

SPECIFICATIONS

SP™ 12M



Frequency Response, 1 meter on-axis, swept-sine in anechoic environment:
108 Hz to 14 kHz (± 3 dB)

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

Power Handling:
Full range:
500 watts continuous
1,000 watts program
2,000 watts peak

Sound Pressure Level, 1 Watt, 1 meter in anechoic environment:
Full range:
98.0 dB SPL (2.83 V input)

Maximum Sound Pressure Level (1meter):
Full range:
125 dB SPL continuous
131 dB SPL peak

Radiation Angle measured at -6 dB point of polar response:
40° horizontal by 90° vertical

Transducer Complement:
Low Frequency Section:
One 12" woofer
1208-8 HE SF BWX
High frequency section:
One .875" exit/51 mm voice coil
Rx™22 compression driver on a
CH-3R horn

Box Tuning Frequency:
Low frequency section:
73 Hz

Crossover Frequency (internal passive):
Low frequency - high frequency:
1,700 Hz

Impedance (Z):
Full Range:
Nominal: 8.0 w
Minimum: 6.4 w

Input Connections:
Full Range: Two 1/4" phone
jacks and one four-pin twist lock
connector

Enclosure Materials & Finish:
Hardwood panel coated with
Peavey's HammerHead™ polyurea
finish.

Mounting Provisions:
This unit is not designed for
overhead suspension.
Metal stand mount adapter
incorporated and eight rubber feet
on two sides for dual-angle use.

Dimensions (H x W x D):
45° baffle orientation:
15.75" x 24.25" x 18.75"
400 mm x 616 mm x 476 mm

30° baffle orientation:
15.94" x 24.25" x 17.63"
405 mm x 616 mm x 448 mm

Net Weight:
51 lbs. (23.13 kg)

- Features**
- Two-way, full-range floor monitor
 - 1,000 watts program; 2,000 watts peak
 - 12" BWX Black Widow® woofer, 4" VC, field-replaceable basket
 - Rx™22 compression driver with ferrofluid cooling
 - Sound Guard™ III tweeter protection
 - Hardwood panel coated with Peavey's HammerHead™ polyurea finish
 - Dual-baffle angles of 45° or 30°
 - Two 1/4" full-range phone-jack inputs in parallel with a four-pin twist lock connector
 - Perforated steel grille
 - Stand-mount adapter

Description
The new SP 12M is a two-way floor monitor speaker system comprised of a 12" Black Widow® SF woofer with a Kevlar® impregnated cone and an enclosure, made from a hardwood panel and coated with Peavey's heavy-duty polyurea finish for increased durability and ruggedness. A full length wrap-around perforated steel grille protects the front of the enclosure. An metal stand mount adapter is built in for side-fill or PA use.



The low frequencies are provided by the 12" Black Widow BWX SF woofer with a Kevlar impregnated cone and dust cap. Capable of over 500 watts of continuous power handling (AES Std 2-1984), the woofer can handle a lot of power, which also results in very low power compression. The high frequencies are handled by a 2" Rx™22 titanium diaphragm compression driver utilizing ferrofluid cooling. This superb driver is coupled to a constant directivity horn with smooth, even response and good high frequency dispersion. The Rx™22 driver features the Radialinear Planar Phase Correction System (U.S. Patent 6,064,745), which provides smoother and extended high frequency response.

Input connection to the system is made via two 1/4" phone jacks and a four-pin twist lock connector in parallel. The internal passive crossover features the Sound Guard™ III tweeter protection circuit and an advanced topology crossover with high performance components to provide high power handling and reliability. Sound Guard™, Peavey's proprietary high-frequency driver protection circuitry, provides long- and medium-term driver overload protection without impairing musical transients or dynamics. The crossover provides driver roll off and protection as well as driver EQ for the woofer and horn for clean, clear, smooth response. High quality, reliable crossover components include polypropylene capacitors and high current inductors. The optimal integration of the crossover with the selected drivers results in a smooth frequency response from 108 Hz to 14 kHz, making it highly appropriate for monitor applications.

Despite its compact dimensions for a 12" floor monitor enclosure, this system can put out some very high sound levels and handle 1000 watts of undistorted amplifier power program, resulting in clean monitoring with high articulation and reliability.

Frequency Response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SP 12M 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 12M combine to give a smooth frequency response from 108 Hz to 14 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 available amplifier headroom.

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 over head suspension. Includes built-in metal stand mount adapter. Eight rubber feet on two sides enable dual-angle use.

Architectural & Engineering Specifications

The loudspeaker system shall have an operating bandwidth of 108 Hz to 14 kHz. The nominal output level shall be 98 dB when measured with an input of one watt. The nominal impedance shall be 8 ohms. The maximum continuous power handling shall be 500 watts with maximum program power of 1000 watts, a peak power input of at least 2,000 watts and a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 40 degrees in the horizontal plane, and 90 degrees in the vertical plane. The outside dimensions shall be 15.75" high by

24.25" wide by 18.75" deep with the unit in the 45° baffle orientation. The weight shall be 51 lbs. The loudspeaker system shall be a Peavey model SP 12M.

