SPECIFICATIONS SP™ 6



Frequency response, 1 meter on-axis, swept-sine in anechoic environment:
50 Hz to 15 kHz (±3 dB)

Usable low frequency limit (-10 dB point):
42Hz

Power handling:
Full range:
1,000 watts continuous
2,000 watts program
4,000 watts peak
Low frequency section:
1,000 watts continuous
2,000 watts program
4,000 watts peak
Passive mid/high frequency section:
150 watts continuous
300 watts program
600 watts peak

Sound pressure level, 1 watt, 1 meter in anechoic environment:
Full range:
99.0 dB SPL (2.83 V input)
Low frequency section:
100 dB SPL (2.80 V input)
Mid/high frequency:
98 dB SPL (2.0 V input)

Maximum sound pressure level (1 meter):
Full range:
129 dB SPL continuous
135 dB SPL peak
Low frequency section:
130 dB SPL continuous
136 dB SPL peak
Passive mid/high frequency section:
121 dB SPL continuous
127 dB SPL peak

Radiation angle measured at -6 dB point of polar response:
90° horizontal by 40° vertical; axis of the vertical main polar lobe is angled down 10° with respect to straight ahead being +10, -30°

Transducer complement:
Low frequency section:
2 x 15" woofer, vented Black Widow® 1508-8 HE SF
Mid frequency section:
1 x 6.5" exit /51 mm voice coil RX™ 22 on an asymmetrical quadratic throat CD horn
High frequency section:
1 x .875" exit /51 mm voice coil RX™ 22 on an asymmetrical quadratic throat CD horn

Box tuning frequency:
Low frequency section: 52 Hz

Crossover frequency (internal passive):
Bottom woofer: 250 Hz
Low/mid frequency: 650 Hz
Mid/high frequency: 2,100 Hz

Recommended active frossover frequency region and slope:
Low/high frequency:
500 Hz at 12 dB/octave

Time offset:
Low frequency: 0.0 ms
High frequency: 0.58 ms

Impedance (Z):
Full range:
Nominal: 4.0 Ω
Minimum: 3.5 Ω
Low frequency:
Nominal: 4.0 Ω
Minimum: 3.2 Ω
Passive MF/HF:
Nominal: 4.0 Ω
Minimum: 3.7 Ω

Input connections:
Full range: two 1/4" phone jacks and one four-pin twist lock connector; bi-amp capability provided via an internal wiring jumper.

Enclosure materials and finish:
Aspen hardwood plywood finished in Hammertex™ covering

Mounting provisions:
This unit is not designed for overhead suspension. Four large rubber feet on bottom for floor use.

Dimensions (H x W x D):
Front:
54.38" x 20.55" x 23.00"
1381 mm x 522 mm x 584 mm

Rear:
54.38" x 12.63" x 23.00"
1381 mm x 321 mm x 584 mm

Net weight:
141 lbs. (64.0 kg)

Features
- Quasi four-way full-range/bi-ampable sound reinforcement system
- RX™22 compression driver with ferrofluid cooling
- 6.5" Pro midrange with phase plug and ferrofluid cooling
- Two 15" BWX Black Widow® 4" VC woofers
- 2,000 watts program, 4,000 watts peak
- Patented Quadratic Throat Waveguide™ technology
- Asymmetrical horn aims the sound down 10° toward the audience, not over their heads
- Sound Guard™ III tweeter and midrange protection
- Full-range inputs include a four-pin twist lock connector and two 1/4" phone jacks
- Bi-amp capability via internal wiring jumper
- Trapezoidal aspen hardwood enclosure

SPECIFICATIONS SP™ 6

Description

The new SP 6 features the new Quadratic Throat Waveguide™ in a dual-horn arrangement. The SP 6 is a quasi four-way speaker system comprised of two 15" Black Widow® BWX SF woofers with a Kevlar® impregnated cone, a horn loaded 6/12" pro mid-range and an RX™22 compression driver loaded onto the patented constant directivity waveguide.

