

## Professional Series

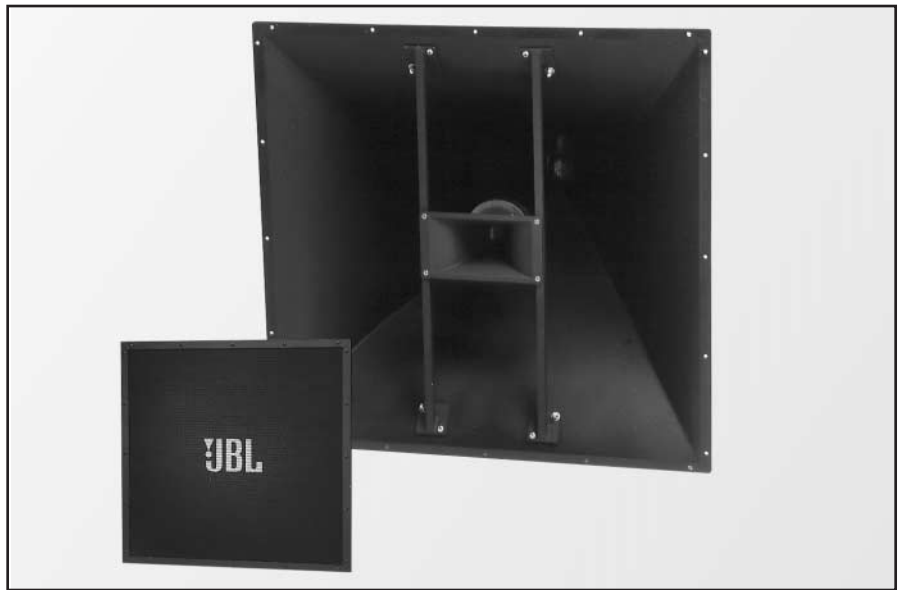
### Key Features:

- ▶ Two-way coaxial horn family providing a high SPL, wide response point source.
- ▶ Controlled horizontal and vertical pattern in 90°x50°, 60°x50°, and 40°x30° formats.
- ▶ Uniform on and off-axis frequency response from 300 Hz to 16 kHz.
- ▶ Optimized Aperture™ horn design provides very low distortion at high sound pressure levels.
- ▶ 2390-Series mid-frequency horn and 2490H large format compression driver with 76mm (3 in) exit.
- ▶ High-frequency horn and 2451H large format compression driver with 38mm (1.5 in) exit.
- ▶ Weather-resistant version available.

The coupling of JBL's patented Bi-Radial<sup>®</sup>, mid-frequency and high-frequency horns into a colinear loudspeaker has produced a convenient package for supplying high sound pressure levels over a six octave bandwidth from a point source.

Constant horizontal and vertical coverage patterns over the bandwidth of 300 Hz to 16 kHz allow precise control of sound energy. Greater intelligibility is more easily achieved while reducing problems with lobing, comb filtering and system gain-before-feedback issues.

Both the high-frequency and mid-frequency horns use Optimized Aperture technology that results in improved driver-to-horn coupling and lower distortion levels.



2192, 90° x 50° typical of coaxial horn family. Weather-resistant shown in inset

### Components:

The JBL Coaxial Bi-Radial horns are the result of the finest horn and compression driver technology. The coaxial horn family offers the system designer the best possible solution for covering the bandwidth from 300 Hz to 20 kHz at maximum continuous sound pressure levels with the highest practical efficiency.

Both the mid-frequency and high-frequency horns were developed using advanced computer modeling, including JBL's proprietary horn design software, finite element analysis and boundary element analysis. The application of this advanced technology helped create the Optimized Aperture horns used in this design and greatly reduces throat distortion, while effectively extending usable high frequency response.

The compression drivers utilized in the coaxial horn family are the 2490H at mid-frequencies and the 2451H at high-frequencies. Both drivers utilize a three-dimensional diamond pattern surround, and a pure titanium diaphragm for stiffness and freedom from break-up modes.

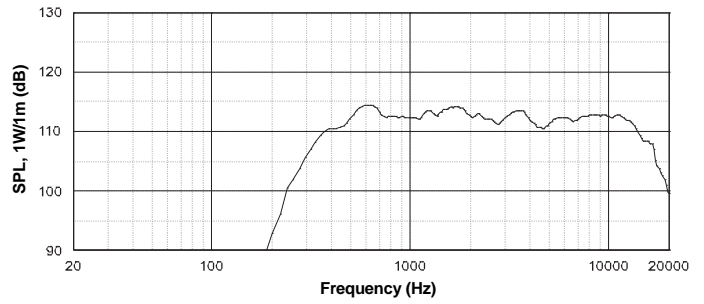
The 2192, 2193 and 2194 horns are designed to be bi-amplified using the JBL DSC280 controller, which provides crossover, signal alignment, EQ, and limiting functions to obtain optimum performance with the coaxials.

