

SPECIFICATIONS

QW™ 3



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

50 Hz – 16 kHz (± 3 dB)

Usable low frequency limit (-10 dB point):

33 Hz

Power handling:

Full range:

1,000 Watts continuous

2,000 Watts program

4,000 Watts peak

Passive mid/high frequency section:

300 Watts continuous

600 Watts program

1,200 Watts peak

Low frequency section:

500 Watts continuous

1,000 Watts program

2,000 Watts peak

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

Full range:

96.0 dB SPL, (2.83 Volt input)

Passive mid/high frequency section:

96.0 dB SPL, (2.83 Volt input)

Low frequency section:

97.0 dB SPL, (2.83 Volt input)

Maximum sound pressure level (1 meter):

Full range:

126.0 dB SPL continuous

132.0 dB SPL peak

Passive mid/high frequency section:

120.8 dB SPL continuous

126.8 dB SPL peak

Low frequency section:

124.0 dB SPL continuous

130.0 dB SPL peak

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

500 Hz – 1.6 kHz:

Horiz. $100^\circ \pm 15^\circ$

Vert. $100^\circ \pm 40^\circ$

1.6 kHz – 5 kHz:

Horiz. $70^\circ \pm 10^\circ$

Vert. $45^\circ \pm 10^\circ$

5 kHz – 16 kHz:

Horiz. $80^\circ \pm 20^\circ$

Vert. $45^\circ \pm 15^\circ$

Directivity factor, Q (Mean):

11.62 ± 6.17

Directivity index, Di (Mean):

$9.96 \text{ dB} \pm 2.64 \text{ dB}$

Transducer complement:

Low frequency section:

1x 15" woofer, vented

15" Pro Rider™ Al CP

Mid frequency section:

1x 6.5" cone on QT Waveguide

6.5" closed back mid-range on a CH-746qt

High frequency section:

1x .875" exit/51 mm voice coil

compression driver on QT

Waveguide

RX 22 on a CH-746qt

Box tuning frequency:

Low frequency section:

44 Hz

Harmonic distortion:

1% rated power

Second harmonic:

100 Hz: 1.81%

1 kHz: 0.30%



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Third harmonic:

100 Hz: 0.63%
 1 kHz: 0.22%

10% rated power

Second harmonic:

100 Hz: 3.14%
 1 kHz: 0.37%

Third harmonic:

100 Hz: 0.80%
 1 kHz: 0.16%

Crossover frequency (internal passive):

Low frequency – mid frequency:
 630 Hz
 Mid frequency – high frequency:
 4,700 Hz

Recommended active crossover frequency region and slope:

Low frequency – mid frequency:
 650 Hz at 24 dB/octave

Time offset:

Low frequency:
 0.00 ms
 Mid – high frequency:
 0.27 ms

Impedance (Z):

Full range:
 Nominal: 8.0 Ω
 Minimum: 5.4 Ω
 Passive MF/HF:
 Nominal: 8.0 Ω
 Minimum: 8.7 Ω
 Low frequency:
 Nominal: 8.0 Ω
 Minimum: 6.9 Ω

Input connections:

Full range: 2x Neutrik® NL4
 Bi-amp input: 1x Neutrik NL4 switching
 Bi-amp thru: 1x Neutrik NL4

Enclosure materials and finish:

3/4" poplar plywood finished in black Hammer Head™ coating

Mounting provisions:

This unit is not designed for overhead suspension

Dimensions (H x W x D):

Front:
 37.25" x 21.00" x 22.75"
 946 mm x 533 mm x 578 mm
Rear:
 37.25" x 14.00" x 22.75"
 946 mm x 356 mm x 578 mm

Net weight:

100 lbs. (45.5 kg)

Amplitude Response (1W 1m On-Axis)

