

S P E C I F I C A T I O N S

Quadra™ 12

Available in
Black and White



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

76 Hz to 18 kHz (± 3 dB)

Usable low frequency limit (-10 dB point):

54 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:

99.0 dB SPL, (2.83 V input)

Low Frequency Section:

100.0 dB SPL, (2.83 V input)

High Frequency Section:

110.0 dB SPL, (2.83 V input)

Maximum sound pressure level (1 meter):

Full Range:

125.0 dB SPL continuous
134.0 dB SPL peak

Low Frequency Section:

126.0 dB SPL continuous
132.0 dB SPL peak

High Frequency Section:

128.0 dB SPL continuous
134.0 dB SPL peak

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

500 Hz - 1.6 kHz:

Horiz. 110° +/- 20°
Vert. 120° +/- 15°

1.6 kHz - 5 kHz:

Horiz. 85° +/- 10°
Vert. 65° +/- 15°

5 kHz - 16 kHz:

Horiz. 90° +/- 5°
Vert. 45° +/- 5°

Directivity factor, Q (Mean):

8.56 +/- 3.02

Directivity index, Di (Mean):

9.01 dB +/- 1.71 dB

Transducer complement:

Low Frequency Section:

1x 12" woofer, vented
1208 SPS BWX

High Frequency Section:

.875 in. exit/51mm voice coil
compression driver
RX™22 compression driver on a CD
horn

Box tuning frequency:

Low Frequency Section: 68 Hz

Harmonic distortion:

1% rated power

2nd Harmonic:

100 Hz: 1.63%
1 kHz: 0.34%

3rd Harmonic:

100 Hz: 0.27%
1 kHz: 0.39%

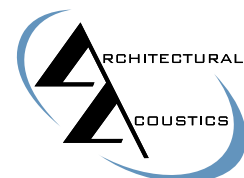
10% rated power

2nd Harmonic:

100 Hz: 4.40%
1 kHz: 0.79%

3rd Harmonic:

100 Hz: 1.41%
1 kHz: 0.51%



ARCHITECTURAL

ACOUSTICS

™ By Peavey

Listen to This.

**Crossover frequency
(internal passive):**

Low Frequency - High Frequency:
1,800 Hz, 12 dB/oct. (2nd order) high pass and low pass, high pass section with CD horn EQ.

Recommended active crossover frequency region and slope:

Low Frequency - High Frequency:
1,800 Hz at 12 dB/octave

Time offset:

Low Frequency: 0.00 ms
High Frequency: Horn Spatially Aligned

Impedance (Z):

Full Range:
Nominal: 8.0 Ω
Minimum: 5.8 Ω

Low Frequency:
Nominal: 8.0 Ω
Minimum: 6.5 Ω

High Frequency:
Nominal: 8.0 Ω
Minimum: 5.4 Ω

Input connections:

Screw terminal strip (one pair) paralleled with 2x Neutrik® NL4 Speakon® for full-range inputs.
1x Neutrik NL4S switching Speakon for bi-amp inputs.

Enclosure materials and finish:

High-impact polypropylene finished in textured molded surface

Mounting provisions:

(12) 1/4"-20 threaded mounting points, four each top, bottom, and rear
Stand mounting via molded-in mount of the standard 1-3/8" diameter and four rubber feet for floor use

Dimensions (H x W x D):

Front:
23.65 in. x 17.75 in. x 14.00 in.
601 mm x 451 mm x 356 mm

Rear:
22.25 in. x 10.00 in. x 14.00 in.
565 mm x 254 mm x 356 mm

Net weight:

45 lbs. (20.5 kg)

Features

- Quadratic Throat Geometry Horn
- 1,000 W program, 2,000 W peak
- SoundGuard™ III tweeter protection
- 12" BWX Black Widow® 4" VC woofer
- RX™22 2" titanium compression driver
- Top, bottom and rear flying point inserts
- Multiple handles and bottom stand mount

Description

The Quadra™ 12 is an injection-molded, two-way speaker system, engineered in the AA tradition to provide superior performance from a compact and durable package. The

Amplitude Response (1W 1m On-Axis)

