

# PEAVEY ELECTRONICS

## Impulse® 1012

(4 and 8 ohm)

Two-Way Weather-Resistant  
Injection-Molded  
Speaker System

Built under U.S. Patent 6,064,745

### SPECIFICATIONS

#### Enclosure:

Peavey Impulse® 1012

#### Frequency Response:

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

75 Hz - 18 kHz ( $\pm 3$  dB) - 8 ohm

72 Hz - 18 kHz ( $\pm 3$  dB) - 4 ohm

#### Useable Low Frequency Limit (-3 dB point):

75 Hz

#### Useable Low Frequency Limit (-10 dB point):

52 Hz

#### Power Handling:

##### Full Range (4 ohm):

1,400W program

2,800W peak

##### Full Range (8 ohm):

1,000W program

2,000W peak

##### Bi-amp Low (4 and 8 ohm):

1,000W program

2,000W peak

##### Bi-amp High (4 and 8 ohm):

120W program

240W peak

#### Sound Pressure Level

##### (1W @ 1M, in anechoic environment):

###### Full Range:

99 dB SPL (2.83 V input) - 4 ohm

100.0 dB SPL (2.83 V input) - 8 ohm

###### Bi-amp Low:

100.0 dB SPL, (2.83 V input)

###### Bi-amp High:

104.0 dB SPL, (2.83 V input)



#### Maximum Sound Pressure Level (1 meter):

##### Full Range:

127.0 dB SPL continuous

133.0 dB SPL peak

##### Biamp Low:

127.0 dB SPL continuous

133.0 dB SPL peak

##### Biamp High:

121.8 dB SPL continuous

127.8 dB SPL peak

#### Radiation Angle Measured at -6 dB Point of Polar Response:

##### 500 Hz - 1.6 kHz:

Horiz. 110° +/- 20°

Vert. 110° +/- 25°

##### 1.6 kHz - 5 kHz:

Horiz. 110° +/- 20°

Vert. 75° +/- 25°

##### 5 kHz - 16 kHz:

Horiz. 90° +/- 10°

Vert. 45° +/- 0°

#### Directivity Factor Q (Mean):

7.90 +/- 3.41

#### Directivity Index D (Mean):

8.54 dB +/- 1.99 dB

#### Electroacoustic Crossover

Frequency: 1800 Hz

#### Transducer Complement:

##### Low Frequency Section:

**4 ohm:** Model 1208 - 4 SPS 12" Black  
Widow® woofer

**8 ohm:** Model 1208 - 8 SPS 12" Black  
Widow® woofer

##### High Frequency Section:

Patented RX™22 - 2" titanium diaphragm  
compression driver on constant directivity  
horn

#### Box Tuning Frequency:

70 Hz

#### Harmonic Distortion:

##### 1% rated power

2nd Harmonic:

100 H: 1.4%

1 kH: 0.30%

3rd Harmonic:

100 H: 0.32%

1 kH: 0.27%

##### 10% rated power

2nd Harmonic:

100 H: 2.3%

1 kH: 1.25%

3rd Harmonic:

100 Hz: 1.33%

1 kH: 0.48%

#### Crossover Type (Internal Passive):

Low Frequency - High Frequency:

1,800 Hz



**Crossover Slope:**

12 dB/octave (2nd order) low pass,  
 12 dB/octave (2nd order) with padding and  
 CD horn EQ high pass

**Recommended Active Crossover**

**Frequency Region and Slope:**

Low Frequency - High Frequency:  
 1800 Hz at 12 dB/octave

**Time Offset:**

Low Frequency: 0.00 ms  
 High Frequency: 0.00 ms

**Impedance (Z):**

Full Range: 4 ohm 8 ohm  
 Nominal: 4.0 Ω 8.0 Ω  
 Minimum: 3.2 Ω 6.5 Ω

Low Frequency:

Nominal: 4.0 Ω 8.0 Ω  
 Minimum: 3.2 Ω 6.3 Ω

High Frequency:

Nominal: 8.0 Ω 8.0 Ω  
 Minimum: 5.4 Ω 5.4 Ω

**Input Connections:**

2x 4-pin Neutrik® & 2x 1/4 in.  
 phone jack input,  
 1x 4-pin switching Neutrik® biamp  
 LF and HF input

**Enclosure Materials and Finish:**

High impact polypropylene finished in black  
 or white



**Mounting Provisions:**

2x Versamount® 70 Mounting  
 locations (1 top, 1 bottom) &  
 1 x stand mount on bottom

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

Front:

23.69 in. x 17.81 in. x 13.75 in.  
 602 mm x 452 mm x 349 mm

Rear:

22.13 in. x 10.00 in. x 13.75 in.  
 562 mm x 254 mm x 349 mm

**Net Weight:** 42 lbs. (20.0 kg)

**Shipping Weight:** 47.4 lbs. (21.54 kg)

**Additional Remarks:**

Also available in biamplified powered unit  
 (Impulse® 200P)

**Features:**

- 1000W program power
- Sound Guard™
- Black Widow® 15" premium woofer
- RX™22 titanium compression driver
- Multiple handgrips and stand mount
- Peak SPL in excess of 133 dB
- Weather-resistant woofer and grille
- Top and bottom flying point inserts
- Molded-in horn with exceptionally smooth response and pattern control

**DESCRIPTION:**

The Impulse 1012 is a two-way full-range speaker system engineered to provide ultra-high performance in a portable,

