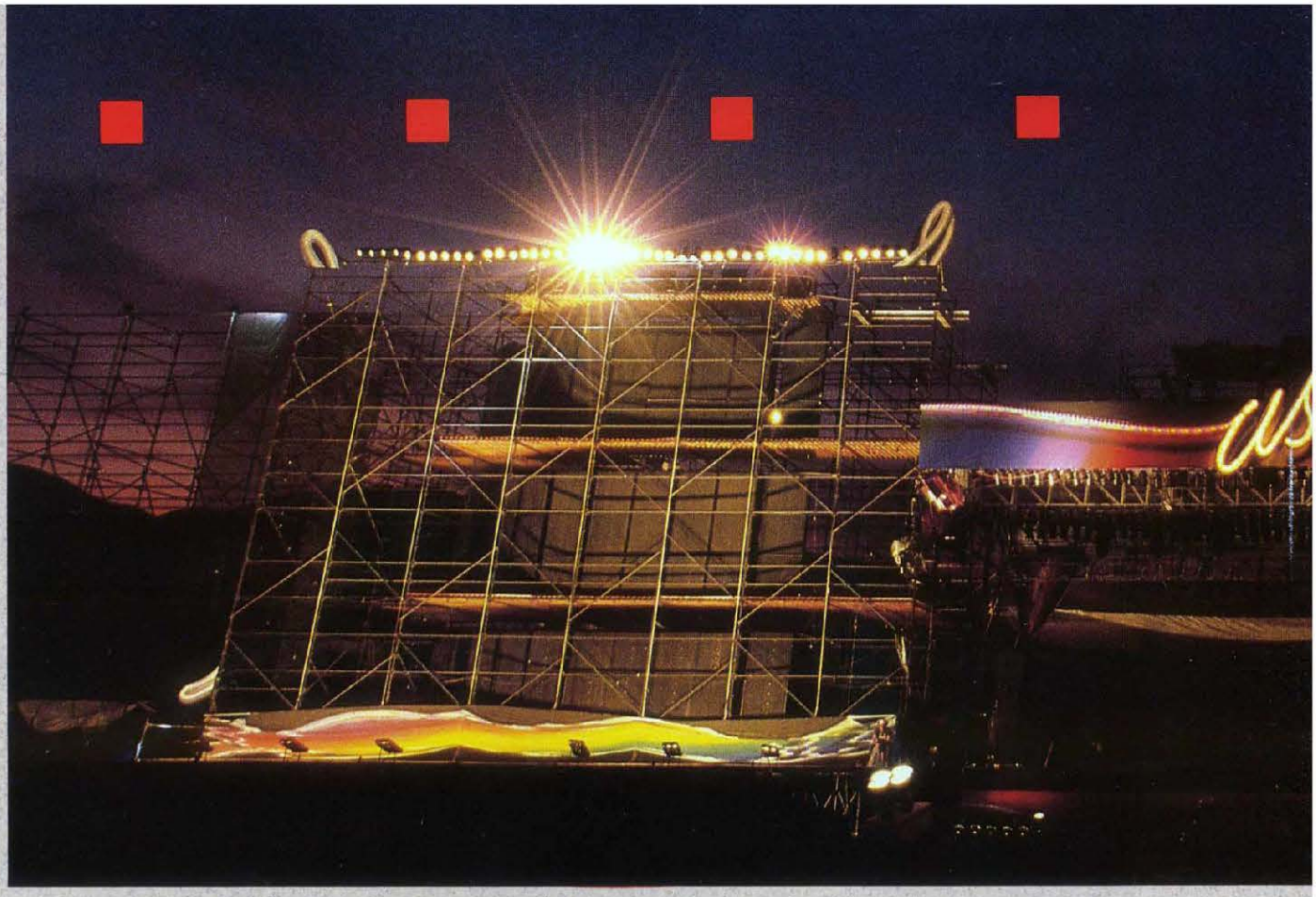

JBL
L • SERIES



More than 2,400 individual loudspeaker components made up the 400,000 Watt JBL sound system built to power the three-day "US Festival" in Southern

JBL...The Professional's Choice

JBL's technical expertise and sonic accuracy makes JBL loudspeakers the choice of audio professionals around the world.