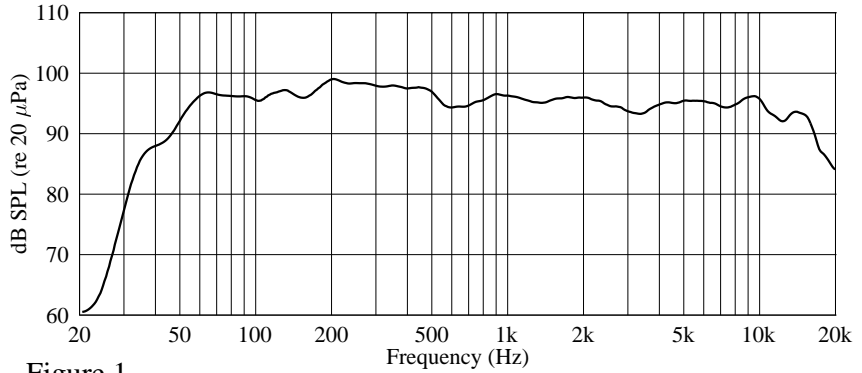


Figure 1

Impedance

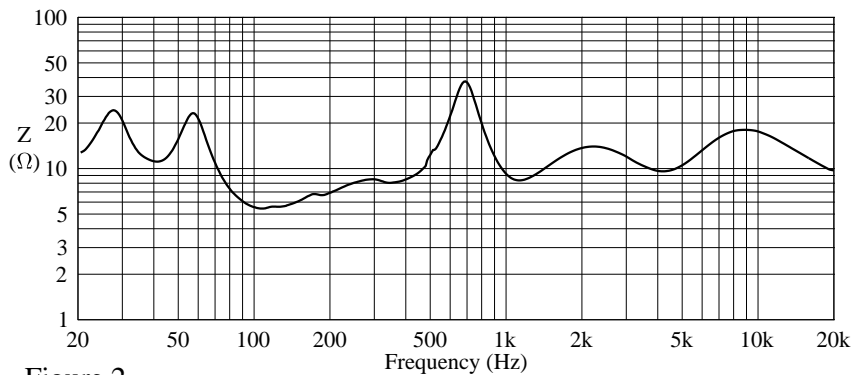


Figure 2

Beamwidth

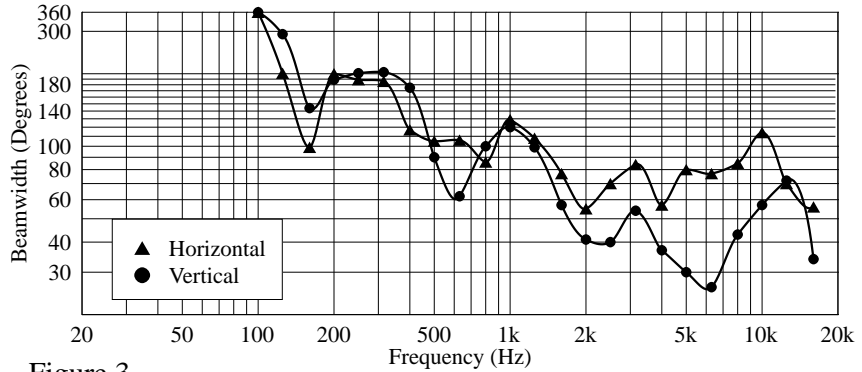


Figure 3

Q & Directivity Index

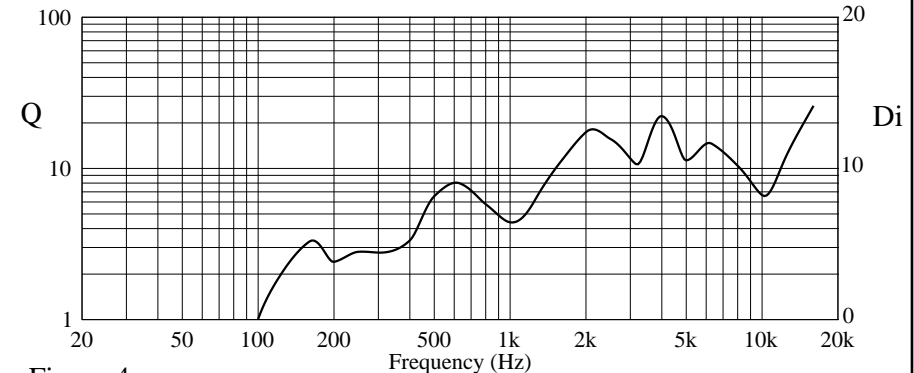


Figure 4

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Features

- 2,000 Watts program, 4,000 Watts peak
- Very low power compression
- Pro Rider™ 15" woofer with 4" voice coil
- RX22™ 2" titanium compression driver
- Quadratic Throat Waveguide™ technology
- Low distortion at high SPL
- Sound Guard™ III high frequency driver protection

Description

The QW 3 is a three-way, full-range loudspeaker system employing a newly developed Pro Rider 15" woofer and an RX22 compression driver loaded by the high frequency section of a CH-746qt Quadratic Throat Waveguide. The 6.5" driver, loaded by the mid frequency section of the CH-746qt, handles the mid-range.

The QW 3's shape helps reduce the build up of standing waves inside the enclosure, which minimizes mid-bass and mid-range coloration. It is constructed of premium 18 mm poplar plywood and covered with a tough, durable, black textured Hammer Head™ polyurethane coating. A 16-gauge, powder-coated, perforated metal grille covers the front of the system to protect the speakers from external damage.

The 15" Pro Rider woofer features a Kevlar® impregnated, water-resistant treated cone and dust cap for superior environmental stability. An RX22 2" titanium diaphragm compression driver handles the high frequencies and features the Radialinear Planar Phase Correction System (U.S. Patent 6,064,745), which provides smoother and extended high frequency response. This driver and the specially-developed, ferrofluid-cooled 6.5" mid-range driver are loaded by the CH-746qt Quadratic Throat Waveguide (U.S. Patent 6,059,069). This device provides unparalleled clarity and low distortion through the mid and high frequency portions of the audio spectrum.

