

# 4612OK

## COMPACT SOUND REINFORCEMENT SYSTEM



### FEATURES:

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97dB sensitivity, 1W, 1m (3.3 ft)

60 Hz to 21.5 kHz frequency range

Bi-Radial constant coverage horn design

Consistent 100° x 100° dispersion  
from 3kHz to 20 kHz

Dual high-power 200 mm (8 in) transducers

Oak-grain vinyl enclosure

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The 4612OK offers an unmatched combination of performance characteristics including wide, tightly controlled dispersion, extended frequency response, exceptionally high power capacity and high efficiency. It is ideal for churches, boardrooms, motion-picture theatre surround systems and any sound reinforcement application that requires a

blend of outstanding performance and compact size.

One key to this performance lies in the unique geometry of the 4612OK's Bi-Radial™ horn.<sup>1</sup> Developed with the latest in computer design and analysis techniques, the horn provides constant coverage from its crossover point of 3 kHz to beyond 20 kHz. The Bi-Radial compound flare configuration maintains precise control of the horn's wide 100° x 100° coverage angle. Coupled to the horn is a constant area phasing plug and a new, annular-ring diaphragm ferrite motor structure. To ensure smooth response to the lowest usable octaves, extremely low distortion, and tight transient response, the 4612OK also incorporates a number of recent advances in low-frequency loudspeaker design. The system uses two newly developed,

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high power, 200 mm (8-inch) loudspeakers. The speakers' magnetic structures feature JBL's unique Symmetrical Field Geometry (SFG) design to reduce a second harmonic distortion to inconsequential levels.

To blend the low and high frequency components, the 4612OK uses a specially designed passive frequency dividing network with a crossover point of 3 kHz. In combination with the system's full range components, the network eliminates the need for the external equalization often required with other compact sound reinforcement systems.

The enclosure is constructed of 19 mm (¾ inch) high density wood-resin compound with a highly resistant and serviceable oak grain vinyl covering. A brown cloth grille fully covers the transducers on the baffle surface, and bolts and tee-nuts are provided on the rear panel for suspended mounting.

For portable applications, the Cabaret Series Model 4612B is available. Constructed of maple-faced plywood, with road handle and corner protectors, this version also offers an optional transport cover and mounting tripod.

<sup>1</sup>U.S. Patent #4,308,932. Foreign patents pending.

## ARCHITECTURAL SPECIFICATIONS:

The loudspeaker system shall consist of a two 200 mm (8 inch) low-frequency loudspeakers, Bi-Radial horn high-frequency driver, and frequency dividing network installed in a ported enclosure. The frame of the low frequency transducer shall be manufactured of cast aluminum, and its 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 50 mm (2 inch) in diameter and shall be made of two-layer round-round copper operating in a magnetic field of not less than 1.05T (10,500 gauss).

The frequency dividing network shall have a crossover frequency of 3 kHz and shall be of the L-C high-pass type. An additional inductor shall restrict the response of one woofer to the low-frequency region only. Polypropylene and/or polystyrene bypass capacitors shall be wired in parallel with the network's larger mylar or non-polarized electrolytic capacitors to reduce the hysteresis effects on the signal.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m (3.3 ft) on axis with 1 W input, swept 500 Hz-2.5 kHz) shall be at least 97 dB SPL. Usable frequency range shall extend from 60 Hz to 21.5 kHz. On-axis response, measured at a distance of 2 m (6.6 ft) or more under free-field conditions, shall be  $\pm 4$  dB from 80 Hz to 16 kHz. Nominal impedance shall be 8 ohms. Rated power capacity shall be at least 200 watts continuous pink noise, based on test signal of filtered random noise conforming to international standard IEC 268-5 (pink noise with 12 dB octave rolloff below 40 Hz and above 5000 Hz with a peak-to-average ratio of 6 dB), two hours duration.

