

SP EAVY ELECTRONICS

SP™ 3G

Sound Reinforcement
Enclosure with
Sound Guard™ HF
Protection System

SPECIFICATIONS

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

54 Hz to 17 kHz

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

54 Hz

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

47 Hz

Power Handling:

Full-Range:

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

Bi-amp Low:

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

Bi-amp High:

150 W continuous (34.6 V RMS)
300 W program
600 W peak

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

Full-Range: 99 dB (2.8 V)
Bi-amp Low: 100 dB (2.8 V)
Bi-amp High: 99 dB (2.8 V)

Maximum Sound Pressure Level
(1 meter):

Full-Range:
125 dB continuous
131 dB peak

Bi-amp Low:

126 dB continuous
132 dB peak

Bi-amp High:

120 dB continuous
127 dB peak

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

500 Hz to 1.6 kHz:
Horizontal: 122° ±15°
Vertical: 152° ±38°



1.6 kHz to 5 kHz:

Horizontal: 79° ±21°
Vertical: 83° ±22°

5 kHz to 16 kHz:

Horizontal: 87° ±10°
Vertical: 45° ±4°

Directivity Factor, Q (Mean):

8 ±4.3

Directivity Index, Di (Mean):

8.3 dB ±2.8 dB

Transducer Complement:

1505-8 KADT Black Widow® woofer
6.5" Pro mid-range driver
22XT compression driver

Box Tuning Frequency:

58 Hz

Crossover Frequency (internal
passive):

800 Hz

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

800 Hz at 18 dB/octave

Time Offset:

0.14 mS (delay Lows)

Impedance (Z):

Full-Range Nominal: 8 Ω
Full-Range Minimum: 5.3 Ω
Lows Nominal: 8 Ω
Highs Nominal: 8 Ω

Input Connections:

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

Enclosure Materials & Finish:

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

Mounting Provisions:

One SA-1 stand mount on bottom of
enclosure.

Dimensions (H x W x D):

33.50" x 21.50" x 22.50"
(85.1 cm x 54.6 cm x 57.1 cm)
Rear width 14.25" (36.1 cm)



NET WEIGHT:

95 lbs. (43.2 kg)

FEATURES

- 1505-8 KADT Black Widow® woofer
- 6.5" Pro mid-range driver
- 22 XT compression driver
- Sound Guard high-frequency protection circuit
- Trapezoidal enclosure design

DESCRIPTION

The SP 3G is a full-range 3-way speaker system engineered for high performance and versatility. Useful for sound reinforcement, monitoring, public address and musical playback. The system is comprised of a 15" Black Widow woofer with Kevlar-impregnated cone, a 6.5" professional mid-range driver, and a 22XT compression driver coupled with a CH 3 constant directivity horn.

This unit can be driven in a full-range or bi-amp mode by simply plugging into the desired jack on the input plate. The SP 3G has a trapezoidal shaped box, rather than a rectangular shaped box, that allows arrays to be constructed much more easily. This shape also greatly reduces the build-up of standing waves on the inside of the enclosure. This ensures a minimum of mid-bass and mid-range coloration of the reproduced sound due to the cabinet. The SP 3G is constructed of 3/4" plywood and is 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 mid- and low-frequency drivers from unforeseen accidents.

Sound Guard, Peavey's proprietary circuit for high-frequency driver protection, has been included as an integral part of the crossover for the SP 3G. The input signal is routed through the Sound Guard circuit in both full-range and bi-amp modes of operation. When the high-frequency drive level to the SP 3G exceeds a predetermined threshold, the Sound Guard circuit is engaged. This subtly decreases the signal going to the 22XT so that it will not be damaged due to long-term overpowering. Short duration transients will not be attenuated by Sound Guard and have the possibility to damage the 22XT. The Sound Guard circuit is a dynamic circuit

Amplitude Response (1W 1m On-Axis)

