

**JBL**

# 2352, 2353, 2354 Mid-Format Optimized Aperture Bi-Radial® Horn Family

## Professional Series

### Key Features

- ▶ Optimized Aperture™ horn design provides very low distortion at high sound pressure levels
- ▶ Mid-format horn family provides uniform on and off axis frequency response from 630 Hz to 20 kHz
- ▶ Controlled horizontal dispersion in 90° x 50°, 60° x 40°, and 40° x 30° coverage patterns
- ▶ 38 mm (1.5 in) throat entry

JBL models 2352, 2353, and 2354 are medium format elements of JBL's preeminent family of Bi-Radial® horns, providing uniform coverage control over the bandwidth of 630 Hz to beyond 18 kHz, allowing precise control of critical vocal range energy. These medium format horns provide extremely low distortion at typical peak sound pressure levels of 139 dB-SPL at 1m.

### Optimized Aperture

The clear and uncolored sound character of the 2350 Series horns is accomplished by coupling the compression driver phase plug to a unique horn throat geometry, resulting in the elusive combination of extremely low throat distortion with high air movement capability. These horn designs were verified through the use of advanced technology, including finite element analysis, boundary element analysis and extensive computer modeling via proprietary JBL horn design software.



### Components and Accessories

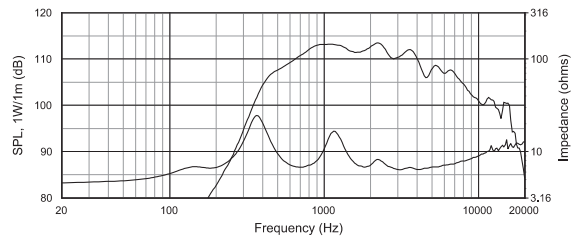
The 2350 Series of horns were designed to be used exclusively with either the 2447 or 2451 compression driver. The 100 mm (4 in) diaphragm for this driver utilizes a three-dimensional diamond pattern surround and a pure titanium diaphragm for rigidity and freedom from breakup modes. With its 150 watt continuous program rating above 1 kHz and optimized phase plug design for low distortion, smooth response and wide bandwidth, it matches with the 2350 Series horns for high sound pressure level applications.

The 2510 mounting bracket is recommended for suspension of the horn/driver combination. The 2510 installs between the horn flange and driver providing multiple pickup points.

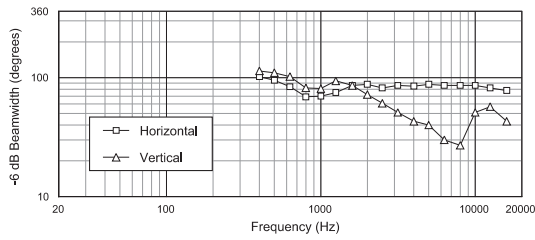
# ▶ 2352, 2353, 2354 Large Format Optimized Aperture Bi-Radial® Horn Family

## JBL 2352 Horn

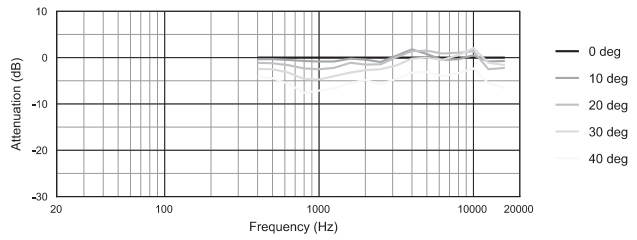
Frequency response is measured on-axis to the JBL 2352/2447H at a distance referenced to 1 meter at 1-watt (2.83 V rms) input in a reflection free environment.



