

# SP E A V E Y E L E C T R O N I C S

## SP™ 112MX

### SPECIFICATIONS

**Frequency response, 1 meter on-axis, swept-sine in anechoic environment:**

120 Hz — 14 kHz ( $\pm 3$  dB)

**Usable low frequency limit (-10 dB point):**

73 Hz

**Power handling:**

Full Range:

500 W continuous  
1,000 W program  
2,000 W peak

Low Frequency Section:

500 W continuous  
1,000 W program  
2,000 W peak

High Frequency Section:

60 W continuous  
120 W program  
240 W peak

**Sound pressure level, 1 Watt, 1 meter in anechoic environment:**

Full Range:

100.0 dB SPL, (2.83 V input)

Low Frequency Section:

100.0 dB SPL, (2.83 V input)

High Frequency Section:

106.0 dB SPL, (2.83 V input)

**Maximum sound pressure level (1 meter):**

Full Range:

125.0 dB SPL continuous  
131.0 dB SPL peak

Low Frequency Section:

126.0 dB SPL continuous  
132.0 dB SPL peak

High Frequency Section:

123.8 dB SPL continuous  
129.8 dB SPL peak

**Transducer complement:**

Low Frequency Section:

1x 12 in. woofer, sealed  
1208 SPS-8 BWX



High Frequency Section:

1x .875 in. exit/51 mm voice coil  
compression driver on CD horn  
RX™22 on a CH®-3

**Harmonic distortion:**

1% rated power

2nd Harmonic:

100 Hz: 1.66%  
1 kHz: 0.49%

3rd Harmonic:

100 Hz: 0.63%  
1 kHz: 0.44%

10% rated power

2nd Harmonic:

100 Hz: 4.05%  
1 kHz: 2.13%

3rd Harmonic:

100 Hz: 2.67%  
1 kHz: 0.52%

**Crossover frequency (internal passive):**

Low Frequency — High Frequency:  
1,350 Hz

**Recommended active crossover frequency region and slope:**

Low Frequency — High Frequency:  
1,600 Hz at 18 dB/octave

**Time offset:**

Low Frequency: 0.00 ms  
High Frequency: 0.27 ms

**Impedance (Z):**

Full Range:

Nominal: 8.0  $\Omega$   
Minimum: 6.2  $\Omega$

Low Frequency:

Nominal: 8.0  $\Omega$   
Minimum: 6.9  $\Omega$

High Frequency:

Nominal: 8.0  $\Omega$   
Minimum: 7.1  $\Omega$

**Input connections:**

2x 1/4 in. phone jack and 1x Neutrik®  
NL4 Speakon® (biamp)



**Enclosure materials and finish:**  
3/4" OSB finished in black carpet

**Mounting provisions:**

This unit is not designed for overhead suspension.  
SA 1 stand mounted adaptor

**Dimensions (H x W x D):**

Front:  
15.25 in. x 22.25 in. x 15.00 in.  
387 mm x 565 mm x 381 mm

**Net weight:**

50 lbs. (22.7 kg)

**Features:**

- Two-way, full range/biampable PA enclosure
- Sound Guard™ HF driver protection circuit
- RX™22 driver with a 2" titanium diaphragm coupled to a CH® 3 90° X 45° constant-directivity horn
- 12" BWX Black Widow® with Kevlar® cone and field-replaceable basket
- SP™ X series cabinet with integral stand adapter
- Neutrik® biamp jack
- 30° or 45° baffle angle

**Description**

The SP 112MX is both a cosmetic and performance redesign of the SP 112M floor monitor loudspeaker system. This high power handling, two-way loudspeaker system is comprised of a 12" BWX woofer with a Kevlar impregnated cone and an RX22 compression driver coupled to a CH 3 constant directivity horn. This unit can be driven in full-range mode simply by plugging into one of the two 1/4" phone jacks on the input plate. A Neutrik Speakon® connector is provided as an input for biamp operation. The unique design of the enclosure allows the baffle to be angled at either 30° or 45° from the floor. The SP 112MX is constructed of 3/4" OSB and covered with Peavey's durable black carpet. A powder coated expanded metal grille covers the front of the enclosure to protect the drivers from unforeseen accidents. A stand mount adapter is also included in one of the ends of the enclosure. This will allow it to be used as a PA type loudspeaker if needed.

