

# SP E C O S

PEAVEY ELECTRONICS

## SP™ 5G

### Sound Reinforcement Enclosure with Sound Guard™ HF Protection System

#### SPECIFICATIONS

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

70 Hz to 17 kHz

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

70 Hz

Usable Low Frequency Limit (-10 dB point):

55 Hz

#### Power Handling:

##### Full Range:

250 W continuous (44.7 V RMS)  
500 W program  
1,000 W peak

##### Bi-amp Low:

200 W continuous (40.0 V RMS)  
400 W program  
800 W peak

##### Bi-amp High:

40 W continuous (17.9 V RMS)  
80 W program  
160 W peak

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

Full Range: 99 dB (2.8 V)  
Bi-amp Low: 98 dB (2.8 V)  
Bi-amp High: 104 dB (2.8 V)

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

Full Range:  
122 dB continuous  
128 dB peak

Bi-amp Low:  
121 dB continuous  
127 dB peak

Bi-amp High:  
120 dB continuous  
126 dB peak

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

500 Hz to 1.6 kHz:  
Horizontal: 101° ±16°  
Vertical: 97° ±23°



#### 1.6 kHz to 5 kHz:

Horizontal: 82° ±18°  
Vertical: 78° ±27°

#### 5 kHz to 16 kHz:

Horizontal: 91° ±10°  
Vertical: 45° ±3°

#### Directivity Factor, Q (Mean):

6.3 +2.2, -3.2

#### Directivity Index, Di (Mean):

8.0 dB +3.4 dB, -5.0 dB

#### Transducer Complement:

One SP-15825 Scorpion® Plus woofer  
One 22XT™ compression driver loaded by a CH™ 3 horn

#### Box Tuning Frequency:

53 Hz

#### Crossover Frequency (internal passive):

1.8 kHz

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

1.2 kHz at 18 dB/octave

#### Time Offset:

0.23 mS (delay Lows)

#### Impedance (Z):

Full Range Nominal: 8 Ω  
Full Range Minimum: 6.2 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" high-density particle board 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):

28" x 19" x 18.75"  
(71.1 cm x 48.3 cm x 47.6 cm)



**Net Weight:**

72 lbs. (32.7 kg)

**FEATURES**

- SP-15825 Scorpion® Plus woofer
- 22XT™ compression driver
- Sound Guard™ high frequency protection circuit
- Trapezoidal enclosure design
- SA-1™ stand mount

**DESCRIPTION**

The redesign of the ever popular SP™ 5 has resulted in the SP™ 5G loudspeaker system. It is a two-way speaker system comprised of a 15" Scorpion® Plus woofer with a Kevlar® impregnated cone and a 22XT™ compression driver coupled to a CH™ 3 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 SP™ 5G 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 & mid-range coloration of the reproduced sound due to the cabinet. The SP™ 5G is constructed of 3/4" high-density particle board 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 low frequency driver 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™ 5G. 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™ 5G exceeds a predetermined threshold the Sound Guard™ circuit is engaged. This subtly decreases the signal level 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 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