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

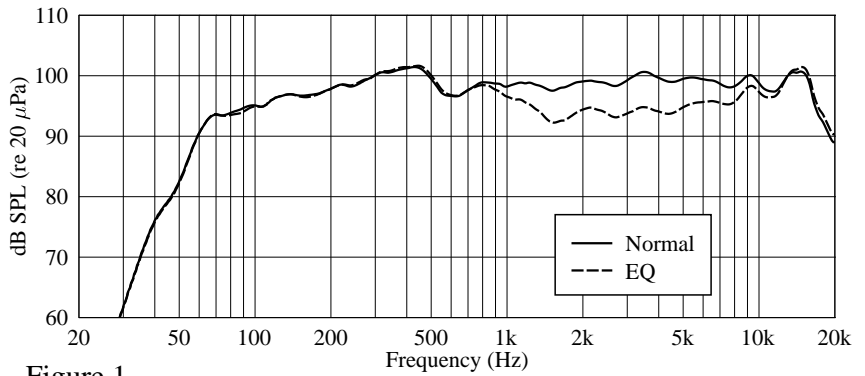


Figure 1

**Impedance**

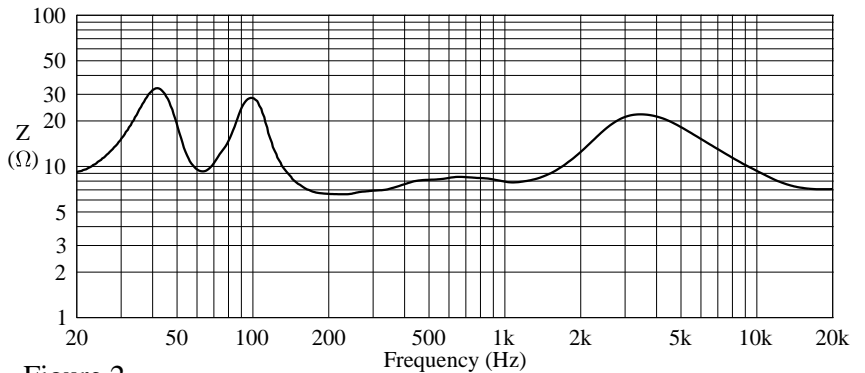


Figure 2

**Beamwidth**

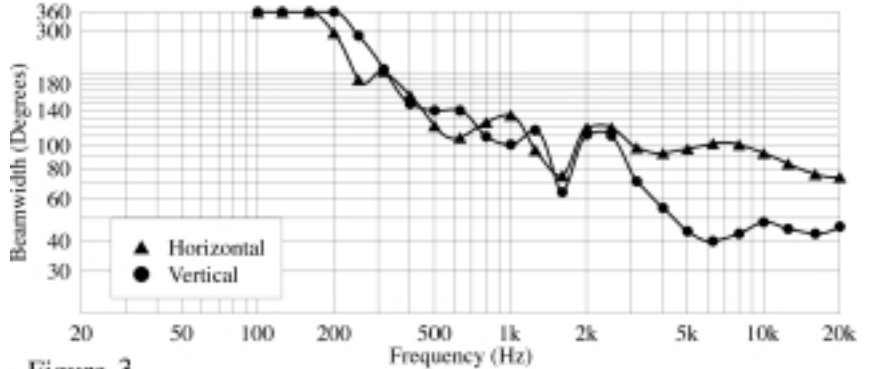


Figure 3

**Q & Directivity Index**

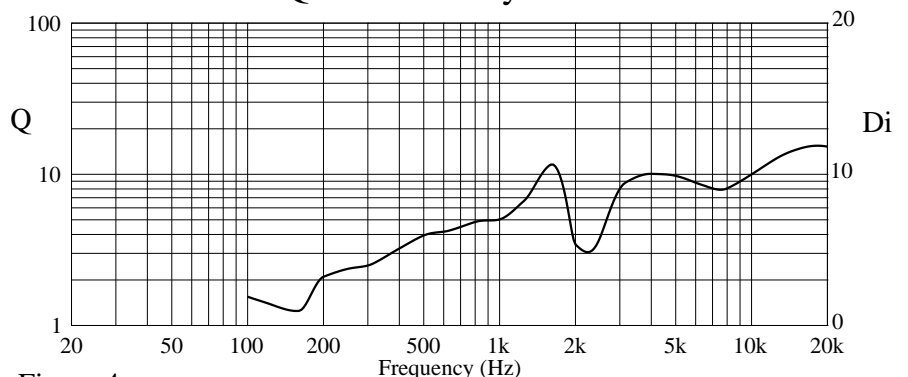


Figure 4

### Harmonic Distortion : 10% Rated Power

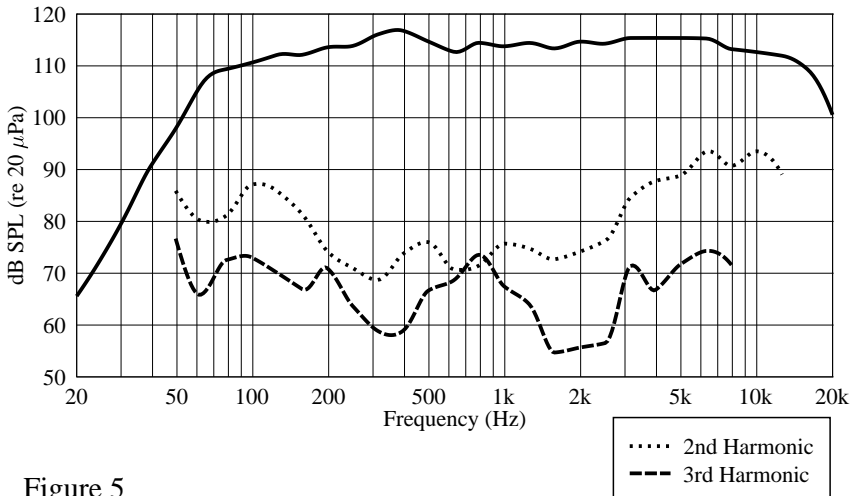


Figure 5

### 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.

### Harmonic Distortion : 1% Rated Power

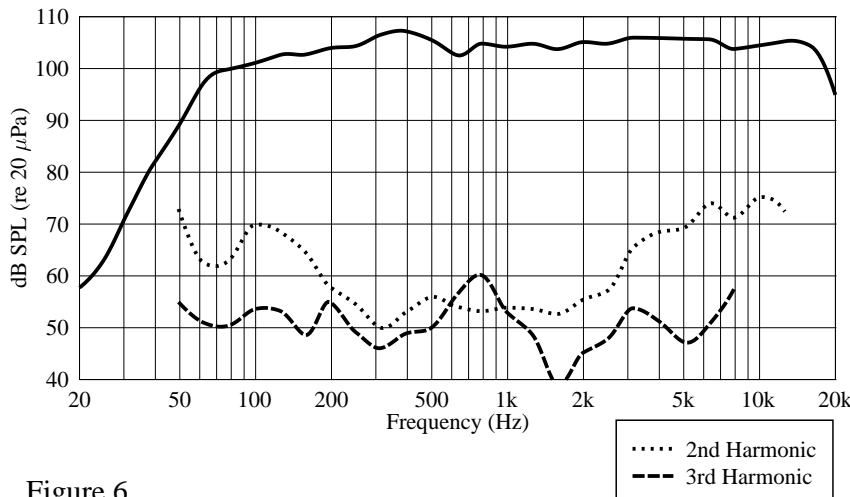


Figure 6

compact, weather-resistant package. The enclosure utilizes high-impact polypropylene in an injection-molded plastic trapezoidal shape, along with a coated perforated metal grille to offer a cosmetically elegant yet durable system.

The two-way system includes a 12" Black Widow® woofer with a Kevlar® impregnated cone and a specially treated surround, cone and dust cap for excellent weather resistance. The RX™22 compression driver features a 2" titanium diaphragm, a patented phase plug (U.S. Patent 6,064,745), and is coupled to an extremely smooth and well controlled constant directivity horn, with a coverage pattern of 90 degrees by 45 degrees that is molded into the enclosure. Input connection to the system is made via 1/4" phone jacks (2) or 4-pin Neutrik® Speakon® connectors. Provisions for bi-amplification are made through a 4-pin Neutrik® switching jack. The internal passive crossover features Sound Guard™ to protect the tweeter, and utilizes high performance components and an advanced topology crossover to provide high power handling and a smooth yet clear response. The optimal integration of the crossover with the selected drivers results in a smooth frequency response from 75 Hz to 18 kHz.

