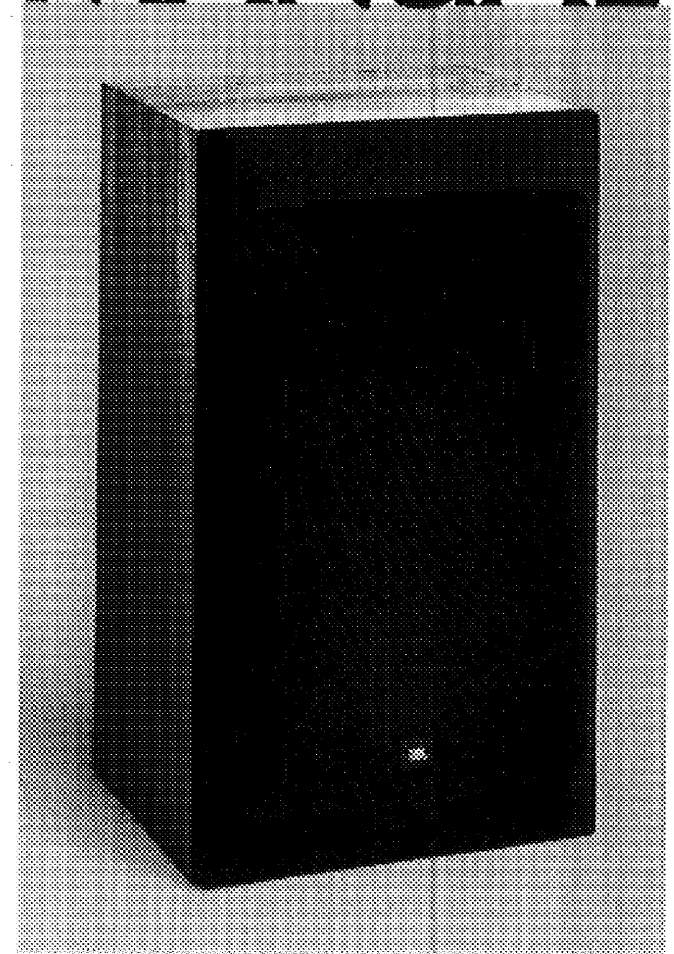


L112 INSTRUCTION MANUAL



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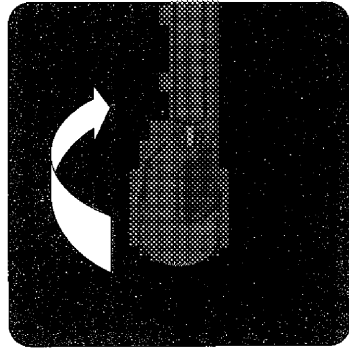
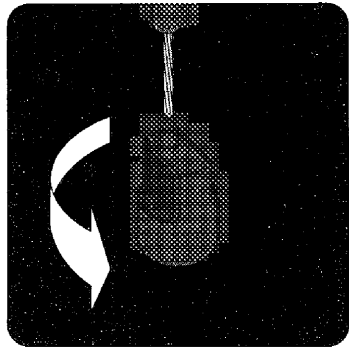


The L112 is JBL's most advanced bookshelf loudspeaker system, a three-way design featuring wide frequency response and exceptionally low distortion. A new high resolution dividing network gives the L112 superior transient response, and the mirror-imaging of the stereo pair offers a stable, accurate stereo image. The combination of a new high frequency dome radiator, a powerful midrange driver, and the low-distortion SFG low frequency loudspeaker give the L112 state-of-the-art bookshelf speaker performance.

Before making any loudspeaker connections, turn off the amplifier or receiver.

HOOK-UP WIRE. To connect loudspeaker systems placed up to 15 m (50 ft) from the amplifier, 1 mm (#18 AWG) insulated wire—ordinary household lamp cord—is the minimum size recommended. For longer distances, we recommend heavier-gauge wire: 1.3 mm (#16 AWG) up to 30 m (100 ft), and 1.6 mm (#14 AWG) up to 60 m (200 ft). The heavier wire can of course be used for the shorter distances.

Connections to the loudspeaker system are made at the two terminals on the back of the enclosure.