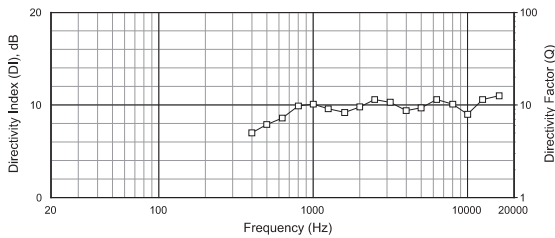
Beamwidth vs. Frequency



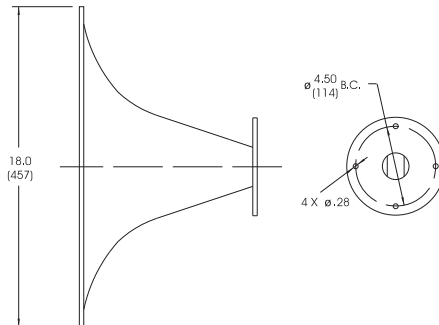
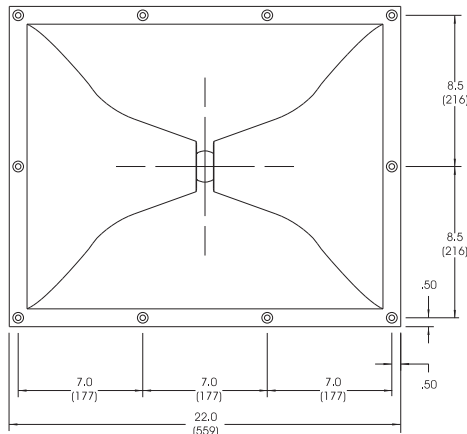
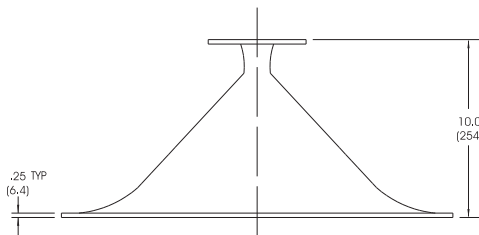
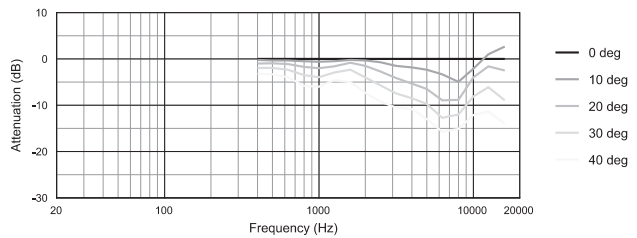
Horizontal Off-Axis Frequency Response



