

SP EAV EY E L E C T R O N I C S

SP™ 1G

Sound Reinforcement
Enclosure with
Sound Guard™ 44XT™

SPECIFICATIONS

**Frequency Response, 1 Meter
On-Axis, Swept-Sine in Anechoic
Environment:**

63 Hz to 19 kHz

Low Frequency Cut-Off (-3 dB point):

63 Hz

**Usable Low Frequency Limit
(-10 dB point):**

50 Hz

Power Handling:

Full-Range:

450 W continuous (60V RMS)
900 W program
1,800 W peak

Bi-amp Low:

350 W continuous (52.9 V RMS)
700 W program
1,400 W peak

Bi-amp High:

80 W continuous (25.3 V RMS)
160 W program
320 W peak

**Sound Pressure Level, 1 Watt, 1
Meter in Anechoic Environment:**

Full-Range: 99 dB (2.8 V)
Bi-amp Low: 101 dB (2.8 V)
Bi-amp High: 110 dB (2.8 V)

**Maximum Sound Pressure Level
(1 meter):**

Full-Range:
121 dB continuous
133 dB peak

Bi-amp Low:

121 dB continuous
135 dB peak

Bi-amp High:

124 dB continuous
140 dB peak

**Radiation Angle Measured at -6 dB
Point of Polar Response:**

500 Hz to 1.6 kHz:
Horizontal: $96^\circ \pm 13^\circ$
Vertical: $91^\circ \pm 21^\circ$



1.6 kHz to 5 kHz:

Horizontal: $81^\circ \pm 6^\circ$
Vertical: $61^\circ \pm 18^\circ$

5 kHz to 16 kHz:

Horizontal: $56^\circ \pm 18^\circ$
Vertical: $39^\circ \pm 7^\circ$

Directivity Factor, Q (Mean):

15.7 ± 12.5

Directivity Index, Di (Mean):

$11.0 \text{ dB} \pm 2.7 \text{ dB}$

Transducer Complement:

One 1505-8 KADT 15" Black Widow®
woofer
One 44XT™ compression driver loaded
with a CH® 7 constant directivity horn

Box Tuning Frequency:

56 Hz

**Crossover Frequency (internal
passive):**

1,100 Hz

**Minimum Recommended Active
Crossover Frequency and Slope for
Bi-amping:**

1,200 Hz at 18 dB/octave

Time Offset:

0.70 ms (delay Lows)

Impedance (Z):

Full-Range Nominal: 8 Ω
Full-Range Minimum: 5.7 Ω
Lows Nominal: 8 Ω
Highs Nominal: 8 Ω

Input Connections:

Two paralleled 1/4" phone jacks for
full-range input
One 1/4" phone jack for bi-amp low-
frequency input
One 1/4" phone jack for bi-amp high-
frequency input

Enclosure Materials & Finish:

3/4" plywood enclosure covered with black
carpet and protective polymer corners
Expanded metal grille to protect the low-
frequency driver

Mounting Provisions:

One SA®-1 stand mount on bottom of
enclosure.

Dimensions (H x W x D):

33.75" x 19" x 20"
(85.7 cm x 48.3 cm x 50.8 cm)
13" rear width (33 cm)

PEAVEY

Net Weight:

95 lbs. (43.2 kg)

FEATURES

- 1505-8 KADT Black Widow® woofer
- 44XT™ compression driver
- Trapezoidal enclosure design
- SA-1™ stand mount

DESCRIPTION

The SP™ 1G is a step up to a higher performance loudspeaker system within the SP line of enclosures. It is a two-way loudspeaker consisting of a 15" Black Widow® woofer and a 44XT™ compression driver loaded with a CH® 7 constant directivity horn.

This unit can be driven in full-range or bi-amp mode simply by plugging into the desired jack on the input plate. The trapezoidal design of the enclosure allows arrays to be constructed much more easily than when using a rectangular shaped box. This shape also greatly reduces the buildup of standing waves on the inside of the enclosure. This ensures a minimum of mid-bass and midrange coloration of the reproduced sound due to the cabinet. The SP™ 1G is constructed of 3/4" plywood and covered with Peavey's durable black carpet. Polymer corners are also a part of the unit to provide added protection to the enclosure. A powder-coated expanded metal grille covers the lower part of the front of the enclosure to protect the low-frequency driver from unforeseen accidents.

