

SPECIFICATIONS

Stadia™ III



Features:

- Full-range two-way system
- 12" neodymium magnet water-resistant woofer
- 400W program power handling (8 ohm mode)
- RX™ 14 titanium diaphragm compression driver tweeter
- Tweeter protection circuit included
- Molded plastic trapezoidal enclosure
- Horn coverage pattern 60° by 60°
- Built-in 70V/100V transformer with 50W, 25W, 12.5W and 6.3W taps
- Input via screw terminals, can be wired for 8 ohm input
- Weather-resistant design with poly-fabric covered grille
- Vented cabinet, with Hi Fi sound voicing
- Two sets of bracket mount inserts
- Available in black or ivory models

Description

The Stadia III is a two-way full-range speaker system engineered to provide high-performance in a compact weather-resistant package. The enclosure utilizes molded plastic in a trapezoidal shape, along with a poly-fabric covered metal grille to provide an aesthetically pleasing yet durable system. The 12" heavy-duty water-resistant woofer features a neodymium magnet, reducing the weight of the system while maintaining power handling and output sensitivity. An RX™14 1.4" titanium diaphragm dynamic compression driver is now used for the tweeter, mounted on a 60 degree by 60 degree constant directivity horn, insuring crystal clear highs at high volume. Input connection to the system is made using a screw terminal barrier strip for reliability and convenience. Wiring options include either 8 ohm operation, or connecting to an internal 70V/100V transformer with taps at 50W, 25W, 12.5W and 6.3W. The internal passive crossover uses a full complement of filters for the system components, enabling a smooth hi-fi response with excellent power handling, and it incorporates a tweeter protection circuit. The vented cabinet, available in black or ivory, offers two sets of mounting point inserts that mate with the Peavey VersaMount™ 70, one set on the top, and the other set on the rear.

Frequency response, 1 meter on-axis, swept-sine in anechoic environment:
58 Hz to 20 kHz (± 6 dB)

Usable low frequency limit (-10 dB point anechoic):
53 Hz

Power handling:
Full Range, 8 ohm Input:
200W continuous
400W program
800W peak

Sound pressure level, 1 watt, 1 meter in anechoic environment:
Full Range:
94 dB SPL, (2.83 V input)

Maximum sound pressure level (1 meter):
Full Range, 8 ohm Input:
117 dB SPL continuous
123 dB SPL peak

Nominal radiation angle:
60 degrees by 60 degrees

Radiation angle measured at -6 dB point of polar response:
500 Hz - 1.6 kHz:
Horiz. 122° +/- 30°
Vert. 129° +/- 30°
1.6 kHz - 5 kHz:
Horiz. 70° +/- 25°
Vert. 65° +/- 35°
5 kHz - 16 kHz:
Horiz. 63° +/- 10°
Vert. 62° +/- 10°

Directivity factor, Q (Mean):
500 Hz - 16,000 Hz
9.78 + 8.83, -7.58

Directivity index, Di (Mean):
500 Hz - 16,000 Hz
9.90 dB + 2.8, -6.48 dB

Transducer complement:

Low Frequency Section:
12" neodymium magnet water-resistant woofer
High Frequency Section:
RX™14 1.4" titanium diaphragm compression driver on a 60 x 60 degree CD horn

Box tuning:

Low Frequency Section: 63 Hz



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Harmonic distortion:

1% rated power

Second Harmonic:

100 Hz: 1.1%

1 kHz: 0.2%

Third Harmonic:

100 Hz: 0.51%

1 kHz: 1.0%

10% rated power

Second Harmonic:

100 Hz: 3.0%

1 kHz: 0.15%

Third Harmonic:

100 Hz: 1.3%

1 kHz: 1.4%

Crossover frequency

(internal passive):

Low Frequency - High Frequency:

3.0 kHz

Crossover type:

Two-way internal passive

Electrical crossover slope:

2nd order low pass to woofer
(12 dB/oct.)

2nd order high pass to tweeter
(12 dB/oct.)

Impedance (Z):

8 ohm wiring:

Nominal: 8.0 Ω

Minimum: 6.7 Ω

70V/100V distribution system
transformer input:

Taps at 50W, 25W, 12.5W, 6.3W and 3.1W for 70V
input, and at 50W, 25W, 12.5W, and 6.3W for 100V
input

Input connections:

Screw Terminal Barrier Strip, with wiring mode jumper
wire

Transformer specs (Transformer Input Wiring Mode):

Frequency Response:

40 Hz to 15 kHz (+/- 2 dB)

Transformer Taps (+/- 1 dB from nominal)

Transformer distortion:


Less than 1% typical, maximum 3%

70V taps:

50W, 25W, 12.5W, 6.3W and 3.1W

100V taps:

50W, 25W, 12.5W, and 6.3W

 **Caution:** When using transformer input, an infra-sonic filter should be used to prevent transformer saturation and overload. This will increase reliability and decrease distortion.

Enclosure materials & finish:

Plastic enclosure with textured finish, and fabric covered grille, available in black or white.