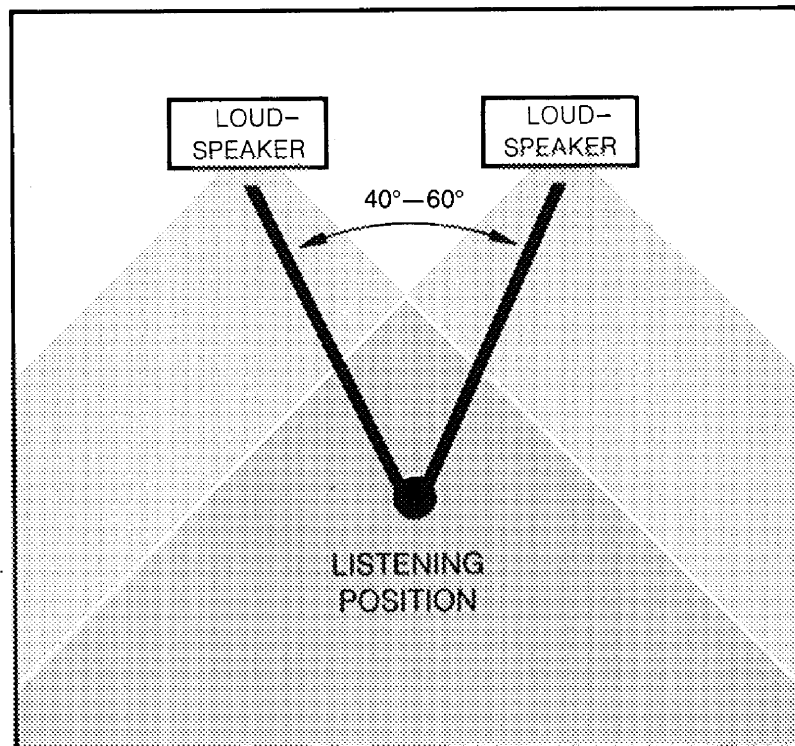
1. Strip approximately 20 mm (3/4 in) of the insulation from the end of the wire. Twist the wire strands together.
2. Turn the terminal fully counterclockwise, insert the wire, then turn the terminal clockwise until the wire is secured. Rotate the terminal by hand — do not force it.

PHASING. For each loudspeaker system, connect the wire from the black terminal to the amplifier terminal labeled "common," "ground," (-), or colored black. Connect the wire from the red terminal to the amplifier terminal labeled "8 ohms," "8 Ω," (+), or colored red. If lamp cord is used, the wires can be distinguished from one another by noting that one insulating jacket is smooth, while the other has a distinct ridge. Connecting both systems as described will ensure in-phase operation; i.e., their diaphragms will respond to a monophonic signal by moving simultaneously in the same direction. Out-of-phase operation will not harm the system, but will seriously degrade performance, especially bass response.

NOTE: Some amplifiers have a chassis grounding terminal, which is usually isolated from the other connectors. This should not be confused with the loudspeaker connection terminals.

PLACEMENT

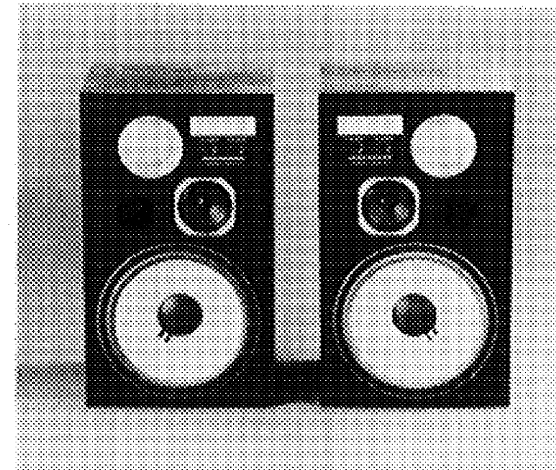
For the best possible performance, a person sitting in the usual listening position should be at the apex of a 40° to 60° angle to the two systems. The distances between the systems should be determined by their distance from the listener and by the listening angle.