Amplitude Response (1W 1m On-Axis)

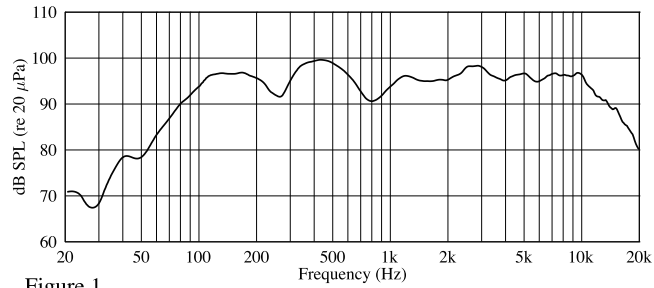


Figure 1

Impedance

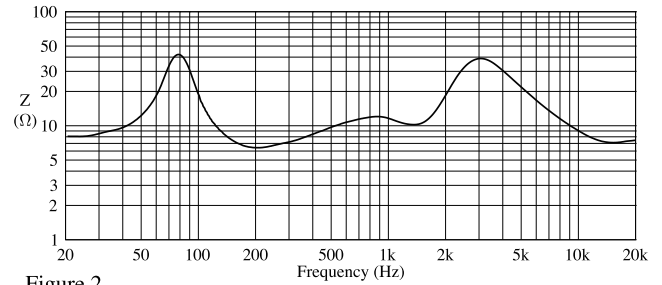


Figure 2

Harmonic Distortion : 1% Rated Power

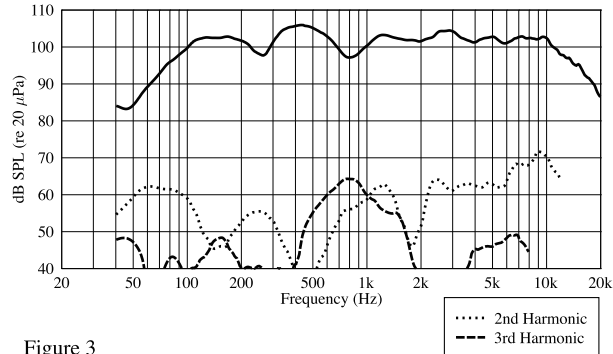


Figure 3

Harmonic Distortion : 10% Rated Power

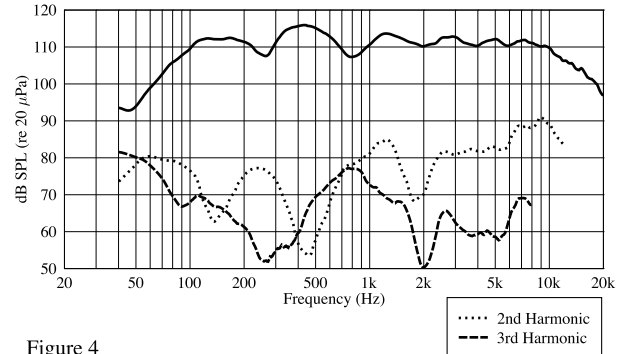
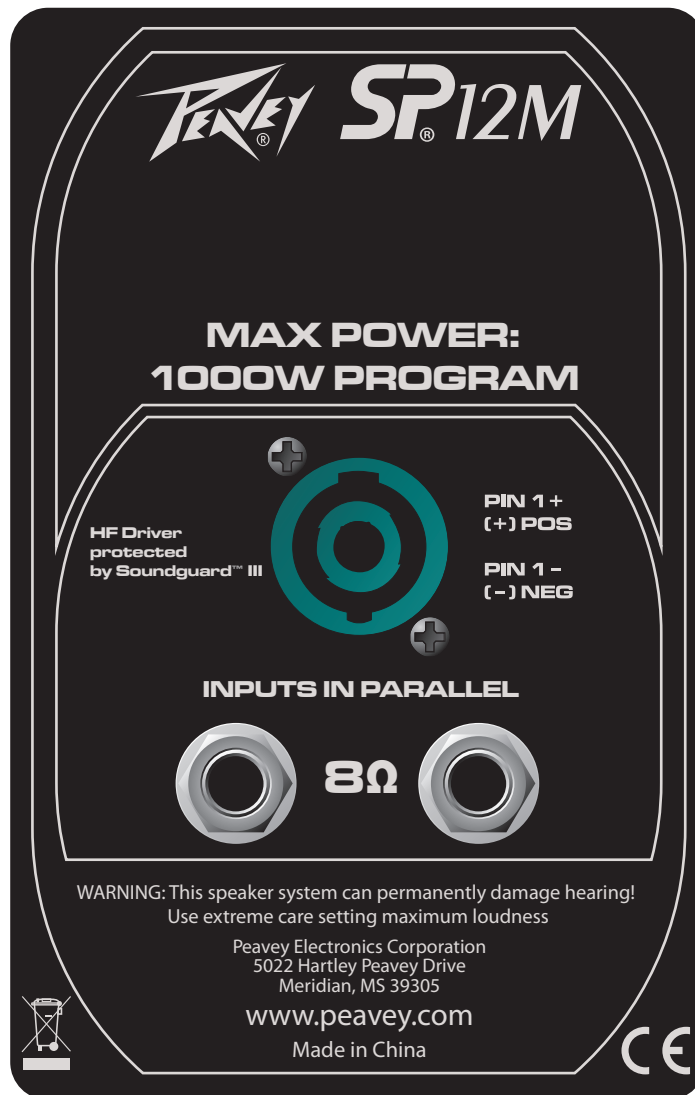