Full-range input to the system is made via two 4-pin Neutrik® jacks in parallel. A 4-pin Neutrik switching jack provides bi-amp input flexibility while maintaining superior signal integrity. The inclusion of a standard 4-pin Neutrik jack in parallel on the driver side of the bi-amp

switching jack allows daisy-chaining to another cabinet for bi-amp operation.

The internal passive crossover features the Sound Guard III high frequency driver protection circuit and an advanced topology crossover with high performance components to provide high power handling and reliability. Sound Guard provides medium- and long-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 sections of the loudspeaker. The result is a clean, clear and 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 the QW 3.

Frequency response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the QW 3 is measured at a distance of 1 meter using a 1 Watt swept-sine input signal (into the nominal impedance). As shown in Figure 1, the selected drivers in the QW 3 combine to give a smooth frequency response from 50 Hz – 16 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 specifications provide a reference to the coverage characteristics of the unit. The parameters indicate proper placement and installation in the chosen environment. The blending of components in the QW 3 exhibit a desirable beamwidth and directivity (Figures 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 conditional upon having a minimum of 3 dB available amplifier headroom.

Harmonic distortion

Graphs representing second and third harmonic distortions vs. frequency are plotted in Figures 3 and 4 for two power levels: 10% of rated input power and either 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. For example, a distortion curve that is down 40 dB from the fundamental is equivalent to 1% distortion.

Mounting

⚠ Caution: This loudspeaker system is not designed for overhead suspension.