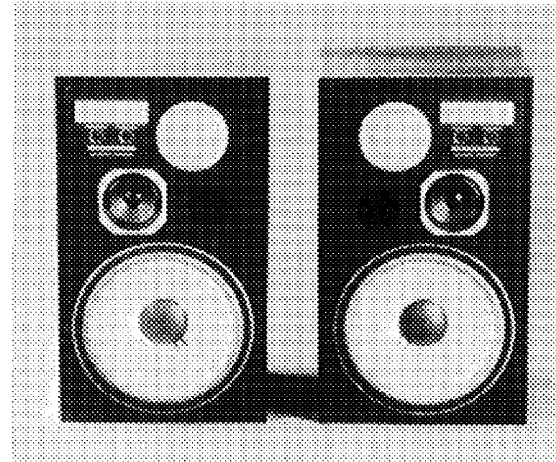
40°-60° Listening Angle. Sound energy from the loudspeaker systems blends to form a stereo "image." This image will be more stable and the area of the best stereo perception increased if the two systems are turned slightly toward the preferred listening position.

The L112 is a "mirror-imaged" loudspeaker; the driver configuration of one channel is a mirror image of the other. This provides an exceptionally good stereo image and sense of acoustic space, adding to the realism of the sound.

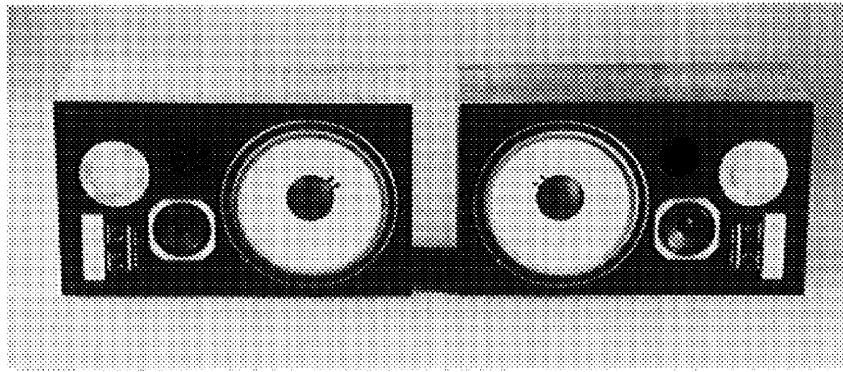
The L112s come in boxes marked "left" (in green) and "right" (in red). Your pair should include one of each. The designation refers to the position of the high frequency driver on the baffle and does not necessarily have any bearing on which speaker should be used for the right channel and which for the left. The following photos cover the placement options; optimum performance will be achieved when the systems are placed in the vertical position.



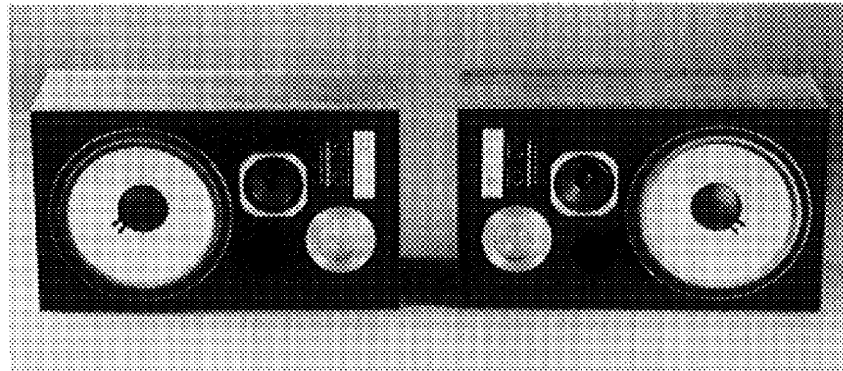
For rooms in which the speakers are placed less than 10 feet apart. The high frequency drivers should be "outboard" to maintain the best stereo separation.



For rooms in which the speakers are 10 feet or more apart. The best imaging will be obtained by placing the high frequency drivers "inboard."



The L112 may be placed horizontally if necessary. When the speakers are less than 10 feet apart, use the outboard position.