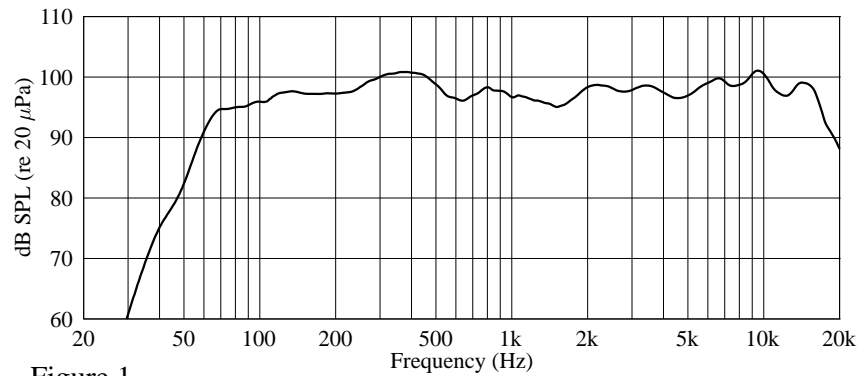


Figure 1

Impedance

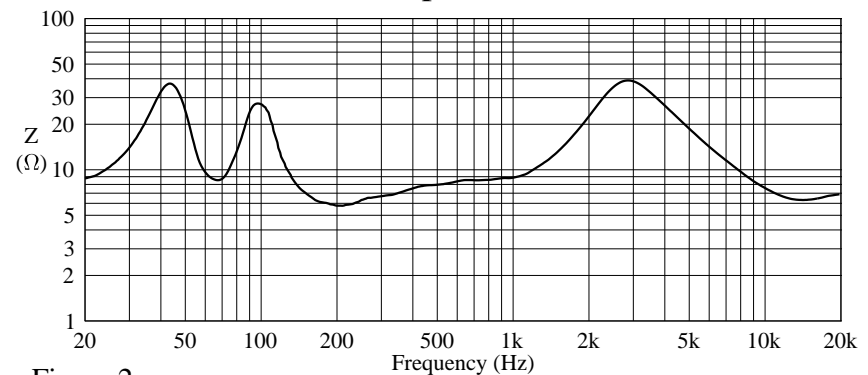


Figure 2

Beamwidth

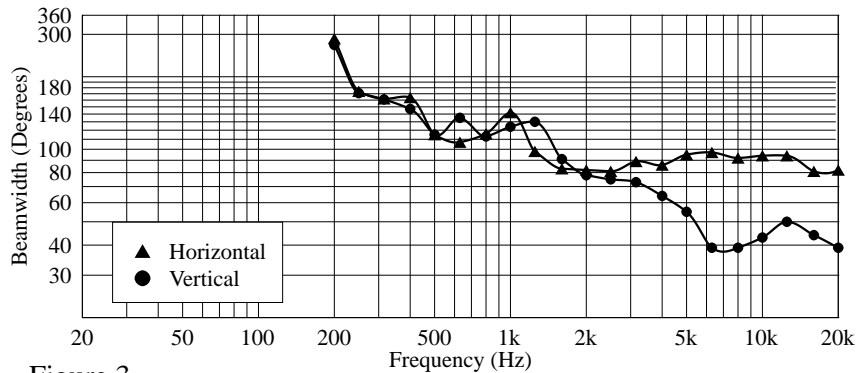


Figure 3

Q & Directivity Index

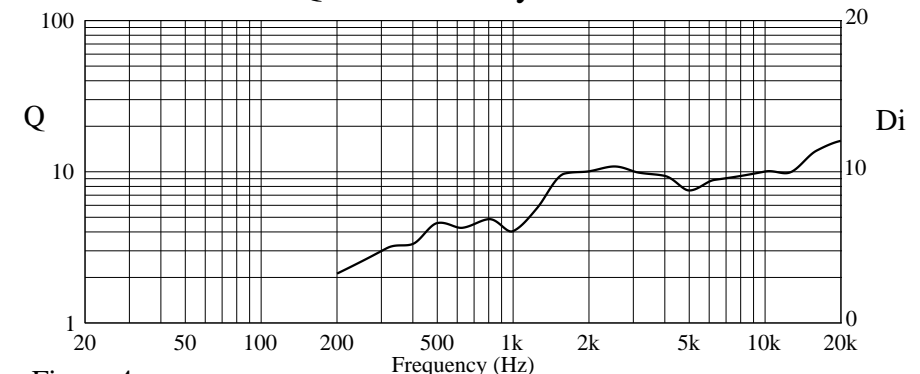


Figure 4

enclosure is made from very high impact injection-molded polypropylene in a trapezoidal shape, with extensive ribbing and bracing, and the grilles utilize perforated metal protected by a high quality vinyl coating process, and has an integral foam inner layer for environmental protection.

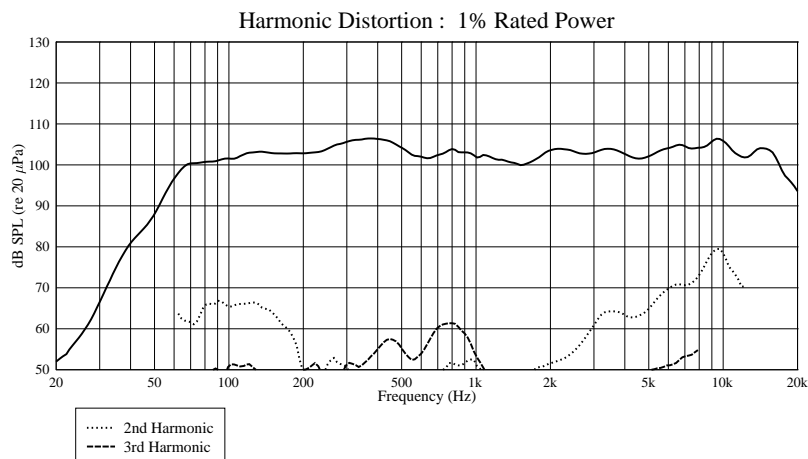
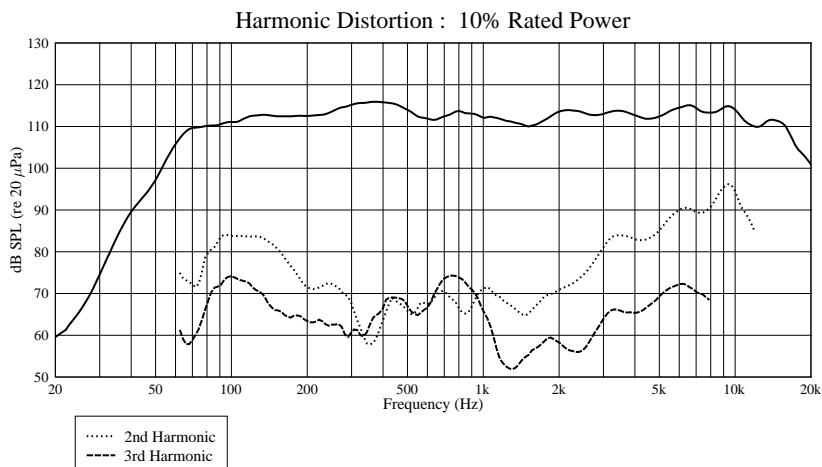
The two-way system is comprised of a 12" BWX Black Widow® woofer with a 4" voice coil, and a water-resistant treated cone and dust cap for superior environmental stability. Capable of over 500 W of continuous power handling (AES Std 2-1984), the woofer can handle a lot of sheer power. The high frequencies are handled by an RX™22 2" titanium diaphragm compression driver utilizing ferrofluid, coupled to a 1" Quadratic Throat Geometry Horn, molded integral to the cabinet. This horn provides outstanding dispersion coupled with a well-controlled pattern, and a smooth, even response.

Utilizing Quadratic Throat Horn technology, under US Patent 6,059,069, the horn has lower distortion than many popular CD horn geometries. The RX22 driver utilizes the Radialinear Planar Phase Correction System, under US Patent 6,064,745, which provides smoother and extended high frequency response.

