

# Professional Series Model 2150 15" Composite Transducer

50 watts continuous program  
Edgewound copper ribbon voice coils  
50-12,000 Hz response  
90° conical dispersion  
Integrated two-way system  
Bi-amp capability



JBL model 2150 is a complete two-element system made up of a controlled-excursion 15" low frequency transducer and separate heavy duty high frequency radiator, acoustically integrated and mounted on a single chassis. It is ideally suited for high-level distributed systems for convention centers, auditoria, ballrooms, and other installations requiring natural sound reinforcement with full dynamic range and uniform coverage. Wide dispersion and high power capacity mean that fewer transducers are required to cover a given area.

Traditional JBL engineering and quality standards result in a highly efficient system which can produce a sound pressure level greater than 100 dB at a distance of 30 feet. Peak free response permits greater gain before acoustic feedback. Model 2150 is extremely versatile. It can be front or rear mounted, and will deliver excellent results in enclosures having 4 to 6 cubic feet internal volume. The unit will operate properly when combined with the JBL 3125 frequency dividing network or when used in bi-amplified installations.

**JBL**

# Model 2150—15" Composite Transducer

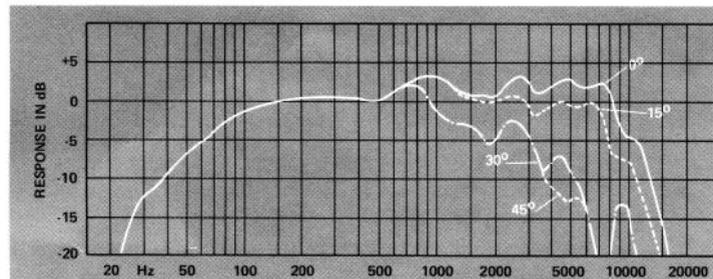
## Architectural Specifications

The transducer shall be of the two way composite type incorporating two linear transducers on a single 15" frame. The frame shall be of cast aluminum to resist deformation. Both magnetic assemblies shall use Alnico V encased in a heavy cast iron return circuit for maximum efficiency and suppression of stray fields. The low frequency 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. The high frequency voice coil shall be 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. The high frequency radiator shall be mounted in the same plane as the low frequency radiator. The dividing network shall be separately mounted.

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

Measured sensitivity (SPL at 30 ft. with 1 mW input, swept 500-2500 Hz) shall be at least 51 dB on axis. As an indication of electromechanical conversion efficiency, the BI factor shall be at least  $5.60 \times 10^6$  dynes/abampere for the H.F. section, and at least  $2.05 \times 10^7$  dynes/abampere for the L.F. section. Useable frequency response shall extend from 30 to at least 14,000 Hz. Response, measured 45° off-axis at a distance of six feet or more under free-field conditions, shall be within  $\pm 2.5$  dB from 50 to 4,000 Hz. The distribution pattern of this device shall be interpreted to mean that sensitivity measured 45° off-axis shall not be reduced more than 6 dB from the on-axis measurement. Nominal impedance shall be 8 ohms and power capacity shall exceed 50 watts normal speech or music program material. Crossover frequency shall be 1200 Hz, and the dividing network shall be supplied separately.

The transducer shall be JBL model 2150. 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.



Response contour of Model 2150 measured 15 degrees off-axis. Measured response of a typical production unit does not deviate more than 2.5 dB from the above curve.

## Specifications

Nominal Diameter		
Low Frequency	15 inches	38 cm
High Frequency	5 inches	13 cm
Nominal Impedance	8 ohms	
Power Capacity <sup>1</sup>	50 watts continuous program	
Sensitivity <sup>2</sup>		
1 mW, 30 ft. (9.1 m)	51 dB SPL	
1 W, 1 m (3.3 ft.)	100 dB SPL	
Frequency Range	50-12,000 Hz	
Dispersion	90° conical	
Crossover Frequency	1200 Hz with Model 3125 (refer to JBL publication PPB3100)	
Nominal Free Air Resonance	55 Hz	
Voice Coil Diameter		
Low Frequency	4 inches	10.2 cm
High Frequency	7/8 inch	2.2 cm
Voice Coil Material		
Low Frequency	Edgewound copper ribbon	
High Frequency	Edgewound copper ribbon	
Magnetic Assembly Weight		
Low Frequency	12 1/2 lbs	5.7 kg
High Frequency	2 3/4 lbs	1.2 kg
Flux Density		
Low Frequency	11,500 gauss	
High Frequency	16,500 gauss	
BI Factor		
Low Frequency	$2.05 \times 10^7$ dynes/abampere	
High Frequency	$5.60 \times 10^6$ dynes/abampere	
Recommended Enclosure Volume <sup>3</sup>	6 cu. ft.	169 liters
Baffle Cutout Diameter		
Front Mount	13 31/32"	35.5 cm
Rear Mount	13 1/2"	34.3 cm
Depth	5 3/4"	14.6 cm
Net Weight	15 7/8 lbs	7.2 kg
Shipping Weight	22 1/2 lbs	10.2 kg
Accessory	3125 Frequency Dividing Network	

<sup>1</sup>Continuous program power is defined as 3 dB greater than continuous sine wave power (RMS). It is a conservative expression of the transducer's ability to handle normal speech and music program material.

<sup>2</sup>Sensitivity measured with an input swept from 500 to 2500 Hz.

<sup>3</sup>The 2150 may be used in enclosures as small as 4 cubic feet (113 liters) with some degradation of bass response.

JBL Professional Products are not intended for household use.

**JBL**

Professional Series  
Professional Division

James B. Lansing Sound, Inc., 8500 Balboa Boulevard, Northridge, California 91329.

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