4646 LOW FREQUENCY SYSTEM

FEATURES:

Usable Response to 50 Hz

96 dB Sensitivity, 1 W, 1 m

300 Watts Continuous Program Power Capacity

Direct Radiating Ported Enclosure

The JBL 4646 low frequency system is designed for smaller reinforcement applications and as an individual module in cluster design. Power response is smooth, and axial response extends to 2000 Hz.

The transducer used in the 4646 system features a 100 mm (4 in) voice coil operating in a large symmetrical field geometry (SFG) magnet structure for high power handling and linearity. Total linear excursion capability of the transducer is 14 mm (0.55 in) peak-to-peak.

The enclosure is constructed of dense stock. Net internal volume is 34 L (1.2 cu ft), and the enclosure is tuned to 60 Hz. Port area is large, ensuring minimum turbulence at full power input at low frequencies.

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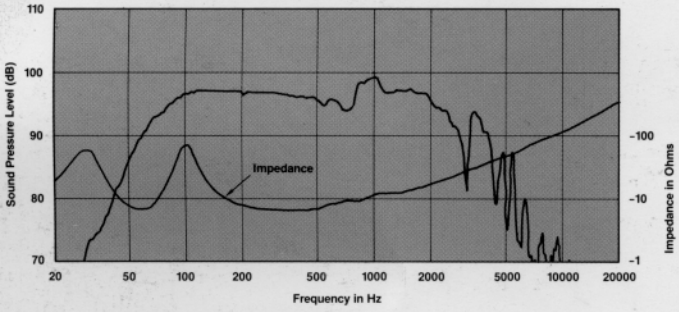
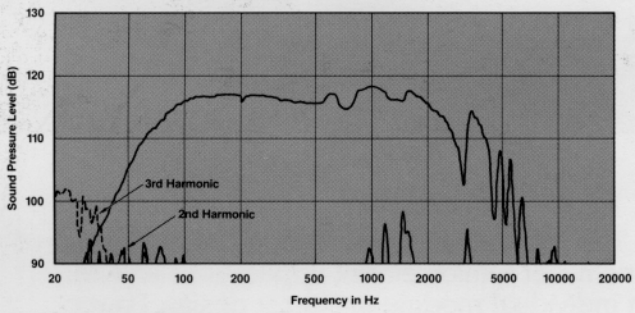
ARCHITECTURAL SPECIFICATIONS:

The low frequency system shall consist of one 305 mm (12 in) diameter transducer mounted in a direct radiator ported enclosure. The transducer shall be capable of 14 mm (0.55 in) linear excursion (2 x X max) and shall be designed to produce a symmetrical magnetic field in the voice coil gap. In addition, a flux stabilizing ring encircling the pole piece shall act to reduce flux modulation. The transducer frame shall be of cast aluminum to resist deformation, and the voice coil shall be wound of copper ribbon 100 mm (4 in) in diameter. The enclosure shall be 34 L (1.2 cu ft) net internal volume, tuned to 60 Hz, and constructed of dense stock.

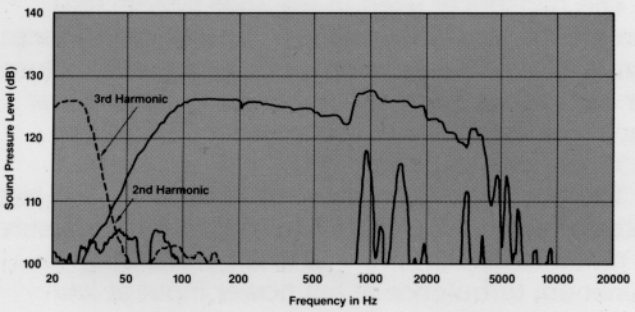
Performance specifications of a typical production unit shall be as follows: Under hemispherical free-field conditions, measured sensitivity (SPL at 1 m (3.3 ft) with 1 W swept input, 100-500 Hz) shall be at least 96 dB. The half-space reference efficiency shall be 1.7%. Usable low frequency response shall extend from 50 Hz (–10 dB) and be flat at 70 Hz (–3 dB). Nominal impedance shall be 8 ohms. Rated power capacity shall be at least 300 watts, normal program material. The system shall be the JBL Model 4646. Other loudspeaker systems will be considered as equivalent provided that submitted data from a recognized independent test laboratory verify that the above performance specifications are met.



