Professional Series

4375 Line Array
4380 Colinear Array

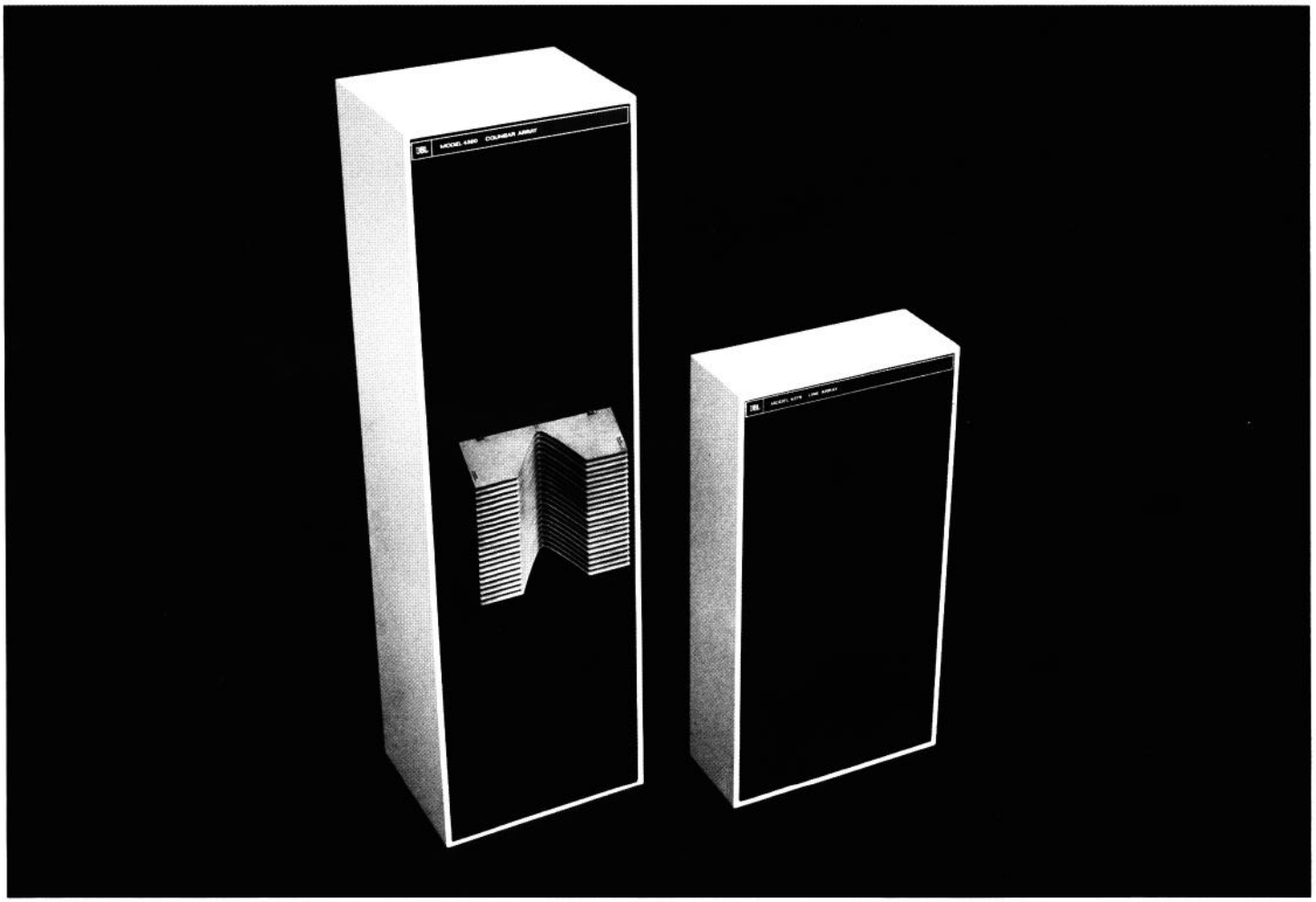
4375

200 watts continuous program
Speech range response, 150-15,000 Hz
100 dB SPL, 1 W, 1 m (3.3 ft)
120° horizontal x 30° vertical coverage

4380

200 watts continuous program
Extended response, 55-15,000 Hz
99 dB SPL,1 W, 1 m (3.3 ft)
90° horizontal x 20° vertical
controlled dispersion

- Compact size, controlled coverage
- Ideal for stage placement, overhead suspension, wall mounting
- High power capacity, high sensitivity
- Sufficient SPL from 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 130 mm (5-inch) transducers—the same type employed in the 4380—provide the 4375 with high sensitivity and a full 200-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 200 mm (8-inch) and two 130 mm (5-inch) drivers, the 4380 easily handles 200 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.

JBL

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.