Architectural and engineering specifications

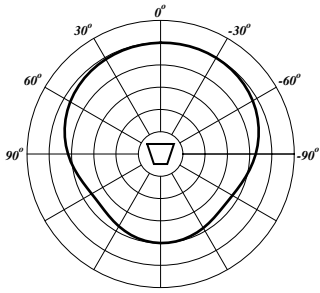
This loudspeaker system has an operating bandwidth of 50 Hz – 16 kHz and a nominal output level of 96.0 dB when measured at a distance of 1 meter and an input of 1 Watt. The nominal impedance is 8.0 Ohms. It has a maximum continuous power handling of 1,000 Watts, maximum program power of 2,000 Watts and a peak power input of at least 4,000 Watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry is 85° in the horizontal plane and 45° in the vertical plane. The outside dimensions are 37.25" high by 21.00" wide by 22.75" deep, and the system weighs 100 lbs.

3 + 2 YEAR LIMITED WARRANTY

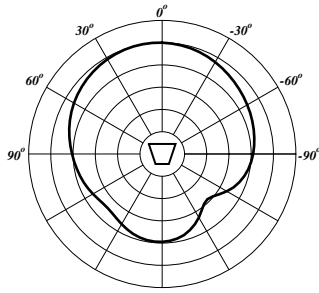
NOTE: For details, refer to the warranty statement. Copies of this statement may be obtained by contacting Peavey Electronics Corporation, P.O. Box 2898, Meridian, Mississippi 39301-2898.

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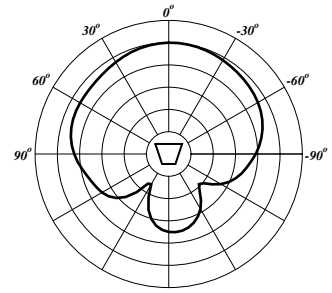
Horizontal Polar Patterns 6 dB per Division



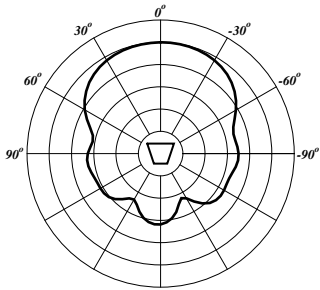
200 Hz



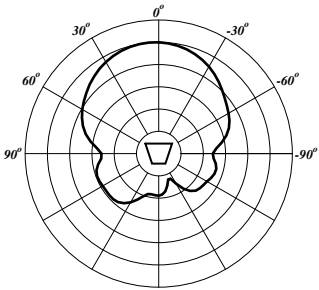
250 Hz



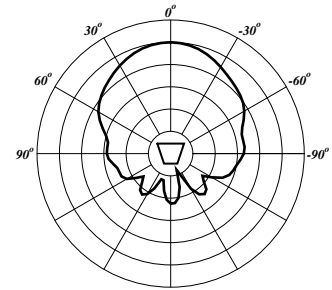
315 Hz



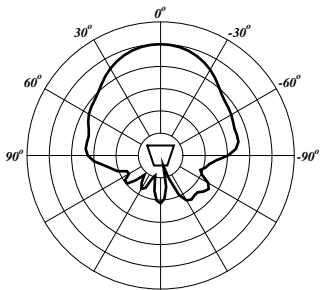
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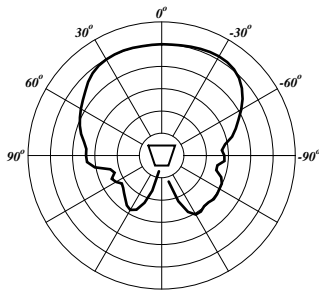
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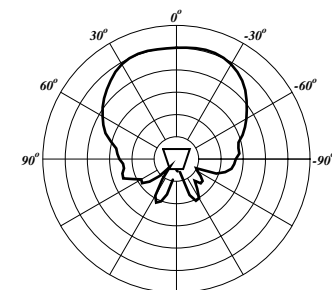
630 Hz



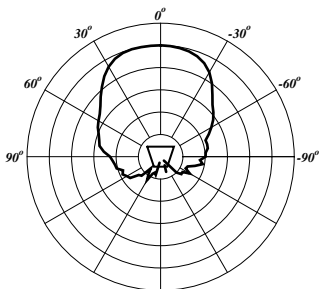
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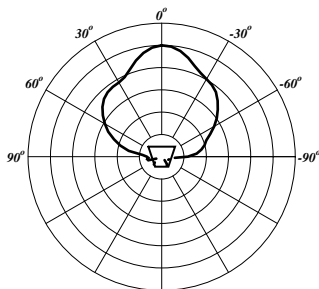
1 kHz



