

# JBL Professional Series Model 2205 15" Low Frequency Transducer

For Continued Heavy Duty Service  
180 Watts Continuous Program  
Long Cone Travel—Medium Efficiency  
4" Edgewound Copper Ribbon Voice Coil  
For Entertainment Applications

*Professional audio consultants and engineers are invited to compare the JBL 2205 with other loudspeakers, both on the basis of acoustical measurements and extended listening tests.*



Model 2205 is a professional quality low frequency transducer capable of handling great amounts of power with ease. Sensitivity through the mid-range is carefully controlled to provide highest possible efficiency without sacrificing bass performance. Because of this design approach, loading of the 2205 is not critical. It performs well in infinite baffles, ported enclosures, or as a horn driver. It is offered in 8, 16 and 32 ohm impedances for maximum versatility in multiple-transducer arrays.

The JBL 2205 incorporates an integrally-stiffened cone, 4-inch edgewound copper ribbon voice coil, and individually machined magnetic pole pieces and pot casting. Precise assembly tolerances allow long cone travel while maintaining minimal spacing (less than 0.014 inch) between coil and pole pieces. Heat is transferred to the magnetic assembly and rapidly dissipated. Thus, the transducer can handle sustained signals at high power levels without danger of mechanical damage or overheating.



**JBL**



# Model 2205 Low Frequency Transducer

## Architectural Specifications

The low frequency transducer shall have a nominal diameter of 15 inches, overall depth not greater than 5-7/8 inches, and weigh at least 16 pounds. The frame shall be of cast aluminum to resist deformation and the magnetic assembly shall use Alnico V encased in a heavy cast iron return circuit for maximum efficiency and suppression of stray fields. The voice coil shall be four inches in diameter and shall be made of edgewound copper ribbon operating in a magnetic field of not less than 11,500 Gauss with at least 260,000 Maxwells total flux.

Performance specifications of a typical production unit shall be as follows:

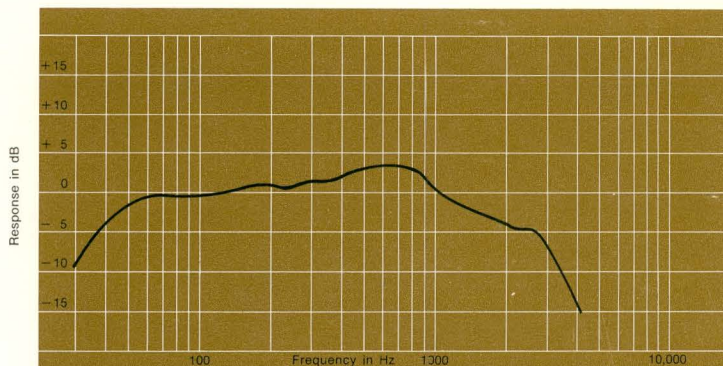
Measured sensitivity (SPL at 30 feet with one mW input, warbled 100–500 Hz) shall be at least 47 dB on-axis and 45 dB 45° off-axis. As an indication of electromechanical conversion efficiency, the BI factor shall be at least  $2.15 \times 10^7$  dynes/abampere. Usable frequency response shall extend from 40–2000 Hz. On-axis response, measured at a distance of six feet or more under free field conditions, shall be  $\pm 3$  dB from 45 Hz to 2 kHz. Acoustic loading shall further extend the low frequency response. Nominal impedance shall be 8, 16 or 32 ohms. Rated power capacity shall be at least 180 watts normal program material.

The transducer shall be JBL Model 2205. 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.

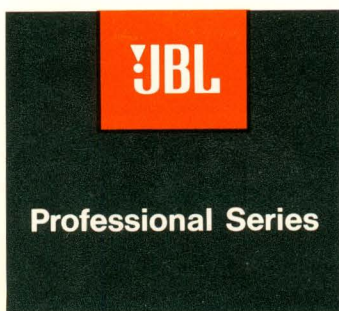
## Specifications

Nominal diameter	15 inches
Nominal impedance	2205A — 8 ohms 2205B — 16 ohms 2205C — 32 ohms
Power capacity	180 watts continuous program
Sensitivity*	47 dB 30 feet, one mW, 100–500 Hz
Frequency range	30–2000 Hz
Cone resonance	25 Hz
Voice coil diameter	4 inches
Voice coil material	Edgewound copper ribbon
Flux density	11,500 Gauss
Total flux	260,000 Maxwells
BI factor	$2.15 \times 10^7$ dynes/abampere
Magnetic assembly	11 lbs.
Depth	5-9/16 inches
Baffle hole	
Front mtg	14-1/8 inches
Rear mtg	13-1/2 inches
Net weight	14.25 lbs.

\*NOTE: Because this transducer is normally used below 800 Hz, JBL has measured its sensitivity using a signal warbled from 100-500 Hz rather than the more common 1,000 Hz single frequency. Usable sensitivity of the 2205 may, therefore, be substantially greater than that of loudspeakers with higher published ratings.



Frequency response contour of Model 2205 in a closed box of six cubic feet 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. Low frequency acoustic loading (horn, bass-reflex, etc.) will further extend bass response.



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