Also available are the 2192-WR, 2193-WR and 2194-WR coaxials with the weather-resistance option. The weather-resistant version includes a rugged 3 layer rain-resistant grille and a sealed chamber for the mid-frequency driver. Non-corrosive, stainless steel suspension points are also included.

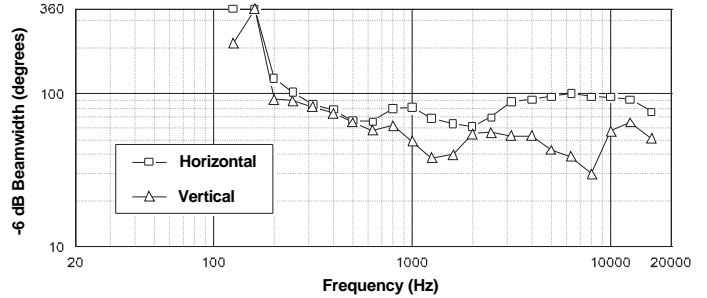
# ▶ 2192, 2193, 2194 Two-Way Coaxial, Optimized Aperture Bi-Radial® Horn Family

## JBL 2192 Coaxial Horn

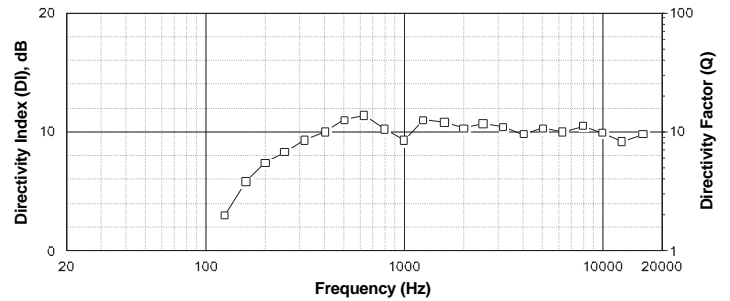
Frequency Response – Cut-only mid-frequency equalization, typical of usage. Base sensitivity (maximum drive at any mid frequency) is 1W (2.83V). Measured at farfield distance, on axis, scaled to 1W @ 1m.