Graph 1. 4646 system half-space (2π) response, one watt at one meter on-axis; impedance.



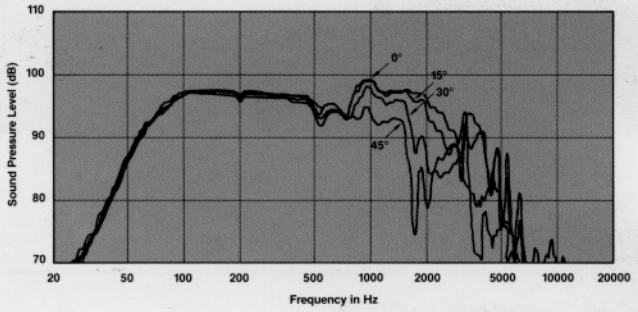
Graph 2. 4646 system half-space (2π) response, 10 watts at one meter on-axis; distortion raised 20 dB.



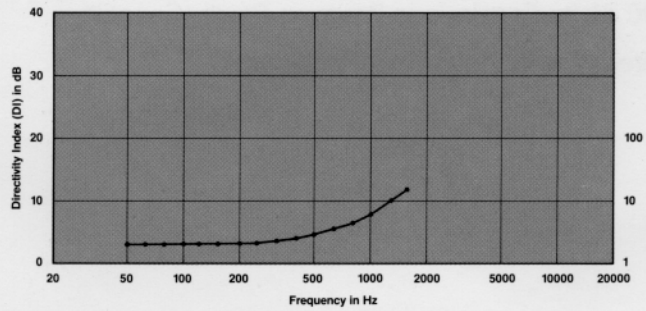
Graph 3. 4646 system half-space (2π) response, 100 watts at one meter on-axis; distortion raised 20 dB.

SPECIFICATIONS:

COMPONENTS:	1-JBL 4512 low frequency enclosure 1-JBL 2204H low frequency transducer (Note: Components may be ordered separately for field assembly.)
SYSTEM SPECIFICATIONS:	
Rated impedance:	8 ohms
Minimum impedance:	7 ohms
Input power rating:	150 watts, sine wave 300 watts, continous program
Axial sensitivity:	96 dB, 1 W, 1 m
Half-space reference efficiency:	1.7%
Maximum continuous acoustical power output (sine wave input):	2.6 watts
Maximum continuous SPL (sine wave input):	Half-space at 1 m (3.3 ft): 118 dB Half-space at 3 m (10 ft): 108 dB Half-space at 30 m (100 ft): 88 dB
Recommended crossover frequencies:	High-pass: 60 Hz, 12-dB/octave Low-pass: 800, or 1200 Hz, 12- or 18-dB/octave
System polarity:	Positive voltage to black terminal produces forward cone motion
Input connectors:	Color coded push terminals
Net system weight:	18 kg (40 lb)
ENCLOSURE SPECIFICATIONS:	
Materials and finish:	19 mm (¾ inch) particle board; matte black finish
Enclosure volume:	34 L (1.2 cu ft)
Vent tuning frequency:	60 Hz
Dimensions:	406 mm x 470 mm x 273 mm deep 16 in x 18½ in x 10¾ in deep
Net weight:	18 kg (40 lb)



Graph 4. 4646 system off-axis response (0, 15, 30 and 45 degrees); one watt at one meter.



Graph 5. Directivity Index (DI) and Directivity Factor (Q), on-axis, half-space (2π).

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