



### Description

Designed for use in permanent professional installations in churches, theaters, auditoriums, gyms and theme parks, the SSE LA is a dual-radius curved line array that provides a controlled and contoured vertical coverage pattern for improved intelligibility in large reverberant spaces. The dual-coverage pattern provides a tight 20° vertical coverage for the primary long-throw pattern and a 40° vertical coverage for the secondary short-throw pattern. The smooth curves of the SSE LA array allows the it to be flown much lower than most “J” lines can, increasing the flexibility and utility in spaces with low ceilings. Adding to this versatility is an attenuation switch for the lower half of the short-throw pattern that reduces the output so that it does not overpower the audience just below and in front of the array.

Constructed of premium birch plywood for strength, rigidity and light weight, the SSE LA has a perforated metal grille covered with cloth for a subdued appearance. Built-in Flying Points allow flexibility in coverage angles while providing stability.

The SSE LA mid-high curved array is comprised of sixteen 2" neodymium speakers with wide bandwidth and a very smooth response across their operating band. When mated with a companion woofer module, the combination provides a clear, smooth full-range sound from a flown system. Input to the array is via barrier strip screw terminals. An optional active crossover with equalization ensures smooth, consistent frequency response across the operating band.

### Features:

- Dual-radius curve provides long-throw and short-throw coverage from one enclosure
- Short-throw pattern attenuation switch for improved flexibility
- 400 W program/800 W peak power handling
- Controlled vertical coverage pattern improves intelligibility in larger spaces
- Increased flexibility of flying height with dual pattern
- Processor-based crossover and EQ for maximum performance
- Flying points incorporated
- Available in black and white painted finishes





# SANCTUARY SERIES™

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

174 Hz to 18 kHz (±3 dB with processing)

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

148 Hz (with processing)

## Power handling (when used in system, crossed over at 200 Hz):

200 W continuous

400 W program

800 W peak

## Sound pressure level, 1 watt, 1 meter in anechoic environment:

93 dB SPL, (2.83 V input)

## Maximum sound pressure level (1 meter):

116 dB SPL continuous

122 dB SPL peak

## Radiation angle measured at -6 dB point of polar response:

Horizontal dispersion: 130°

Vertical dispersion: controlled 60° total pattern, 20° for primary long-throw pattern, 40° for secondary short-throw pattern

## Directivity factor, Ro (Q), 500 Hz – 16 kHz mean:

Q=4.5, +3.4/-2.4

## Directivity index, Di 500 Hz – 16 kHz mean:

Di=6.6 dB, +2.4dB/-3.3 dB

## Transducer complement:

Sixteen neodymium 2" wide-band speakers with 1" voice coil

## Harmonic distortion:

### 1% rated power

#### Second Harmonic:

200 Hz: 0.31%

1 kHz: 0.35%

#### Third Harmonic:

200 Hz: .82%

1 kHz: 0.28%

### 10% rated power

#### Second Harmonic:

200 Hz: 0.32%

1 kHz: 0.48%

#### Third Harmonic:

200 Hz: 0.98%

1 kHz: 0.91%

## Recommended active crossover frequency region and slope:

Low frequency - High frequency:

200 Hz at 24 dB/octave minimum

## Impedance (Z):

High Frequency:

Nominal: 8 Ω

Minimum: 6.8 Ω

## Input connection:

Barrier strip screw terminals

## Enclosure materials and finish:

Premium birch plywood finished in black or white paint, or a natural wood finish

## Mounting provisions:

Two multi-connect flying points for suspension

## Overall dimensions (H x W x D):

38.5" x 3.5" x 10.13"

97.8 cm X 8.9 cm X 25.7 cm

## Net weight:

12 lbs. (5.5 kg)

## Frequency response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the SSE™ LA is measured at a distance of 2 meters using a 4 volt swept-sine input signal. This provides the equivalent of a 1M, 1W measurement. As shown in figure 1, the selected drivers in the SSE LA combine to give a smooth frequency response from 174 Hz to 18 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 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 components of the SSE LA exhibit a desirable beamwidth and directivity (figures 3 & 4) suitable for permanent installation applications.

## 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. Inputting an audio band 20 Hz to 20 kHz pink noise with peaks of four times the RMS level, with peaks of four times the RMS

level, and then running the signal through either the dedicated SSE array processor or the Peavey Digitool® with the SSE LA pre-sets, 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 5 & 6 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

**Caution:** Before attempting to suspend this speaker, consult a certified structural engineer. The speaker can fall due to improper suspension, resulting in serious injury and property damage. DO NOT suspend or mount any other product or device from this enclosure. Maximum enclosure angle is 45°. Use only the correct mating hardware. All associated rigging is the responsibility of others.