The free-flow vented cabinet offers mounting point inserts top and bottom as well as a molded-in stand adapter for maximum utility and ease of use.

### FREQUENCY RESPONSE:

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the Impulse 1012 (8 ohm) 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 Impulse 1012 (8 ohm) combine to give a smooth frequency response from 75 Hz - 18 kHz.

### DIRECTIVITY:

Beamwidth is derived from the -6 dB points from the polar plots (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 Impulse 1012 (8 ohm) 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 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 4 ohm loudspeaker system shall have an operating bandwidth of 72 Hz - 18 kHz. The nominal output level shall be 99 dB when measured at a distance of

one meter with an input of one watt. The nominal impedance shall be 4.0 ohms. The maximum continuous power handling shall be 700 watts, maximum program power of 1,400 watts and a peak power input of at least 2,800 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 23.69 inches high by 17.81 inches wide by 13.75 inches deep. The weight shall be 44 pounds. The loudspeaker system shall be a Peavey model Impulse 1012 (8 ohm).

The 8 ohm loudspeaker system shall have an operating bandwidth of 75 Hz - 18 kHz. The nominal output level shall be 100.0 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 23.69 inches high by 17.81 inches wide by 13.75 inches deep. The weight shall be 44 pounds. The loudspeaker system shall be a Peavey model Impulse 1012 8 ohm.



**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 product or device from this enclosure! Maximum enclosure angle 45°. Use only the correct mating hardware. All associated rigging is the responsibility of others.