Recording engineers depend on their studio monitor loudspeakers for accurate sound reproduction. Motion picture sound advancements require even more rugged, wide range theater speakers. Concert halls need superior sound reinforcement systems for proper amplification. Rock concerts must have sound systems that can maintain fidelity at enormous volume levels for hours on end.

In all of these applications, JBL loudspeaker systems are the choice of the professionals. They're the choice of major recording companies including Warner Brothers, Capitol and EMI in addition to nearly seventy percent of the recording studios worldwide. They're the choice of renowned concert halls such as Lincoln Center's Avery Fisher Hall in New York; The Kennedy Center in Washington, D.C.; and the Mormon Tabernacle, Salt Lake City. They're the choice of state-of-the-art motion picture theaters throughout the country. They're the choice of superstar rock artists while touring. And they're the choice of such major rock events as Cal Jam II, where JBL loudspeakers supplied the sound for over 300,000 listeners, and Live Aid in America, which gathered the largest rock audience in history.



JBL loudspeaker systems are featured in over 70% of the recording studios worldwide, and relied on for sonic accuracy.

Every speaker in the "L" series—L100T, L80T, L60T and L20T—has a direct twin in the JBL studio monitor line. For the first time the intended original dynamic range, extended frequency response and recreation of the full sound stage is available for home use. For the first time ever, the same speakers that producers and engineers use to mix their recordings sets the stage in the home environment. JBL...Bringing professional sound all the way home.



JBL studio monitors are the speakers that most producers and engineers depend upon to mix their recordings.

General History... JBL, The Company

The JBL philosophy goes back to 1929, when James B. Lansing began building small loudspeakers for radios and phonographs. A new challenge soon interested him: Loudspeakers for movie theaters. "Talkies" had come of age and there was a need for loudspeakers that could fill the large movie houses with high quality sound. Lansing perfected techniques for milling flat wire and winding it on edge for superior voice coils. He also made vital contributions to compression driver technology, and many of his designs were forerunners of today's production models.

But even more important than any single advancement in technology, James B. Lansing established an approach that



California. Critics from music industry publications called the system "the best outdoor sound system ever constructed."



All "L" series speakers have a professional studio monitor twin.

guides JBL to this day: Uncompromised engineering and manufacturing to deliver the best loudspeaker systems possible.

Engineering Expertise

There are basically two ways for a company to build a loudspeaker system. The most common method is to buy the component parts from mass suppliers and assemble them, accepting the inevitable compromises which result from using off-the-shelf components.

JBL has a better way. For nearly forty years JBL has designed and built the entire system...from the initial computer calculations to the finished product. All variables are controlled so design goals never have to be compromised.

Better engineering is the JBL approach to better sound. At JBL engineering takes many forms: Component design, testing of materials, manufacturing techniques and electronics.

JBL always seeks new and better materials and subjects them to thorough examinations, including detailed vibrational analysis and magnetic measurements. A fully equipped tool and die shop is maintained to enable JBL to manufacture equipment with tolerances as close as two ten thousandths of an inch.

JBL measures and analyzes tone bursts, impulse response and phase response with the use of state-of-the-art time-display spectometry, Fourier analysis, and other advanced techniques. For the most accurate measurements conceivable, JBL employs a wide variety of specially calibrated condenser microphones, in addition to testing in their own anechoic chamber.

Human ears still remain JBL's most sensitive measuring instrument. Every design is subjected to extensive critical listening by a panel which includes audiophiles, recording engineers and musicians, throughout a product's development.

Manufacturing Proficiency

JBL considers manufacturing a crucial extension of the design process and spares no effort to ensure that the production models equal or exceed the performance of the engineering prototypes, both in their professional and consumer loudspeakers.

A key to JBL's manufacturing success is their ability to manufacture components to tolerances so tight that they cannot be matched by most of the industry. Since exacting tolerances cannot be precisely realized by competitive manufacturers, too often their demo speaker heard in the store may not sound the same as the system brought home. JBL's strict quality control assures that the speakers brought home will sound the same as the ones heard in the store.



Los Angeles' renowned Samuel Goldwyn Theater of the Academy of Motion Picture Arts and Sciences has an extensive sound system which features JBL components.