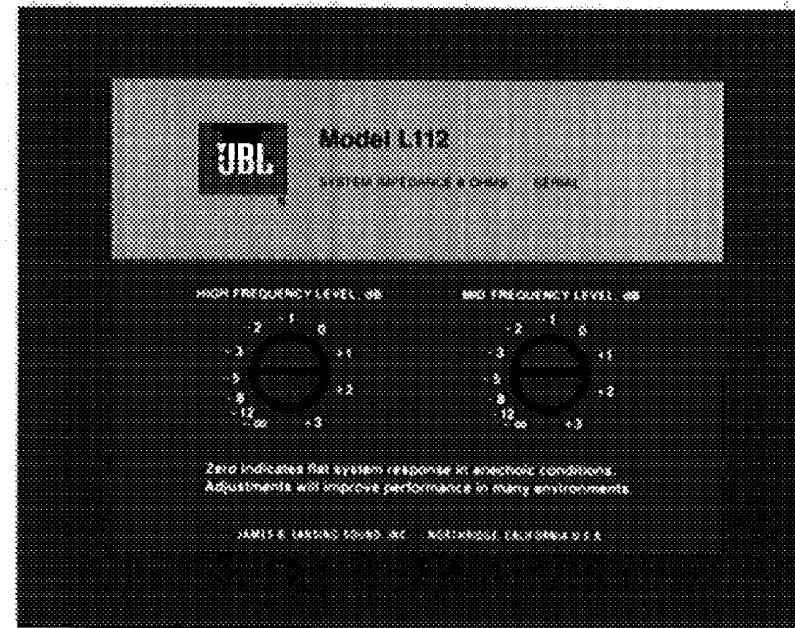
Horizontal placement if the speakers are 10 or more feet apart, with the high frequency drivers in the inboard position.

Other factors in room placement will also affect the sound. For example, bass response will be augmented if the enclosures are placed near adjoining room surfaces (i.e., in a corner, or near a wall). The flattest response is often obtained by elevating the speakers off the floor. If possible, experiment with placement before deciding on a final arrangement.

To accommodate personal preferences or specific room acoustics, the L112 has adjustable level controls for the midrange and high frequency drivers, located on the front panel behind the removable grille. The controls are calibrated in decibels (dB); the "0" setting corresponds to flat system response in an anechoic environment. Listening rooms are not anechoic, and adjusting the level controls may improve the performance in your room. Don't hesitate to experiment. Evaluations should be made while seated in your normal listening location.

Once you have decided on the exact placement of the speakers and the proper level control settings, further compensation for differences in individual recordings should be made with the tone controls on the amplifier.

NOTE: The best stereo imaging will usually result when the level control settings on one loudspeaker system match those on the other.



High Frequency and Mid Frequency level controls are located on the front panel of the enclosure, behind the removable grille.

JBL loudspeaker systems are unique in combining high efficiency with the ability to handle large amounts of power. The L112 produces sound at comfortable listening levels when driven by an amplifier having an output of as little as 10 watts continuous sine wave per channel.* However, for reproduction of the full dynamic range of contemporary recordings at high volume, an amplifier delivering up to 300 watts continuous sine wave per channel will provide optimum performance. Such an amplifier has the reserve power necessary for accurate reproduction of transients, which can reach momentary peaks equivalent to ten times the average power level. In any event, the chosen amplifier should have an output power rating greater than that required to produce the loudest output desired. A margin of reserve power will help ensure that the amplifier will not attempt to deliver more power than its design allows. When overdriven, most amplifiers will clip signal waveforms, a condition of severe distortion which may damage the high frequency radiators.

If distortion is heard, at least one of the sound system components is operating beyond its capacity (assuming each component is properly adjusted), and the overall volume level of the sound system should be reduced. In almost all cases, the acoustic level generated by the JBL L112 will become noticeably objectionable to the ear before the loudspeaker can become damaged by excessive power from the amplifier. There is virtually no danger of damaging the JBL L112 if it is operated within the following guidelines: 1) the signal from the amplifier, regardless of its rated power, is not distorted; 2) the amplifier is not driven into clipping; and 3) audio connectors are not inserted or unplugged while the amplifier is operating.

However, a powerful wide-range amplifier can accidentally damage any loudspeaker under certain conditions. For example, fast-winding a tape recorder with the playback volume turned up can generate "squeals" powerful enough to burn out the high frequency driver. Similarly, powerful low-frequency pulses extending down into the subsonic range can eventually damage the low frequency loudspeaker. If the phonograph pickup is accidentally dropped with the volume control at maximum, or if the system is played very loudly with excessive bass boost, nearly the full rated power of the amplifier can be channeled into dangerous subsonic energy.