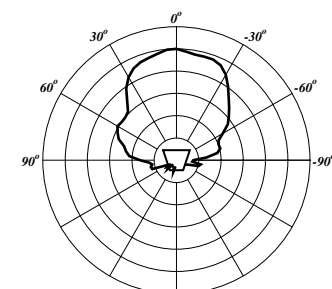
1.25 kHz



1.6 kHz



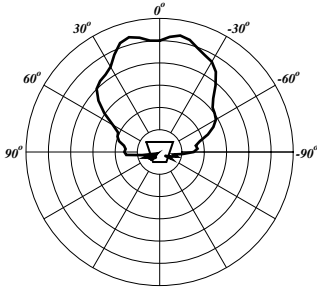
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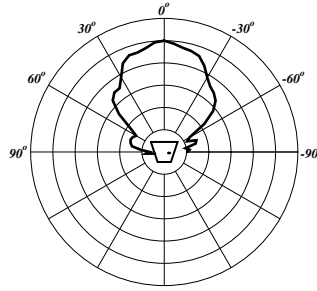
2.5 kHz

SPECIFICATIONS

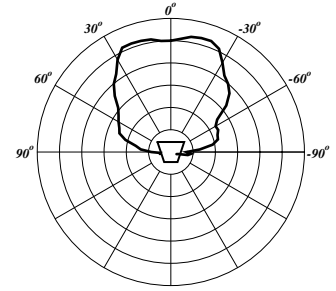
Horizontal Polar Patterns 6 dB per Division