The SP 6 has a trapezoidal-shaped enclosure, which reduces the buildup of standing waves inside the enclosure to minimize mid-bass and midrange coloration. The enclosure is constructed of aspen hardwood plywood augmented with dual-layered top and bottom panels covered with heavy-duty, textured black Hammertex™ and reinforced with high-impact plastic corners. A full-length, wrap-around perforated steel grille protects the front of the enclosure.

The quasi four-way system consists of the following driver components: two 15" Black Widow® BWX SF woofers with Kevlar® impregnated cones, and dust caps. Capable of over 1,000 watts continuous power handling (AES Std 2-1984), the woofer section can handle a lot of power. The midrange is carried by a 6-1/2" professional-grade, horn-loaded speaker with a phase plug and ferrofluid cooling, providing high articulation in the vocals. The high frequencies are handled by an 2" RX™ 22 titanium diaphragm compression driver utilizing ferrofluid cooling. Both the midrange and the high frequency drivers are coupled to a Quadratic Throat Constant Directivity Waveguide (U.S. patent #6,059,069), with smooth, even response, low distrortion and good high frequency dispersion. These horns both have an asymmetrical vertical polar response, aiming the main energy lobe down 10˚ so it is aimed at the audience instead of over their heads. This helps reduce ceiling reflections for greater clarity and gain before feedback. The RX 22 driver feature the Radialinear Planar Phase Correction System (U.S. patent #6,064,745), which provides smoother and extended high frequency response.

Full range input connection to the system is made via two 1/4" phone jacks and a four-pin twist lock connector in parallel, with bi-amping flexibility provided for via an internal jumper that can be accessed by unscrewing and removing the input cup. The internal passive crossover features Peavey's exclusive Sound Guard™ protection circuit for both the tweeter and the mid-range speaker, and an advanced topology crossover with high-performance components to provide high power handling and reliability. Sound Guard provides long- and medium-term driver overload protection when the system is used to full-range or when it is bi-amped without impairing musical transients or dynamics on either the mid-range or the tweeter. The crossover provides driver roll-off and protection, as well as driver EQ for the woofers, midrange and horn, for clean, clear, smooth response. High-quality, reliable crossover components include polypropylene capacitors and high-current inductors. The optimial integration of the crossover with the selected drivers results in a smooth frequency response from 50 Hz to 15 kHz.

This extremely high power handling system can put out some very serious sound levels, but with control and precision for high articulation and long-term reliability.

Frequency response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SP 6 is measured at a distance of 1 meter using a 1 watt (into the nominal impedance) swept-sine input signal. As shown in figure 1, the selected drivers in the SP 6 combine to give a smooth frequency response from 50 Hz to 15 kHz.

Power handling

There are many different approaches to power handling ratings. Peavey rates this loudspeaker system's power handling using a full-range form of the AES Standard 2-1984. Using audio band 20 Hz to 20 kHz pink noise with peaks of four times the RMS level, this strenuous test signal assures the user that every portion of this system can withstand today's high technology music. This rating is contingent upon having a minimum of 3 dB amplifier headroom available.

Harmonic distortion

Second and third harmonic distortions vs. frequency are plotted in figures 3 & 4 for two power levels. Ten percent (10%) of rated input power and either one percent (1%) of rated input power or 1 watt, whichever is greater. Distortion is read from the graph as the difference between the fundamental signal (frequency response) and the desired harmonic. As an example, a distortion curve that is down 40 dB from the fundamental is equivalent to 1% distortion.

Mounting

This unit is not designed for overhead suspension. Four large rubber feet are included on the bottom for floor use.

SPECIFICATIONS SP™ 6

Architectural & engineering specifications

The loudspeaker system shall have an operating bandwidth of 50 Hz to 15 kHz. The nominal output level shall be 99.0 dB when measured at a distance of one meter with an input of 1 watt. The nominal impedance shall be 8.0 ohms.

