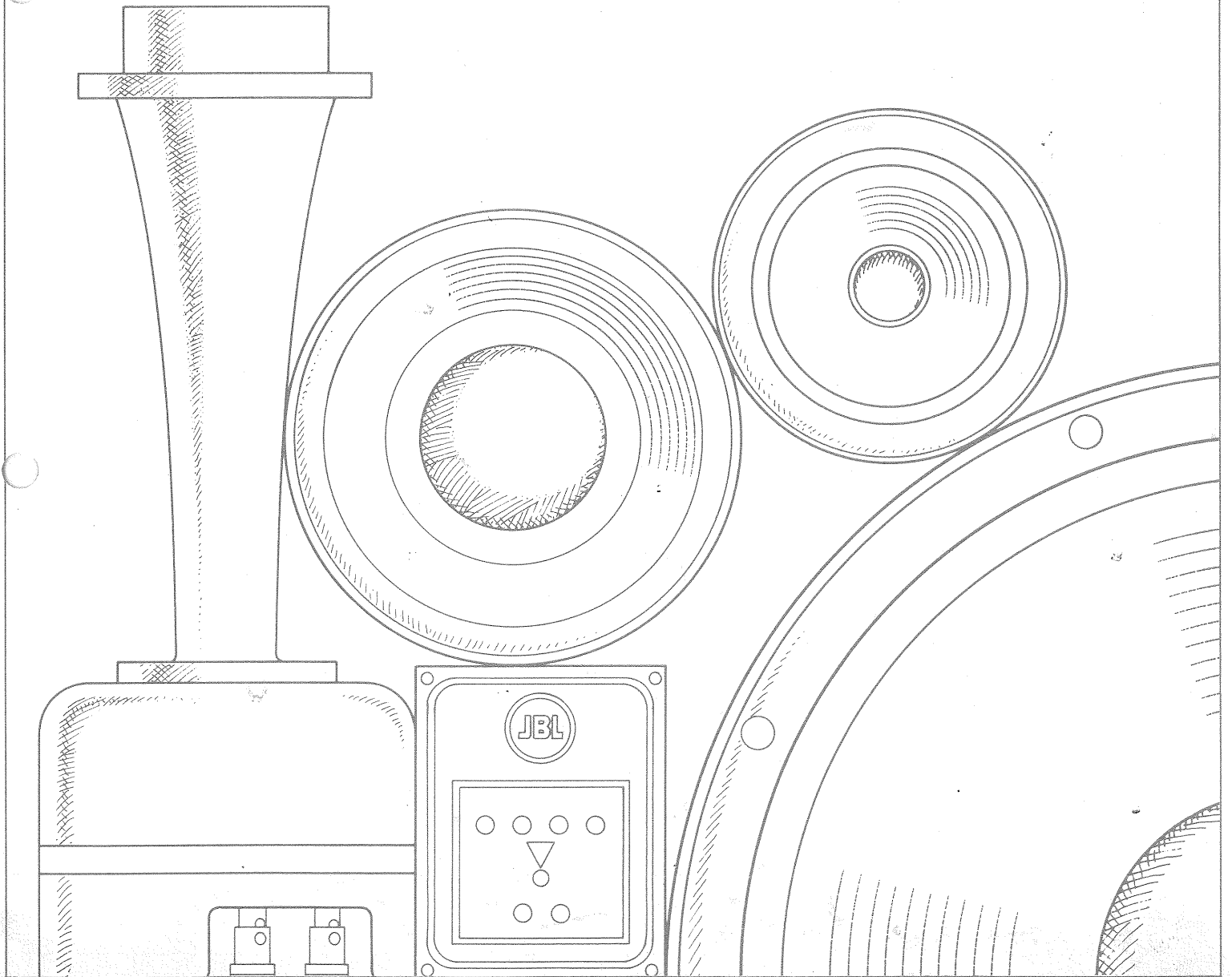
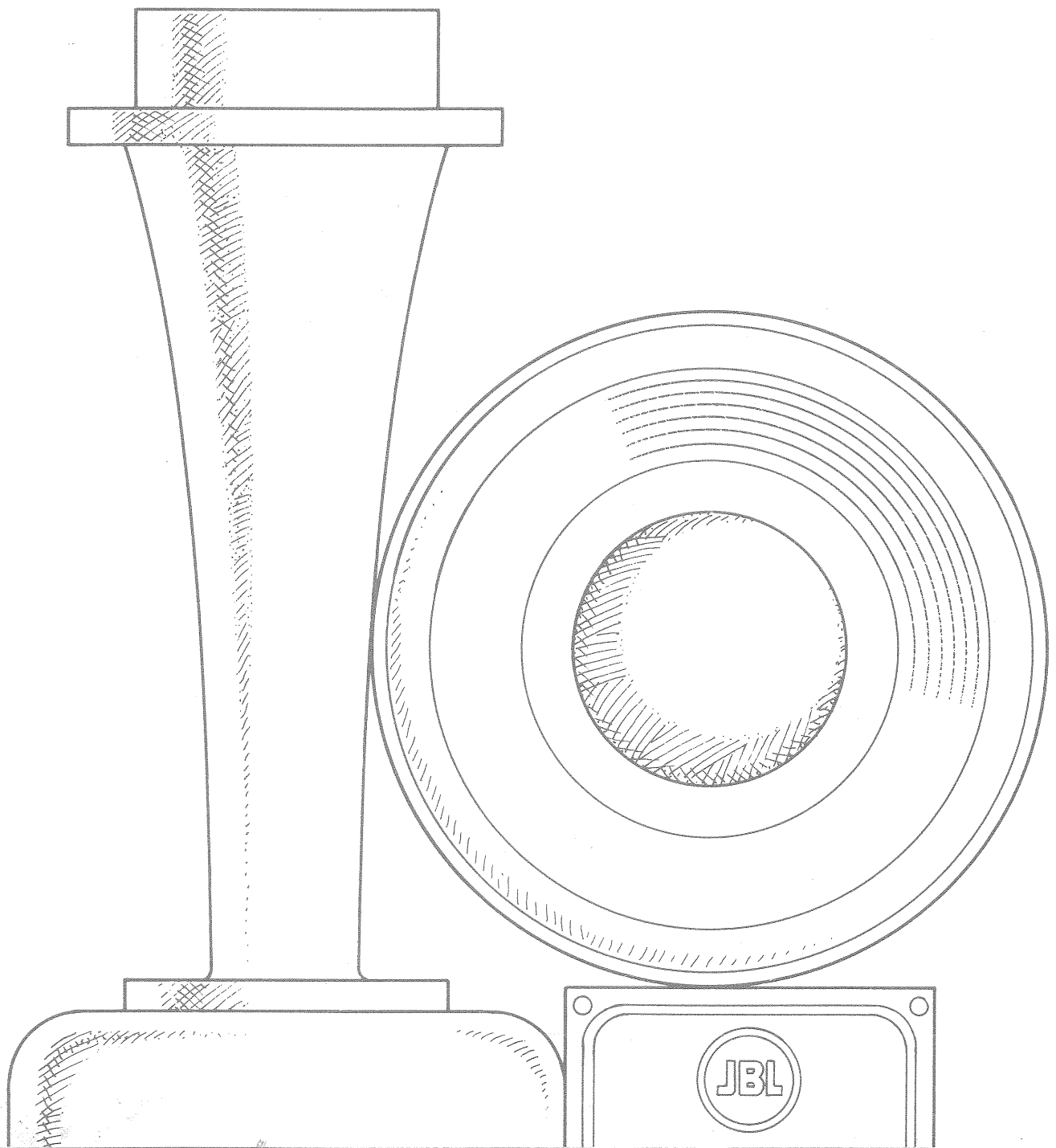


