

Professional Series

4375 Line Array 4380 Colinear Array

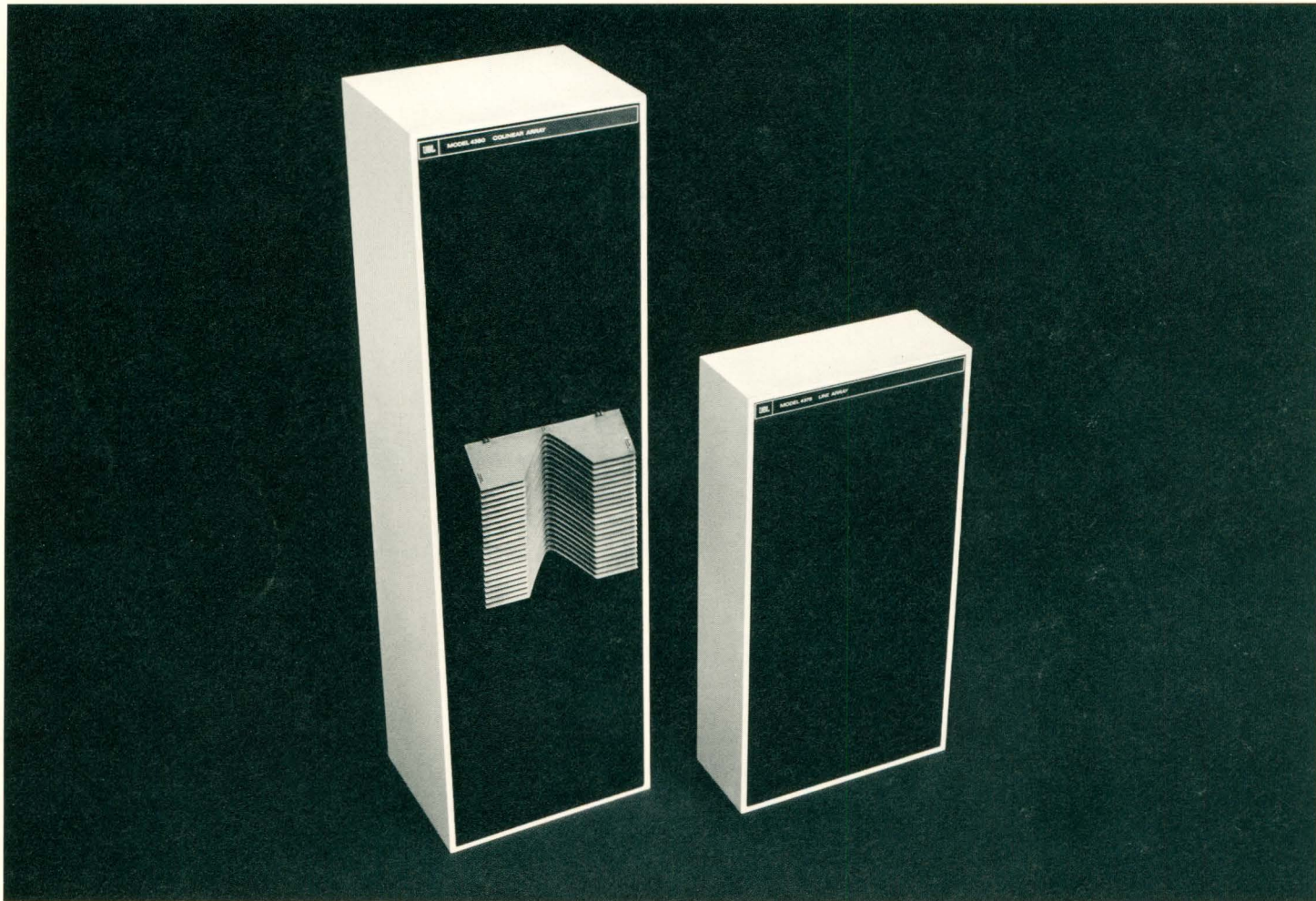
4375

100-watts continuous program
Speech range response, 150-15,000 Hz
51 dB SPL, 1 mW, 30 ft.
120° horizontal x 30° vertical coverage

4380

100-watts continuous program
Extended response, 55-15,000 Hz
50 dB SPL, 1 mW, 30 ft.
90° horizontal x 20° vertical
controlled dispersion

Compact physical size and controlled coverage make the 4375 and 4380 well suited for placement on stage, overhead suspension or wall mounting. High power capacity and excellent sensitivity provide adequate sound pressure levels from a minimum number of systems.