Figure 1

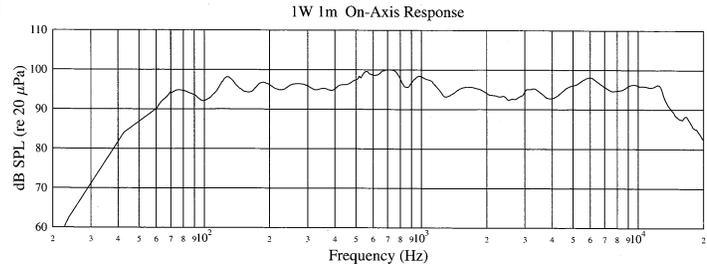


Figure 2

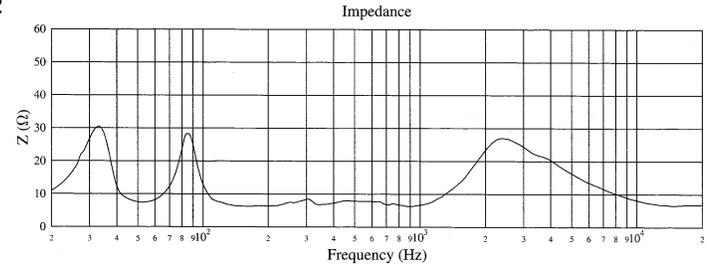


Figure 3

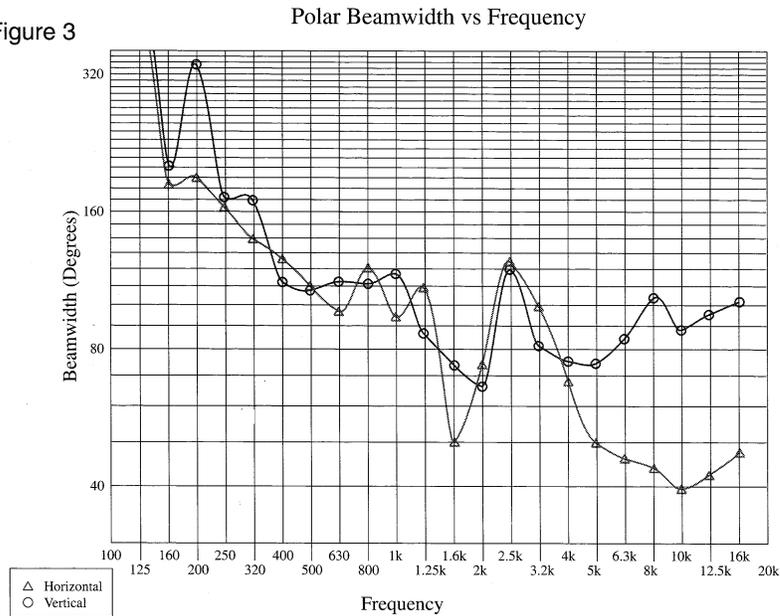
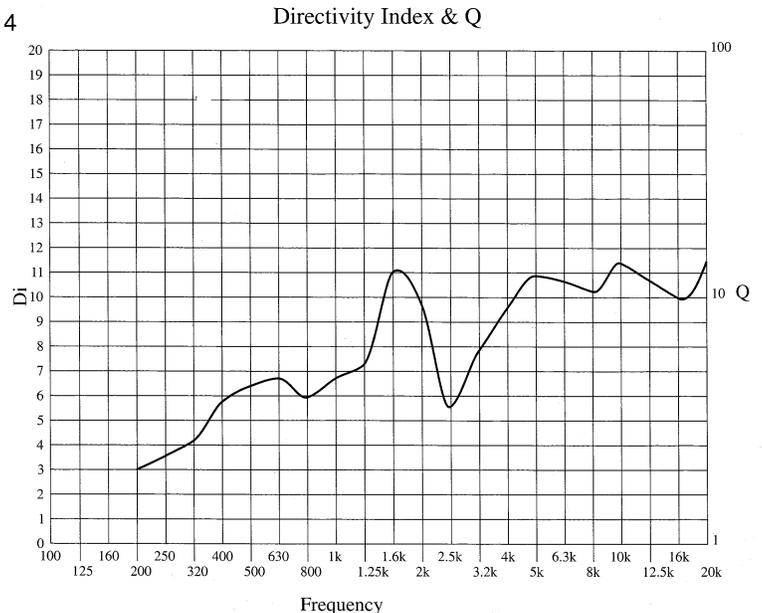
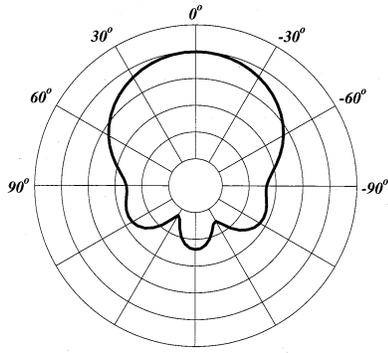


Figure 4

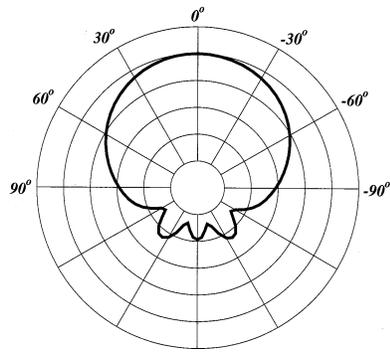


# HORIZONTAL POLAR PATTERNS

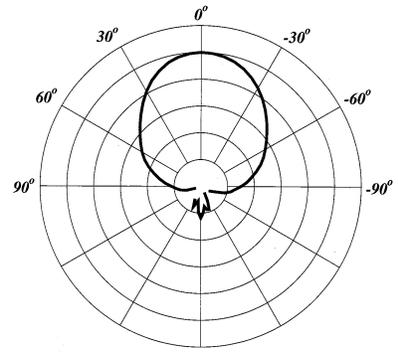
1 octave averaged, plotted on ISO 1 octave centers from 500 Hz to 16 kHz