JBL LOUDSPEAKER COMPONENTS





JBL Loudspeaker Component Series

Ever since our first loudspeaker, more than thirty years ago, JBL has offered components to the individual who wants to create his own JBL system. It's the best and most extensive line of loudspeaker components in the world.

For built-in applications, for special situations, for any custom requirement, JBL loudspeaker components provide the custom solution, along with cost savings and the fun and involvement of building your own loudspeaker system.

This catalog contains specifications for all the models in the series. The Loudspeaker Component Series Instruction Manual provides mounting instructions and wiring diagrams. The Enclosure Construction Kit contains a complete "how-to" booklet on cabinet building, along with enclosure and baffle-board blueprints, a materials list, and porting specifications. We also make three pre-finished enclosures (see page 7 of this catalog). Our Technical Services Department can help with further information and advice. Please write or call us should questions arise.

JBL Loudspeaker Design

The quality of sound reproduction in any loudspeaker directly reflects the ability of the loudspeaker to convert the signal from the amplifier into precise mechanical motion. This ability in turn depends upon careful design and the maintenance of close tolerances in manufacturing. The slightest compromise can adversely affect the loudspeaker's performance.

Every JBL loudspeaker is designed and manufactured to meet the most rigorous standards in the audio industry:

JBL component loudspeaker frames are massive cast structures, designed to resist stress and abuse and to permit precision machining.

Magnetic assemblies are made of low-reluctance iron, machined to tolerances as small as 0.003 mm (0.00012 in), and energized by massive, high-grade magnets.

Ribbon voice coils are made of flat milled copper or aluminum wire, wound on edge and held within one turn of design specifications.

Cones are designed for the best acoustical combination of stiffness, density, and weight.

The final product must withstand a series of quality-control tests and inspections. The smallest flaw is grounds for rejection.

There is no compromise.

Low Frequency Loudspeakers

JBL low frequency loudspeakers are available in 250, 300, 350, and 380 mm (10, 12, 14, and 15 in) diameters. In general, efficiency and power handling increase with diameter, although this is not uniformly true and cannot be used as a basis for comparing JBL components with those of other manufacturers.

The most important consideration in choosing a low frequency loudspeaker is matching the driver to the volume of the enclosure. A 250 mm loudspeaker in an enclosure of the proper volume is capable of smoother, deeper bass performance than a 380 mm loudspeaker in an enclosure of insufficient or excessive volume.

	Diameter	Enclosure Volume	Highest Recommended Crossover Frequency
LE10H	250 mm (10 in)	30-115 litres 1-4 cubic feet	2500 Hz
124H	300 mm (12 in)	40-85 litres 1½-3 cubic feet	800 Hz
LE14H	350 mm (14 in)	40-140 litres 1½-5 cubic feet	2000 Hz

