

Professional Series Model 2105 5" Extended Range Transducer

$\frac{7}{8}$ " edgewound ribbon voice coil
40 watts continuous program
150-15,000 Hz response
High efficiency
Wide dispersion

Professional audio consultants and engineers are invited to compare the JBL 2105 with other loudspeakers, both on the basis of acoustical measurements and extended listening tests.



JBL Model 2105 is a unique transducer that provides high acoustical output, smooth response and wide-angle coverage from an assembly only five inches in diameter. It is well suited to in-line arrays, inconspicuous distributed-speaker ceiling installations, natural sounding paging and talkback, concealed "surround" sound, and portable voice reinforcement systems. Peak-free response allows higher gain in sound reinforcement systems without acoustic feedback. Moreover, the 2105 has high sensitivity and full 40 watt program power capacity. It can produce greater acoustic output than any other small cone loudspeaker;

more, in fact, than many 12" and 15" units. At a distance of 30 feet a single 2105 can produce a sound pressure level greater than 92 dB.

The design of the 2105 incorporates a rigid cast aluminum frame, 2½ lb. magnetic assembly, viscous damped cone termination, and field replaceable cone and voice coil assembly. Wherever natural reproduction of voice frequencies is the goal, Model 2105 can be substituted for larger loudspeakers to give a significant improvement in high frequency dispersion while at the same time reducing the size and cost of mounting provisions.



JBL

Model 2105 - 5" Extended Range Transducer

Architectural Specifications

The transducer shall have a nominal diameter of 5 inches, overall depth not greater than 3 1/4 inches, and weigh at least 2 3/4 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 approximately 7/8 inches in diameter and shall be made of edgewound copper ribbon operating in a magnetic field of not less than 16,500 Gauss with at least 24,000 Maxwells total flux. The transducer shall be designed to allow mounting from either the front or the rear of the baffle board and the entire frame, cone and voice coil assembly shall be field replaceable without special tools.

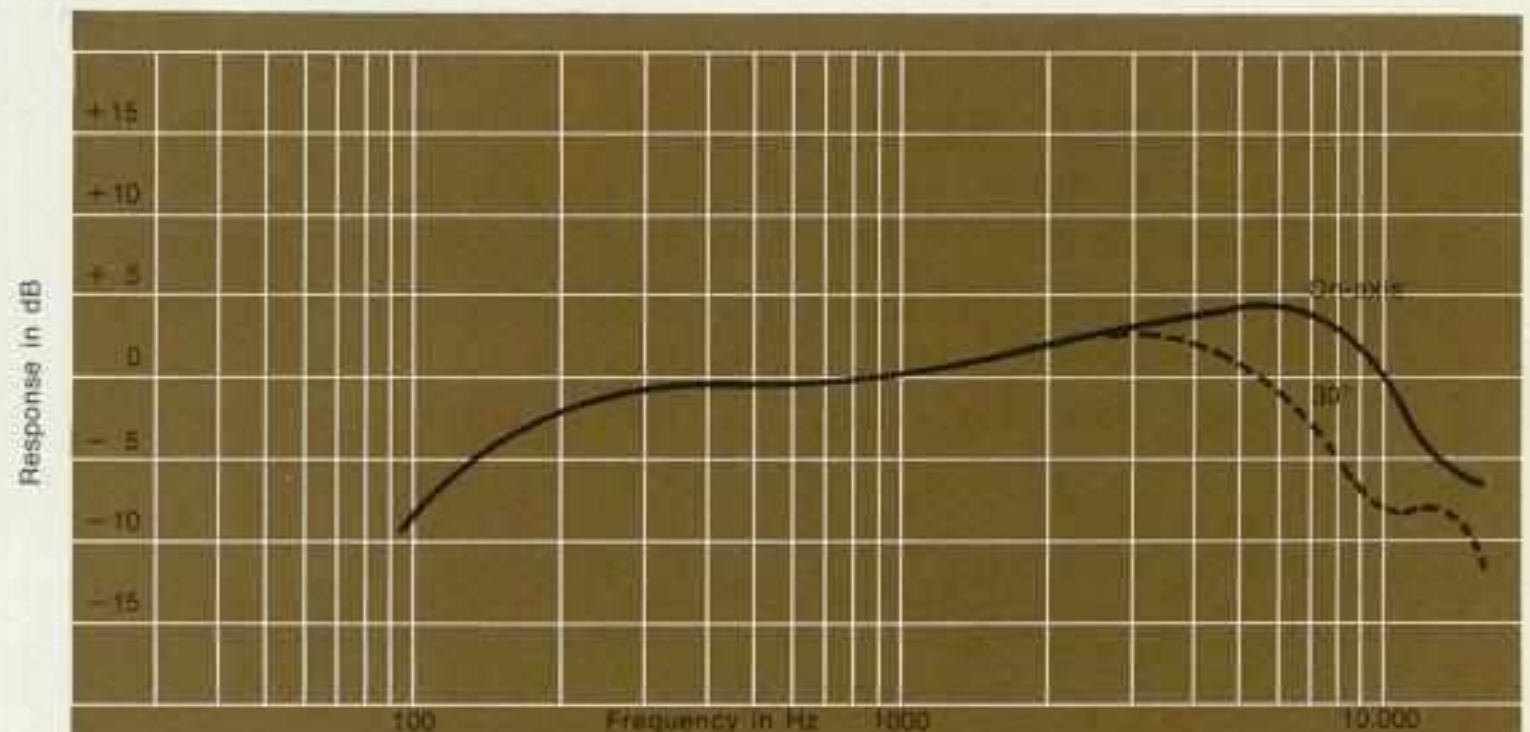
Performance specifications of a typical production unit shall be as follows:

Measured sensitivity (SPL at 30 feet with one mW input, warbled 500-2500 Hz) shall be at least 46 dB on-axis and 45 dB 45° off axis. As an indication of electromechanical conversion efficiency, the BI factor shall be at least 5.6×10^6 dynes per abampere. Usable frequency response shall extend from 150 to 15,000 Hz. On-axis response, measured at a distance of six feet or more under free field conditions, shall approximate a straight line rising with frequency at a rate of 1.5 dB per octave. Response shall not deviate more than 3 dB from this characteristic from 150 to 8,000 Hz. Above 8,000 Hz response shall gradually roll off, but at 12,000 Hz shall not be more than 3 dB down from the 500-2500 Hz reference level. Nominal impedance shall be 8 ohms and power capacity shall be at least 40 watts normal speech or music program material.

The transducer shall be JBL Model 2105. 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	5 inches
Nominal impedance	8 ohms
Power capacity (properly loaded)	40 watts cont. program
Sensitivity	86.0 dB, SPL 10 feet, 1 Watt 46.5 dB, SPL 30 feet, 1mW
Frequency range	150 - 15,000 Hz
Voice coil diameter	0.85 inches
Voice coil material	Edgewound copper ribbon
Flux density	16,500 Gauss
Total flux	24,000 Maxwells
BI factor	5.6×10^6 dynes per abampere
Magnetic assembly	2 lb. 10 oz.
Baffle hole dia.	4 inches (rear mtg.) 4 1/4 inches (front mtg.)
Depth	3-1/8 inches
Net weight	2,875 lbs.



Frequency response contour of Model 2105. Measured response of a typical production unit, including all peaks and dips, does not deviate more than 3 dB from the above curve.

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