## Architectural and Engineering Specifications

The loudspeaker system shall have an operating bandwidth of 174 Hz to 18 kHz with signal processing. The nominal output level shall be 93 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 200 watts, maximum program power of 400 watts and a peak power input of at least 800 watts, with a minimum amplifier headroom of 3 dB. The system shall utilize sixteen 2" wide-band speakers in a dual-radius, curved pattern, and the bottom four speakers shall have the option of providing 6 dB of output attenuation. The nominal radiation geometry shall be 130° in the horizontal plane and 60° total in the vertical plane. The overall outside dimensions shall be 38.5" high by 3.5" wide by 10.13" deep. The weight shall be 12 pounds. The loudspeaker system shall be a Peavey model SSE LA.

## 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.

Amplitude Response (1m Equivalent On-Axis)

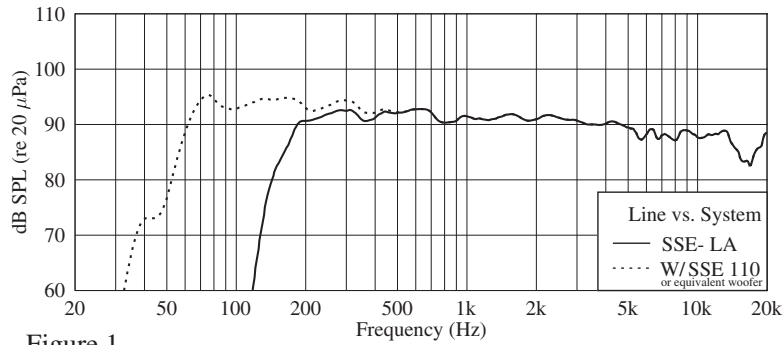


Figure 1

Impedance

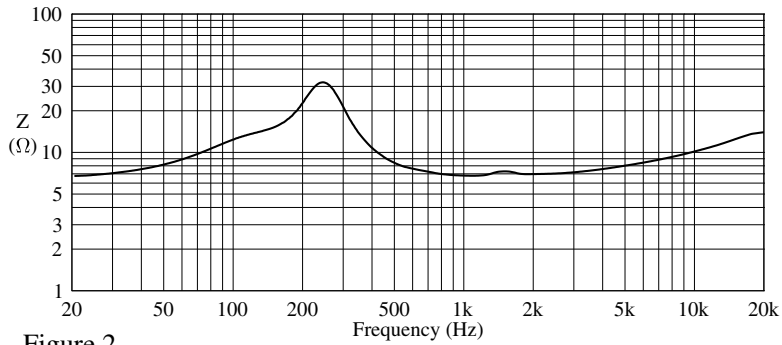


Figure 2

Beamwidth

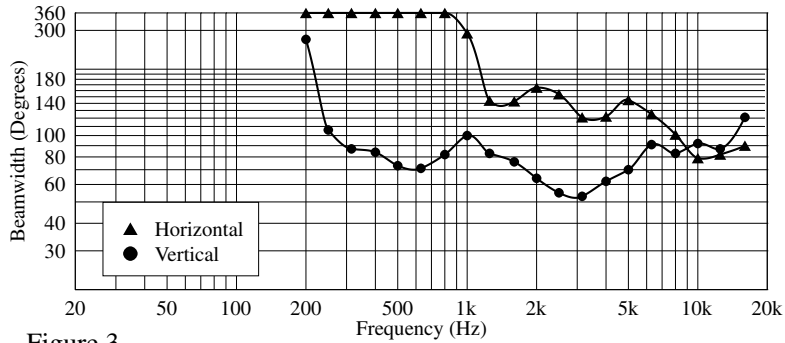


Figure 3

Q & Directivity Index

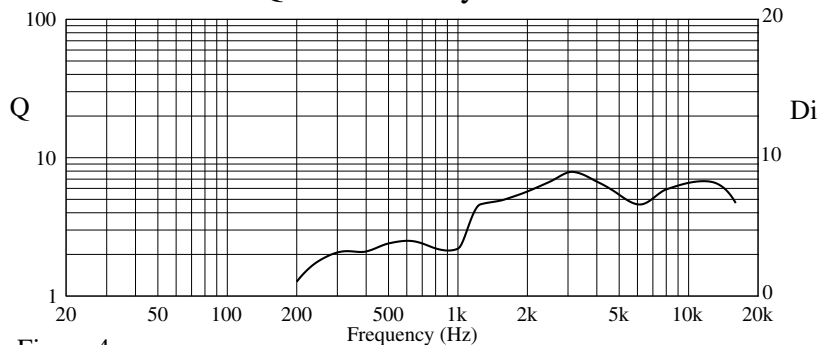
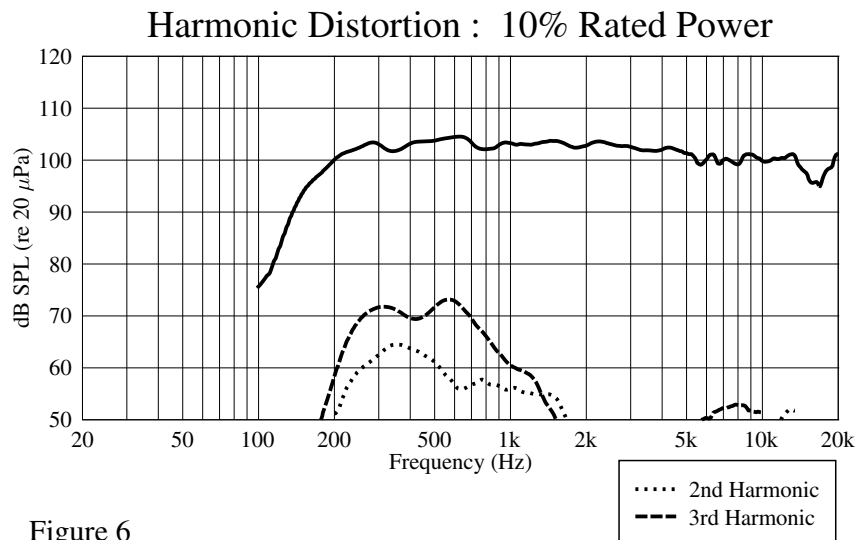
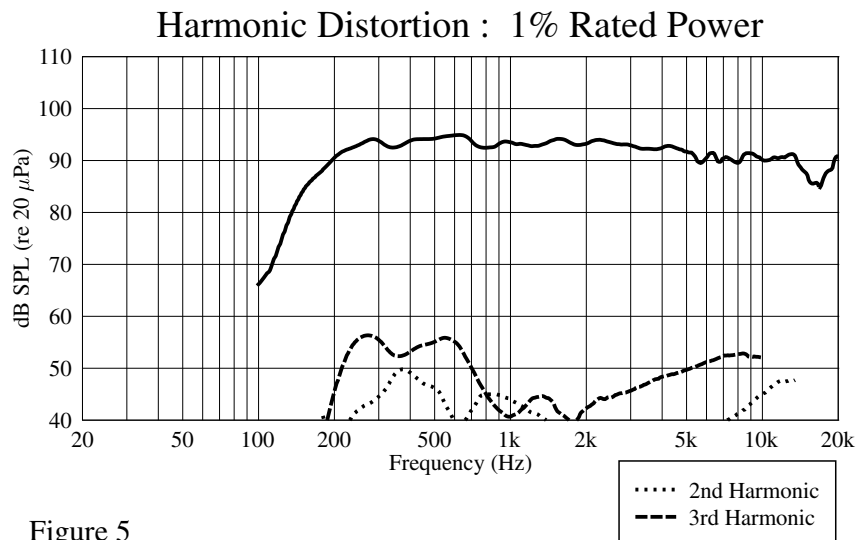
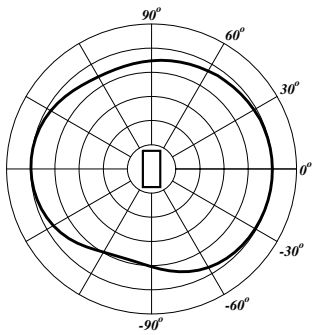


Figure 4

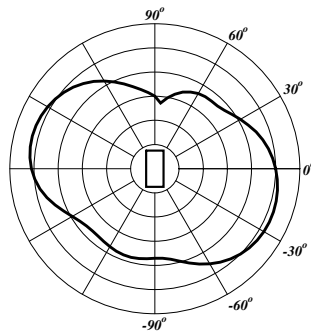


Vertical Polar Plots

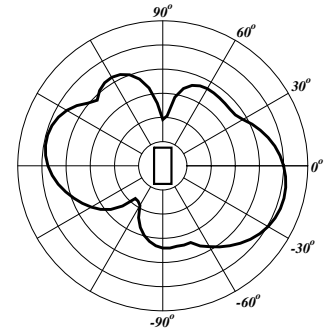
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