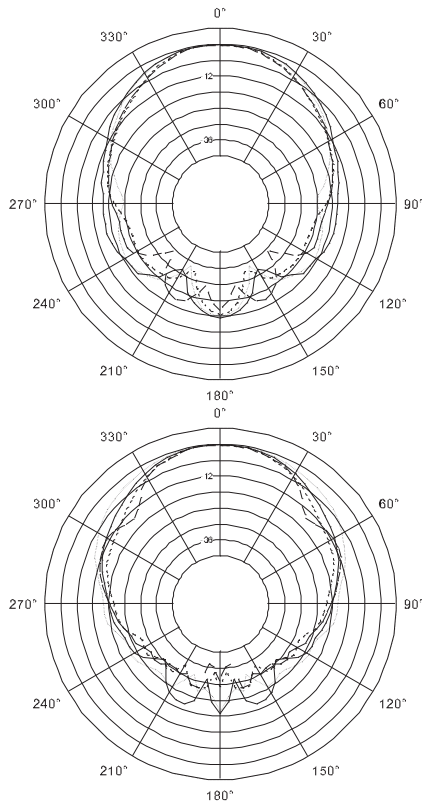
Beamwidth vs. Frequency



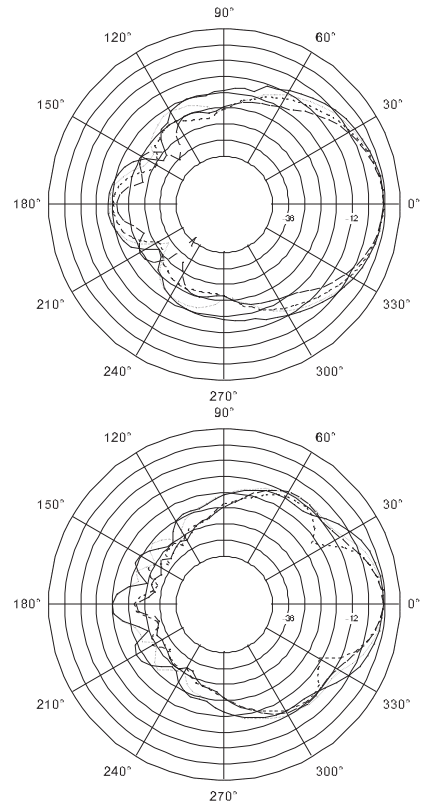
Directivity vs. Frequency



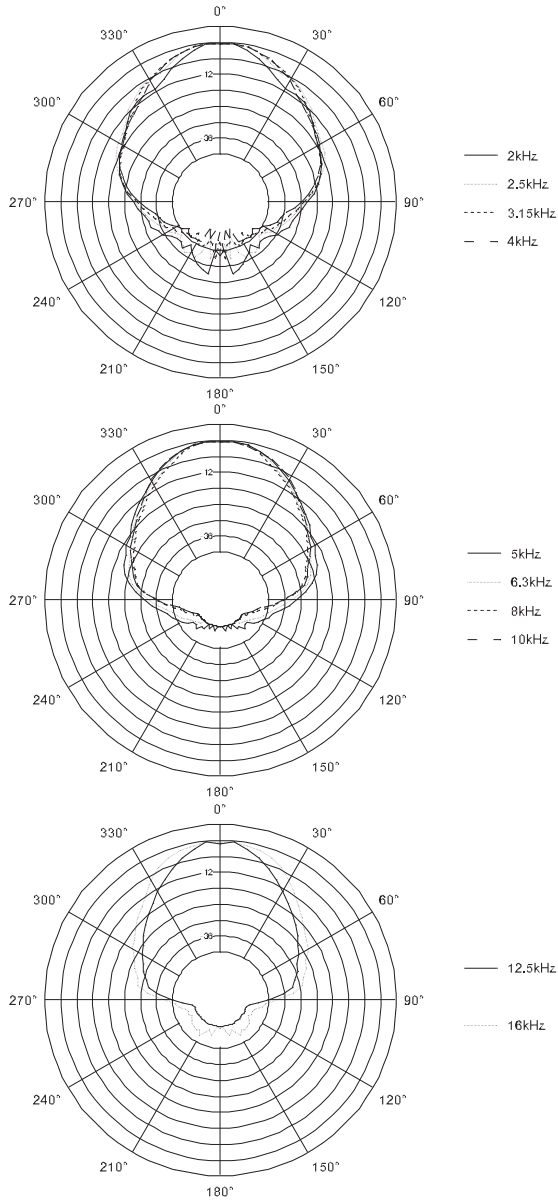
Horizontal 1/3 Octave Polars



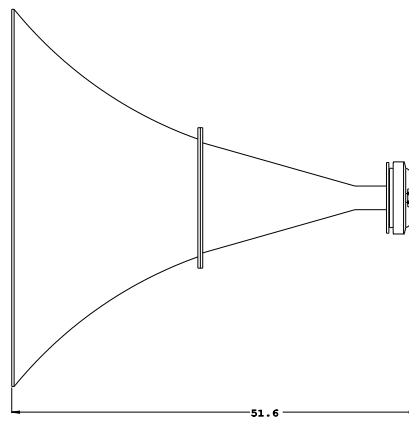
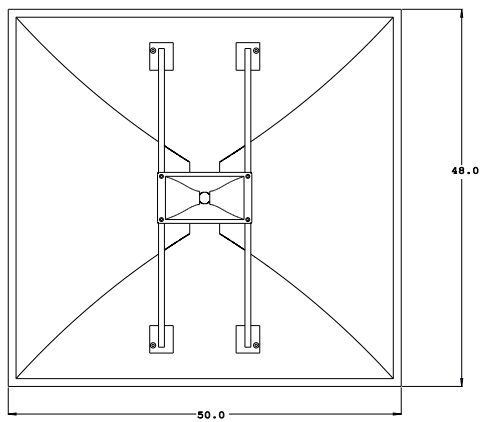
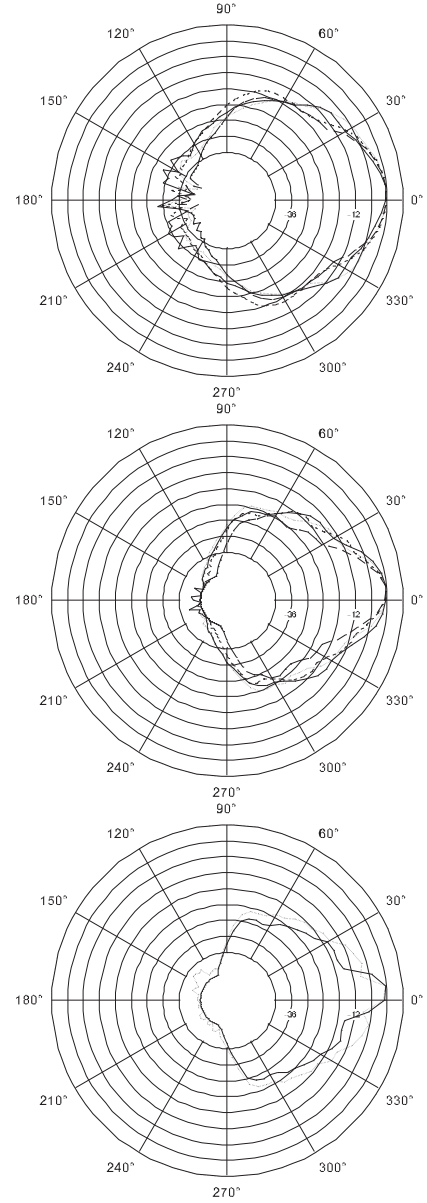
Vertical 1/3 Octave Polars



