Specifications:

System:	**S2600**	**S3100**
Maximum Recommended Amplifier Power:	400 watts	400 watts
Nominal Impedance:	6 ohms	6 ohms
Crossover Frequency:	950Hz	750Hz
System Sensitivity:	92dB (2.83V @ 1 m)	94dB (2.83V @ 1 m)

Low Frequency Transducer:

Model:	ME120 HS	ME150 HS
Nominal Diameter:	300mm (12in)	380mm (15in)
Voice Coil Diameter:	75mm (3in)	100mm (4in)
Sensitivity:	92dB (2.83V @ 1 m)	95dB (2.83V @ 1 m)

High Frequency Driver/Horn:

Models: 2426H Driver and H2600 Horn
Voice Coil Diameter: 45mm (1.75in) Edgewound Aluminum Ribbon
Magnetic Assembly Weight: 4.5kg (10lb)
Flux Density: 1.8T (18,000 gauss)
Sensitivity (on driver axis): 108dB (1 watt @ 1m)

General:

Dimensions:	984mm H x 559mm W x 406mm D (38.75" x 22" x 16")	1111mm H x 559mm W x 406mm D (43.75" x 22" x 16")
Net Weight:	52.3kg (115lb)	56.8kg (125lb)
Shipping Weight:	59kg (130lb)	63.6kg (140lb)

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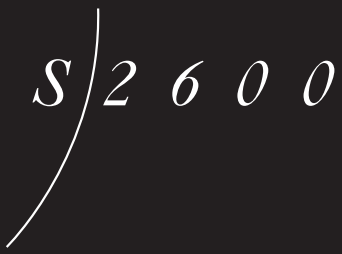
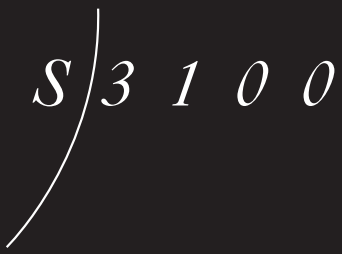
S2600, S3100
LOUDSPEAKER SYSTEMS
OWNER'S MANUAL





JBL

S2600 S3100

THE S2600 AND S3100 LOUDSPEAKER SYSTEMS:

Today's requirements for audiophile listening in the home environment place a high premium on stereophonic imaging, and the S2600 and S3100 systems, like the Project Everest DD55000 system before them, provide accurate stereo soundstage imaging over a wide listening area. At the same time, the systems, with their horn loaded high frequency section, can deliver high acoustic output with very low distortion.

PLACEMENT AND ADJUSTMENT:

JBL believes that the most accurate stereo soundstaging will normally take place when the included angle between loudspeakers and the listener is in the range from 40 to 60 degrees, as shown in Figure 1. In most listening spaces, this translates into a loudspeaker-to-loudspeaker distance of 2 to 3 meters, with the listener located at a similar distance from the line connecting the loudspeakers. This will result in a nominal listening angle of about 53 degrees. The listener may then move closer or farther away to adjust the angle to taste.

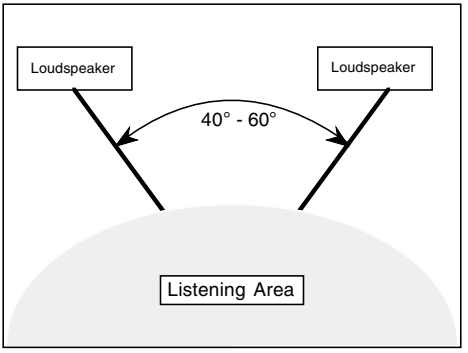


Figure 1. The 40° to 60° listening angle.

In the condition we have described here, place the loudspeakers so that their baffles are parallel to the wall behind them. The exact placement is not critical. Corner placement works well, since the controlled radiation from the systems will cause minimal reflection from the adjacent wall.

If you choose to operate the loudspeakers in a larger room with greater spacing between them, it may be necessary to angle them in slightly (perhaps not more than 5 to 10 degrees) to achieve the desired image stability over a wide listening range.

Begin the setup procedure by putting on a recording that has a strong phantom center image. (Most solo vocal recordings will satisfy this requirement.) As you are sitting in the middle, equidistant from the loudspeakers, you should hear a strong, unambiguous center image. Take time here to adjust balance, if necessary. Then, as you move slightly to one side, the image should remain clearly centered.

