

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

## Quadra™ 15

Available in  
Black and White



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

64 Hz to 18 kHz ( $\pm 3$  dB)

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

48 Hz

### Power handling:

#### Full Range:

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

#### Low Frequency Section:

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

#### High Frequency Section:

60 W continuous  
120 W program  
240 W peak

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

#### Full Range:

100 dB SPL, (2.83 V input)

#### Low Frequency Section:

100 dB SPL, (2.83 V input)

#### High Frequency Section:

110 dB SPL, (2.83 V input)

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

#### Full Range:

126 dB SPL continuous  
134 dB SPL peak

#### Low Frequency Section:

127 dB SPL continuous  
133 dB SPL peak

#### High Frequency Section:

128 dB SPL continuous  
134 dB SPL peak

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

#### 500 Hz - 1.6 kHz:

Horiz.  $95^\circ \pm 15^\circ$   
Vert.  $100^\circ \pm 20^\circ$

#### 1.6 kHz - 5 kHz:

Horiz.  $85^\circ \pm 15^\circ$   
Vert.  $55^\circ \pm 5^\circ$

#### 5 kHz - 16 kHz:

Horiz.  $90^\circ \pm 5^\circ$   
Vert.  $45^\circ \pm 5^\circ$

### Directivity factor, Q (Mean):

$9.48 \pm 3.24$

### Directivity index, Di (Mean):

$9.53 \text{ dB} \pm 1.43 \text{ dB}$

### Transducer complement:

#### Low Frequency Section:

1x 15" woofer, vented  
1508 SPS Black Widow®

#### High Frequency Section:

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

### Box tuning frequency:

#### Low Frequency Section:

58 Hz

### Harmonic Distortion:

#### 1% rated power

#### 2nd Harmonic:

100 Hz: 0.81%  
1 kHz: 0.14%

#### 3rd Harmonic:

100 Hz: 0.20%  
1 kHz: 0.42%

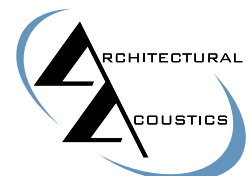
#### 10% rated power

#### 2nd Harmonic:

100 Hz: 2.36%  
1 kHz: 0.63%

#### 3rd Harmonic:

100 Hz: 1.07%  
1 kHz: 0.61%



By Peavey

Listen to This.

**Crossover frequency (internal passive):**

Low Frequency - High Frequency:  
1,600 Hz

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

Low Frequency - High Frequency:  
1,600 Hz at 12 dB/octave min.

**Time Offset:**

Low Frequency: 0.00 ms  
High Frequency: Horn spatially aligned ms

**Impedance (Z):**

Full Range:

Nominal: 8.0 Ω  
Minimum: 6.0 Ω

Low Frequency:

Nominal: 8.0 Ω  
Minimum: 6.4 Ω

High Frequency:

Nominal: 8.0 Ω  
Minimum: 5.4 Ω

**Input connections:**

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

**Enclosure materials and finish:**

High-impact polypropylene with molded in texture

**Mounting provisions:**

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

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

Front:

28.50 in. x 21.25 in. x 17.25 in.  
724 mm x 540 mm x 438 mm

Rear:

26.75 in. x 11.63 in. x 17.25 in.  
679 mm x 295 mm x 438 mm

**Net Weight:**

56 lbs. (25.5 kg)

**Features:**

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

**Description**

The Quadra™15 is an injection-molded two-way speaker system, engineered in the AA tradition to provide