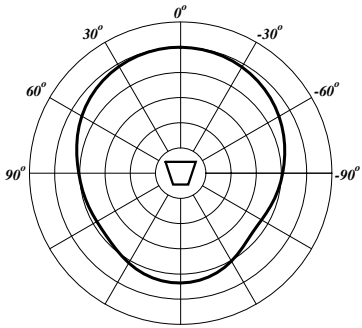
**THREE + TWO LIMITED WARRANTY**

**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 39302-2898.

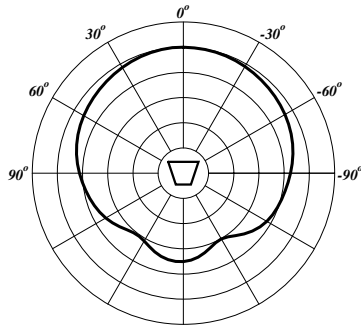
# Impulse® 1012

## Horizontal Polar Patterns

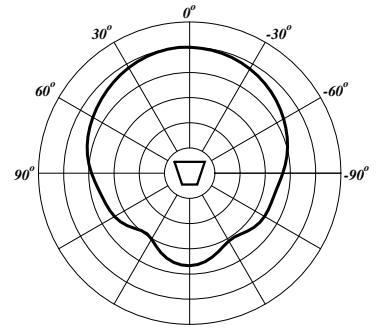
6 dB per Division



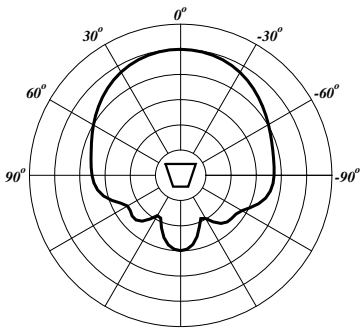
**250 Hz**



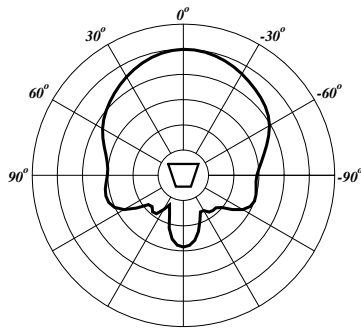
**315 Hz**



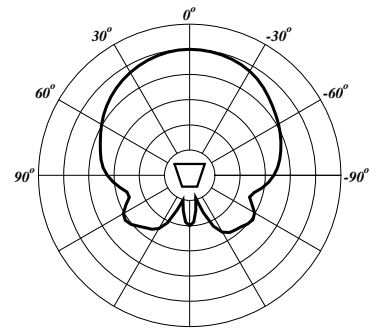
**400 Hz**



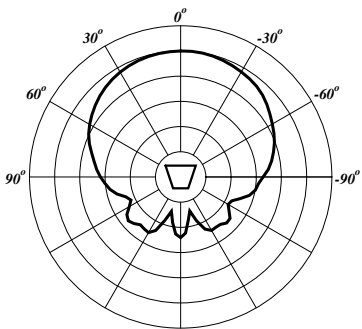
**500 Hz**



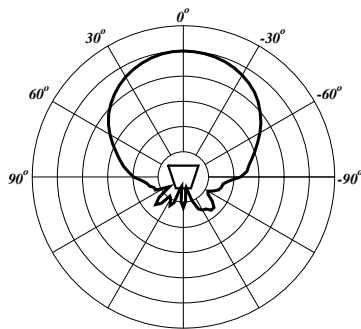