Sound Guard 44XT™, a version of Peavey's proprietary high-frequency driver protection circuit designed especially for the 44XT™, has been included as an integral part of the crossover for the SP™ 1G. The input signal is routed through the Sound Guard 44XT™ circuit in both full-range and bi-amp modes of operation. When the high-frequency drive level to the SP™ 1G exceeds a predetermined threshold, the Sound Guard 44XT™ circuit is engaged. This is achieved at approximately 90% full-rated power with most program material. The effect that this has is to decrease the signal level going to the 44XT™ by about 6 dB so that it will not be damaged due to long term (thermal) overpowering. Short duration transients will not be attenuated by Sound Guard 44XT™ and have the possibility to damage the 44XT™.

Amplitude Response (1W 1m On-Axis)

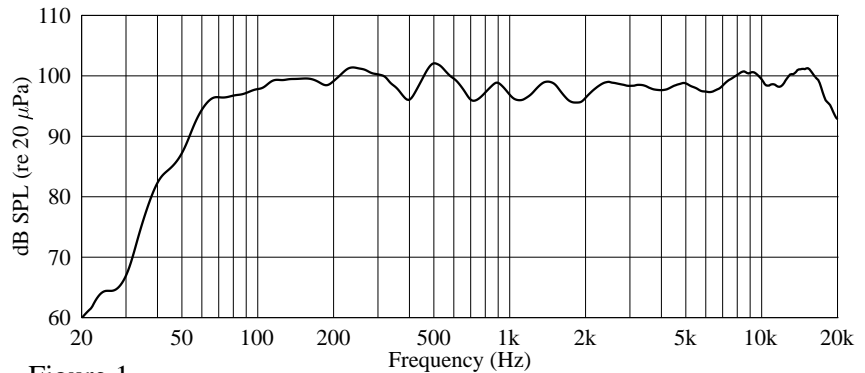


Figure 1

Impedance

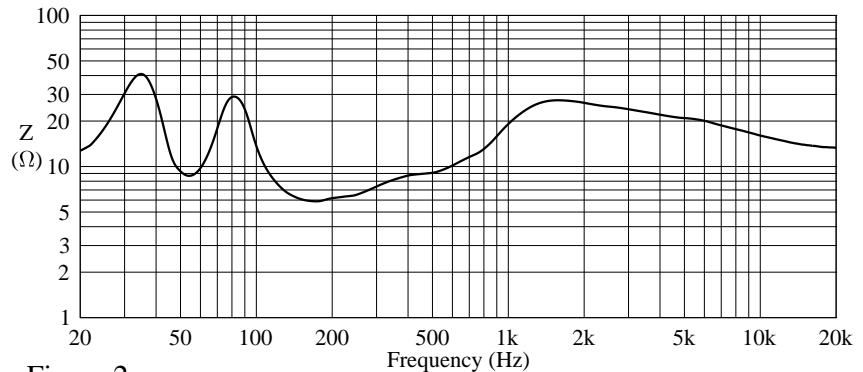


Figure 2

Beamwidth

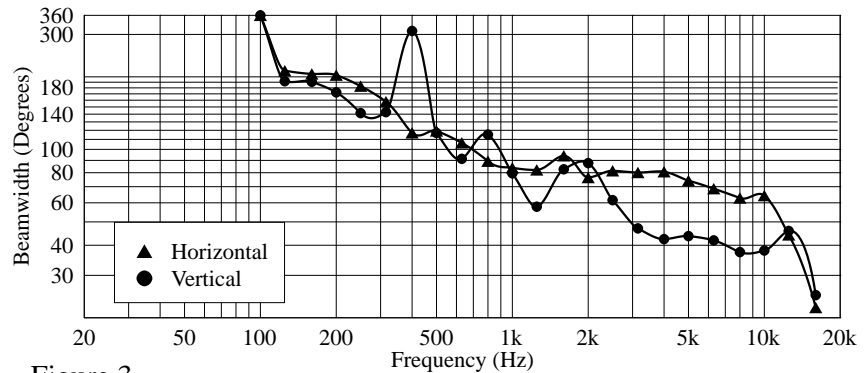


Figure 3

Q & Directivity Index

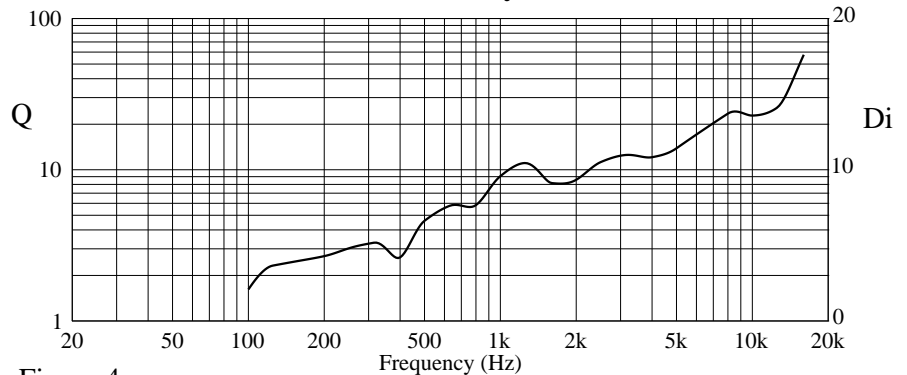
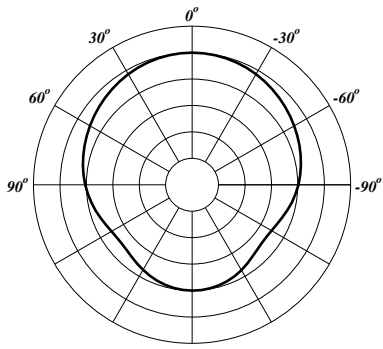


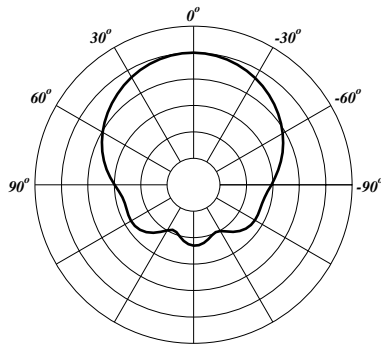
Figure 4

HORIZONTAL POLAR PATTERNS

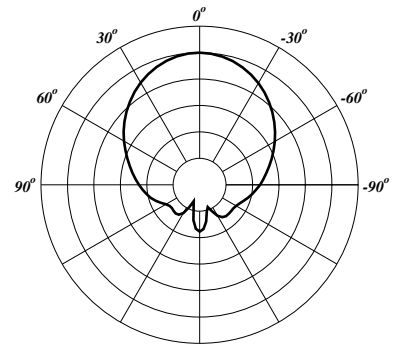
1 octave averaged, plotted on ISO 1 octave centers from 250 Hz to 8 kHz