Sound Guard III is the redesign of Peavey's proprietary circuit for high frequency driver protection for the new RX22 compression driver. This is an integral part of the crossover for the SP 112MX. The input signal is routed through the Sound Guard III circuit in both full-range and biamp modes of operation. When the high frequency drive level to the

SP 112 MX exceeds a predetermined threshold, the Sound Guard III circuit is engaged. The effect that this has is to subtly decrease the signal level going to the RX22 so that it will not be damaged due to longterm overpowering. Short duration transients will not be attenuated by Sound Guard III and have the possibility to damage the RX22. The Sound Guard III 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 III 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, a Sylvania SK3 bulb may be located at various loudspeaker or electronics parts stores.

**Frequency response**

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SP 112 MX 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 112MX combine to give a smooth frequency response from 120 Hz - 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 of amplifier headroom available.

**Harmonic Distortion**

Second and third harmonic distortions vs. frequency are plotted in figures 3 and 4 for two power levels. Ten percent (10%) of rated input power and either one percent (1%) of rated input power or one 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**

**Warning:** This unit is not designed for overhead suspension.

Amplitude Response (1W 1m On-Axis)

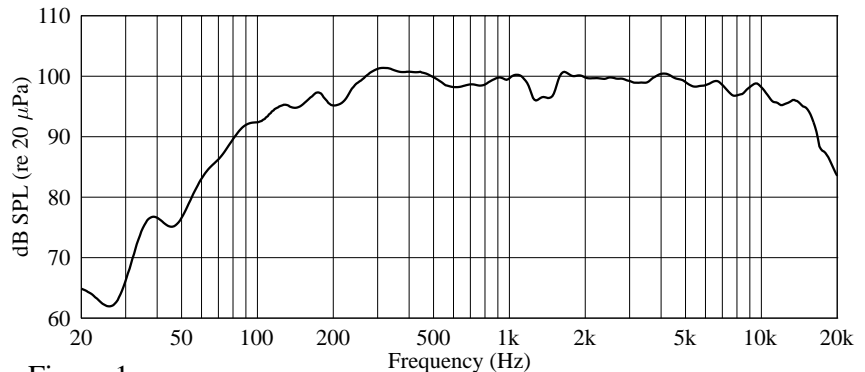


Figure 1

Impedance

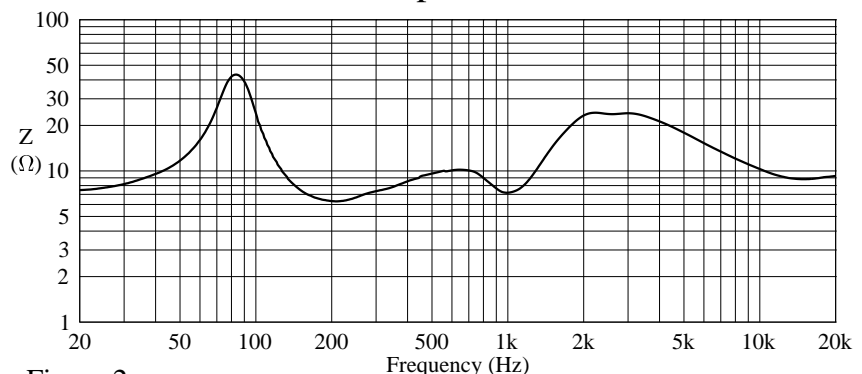


Figure 2

**Architectural and Engineering Specifications**

The loudspeaker system shall have an operating bandwidth of 120 Hz - 14 kHz. The nominal output level shall be 98.0 dB when measured at a distance of one meter with an input of one Watt. The nominal impedance shall be 8.0 Ohms. The maximum continuous power handling shall be 500 Watts, maximum program power of 1,000 Watts and a peak power

input of at least 2,000 Watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 45 degrees in the horizontal plane and 90 degrees in the vertical plane. The outside dimensions shall be 15.25 inches high by 22.25 inches wide by 15.00 inches deep. The weight shall be 50 pounds. The loudspeaker system shall be a Peavey model SP™ 112MX.