**630 Hz**



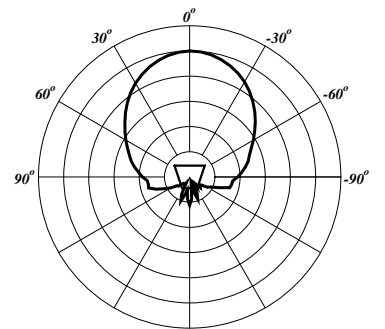
**800 Hz**



**1 kHz**



**1.25 kHz**

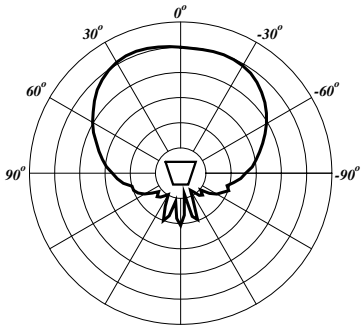


**1.6 kHz**

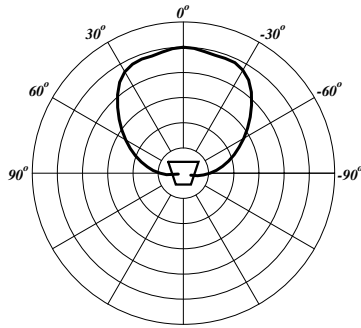
# Impulse® 1012

## Horizontal Polar Patterns

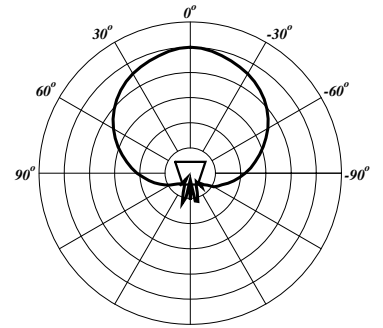
6 dB per Division



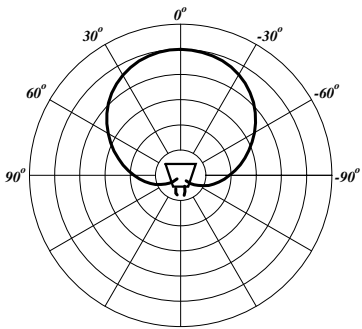
**2 kHz**



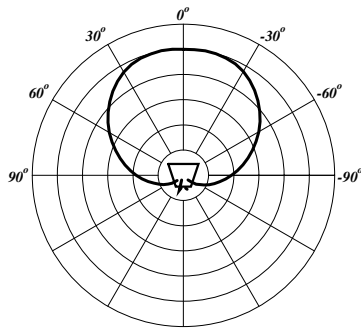
**2.5 kHz**



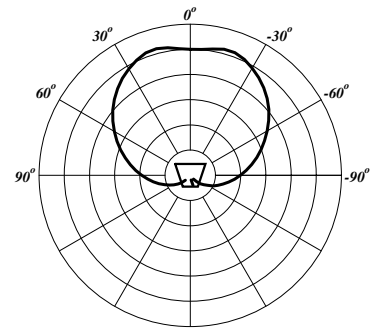
**3.15 kHz**



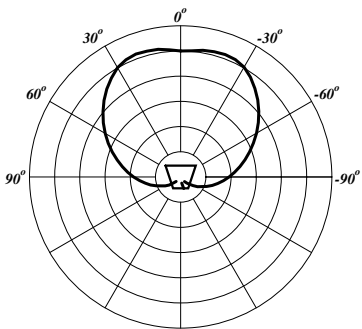
**4 kHz**



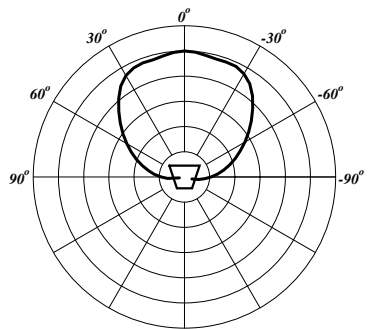