### Horizontal 1/3 Octave Polars



### Vertical 1/3 Octave Polars

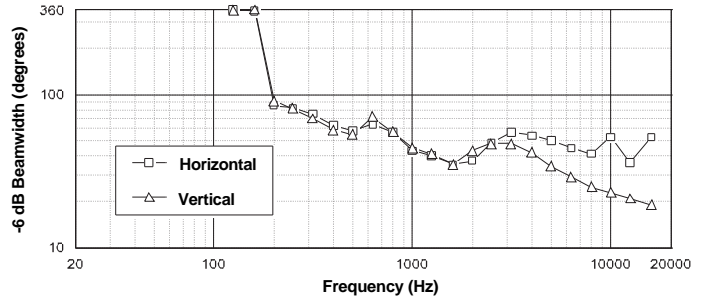
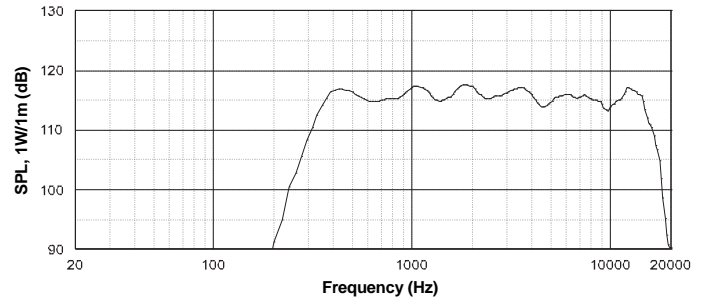


# ▶ 2192, 2193, 2194 Two-Way Coaxial, Optimized Aperture Bi-Radial® Horn Family

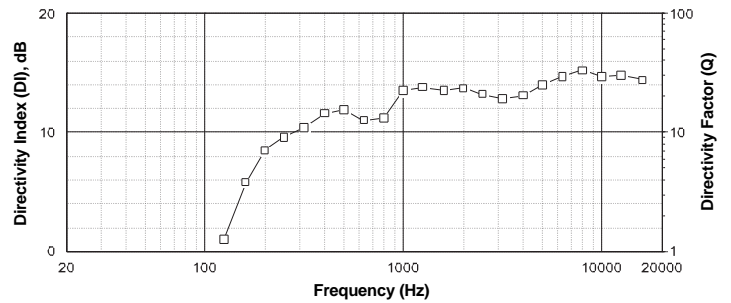
## JBL 2194 Coaxial Horn

Frequency Response – Cut-only mid-frequency equalization, typical of usage. Base sensitivity (maximum drive at any mid frequency) is 1W (2.83V). Measured at farfield distance, on axis, scaled to 1W @ 1m.