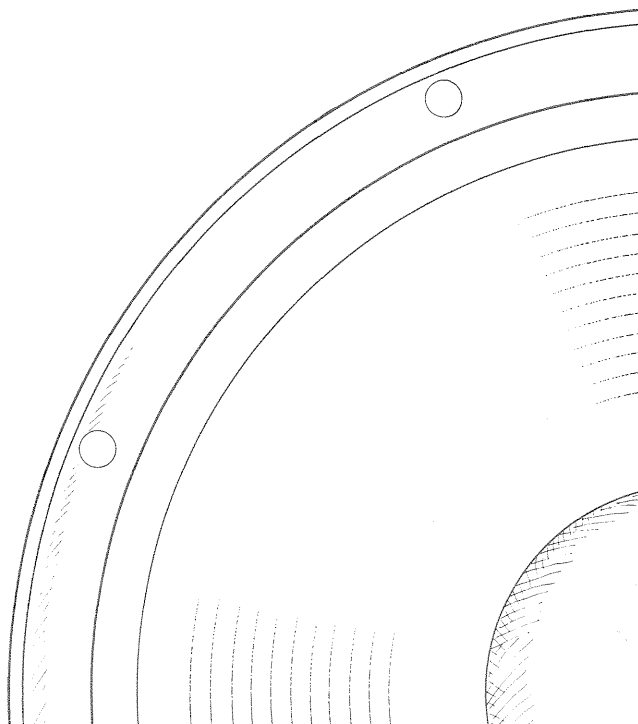
JBL offers a choice of three 380 mm (15 in) low frequency loudspeakers.

136H	380 mm (15 in)	85-170 litres 3-6 cubic feet	800 Hz
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The 136H is JBL's most recent 380 mm design. It offers the deepest low frequency response and requires the least enclosure volume. The 136H, or its Professional Series equivalent, is the driver used in all current JBL high fidelity and professional studio monitor systems that employ a 380 mm low frequency loudspeaker.

LE15H	380 mm (15 in)	115-225 litres 4-8 cubic feet	800 Hz
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The LE15H is designed for enclosures larger than those recommended for the 136H. It offers a combination of outstanding frequency response, power handling, and efficiency.



	Diameter	Enclosure Volume	Highest Recommended Crossover Frequency
130H	380 mm (15 in)	Greater than 85 litres Greater than 3 cubic feet	1200 Hz

The 130H is a specialized loudspeaker designed specifically for maximum efficiency systems and sound reinforcement applications.

Midrange and High Frequency Drivers

JBL manufactures two general types of midrange and high frequency drivers. *Direct radiators* include cone and dome types and are similar in operating principle to JBL low frequency loudspeakers. *Compression drivers* are designed for horn loading to achieve high efficiency and controlled dispersion patterns.

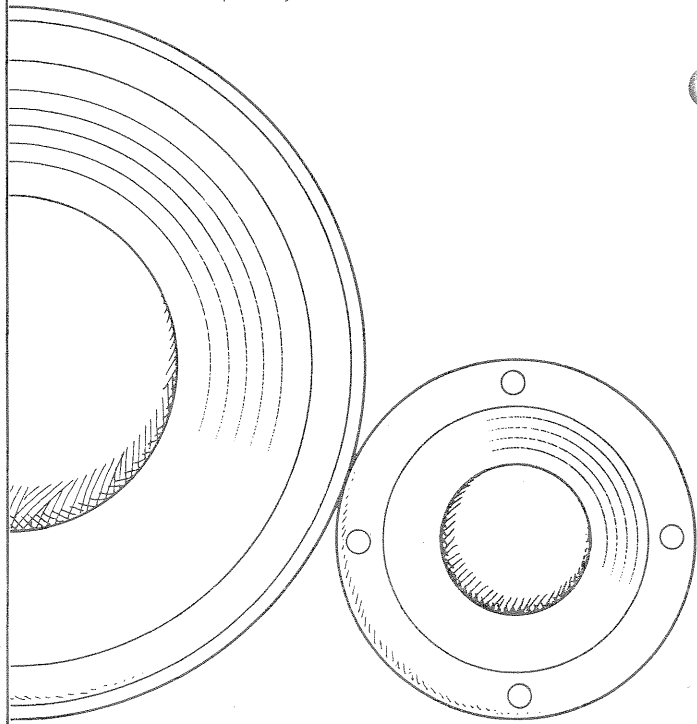
Direct Radiators

LE5H A 130 mm (5 in) midrange loudspeaker with exceptionally smooth, transparent characteristics. *Lowest recommended crossover frequency: 500 Hz.*

LE21H A 40 mm (1½ in) high frequency direct radiator. *Lowest recommended crossover frequency: 2000 Hz.*

Compression Drivers

LE85 The LE175 and LE85 are acoustically similar up to 15 kHz and may be used interchangeably below that point; the LE85 employs a larger magnetic assembly, and has slightly higher sensitivity. Either may be used for midrange and high frequency reproduction in two-way systems, or crossed over to an 075 or 077 ring radiator in three-way systems. *Lowest recommended crossover frequency: 800 Hz.*



375 The ultimate midrange compression driver. Its aluminum diaphragm, 102 mm (4 in) voice coil, and 10.8 kg (23½ pound) magnetic assembly effortlessly reproduce steep waveforms of explosive loudness. For use between 500 Hz and 10 kHz.

Ring Radiators

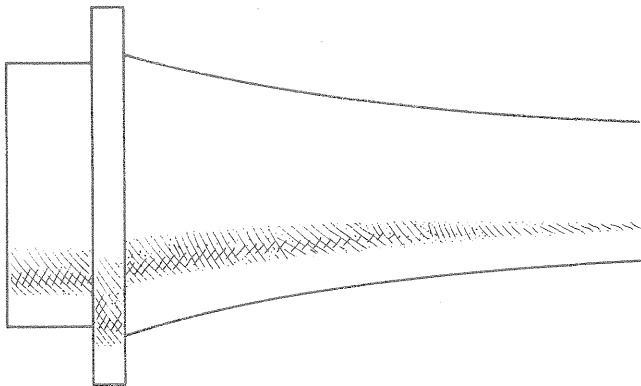
075 A ring radiator with integral horn, the 075 achieves very high efficiency, wide bandwidth extending above the limits of hearing, and a conical dispersion pattern of 40° at 10 kHz*. The 075 can be used above 2500 Hz in two-way systems, or can be used above 7 kHz to complement a midrange compression driver in three-way systems. Recommended principally for theatre-type systems.

