminum operating in a magnetic held of not less than 1.07 T (10,700 gauss).

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m (3.3 ft) with 1 W input, swept 500 Hz-2.5 kHz) shall be at least 101 dB on axis. An indication of electromechanical conversion efficiency, the BI factor shall be at least 13/(18.7) newtons per ampere. The half-space reference efficiency shall be 3.5%. Usable frequency response shall extend from 80 Hz to 6 kHz. On-axis response, measured at a distance of 1.8 m (6 ft) or more under free-field conditions, shall be ± 2 dB from 200 Hz to 5 kHz. Acoustic loading shall further extend the low frequency response. Nominal impedance shall be 8 (16) ohms. Rated power capacity shall be at least 250 watts pink noise per AES standard (100 Hz to 1 kHz).

The transducer shall be the JBL Model 2123H/J. 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.

Typical Response Curve and Enclosure Volume



Frequency response of the 2123H/J in a closed box of 7.1 (0.25 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.

SPECIFICATIONS:

Nominal Diameter:	250 mm (10 in)
Rated Impedance:	2123H: 8 ohms 2123J: 16 ohms
Power Capacity:	250 W continuous pink noise
Sensitivity:	101 dB SPL, 1 W, 1 m
Frequency Range:	80 Hz-6 kHz
Highest Recommended Crossover Frequency:	3 kHz
Recommended Enclosure Volume:	7-14 l (1/4-1/2 ft ³)
Effective Piston Diameter:	200 mm (7 7/8 in)
Maximum Excursion Before Damage:	19 mm (3/4 in peak-to-peak)
Minimum Impedance:	5.5 ohms \pm 10% @ 25°C (H) 10.4 ohm \pm 10% @ 25°C (l)
Voice Coil Diameter:	76 mm (3 in)
Voice Coil Material:	Edgewound aluminum ribbon
Voice Coil Winding Depth:	10.7 mm (0.42 in)
Magnetic Gap Depth:	7.1 mm (0.280 in)
Magnetic Assembly Weight:	4.7 kg (10 1/4 lb)
Flux Density:	1.07 T (10,700 gauss)
BI Factor:	13 N/A (H) 18.7 N/A (l)
Effective Moving Mass:	0.025 kg
Positive voltage on black terminal gives forward diaphragm motion.	
THIELE-SMALL PARAMETERS:	
f_s :	85 Hz
R_e :	4.2 ohms (H) 8.7 ohms (l)
Q_{ts} :	0.32
Q_{ms} :	2.5
Q_{es} :	0.37
v_{as} :	20 l (0.7 ft ³)
S_D :	0.0314 m ² (48.7 in ²)
X_{max} :	2.5 mm (0.1 in)
V_D :	78.5 cm ³ (4.8 in ³)
L_e :	0.4 m (H) 0.8 m (l)
no (Half space): 3.5%	
$P_{(Max)}$:	250 W continuous pink noise
MOUNTING INFORMATION:	
Overall Diameter:	Round: 261 mm (10 1/4 in) Square: 238 mm (9 3/8 in)
Bolt Circle Diameter:	245 mm (9 5/8 in)
Baffle Cutout Diameter:	Front Mount: 228 mm (9 in) Rear Mount: 222 mm (8 3/4 in)
Typical Volume Displaced by Driver When Mounted in Enclosure:	3.1 (0.1 ft ³)
Depth:	105 mm (4 1/4 in)
Net Weight:	5.4 kg (11 7/8 lb)
Shipping Weight:	5.9 kg (13 lb)

¹ AES standard (100 Hz to 1 kHz).

² The sensitivity rating of JBL midrange loudspeakers is based on a signal swept from 500 Hz to 2.5 kHz, rather than the conventional 1 kHz single frequency test signal. Usable sensitivity of the 2123H/J may be substantially greater than that of loudspeakers with higher published ratings.

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 will always equal or exceed the original design specifications unless otherwise stated.