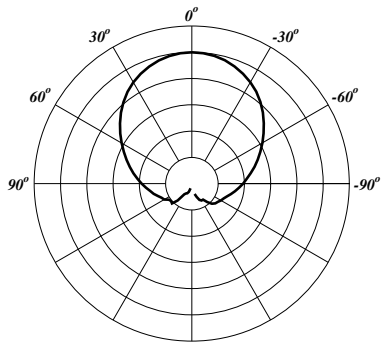
250 Hz



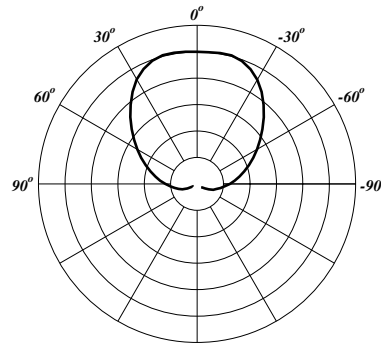
500 Hz



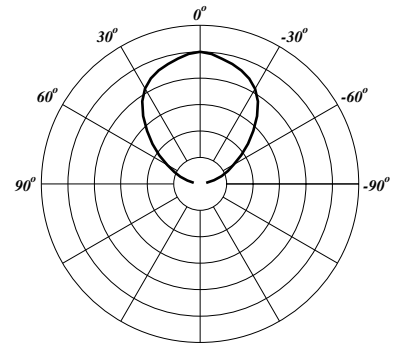
1 kHz



2 kHz

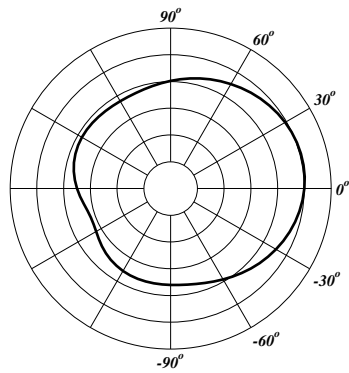


4 kHz

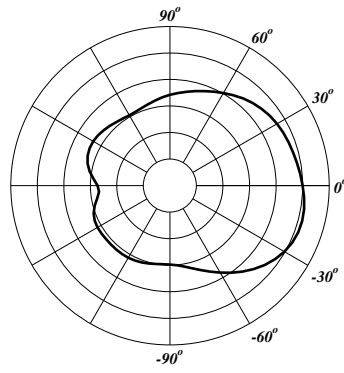


8 kHz

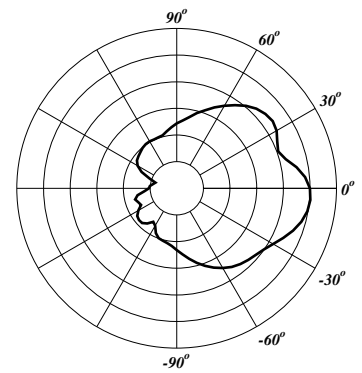
VERTICAL POLAR PATTERNS



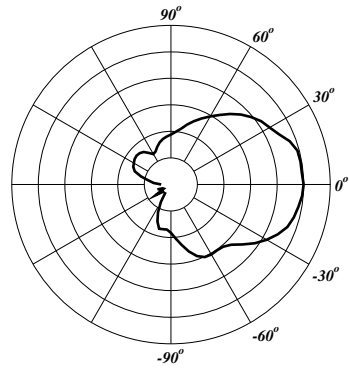
250 Hz



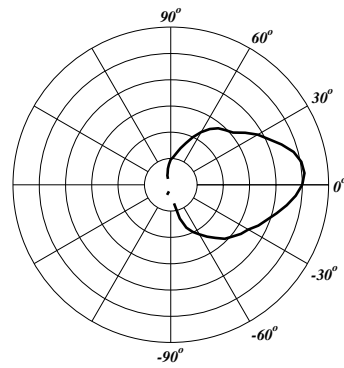
500 Hz



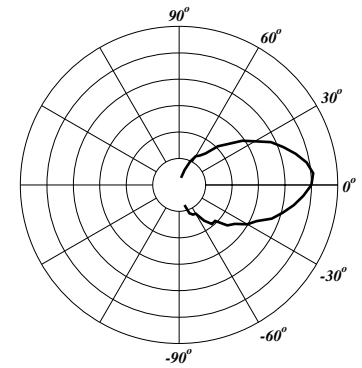
1 kHz



2 kHz



4 kHz



8 kHz

When operating the SP™ 1G in bi-amp mode with an active crossover, the CS® X1 input/crossover module for the CS® 800S is recommended. This crossover is designed specifically for this type of loudspeaker. It may be obtained as an add-on feature to the CS 800S at a modest cost. The proper configuration for this crossover module when using it with the SP™ 1G is to have it set to SP™ 2 mode and reverse the polarity of the high-frequency driver. This will give the best possible sonic and directional performance from the SP™ 1G without spending hundreds of dollars for a fully programmable digital crossover.

FREQUENCY RESPONSE

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SP™ 1G is measured at a distance of 1 meter using a 2.8 volt swept-sine input signal. As shown in Figure 1, the selected drivers in the SP™ 1G combine to give a smooth frequency response from 50 Hz to 19.0 kHz.

DIRECTIVITY

Beamwidth and directivity factors are derived from the -6 dB points from the polar plots (see Figure 3), which are measured in a

whole space anechoic environment. These are specifications that provide a reference to the coverage characteristics of the unit. These parameters provide insight for proper placement and installation in the chosen environment. The blending of the components of the SP 1G exhibit a desirable beamwidth and directivity (Figures 3 and 4) suitable for sound reinforcement applications.