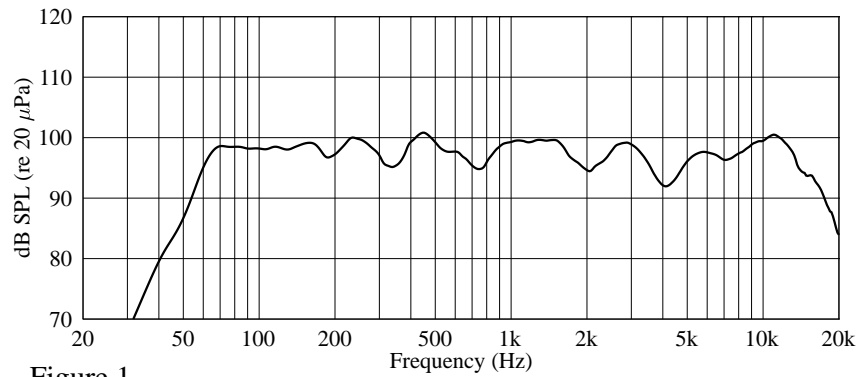


Figure 1

Impedance

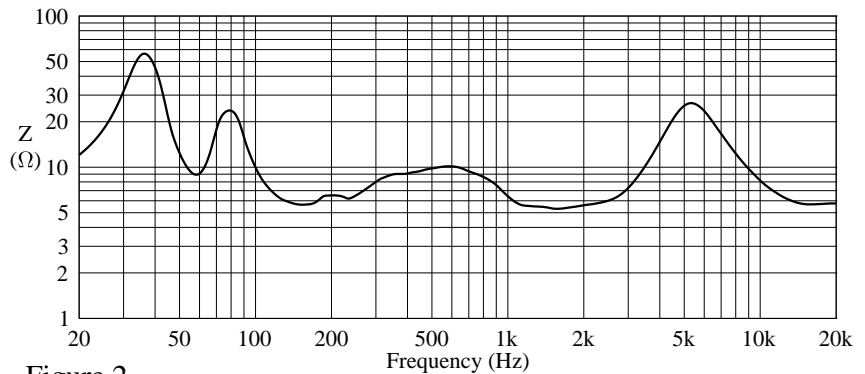


Figure 2

Beamwidth

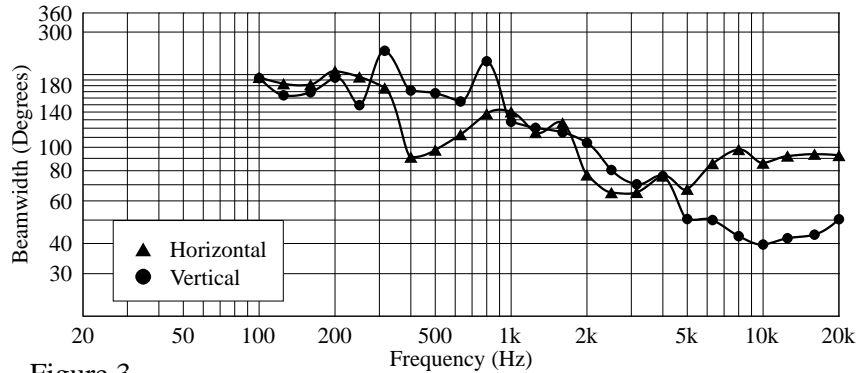


Figure 3

Q & Directivity Index

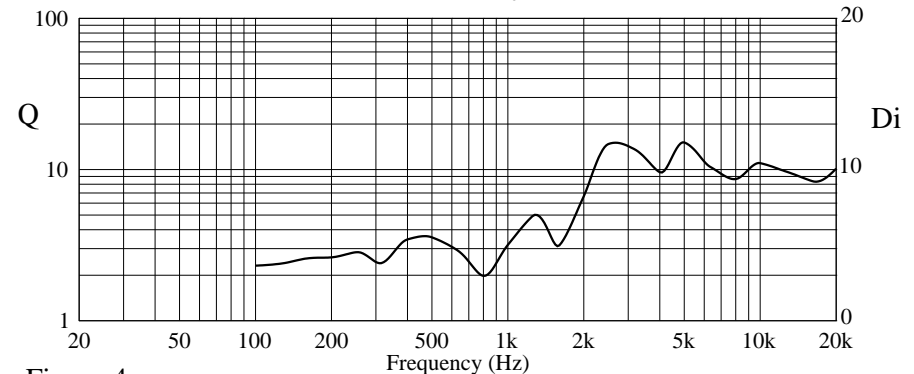
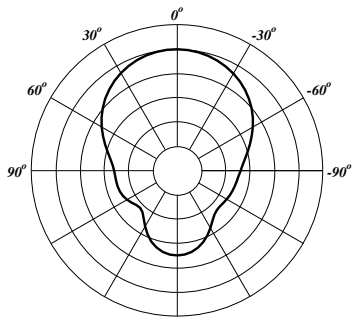


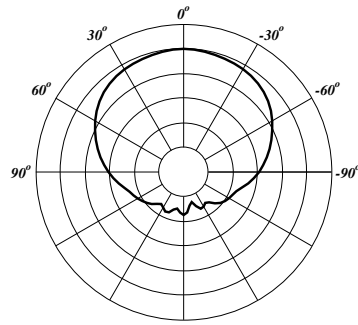
Figure 4

HORIZONTAL POLAR PATTERNS

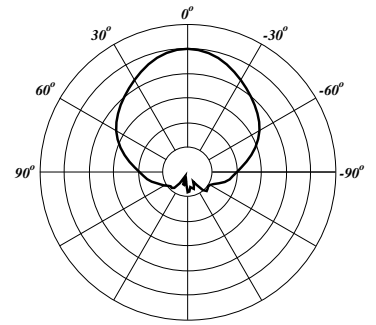
1 octave averaged, plotted on ISO 1 octave centers from 500 Hz to 16 kHz