Mounting provisions:

Two sets of four each 1/4"-20 threaded mounting points, for the VersaMount™ 70 mounting bracket, one set on the top, and one set on the rear.



Caution: Before attempting to suspend this speaker, consult a certified structural engineer. Speaker can fall from improper suspension, resulting in serious injury and property damage.

Dimensions (H x W x D):

Front:

22.06 in. x 14.88 in. x 11.25 in.

560 mm x 378 mm x 286 mm

Rear:

22.06 in. x 9.70 in. x 11.25 in.

560 mm x 246 mm x 286 mm

Net Weight:

25 lbs. (11.4 kg)

Additional remarks:

Unit is weather-resistant to the environment.

Frequency Response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the Stadia III 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 combine to give a smooth frequency response from 58 Hz to 20 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 blending of the components of the Stadia III exhibits a desirable beamwidth and directivity (figure 3 & 4) suitable for sound reinforcement 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. 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.

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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.

Speaker can fall from 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 45° from mounted set of inserts. Use only the correct mating hardware. All associated rigging is the responsibility of others.

Architectural & Engineering Specifications

The loudspeaker system shall have an operating bandwidth of 58 Hz to 20 kHz, +/- 6 dB. The nominal output level shall be 94 dB when measured at a distance of one meter with an input of one watt. The nominal impedance shall be 8 ohms when wired for 8 ohm operation, and when wired for 70V/100V transformer use, there shall be taps at 50W, 25W, 12.5W and 6.3W (+/-1 dB), and 3.1W for 70V input. The maximum continuous power handling for the 8 ohm input wiring 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 nominal radiation geometry shall be 60 degrees in the horizontal plane and 60 degrees in the vertical plane. The outside dimensions shall be 22.06 inches high by 14.88 inches wide by 11.25 inches deep. The weight shall be 25 pounds. The loudspeaker system shall be a Peavey model Stadia III.

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.

Warnings and Cautions



WARNING! NOTE TO STRUCTURAL ENGINEER. The end of the mounting bolt should not penetrate the cabinet more than 1/2" beyond it's surface. If this penetration depth is exceeded, then the insert may be damaged or unseated from the cabinet, severely compromising it's mounting integrity.

The correct mounting bolt diameter and threads per inch are: 1/4" x 20. We recommend a Grade 5 bolt. For custom brackets, we recommend a 5/16" through hole for the bolts to allow for tolerances and adjustment.

A safety rope or chain should be used to secure the speaker, using the other complete set of inserts not used by a mounting bracket,



WARNING! When inputting a 100V distribution system signal, do not use the transformer tap rated at 50W nominal for 70V input (terminal 7), this transformer tap is valid only for use with a 70V distribution system input level! Use of this tap with a 100V distribution system input level will overload the transformer, and exceed it's power rating! Use of this tap with 100V distribution system input voids the warranty!



The wiring jumper needs to be in the proper position for either 8 ohm mode or transformer input mode, miswiring the jumper can result in damage to the speaker or driving amplifier, improper operation or no operation at all. The jumper settings are screened on the input plate of the speaker. Miswiring the jumper voids the warranty!



CAUTION! When using the 100V/70V distribution system transformer inputs, it is typically required that an infrasonic filter be used to prevent saturation of the transformer, and possible overloading of the power amplifier. A minimum of an 18 dB/oct. high-pass filter set to 40 Hz or higher should be used to filter the low frequencies. This will provide improved reliability and performance from the Stadia III.

It is recommended that the filter be a 24 dB/octave Linkwitz-Riley type set to 50 Hz for maximum reliability and performance.

