LSR25P Compact Bi-Amplified Monitoring System

Key Features:

- High Performance bi-amplified design with patented JBL Transducer Technology.
- Front Panel Volume and Power Controls.
- Integrated mounting points for horizontal or vertical suspension.
- Titanium Composite High Frequency Device with Elliptical Oblate Spheroidal Waveguide.
- Shielded for use next to Video Monitors.
- Built in high pass filtering for use with optional subwoofer.
- User selectable Workstation Boundary Compensation.

The LSR25P Studio Monitor combines JBL's latest in transducer and system technology and incorporates the LSR Studio Monitor System design philosophies. The LSR25P is sized to provide an extremely accurate reference for workstations, edit suites and small control rooms.

The Linear Spatial Reference (LSR) philosophy is based on a set of design goals that carefully control the overall performance of the system in a variety of acoustic spaces. Instead of focusing on a simple measure such as on axis frequency response, LSR designs require much better control over dispersion via transducer design and crossover frequency selection. Critical decisions of image placement, EQ, balance and timbre are typically made within +/- 15° vertically and +/- 30° horizontally. This workspace is where the engineer, producer and artist make critical mixing decisions. By incorporating LSR into the system design requirements, placement rules are relaxed, a more stable stereo image is maintained and off axis coloration is minimized.

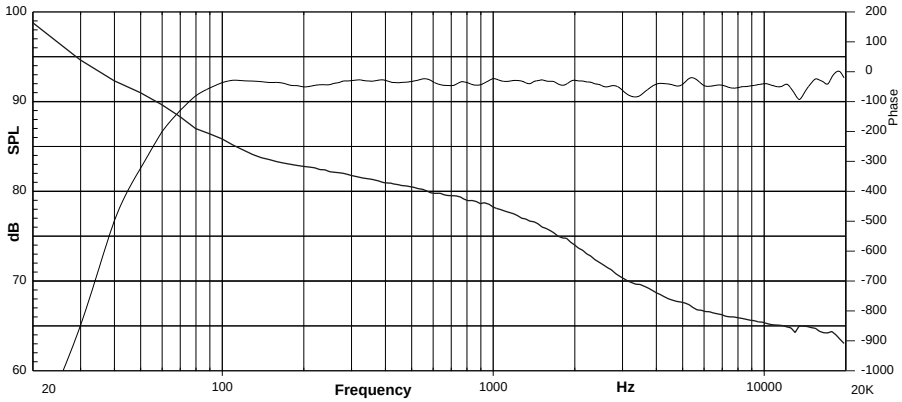
Low Frequency Transducer

The 5.25" woofer is based on JBL's research and field proven experience in low distortion, high excursion designs. The cone forms a rigid piston and is supported by a butyl rubber compliance. The motor structure incorporates Symmetrical Field Geometry (SFG) with an integral shorting ring for maximum linearity. The high excursion capability provides a substantial increase in dynamic range over typical transducer design. A cast aluminum basket provides advanced heat dissipation for low power compression. The powerful structure is shielded for use within close proximity of video monitors.

High Frequency Transducer

The high frequency device is a 1" composite diaphragm integrated with an Elliptical Oblate Spheroidal (EOS) Waveguide with 60 x 100 degree dispersion which is critical to the smooth spatial response required in today's working environments.

On-Axis Amplitude and Phase Response



Bi-Amplified Power System

The LSR25P combines two high power amplifier sections with an active crossover system. 100 watts of low frequency power and 50 watts to the high-frequency section provide maximum dynamic range. A bi-color LED indicates power and any onset of clipping in either amplifier section.

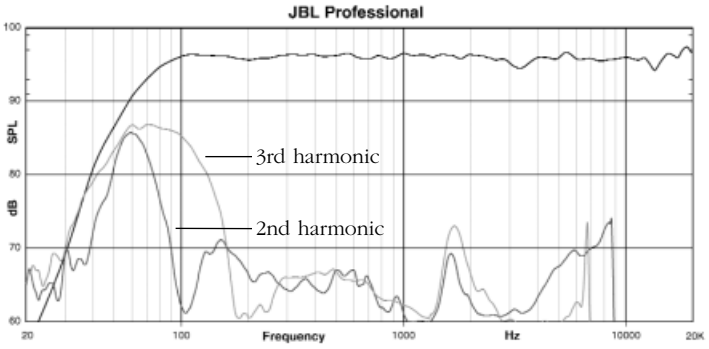
Active crossover circuitry results in a 24 dB/Octave Linkwitz-Riley Electroacoustic response between low and high frequency devices for smooth transition in both the frequency and time domains. This results in exceptional imaging, a lack of time smear, and superior off axis response linearity.

User adjustments include level calibration for setting with professional and semi professional equipment and allow fine tuning of levels with a variable level control. Balanced and unbalanced signals can be accommodated with an XLR input. An unbalanced RCA input is also provided.

