

PSW-6 *Self-Powered Cardioid Subwoofer*

FEATURES



Cardioid coverage pattern



Front-to-back SPL ratio of over 15 dB



Integrated control electronics and amplifiers



Intelligent AC™ System



Compatible with the Remote Monitoring System™ (RMS)



TruPower™ Limiting (TPL)



Superior engineering for the art and science of sound.



Meyer Sound

In an unprecedented historical achievement, Meyer Sound's self-powered PSW-6 is the first subwoofer to exhibit a true cardioid coverage pattern throughout its entire operating range. This makes it the first subwoofer to offer directional control of low frequencies. Covering more than two full octaves, the PSW-6 has a front to back SPL ratio of more than 15dB, and typically more than 20dB, from 30 Hz to 125 Hz. The horizontal and vertical coverage patterns of the PSW-6 are symmetrical, ensuring consistent SPL and frequency response throughout the coverage area.

The tight response pattern of the PSW-6 helps to steer all frequencies away from the rear of the cabinet, eliminating much of the reverberant noise traditionally associated with large scale full-range speaker arrays. Additionally, the tight response pattern allows the PSW-6 to be placed in close proximity to walls without the traditional problems associated with subwoofers and subtractive boundary conditions. Control of low frequency sounds through cancellation, or more accurately, directional steering is only possible in exceptionally linear systems. Linearity is critically important to

directional steering as the relationship between transducers must be consistent even while the music changes in level. Non-linearity or distortion above a few percent would make directional steering impossible. For nearly twenty years, Meyer Sound has been committed to developing accurate, high-quality, linear sound systems. As a result of this continuing effort, Meyer Sound has developed powerful, low distortion transducers unequaled in their linear attributes. The cardioid pattern refers to the heart-shaped polar pattern of the speaker (see illustration next page).

Sound pressure propagates from the front of the speaker using four front-loaded cone drivers and is steered away from the rear of the cabinet by two rear-mounted cone drivers. This is accomplished through a complex electrical response relationship between multiple amplifier channels and critical geometry between the front and rear transducers. This phase relationship cancels low frequency energy in the rear lobe and is additive in the front, resulting in higher efficiency and greater SPL.

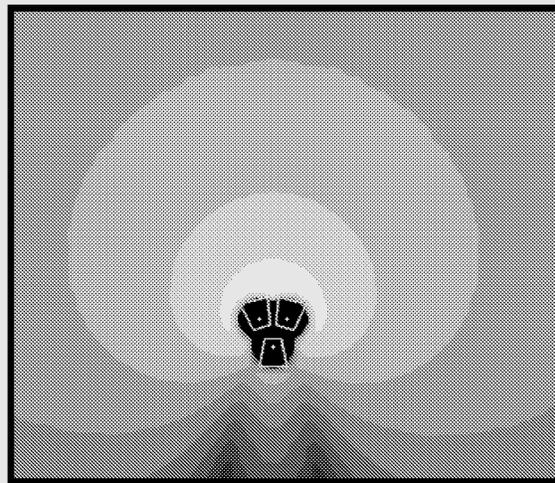
Recent advancement in Meyer horn technology has afforded precision control of the coverage patterns of mid and high frequency sound but precise control of low frequency coverage remained problematic due to the enormous size of horns needed to control low frequency sounds. To achieve directional control of a frequency, its wavelength must be less than half the diameter of the horn. For example, control of a 30 Hz tone would require a horn 20 feet in diameter. Similarly, any array of subwoofers would have to cover a similarly large area to achieve directional control of low-frequency sound.

The research which led to the development of the PSW-6 set out to control low frequency sound in a much smaller space for applications where the size of large arrays were impractical or impossible. Research done using Meyer Sound's own Source Independent Measurement (SIM[®]), and the Multipurpose Acoustical Prediction Program (MAPP[™]) allowed Meyer to create exceptionally accurate computer models of low frequency speaker interaction. Out of this experimentation the PSW-6 was born.