The 4375 And 4380

The 4375 Line Array is an excellent choice for applications where frequency response below 150 Hz is not critical, such as speech range reinforcement or spot-filling in larger installations. Four 5-inch transducers—the same type employed in the 4380—provide the 4375 with high sensitivity and a full 100-watt continuous program power capacity. The 4375 is lighter in weight, more compact in size and considerably more economical than the companion 4380.

The JBL 4380 Colinear Array is designed for musical and speech reinforcement applications in which high power

capacity, controlled dispersion and inconspicuous appearance are essential. Equipped with four 8-inch and two 5-inch drivers, the 4380 easily handles 100 watts continuous program. Whether installed in large performance halls or out-of-doors where weather is not a consideration, the narrow vertical coverage of the 4380 boosts relative sensitivity and reduces undesirable reverberation effects by concentrating acoustic energy directly toward the audience.

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Design Criteria Of The 4380

Theoretically, a sound column should radiate in a broad horizontal and narrow vertical beam. Within that beam, its output should remain constant, regardless of frequency. In order to approximate this condition, the column height and the diameter of each transducer must shrink as frequency rises.

Moreover, what happens outside the rated beam width is almost as important as what happens within. Many column loudspeakers tend to generate frequency-dependent side lobes. These lobes are areas, located at both sides of the vertical beam, that exhibit severe peaks and dips in acoustic output. The lobes, caused by interference between individual transducers, reduce the threshold of feedback and introduce substantial coloration. Since the lobes vary with angular displacement, corrective equalization is of little value. Attempts to eliminate lobes utilizing staggered and side-by-side transducer arrangements reveal interference patterns that deteriorate horizontal coverage through the crossover region.

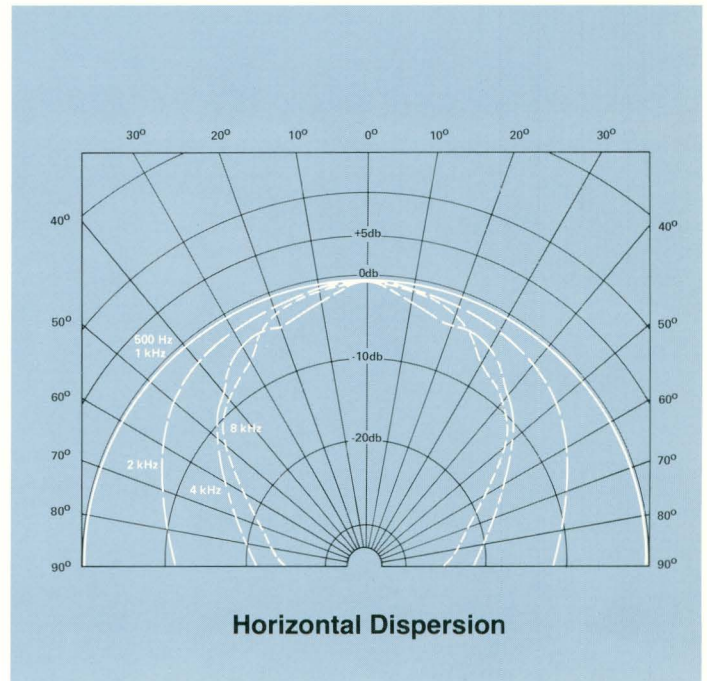
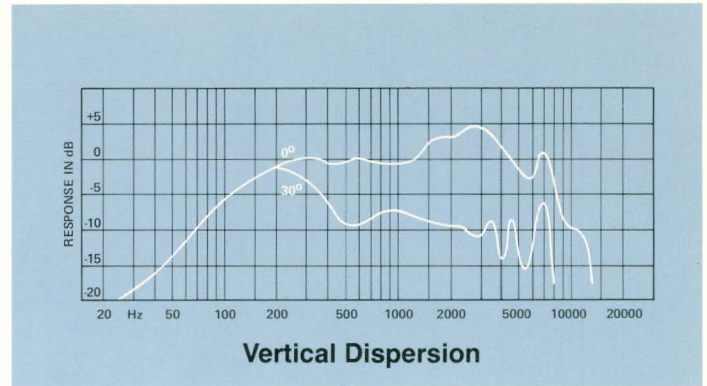
JBL engineers recognized that total elimination of lobes is not practical, nor is it required, as long as they are substantially suppressed. Such suppression, however, should not adversely affect response within the rated beam, a requirement which makes the design goal difficult to achieve.