Input connection to the system is made via screw barrier terminal strip, one plus screw and one minus screw connection, and two 4-pin Neutrik® jacks connected in parallel are provided for signal input and daisy chaining capability. A 4-pin Neutrik switching jack is provided for bi-amping flexibility while maintaining superior signal integrity.

The internal passive crossover features Sound Guard™ III tweeter protection circuit, an advanced topology crossover with high performance components, to provide high power handling and reliability. Peavey's proprietary high-frequency driver protection circuitry, Sound Guard, provides long and medium-term driver overload protection when the system is used full-range or when it is bi-amped, without impairing musical transients or dynamics. The crossover provides driver roll-off and protection, as well as driver EQ for the woofer and horn, the sum total is a crystal clear and very smooth response. High-quality, reliable crossover components include polypropylene capacitors, and extremely high current inductors and input connectors. The optimal integration of the crossover with the selected drivers results in a smooth frequency response from 76 Hz to 18 kHz.

Despite its compact dimensions, this enclosure can put out some very serious sound levels, and take 1000 Watts program of clean amplifier power, resulting in an outstanding amount of clean coverage with amazing clarity.



Frequency Response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the Quadra™ 12 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 Quadra 12 combine to give a smooth frequency response from 76 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 blending of the components of the Quadra 12 exhibit a desirable beamwidth and directivity (figure 3 and 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.

Harmonic Distortion

Second and third harmonic distortions vs. frequency are plotted in figures 5 and 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.

Architectural and Engineering Specifications

The loudspeaker system shall have an operating bandwidth of 76 Hz to 18 kHz. The nominal output level shall be 99.0 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 90 degrees in the horizontal plane and 45 degrees in the vertical plane. The outside dimensions shall be 23.65 inches high by 17.75 inches wide by 14.00 inches deep. The weight shall be 45 pounds. The loudspeaker system shall be an Architectural Acoustics model Quadra 12 .

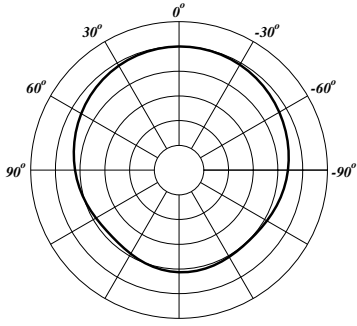
3 + 2 YEAR LIMITED WARRANTY

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.

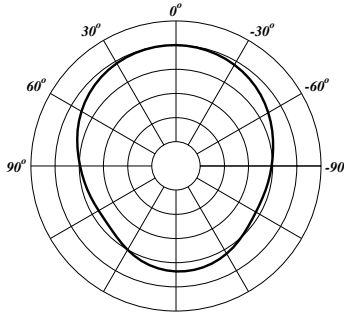
CAUTION! PEAVEY RECOMMENDS THE USE OF NEUTRIK™ BRAND NL4FC PLUGS TO CONNECT TO THE BI-AMP SWITCHING JACK ON THE CROSSOVER.

USE OF OTHER BRANDS OF PLUGS MAY CAUSE AMPLIFIER AND/OR SPEAKER DAMAGE!

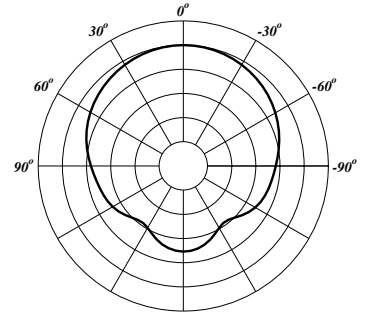
Quadra™ 12
Horizontal Polar Patterns 6 dB per Division