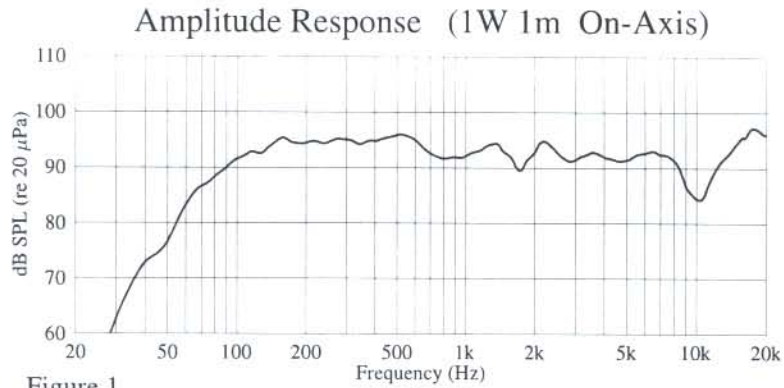


Figure 1

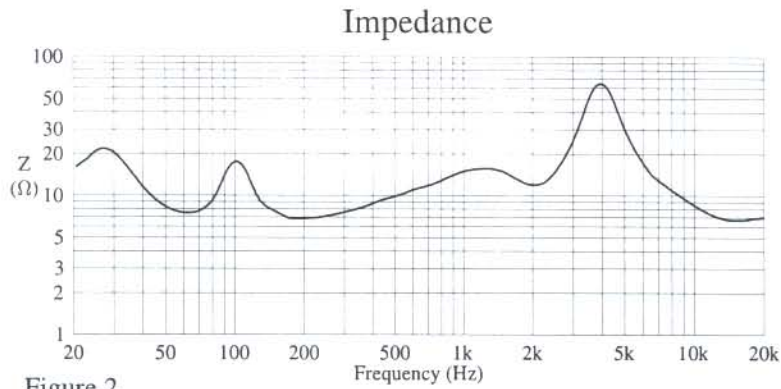


Figure 2

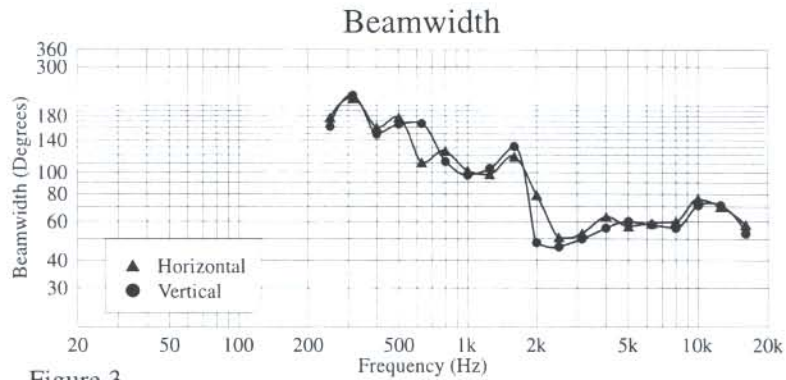


Figure 3

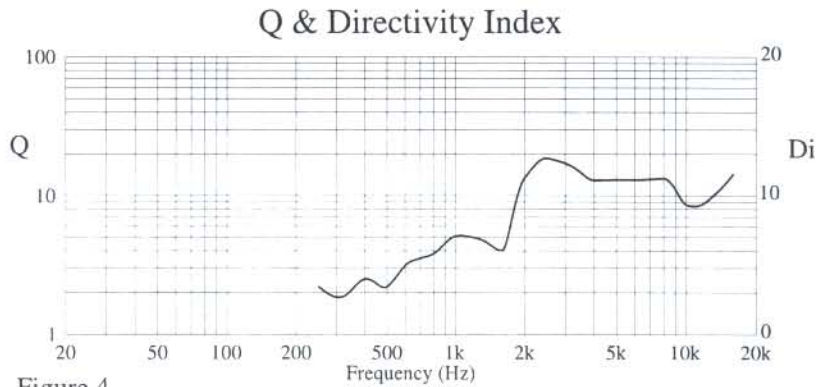


Figure 4

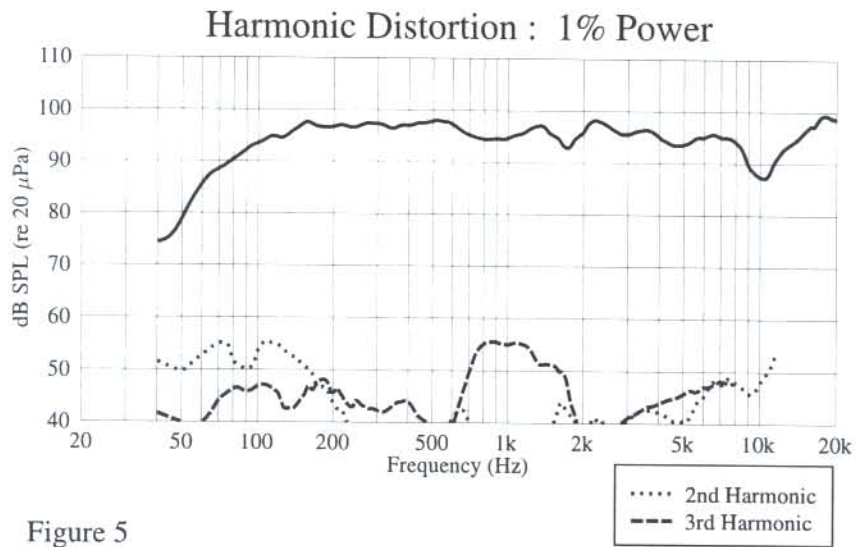