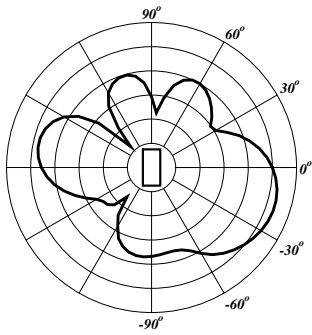
200 Hz



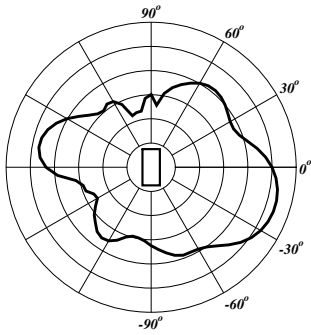
250 Hz



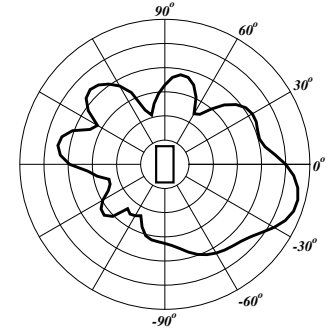
315 Hz



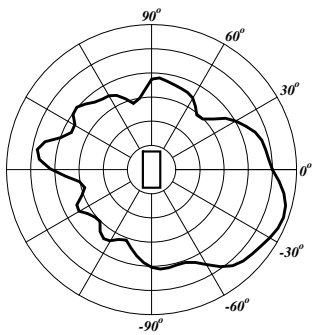
400 Hz



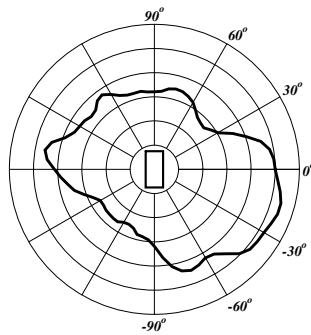
500 Hz



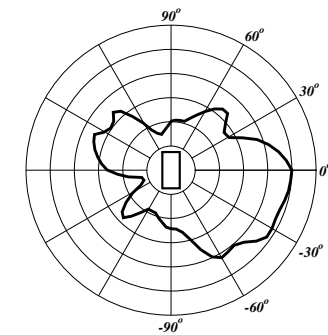
630 Hz



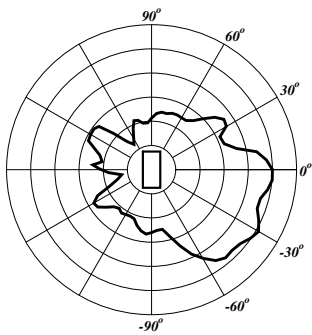
800 Hz



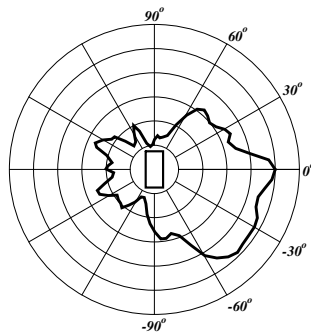
1 kHz



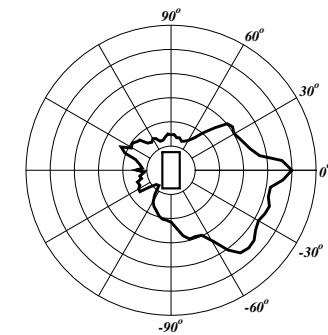
1.25 kHz



1.6 kHz



2 kHz



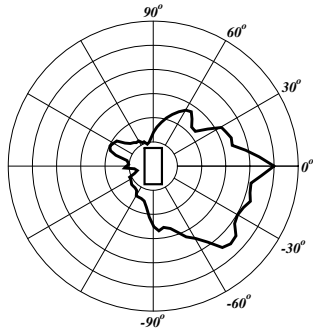
2.5 kHz



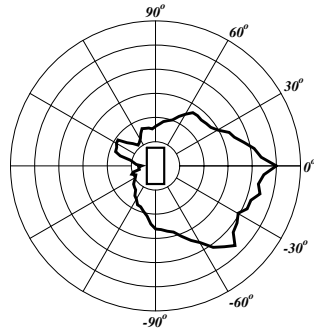
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## Vertical Polar Plots

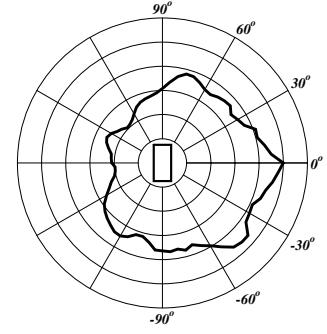
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