Utilizing mathematical and analog models, JBL researchers developed a loudspeaker column having two different sized transducers, placed in vertical configuration. This was produced as the 4380 Colinear Array: pairs of 2110 8-inch extended range loudspeakers mounted above and below two 2105 5-inch speech range transducers. The larger 2110's extend low frequency response to 55 Hz. As frequency rises, the 2110's begin to roll off; also, commencing at 1200 Hz, a filter network increases the relative output of the smaller, centrally mounted 2105's. Effectively, the column is shortened and transducer cone diameter decreases as frequency rises—both characteristics approximating the theoretical ideal. As a result, frequency response of the 4380 varies no more than 6 dB per $\frac{1}{3}$ octave throughout a 90-degree horizontal by 20-degree vertical pattern, and side lobes are substantially suppressed.

Further refinements of the 4380 include the use of a properly sized enclosure, and an acoustic lens that improves horizontal coverage of the 2105 speech range transducers.

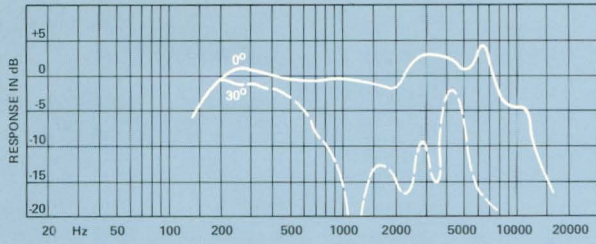
JBL continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published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

Model 4380

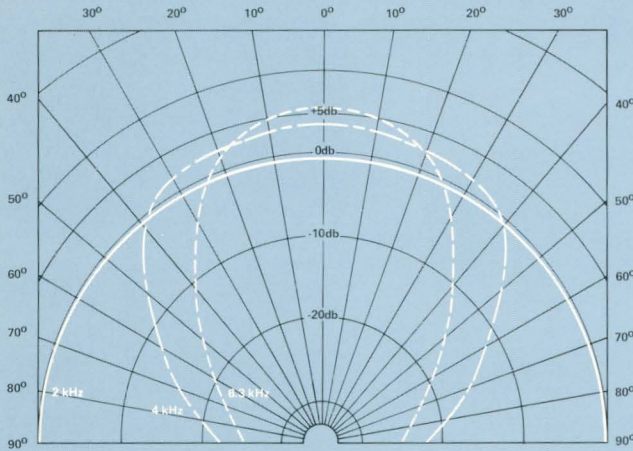


Above curves taken in hemispherical free-field conditions with the microphone at 24 feet (7 m) from the system.