Figure 5

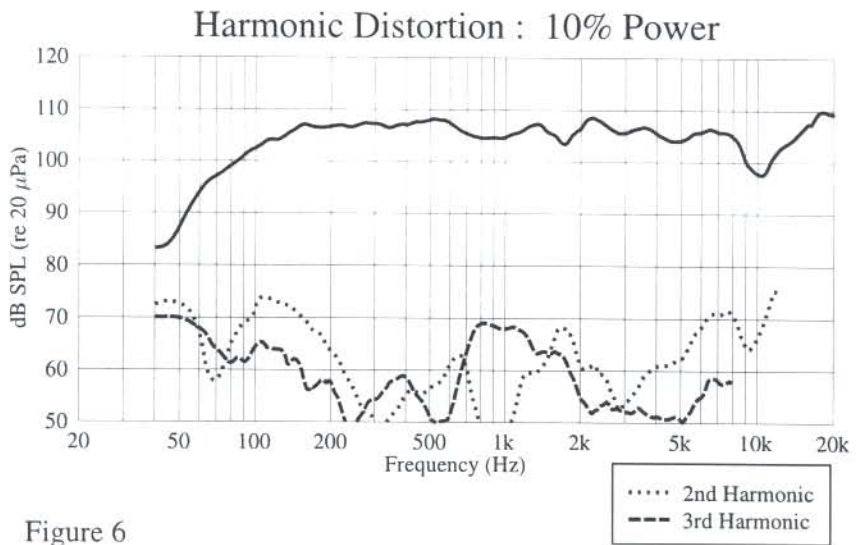
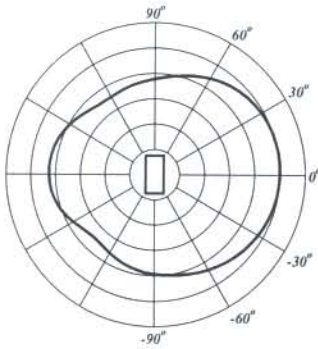


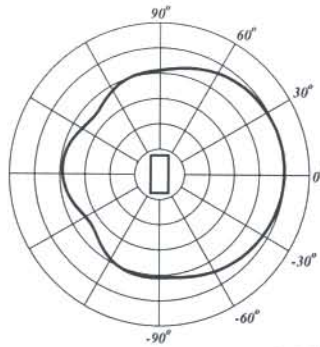
Figure 6

Vertical Polar Plots

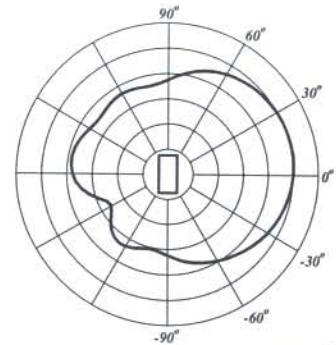
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