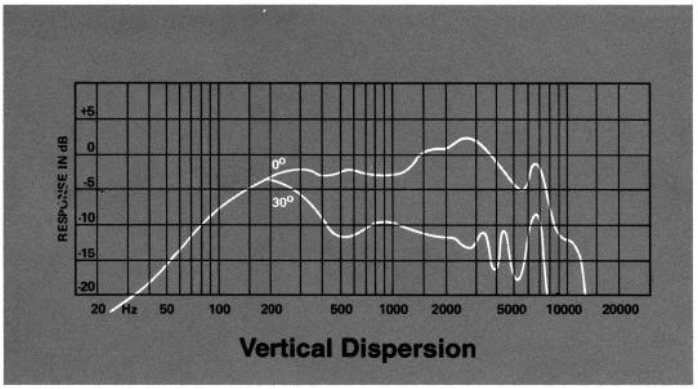
Moreover, what happens outside the rated beam width is almost as important as what happens within. Many column loudspeakers tend to generate frequency-dependent side lobes. These lobes are areas, located at both sides of the vertical beam, that exhibit severe peaks and dips in acoustic output. The lobes, 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.

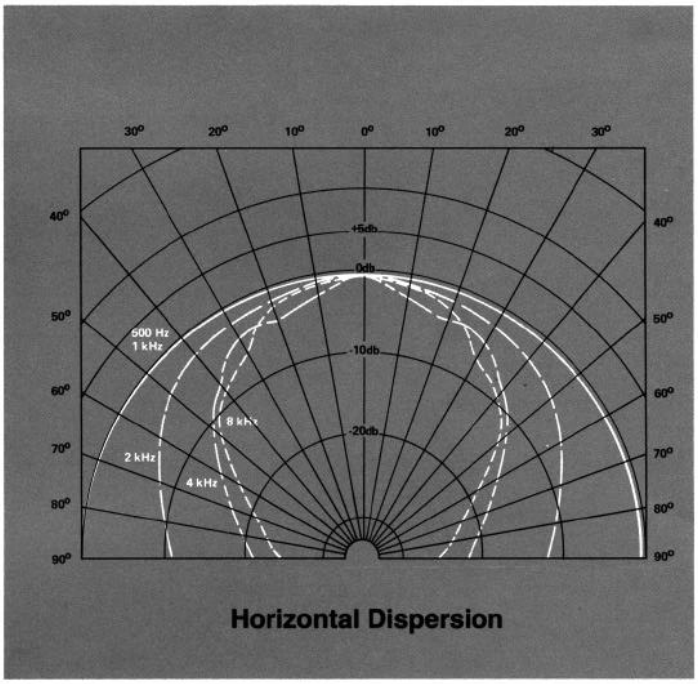
Utilizing mathematical and analog models, JBL researchers developed a loudspeaker column having two different sized transducers, placed in vertical configuration. This was produced as the 4380 Colinear Array: pairs of 2110H 200 mm (8-inch) extended range loudspeakers mounted above and below two 2105H 130 mm (5-inch) speech range transducers. The larger 2110Hs extend low frequency response to 55 Hz. As frequency rises, the 2110Hs begin to roll off; also, commencing at 1200 Hz, a filter network increases the relative output of the smaller, centrally mounted 2105Hs. 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 ⅓ 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 2105H speech range transducers.