Model 4375

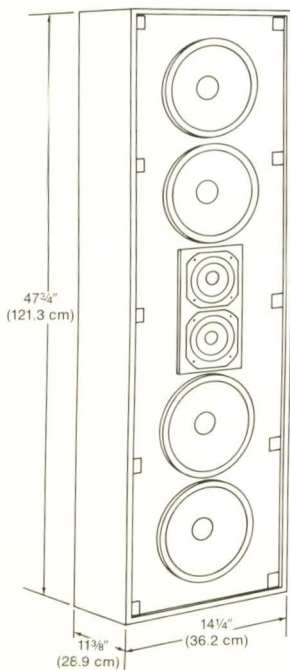


Vertical Dispersion

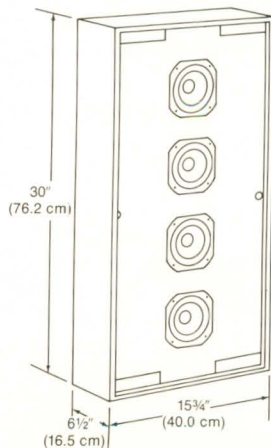


Horizontal Dispersion

Above curves taken in hemispherical free-field conditions with the microphone at 24 feet (7 m) from the system.



Model 4380



Model 4375

Specifications

Power Capacity ¹	100 watts continuous program	
Frequency Range		
4375	150-15,000 Hz	
4380	55-15,000 Hz	
Dispersion ² (Horizontal x Vertical)		
4375	120° x 30°	
4380	90° x 20°	
Impedance		
4375	8 ohms nominal, 8 ohms minimum	
4380	8 ohms nominal, 7 ohms minimum	
Sensitivity ³		
4375	51 dB SPL, 1 mW, 30 ft. (9.1 m) 100 dB SPL, 1 W, 1 m (3.3 ft.)	
4380	50 dB SPL, 1 mW, 30 ft. (9.1 m) 99 dB SPL, 1 W, 1 m (3.3 ft.)	
Components		
4375	Four 2105 5-inch (13 cm) speech range transducers	
4380	Four 2110 8-inch (20 cm) extended range loudspeakers, Two 2105 5-inch (13 cm) speech range transducers	
2110 Extended Range Loudspeaker		
Nominal Diameter	8 inches	20 cm
Voice Coil Diameter	2 inches	5.1 cm
Voice Coil Material	Edgewound aluminum ribbon	
Magnetic Assembly Weight	3 7/8 pounds	1.6 kg
Magnet Material	Alnico V	
Flux Density	9000 gauss	
2105 Speech Range Transducer		
Crossover Frequency	1500 Hz	
Nominal Diameter	5 inches	13 cm
Voice Coil Diameter	7/8 inch	2.2 cm
Voice Coil Material	Edgewound copper ribbon	
Magnetic Assembly Weight	2 3/4 pounds	1.2 kg
Magnet Material	Alnico V	
Flux Density	16,500 gauss	
General		
Enclosure Volume		
4375	1.2 cu. ft.	34.0 liters
4380	3.3 cu. ft.	93.6 liters
Exterior Dimensions ⁴		
4375	30" x 15 3/4" x 6 1/2" deep 76.2 x 40.0 x 16.5 cm deep	
4380	47 3/4" x 14 1/4" x 11 3/8" deep 121.3 x 36.2 x 28.9 cm deep	
Enclosure Finish	Textured gray	
Grille	Charcoal black fabric	
Net Weight		
4375	39 lbs	18 kg
4380	81 lbs	37 kg
Shipping Weight		
4375	41 lbs	19 kg
4380	87 lbs	40 kg

1. Continuous program power is defined as 3 dB greater than continuous sine wave power (RMS). It is a conservative expression of the system's ability to handle normal speech and music program material.
2. Dispersion quoted with the long dimension of the enclosure placed vertically; if the enclosure is rotated 90° for horizontal placement, the dispersion pattern will also be rotated 90°. If more than one column is used in a single-channel installation, and the columns are placed more than 20 feet (6 m) apart, they should be arranged so their coverage patterns overlap as little as possible for best results.
3. Sensitivity measured with an input averaged from 500 to 2500 Hz.
4. The acoustic lens attached to the grille of the 4380 extends an additional 2 1/2 inches (6.3 cm).

JBL Professional Products are not intended for household use.



Professional Division

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