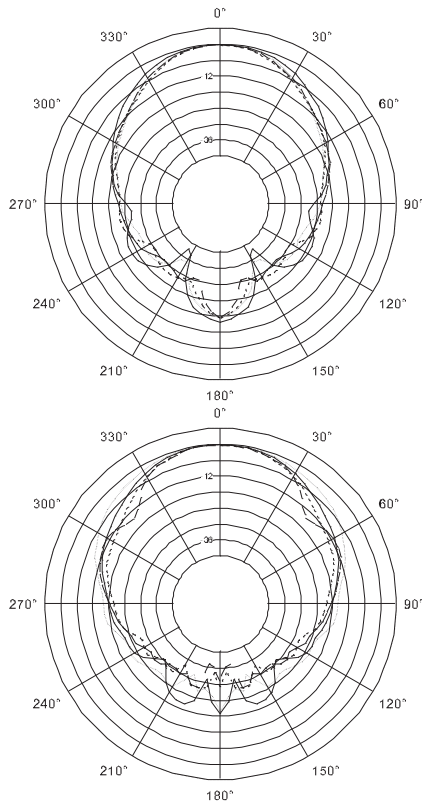
Beamwidth vs. Frequency



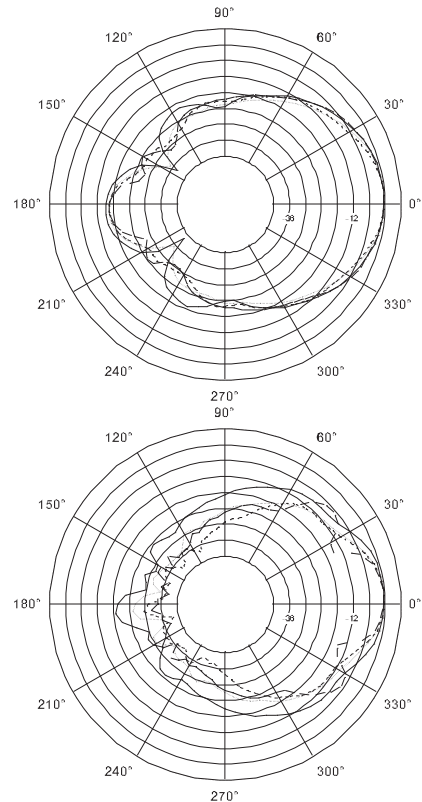
Directivity vs. Frequency



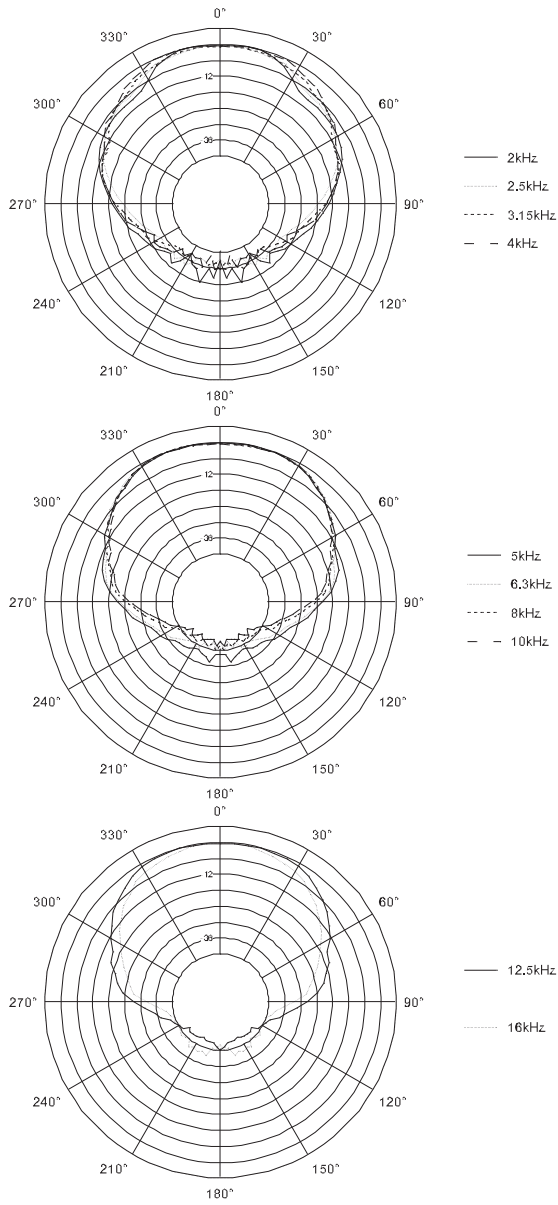
Horizontal 1/3 Octave Polars



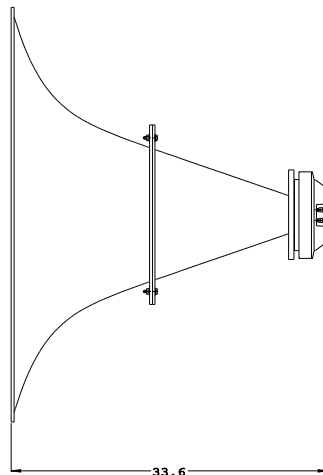
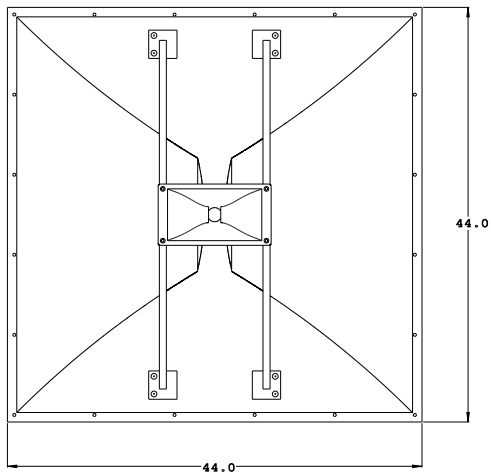
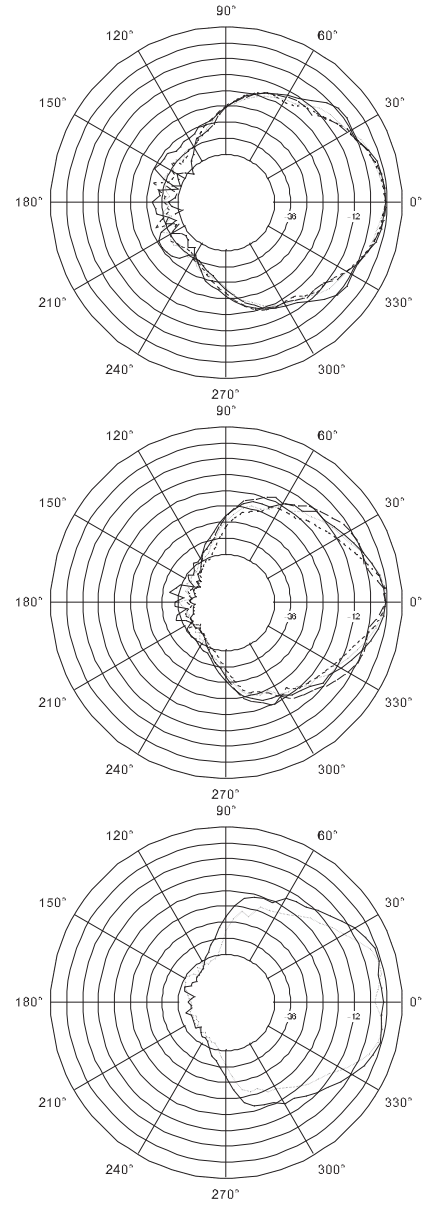
Vertical 1/3 Octave Polars