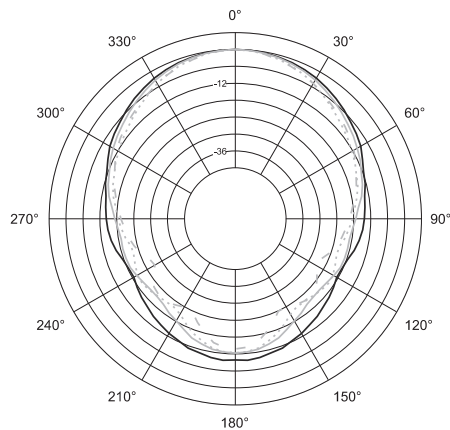
Directivity vs. Frequency



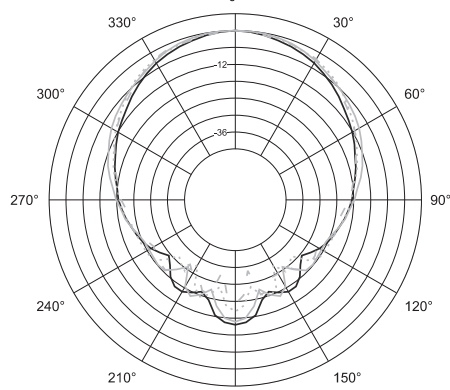
Vertical Off-Axis Frequency Response



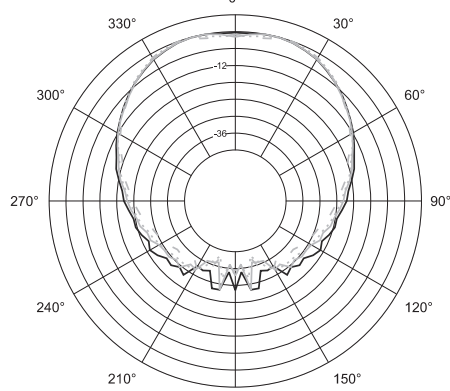
### Horizontal 1/3 Octave Polars



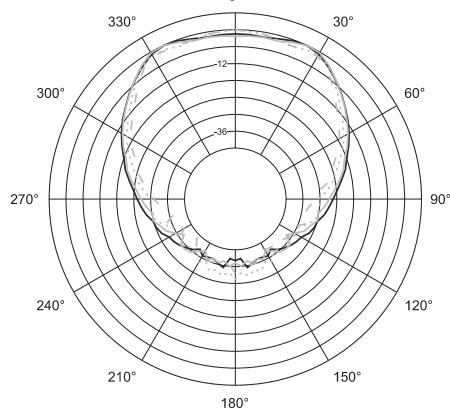
- 500Hz
- 630Hz
- 800Hz
- - - 1kHz



- 1.25kHz
- 1.6kHz
- 2kHz
- - - 2.5kHz

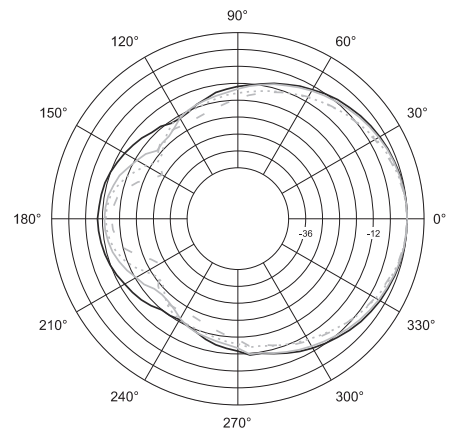


- 3.15kHz
- 4kHz
- 5kHz
- - - 6.3kHz

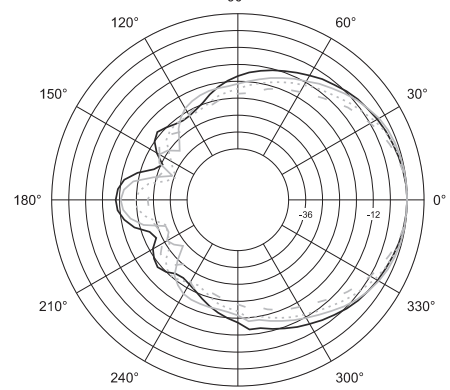


- 8kHz
- 10kHz
- 12.5kHz
- - - 16kHz

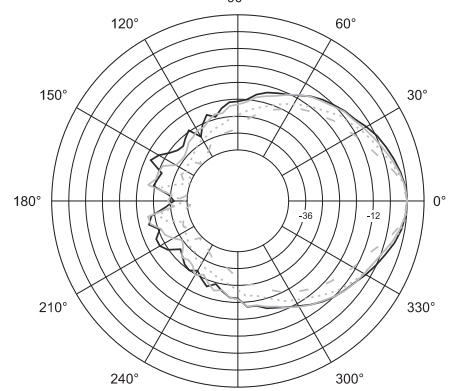
### Vertical 1/3 Octave Polars



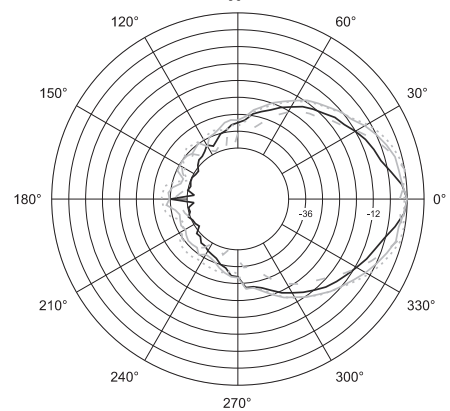
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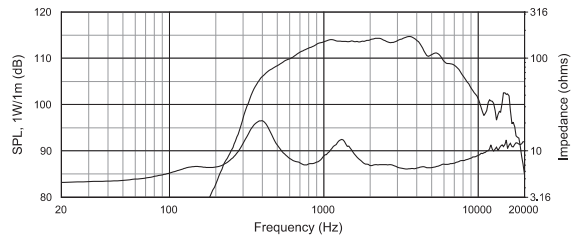