**Amplitude Response (1W 1m On-Axis)**

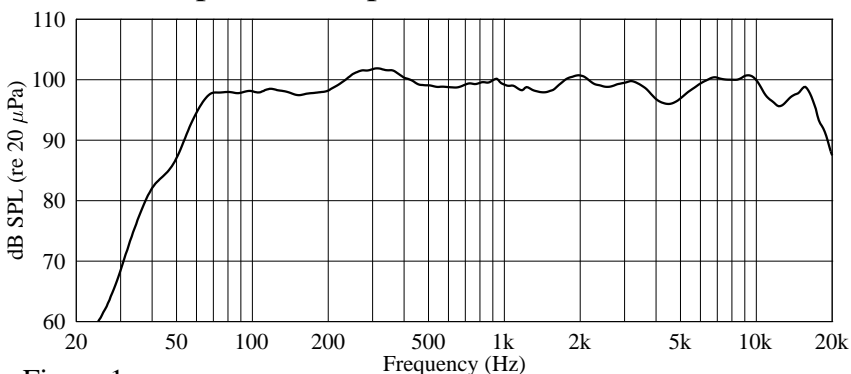


Figure 1

**Impedance**

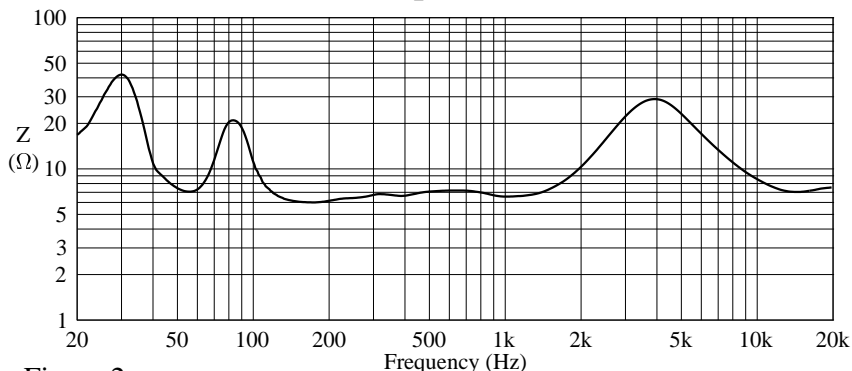


Figure 2

**Beamwidth**

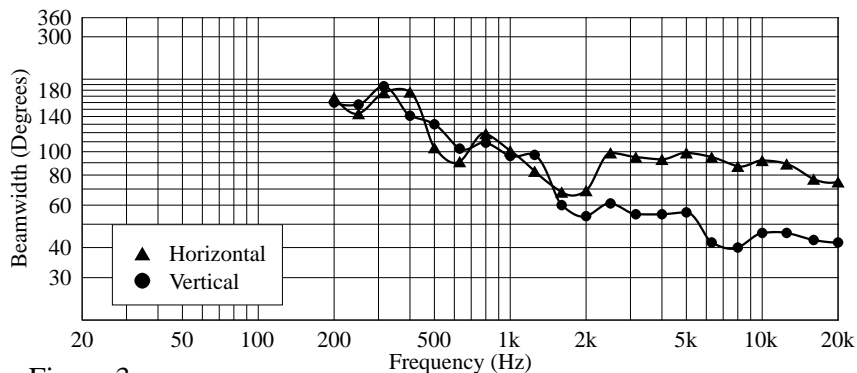


Figure 3

**Q & Directivity Index**

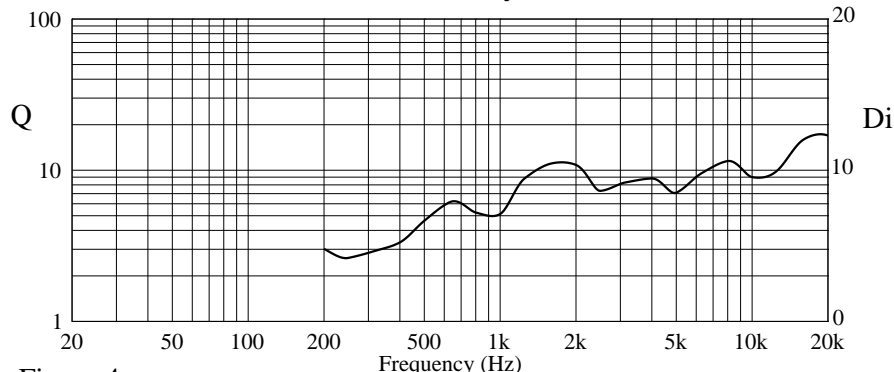


Figure 4

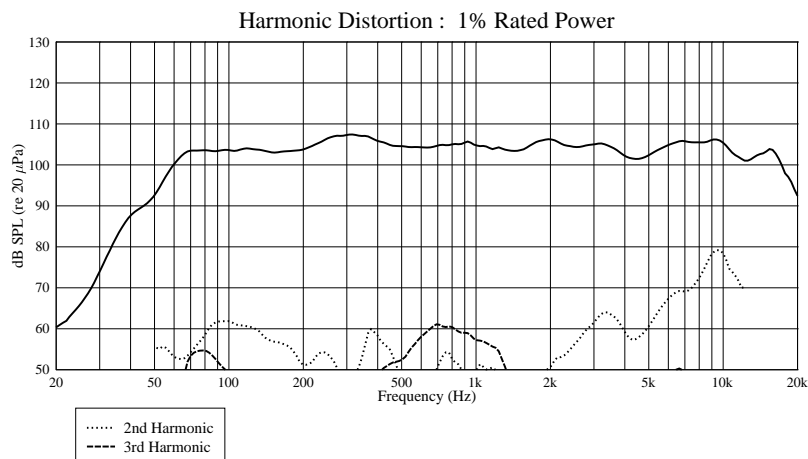
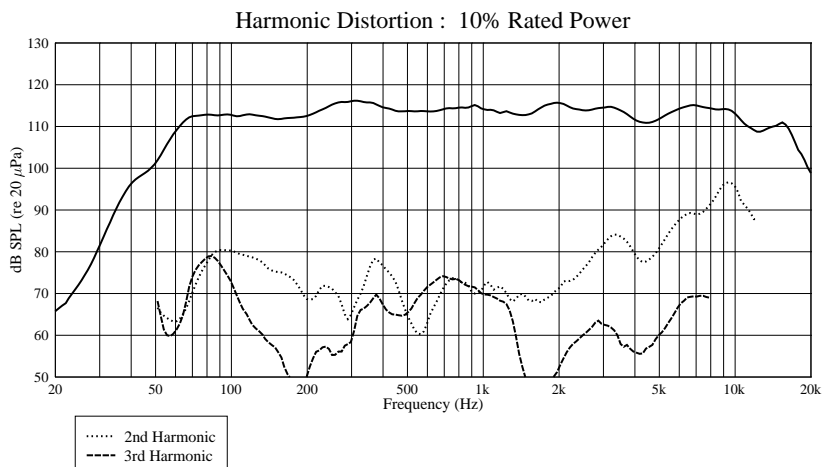
superior performance from a compact and durable package. The enclosure is made from very high impact injection molded polypropylene in a trapezoidal shape, with extensive ribbing and bracing, and the grilles utilize perforated metal protected by a high quality vinyl coating process, and has an integral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

The two-way system is comprised of a 15" 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 two-inch 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 64 Hz to 18 kHz.