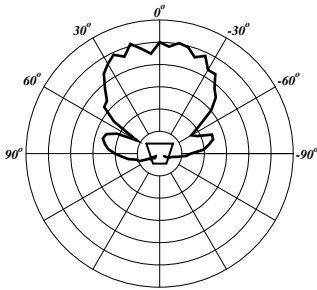
3.15 kHz



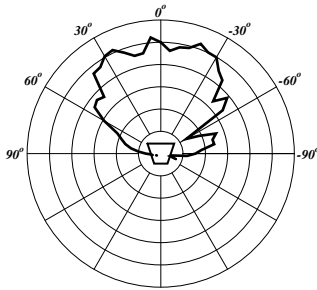
4 kHz



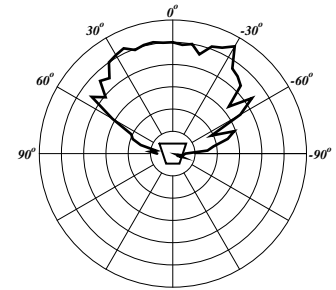
5 kHz



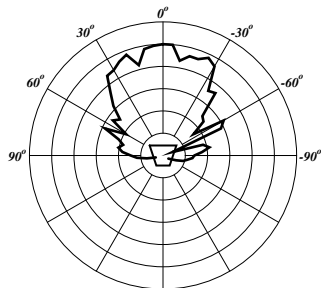
6.3 kHz



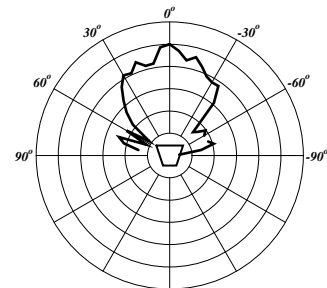
8 kHz



10 kHz



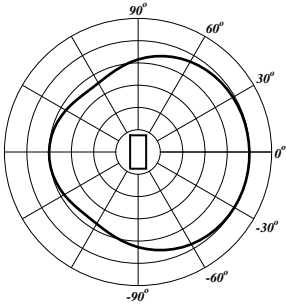
12.5 kHz



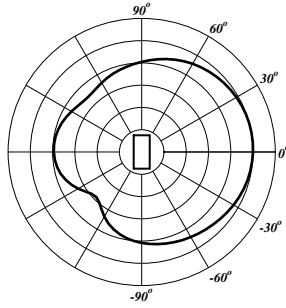
16 kHz

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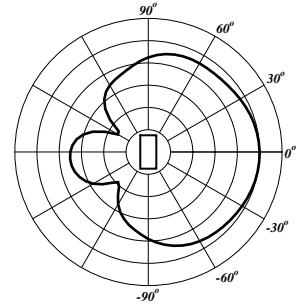
Vertical Polar Patterns 6 dB per Division



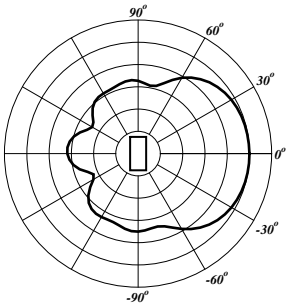
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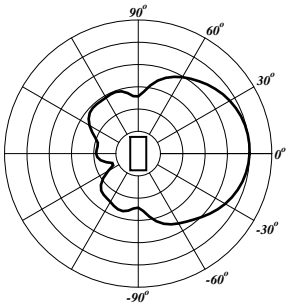
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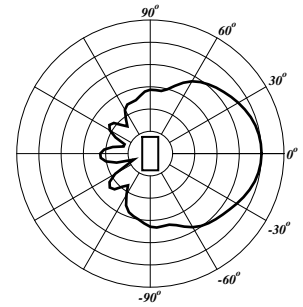
315 Hz



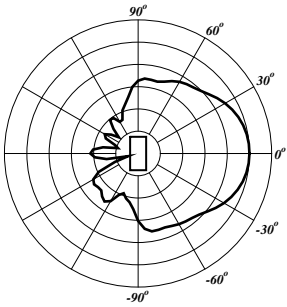
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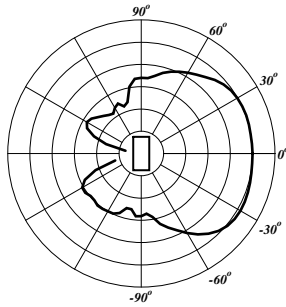
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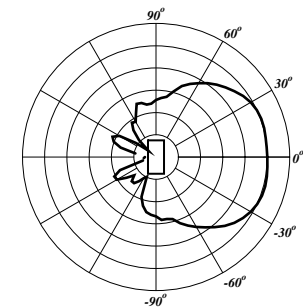
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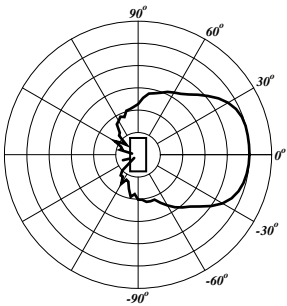
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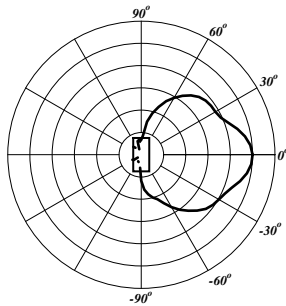
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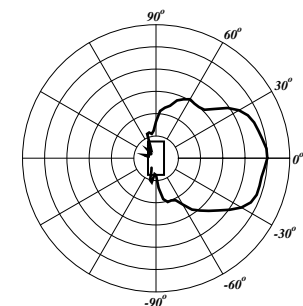
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1.6 kHz