Figure 4

SP 12M Input Plate

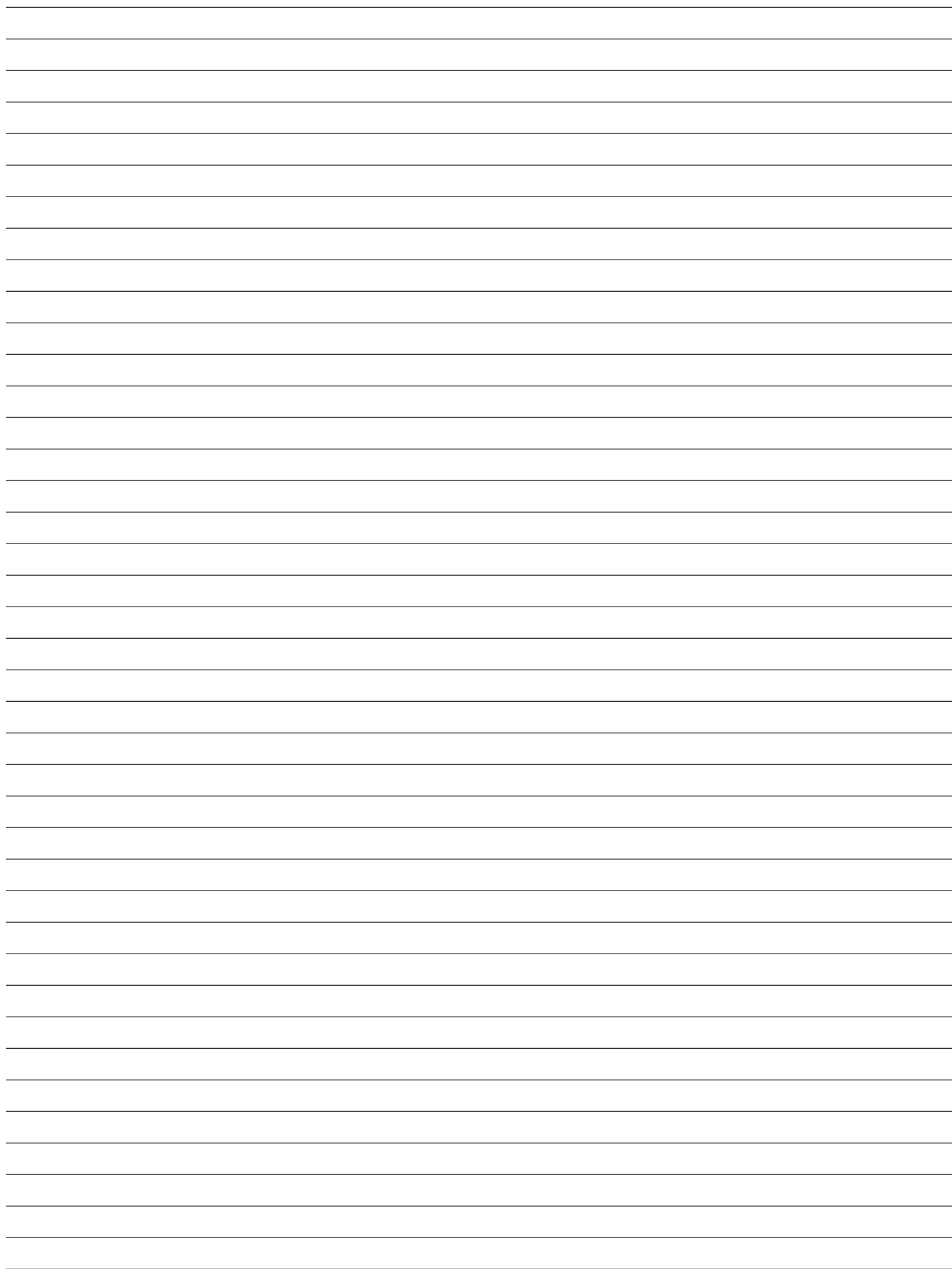


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Logo referenced in Directive 2002/96/EC Annex IV
(OJ(L)37/36, 13.02.03 and defined in EN 50419: 2005
The bar is the symbol for marking of new waste and
is applied only to equipment manufactured after
13 August 2005