Despite its compact dimensions for a 15" based enclosure, this system can put out some very serious sound levels, and take 1,000 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™15 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 15 combine to give a smooth frequency response from 64 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 15 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 & engineering specifications**

The loudspeaker system shall have an operating bandwidth of 64 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 28.50 inches high by 21.25 inches wide by 17.25 inches deep. The weight shall be 56 pounds. The loudspeaker system shall be an Architectural Acoustics model Quadra 15.

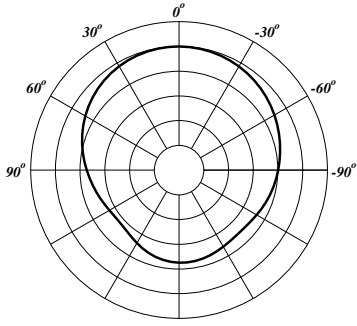
### **3 + 2 YEAR LIMITED WARRANTY**

**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.

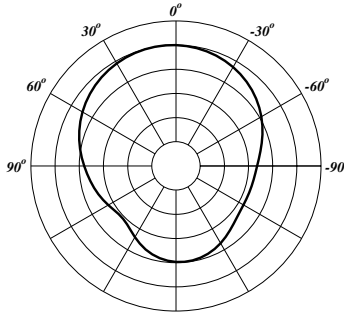
**CAUTION!** PEAVEY RECOMMENDS THE USE OF NEUTRIK™ BRAND NL4FC PLUGS TO CONNECT TO THE BI-AMP SWITCHING JACK ON THE CROSSOVER.