**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.

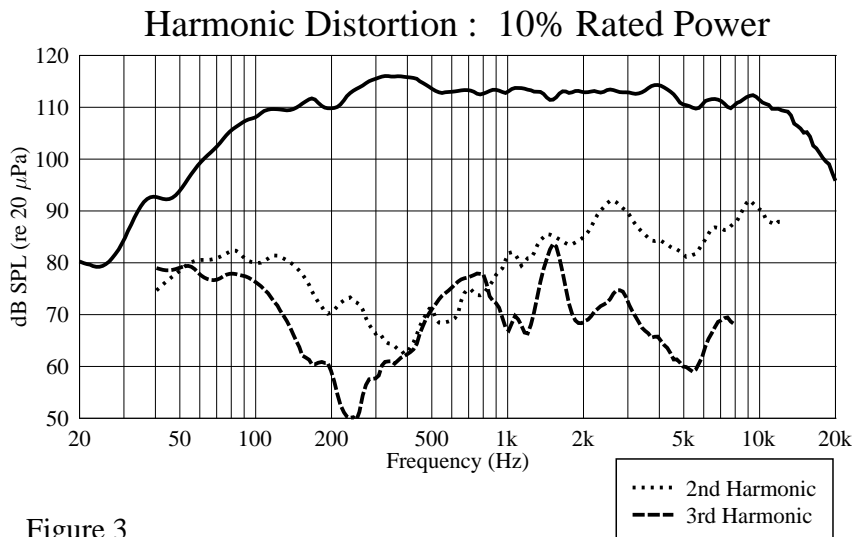


Figure 3

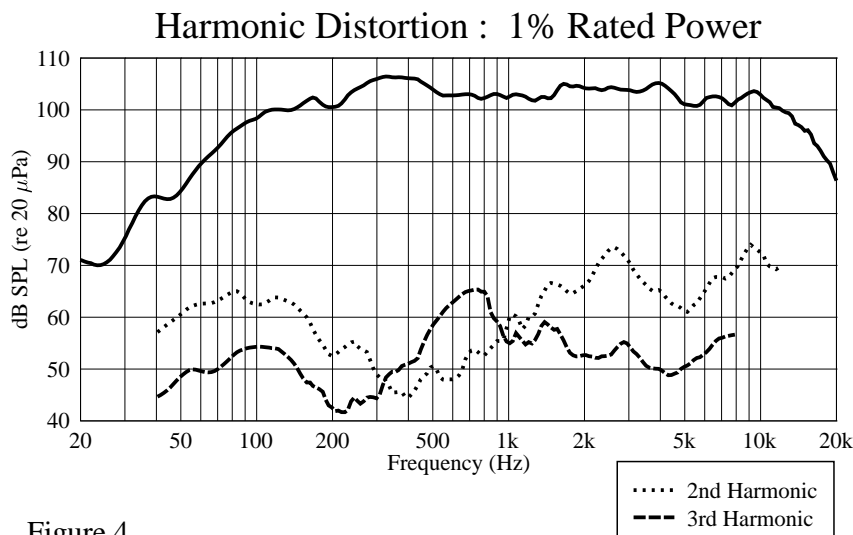


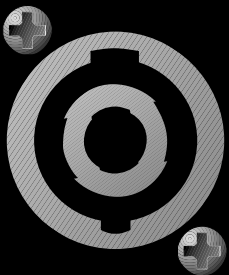
Figure 4

# SP™ 112MX INPUT

**SP™ 112MX**

**PEAVEY®**

BI-AMP INPUT




LOWS — { 1+ LF+  
1- LF-

HIGHS — { 2+ HF+  
2- HF-

MAX POWER: 1000 W PROGRAM

**WARNING: THIS SPEAKER SYSTEM CAN PERMANENTLY DAMAGE HEARING! USE EXTREME CARE SETTING MAXIMUM LOUDNESS**



8 OHMS

50 LBS.  
22.7 kg.

**FULL RANGE INPUTS  
IN PARALLEL**

HF DRIVER PROTECTED BY SOUNDGUARD™ III  
BUILT UNDER U.S. PATENT NO. 6,064,745



Features and specifications subject to change without notice.

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