- 8kHz
- 10kHz
- 12.5kHz
- - - 16kHz

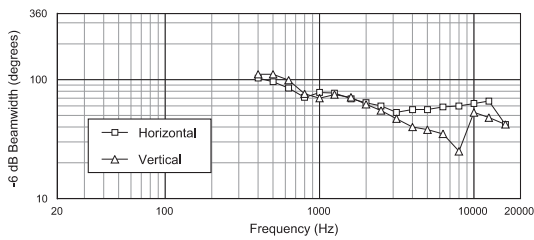
# ▶ 2352, 2353, 2354 Large Format Optimized Aperture Bi-Radial® Horn Family

## JBL 2353 Horn

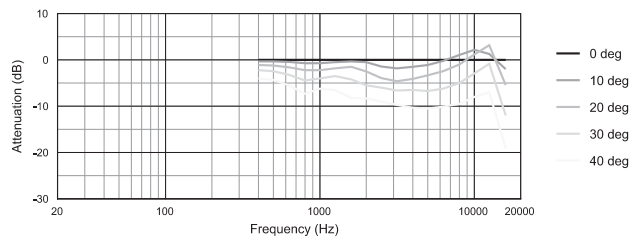
Frequency response is measured on-axis to the JBL 2353/2447H at a distance referenced to 1 meter at 1-watt (2.83 V rms) input in a reflection free environment.



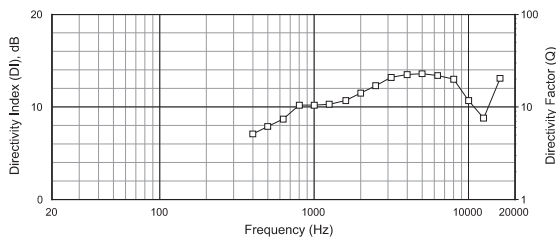
Beamwidth vs. Frequency



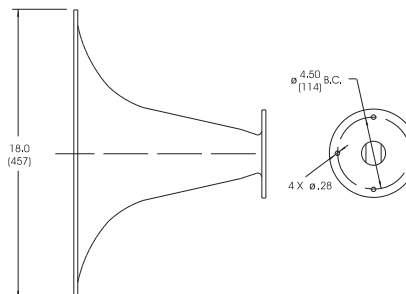
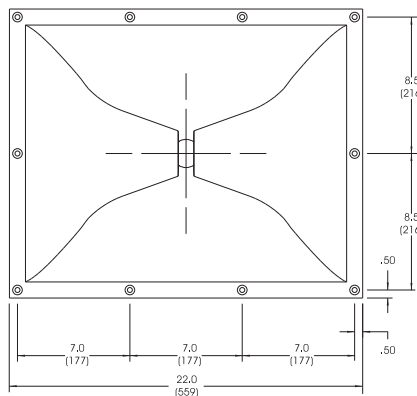
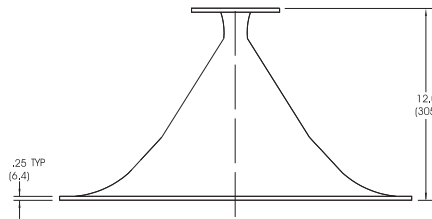
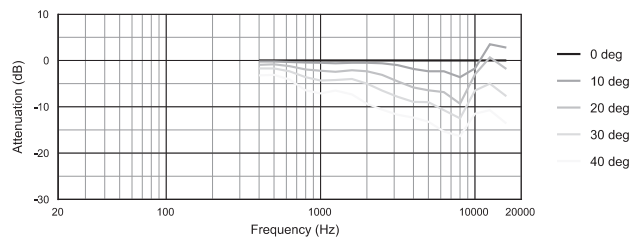
Horizontal Off-Axis Frequency Response