077 A unique slot-loaded ring radiator with an unmatched combination of smooth response extending above audibility, power capacity, and wide dispersion (90° horizontal x 30° vertical at 16 kHz)*. The best choice for most three-way component systems, the 077, or its Professional Series equivalent, is used in a number of current JBL high fidelity systems and professional studio monitors.

*The angle through which output diminishes no more than 6 dB relative to output measured on axis.

Horns and Lenses

JBL makes two series of horn/lens assemblies: one for the LE175 and LE85, and one for the 375. The lenses are of two general types: *slant-plate* and *perforated-plate*. The slant-plate lenses maximize horizontal coverage rather than vertical coverage; this is the best approach in most applications, including homes, where horizontal coverage



is far more important. The perforated-plate lenses have conical dispersion patterns for equal coverage in all planes: horizontal coverage is not as wide as that of the slant-plate lenses. Perforated-plate lenses are recommended where their conical patterns are desirable, and for enclosures whose design precludes the use of a protruding slant-plate.

For Use With The LE175/LE85

HL87 A short horn with a perforated-plate lens. Greater than 60° conical coverage up to 8 kHz*

HL91 Used in the S200B system; may also be used in systems with 1200-Hz crossovers. Slant-plate lens, 90° x 45° coverage up to 8 kHz*

HL92 Designed for 800-Hz and 1500-Hz crossovers. (Exception: Use HL91 with LX200B.) Slant-plate lens, 90° x 45° coverage up to 8 kHz*

For Use With The 375

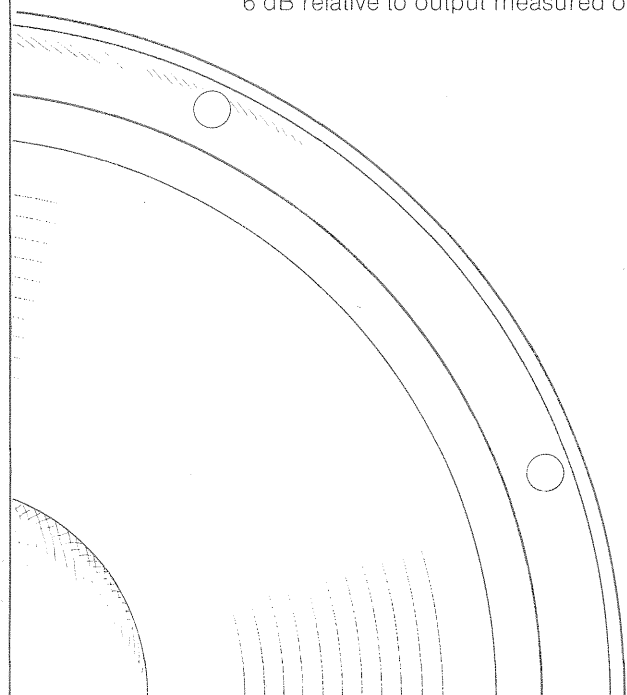
HL88 A large circular horn employing a massive system of perforated plates for 70° conical coverage at 8 kHz*

HL89 A large rectangular horn with a serpentine-plate lens. The serpentine-plates are similar to slant-plates in operation, but are folded for compactness. 100° x 40° coverage up to 8 kHz*

HL90 A large elliptical horn using a very large slant-plate lens for extremely wide dispersion in high-power, long-throw applications. 120° horizontal x 30° vertical up to 8 kHz*

HL93 An assembly with a very transparent sound character, the HL93 is the best choice for most 375 home applications and is recommended where the specialized qualities of the larger horns are not needed. Slant-plate lens, 90° x 45° coverage up to 8 kHz*

*The angle through which output diminishes no more than 6 dB relative to output measured on axis.



LE8T-H Full Range Loudspeaker

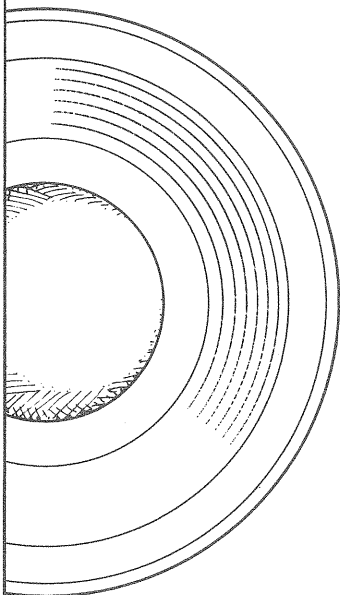
Diameter	Enclosure Volume	Optimum Volume
200 mm 8 in	20 - 115 litres ¾ - 4 cubic feet	55 litres 2 cubic feet

The LE8T-H is perhaps the lowest-distortion, widest-range loudspeaker ever built. Its frequency response and transparency cannot be approached by any other single loudspeaker.

Extended Range Loudspeakers

JBL extended range loudspeakers may be used singly as extension loudspeakers or may be augmented by high frequency drivers. The shallow depth of the D208H makes it particularly suitable for in-wall installation.

	Diameter	Enclosure Volume
D208H	200 mm 8 in	40 - 115 litres 1½ - 4 cubic feet
D130H	380 mm 15 in	Greater than 85 litres Greater than 3 cubic feet



PR15C Passive Radiator

The PR15C resembles a 380 mm (15 in) loudspeaker without a voice coil or magnetic assembly. It is used in conjunction with a loudspeaker as a substitute for a port. In many cases, use of a passive radiator allows tuning an enclosure to a lower frequency than is possible with a port.