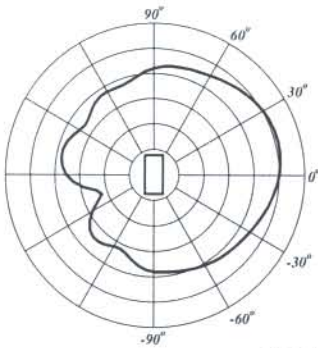
250 Hz



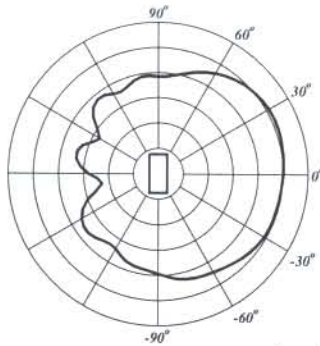
315 Hz



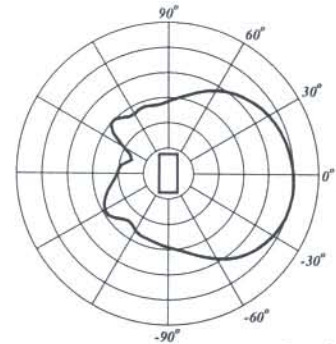
400 Hz



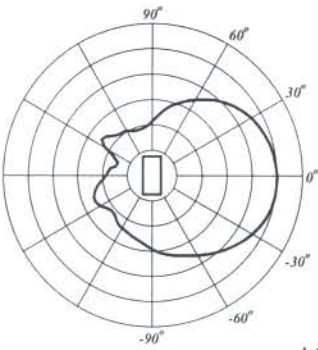
500 Hz



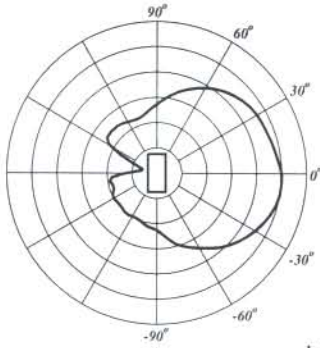
630 Hz



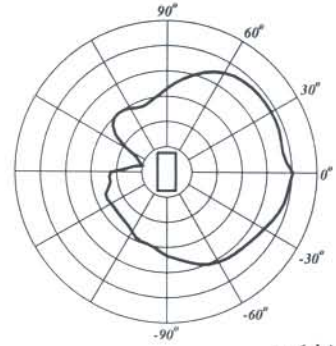
800 Hz



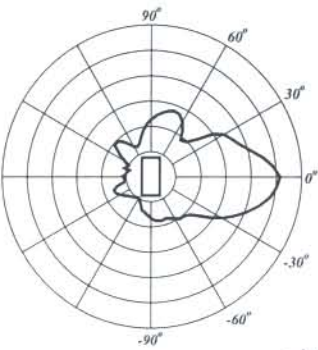
1 kHz



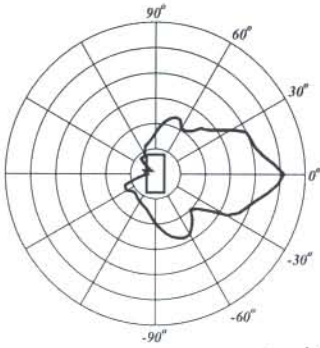
1.25 kHz



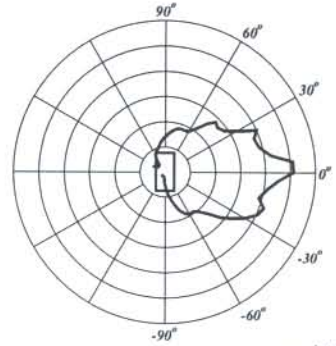
1.6 kHz



2 kHz



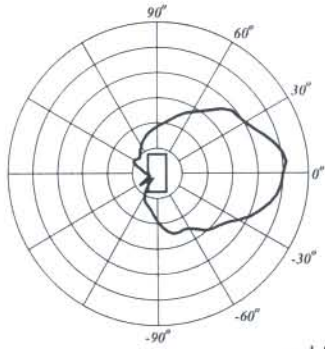
2.5 kHz



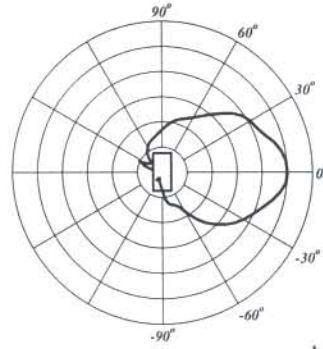
3.15 kHz

Vertical Polar Plots

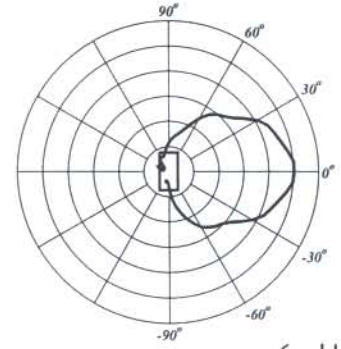
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



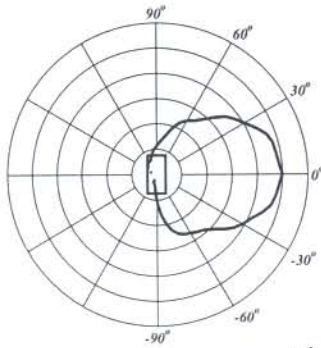
4 kHz



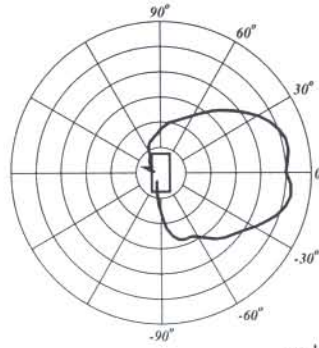
5 kHz



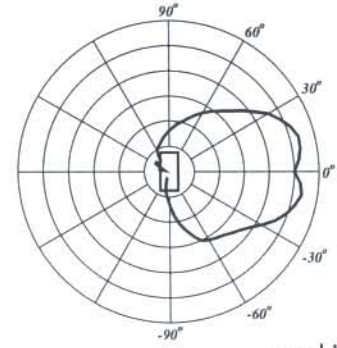
6.3 kHz



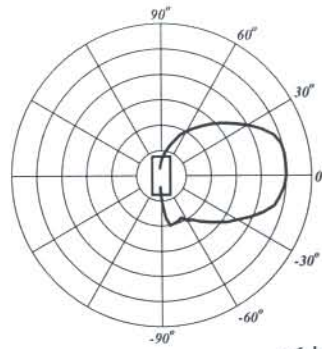
8 kHz



10 kHz



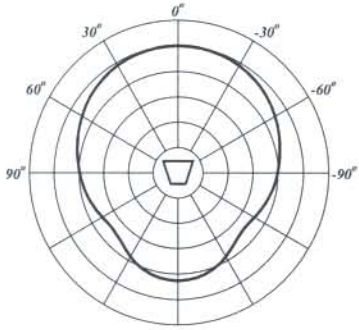
12.5 kHz



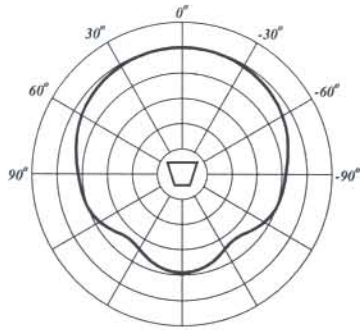
16 kHz

Horizontal Polar Plots

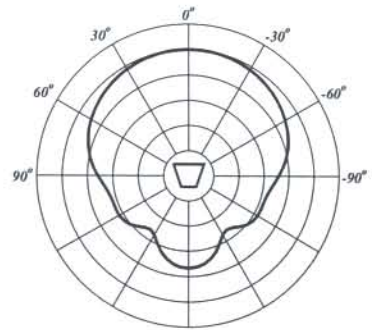
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