COMPONENTS

Each component of the JBL L112 loudspeaker system is designed and produced by JBL to meet the most rigorous standards in the industry. The loudspeaker

*The continuous sine wave rating of amplifier power is the most stringent method currently used in the audio industry. Many amplifier manufacturers use the term "watts rms" as a direct equivalent to the more meaningful "watts continuous sine wave."

frames are massive cast structures, produced to exacting tolerances. Magnetic assemblies are precisely manufactured of low-reluctance iron, energized by large, high-grade magnets. Voice coils are held to within one turn of design specifications. Cones are designed for the best possible combination of stiffness, density, and weight. Each component, the enclosure, and finally the whole system undergo a total of over fifty separate, stringent quality control tests and inspections during assembly.

LOW FREQUENCY—A 300 mm (12 in) driver with a 4.7 kg (10¼ lb) magnetic assembly provides deep, powerful bass reproduction. The unique SFG (Symmetrical Field Geometry) design reduces second-harmonic distortion to levels far below those found in drivers using conventional magnetic structures. The cone is coated with a precisely controlled amount of a specially formulated material that provides optimum mass as well as better damping, for smooth performance at the upper end of the driver's range. A 75 mm (3 in) edgewound copper voice coil helps produce the high efficiency and remarkable transient response of the driver.

MIDRANGE—The 130 mm (5 in) midrange loudspeaker, housed within an isolated subchamber to prevent interaction with the low frequency driver, also delivers undistorted reproduction even at extreme volume levels. Its 22 mm (7/8 in) copper voice coil is large for a loudspeaker of this size, yielding exceptional transient response and efficiency. A very stiff cone reduces the possibility of cone breakup at very high power levels.

HIGH FREQUENCY—Designed specifically for the L112, the new 25 mm (1 in) high frequency dome radiator accurately reproduces the highest harmonics, yet cleanly handles the largest musical peaks with authority. The dome is formed of a lightweight phenolic material, coated with aluminum by means of a vapor deposition process. It has the optimum combination of strength, mass, and rigidity; the copper voice coil drives the full circumference for smooth, low-distortion response across its entire operating range.

FREQUENCY DIVIDING NETWORK—A new frequency dividing network gives the L112 superior transient response, so that music retains the full clarity and total impact of the original source. This performance was achieved through the creative application of a principle typically found only in active high frequency electronics, a principle that greatly improves the resolution of complex musical waveforms. Additionally, the sophisticated L112 network controls each driver throughout its operating range, so that the output of the individual drivers is smoothly blended with no perceptible shift from one driver to the next. The network is mounted on a heavy-duty printed circuit board to assure reliability.

Should your JBL loudspeaker system require service, return it to the JBL dealer from whom it was purchased. If this is not possible, write directly to the JBL Customer Service Department, describing the problem as fully as possible. Products returned to the factory must be sent prepaid to JBL Customer Service Department, 8500 Balboa Boulevard, Northridge, California 91329, U.S.A.

COMPONENT REMOVAL

Should it become necessary to remove the loudspeaker system components for testing or repair, turn off the power at the amplifier or receiver, disconnect the loudspeaker system, and follow the described procedures.

GRILLE—The grille is secured to the enclosure by dowel pins located along the edges of the baffle panel. To remove the grille, grasp it by both top or both bottom corners and pull gently. To replace it, reposition it on the dowel pins and press lightly.

The low frequency and midrange drivers are held in place by Phillips-head screws threaded into T-nuts. When removing or installing these screws, be careful not to apply excessive pressure that could dislodge the T-nuts.

LOW FREQUENCY—The low frequency loudspeaker is held in place on the front of the baffle by four screws. Place the enclosure on its back on a clean, padded surface, and carefully remove the screws. Grasp the loudspeaker by the edge of its frame, lift it away from the baffle panel, disconnect the wires at the binding posts, and remove the loudspeaker.

MIDRANGE—The midrange loudspeaker is held in place by screws at each corner of its frame. Remove the screws, lift the unit from the enclosure, and disconnect the leads at the tab connectors.