Systems

JBL's specially recommended systems fall into two groups:

The first group offers wide bandwidth and accuracy at a variety of prices, for enclosures ranging in size from 30 to 225 litres (1 to 8 cubic feet). These systems are the most similar in design philosophy and sound to current JBL production systems, high fidelity and professional.

The second group is a family of theatre-type systems, specifically designed for maximum efficiency and maximum sound pressure levels. These systems are recommended where their specialized capabilities are needed,

and for listeners who prefer the sound character of maximum-efficiency systems employing large midrange horns.

Home-Type Systems

	Components	Enclosure Volume	Optimum Volume
S15	LE10H, LE21H, LX14	30 - 115 litres 1 - 4 cubic feet	70 litres 2½ cubic feet

Excellent performance for a modest investment. The LE10H low frequency loudspeaker provides authoritative bass with minimal enclosure volume; the LE21H direct radiator yields smooth, natural high frequency reproduction.

S21-1	124H (or LE14H), LE5H, 077, LX30	40 - 85 litres 1½ - 3 cubic feet	70 litres 2½ cubic feet
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Unequalled bandwidth and dynamics for a large bookshelf or small floor-standing enclosure. Bass response is smooth and effortless to the deepest fundamentals. Midrange is accurate and transparent.

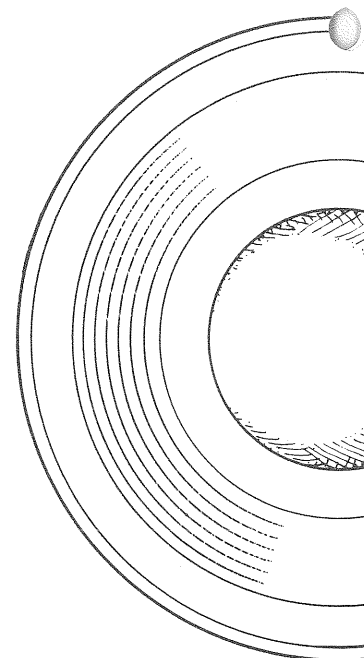
The 077 slot-loaded ring radiator extends high frequency response beyond the limit of hearing while providing excellent power handling and controlled dispersion.

Variation: Substitute the LE14H for the 124H.

	40 - 140 litres 1½ - 5 cubic feet	100 litres 3½ cubic feet
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S200-1	136H, LE85/HL91, LX200B	85 - 170 litres 3 - 6 cubic feet	140 litres 5 cubic feet
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The 136H is the JBL 380 mm (15 in) low frequency loudspeaker capable of the deepest bass response; the LE85 compression driver operates smoothly through a range greater than four octaves. The drivers in the S200B are identical to those used in JBL's full-size two-way studio monitor.



Home-Type Systems (cont.)

Components	Enclosure Volume	Optimum Volume
S300-1 136H, LE85/HL92, 077, LX300	85 - 170 litres 3 - 6 cubic feet	140 litres 5 cubic feet

The components used in the L300 system, identical to those in JBL's most popular full-size professional studio monitor. Control-room accuracy throughout the audible range.

S22-1 136H, 375/HL93, 077, LX80A, N7000	85 - 170 litres 3 - 6 cubic feet	140 litres 5 cubic feet
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The ultimate in JBL component systems for a combination of accuracy and power.

S7-2 LE15H, LE85/HL92, LX13	115 - 225 litres 4 - 8 cubic feet	170 litres 6 cubic feet
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Combines the massive LE15H low frequency loudspeaker, JBL's best bass performer in enclosures larger than 140 litres (5 cubic feet), with the LE85 high frequency compression driver. Similar to the classic S7, but uses the longer HL92 horn/lens and the LX13 frequency dividing network (for higher power capacity).

S20-1 LE15H, LE85/HL92, 077, LX13, N8000	115 - 225 litres 4 - 8 cubic feet	170 litres 6 cubic feet
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Adds the 077 ring radiator and N8000 frequency dividing network for extended frequency response and improved dispersion.

S8-2 LE15H, 375/HL93, 077, LX5, N7000	115 - 225 litres 4 - 8 cubic feet	170 litres 6 cubic feet
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Comparable to the S22, but employing the LE15H low frequency loudspeaker in a system intended for larger enclosures. Similar to the classic S8, but with the extended frequency response and improved dispersion of the 077.

Theatre-Type Systems

Components	Enclosure Volume	Optimum Volume
S23-1 130H, 375/HL89, 075, LX50A, N7000	Greater than 85 litres Greater than 3 cubic feet	170 litres 6 cubic feet

A maximum efficiency, maximum sound pressure level system capable of filling large rooms with undistorted sound at high volume.

S24-1 130H, 375/HL90, 075, LX50A, N7000	Greater than 85 litres Greater than 3 cubic feet	170 litres 6 cubic feet
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Similar to the S23, but uses the wide dispersion HL90 horn/lens.

S25-1 130H, 375/HL88, 075, LX50A, N7000	Greater than 85 litres Greater than 3 cubic feet	170 litres 6 cubic feet
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Similar to the S23, but uses the HL88 horn/lens to achieve a conical dispersion pattern of 70° up to 8 kHz.