**5 kHz**



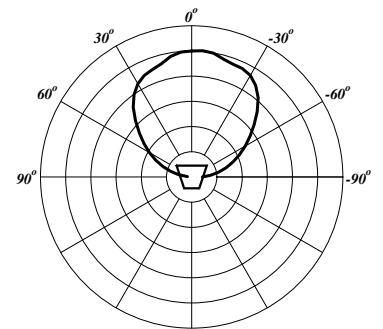
**6.3 kHz**



**8 kHz**



**12.5 kHz**

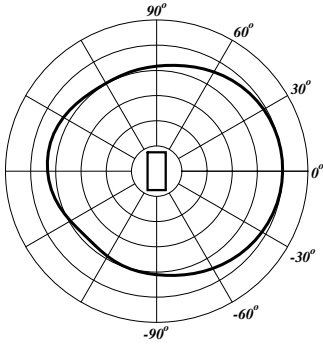


**16 kHz**

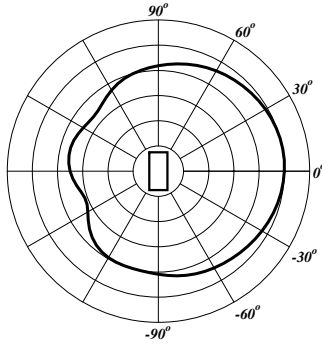
# Impulse® 1012

## Vertical Polar Patterns

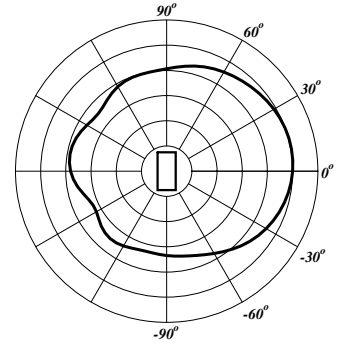
6 dB per Division



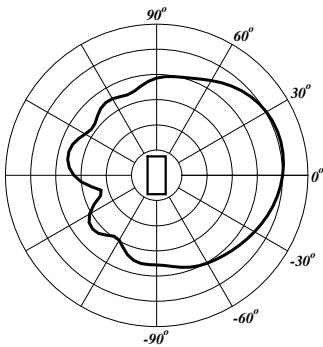
**250 Hz**



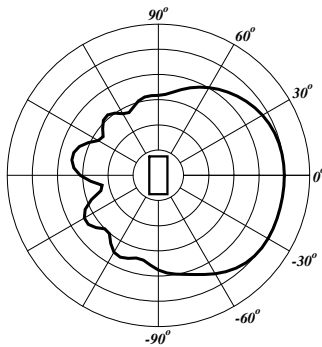
**315 Hz**



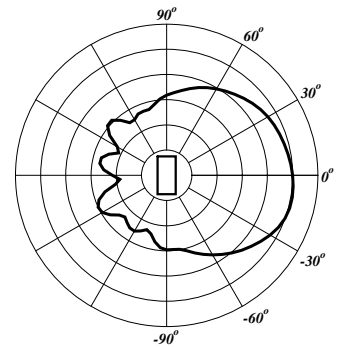
**400 Hz**



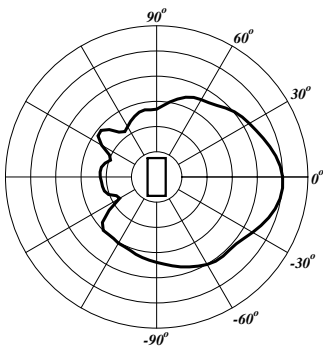
**500 Hz**



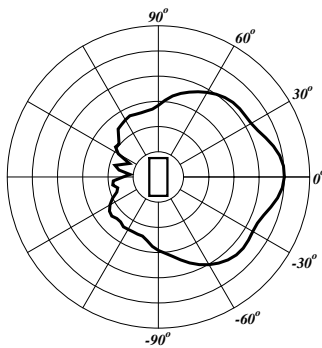
**630 Hz**



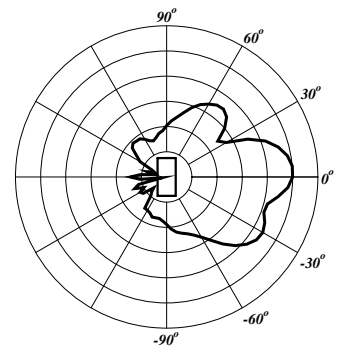