HIGH FREQUENCY—First remove the low frequency loudspeaker. The high frequency loudspeaker is mounted on the inside surface of the main baffle panel, but the screws must be removed from the front. Support the driver with one hand as you remove the screws. Disconnect the wire leads and lift the driver out through the low frequency driver opening.

DIVIDING NETWORK—Remove the low frequency loudspeaker and disconnect the wire leads at all the loudspeakers. Pull the wire leads from the midrange subchamber so that they fall into the enclosure. Before removing the network, disconnect the leads from the level controls at the tab connectors on the network. The network is mounted to the rear panel of the enclosure and held in place by six Phillips-head screws. Support the network as you remove the screws and lift the network out through the low frequency loudspeaker opening.

Note that it is not necessary to remove the level control assembly in order to remove the network. If, for any reason, it becomes necessary to remove the level controls, carefully peel the serialized foil nameplate from the baffle panel, remove the mounting screws, and lift the assembly out through the low frequency loudspeaker opening. Because the nameplate is generally destroyed during removal, it is not recommended that the level control assembly be removed simply for inspection. If the assembly must be returned for service, enclose the original nameplate; a new serialized nameplate will be provided.

REPLACEMENT—Reverse the removal procedure to replace the loudspeaker components. Mounting screws should be tightened evenly to avoid the possibility of frame warpage and just enough to prevent air leaks between components and the enclosure.

Although JBL loudspeakers are extremely rugged, the cone and other moving parts are subject to accidental damage. Exercise caution when using a screwdriver or other tools in their immediate vicinity.

The L112 enclosure panels are made of dense compressed wood (also known as particle board), superior to solid wood in its acoustic properties. For maximum strength and resistance to vibration, all panels are cut from 19 mm (3/4 in) stock, the structure is extensively braced, and all joints are hand-fitted.

The finish veneer is American black walnut, treated with an oil/wax preparation and hand rubbed to a rich, lustrous finish.

As the oil penetrates deeply into the walnut, the finish may appear to be drying out. Many owners find it desirable to re-oil the enclosure surface from time to time. With each application, the beauty of the finish will become more apparent and a warm, rich patina will eventually be obtained.

To re-oil a JBL finish, use any of the several clear oil finishing preparations available through furniture or hardware outlets. Apply a liberal amount of the preparation over the entire finished surface of the enclosure. In ten or fifteen minutes wipe off the remaining oil with a soft, clean, dry cloth. Small surface scratches can usually be removed by gently rubbing them out with very fine steel wool (4/0 grade) and applying oil to the entire panel. When using steel wool, apply light pressure and rub only in the direction of the grain. Very deep scratches, dents, or other serious damage should be repaired only by a qualified furniture refinisher.

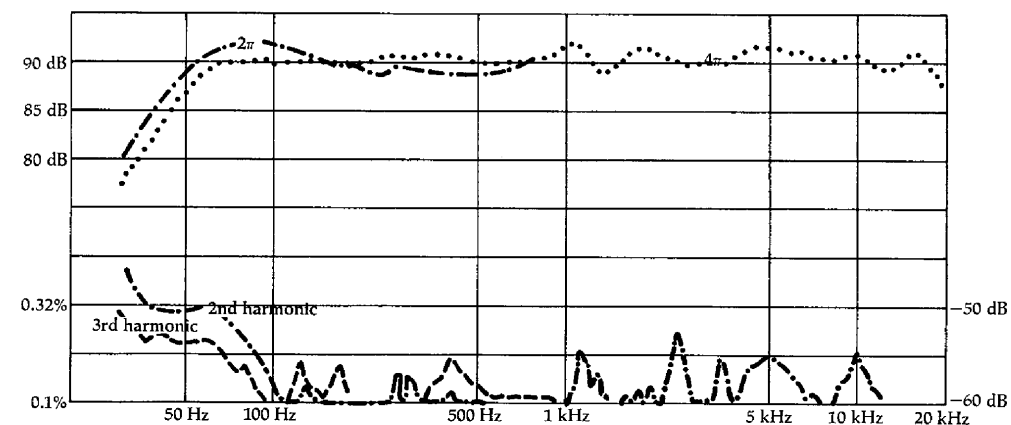
The grille cloth can be cleaned by gentle dusting with a vacuum cleaner. Stains can be removed by using a soft bristle brush moistened with mild soap and water. Do not use any cleaning fluids or solvents of any kind, because they might damage the grille.