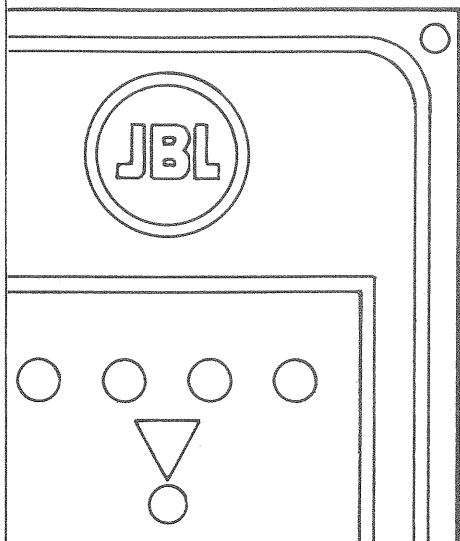
Enclosures

Three enclosures—85, 140, and 225 litres (3, 5, and 8 cubic feet)—which will accommodate most of the recommended combinations of JBL components (for which they were specifically designed) or a combination of your own selection. Each cabinet is built to meet the same stringent standards established for our own production systems.

EN3P	Assembled, finished 85-litre (3 cubic foot) enclosure with plain grille.
EN5C	Assembled, finished 140-litre (5 cubic foot) enclosure with cutout grille (designed to accommodate protruding slant-plate lens).
EN8P	Assembled, finished 225-litre (8 cubic foot) enclosure with plain grille.
EN8C	Assembled, finished 225-litre (8 cubic foot) enclosure with cutout grille.

A Note On Networks

JBL frequency dividing networks are designed not only to separate a signal into different frequency ranges, but to provide complete control over the drivers. Each network is designed specifically for the characteristics of particular component loudspeakers. Different network models with the same crossover frequency are *not* interchangeable.



Network Selection Chart

Network Model	System Power Capacity*	Crossover Frequency	Low Frequency Loudspeaker	Midrange/High Frequency Transducer	Horn/Lens Assembly	Level Control	Nominal Input Impedance	Shipping Weight
LX5	100 watts	500 Hz	LE15H	375	HL93	3-position switch	8 ohms	2.7 kg 6 lb
LX10	100 watts	1500 Hz	LE14H	LE175, LE85	HL87, HL91	Continuously variable	8 ohms	0.9 kg 2 lb
LX14	35 watts	2500 Hz	LE10H	LE21H		3-position switch	8 ohms	0.9 kg 2 lb
LX13	100 watts	800 Hz	LE15H	LE175, LE85	HL92	3-position switch	8 ohms	2.3 kg 5 lb
LX30	100 watts	800 Hz, 7500 Hz	124H, LE14H	LE5H + 077		Continuously variable	8 ohms	3.6 kg 8 lb
LX50A	100 watts	500 Hz	136H	375	HL88, HL89, HL90	Continuously variable	8 ohms	2.7 kg 6 lb
LX80A	100 watts	800 Hz	136H, LE14H, 124H, 130H	LE175, LE85, 375	HL92, HL93	Continuously variable	8 ohms	2.7 kg 6 lb
LX200B	150 watts	800 Hz	136H, LE14H, 124H	LE175, LE85	HL91	Continuously variable	8 ohms	3.6 kg 8 lb
LX300	150 watts	800 Hz, 8500 Hz	136H, LE14H, 124H	LE175 + 077, LE85 + 077	HL92	Continuously variable	8 ohms	4.1 kg 10 lb
N1200	60 watts	1200 Hz	D130H, 130H	LE175, LE85	HL87, HL91	3-position switch	8 ohms	1.8 kg 4 lb
N2400	35 watts	2500 Hz	D130H	075		Continuously variable	8 ohms	0.9 kg 2 lb
N7000	†	7000 Hz	375	075, 077		Continuously variable	8 ohms	0.9 kg 2 lb
N8000	†	8000 Hz	LE175, LE85	075, 077		Continuously variable	8 ohms	0.9 kg 2 lb

*Power capacity expressed in watts continuous program, based on a laboratory test signal.

†Permits adding the 075 or 077 for extended response in any JBL system using the LE175 or LE85 compression driver. Power capacity will be that of the two-way system to which the unit is added.

Low Frequency and Extended Range Drivers

	LE10H	124H	LE14H	136H	LE15H
Diameter	250 mm 10 in	300 mm 12 in	360 mm 14 in	380 mm 15 in	380 mm 15 in
Power Capacity*	150 watts continuous program	200 watts continuous program	200 watts continuous program	200 watts continuous program	200 watts continuous program
Nominal Impedance	8 ohms	8 ohms	8 ohms	8 ohms	8 ohms
Frequency Range	30 Hz - 3 kHz	25 Hz - 2 kHz	35 Hz - 2 kHz	25 Hz - 2 kHz	35 Hz - 2 kHz
Highest Recommended Crossover Frequency	2500 Hz	800 Hz	2 kHz	800 Hz	800 Hz
Voice Coil Diameter	76 mm 3 in	102 mm 4 in	102 mm 4 in	102 mm 4 in	102 mm 4 in
Voice Coil Material	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound copper ribbon
Magnetic Assembly Weight	4.7 kg 10½ lb	8.5 kg 18½ lb	8.5 kg 18½ lb	8.5 kg 18½ lb	10.3 kg 22½ lb
Flux Density	1.2 tesla (10,200 gauss)	1.2 tesla (12,000 gauss)	1.2 tesla (12,000 gauss)	1.2 tesla (12,000 gauss)	0.95 tesla (9,500 gauss)
Sensitivity (SPL 1 W, 1 m)	89 dB	91 dB	91 dB	93 dB	95 dB
Recommended Enclosure Volume	29 - 114 litres 1 - 4 cubic feet	42 - 85 litres 1.5 - 3 cubic feet	42 - 142 litres 1.5 - 5 cubic feet	85 - 170 litres 3 - 6 cubic feet	113 - 225 litres 4 - 8 cubic feet
Nominal Free Air Resonance	30 Hz	16 Hz	28 Hz	16 Hz	20 Hz
Depth	112 mm 4⅞ in	121 mm 4¾ in	137 mm 5⅜ in	143 mm 5⅝ in	149 mm 5⅞ in
Shipping Weight	5.8 kg 12¾ lb	10.4 kg 22½ lb	11.3 kg 24½ lb	11.7 kg 25½ lb	13 kg 28½ lb

Low Frequency and Extended Range Drivers (cont.)