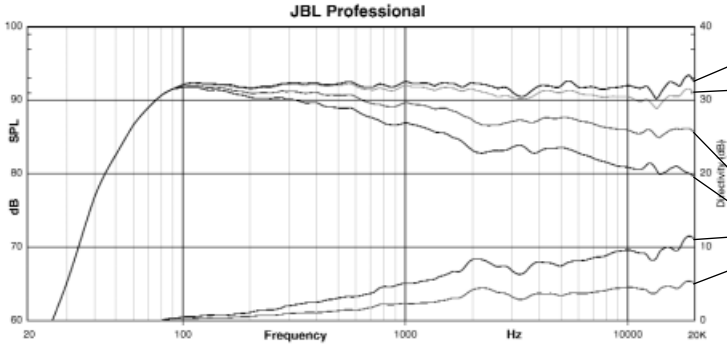
The frequency response can be gently tailored to compensate for placement and room absorption characteristics. Users can select between two different high frequency response contours. A low frequency filter at 80Hz can also be added for use with subwoofers that contain their own low pass filtering.

A unique Workstation Boundary Compensation control adjusts the bass and mid-bass output for optimum performance in workstation environments. Instead of a simple change in level, this control precisely maintains correct spatial response when used next to video monitors in typical workstation environments.

Harmonic Distortion @ 96 dB SPL/1m
(Distortion raised 20 dB)



LSR25P 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

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Preliminary Specifications:

System:	
Frequency Response (+1, -2 dB):	70 Hz - 20 kHz
Enclosure resonance frequency:	55 Hz
Low Frequency Extension:	User controls set to default
-3 dB:	65 Hz
-6 dB:	56 Hz
-10 dB:	48 Hz
Low - High Frequency Crossover:	2.3 kHz
	4th-Order Electroacoustic Linkwitz-Riley
Distortion, 96 dB SPL, 1m:	
Mid-High Frequency (150 Hz - 20 kHz):	
2nd Harmonic:	<0.5%
3rd Harmonic:	<0.5%
Low Frequency (<150 Hz):	
2nd Harmonic:	<2%
3rd Harmonic:	<3%
Maximum SPL (90 Hz - 20 kHz):	>106 dB SPL / 1 m
Maximum Peak SPL (90 Hz - 20 kHz):	>109 dB SPL / 1 m
Signal Input:	XLR, Balanced
	RCA, unbalanced
	Positive voltage applied to XLR Pin 2 (RCA tip)
	produces outward woofer motion.
Calibrated Input Sensitivity:	
XLR, +4 dBu:	96 dB/1 m
RCA, -10 dBV:	96 dB/1 m
AC Input Voltage:	115/230 VAC, 50/60 Hz (User Selectable)
AC Input Voltage Operating Range:	+/- 15%
AC Input Connector:	IEC
Long Term Maximum System Power:	110 Watts (IEC265-5)
Self Generated Noise Level:	<10 dBA SPL/1 m
User Controls:	
High Frequency Control (3 kHz - 20 kHz):	+1.5 dB, 0 dB, -1.5 dB
Workstation Boundry Compensation:	Active or Bypass
Low Frequency Acoustic Alignment:	36 dB/Octave Butterworth hi-pass at 40 Hz
	36 dB/Octave Bessel hi-pass at 80 Hz
	(For use with Subwoofer)
Variable Input Attenuation:	0 - 26 dB
Transducers:	
Low Frequency Diameter:	134 mm (5.25 in.)
Voice Coil:	38 mm (1.5 in.)
Magnet Type:	Ferrite with Integral Shielding
Cone Type:	Tempered Paper with Butyl Rubber Compliance
Nominal Impedance:	8 ohm
High Frequency Diameter:	25 mm (1 in.) diaphragm
Voice Coil:	25 mm (1 in.)
Magnet Type:	Ferrite with Integral Shielding
Diaphragm Type:	Damped Titanium Composite
Other Features:	Elliptical Oblate Spheroidal Waveguide
Nominal Impedance:	4 ohms

Amplifiers:	
Low Frequency:	
Topology:	Bridged Class A-B Monolithic
Sine Wave Power Rating:	100 Watts (<0.1% THD into rated impedance)
THD+N, 1/2 power:	<0.05%
High Frequency:	
Topology:	Class A-B, Monolithic
Sine Wave Power Rating:	50 watts (<0.1% THD into rated impedance)
THD+N, 1/2 power:	<0.05%
Physical:	
Finish:	Gray Powdercoat
Grille:	Perforated Steel
Enclosure Volume (net):	6.5 liter (0.2 cu. ft.)
Low Frequency Vent:	Dual Linear Dynamic Aperture
Baffle Construction:	Diecast Aluminum
Cabinet Construction:	Diecast Aluminum
Net Weight:	7.7 kg (17 lbs)
Dimensions (WxHxD):	17.3 x 26.9 x 24.1 cm (6.8 x 10.6 x 9.5 in)

Notes:

All measurements unless otherwise stated are made anechoically in a 4π environment at 2 meters and are referenced to 1 meter by the inverse square law.

The reference measurement microphone position is located perpendicular to the centerline of the low and high frequency transducers, at the point 70 mm (2.7 in.) above the center of the woofer.

Acoustic loading provided by the listening room increases Maximum SPL capabilities and Low Frequency Bass Extension as compared to stated anechoic values.

Distortion measurements are performed with the input voltage necessary to produce the stated "A" weighted SPL level 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.

JBL continually engages in research related to produce 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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