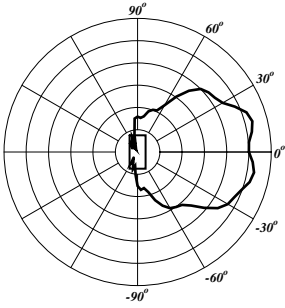


2 kHz

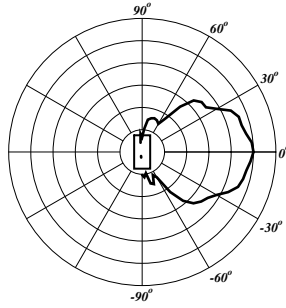


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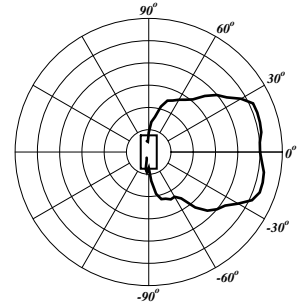
Vertical Polar Patterns 6 dB per Division



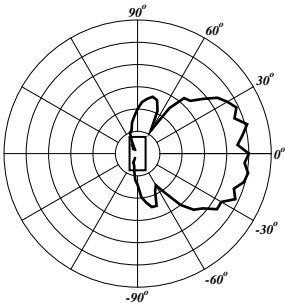
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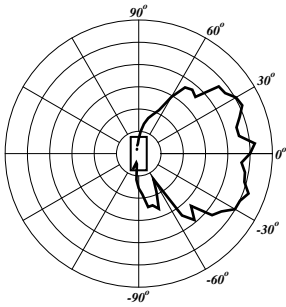
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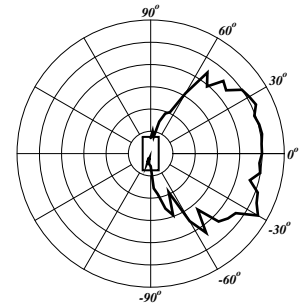
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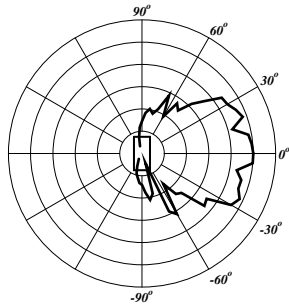
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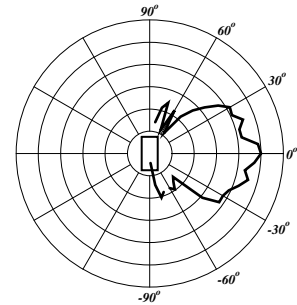
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10 kHz



12.5 kHz

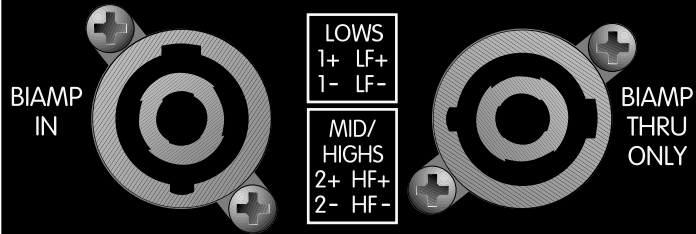


16 kHz



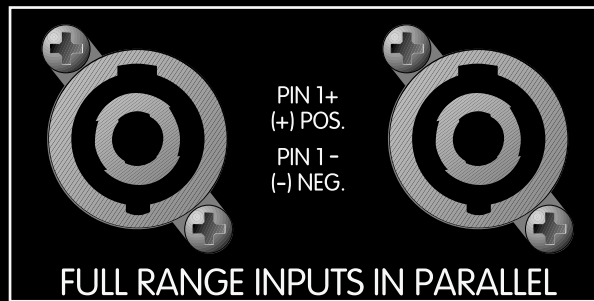
Q-Wave™ 3

MADE IN U.S.A.



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



FULL RANGE INPUTS IN PARALLEL

MAX POWER: 2,000 WATTS PROGRAM

IMPEDANCE: 8 OHMS

HF DRIVER PROTECTED BY SOUNDGUARD™ 44
BUILT UNDER U.S. PATENT NO. 6,064,745 AND 6,059,069



Features and specifications subject to change without notice.

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