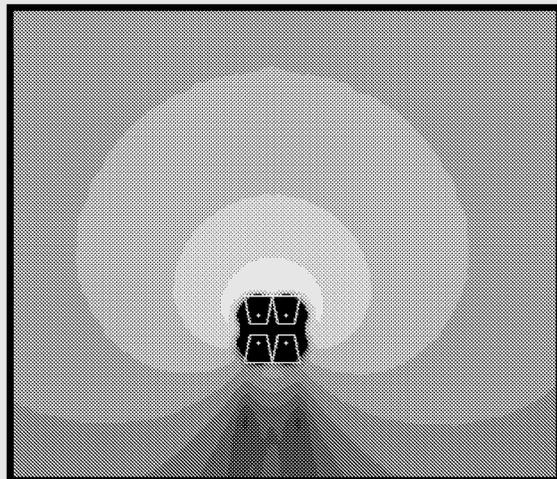
The PSW-6 can be equipped to operate with the Remote Monitoring System (RMS[™]) network which

displays critical system data such as temperature, amplifier and driver voltages, clipping and input polarity information on a Windows based PC allowing the front-of-house mixer or system engineer to ensure proper operation of the PSW-6 during performances.

Combining several PSW-6s in a line or arch array increases the power potential of the system while maintaining the tight cardioid response pattern. The PSW-6 can be incorporated into an MSL-4 or MSL-6 loudspeaker system with a standard LD-1A.



Horizontal



Vertical

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PSW-6 SPECIFICATIONS

ACOUSTICAL (EACH LOUDSPEAKER)

Operating Frequency Range 30 Hz – 125 Hz (-6 dB points)

32 Hz - 100 Hz ± 3 dB¹

Phase Response $\pm 50^\circ$ 40 Hz – 130 Hz²

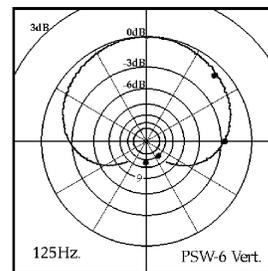
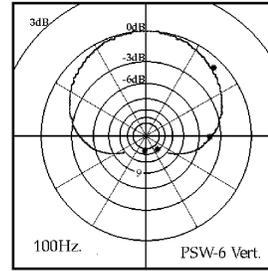
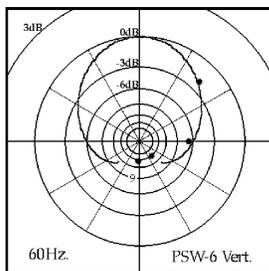
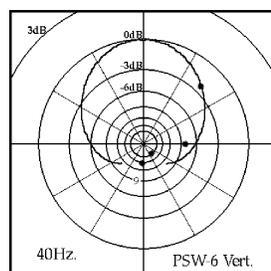
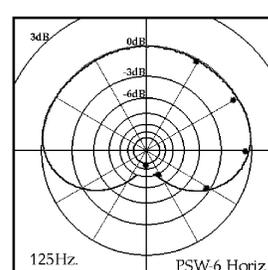
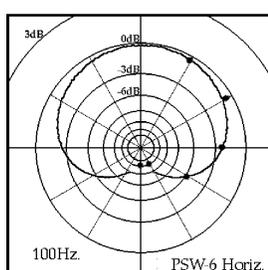
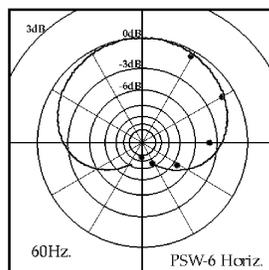
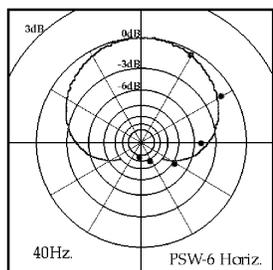
Maximum SPL 140 dB @ 1 meter³