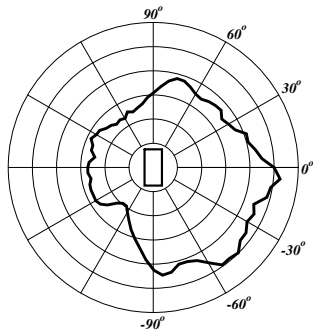
3.15 kHz



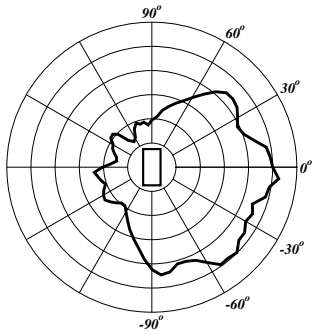
4 kHz



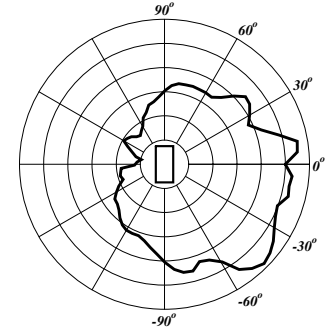
5 kHz



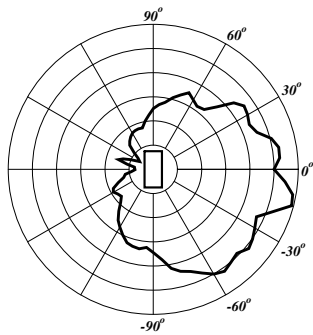
6.3 kHz



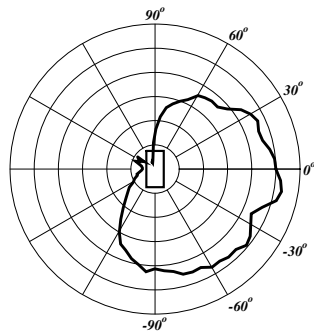
8 kHz



10 kHz



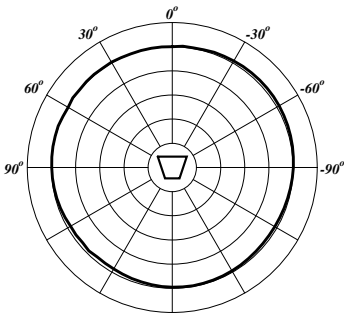
12.5 kHz



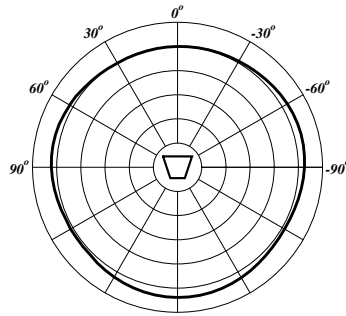
16 kHz

**Horizontal Polar Plots**

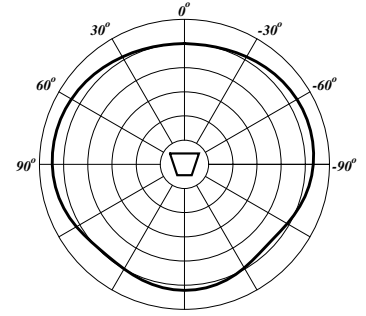
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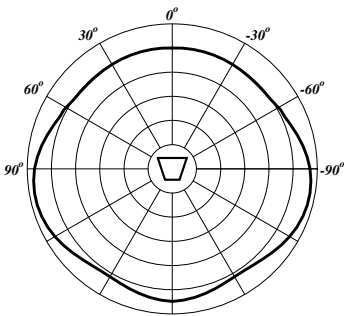
200 Hz