If you have difficulty in achieving the fine performance of which your JBL loudspeaker system is capable, consult the franchised JBL dealer from whom the system was purchased. He is equipped with the knowledge required to provide expert advice and assistance. If for some reason the JBL dealer is unable to assist you, write directly to the JBL Technical Services Department, explaining the difficulty in detail.

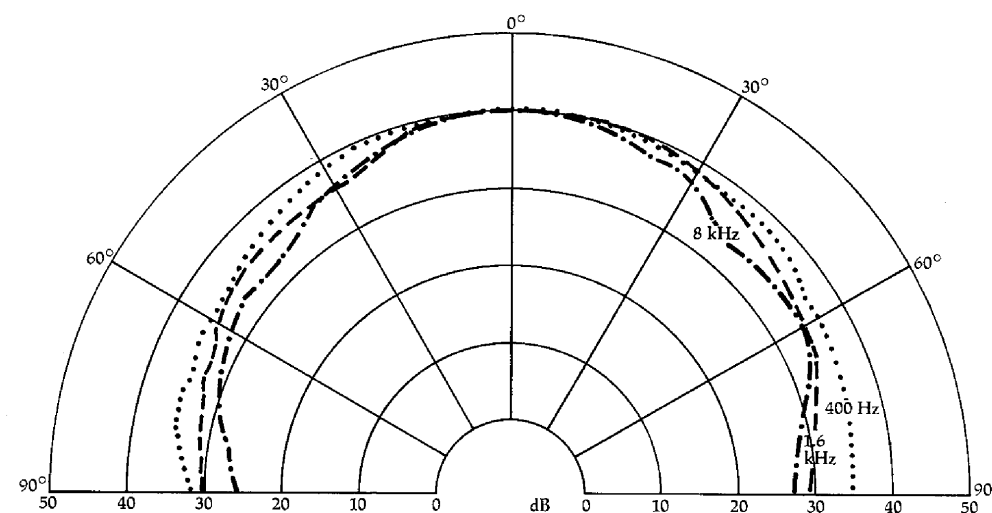
SPECIFICATIONS

System	
Maximum Recommended Amplifier Power	300 watts per channel
Nominal Impedance	8 ohms
Crossover Frequencies	1.1 kHz, 3.7 kHz
System Sensitivity	89 dB SPL, 1 W, 1 m (3.3 ft)
Low Frequency Loudspeaker	
Nominal Diameter	300 mm 12 in
Voice Coil	75 mm (3 in) copper
Magnetic Assembly Weight	4.7 kg 10¼ lb
Flux Density	1.05 tesla (10,500 gauss)
Sensitivity ¹	89 dB SPL, 1 W, 1 m (3.3 ft)
Midrange Loudspeaker	
Nominal Diameter	130 mm 5 in
Voice Coil	22 mm (7/8 in) copper
Magnetic Assembly Weight	0.74 kg 1½ lb
Flux Density	1.4 tesla (14,000 gauss)
Sensitivity ²	91 dB SPL, 1 W, 1 m (3.3 ft)
High Frequency Dome Radiator	
Nominal Diameter	25 mm 1 in
Voice Coil	25 mm (1 in) copper
Magnetic Assembly Weight	0.9 kg 2 lb
Flux Density	1.4 tesla (14,000 gauss)
Sensitivity ³	89 dB SPL, 1 W, 1 m (3.3 ft)
General	
Finish	Oiled walnut
Grille Color	Brown ⁴
Dimensions	622 mm x 362 mm x 333 mm deep 24½ in x 14¼ in x 13 in deep
Shipping Weight	25 kg 55 lb