### Horizontal 1/3 Octave Polars



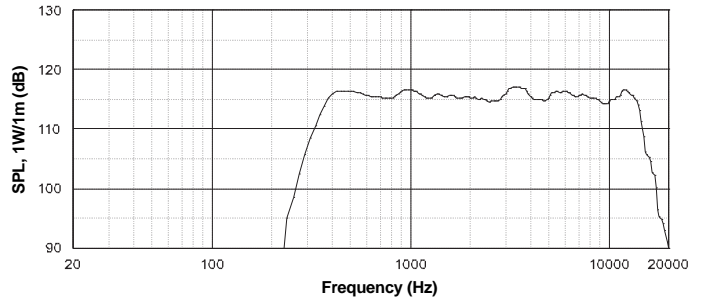
### Vertical 1/3 Octave Polars



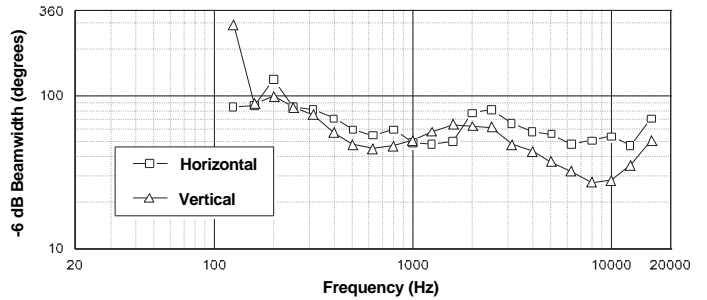
# ▶ 2192, 2193, 2194 Two-Way Coaxial, Optimized Aperture Bi-Radial® Horn Family

## JBL 2193 Coaxial Horn

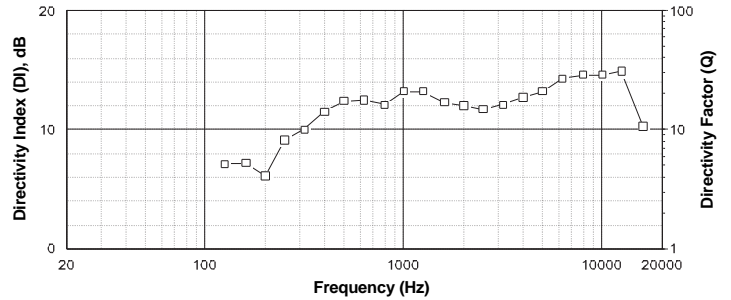
Frequency Response – Cut-only mid-frequency equalization, typical of usage. Base sensitivity (maximum drive at any mid frequency) is 1W (2.83V). Measured at farfield distance, on axis, scaled to 1W @ 1m.