Directivity vs. Frequency

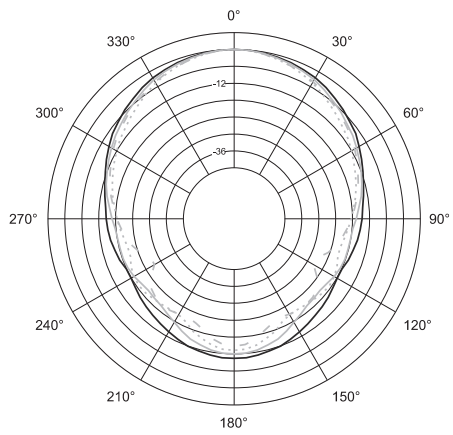


Vertical Off-Axis Frequency Response

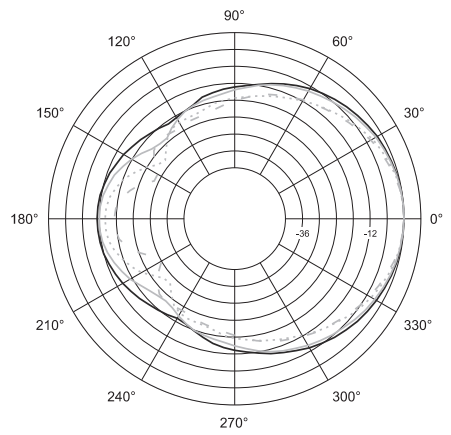


### Horizontal 1/3 Octave Polars

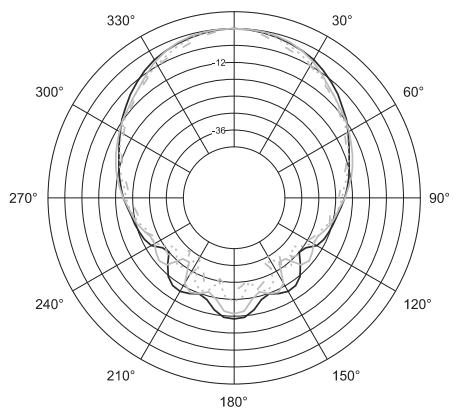
### Vertical 1/3 Octave Polars



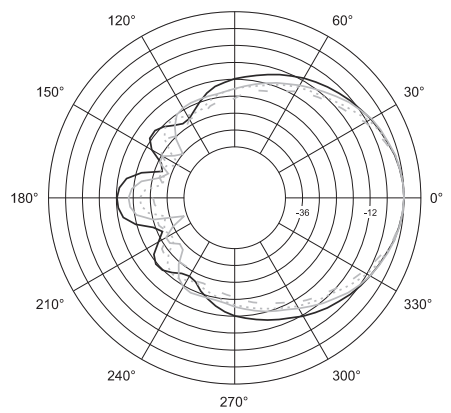
- 500Hz
- 630Hz
- ⋯ 800Hz
- - 1kHz



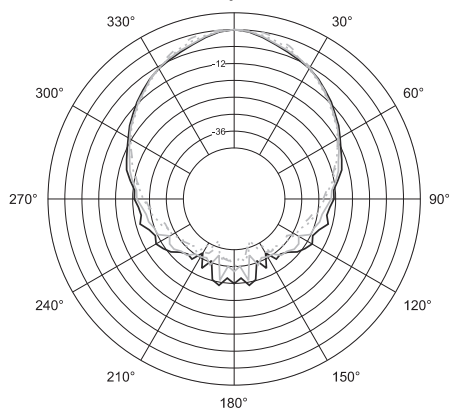
- 500Hz
- 630Hz
- ⋯ 800Hz
- - 1kHz



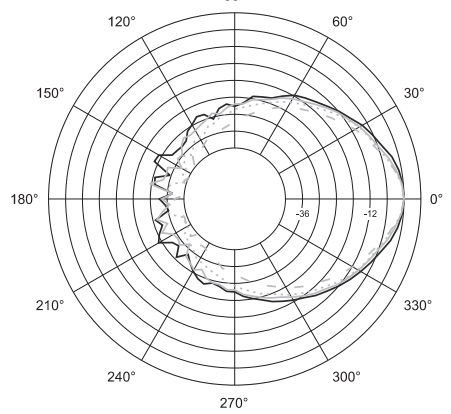
- 1.25kHz
- 1.6kHz
- ⋯ 2kHz
- - 2.5kHz



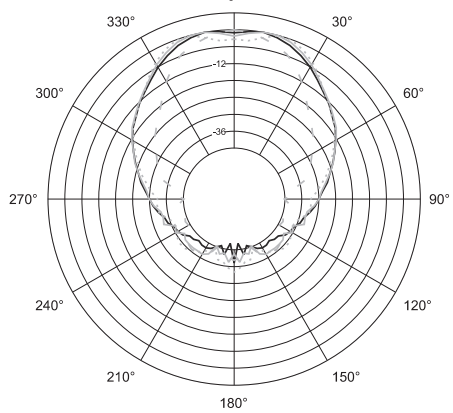
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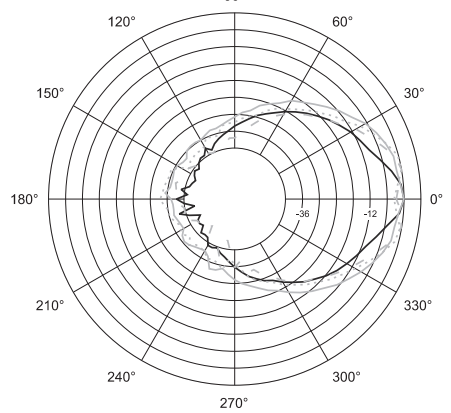