JBL Speakers For Accurate Sound Reproduction

The accurate reproduction of sound requires different physical demands upon a loudspeaker. The deepest bass frequencies, especially at high volume levels, require the speaker cone to travel quite a distance in order to move the necessary amount of air. Conversely, high frequencies require a diaphragm that can move much more rapidly, over shorter distances. The choice of capacitors, resistors, inductors and the circuitry in speaker design is of critical importance to the resulting sound.

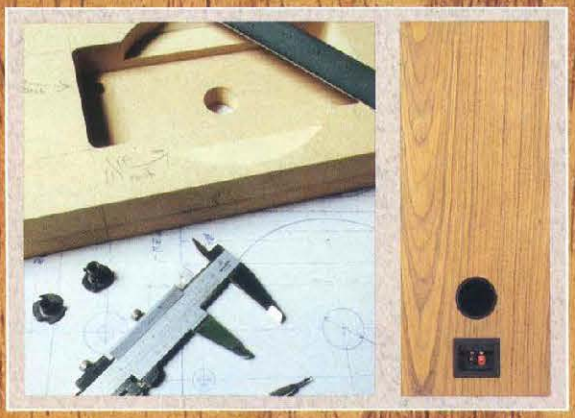
In the "L" series, the same speakers that are auditioned by engineers and producers while recording—the speakers by which the quality of the sound is judged by the professionals throughout the recording process—are here for the home environment. The "L" series from JBL.

Titanium High Frequency Transducers For The Clearest Sound Available



The basic notes for most music and vocals occur in the middle and lower frequencies. However, the fundamental character of various musical instruments is often defined by the higher, sometimes even unheard, frequencies.

To reproduce these tones, a high frequency transducer (in this case a 1" dome—the O35Ti) must travel over minute distances at enormously fast speeds. The rapid back and forth movement creates forces as great as 1,000 Gs—a thousand times the force of gravity. The transducer must be light enough to respond instantly to musical transients, yet strong enough to endure this crushing force. To best accomplish this, JBL selected titanium for the "L" series high frequency transducers.



Above left: JBL's engineering expertise is well established. For over forty years JBL has designed and built the entire system, from initial computer calculations to the finished product. Above right: Every exposed surface of new "L" series' cabinetry is finished in real wood veneers, machined to exacting standards for a seamless appearance.

Titanium has an extremely high strength-to-weight ratio. Until recently, it could not be fabricated thin enough to produce a dome. JBL engineers solved that problem by developing a unique process that swirls compressed gasses against a film of titanium only 25 microns thick—thinner than a human hair. The process forms the dome perfectly and without causing stress fractures.

Being that thin, however, makes the dome subject to deformation. JBL engineers solved that problem by creating an intricate network of ribs formed directly into the dome. By forming the metal in this pattern, the weight remains unchanged but the stiffness increases tenfold. The final dome is capable of responding fast, precisely and for long periods of time, with no material fatigue, to deliver sound that is unstrained, clear and clean.

Further inspection of the titanium high frequency transducer reveals a patented structuring of diamond-shaped creases or folds surrounding the transducer.

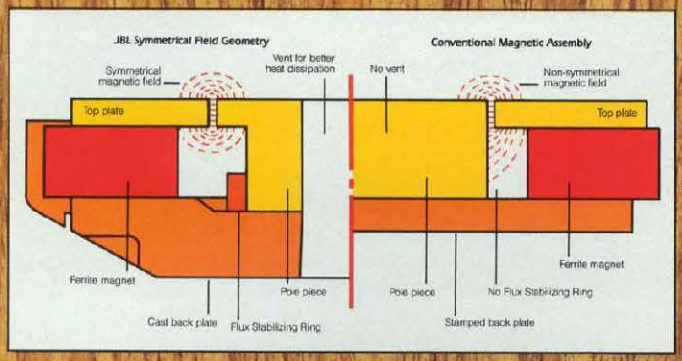
JBL has also shifted the resonant frequencies of the dome to well above 20,000Hz—beyond the range of human hearing capability. The result is a high frequency response that is flat to 27,000Hz and absolutely smooth, effortless and neutral in sound character through the critical 3,000 to 20,000Hz range.

Polypropylene To Provide The Smoothest Response

JBL engineers examined a wide spectrum of materials for use in the mid, mid/low and low frequency transducers of the "L" series. Their research led them to the fact that each transducer would function at its individual, optimal level through the use of separate materials, best suited to the intended function.

