

JBL

L250



# JBL

# L250 L250 L250 L250 L250 L250

The L250 is the most advanced loudspeaker JBL has ever built for the home. JBL has spared no effort necessary to meeting the design goal: to build the most accurate loudspeaker possible.

Accuracy, for JBL, encompasses many factors. Tonal and transient accuracy maintain the essential character of music. High output capability with low distortion means wide dynamic range. Accurate, stable imaging brings the spatial qualities of live music into the home.

The JBL L250 excels at all of these aspects. The limiting performance factors will be the program source and associated electronics. From the singular shape of the enclosure to the unique level controls, nothing has been overlooked.

The woodworking complements the engineering. Our cabinet-makers finish each enclosure to your order, by hand. In every detail, the L250 is a definitive expression of JBL quality and craftsmanship.



Computer analyses aided in the design of the L250.

## THE ENCLOSURE

Form follows function in the L250's enclosure. Designed completely around acoustical considerations, it provides proper loading and baffling for the drivers without adding coloration of its own. The asymmetrical shape minimizes diffraction effects, as do the rounded edges. The sloping front baffle puts the drivers in correct time and phase relationship as well as correct vertical alignment. To further assure a stable, three-dimensional stereo image, the L250s are designed in mirror-

imaged pairs. Attention to all these factors has produced the L250's very open, transparent sound, more often associated with the live performance.

Enclosure construction is of 3/4-inch high density particle board, extensively braced to prevent any resonances and lined with fiberglass to damp unwanted internal reflections. Separate subchambers for the lower midrange and midrange drivers preclude any interaction with the other loudspeakers. A ducted port tunes the response of the low frequency driver.

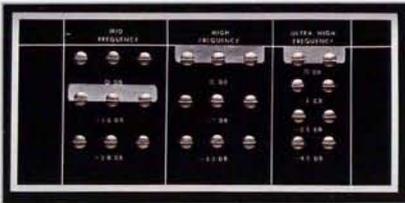
## THE FREQUENCY DIVIDING NETWORK

An advanced, highly refined version of JBL's high resolution frequency dividing network contributes greatly to the excellent performance of the system. The network is a first-order design with 6 dB per octave slopes for the smoothest blending of the four drivers. Such design is possible because the drivers exhibit linear response well beyond the ranges required of them in the L250. Additionally, the network employs conjugate circuits to level the impedance of each driver, so that actual operation approaches the theoretical ideal.

Most dividing networks blur musical transients because of the hysteresis effects of the large capacitors necessary for high power handling. To improve resolution, JBL incorporated circuitry more typical of active high frequency electronics. Small, highly linear, polypropylene and polystyrene "bypass" capacitors, wired in parallel with the larger capacitors, enable the network to pass transient waveforms unaltered.



L250 L250 L250 L250 L250 L250



Level adjustments are made via bus bars

Pairing the bypass capacitors on some of the circuits effects an even greater improvement.

Fixed-value, stepped attenuators give the performance advantages of hard wire while still allowing level adjustments, which are made via high-current bus bars on the rear panel. Shelving controls are used for the lower midrange and midrange drivers, and a rolloff control is used for the dome radiator.

Connections to the amplifier are made at 5-way binding posts that accept any type of speaker cable. The network is hard-wired throughout to eliminate any irregularities caused by connection terminals.

### THE INDIVIDUAL LOUSPEAKERS

JBL manufactures all its own drivers, using die-cast aluminum frames, extremely strict tolerances, and the highest quality materials. It's the only way we know to achieve the high performance of a loudspeaker such as the L250.

### LOW FREQUENCY

A newly developed 14-inch loudspeaker reproduces the lowest frequencies. With its large magnet assembly, 4-inch edge-wood voice coil, and SFG magnetic structure, the driver produces powerful bass into

the lowest octave with very little distortion. The cone is coated with Aquaplas, an exclusive damping compound that reduces resonances.

A careful choice of suspension elements gives tight, controlled transient response and complete freedom from dynamic instabilities.

### LOWER MIDRANGE

Also newly developed, the 8-inch lower midrange driver similarly incorporates a powerful SFG magnetic structure and Aquaplas-coated cone. The driver has both high sensitivity and high power capacity, to provide considerable reserve dynamic headroom.

### MIDRANGE

The 5-inch midrange loudspeaker also offers great reserve headroom, important because most of the musical energy falls into the spectrum covered by two midrange drivers. An edgewound voice coil helps both power capacity and sensitivity.

### HIGH FREQUENCY

The 1-inch dome is formed of phenolic-impregnated linen for the optimum combination of stiffness and weight. The dome is driven over its full circumference by a 1-inch voice coil. Response is exceptionally smooth, and even the sharpest transients are reproduced with lifelike clarity.

