

# 4642A

## Dual 460 mm (18 in) Subwoofer System



### Key Features:

- 950 W (60 Vrms) AES 100-hour rating; 1200 W (69 Vrms) AES 2-hour rating
- Usable response to 22 Hz (-10 dB) with no EQ; flat to 22 Hz (-3 dB) with external EQ
- 2241H VGC™ (Vented Gap Cooled) drivers provide 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 4642A is a high quality subwoofer system, featuring a technologically advanced 460 mm (18 in) low frequency transducers mounted in a direct radiator, bass-reflex enclosure for smooth response to the lowest audible frequencies. The 4642A 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 Transducers	2 x 2241H, 460 mm (18 in)		
Rated Impedance	4 ohms		
Minimum Impedance	3.2 ohms		
Power Handling Capability			
Input Power Handling (AES 100-Hour Rating)	950 W (60 Vrms), IEC/pink		
Input Power Handling (AES 2-Hour Rating)	1200 W (69 Vrms), IEC/pink		
Output Capability			
Half-Field Sensitivity <sup>1</sup>	40 Hz – 100 Hz; 100 dB, 1 W @ 1m; reference 2.0 V		
	Single Module	Two Modules	Four Modules
Max Continuous SPL @ 1 meter <sup>2</sup>	131 dB	136 dB	140 dB
Max Peak SPL @ 1 meter <sup>2</sup>	137 dB	142 dB	146 dB
Frequency Response <sup>3</sup>	Lower Frequency Limits (no EQ): -10 dB: 22 Hz -3 dB: 35 Hz Lower Frequency Limits (with EQ): -10 dB: 20 Hz -3 dB: 22 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	96 kg (216 lb)
Shipping Weight	109 kg (240 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	506 liters (18 cubic ft)
Dimensions (H x W x D)	762 mm x 1219 mm x 610 mm (30 in x 48 in x 24 in)

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

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

<sup>3</sup>Based upon specified sensitivity, 40 Hz to 100 Hz.

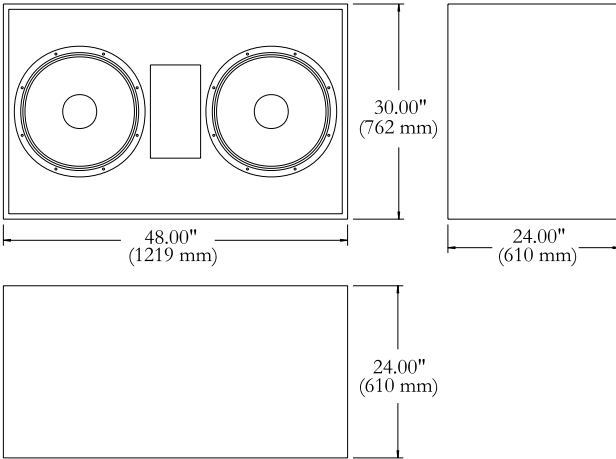
JBL continually engages in research related to product improvement. Some materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.

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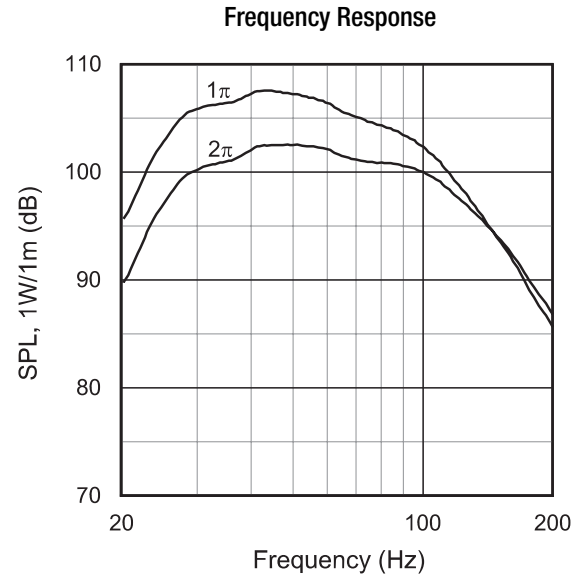


## Dimensions:



**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 506 liters (18 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 4642A is intended for use as a subwoofer with a low-pass filter and appropriate high-pass filtering for protection and equalization.