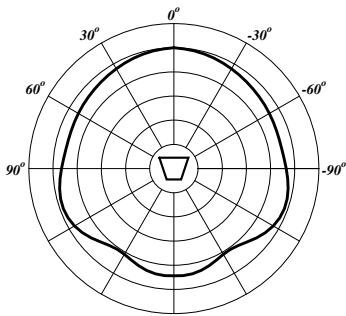
250 Hz



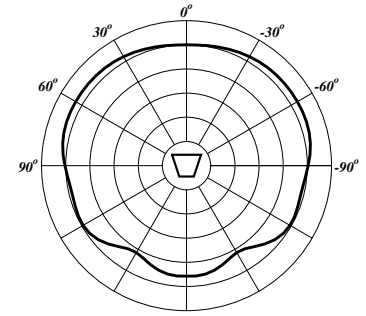
315 Hz



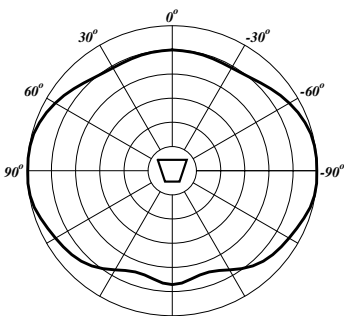
400 Hz



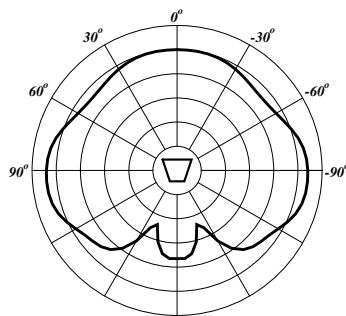
500 Hz



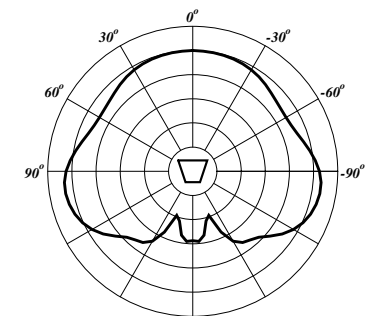
630 Hz



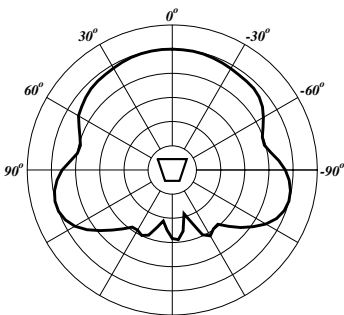
800 Hz



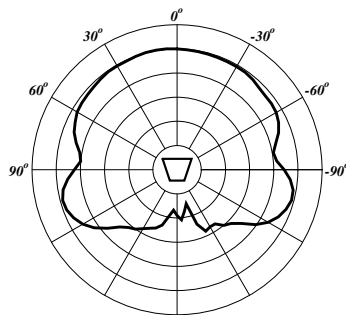
1 kHz



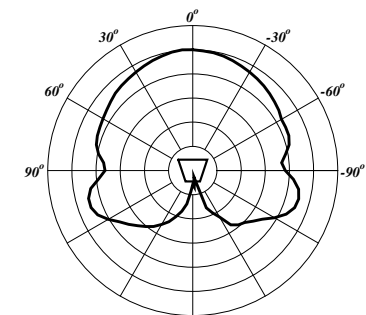
1.25 kHz



1.6 kHz



2 kHz



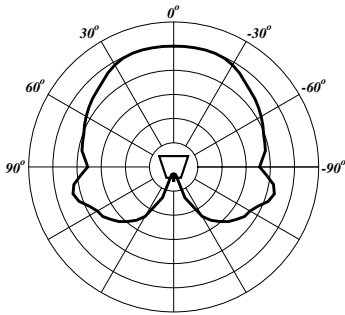
2.5 kHz



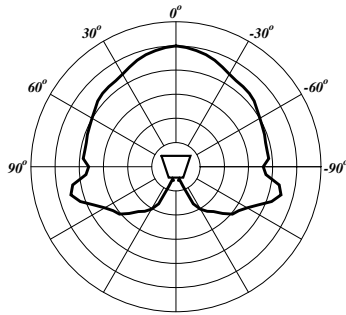
# SANCTUARY SERIES™

## Horizontal Polar Plots

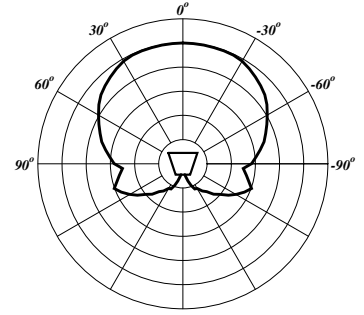
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



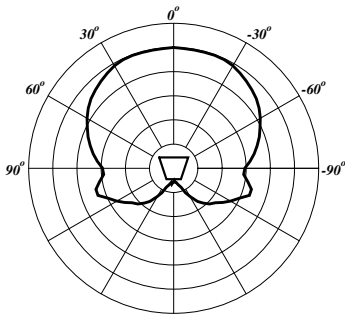
3.15 kHz



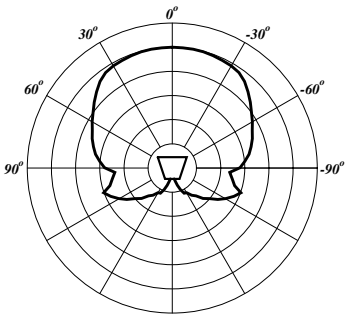
4 kHz



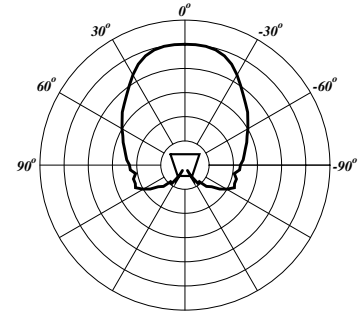
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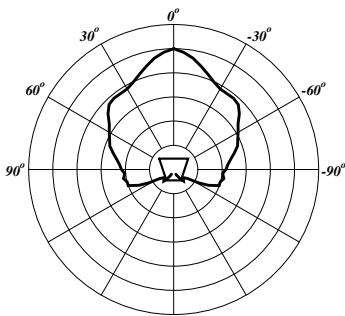
6.3 kHz