- 3.15kHz
- 4kHz
- ⋯ 5kHz
- - 6.3kHz



- 3.15kHz
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- 8kHz
- 10kHz
- ⋯ 12.5kHz
- - 16kHz

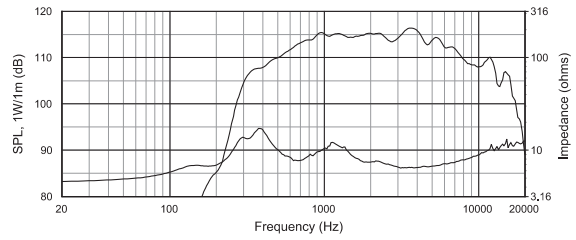


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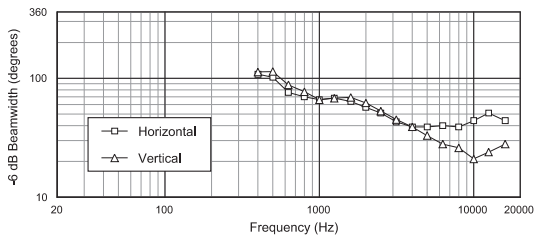
# ▶ 2352, 2353, 2354 Large Format Optimized Aperture Bi-Radial® Horn Family

## JBL 2354 Horn

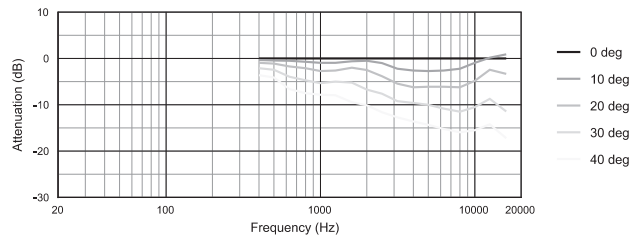
Frequency response is measured on-axis to the JBL 2354/2447H at a distance referenced to 1 meter at 1-watt (2.83 V rms) input in a reflection free environment.