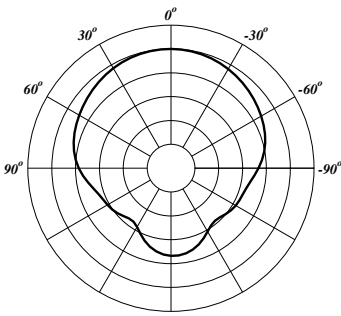
200 Hz



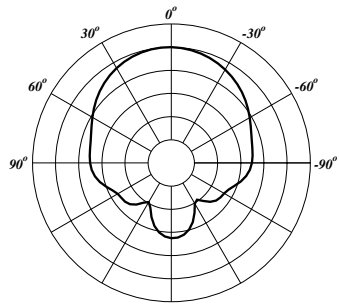
250 Hz



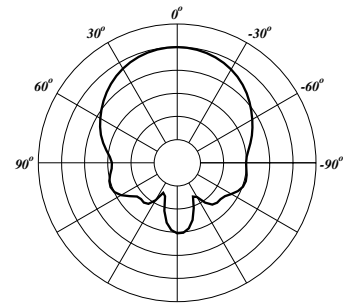
315 Hz



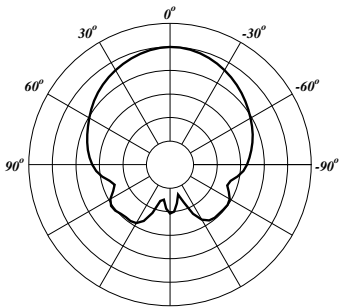
400 Hz



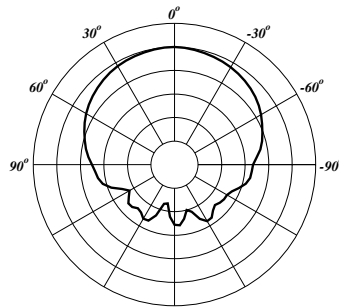
500 Hz



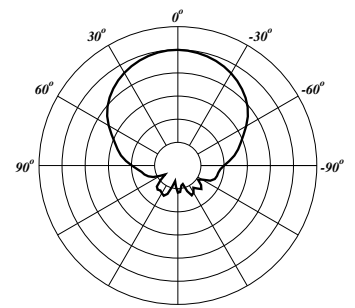
630 Hz



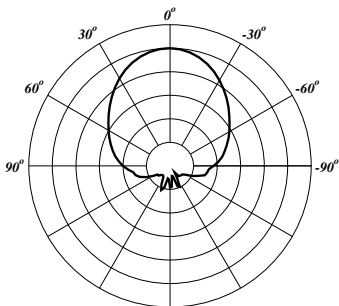
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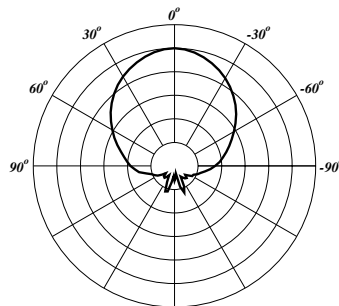
1 kHz



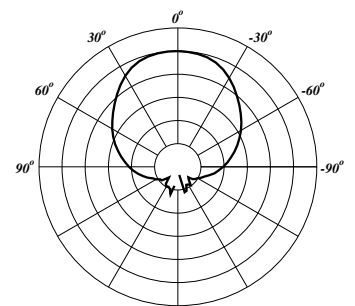
1.25 kHz



1.6 kHz

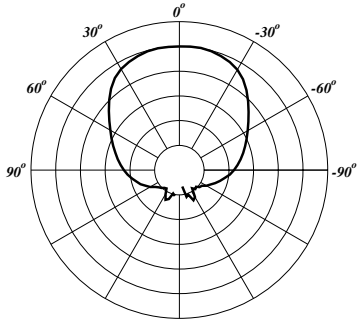


2 kHz

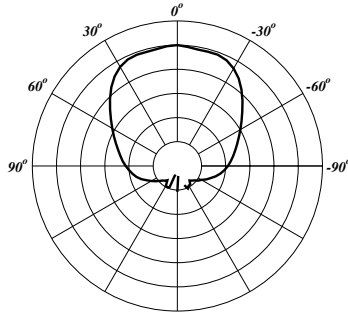


2.5 kHz

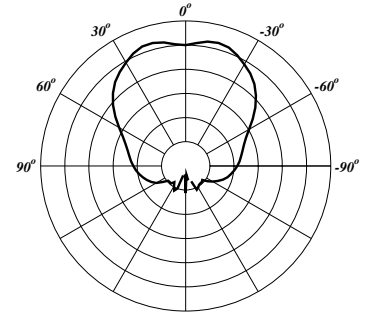
Quadra™ 12
Horizontal Polar Patterns 6 dB per Division