The enclosure shall be solidly constructed of 19 mm (¾ inch) stock with all joints tightly fitted and glued. Overall dimensions shall be no greater than 438 mm (17¼ inch) inches by 546 mm (2½ inch) inches wide by 254 mm (10 inch) inches deep. Finish shall be oak-grain vinyl with brown fabric grille. Four 9.5 mm (¾ inch) bolts and tee-nuts shall be provided in the rear panel to assist in suspended mounting. The system shall be JBL Professional Model 4612OK.

Alternate: The enclosure shall be constructed from 18 mm (¾ inch) multi-laminate, cross-grain, maple-faced hardwood, with additional internal bracing. Added protection shall be provided by poly carbonate corner guards. A flush-mount handle shall be mounted atop the enclosure for portability. Two 9.5 mm (¾ inch) bolts and tee-nuts, spaced on 120 mm (4¾ inch) centers, shall be mounted on the bottom panel of the enclosure to allow stand mounting. A tubular aluminum, mounting

tripod stand, Model MT-4612, shall be available for this purpose. The enclosure shall be finished in a durable, multi-coat, black polyurethane finish, with woven black nylon grille. An optional transport cover, Model 4612CVR shall be available. The system shall be JBL Cabaret Series Model 4612B.

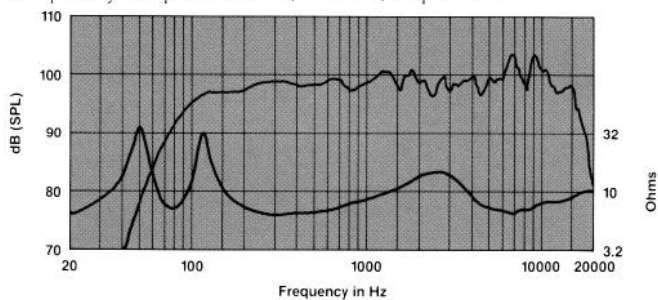
## SPECIFICATIONS:

Nominal Impedance:	8 ohms
Frequency Range (-10 dB):	60 Hz to 21.5 kHz
Frequency Response ( $\pm 4$ dB):	80 Hz to 16 kHz
Power Capacity <sup>1</sup> :	200 watts continuous pink noise
Sensitivity <sup>2</sup> :	97 dB SPL, 1 W, 1 m (3.3 ft)
Directivity:	Factor (Q) 8 Index (Di) 9 dB
Nominal Dispersion:	100° horizontal 100° vertical
Crossover Frequency:	3 kHz
Polarity:	Positive voltage to RED terminal causes outward low-frequency cone motion.
Enclosure Finish:	Oak-grain vinyl
Grille:	Brown fabric
Exterior Dimensions: (Height x Width x Depth):	438 mm x 546 mm x 254 mm (17¼ in x 21½ in x 10 in)
Net Weight:	20.4 kg (45 lb)

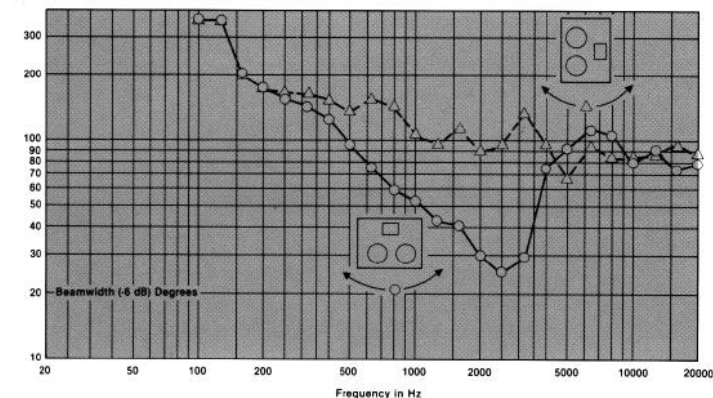
<sup>1</sup>Rating based on test signal of filtered random noise conforming to international standard IEC 268-5 (pink noise with 12 dB/octave rolloff below 40 Hz and above 5000 Hz with a peak-to-average ratio of 6 dB), two hours duration.

<sup>2</sup>Averaged from 500 to 2.5 kHz.

Frequency Response at 1W, 1 meter; Impedance



Beamwidth (—6 dB) vs. Frequency



Directivity vs. Frequency