	130H	LE8TH Full Range Loudspeaker*	D208H	D130H*
Diameter	380 mm 15 in	200 mm 8 in	200 mm 8 in	380 mm 15 in
Power Capacity*	100 watts continuous program	50 watts continuous program	50 watts continuous program	100 watts continuous program
Nominal Impedance	8 ohms	8 ohms	8 ohms	8 ohms
Frequency Range	40 Hz - 2 kHz	35 Hz - 15 kHz	60 Hz - 10 kHz	40 Hz - 6 kHz
Highest Recommended Crossover Frequency	1200 Hz			
Voice Coil Diameter	102 mm 4 in	51 mm 2 in	51 mm 2 in	102 mm 4 in
Voice Coil Material	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound copper ribbon
Magnetic Assembly Weight	8.6 kg 19 lb	2.8 kg 6 lb	1.2 kg 2½ lb	8.5 kg 18½ lb
Flux Density	1.15 tesla (11,500 gauss)	0.85 tesla (8,500 gauss)	0.85 tesla (8,500 gauss)	1.2 tesla (12,000 gauss)
Sensitivity (SPL 1 W, 1 m)	101 dB	89 dB	96 dB	103 dB
Recommended Enclosure Volume	Greater than 85 litres Greater than 3 cubic feet	21 - 113 litres ¾ - 4 cubic feet	42 - 113 litres 1.5 - 4 cubic feet	Greater than 85 litres Greater than 3 cubic feet
Nominal Free Air Resonance	37 Hz	45 Hz	60 Hz	40 Hz
Depth	146 mm 5¾ in	98 mm 3¾ in	76 mm 3 in	143 mm 5½ in
Shipping Weight	11.3 kg 25 lb	3.9 kg 8½ lb	1.9 kg 4¼ lb	10.4 kg 22½ lb

Midrange and High Frequency Drivers

	LE5H	LE21H	075	077	LE175
Diameter	130 mm 5 in	40 mm 1½ in			
Power Capacity*	50 watts continuous program	35 watts continuous program	20 watts continuous program	20 watts continuous program	30 watts continuous program
Nominal Impedance	8 ohms	8 ohms	8 ohms	8 ohms	8 ohms
Frequency Range	300 Hz - 15 kHz	2 kHz - 15 kHz	2500 Hz - 15 kHz	6500 Hz - 21.5 kHz	800 Hz - 15 kHz
Lowest Recommended Crossover Frequency	500 Hz				
Voice Coil Diameter	22 mm ¾ in	16 mm ⅝ in	44 mm 1¼ in	44 mm 1¼ in	44 mm 1¼ in
Voice Coil Material	Edgewound copper ribbon	Edgewound copper ribbon	Edgewound aluminum ribbon	Edgewound aluminum ribbon	Edgewound aluminum ribbon
Magnetic Assembly Weight	0.74 kg 1½ lb	0.74 kg 1½ lb	1.5 kg 3¼ lb	1.5 kg 3¼ lb	3.4 kg 7½ lb
Flux Density	1.35 tesla (13,500 gauss)	1.35 tesla (13,500 gauss)	1.6 tesla (16,000 gauss)	1.6 tesla (16,000 gauss)	1.6 tesla (16,000 gauss)
Sensitivity (SPL 1 W, 1 m)	94 dB	91 dB ¹	110 dB ²	105 dB ³	117 dB
Recommended Enclosure Volume	1.3 litres (80 cubic inches) minimum				
Nominal Free Air Resonance	300 Hz				
Depth	48 mm 1¾ in	24 mm ⅝ in	83 mm 3¼ in	83 mm 3¼ in	98 mm 3¾ in
Shipping Weight	1.4 kg 3 lb	1.4 kg 3 lb	2.3 kg 5 lb	2.3 kg 5 lb	4.1 kg 9 lb
Radiating Diameter			79 mm 3⅝ in	79 mm 3⅝ in	
Maximum Diameter			98 mm 3⅝ in	98 mm 3⅝ in	
Throat Diameter					25 mm 1 in

Midrange and High Frequency Drivers (cont.)

	LE85	375
Throat Diameter	25 mm	51 mm 2 in
Power Capacity*	30 watts continuous program	60 watts continuous program
Nominal Impedance	8 ohms	8 ohms
Frequency Range	800 Hz - 20 kHz	500 Hz - 10 kHz
Voice Coil Diameter	44 mm 1¾ in	102 mm 4 in
Voice Coil Material	Edgewound aluminum ribbon	Edgewound aluminum ribbon
Magnetic Assembly Weight	4.5 kg 10 lb	10.8 kg 23¾ lb
Flux Density	1.9 tesla (19,000 gauss)	2.05 tesla (20,500 gauss)
Sensitivity (SPL 1 W, 1 m)	118 dB	118 dB
Diameter	146 mm 5¾ in	180 mm 7 in
Depth	98 mm 3¾ in	130 mm 5¼ in
Shipping Weight	5.4 kg 12 lb	11.8 kg 26 lb

*Based on a laboratory test signal. See Power Capacity section for amplifier power recommendations.