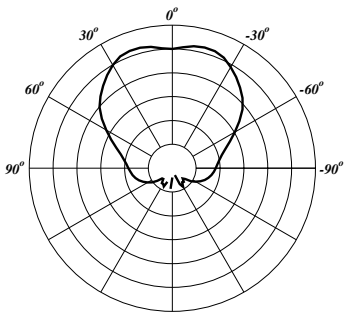
3.15 kHz



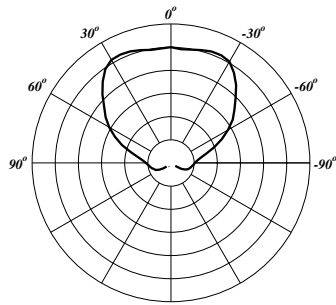
4 kHz



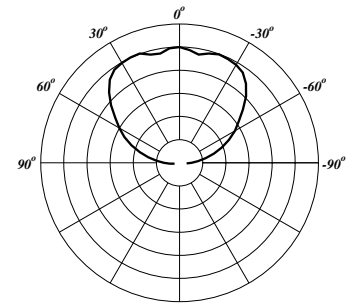
5 kHz



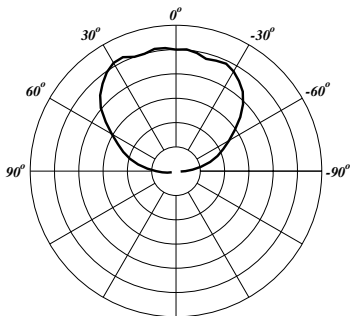
6.3 kHz



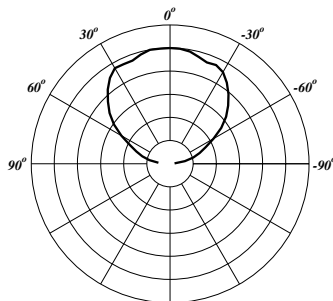
8 kHz



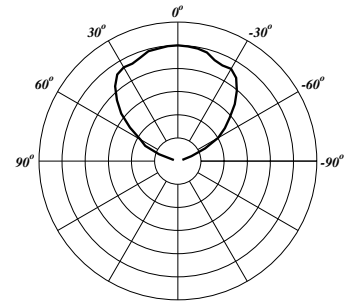
10 kHz



12.5 kHz

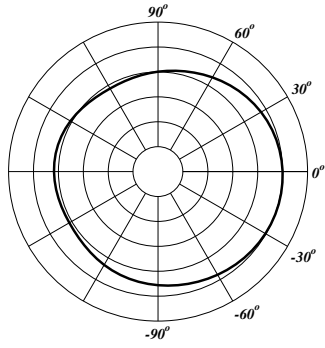


16 kHz

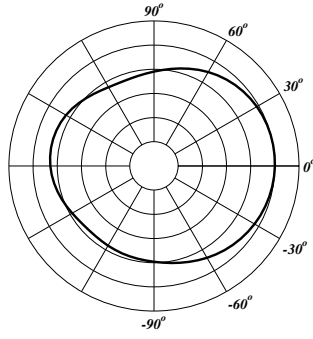


20 kHz

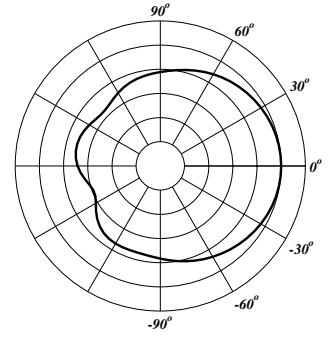
Quadra™ 12
Vertical Polar Patterns 6 dB per Division