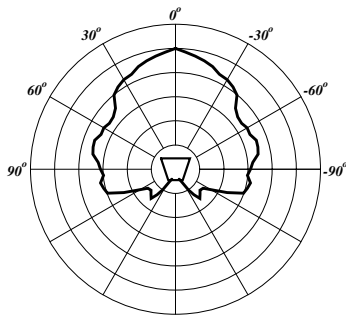
8 kHz



10 kHz



12.5 kHz

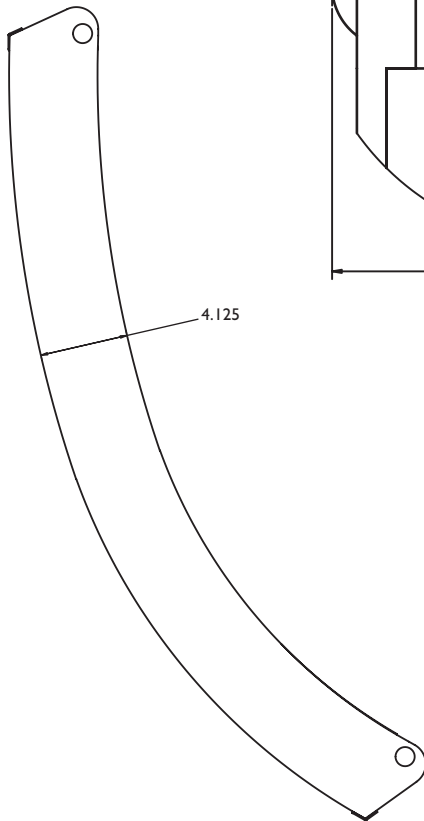
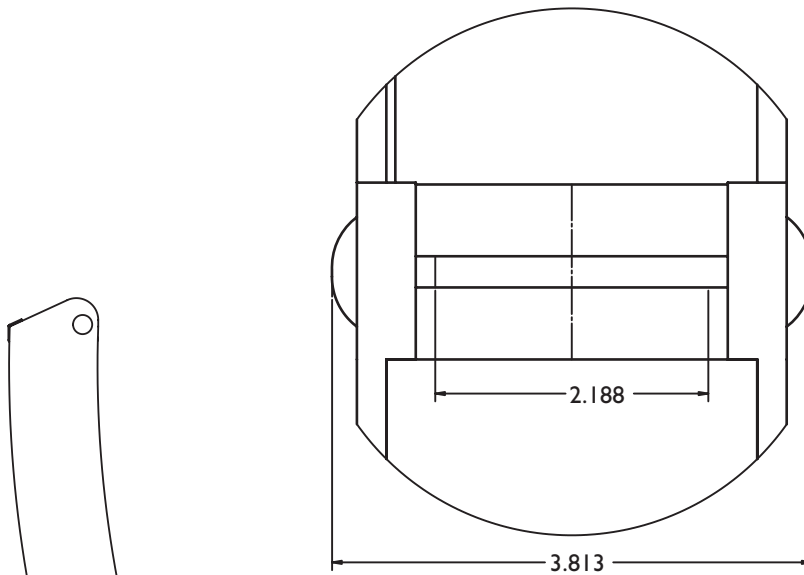
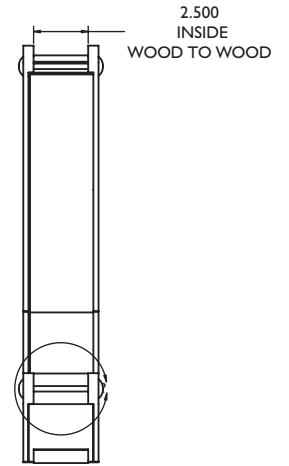
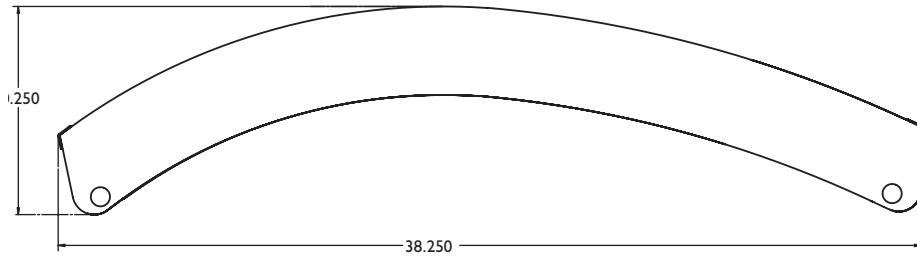


16 kHz

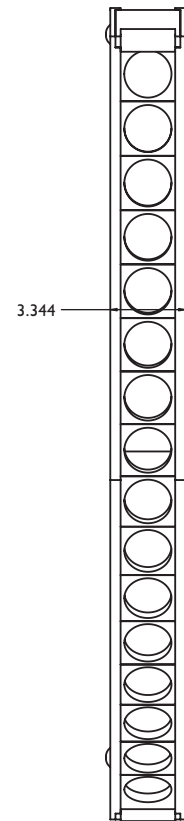
# SPECIFICATIONS

## SSE™ LA

### Dimensions



DETAIL A  
SCALE 2 : 1





## Use Of The SSE™ LA Dual-Radius Curved Line Array

The SSE LA is not a typical permanent installation speaker system that is horn loaded in the high frequencies. It consists of 16 wide-range transducers configured in a line array with a unique front-to-back curvature that provides two distinct vertical coverage zones.

