4647 LOW FREQUENCY SYSTEM

FEATURES:

Usable Response to 35 Hz

97 dB Sensitivity, 1 W, 1 m

400 Watts Continuous Program Power Capacity

Direct Radiating Ported Enclosure

The JBL 4647 low frequency system is designed for general sound reinforcement, smaller motion picture theaters, and as an individual module in cluster design. Power response is smooth, and axial response extends to 1200 Hz.

The transducer used in the 4647 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 10 mm (0.4 in), peak-to-peak.

The enclosure is constructed of dense stock and is extensively braced on all panels. Net internal volume is 145 L (5 cu ft), and the enclosure is tuned to 40 Hz. Port area is large, ensuring minimum turbulence at full power input at low frequencies.

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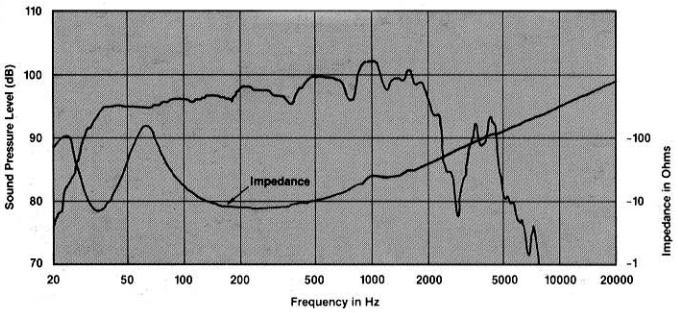
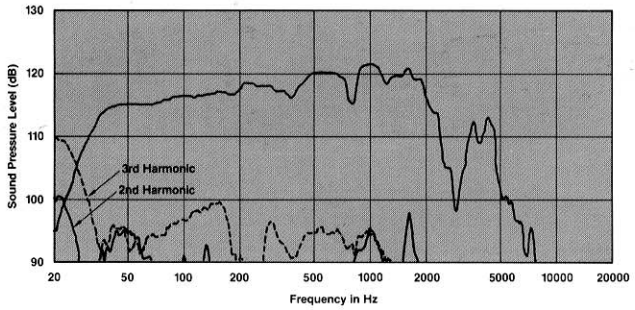
ARCHITECTURAL SPECIFICATIONS:

The low frequency system shall consist of one 380 mm (15 in) diameter transducer mounted in a direct radiator ported enclosure. The transducer shall be capable of 10 mm (0.4 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 145 L (5 cu ft) net internal volume, tuned to 40 Hz, and constructed of dense stock extensively braced.

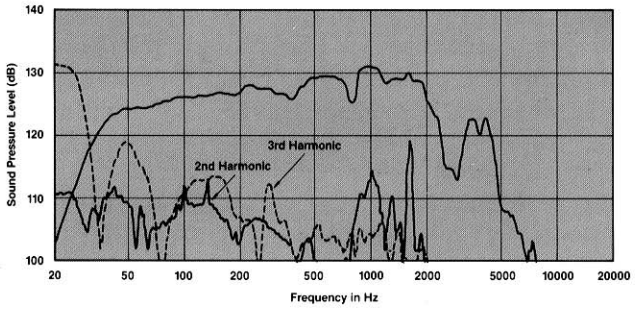
Performance specifications of a typical production unit shall be as follows: Under hemispherical free-field conditions, measured sensitivity (SPL at 1 m (3.3 ft) with 1 W swept input, 100-500 Hz) shall be at least 97 dB. The half-space reference efficiency shall be 3.5%. Usable low frequency response shall extend from 35 Hz (-10 dB) and be flat at 45 Hz (-3 dB). Nominal impedance shall be 8 ohms. Rated power capacity shall be at least 400 watts, normal program material. The system shall be the JBL Model 4647. 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. 4647 system half-space (2π) response, one watt at one meter on-axis; impedance.



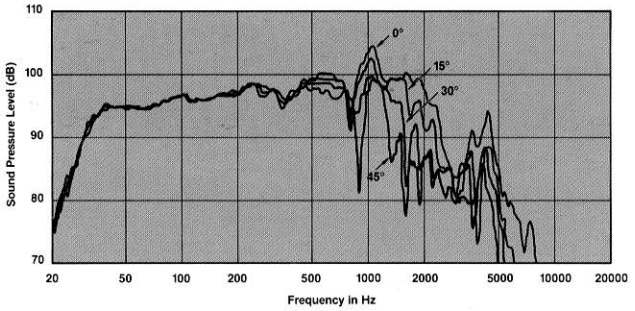
Graph 2. 4647 system half-space (2π) response, 10 watts at one meter on-axis; distortion raised 20 dB.



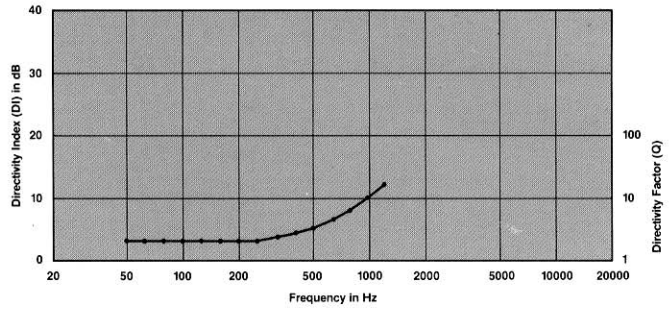
Graph 3. 4647 system half-space (2π) response, 100 watts at one meter on-axis; distortion raised 20 dB.

SPECIFICATIONS:

COMPONENTS:	1-JBL 4507 low frequency enclosure 1-JBL 2225H low frequency transducer (Note: Components may be ordered separately for field assembly.)
SYSTEM SPECIFICATIONS:	
Rated impedance:	8 ohms
Minimum impedance:	7.3 ohms
Input power rating:	200 watts, sine wave 400 watts, continous program
Axial sensitivity:	97 dB, 1 W, 1 m
Half-space reference efficiency:	3.5%
Maximum continuous acoustical power output (sine wave input):	7 watts
Maximum continuous SPL (sine wave input):	Half-space at 1 m (3.3 ft): 120 dB Half-space at 3 m (10 ft): 110 dB Half-space at 30 m (100 ft): 90 dB
Recommended crossover frequencies:	High-pass: 40 Hz, 12-dB/octave Low-pass: 500, 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:	46.1 kg (101.5 lb)
ENCLOSURE SPECIFICATIONS:	
Materials and finish:	19 mm (¾ inch) particle board with 25 mm (1 inch) baffle; matte black finish
Enclosure volume:	145 L (5 cu ft)
Vent tuning frequency:	40 Hz
Dimensions:	775 mm x 546 mm x 448 mm deep 30½ in x 21½ in x 17⅛ in deep
Net weight:	36 kg (80 lb)



Graph 4. 4647 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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