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

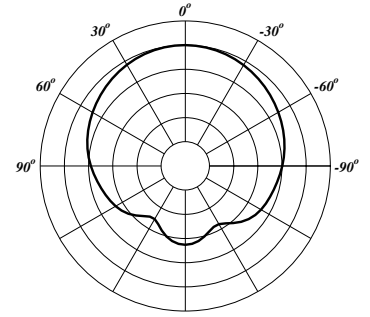
**Quadra™ 15**  
**Horizontal Polar Patterns 6 dB per Division**



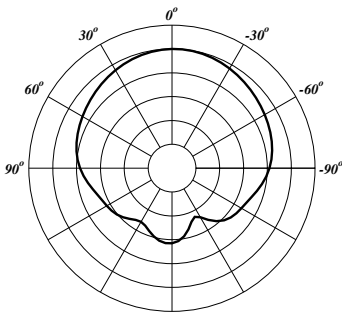
200 Hz



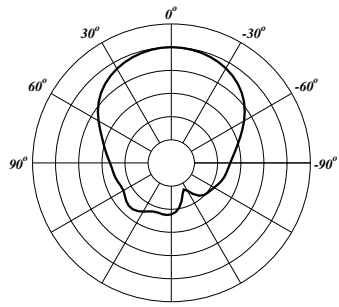
250 Hz



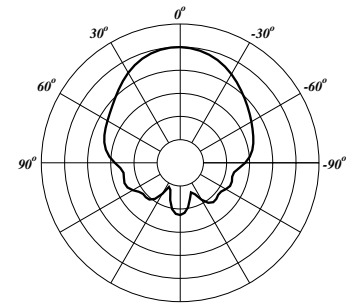
315 Hz



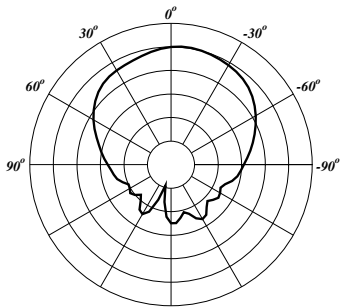
400 Hz



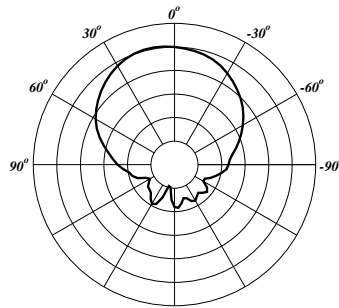
500 Hz



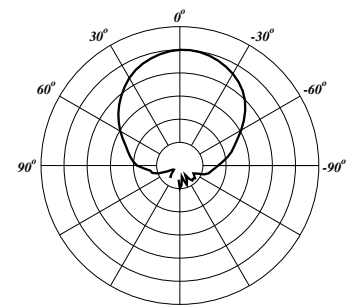
630 Hz



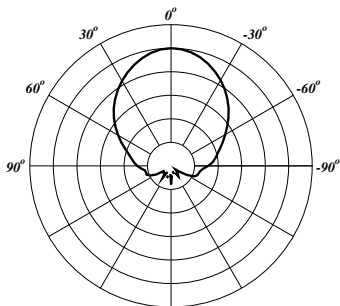
800 Hz



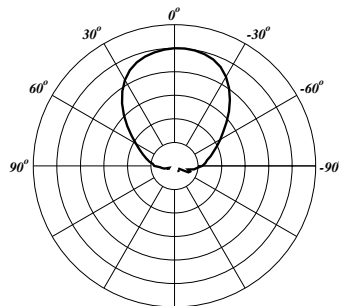
1 kHz



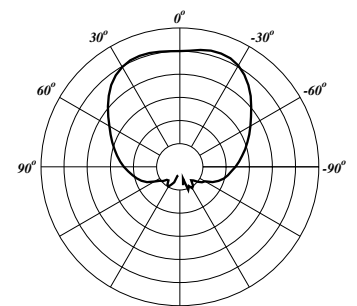
1.25 kHz



1.6 kHz

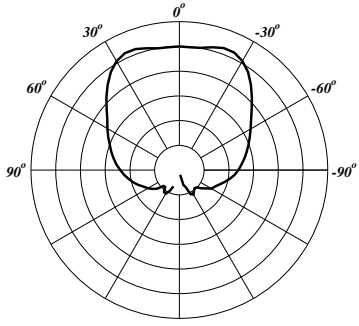


2 kHz

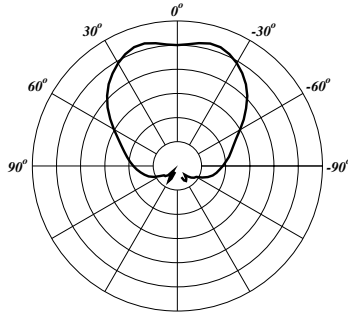


2.5 kHz

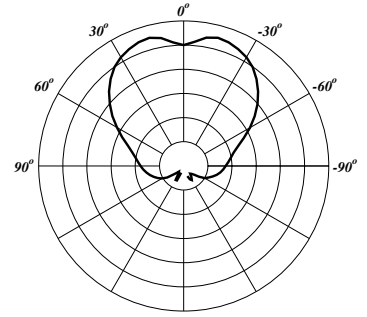
**Quadra™ 15**  
**Horizontal Polar Patterns 6 dB per Division**