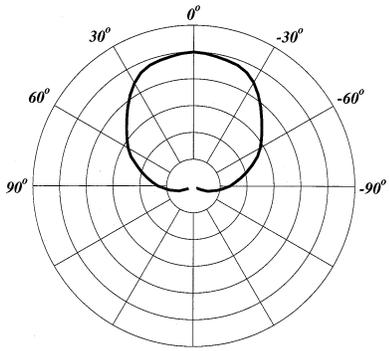
500 Hz



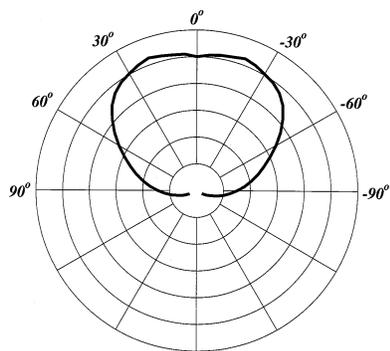
1 kHz



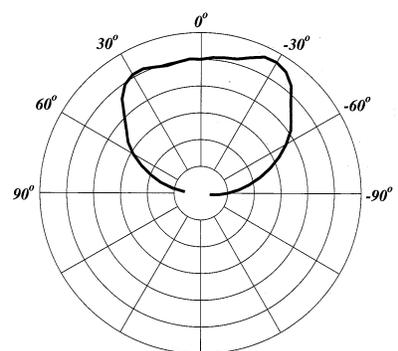
2 kHz



4 kHz

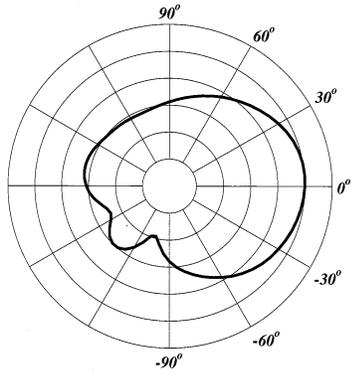


8 kHz

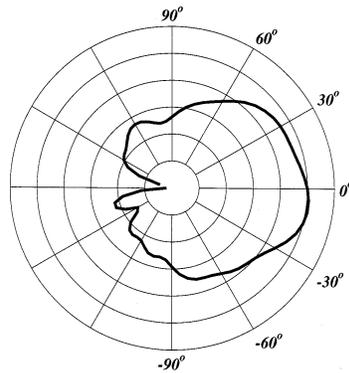


16 kHz

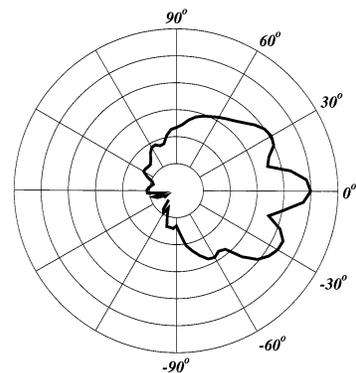
# VERTICAL POLAR PATTERNS



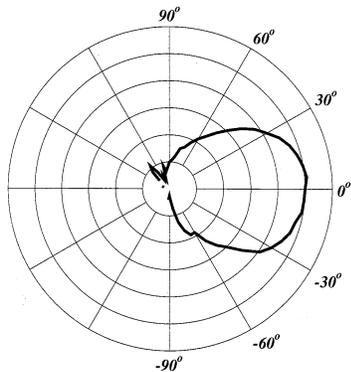
500 Hz



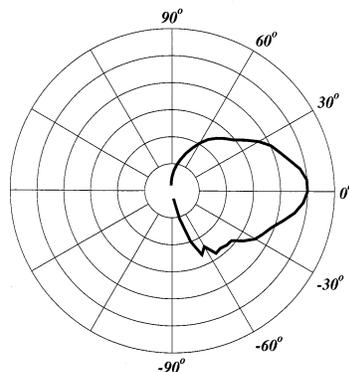
1 kHz



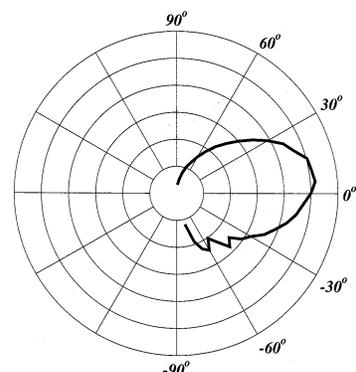
2 kHz



4 kHz



8 kHz



16 kHz

1156 bulb may 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™ 5G 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™ 5G combine to give a smooth frequency response from 55 Hz to 17 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™ 5G exhibit a

desirable beamwidth and directivity (Figures 3 & 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 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 & ENGINEERING SPECIFICATIONS**

The loudspeaker system shall have an operating bandwidth of 55 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 250 watts, maximum program power of 500 watts and a peak power input of at least 1,000 watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 94 degrees in the horizontal plane and 76 degrees in the vertical plane. The outside dimensions shall be 28.0 inches high by 19.0 inches wide by 18.75 inches deep. The weight shall be 72 pounds. The loudspeaker system shall be a Peavey model SP™ 5G.

#### **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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