

4641

Single 460 mm (18 in) Subwoofer System



Key Features:

- 600 W (60 V) AES 2-hour power rating
- Usable response to 25 Hz (-10 dB) with no EQ; flat to 25 Hz (-3 dB) with external EQ
- 2241H VGC™ (Vented Gap Cooled) driver provides long peak-to-peak excursion, high sensitivity and high maximum SPL capability
- SFG™ (Symmetrical Field Geometry) magnet structure for low 2nd and 3rd harmonic distortion
- Approved by Lucasfilm, Ltd. for THX® installations



Description:

The JBL 4641 is a high quality subwoofer system, featuring a technologically advanced 460 mm (18 in) low frequency transducer mounted in a direct radiator, bass-reflex enclosure for smooth response to the lowest audible frequencies. The 4641 is ideal for low frequency augmentation of either analog or digital soundtracks in motion picture theaters and for general sound reinforcement applications. The 2241H transducer utilizes the patented Vented Gap Cooling (VGC) process*, which pumps air through the magnetic gap and directly over and around the voice coil, providing immediate heat transfer and a reduction in operating temperature. This increases power handling while reducing power compression. Through the use of computer-aided magnet optimization and analysis techniques, JBL engineers were able to optimize magnet weight, flux density and field saturation, resulting in a 2.6 kg (6.5 lb) reduction in overall driver weight and a significant reduction in harmonic distortion. This magnet structure offers much of the weight advantage of rare earth magnet structures without the prohibitive cost, enabling the system to carry a 600-watt continuous AES pink noise power rating.

Specifications:

Component Electronics – Model 2241H				
Low Frequency Transducer	1 x 2241H, 460 mm (18 in)			
Rated Impedance	8 ohms			
Minimum Impedance	6.3 ohms			
Power Handling Capability				
Input Power Handling (AES 100-Hour Rating)	450 W (60 Vrms), pink/IEC			
Input Power Handling (AES 2-Hour Rating)	600 W (69 Vrms), pink/IEC			
Output Capability				
Sensitivity ¹	40 Hz – 100 Hz; 97 dB, 1 W @ 1 m; reference 2.83 V			
	Single Module	Two Modules	Four Modules	Eight Module
Max Continuous SPL @ 1 meter ²	125 dB	131 dB	136 dB	140 dB
Max Peak SPL @ 1 meter ²	131 dB	137 dB	142 dB	146 dB
Frequency Response ³	Lower Frequency Limits (no EQ): -10 dB: 25 Hz -3 dB: 35 Hz Lower Frequency Limits (with EQ): -10 dB: 22 Hz -3 dB: 25 Hz			

Other

Recommended Crossover Frequencies	High-pass: 20 Hz, 24 dB/octave or greater Low-pass: 80 Hz to 150 Hz, 12 dB/octave or greater
System Polarity	EIA Standard. Positive voltage to RED terminal produces forward cone motion.
Input Connectors	Color-coded push terminals
Net Weight	60 kg (131 lb)
Shipping Weight	66 kg (142 lb)

Enclosure

Materials and Finish	19 mm (0.75 in) particle board with 25 mm (1 in) baffle and back panel; extensive bracing on all panels
Enclosure Tuning Frequency	25 Hz
Net Internal Volume	225 liters (8 cubic ft)
Dimensions (H x W x D)	1010 mm x 674 mm x 450 mm (39.75 in x 26.50 in x 17.75 in)

¹Averaged half-space (2pi). Quarter-space (1pi, wall/floor junction placement) is 6 dB higher.

²Per industry practice, maximum long-term SPL is a calculation that references half-space 1W/1m sensitivity, scaled by the long-term continuous power rating.

³Based upon specified sensitivity, 40 Hz to 100 Hz.

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*U.S. Patent #5,042,072. Foreign Patents Pending.

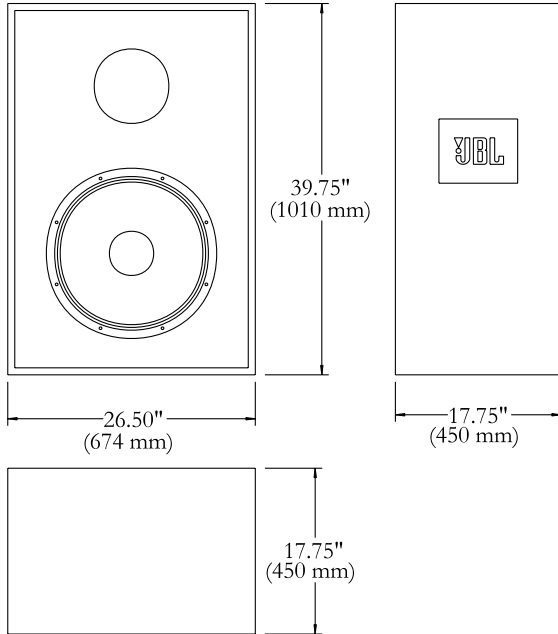
Note: specifications are subject to change without notice.
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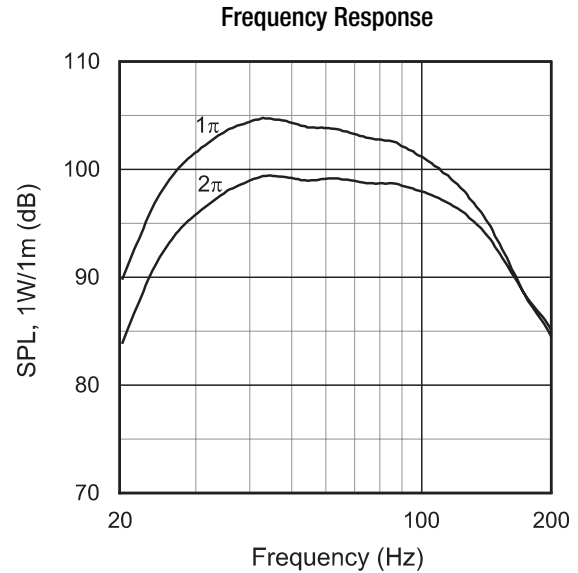


Dimensions:



Note: Drawing not to scale. All dimensions are for reference only.

Graphs:



1 watt at 1 meter, with 150 Hz Linkwitz-Riley 4th order low-pass filter and 2nd order high-pass filter at 25 Hz with $Q=2$. 1π (upper curve) and 2π (lower curve) conditions.

The 100 mm (4 in) voice coil benefits from a new winding technique which offers greater thermal stability with increased power handling. All elements of the cone, voice coil and suspension system have been carefully optimized and controlled to ensure smooth high frequency response.

The magnet structure and compliance allow for long peak-to-peak excursions without damage to the speaker. Symmetrical Field Geometry (SFG) minimizes second harmonic distortion.

Enclosure: The enclosure is constructed of dense stock and is extensively braced on all panels. It has a net internal volume of 225 liters (8 cu. ft.) and is tuned to 25 Hz with a very large port to minimize port compression and to reduce distortion due to turbulent air flow.

Frequency Response: The 4641 is intended for use as a subwoofer with a low-pass filter and appropriate high-pass filtering for protection and equalization.