JBL PROFESSIONAL

LSR6332 Linear Spatial Reference Studio Monitor System

Key Features:

- Advanced Linear Spatial Reference design ensures flatter response at the mix position.
- Neodymium Differential Drive NDD™ technology with dynamic braking for extended low frequency response and low power compression.
- Neodymium midrange with 2" voice coil and Kevlar™ cone material for extended frequency response and low distortion.
- Titanium composite high frequency transducer with elliptical oblate spheroidal waveguide and damped polepiece.
- High-Density baffle for low enclosure resonance and stable inertial ground.
- Linear Dynamics Aperture port design eliminates port turbulence and reduces port compression.
- Magnetically shielded for use near video monitors.
- Reinforced enclosure and convenient mounting points allow mounted installation.
- Midrange/high frequency sub-baffle may be rotated by user for horizontal or vertical orientation.
- Available as mirror imaged left and right models. (order LSR6332L or LSR6332R)

The LSR6332 studio monitor is designed for use as a near or mid-field reference monitor, or a soffit-mounted main monitor in applications requiring exceptional spectral accuracy and high SPL capability. The LSR6332 combines the latest in JBL's renowned transducer and system technology with psychoacoustically derived spatial response criteria, resulting in a more accurate studio monitoring reference. In this design process, the system's frequency response over the forward listening range (±15° vertically and ±30° horizontally) is optimized, as opposed to the conventional approach of optimizing the response directly on-axis. This design approach involves careful component design, selection of crossover frequency, and precise baffle geometry and detail. The result is a system that can be used for the most critical judgements of recording balance, image placement, and equalization.

252G Low Frequency Transducer

The neodymium 12" woofer is based on JBL patented Neodymium Differential Drive NDD™ technology. With the neodymium structure and dual drive coils, power compression is kept to a minimum to reduce spectral shift as power level increase. An added third coil between the drive coils acts as a dynamic brake to limit excess excursion and reduce audible distortion at the highest levels. The cone is made of a graphite polypropylene composite forming a rigid piston supported by a soft butyl rubber surround.

C500G Midrange Transducer

The 5" midrange transducer has a 2" neodymium magnetic structure with a woven Kevlar cone. The powerful motor structure was chosen to support the low crossover frequency to the woofer. In order to achieve the goal of accurate spatial response the crossover points are placed at 250 Hz and 2.2 kHz. These transition points match the directivity characteristics of the three transducers.

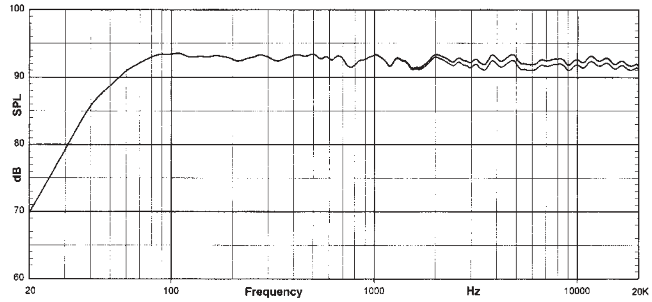
053TiS High Frequency Transducer

The high frequency transducer has a 1" composite diaphragm integrated with an Elliptical Oblate Spheroidal (EOS) waveguide with wide uniform dispersion, which is critical to the smooth spatial response required in today's working environments. The mid and high frequency devices are mounted within millimeters of each other on a cast aluminum sub-baffle that can be rotated for horizontal or vertical placement, giving maximum flexibility in placement to reduce console and ceiling splash that interferes with stereo imaging and depth.

Dividing Network

The impedance compensated crossover filters are optimized to yield 4th-order (24 dB/octave) Linkwitz-Riley electroacoustic responses from each transducer (in-phase, -6 dB at crossover). In order to achieve optimal symmetrical response in the vertical plane, both magnitude and phase compensation are implemented in the dividing network. The network allows the user to attenuate the high frequency level above 3 kHz by 1 dB. This adjusts for spectral balance when used in bright rooms. Components used in the network are exclusively low-loss metal film capacitors, low distortion electrolytic capacitors, high-Q high saturation current inductors and high current sand-cast power resistors.