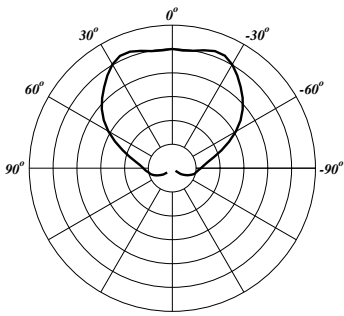
**3.15 kHz**



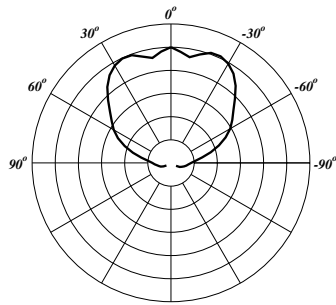
**4 kHz**



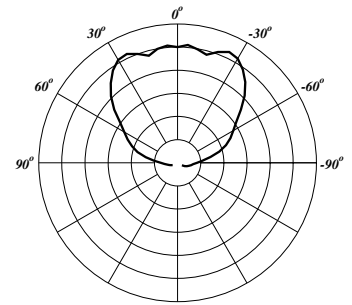
**5 kHz**



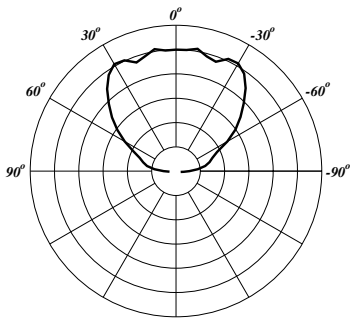
**6.3 kHz**



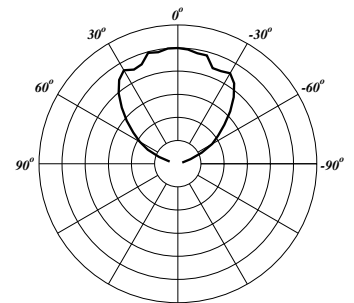
**8 kHz**



**10 kHz**

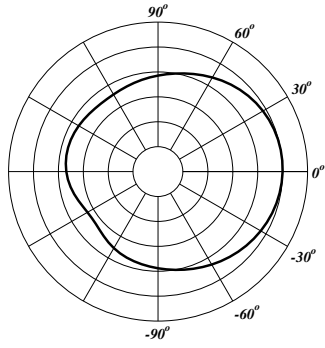


**12.5 kHz**

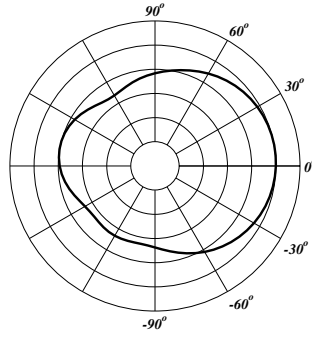


**16 kHz**

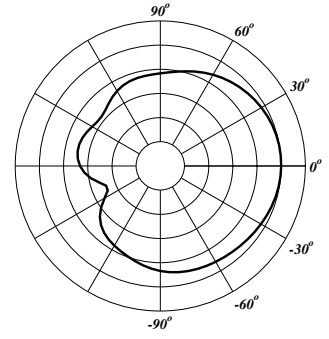
**Quadra™ 15**  
**Vertical Polar Patterns 6 dB per Division**