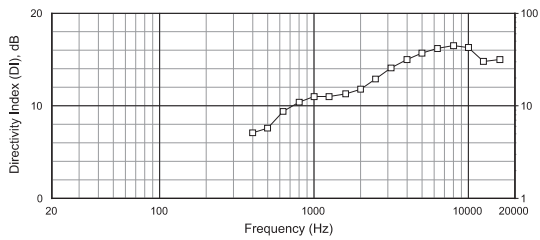
Beamwidth vs. Frequency



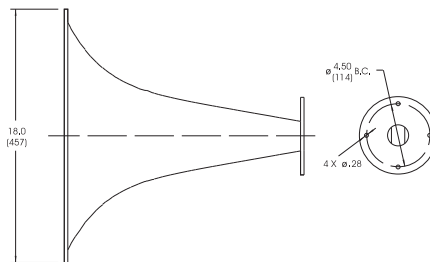
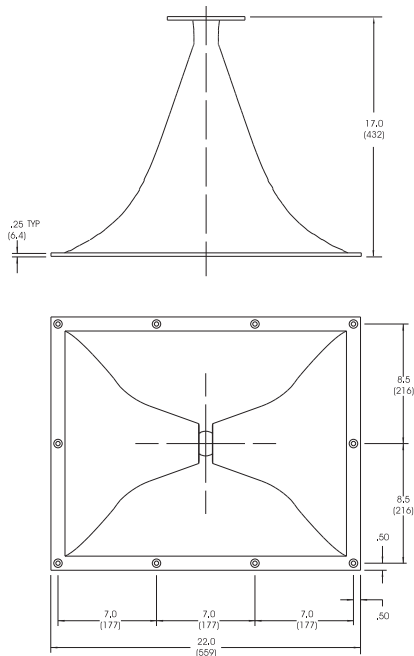
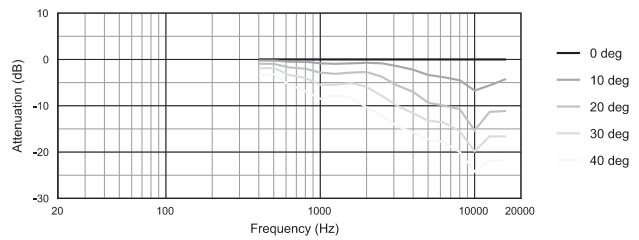
Horizontal Off-Axis Frequency Response



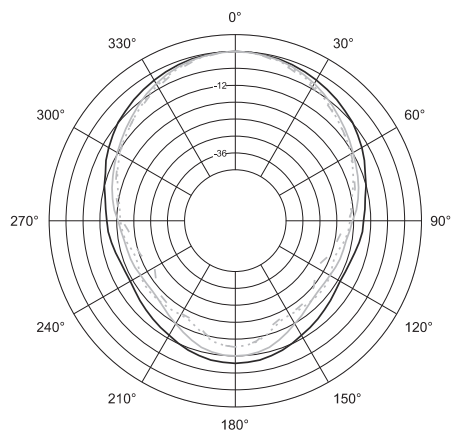
Directivity vs. Frequency



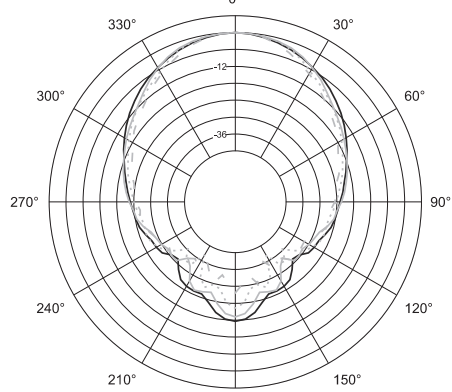
Vertical Off-Axis Frequency Response



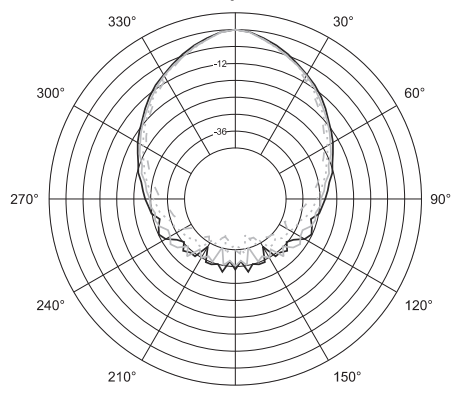
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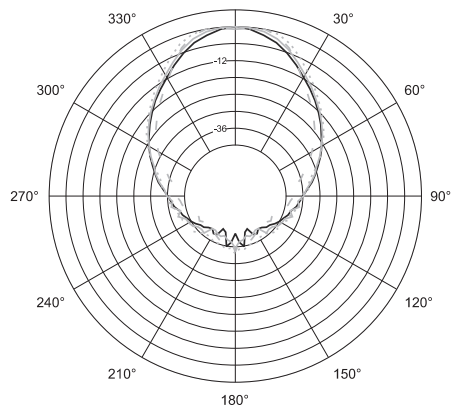
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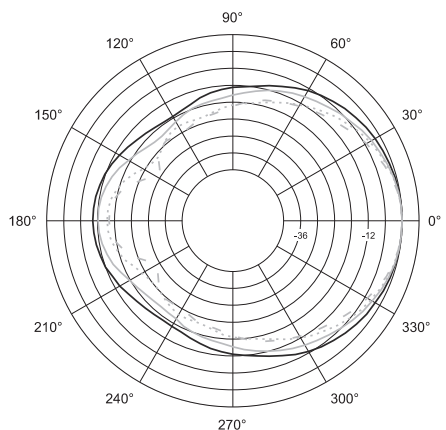