As you move further to one side, the image should remain centered, if you have used the recommended 2 to 3 meter spacings discussed earlier. If you are using a wider spacing, then the image may tend to move toward the nearer loudspeaker. If this takes place, it is your cue to angle both loudspeakers inward slightly, so that more correction will take place. Be sure to angle both loudspeakers the same amount, so that side-to-side symmetry is maintained. Details here are shown in Figure 2.

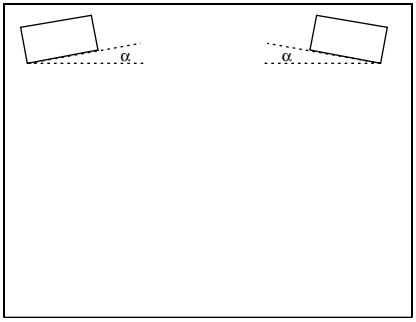


Figure 2. For loudspeaker spacing in excess of 3 meters, set a in the range of 5 to 10 degrees.

ELECTRICAL CONNECTIONS:

The models S2600 and S3100 are can be operated by a normal stereo amplifier, or they may be operated in "bi-wire" configuration. For standard operation, bus bars connect the two sets of terminals on the back of each enclosure so that both high and low frequency sections of the dividing network are electrically in parallel.

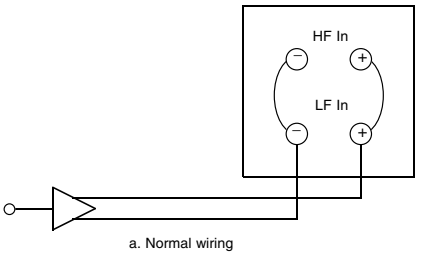
In the bi-wiring configuration, a separate amplifier section feeds each of the high and low frequency portions independently. In bi-wiring, the full signal is applied to both high and low frequency sections of the dividing network; however, the network will restrict the current flow only to those signals intended for the high or low frequency transducer. Bi-wiring has the advantages of biamplification, but without the need for an external electronic dividing network. A schematic diagram of the bi-wiring option is shown in Figure 3.

GRILLES:

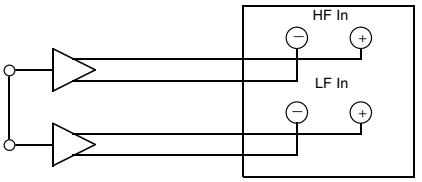
Grilles are a complement to the details and industrial design of the loudspeaker system. However, many listeners prefer to operate their loudspeakers with the grilles removed, even though JBL has used the most acoustically transparent materials available. The choice is strictly up to the listener.

THEORY OF OPERATION:

The uniform imaging properties of the S2600 and S3100 systems are based on the asymmetrical horizontal coverage patterns that the two loudspeakers produce. Above 1kHz, the high frequency horn's pattern ranges from wide, directly in front of the system, to narrow, as the listener moves off axis toward the middle of the array and beyond.



a. Normal wiring



b. Bi-wiring

Figure 3. Principle of Bi-wiring.

For a listener seated equidistant between these, or any other loudspeakers, stereo imaging will be accurate. However, with conventional loudspeakers, as the listener moves off axis the stereo stage becomes skewed toward the closer loudspeaker. The reason for this is that the sound from the nearer loudspeaker is louder and arrives at the listener's ears slightly earlier. Both of these cues favor localization at the nearer loudspeaker, and the soundstage is skewed accordingly.

With the S2600 and S3100 systems, an off-axis listener will be located along a zone of higher sensitivity for the loudspeaker farthest away from him. Therefore, the level differences due to unequal path lengths will be compensated.

Changing the toe-in angle of the loudspeakers will enable the user to fine tune the systems for nearly any listening environment.

The imaging performance of these systems is made possible through the use of a new high frequency horn that has skewed coverage, rather than the normal symmetrical coverage characteristic of most horns. Figure 4 shows the polar diagrams of the left horn on octave centers from 1kHz to 8kHz. The response of the horn in the right loudspeaker would be the mirror image of the curves shown here.