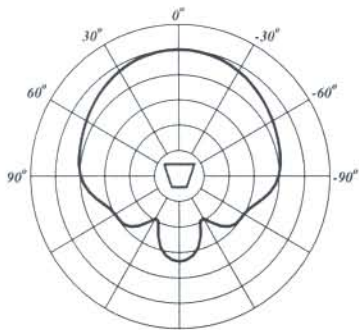
250 Hz



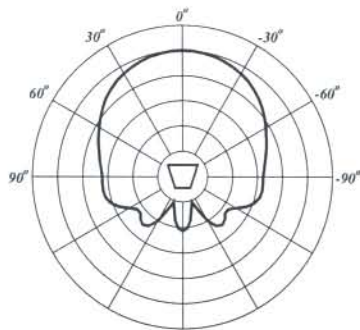
315 Hz



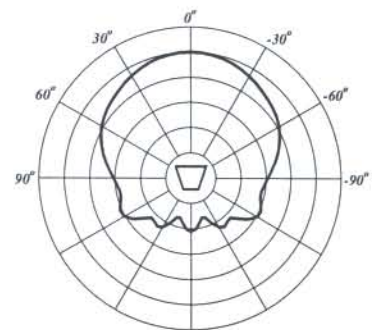
400 Hz



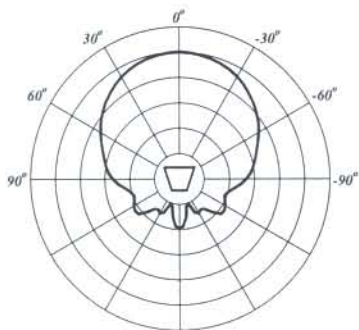
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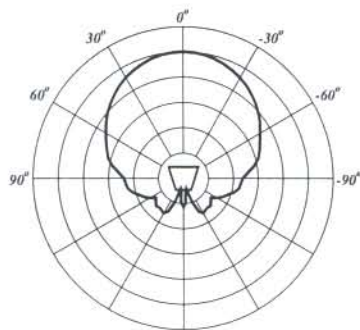
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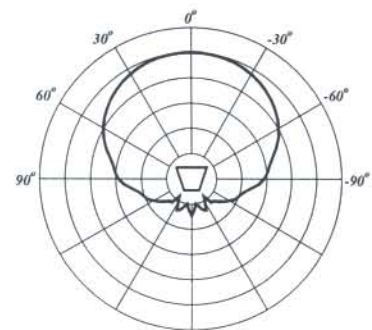
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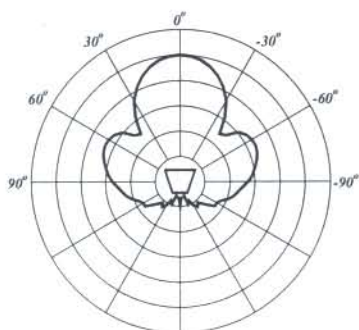
1 kHz



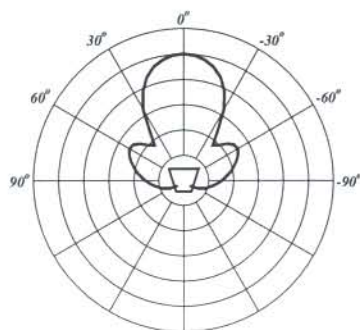
1.25 kHz



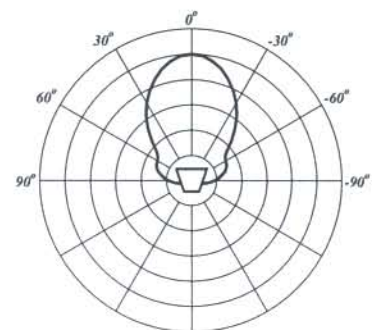
1.6 kHz



2 kHz



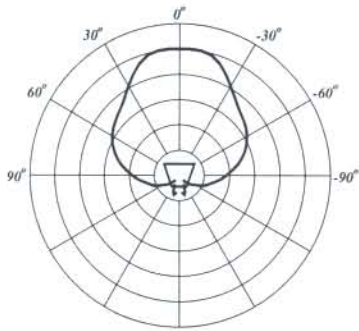
2.5 kHz



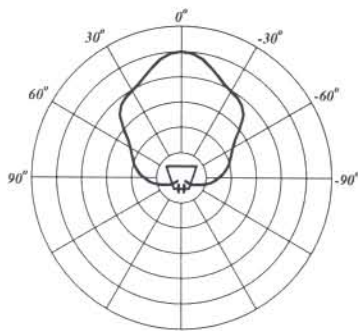
3.15 kHz

Horizontal Polar Plots

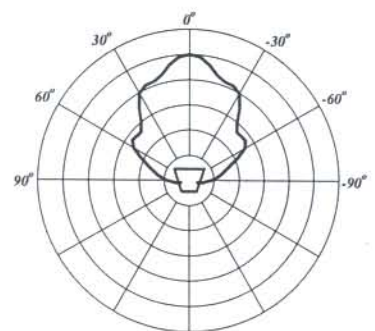
1/3 octave averaged plotted on ISO 1/3 octave centers from 200 Hz - 16 kHz.