Polypropylene is a material recognized to provide high internal damping—freedom from internal resonance—for smooth, flat frequency response. JBL engineers also knew that it, unfortunately, has poor stiffness-to-mass ratio, which results in a softened transient response and a tendency to collapse and thereby distort under high power input. To gain the benefits of polypropylene without the negative side effects, JBL engineers employ a secondary substance that drastically improves stiffness while retaining the same high internal damping.

A specially derived filled polypropylene is featured in the mid/low frequency transducer of the L20T. JBL uses a laminated high polymer on the mid-frequency transducers of the L80T and L100T, and in the mid/low frequency transducer of the L60T. This assures a midrange that is smooth, uncolored, excellent on transients and resistant to break-up at high power levels.



As this frequency driver cross section demonstrates, JBL's unique Symmetrical Field Geometry (SFG), shown on the left, dramatically reduces the second harmonic distortion found in conventional drivers, shown on the right, thereby optimizing bass performance.

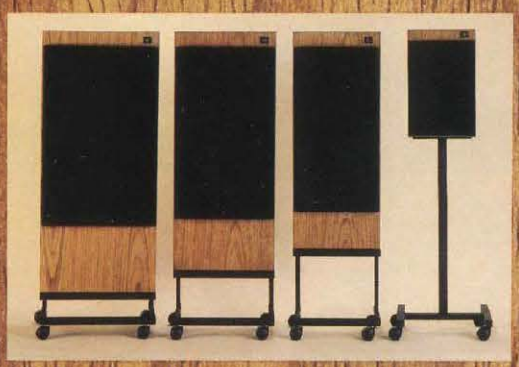


Aquaplas For Low Frequencies... A Proven Material With The Pros

Aquaplas, a trademarked substance, was chosen for use in the low frequency transducer cones of both the L80T and L100T. JBL engineers have used Aquaplas very successfully in the JBL professional line. In fact, the higher power 12, 15 and 18-inch low frequency transducers that the pros have been using for the last fifteen years have employed Aquaplas. It stiffens the cone —makes it far more rigid—so that it won't collapse at high volume levels. Aquaplas has proven to have the optimal combination of internal damping and strength. These low frequency transducers exhibit excellent linearity (low harmonic distortion) and the smoothest natural high frequency roll-off of any low frequency transducers available.

JBL's Unique SFG (Symmetrical Field Geometry)

JBL's unique SFG (Symmetrical Field Geometry) magnetic structure is utilized to produce deep, powerful, clean bass. The SFG innovations—the symmetrical magnetic field at the voice coil gap and the aluminum Flux Stabilizing Ring—dramatically reduce the second harmonic distortion found in conventional drivers. A powerful magnet and large voice coil give the driver high power handling capability, further reduction of distortion, and outstanding transient response.The surface of the cone is coated with Aquaplas to provide the precise mass and density necessary to optimize bass performance and prevent spurious resonance. This results in smooth response extending into the midrange frequencies.



"L" Series: High Spatial Identification Dividing Networks

It is the critical function of the crossover network to distribute the various frequencies to the respective transducers, and, in so doing, "orchestrate" the interaction that changes exceptional components into exceptional sound.

Crossover points between components in the "L" series are achieved by High Spatial Identification Dividing Networks. In addition to unique, precise circuitry, the components are of an exceptionally high quality. JBL uses polypropylene bypass capacitors as well as low loss capacitors. This technique, seen only in advanced electronic designs, allows the smaller value elements to correct for some of the non-linear effects which exist in larger network capacitors. The inductors are all heavy gauge wire designs that do not saturate at high signal levels. Not only do these ensure smooth transducer-to-transducer transitions, they additionally guarantee proper musical placement, as was the intention during the recording process.

Integrity In Construction

The mid, mid/low and low frequency transducers associated with the JBL "L" series feature all cast and machined frames. What this achieves is a cone that is held more rigidly in place than a conventional stamped frame and enables the perfect alignment of all the drivers, voice coils, suspension and cone within the magnet gap. JBL's cast aluminum frame acts as a heat sink for the magnetic structure. This improves the overall power handling capability.