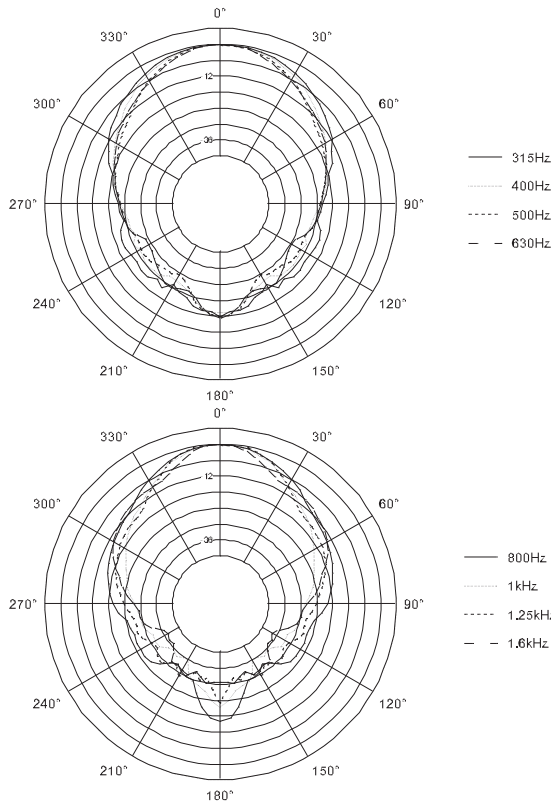
Beamwidth vs. Frequency



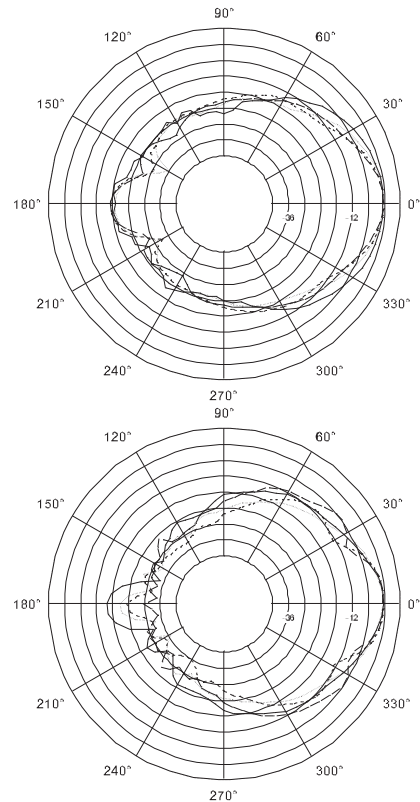
Directivity vs. Frequency



Horizontal 1/3 Octave Polars

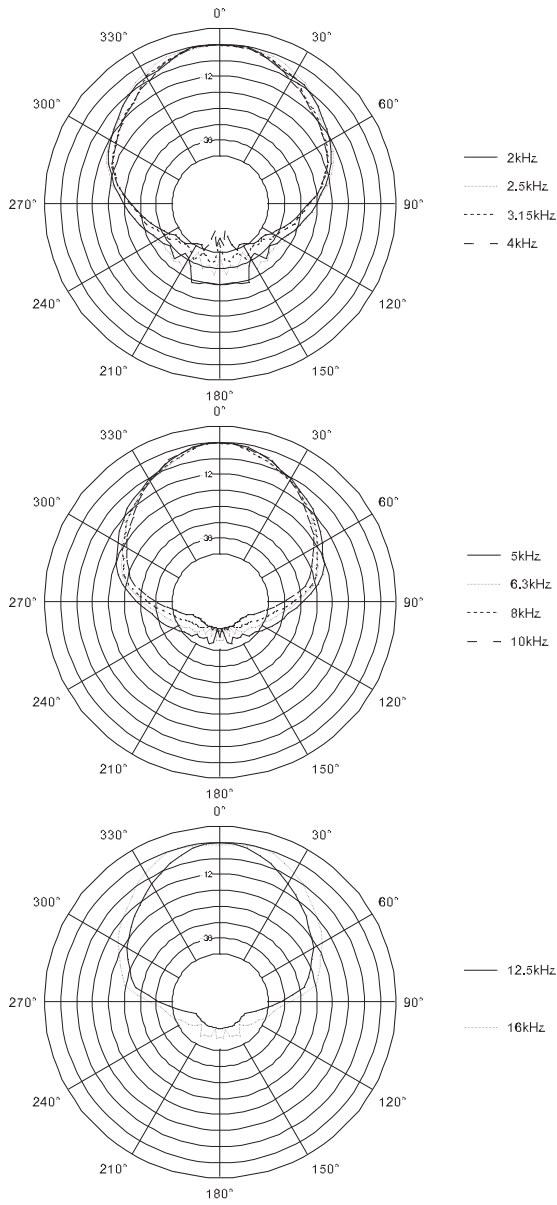


Vertical 1/3 Octave Polars

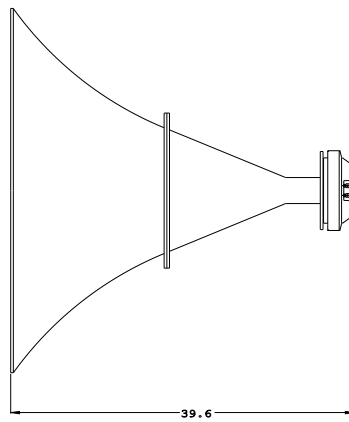
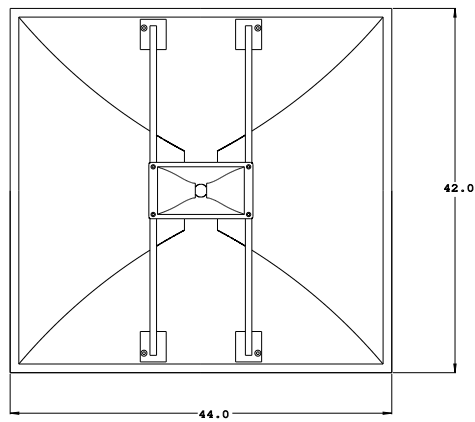
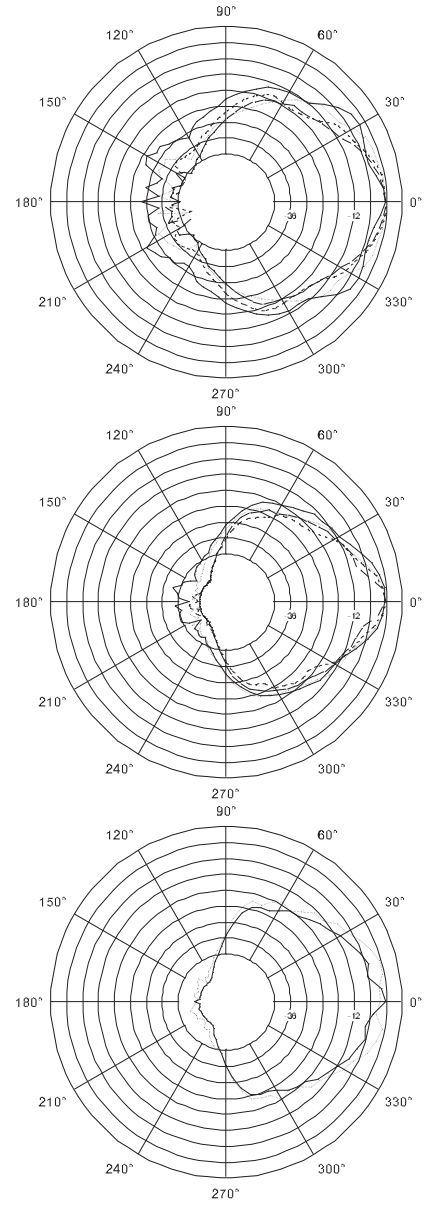




### Horizontal 1/3 Octave Polars



### Vertical 1/3 Octave Polars



# ▶ 2192, 2193, 2194 Two-Way Coaxial, Optimized Aperture Bi-Radial® Horn Family

## Product Specifications:

Horn Model:	2192	2193	2194
Frequency Response <sup>1</sup> :		260 Hz - 17 kHz	
Horizontal Coverage Angle (-6 dB) 300 Hz to 16 kHz:	90° (+8°, -28°)	60° (+20°, -10°)	40° (+30°, -5°)
Vertical Coverage Angle (-6 dB) 300 Hz to 16 kHz:	50° (+30°, -20°)	50° (+30°, -12°)	30° (+40°, -10°)
Directivity Factor (Q) 300 Hz to 16 kHz:	10 (+4, -2)	20 (+12, -10)	26 (+10, -18)
Directivity Index (DI) 300 Hz to 16 kHz:	10 dB (+2, -1)	13 dB (+2, -3)	14 dB (+1, -5)
Axial Pressure Sensitivity <sup>2</sup> :	112 dB MF/111 dB HF	115 dB MF/111 dB HF	116 dB MF/111 dB HF
Recommended MF Crossover:	300 Hz @ 18 dB/octave minimum		
Recommended HF Crossover:	2kHz @ 24dB/octave		
Recommended HF Signal Delay:	2.00 ms	2.34 ms	3.00 ms
<b>Power Rating:</b>			
Mid-Frequency:	100 W AES, 300 Hz to 3 kHz, 200W recommended amplifier power @ 8Ω		