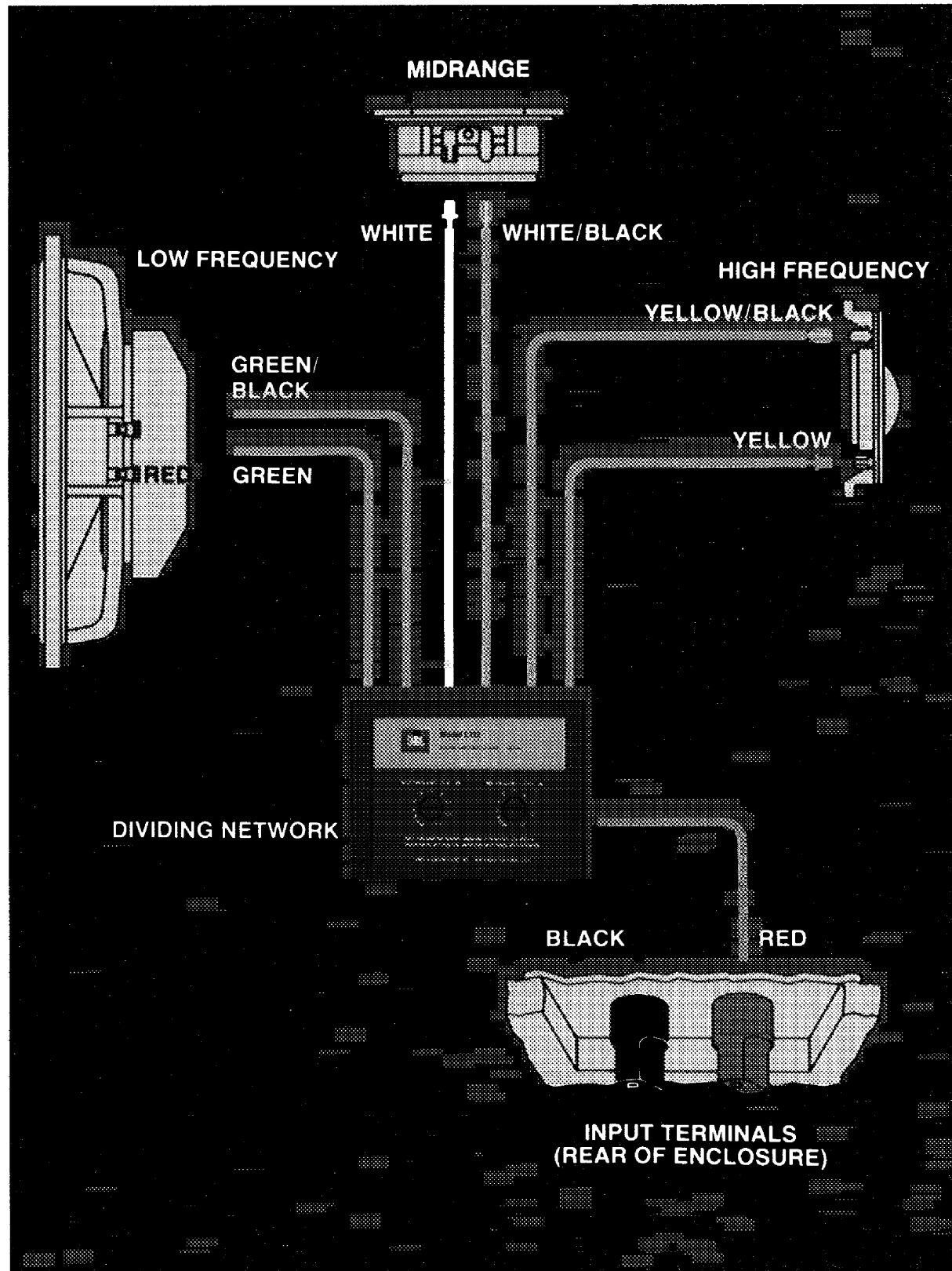
1. Averaged from 100 to 500 Hz, within 1 dB.
2. Averaged from 1 kHz to 3 kHz, within 1 dB.
3. Averaged above 5 kHz, within 1 dB.
4. Rust or tan grilles are available separately.



Frequency response of the L112, measured on-axis at 1 metre with a 1-watt input in hemispherical free-field (2 π) and free-field (4 π) environments. Response in a room will vary, depending on room acoustics and system placement. The lower curves show 2nd and 3rd harmonic distortion levels.



Horizontal dispersion of the L112 at low, mid, and high frequencies. This uniform sound distribution pattern results in excellent imaging.



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.