For reliability, JBL's voice coils are formed using high temperature materials, as they are in JBL's professional speakers, where they constantly operate under arduous power handling conditions.

Quality Internal And External Connections

Internal connections in the "L" series are made with heavy-gauge audiophile cable for better current transfer and lower distortion. External connections are all made through professional termination five-way binding posts for attachment via banana plugs, pins or bare large gauge audiophile wire. These binding posts are not only convenient and flexible, but also provide for a low resistance electrical connection.





L 2 0 T **L 6 0 T**

L20T The L20T compact monitor, a two-way bookshelf system with a 6 ½" low frequency transducer, offers extended frequency response, original dynamic range, and the reproduction of the full sound stage in the home. The L20T features JBL's acclaimed 1-inch titanium high frequency transducer (O35Ti) and polypropylene mid/low frequency transducer to deliver sound as it was intended to be heard. The sensitivity is 87dB at 1 Watt/1 meter, and has continuous power rating of 100 Watts and a dynamic power rating of 400 Watts (peak IEC shaped noise). The L20T, performance previously unavailable in such a small package.

L60T The L60T provides professional sound in the home environment. The elegant two-way, floor standing system, with an 8-inch low frequency transducer, teams JBL's renowned titanium high frequency transducer (O35Ti) with a laminated high polymer cone mid/low frequency transducer. The result is a sensitivity of 88dB at 1 Watt/1 meter, a continuous power rating of 120 Watts, and a dynamic power rating of 480 Watts (peak IEC shaped noise). The all-wood veneer L60T provides extended bass response at high power levels for startling realism.

Cabinetry...Aesthetic As Well As Acoustic Excellence

The cabinetry of JBL's new "L" series loudspeaker models has been designed to reflect their tradition of aesthetic as well as acoustic excellence. With the premier millwork plant in the speaker industry, the new "L" series' cabinetry combines proven quality methods with innovative techniques typical of fine European furniture crafting.

Every exposed surface is finished in real wood veneers, machined to exacting standards for a seamless appearance. Each cabinet is lock mitred for strength, and hand rubbed and oiled to the most lustrous finish possible. The final touch is the floating grille for less obstruction and interference.

The "L" Series... Bringing Professional Sound All The Way Home.





L80T The JBL L80T, a three-way floor standing system, yields unparalleled sound reproduction with its combination of a pure titanium high frequency transducer (O35Ti), laminated high polymer cone mid-frequency transducer, 10-inch Aquaplas low frequency transducer and High Spatial Identification Dividing Network. The L80T has a sensitivity of 90dB at 1 Watt/1 meter, a continuous power rating of 150 Watts, and a dynamic power rating of 600 Watts (peak IEC shaped noise). With its extended frequency response, ability to deliver original dynamic range and the re-creation of the full sound stage, the L80T sets the stage at home.

L100T JBL's top-of-the-line three-way, floor standing system reproduces sound equivalent to first generation sources—compact discs, master tapes and high performance pressings, possessing a sensitivity of 91dB at 1 Watt/1 meter, a continuous power rating of 200 Watts, and dynamic power rating of 800 Watts (peak IEC shaped noise). The L100T integrates a pure titanium high frequency transducer (O35Ti), laminated high polymer cone mid-frequency transducer, a 12-inch Aquaplas low frequency transducer and High Spatial Identification Dividing Network to truly recreate the professional sound in the home.



L20T

- 2-WAY SYSTEM
- 6½-INCH FILLED POLYPROPYLENE LOW FREQUENCY TRANSDUCER
- 1-INCH HIGH FREQUENCY TRANSDUCER WITH PURE TITANIUM DIAPHRAGM
- SENSITIVITY: 87dB SPL, 2.83 VOLTS AT 1 METER
- FREQUENCY RESPONSE: -6dB AT 45Hz AND 27kHz, +2.5dB FROM 50Hz TO 20kHz
- CROSSOVER: 3kHz
- POWER HANDLING: 100 WATTS CONTINUOUS, 400 WATTS PEAK IEC SHAPED NOISE
- DIMENSIONS W:9½" / 241mm H:14⅞" / 378mm D:9¼" / 235mm
- SHIPPING WEIGHT: 38LBS / 17.3Kg / PAIR