HF Adjustment Flat and -1 dB Settings



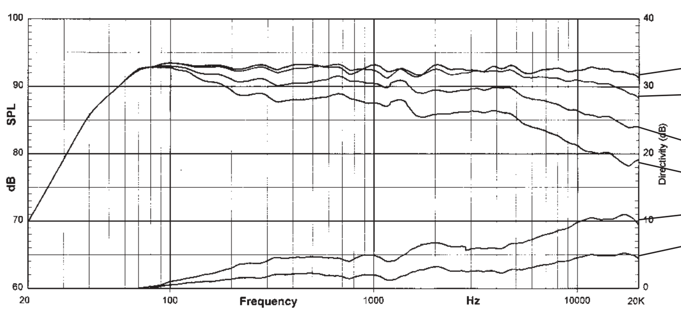
Linear Spatial Response Measurement Techniques

We all know that many loudspeakers have similar measurements but sound different. By going beyond simple on-axis frequency response measurements, JBL defines the ultimate performance specification for new systems – what it will sound like in your room.

While other manufacturers use a single on-axis frequency response measurement taken at one point in space, JBL measures monitor systems over a sphere that encompasses all power radiated into the listening room – in every direction. This data reflects 1296 times the information of a single on-axis response curve. Seventy-two measurements of the direct sound field, the reflected sound field, and the reverberant field, the entire sound field heard by the listener, is correlated to optimize response at the listening position. In place of spectral smoothing used by some manufacturers which actually conceals data, the JBL approach actually exposes flaws in systems, such as resonances, poor dispersion and other causes of off-axis coloration.

The data shown below is a set of spatially measured graphs that are the heart of JBL's philosophy.

LSR32 Response Curves



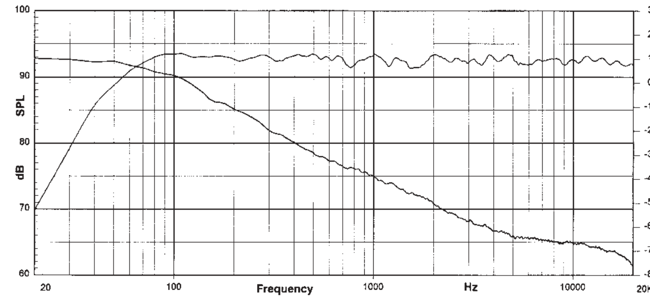
1. On-Axis Response
2. Spatially Averaged Response over a range of +/- 30° Horizontal & +/- 15° Vertical
3. First Reflection Sound Power
4. Total Radiated Sound Power
5. DI of On-Axis Response
6. DI of First Reflections

Specifications:

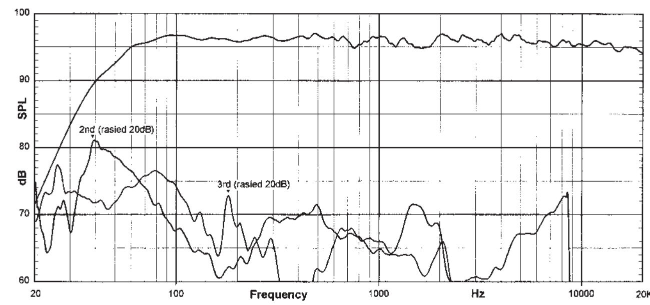
System:	
Input Impedance (Nominal):	4 ohm
Anechoic Sensitivity[1]:	93 dB/2.83 V/1 m (90 dB/ 1 W/ 1 m)
Frequency Response (60 Hz – 22 kHz):	+1. -1.5 dB
Low Frequency Extension[2]: -3 dB: -10 dB:	 54 Hz 35 Hz
Enclosure Resonance Frequency:	33 Hz
Long Term Maximum Power (IEC265-5):	 200 W continuous average; 800 W peak
Recommended Amplifier Power:	150 W - 1000 W (rating into 4-ohm load)
High Frequency Control (2.5 to 20 kHz):	0 dB, -1 dB
Distortion, 96 dB SPL, 1 m[3]: Low Frequency (below 120 Hz): 2nd Harmonic: 3rd Harmonic: Mid and High Frequency (120 Hz to 20 kHz): 2nd Harmonic: 3rd Harmonic:	 <1.5% <1% <0.5% <0.4%
Distortion, 102 dB SPL, 1 m[3]: Low Frequency (below 120 Hz): 2nd Harmonic: 3rd Harmonic: Mid and High Frequency (80 Hz to 20 kHz): 2nd Harmonic:	 <1.5% <1% <1%
3rd Harmonic:	<1% (Note: <0.4%, 250 Hz - 20 kHz)
Power Nonlinearity (20 Hz to 20 kHz): 30 Watts: 100 Watts:	 <0.4 dB <1.0 dB
Low-Mid Frequency Crossover: 4th Order Acoustic Linkwitz-Riley:	 250 Hz
Mid-High Frequency Crossover: 4th Order Acoustic Linkwitz-Riley:	 2.2 kHz
Transducers:	
Low Frequency Model:	252G
Diameter:	300 mm (12 in)
Voice Coil:	50 mm (2 in) Differential Drive® with dynamic braking coil
Magnet Type:	Neodymium
Cone Type:	Carbon Fiber Composite
Impedance:	4 ohms
Mid Frequency Model:	C500G
Diameter:	125 mm (5 in)
Voice Coil:	50 mm (2 in) aluminum edge wound
Magnet Type:	Neodymium
Cone Type:	Kevlar™ composite
Impedance:	4 ohms
High Frequency Model:	053TiS
Diameter:	25 mm (1 in) diaphragm
Voice Coil:	25 mm (1 in)
Magnet Type:	Ceramic 5
Diaphragm Type:	Damped titanium composite
Other Features:	Elliptical oblate spheroidal waveguide
Impedance:	4 ohms
Physical:	
Finish:	Smooth dark graphite
Enclosure Volume (Net):	50 liter (1.8 cu ft)
Input Connectors:	5-way binding posts
Input Features:	Bi-wirable
Mounting:	4 threaded mounting points conforming to industry standard square pattern, 127 x 70 mm (5 x 2.75 in) center to center. M6 metric thread.
Baffle Construction:	Injection molded structural ABS
Enclosure Construction:	19 mm (3/4 in) MDF
Net Weight:	20.4 kg (45 lb)
Dimensions (WxHxD):	63.5 x 39.4 x 29.2 cm (25.0 x 15.5 x 11.5 in)

Caution: Unsafe mounting or overhead suspension of any heavy load can result in serious injury and equipment damage. Mounting of speakers should be done by qualified persons in accordance with all applicable local safety and construction standards. Be certain to follow the instructions provided by the manufacturer of the mounting bracket. Before selecting a mounting bracket, be certain that it is capable of supporting the weight of the speaker to be mounted.

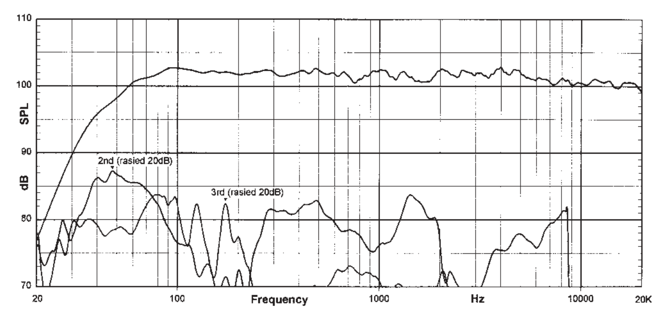
Amplitude & Phase



96 dB/1 m (Distortion raised 20 dB)



102 dB/1 m (Distortion raised 20 dB)



Notes:

All measurements unless otherwise stated made anechoically at 2 meters and referenced to 1 meter by the inverse square law.

The reference measurement microphone position is located perpendicular to the center line of the mid and high frequency transducers, at the point 55 mm (2.2 in) below the center of the tweeter diaphragm

[1]Mean SPL from 100 Hz to 20 kHz.

[2]Describes anechoic (4p) low frequency response. Acoustic loading provided by the listening room will increase low frequency bass extension.

[3]Distortion measurements performed with the input voltage necessary to produce the stated A-weighted SPL at the stated measurement distance. Distortion figures refer to the maximum distortion measured in any 1/10th octave wide band in the stated frequency range.