1. Averaged above 2 kHz.
2. Averaged above 4 kHz.
3. Averaged above 7 kHz.

Horns and Lenses

	HL87	HL88
Dispersion Pattern (to 8 kHz, horizontal x vertical)	60° ¹	70° ¹
Throat Diameter	25 mm (1 in)	50 mm (2 in)
For Use Above	1200 Hz	500 Hz
Type Lens	perforated plate	perforated plate
Lens Dimensions	133 mm (5¼ in) diameter	343 mm (13½ in) diameter
Recommended Driver(s)	LE175, LE85	375
Extension Behind Baffle Panel	171 mm (6¾ in) ²	free standing
Total Depth	171 mm (6¾ in) ²	400 mm (15¾ in)
Shipping Weight	1.8 kg (4 lb)	15.9 kg (35 lb)

	HL89	HL90
Dispersion Pattern (to 8 kHz, horizontal x vertical)	100°x40°	120°x30°
Throat Diameter	50 mm (2 in)	50 mm (2 in)
For Use Above	500 Hz	500 Hz
Type Lens	serpentine	slant plate
Lens Dimensions	173 mm x 276 mm x 117 mm deep (6⅞ in x 19⅞ in x 4⅞ in deep)	362 mm x 914 mm x 172 mm deep (14¼ in x 36 in x 6¾ in deep)
Recommended Driver(s)	375	375
Extension Behind Baffle Panel	300 mm (12 in)	free standing
Total Depth	422 mm (16⅝ in) ³	476 mm (18⅝ in) ³
Shipping Weight	7.3 kg (16 lb)	19.1 kg (42 lb)

	HL91	HL92	HL93
Dispersion Pattern (to 8 kHz, horizontal x vertical)	90°x45°	90°x45°	90°x45°
Throat Diameter	25 mm (1 in)	25 mm (1 in)	50 mm (2 in)
For Use Above	1200 Hz	800 Hz	500 Hz
Type Lens	slant plate	slant plate	slant plate
Lens Dimensions	155 mm x 250 mm x 63 mm deep (6⅞ in x 10 in x 2½ in deep)	155 mm x 250 mm x 63 mm deep (6⅞ in x 10 in x 2½ in deep)	155 mm x 250 mm x 63 mm deep (6⅞ in x 10 in 2½ in deep)
Recommended Driver(s)	LE175, LE85	LE175, LE85	375
Extension Behind Baffle Panel	197 mm (7¾ in)	273 mm (10¾ in)	100 mm (4 in)
Total Depth	216 mm (8½ in) ⁴	293 mm (11½ in) ⁴	173 mm (4⅞ in) ⁴
Shipping Weight	2.3 kg (5 lb)	2.7 kg (6 lb)	2.3 kg (5 lb)

1. Conical pattern
2. Total depth. Extension behind baffle dependent on panel thickness.
3. Total length when free standing, includes depth of lens.
4. Horn depth only. Lens mounts on the front surface of the baffle panel and is 63 mm (2½ in) deep.

PR15C Passive Radiator

Diameter	380 mm 15 in
Complementary Drivers	136H, LE15H, LE14H
Depth	86 mm 3 $\frac{3}{8}$ in
Recommended Enclosure Volume	85-225 litres 3-8 cubic feet
Shipping Weight	3.2 kg 7 lb

Accessories

MA15 Loudspeaker Mounting Kit

Simplifies front mounting of 380 mm (15 in) loudspeakers, permitting some variation in the diameter of the mounting cutout. Four cast clamps, a sealing gasket, and four mounting screws with T-nuts. May be used with 300 mm (12 in) loudspeakers, but a user-supplied sealing gasket will be needed.

MA25 Horn/Lens Mounting Kit

Consists of a cast iron rear mount, front support brackets, and a wood baffle for top mounting the HL89. The cast iron mount attaches at the 4-bolt flange of the horn and is held in place by the same bolts that secure the horn to the driver. The mount is 332 mm (13 $\frac{1}{8}$ in) high and allows adjustment of driver height in 25 mm (1 in) increments. The base mounts on a horizontal surface with mounting holes spaced 235 mm (9 $\frac{3}{8}$ in) apart.

Enclosure Construction Kit

An explanation of loudspeaker theory and bass reflex loading techniques, together with a full set of construction drawings for 85, 140, and 225 litre (3, 5, and 8 cubic foot) enclosures, both prepared by the JBL technical staff. The kit may be obtained for \$5.00 from your JBL Loudspeaker Components Dealer or from the JBL Technical Services Department.

Power Capacity

The specified power capacity indicates the continuous program power level that can be accepted without damage. Continuous program power is defined as 3 dB greater than continuous sine wave power. It is a conservative expression of the transducer's ability to handle normal speech and music program material.

The peak power capacity is considerably greater than the continuous rated value, as indicated by the remarkable transient response of JBL loudspeaker system components. JBL loudspeakers will reproduce clean 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 today's best recordings, a more-powerful, high-quality amplifier will provide optimum performance. Such amplifiers have the reserve power necessary for accurate reproduction of transients. In almost all cases, the volume level generated by a JBL loudspeaker will become noticeably discomforting to the ear before the loudspeaker can be damaged by excessive power from the amplifier.

For Additional Information

JBL maintains a technical staff to answer questions pertaining to JBL loudspeaker systems and components. Address inquiries to the Technical Services Department, James B. Lansing Sound, Inc., 8500 Balboa Boulevard, Northridge, California 91329 U.S.A.

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.



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