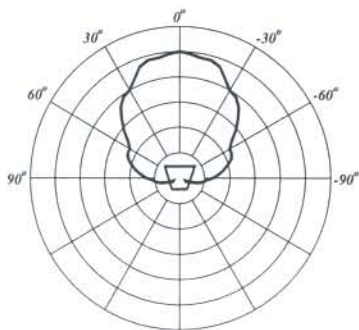
4 kHz



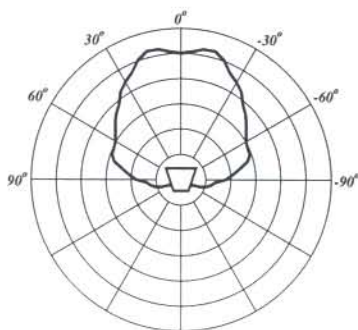
5 kHz



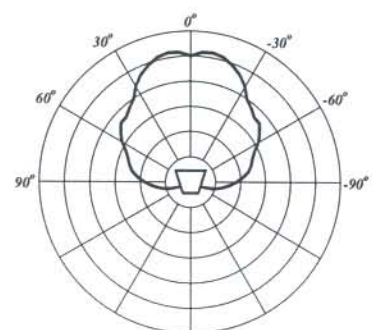
6.3 kHz



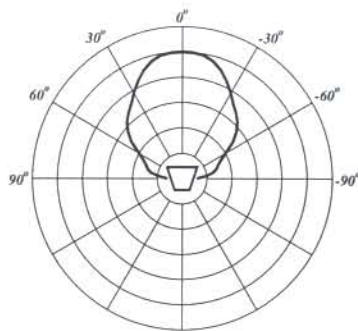
8 kHz



10 kHz



12.5 kHz

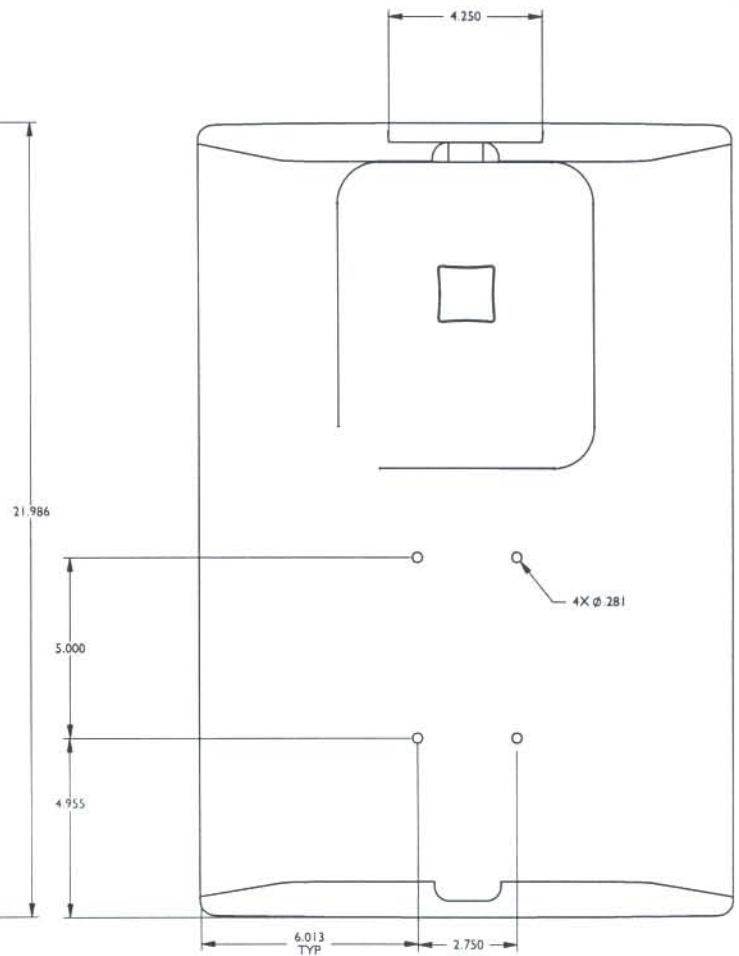
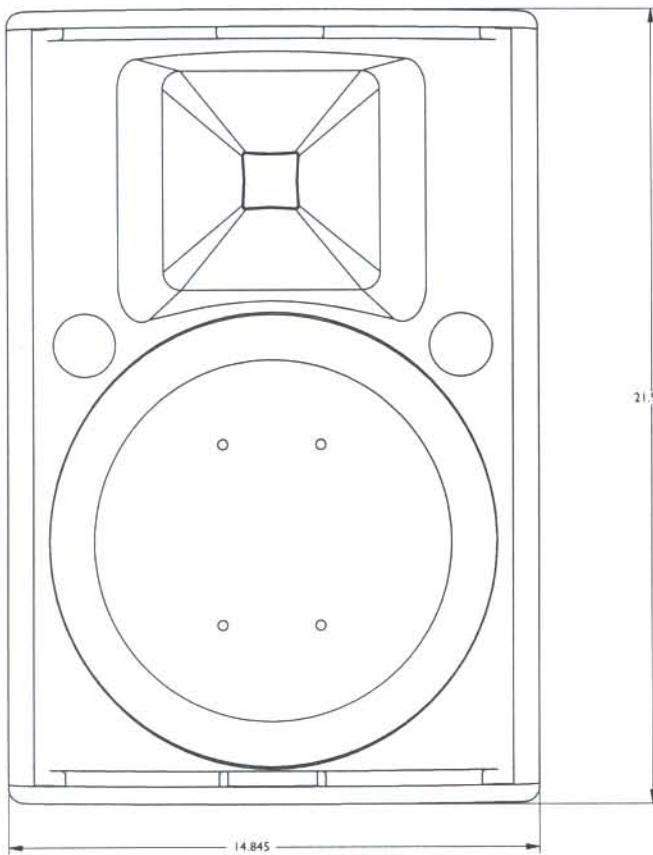
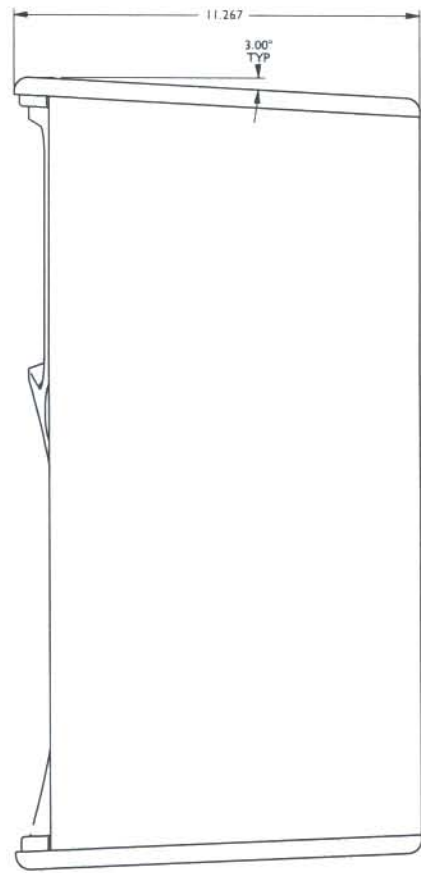
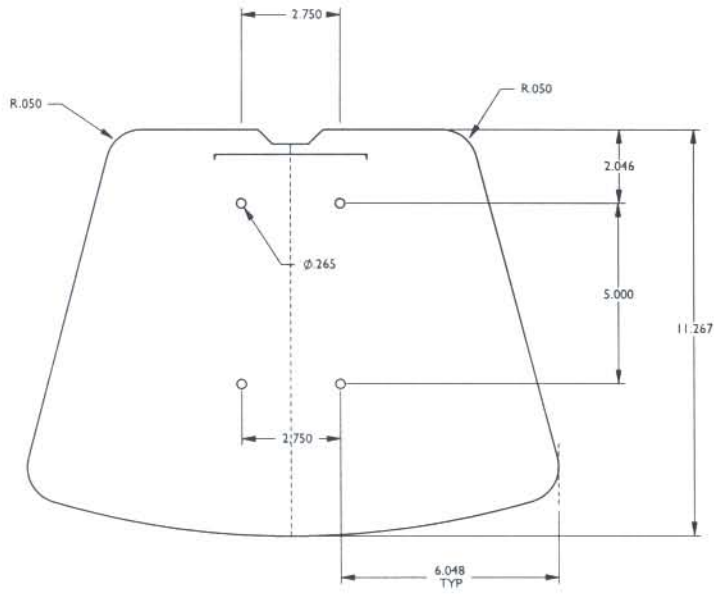


16 kHz

SPECIFICATIONS

Stadia™ III

Dimensions



Input Cup

WARNING:

DO NOT USE TERMINAL 7 FOR 100V INPUT.
THIS WILL EXCEED THE WATTAGE RATING OF THE TRANSFORMER.

1 2 3 4 5 6 7 8



TERMINALS

		1	2	3	4	5	6	7	8
WIRING	8 OHM	(+) IN		Jumper	Jumper				(-) IN GROUND
	70V	Jumper	Jumper	3.1W	6.3W	12.5W	25W	50W	(-) IN GROUND
	100V	Jumper	Jumper	6.3W	12.5W	25W	50W	Do Not Use	(-) IN GROUND

WARNING:

This speaker system can permanently damage hearing.
Use extreme care setting maximum loudness.

DANGER!

Before attempting to suspend this speaker,
consult a Certified Structural Engineer

MAX POWER:
400 WATTS
(8 OHM WIRING)



STADIA® III

By PEAVEY



BY PEAVEY

Features and specifications subject to change without notice.

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