**800 Hz**



**1 kHz**



**1.25 kHz**

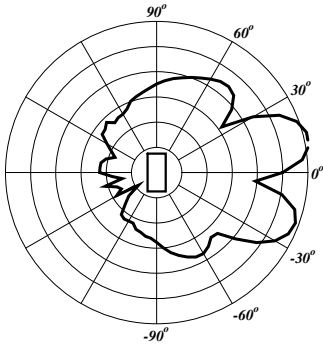


**1.6 kHz**

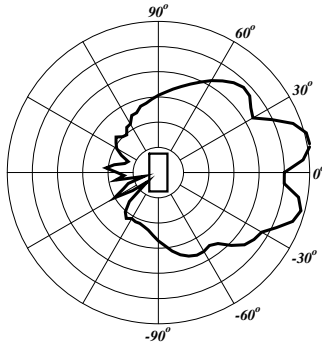
# Impulse® 1012

## Vertical Polar Patterns

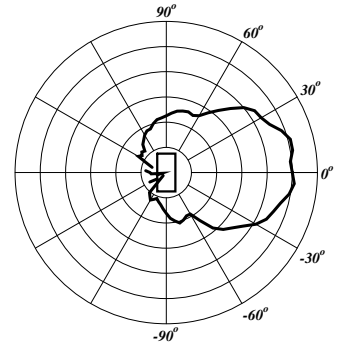
6 dB per Division



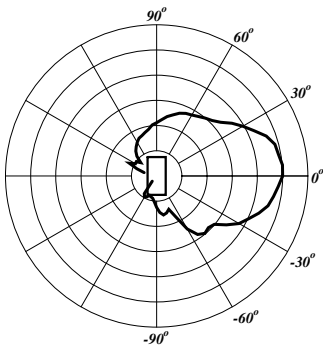
**2 kHz**



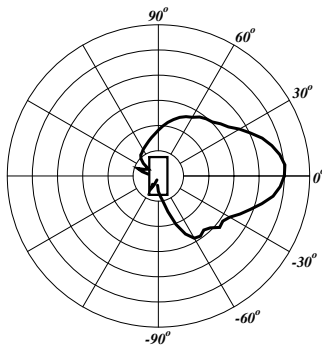
**2.5 kHz**



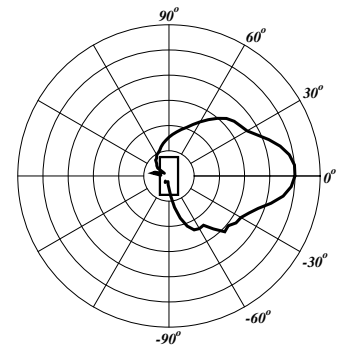
**3.15 kHz**



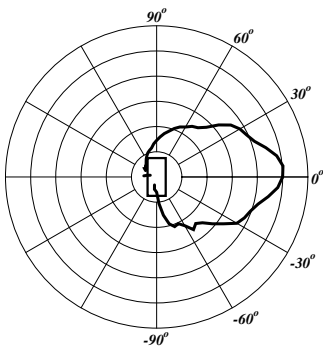
**4 kHz**



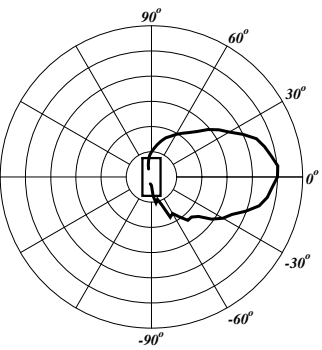
**5 kHz**



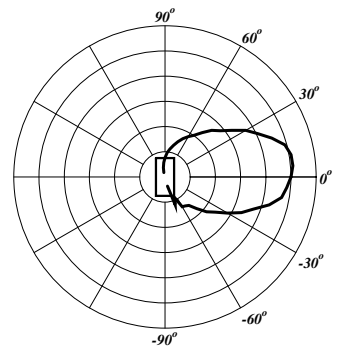