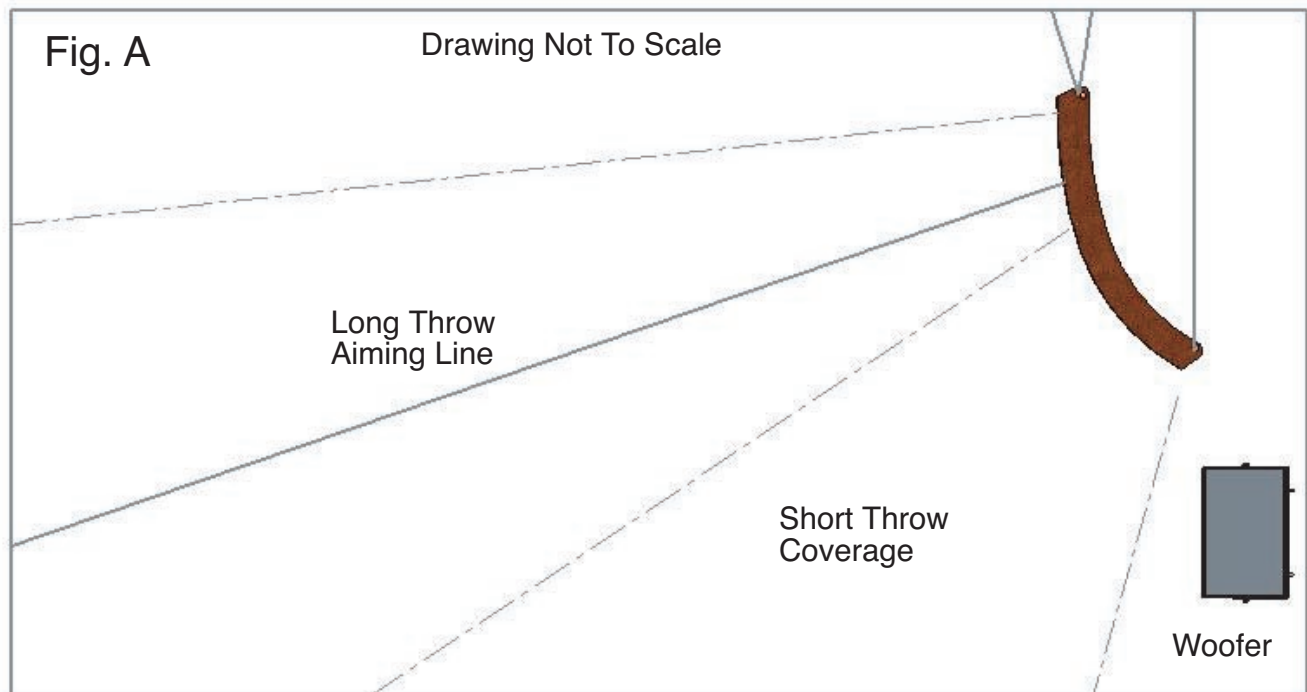
The primary zone or pattern is the one consisting of the top eight speakers, and the aiming axis for this long throw pattern is along the intersection of the 4th and 5th speaker from the top. See Figure A.

The secondary short-throw coverage pattern is created by the bottom 8 speakers, and covers a 40 degree angle vertically. The center of this pattern is along the 12th and 13th speaker from the top, or looking from the bottom, between the 4th and 5th speaker.

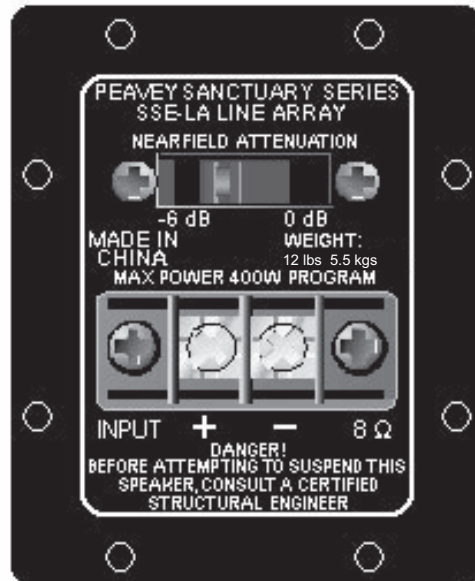
The bottom 4 speakers can be attenuated by 6 dB, in the event that the SSE LA must be flown low due to a low ceiling, or due to other reasons. This will help reduce the output immediately below and in front of the system and to avoid excessive sound levels up-close to the speaker system. The attenuation switch is on the input terminal cup on the rear of the enclosure. The horizontal coverage of the SSE LA is very wide and should be able to provide excellent side-to-side coverage. The long-throw distance coverage capability of a single SSE LA extends to as far as 50-75 feet, depending on the exact environment it is in.

Note that the SSE LA is intended to be used with a separate woofer, an electronic crossover and two channels of amplification to provide full-range performance. The SSE LA is not a full-range system by itself, and only covers the range from approximately 200 Hz and up. A number of suitable crossover options are available from Peavey: the Peavey Digitool®, the Peavey VSX™ 26 loudspeaker controller and the SSE array controller. The first two units mentioned have available pre-configured setup files that provide an optimized crossover and EQ for a flat response and level set as a starting place for any permanent installation. The SSE array controller has coded set points for the controls that will allow its use with any of the SSE array systems, as well as provide the electronic crossover and EQ to optimize the array speaker and the woofer.

The woofers in the SSE line that mate well with the SSE LA are the SSE 210 and the SSE 110.



**Input Plate**





**SANCTUARY SERIES™**

[www.sanctuary-series.com](http://www.sanctuary-series.com)

EX 000023

Features and specifications subject to change without notice.