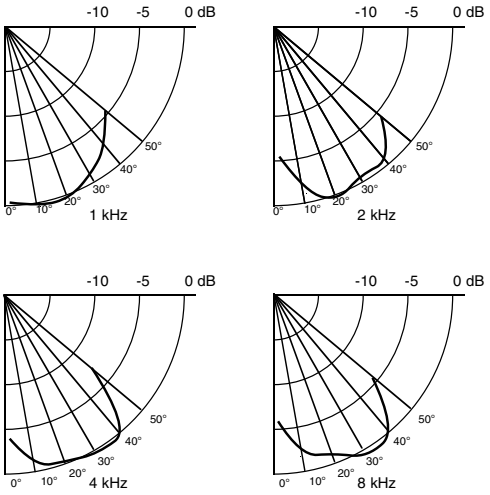


Figure 4. Horizontal polar response for the left channel loudspeaker.

TYPICAL SYSTEM PERFORMANCE:

Figure 5 shows the on-axis sine wave response of the S2600 system taken in a 2π environment (adjacent to one wall), with contributions from low and high frequency elements indicated separately. The dashed line represents the effect of 4π (free space) loading. The overall response does not vary by more than ±2.5dB from 75Hz to 13kHz. The impedance of the system is also shown in this graph.

Figure 6 shows second and third harmonic distortion for the S2600 system at a level of 96dB SPL measured at a distance of 1 meter. The distortion curves have been raised 20dB for ease in reading. Under these measurement considerations the low frequency distortion remains well under 1%. High frequency distortion is no greater than 2% out to 8.5kHz.

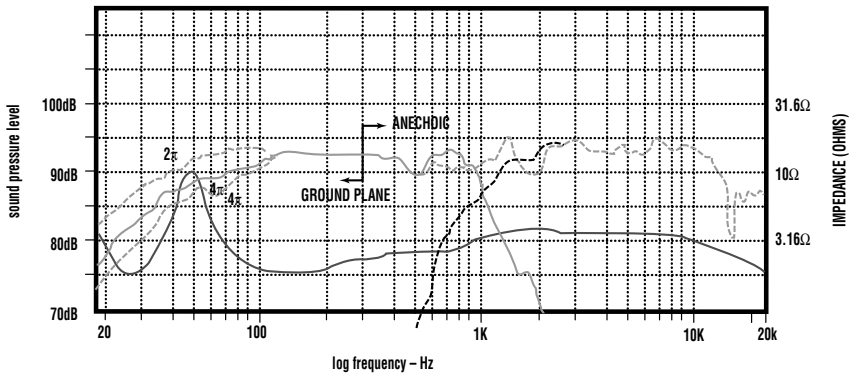


Figure 5. S2600 Frequency Response & Impedence

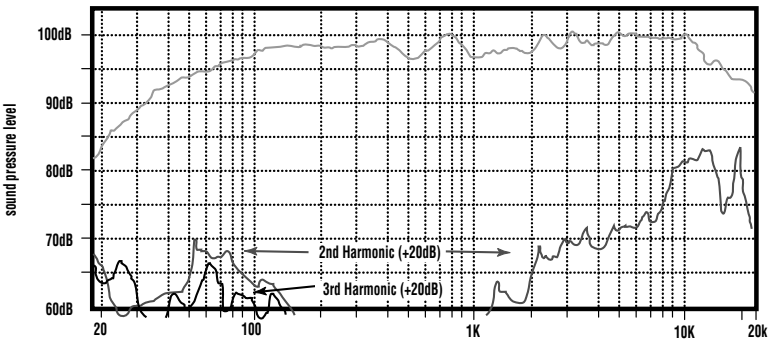


Figure 6. S2600 2nd & 3rd Harmonic Distortion

PERFORMANCE WITH VIDEO:

Both the S2600 and S3100 systems can be used in typical video installations. Due to the orientation of the compression drivers, with their magnets located at the outside rear of each enclosure, video systems may be placed anywhere between the stereo pair of loudspeakers, with residual magnetic fields well within standards for video applications.

ADDITIONAL TECHNICAL INFORMATION:

In addition to their attribute of superb imaging, the S2600 and S3100 systems are designed and built very much in the JBL tradition of fine workmanship and the use of the best materials. Both LF transducers are new designs that incorporate Aquaplas® damping material on both cones and surrounds for smoothest response. Both transducers have cast aluminum frames for extra strength, and magnetic structures have been linearized through a series of on-going JBL improvements in this area.

The high frequency driver has a titanium diaphragm for added resistance to the effects of fatigue and for extended high frequency response.

The enclosure is made of rugged 25mm (1in) particle board, liberally braced for high damping.

WARRANTY AND SERVICE:

JBL continually strives to improve its products. New materials, production methods and design refinements are introduced into existing models without notice as a routine expression of our design philosophy. For this reason, JBL S Series Loudspeakers may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.