**6.3 kHz**



**8 kHz**



**12.5 kHz**

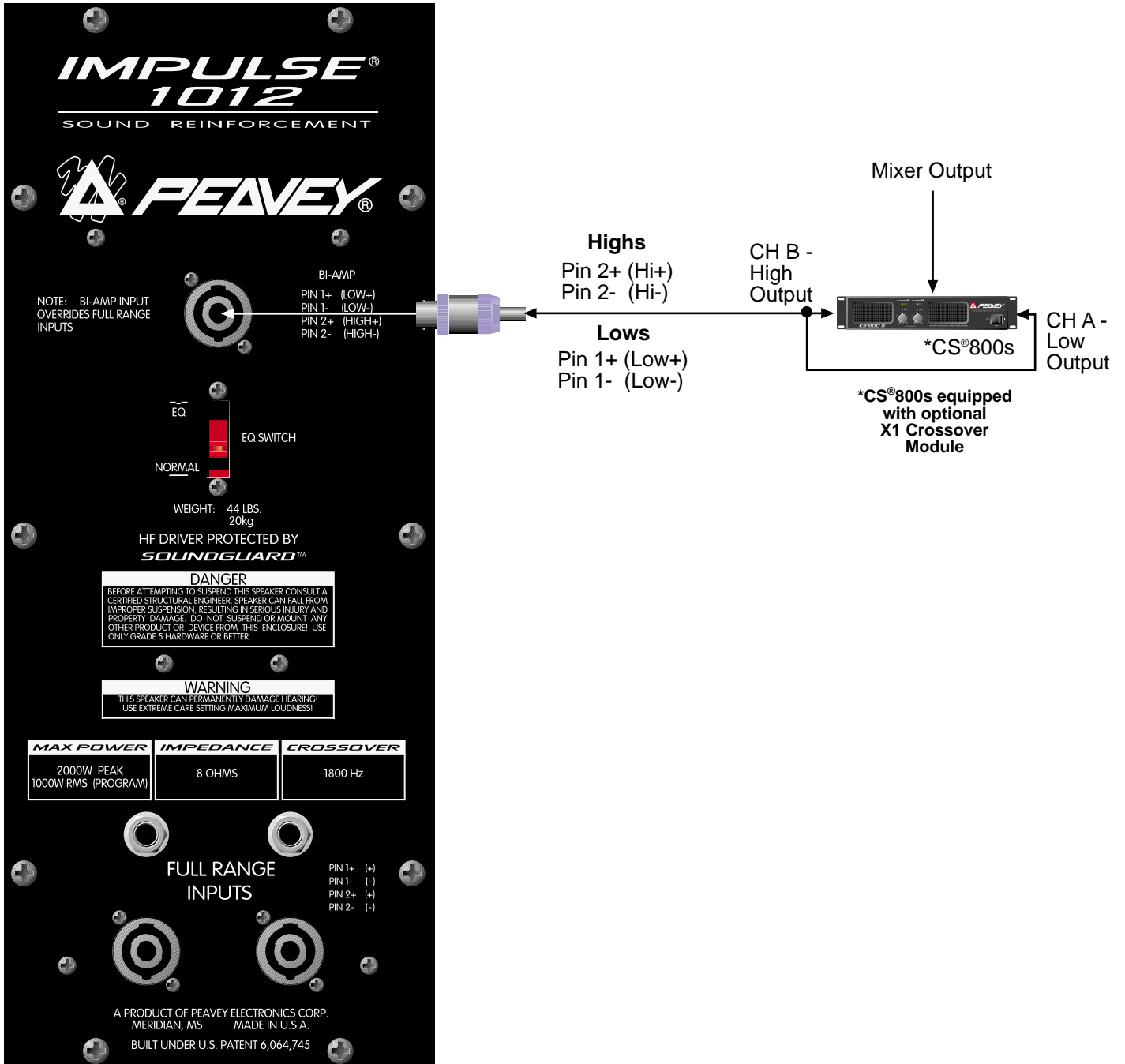


**16 kHz**



# Impulse® 1012

## Biamp Wiring Diagram for Speakon® Use

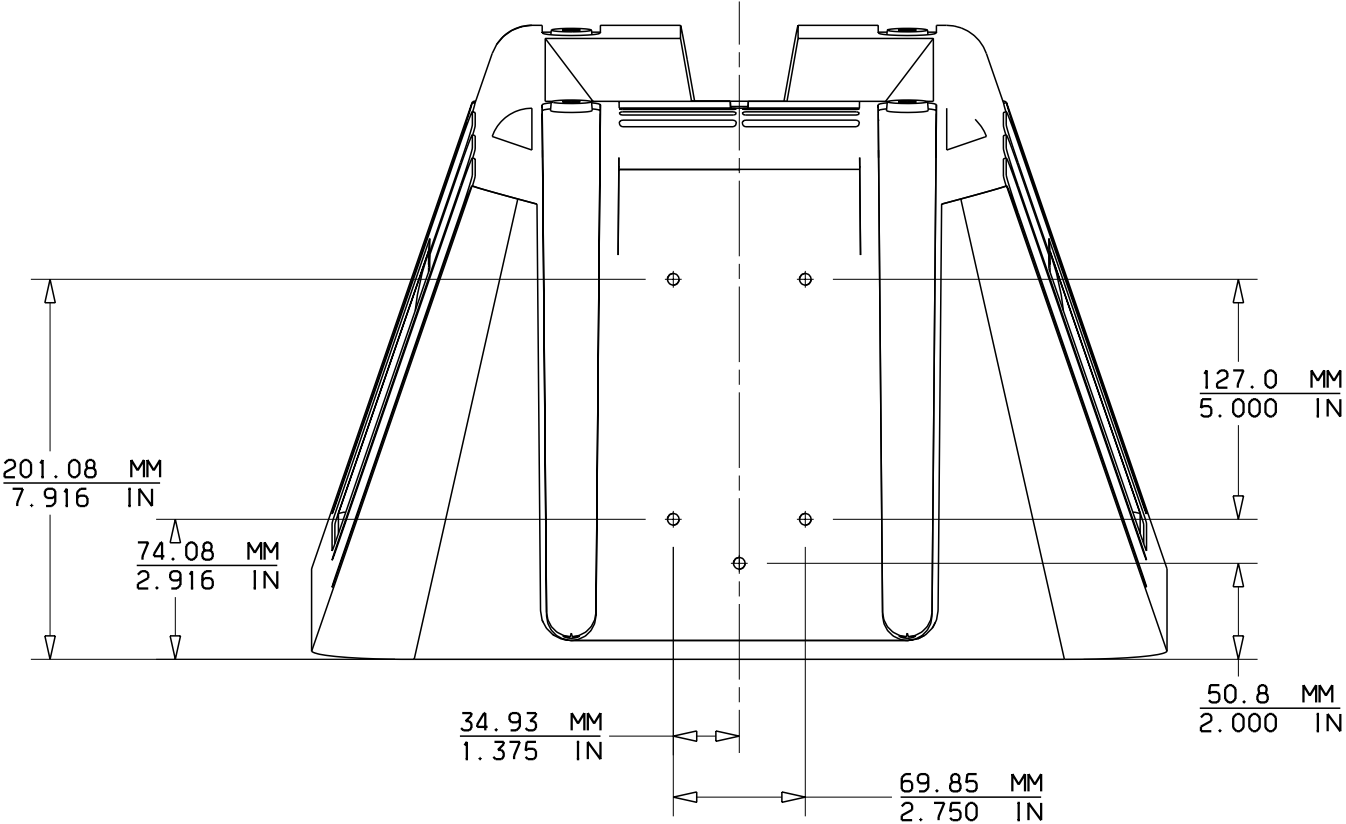


Impulse® 1012

# Impulse® 1012

## Top Mounting Dimensions

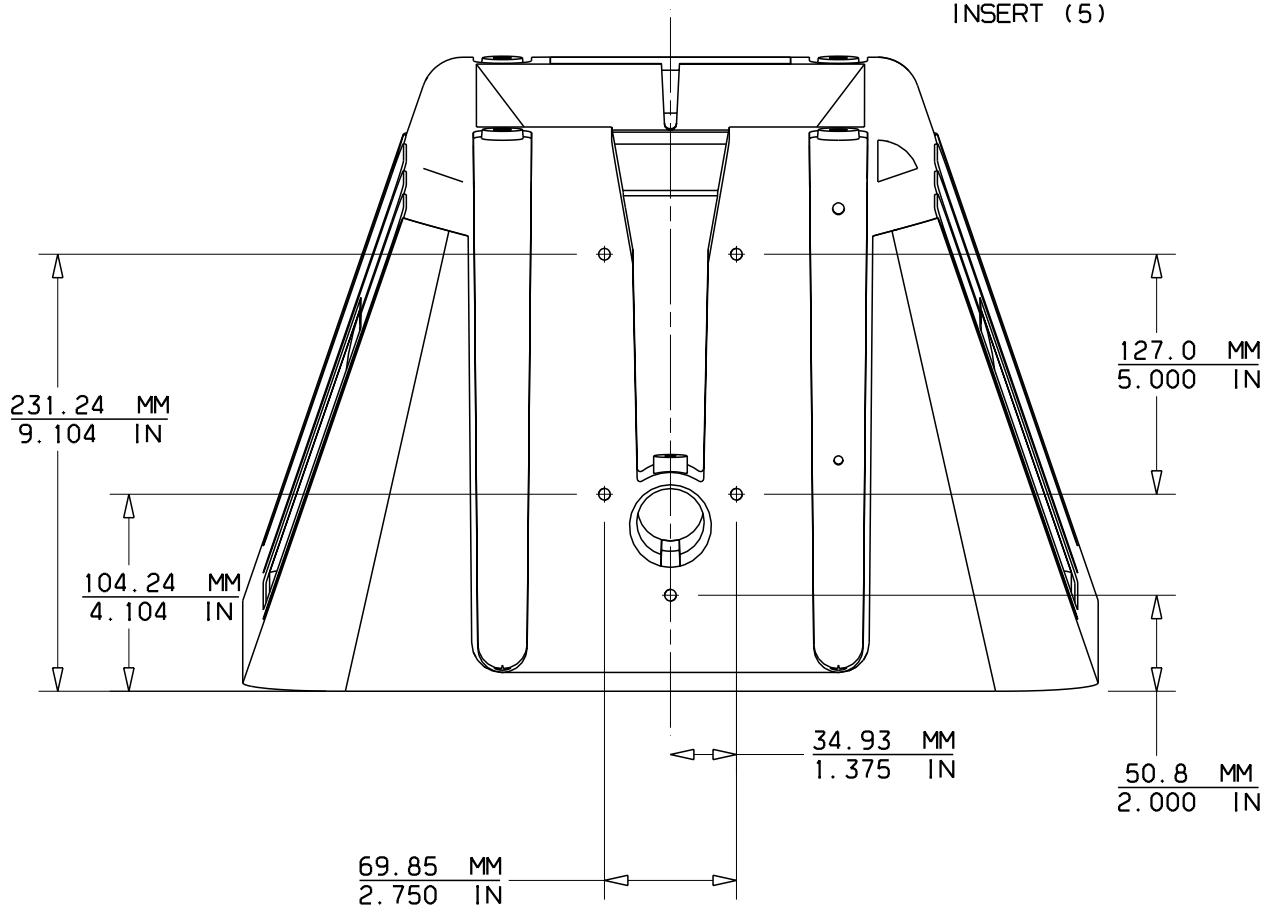
1/4-20 X 3/4 FULL THREAD  
INSERT (5)



# Impulse® 1012

## Bottom Mounting Dimensions

1/4-20 X 3/4 FULL THREAD  
INSERT (5)





*Features and specifications subject to change without notice.*

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