POWER HANDLING

There are many different approaches to power handling ratings. Peavey Electronics rates this unit's system power handling using a modified form of the AES Standard 2-1984. It utilizes audio band limited (20 Hz to 20 kHz) pink noise with peaks over 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. The test signal contains large amounts of very low-frequency energy, effectively simulating the frequency content of live music situations. The full measure of high frequencies in the test signal allow for exposure of the speaker system to synthesized tones that may extend beyond audibility. This rating is contingent on having a minimum of 3 dB of amplifier headroom

available so as to ensure that clipping does not occur.

ARCHITECTURAL AND ENGINEERING SPECIFICATIONS

The loudspeaker system shall have an operating bandwidth of 50 Hz to 19 kHz. The nominal output level shall be 99 dB when measured at a distance of one meter with an input of one watt. The nominal impedance shall be 8 ohms. The maximum continuous power handling shall be 450 watts, maximum program power of 900 watts and a peak power input of at least 1,800 watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 77 degrees in the horizontal plane and 63 degrees in the vertical plane. The outside dimensions shall be 33.75 inches high by 19.0 inches wide by 20 inches deep. The weight shall be 95 pounds. The loudspeaker system shall be a Peavey model SP™ 1G.

THREE PLUS TWO 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 39302-2898.



Features and specifications subject to change without notice.

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