[4]Power nonlinearity figures based on the A-weighted deviation from linear increase in SPL with linear increase in input power (i.e., power compression) measured after 3 minutes of continuous pink noise excitation at the stated power input.

JBL continually engages in research related to performance improvements. 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 specification unless otherwise stated.

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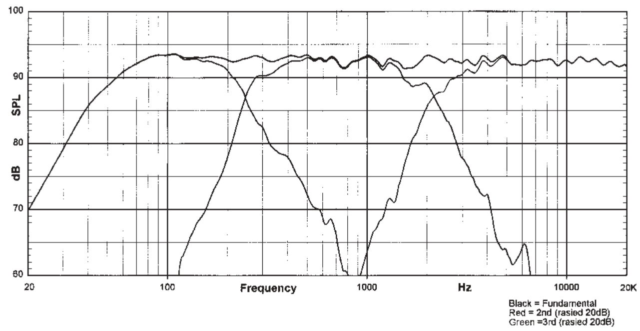
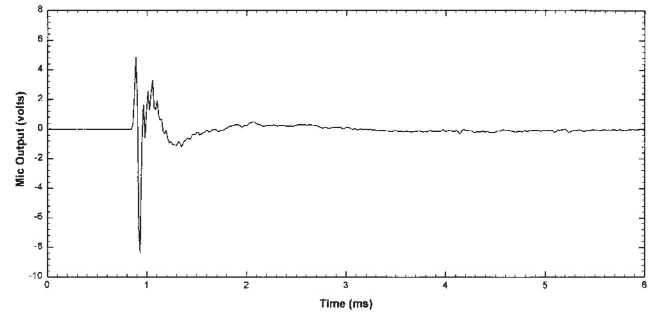
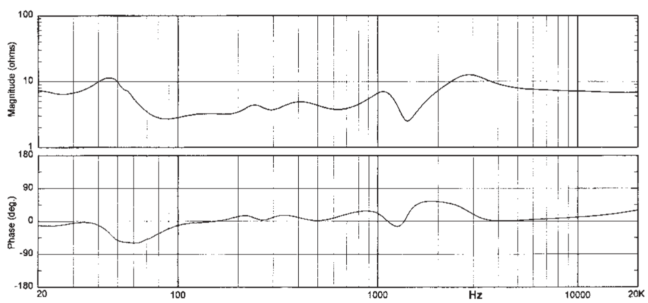
Acoustic Contribution



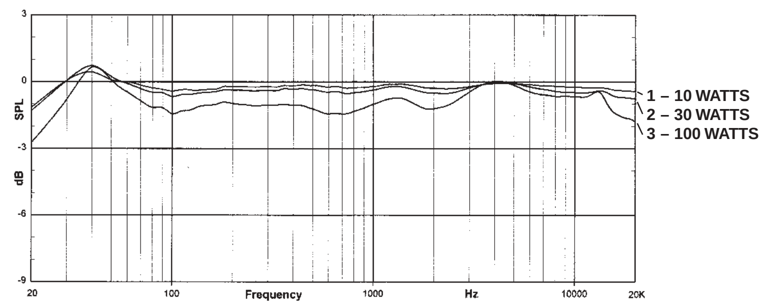
Impulse Response



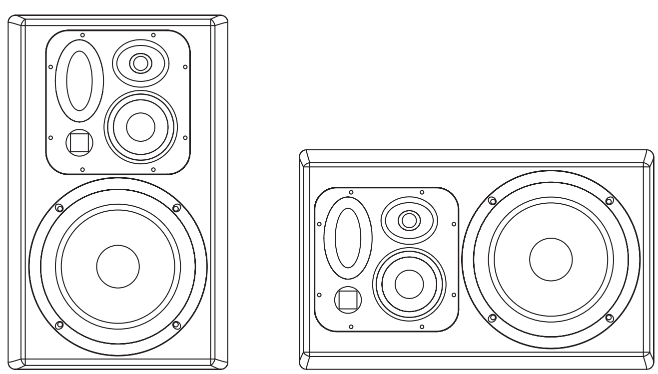
System Impedance



Power Compression



Horizontal And Vertical Orientation



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