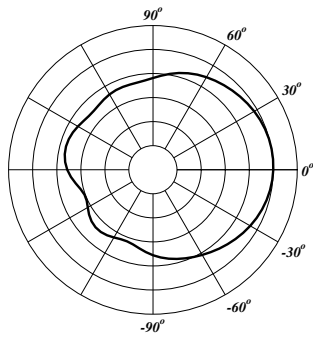
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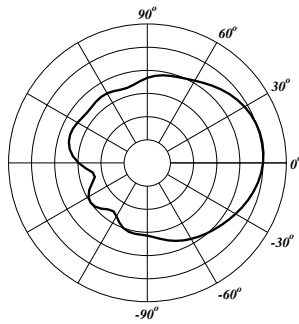
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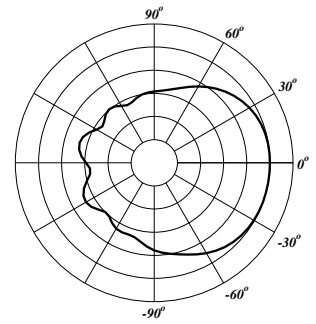
315 Hz



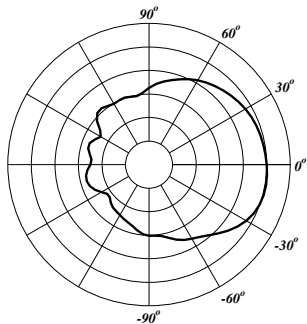
400 Hz



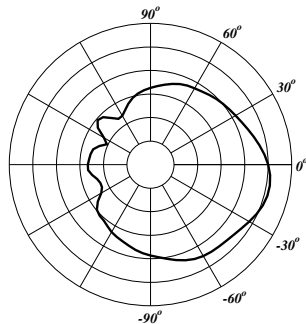
500 Hz



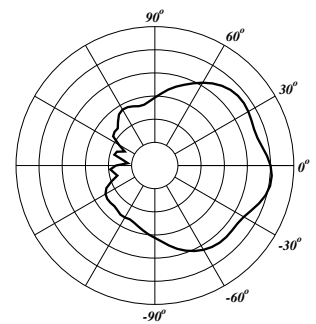
630 Hz



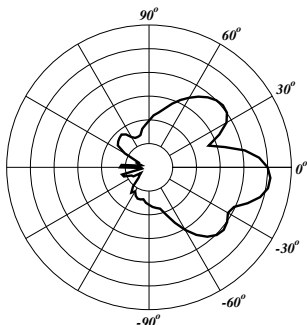
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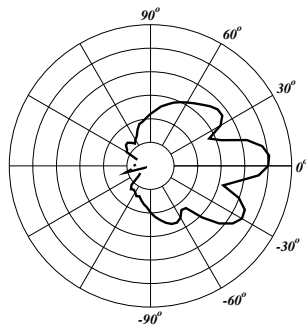
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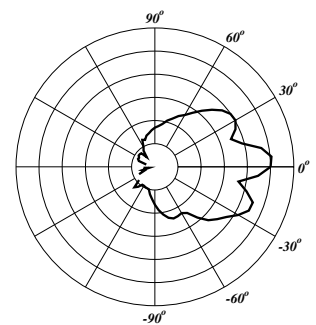
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1.6 kHz

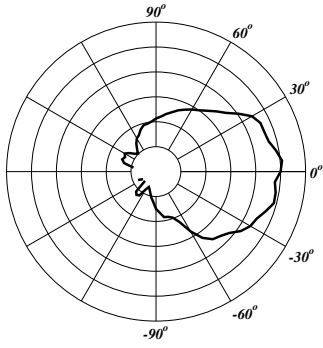


2 kHz

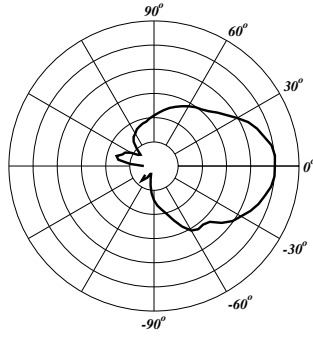


2.5 kHz

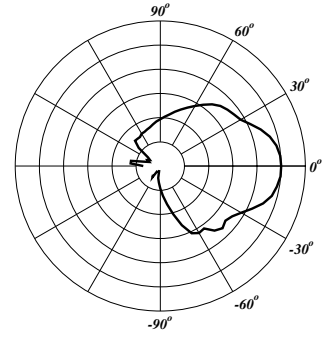
Quadra™ 12
Vertical Polar Patterns 6 dB per Division