### POWER CAPACITY AND MUSICAL DYNAMICS

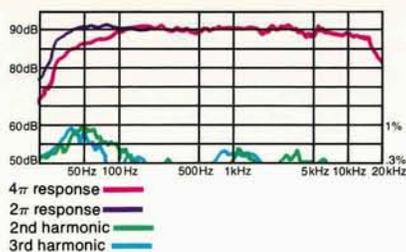
Part of ultimate accuracy is the capability to reproduce the dynamics of a musical performance. This is especially important as ever-better source material becomes available. With its combination of high efficiency and high power capacity, the L250 reproduces the widest recorded dynamics with ease.

Although only a few watts can drive the L250 to adequate levels, we recommend the use of a high quality amplifier capable of producing 50 or more watts per channel. Such an amplifier has sufficient headroom to accommodate the peaks on the best program sources.

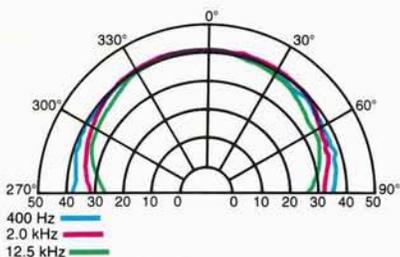
JBL

# L250

# SPECIFICATIONS



Frequency response of the L250, measured at 1 meter with a 1-watt input in free-field (4 $\pi$ ) and hemispherical free field (2 $\pi$ ) environments. The lower curves are distortion measurements taken at 1 meter with a 10-watt input (corresponding to an average sound pressure level of 100 dB).



Polar response of the L250

## CHOICE OF FINISHES

When you order your L250s, you can choose from among five custom finishes: black stain, walnut, makassar ebony, Indian rosewood, or white oak, quarter sawn. You can also choose from among six grille colors. Your JBL dealer has examples of the different finishes.

### Grille Colors



### Custom Wood Finishes



**JBL** James B. Lansing Sound, Inc.  
8500 Balboa Boulevard,  
P.O. Box 2200,  
Northridge, California 91329 U.S.A.

## SYSTEM

Maximum Recommended Amplifier Power	400 watts per channel
Nominal Impedance	8 ohms
Crossover Frequencies	400 Hz; 1.6 kHz; 4.5 kHz
System Sensitivity	90 dB SPL, 1 W, 1 m (3.3 ft)

## LOW FREQUENCY LOUDSPEAKER

Nominal Diameter	14 in (360 mm)
Voice Coil	4 in (100 mm) edgewound copper
Voice Coil Depth	19 mm (3/4 in)
Magnetic Assembly Weight	18 5/8 lb (8.5 kg)
Flux Density	1.2 tesla (12,000 gauss)
Sensitivity <sup>1</sup>	91 dB SPL, 1 W, 1 m (3.3 ft)

## LOWER MIDRANGE LOUDSPEAKER

Nominal Diameter	8 in (200 mm)
Voice Coil	2 in (50 mm) copper
Magnetic Assembly Weight	6 lb (2.7 kg)
Flux Density	1.05 tesla (10,500 gauss)
Sensitivity <sup>2</sup>	95 dB SPL, 1 W, 1 m (3.3 ft)

## MIDRANGE LOUDSPEAKER

Nominal Diameter	5 in (130 mm)
Voice Coil	7/8 in (22 mm) edgewound copper
Magnetic Assembly Weight	1 5/8 lb (0.74 kg)
Flux Density	1.35 tesla (13,500 gauss)
Sensitivity <sup>3</sup>	94 dB SPL, 1 W, 1 m (3.3 ft)

## HIGH FREQUENCY DOME RADIATOR

Nominal Diameter	1 in (25 mm)
Voice Coil	1 in (25 mm) copper
Magnetic Assembly Weight	2 lb (0.9 kg)
Flux Density	1.4 tesla (14,000 gauss)
Sensitivity <sup>4</sup>	89 dB SPL, 1 W, 1 m (3.3 ft)

## GENERAL

Dimensions	52 in x 22 1/2 in x 14 1/4 in deep 1321 mm x 572 mm x 362 mm deep
Net Weight	135 lb (61.4 kg)
Shipping Weight	150 lb (68 kg)

1. Averaged from 100 Hz to 500 Hz, within 1 dB.
2. Averaged from 500 Hz to 2 kHz, within 1 dB.
3. Averaged from 800 Hz to 4 kHz, within 1 dB.
4. Averaged above 5 kHz, within 1 dB.

JBL continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description but will always equal or exceed the original design specifications unless otherwise stated.