L60T

- 2-WAY SYSTEM
- 8-INCH POLYMER LAMINATE LOW FREQUENCY TRANSDUCER
- 1-INCH HIGH FREQUENCY TRANSDUCER WITH PURE TITANIUM DIAPHRAGM
- SENSITIVITY: 88dB SPL, 2.83 VOLTS AT 1 METER
- FREQUENCY RESPONSE -6dB AT 35Hz AND 27kHz +2.5dB FROM 45Hz TO 20kHz
- CROSSOVER: 2.5kHz
- POWER HANDLING: 120 WATTS CONTINUOUS, 480 WATTS PEAK IEC SHAPED NOISE
- DIMENSIONS W:12" / 305mm H:30½" / 775mm D:10" / 245mm
- SHIPPING WEIGHT: 40LBS / 18.2Kg EACH

L80T

- 3-WAY SYSTEM
- 10-INCH AQUAPLAS LAMINATE LOW FREQUENCY TRANSDUCER
- 5-INCH HIGH POLYMER LAMINATE MID-FREQUENCY TRANSDUCER
- 1-INCH HIGH FREQUENCY TRANSDUCER WITH PURE TITANIUM DIAPHRAGM
- SENSITIVITY: 90dB SPL, 2.83 VOLTS AT 1 METER
- FREQUENCY RESPONSE -6dB AT 35Hz AND 27kHz +2.5dB FROM 45Hz TO 20kHz
- CROSSOVERS: 800Hz AND 4.5kHz
- POWER HANDLING: 150 WATTS CONTINUOUS, 600 WATTS PEAK IEC SHAPED NOISE
- DIMENSIONS W:14" / 356mm H:33½" / 851mm D:11¾" / 298mm
- SHIPPING WEIGHT: 58LBS / 26.4Kg EACH

L100T

- 3-WAY SYSTEM
- 12-INCH AQUAPLAS LAMINATE LOW FREQUENCY TRANSDUCER
- 5-INCH HIGH POLYMER LAMINATE MID-FREQUENCY TRANSDUCER
- 1-INCH HIGH FREQUENCY TRANSDUCER WITH PURE TITANIUM DIAPHRAGM
- SENSITIVITY: 91dB SPL, 2.83 VOLTS AT 1 METER
- FREQUENCY RESPONSE: -6dB AT 35Hz AND 27kHz, +2.5dB FROM 45Hz TO 20kHz
- CROSSOVERS: 800Hz AND 4.5kHz
- POWER HANDLING: 200 WATTS CONTINUOUS, 800 WATTS PEAK IEC SHAPED NOISE
- DIMENSIONS W:16" / 406mm H:36½" / 927mm D:13¼" / 337mm
- SHIPPING WEIGHT: 73LBS /33.2Kg EACH

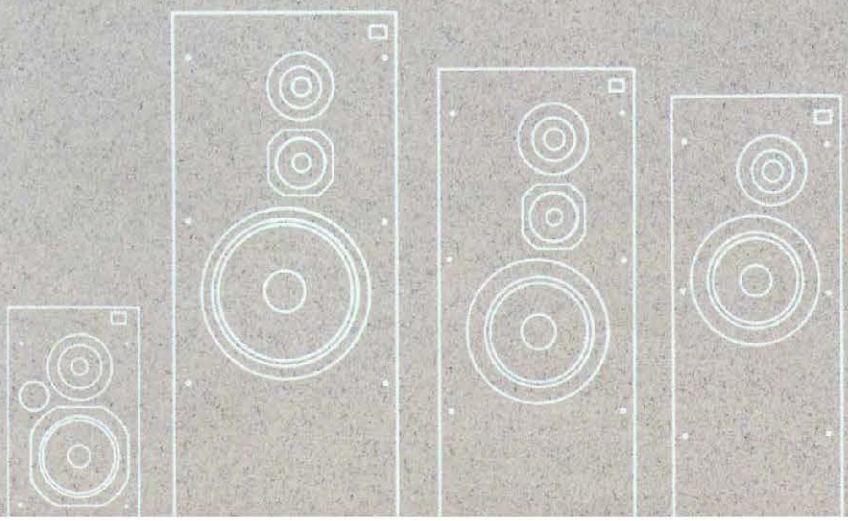
All features and specifications are subject to change without notice.

JBL

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