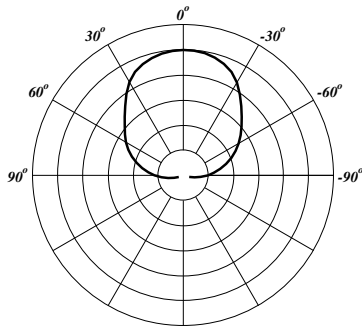
500 Hz



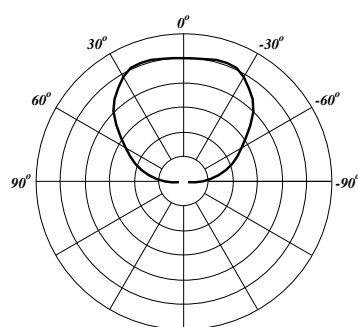
1 kHz



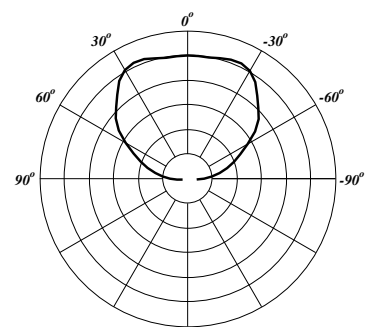
2 kHz



4 kHz



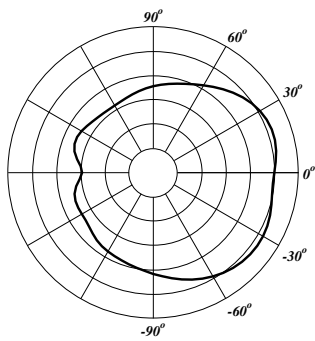
8 kHz



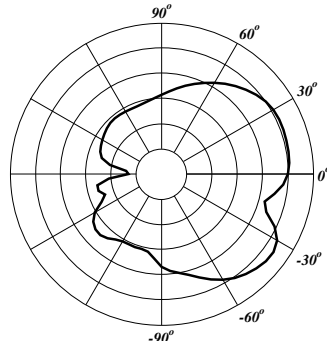
16 kHz

VERTICAL POLAR PATTERNS

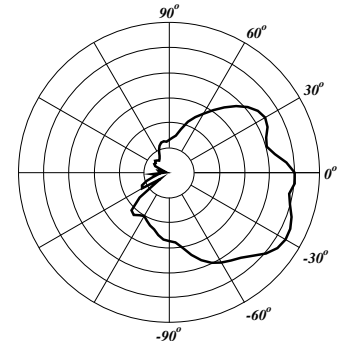
1 octave averaged, plotted on ISO 1 octave centers from 500 Hz to 16 kHz



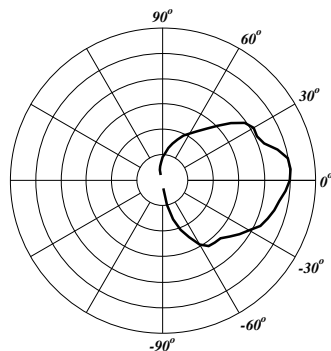
500 Hz



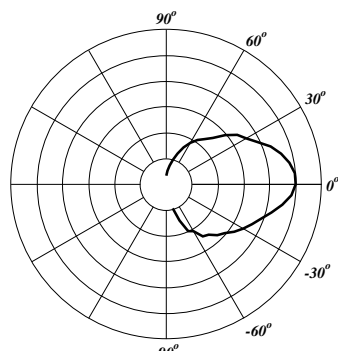
1 kHz



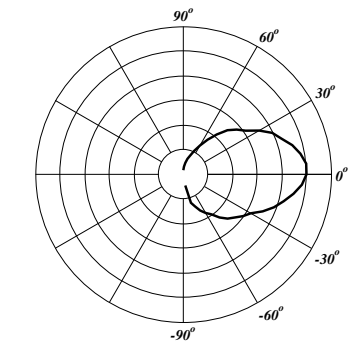
2 kHz



4 kHz



8 kHz



16 kHz

that will attenuate the signal more the larger the signal is, very similar to a compressor. This is accomplished through the use of a specially selected dynamically resistive light bulb. If the bulb in your Sound Guard should ever burn out, a replacement may be obtained from an Authorized Peavey Service Center. However, if a Peavey replacement bulb is not readily available, an automotive type 1156 bulb can be substituted for temporary use until a Peavey bulb can be obtained.

FREQUENCY RESPONSE

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SP 3G 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 3G combine to give a smooth frequency response from 54 Hz to 17 kHz.

DIRECTIVITY

Beamwidth is derived from the -6 dB points from the polar plots (see Figure 3) which are measured in a whole space anechoic environment. Q and Directivity

Index are plotted for the on-axis measurement position. These are specifications which 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 3G exhibits 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, utilizing audio band limited (20 Hz - 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 & ENGINEERING SPECIFICATIONS

The loudspeaker system shall have an operating bandwidth of 54 Hz to 17 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 350 watts, maximum program power of 700 watts and a peak power input of at least 1,400 watts, with minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 96 degrees in the horizontal plane and 95 degrees in the vertical plane. The outside dimensions shall be 33.50 inches high by 21.50 inches wide by 22.50 inches deep. The weight shall be 95 pounds. The loudspeaker system shall be a Peavey model SP 3G.

ONE 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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