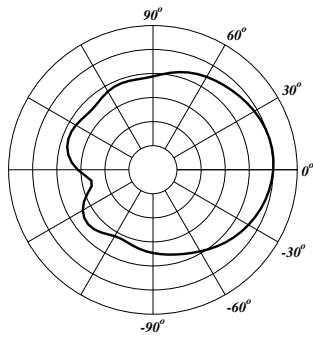
200 Hz



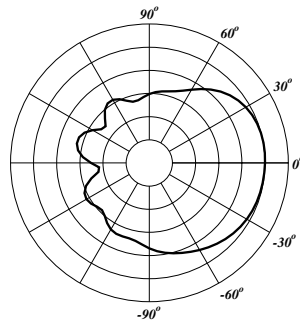
250 Hz



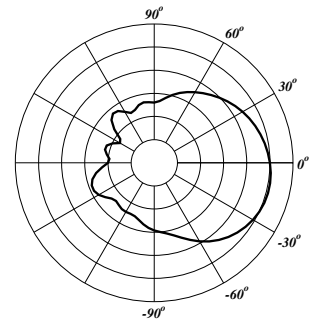
315 Hz



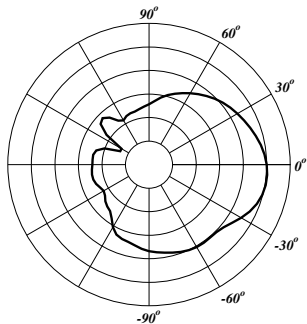
400 Hz



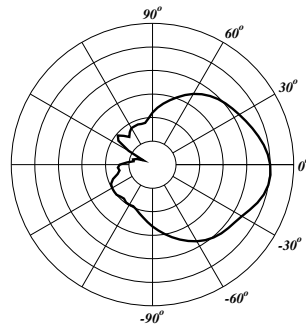
500 Hz



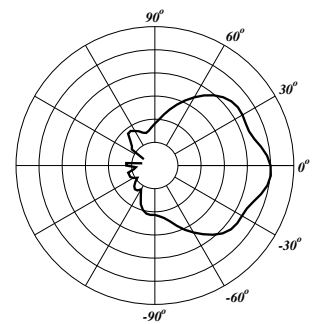
630 Hz



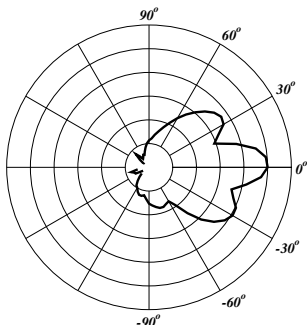
800 Hz



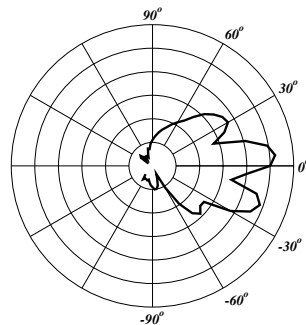
1 kHz



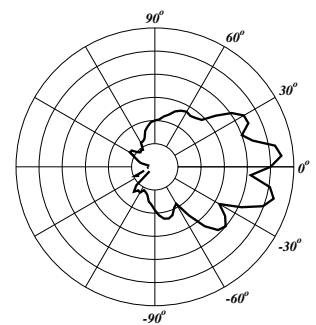
1.25 kHz



1.6 kHz

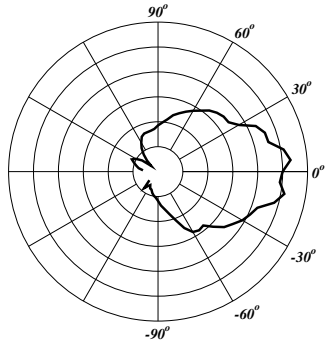


2 kHz

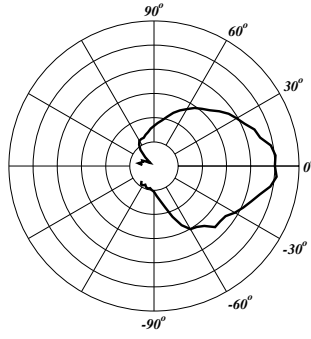


2.5 kHz

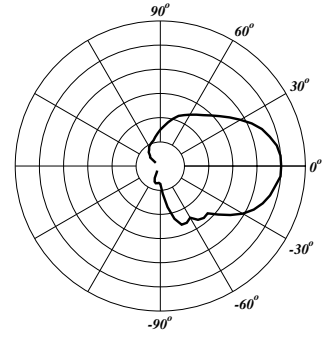
**Quadra™ 15**  
**Vertical Polar Patterns 6 dB per Division**



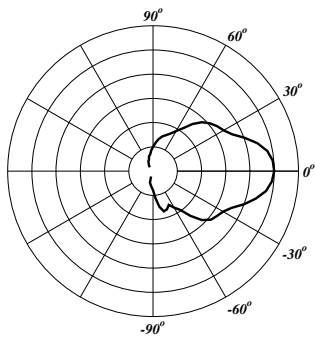
**3.15 kHz**



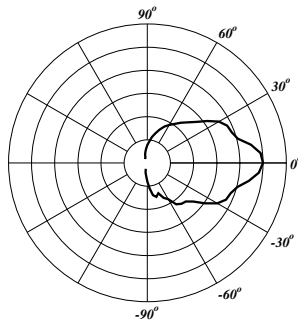
**4 kHz**



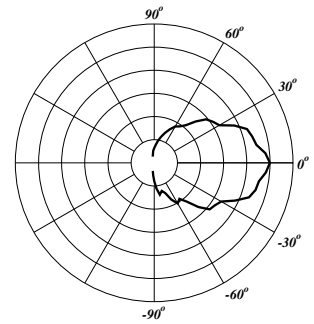
**5 kHz**



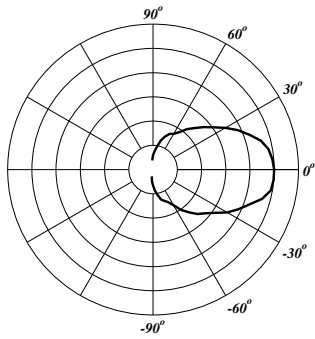
**6.3 kHz**



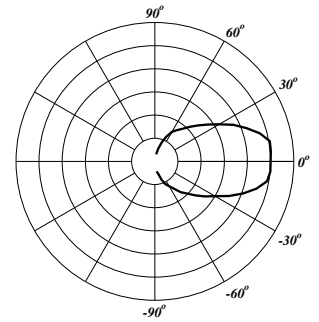
**8 kHz**



**10 kHz**



**12.5 kHz**



**16 kHz**

# Quadra™ 15 INPUT

## QUADRA™ 15



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

WEIGHT: 56 LBS.  
25.4kg

HF DRIVER PROTECTED BY  
**SOUNDGUARD™**

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

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.

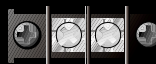
### WARNING

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

### 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.

MAX POWER	IMPEDANCE	CROSSOVER
2000W PEAK 1000W RMS (PROGRAM)	8 OHMS	1600 Hz 12dB OCTAVE



FULL RANGE  
INPUTS IN  
PARALLEL

CAUTION:  
VERIFY WIRING  
FOR BRIDGED USE



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







*Features and specifications subject to change without notice.*

Peavey Electronics Corporation • 711 A Street • Meridian • MS • 39301  
(601) 483-5376 • FAX (601) 486-1678 • <http://aa.peavey.com>



80304830