High-Frequency:	75 W AES, 1 kHz to 10 kHz, 200W recommended amplifier power @ 8Ω		
<b>Transducers:</b>			
Mid-Frequency:	2490H 100 mm (4 in) diaphragm and voice coil dia., 76 mm (3 in) throat dia.		
High-Frequency:	2451H (J avail) 100 mm (4 in) diaphragm and voice coil dia., 38 mm (1.5 in) throat dia.		
<b>Physical:</b>			
Mouth Height:	1120 mm (44 in)	1070 mm (42 in)	1220 mm (48 in)
Mouth Width:	1120 mm (44 in)	1120 mm (44 in)	1270 mm (50 in)
Length with Driver:	855 mm (33.6 in)	1005 mm (39.6 in)	1315 mm (51.6 in)
Length of each Section <sup>3</sup> :	385 mm (15 in)	460 mm (18 in)	610 mm (24 in)
Net Weight:	36 kg (78 lbs)	50 kg (109 lbs)	54 kg (118 lbs)
Construction:	Fiberglass reinforced plastic		
Accessories:	Included: 2 pcs forged shoulder eye bolts for horn-front suspension points. Optional: 2510 suspension plate, provides pick-point at driver.		

<sup>1</sup>Useable frequency response is defined as 10dB below rated sensitivity.

<sup>2</sup>Measured on axis in the far field with 1 watt (2.83 V RMS, 8 ohms) input and referenced to 1 meter distance using the inverse square law. Listed sound pressure represents an average through each driver's operating band.

<sup>3</sup>To facilitate shipping and handling this horn is made, and shipped in two halves.

JBL continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.



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