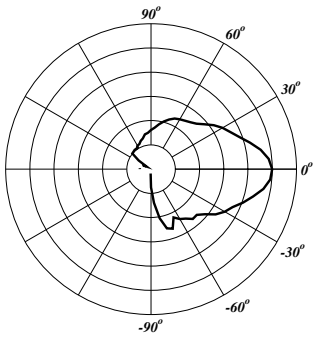
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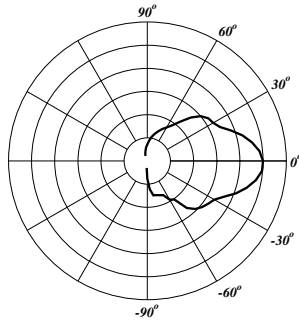
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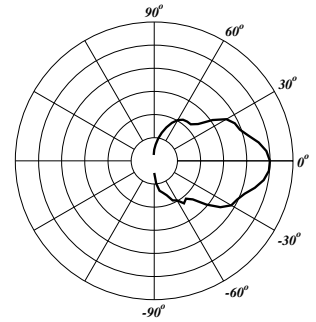
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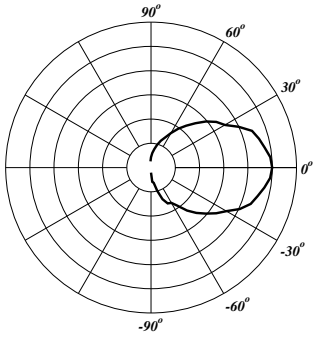
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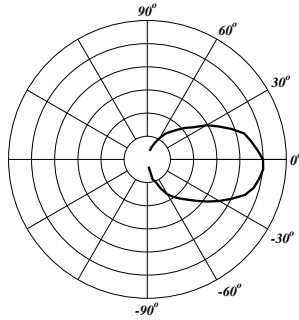
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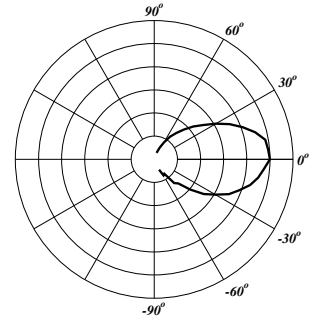
10 kHz



12.5 kHz



16 kHz



20 kHz

Quadra™ 12 INPUT

QUADRA™ 12



NOTE: BI-AMP INPUT
OVERRIDES FULL RANGE
INPUTS



BI-AMP
LOW FREQ. — PIN 1+ (+) POS.
 — PIN 1- (-) NEG.
HIGH FREQ. — PIN 2+ (+) POS.
 — PIN 2- (-) NEG.

WEIGHT: 45 LBS.
20.5kg

HF DRIVER PROTECTED BY
SOUNDGUARD™

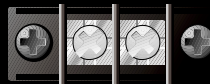
DANGER

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! USE ONLY GRADE 5 HARDWARE OR BETTER.

WARNING

THIS SPEAKER CAN PERMANENTLY DAMAGE HEARING!
USE EXTREME CARE SETTING MAXIMUM LOUDNESS!

MAX POWER	IMPEDANCE	CROSSOVER
2000W PEAK 1000W RMS (PROGRAM)	8 OHMS	1800 Hz 12dB OCTAVE



FULL RANGE
INPUTS IN
PARALLEL

CAUTION:
VERIFY WIRING
FOR BRIDGED USE

PIN 1+ (+) POS.
PIN 1- (-) NEG.

BUILT UNDER U.S. PATENT NOS. 6,059,069 AND 6,064,745

A PRODUCT OF PEAVEY ELECTRONICS CORP.
MERIDIAN, MS MADE IN U.S.A.



Features and specifications subject to change without notice.

Peavey Electronics Corporation • 711 A Street • Meridian • MS • 39301
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