Model 4380



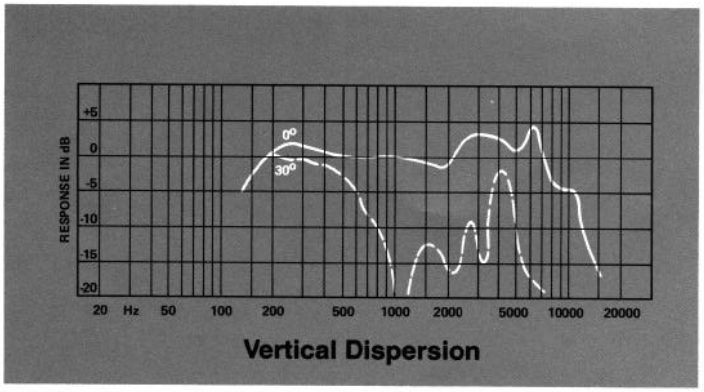
Vertical Dispersion



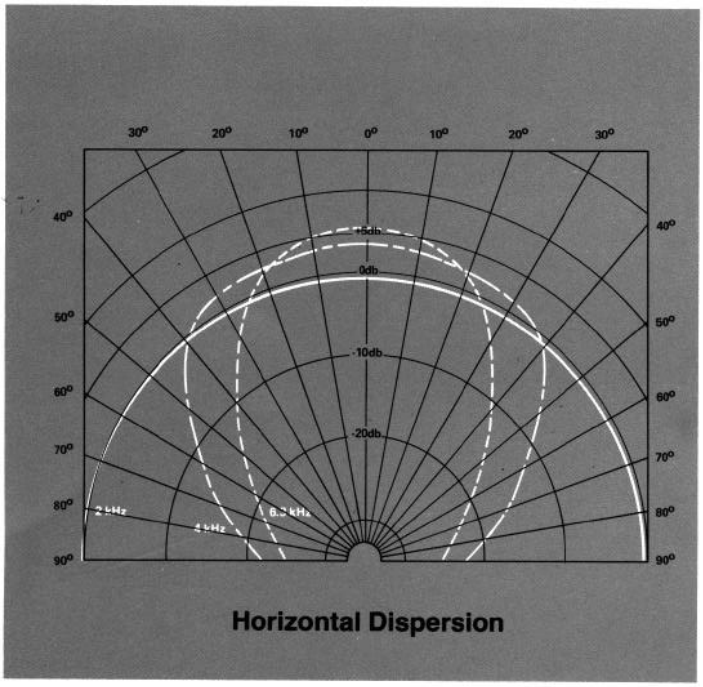
Horizontal Dispersion

Above curves taken in hemispherical free-field conditions with the microphone at 7 m (24 ft) from the system. Power fed to the 4380 was adjusted to provide the same 0 dB reference for each curve.

Model 4375

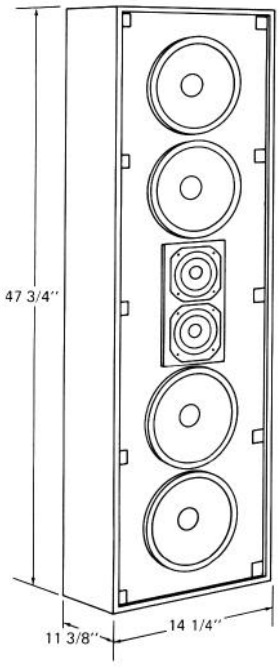


Vertical Dispersion

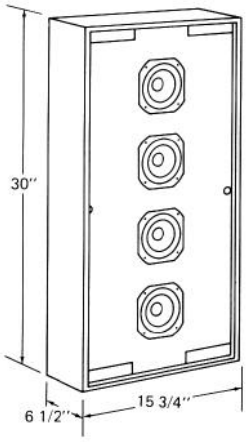


Horizontal Dispersion

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



Model 4380



Model 4375

Specifications

Power Capacity[1]	200 watts continuous program	
Frequency Range		
4375	150 Hz - 15 kHz	
4380	55 Hz - 15 kHz	
Dispersion[2] (Horizontal x Vertical)		
4375	120° x 30°	
4380	90° x 20°	
Nominal Q[3] (2 kHz Octave Band)		
4375	5.6	
4380	4.5	
Impedance		
4375	8 ohms nominal, 8 ohms minimum	
4380	8 ohms nominal, 7 ohms minimum	
Sensitivity[4]		
4375	100 dB SPL, 1 W, 1 m (3.3 ft)	
4380	99 dB SPL, 1 W, 1 m (3.3 ft)	
Components		
4375	Four 2105H 130 mm (5 in) speech range transducers	
4380	Four 2110H 200 mm (8 in) extended range loudspeakers Two 2105H 130 mm (5 in) speech range transducers	
2110H Extended Range Loudspeaker		
Nominal Diameter	200 mm	8 in
Voice Coil Diameter	50 mm	2 in
Voice Coil Material	Edgewound aluminum ribbon	
Magnetic Assembly Weight	1.6 kg	3⅝ lb
Flux Density	0.85 T (8500 gauss)	
2105H Speech Range Transducer		
Crossover Frequency	1500 Hz	
Nominal Diameter	125 mm	5 in
Voice Coil Diameter	22 mm	⅞ in
Voice Coil Material	Edgewound copper ribbon	
Magnetic Assembly Weight	0.74 kg	1⅝ lb
Flux Density	1.35 T (13,500 gauss)	
General		
Enclosure Volume		
4375	34 litres	1.2 ft³
4380	93.6 litres	3.3 ft³
Exterior Dimensions[5]		
4375	762 mm x 400 mm x 165 mm deep 30 in x 15¾ in x 6½ in deep	
4380	1213 mm x 362 mm x 289 mm deep 47¾ in x 14¼ in x 11⅜ in deep	
Enclosure Finish	Textured gray	
Grille	Charcoal black fabric	
Net Weight		
4375	16.2 kg	35½ lb
4380	36 kg	79 lb
Shipping Weight		
4375	17 kg	37½ lb
4380	39 kg	85 lb

1. Continuous program power is defined as 3 dB greater than continuous sine wave power (RMS). It is a conservative expression of the systems 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 6 m (20 ft) apart, they should be arranged so their coverage patterns overlap as little as possible for best results.
3. Q calculated by method outlined by Augspurger in the Guidebook of Practical Acoustics for the Sound Contractor, Appendix page C.
4. Sensitivity measured with an input averaged from 500 to 2500 Hz.
5. The acoustic lens attached to the grille of the 4380 extends an additional 63 mm (2½ in).