Dynamic Range >110 dB

COVERAGE

Cardioid response pattern with >15 dB front-to-back ratio

See polar plot data below



• Measured points outside free field

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NOTES

1. Twenty-fourth-octave, half-space measurement.
2. From pure delay.
3. Peak, in half space.

PSW-6 SPECIFICATIONS (cont'd)

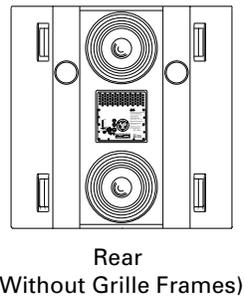
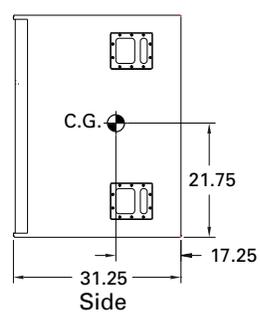
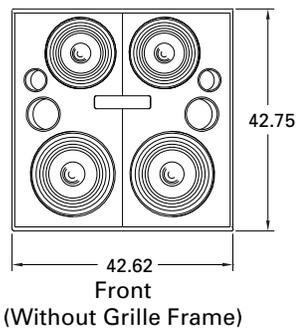
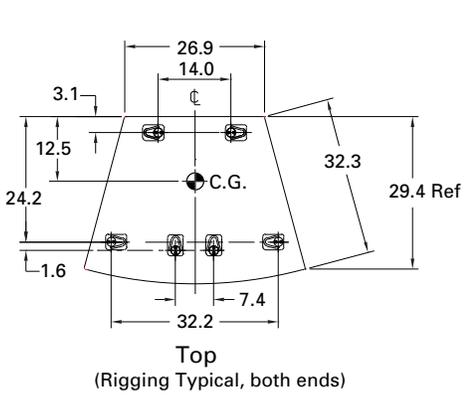
TRANSDUCERS	Low Frequency	Two 18" diameter 8Ω MS-818 cone drivers Four 15" diameter 4Ω MS-415 cone drivers
AMPLIFIERS	Type Output Power THD, IM, TIM	Complementary power MOSFET output stages, class AB/H 2480 Watts (620 Watts / channel) ⁴ < .02 %
AUDIO INPUT	Type Connector Nominal Input Level	5 kΩ impedance, electronically balanced XLR (A-3) male and female +4 dBu (1.23 Vrms)
AC POWER	Connector Automatic voltage selection Operational Voltage Range Max Continuous RMS Current (>10 s) Max Burst RMS Current (<1 s) Max Peak Current During Burst Soft Start Turn-on	250V NEMA L6-20 (twistlock) inlet or IEC 309 male inlet 85 - 134 VAC and 165-264 VAC; 50 Hz / 60 Hz Turn on: 85 VAC; Turn off: 134 VAC; 50/60 Hz Turn on: 165 VAC; Turn off: 264 VAC; 50/60 Hz 115 V: 14 Arms 230 V: 7 Arms 100 V: 16 Arms 115 V: 26 Arms 230 V: 13 Arms 100 V: 30 Arms 115 V: 36 Apk 230 V: 18 Apk 100 V: 42 Apk Inrush current <12 A @115 V
PHYSICAL	Dimensions Weight Enclosure/Finish Rigging	Height: 42.75"; Width: 42.52"; Length: 22.4"; Depth: 32.28" 442 lb (201 kg) 12-ply hardwood/black textured Twelve pivoting lift rings (6 on top and bottom); working load for each ring is 1500 lb with straight tensile pull. Safety factor is 5:1. Entire cabinet is reinforced with steel girders
NOTES	4. Nominal 8Ω resistive load, pink noise, 100V Peak.	

Meyer Sound Laboratories has devoted itself to designing, manufacturing, and refining components that deliver superb sonic reproduction. Every part of every component is designed and built to exacting specifications and undergoes rigorous, comprehensive testing in the laboratories.

Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.

PHYSICAL DIMENSIONS

ALL UNITS IN INCHES



PSW-6 - 04.073.011.01

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Specifications subject to change without notice

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