The maximum continuous power handling shall be 1,000 watts, with maximum program power of 2,000 watts, peak power input of at least 4,000 watts and a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 90 degrees symmetrical about the center axis in the horizontal plane, and +10, -30 degrees about the center axis in the vertical plane. The outside dimensions shall be 54.38 inches high by 20.55 inches wide by 23.00 inches deep. The weight shall be 141 lbs. The loudspeaker system shall be a Peavey model SP™6.

3 + 2 Year Limited Warranty

NOTE: For details, refer to the warranty statement. Copies of this statement may be obtained by contacting Peavey Electronics Corporation, P.O. Box 2898, Meridian, Mississippi 39301-2898.

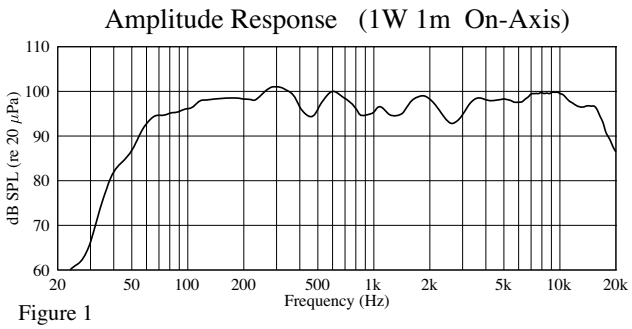


Figure 1

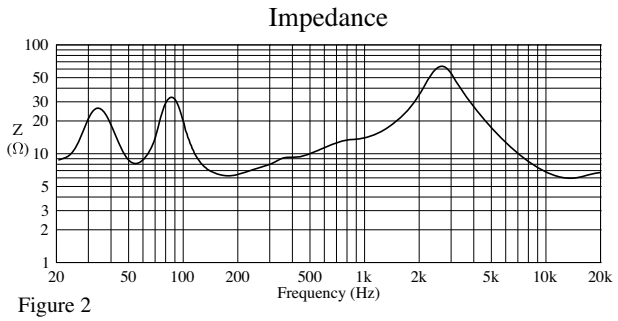


Figure 2

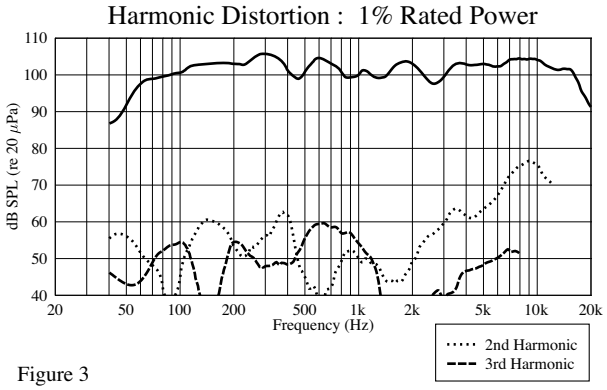


Figure 3

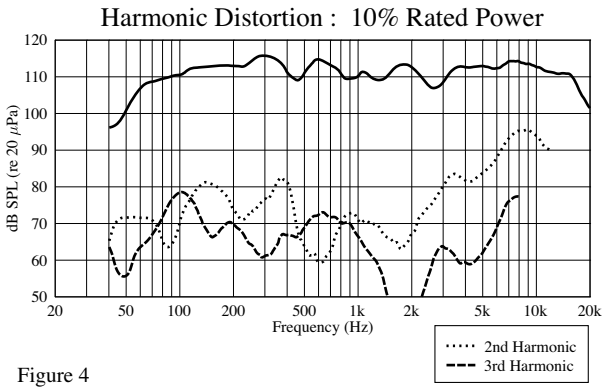


Figure 4

SP 6 Input Plate



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Features and specifications are subject to change without notice.

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