- 3.15kHz
- 4kHz
- 5kHz
- - - 6.3kHz

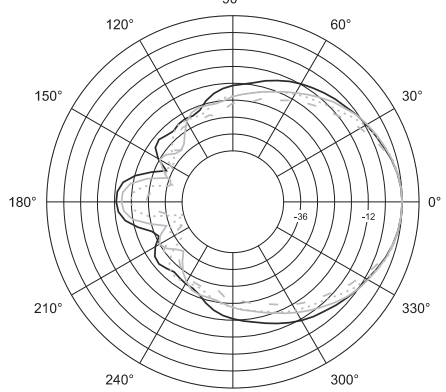


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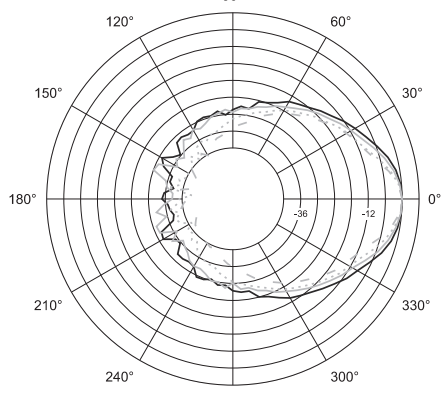
### Vertical 1/3 Octave Polars



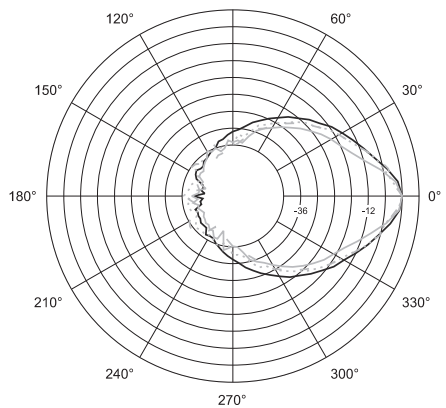
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## ▶ 2352, 2353, 2354 Large Format Optimized Aperture Bi-Radial® Horn Family

### Specifications:

Horn Model:	2352	2353	2354
Horizontal Coverage Angle (-6 dB) 630 Hz to 20 kHz:	90° (+0°, -10°)	60° (+5°, -18°)	40° (+20°, -10°)
Vertical Coverage Angle (-6 dB) 630 Hz to 20 kHz:	50° (+40°, -20°)	40° (+25°, -0°)	30° (+30°, -5°)
Directivity Factor (DQ) 630 Hz to 20 kHz:	13	16	30
Directivity Index (DI) 630 Hz to 20 kHz:	11	12	15
Axial Pressure Sensitivity <sup>1</sup> :	112 dB	114 dB	115 dB
Minimum Recommended Crossover:	500 Hz @ 18 dB/octave min.		
Usable Low Frequency Limit:	500 Hz		
Calc. Max. Continuous SPL @ 1m <sup>2</sup> :	131 dB	133 dB	134 dB
Calc. Max. Peak SPL @ 1m <sup>2</sup> :	137 dB	139 dB	140 dB
<b>Physical:</b>			
Construction:	Fiberglass reinforced plastic		
Horn Height:	457 mm (18.0 in)	457 mm (18.0 in)	457 mm (18.0 in)
Horn Width:	559 mm (22.0 in)	559 mm (22.0 in)	559 mm (22.0 in)
Horn Length:	254 mm (10.0 in)	305 mm (12.0 in)	432 mm (17.0 in)
Net Weight:	2.2 kg (4.9 lbs)	3.6 kg (8.0 lbs)	4.0 kg (8.8 lbs)

<sup>1</sup>Measured on axis in the far field with 1 watt (2.83 V RMS, 8 ohms) applied to a 2447H driver and referenced to 1 meter distance using the inverse square law. Listed sound pressure represents an average from 630 Hz to 18 kHz.

<sup>2</sup>Using 2447H driver.

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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SS 2352/53/54  
CRP 10M  
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