



TECHNICAL SPECIFICATIONS ASR690

DESCRIPTION

A biamplified 3-way full range system (passive mid/high crossover) in a rectangular enclosure. Includes 2x 12-in woofers (separated vertically to create a dipolar array), a horn-loaded 10-in MF cone and a 1.4-in exit/44mm voice coil HF compression driver on a 90 x 45 constant directivity horn.

APPLICATION

The ASR690 is engineered for use in permanent installations. Dipolar array technology provides effective vertical pattern control to 200 Hz while maintaining a 22.5-in enclosure height. Excellent for use directly above a microphone position. Includes comprehensive 3/8"-16 mounting/suspension points. Six year warranty.

Applications include:

- Stadiums
- Arenas
- Dance Clubs
- Theaters
- Performing Arts Centers
- Houses of Worship

DESCRIPTIVE DATA

Part Number	999674
Product Group	I
System Configuration	3-way, Full Range
Powering Configuration(s)	Biamplified (passive MF/HF crossover)
LF Subsystem & Loading	2x 12-in, Vented, Dipolar Array
MF Subsystem & Loading	1x 10-in, Horn-Loaded
HF Subsystem & Loading	1x 1.4-in exit/44mm voice coil Compression Driver on Constant Directivity Horn
Recommended High-Pass Frequency (24 dB/Octave)	50 Hz
System Crossover	320 Hz
Cabinet Type (shape)	Rectangular
Enclosure Materials	Baltic Birch Plywood
Finish	Black Polyurethane
Connectors	2 x 2-Terminal Barrier Strip
Suspension Hardware	(12) 3/8"-16 Threaded Mounting/Suspension Points (3 each Top and Bottom, 2 on Sides and Back)
Grill	Powder Coated Perforated Steel
Options	104001 3/8"-16 Eyebolt (FC300B)



NOMINAL DATA

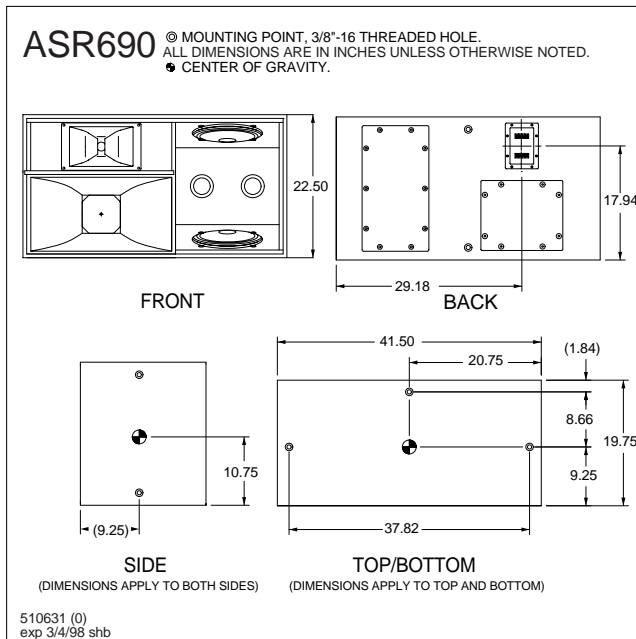
Frequency Response (1 Watt @ 1m)		
±3 dB	58 Hz to 17 kHz	
-10 dB	49 Hz	
Axial Sensitivity (dB SPL, 1 Watt @ 1m)		
Passive MF/HF	105	
LF	100	
Impedance (Ohms)		
Passive MF/HF	8	
LF	4	
Power Handling, AES Standard (Watts)		
Passive MF/HF	360	
LF	800	
Calculated Maximum Output (dB SPL)		
Passive MF/HF Peak	136.6	
LF Peak	135.0	
Passive MF/HF Long term	130.6	
LF Long Term	129.0	
Nominal Coverage Angle/-6 dB points (degrees)		
Horizontal	90	
Vertical	45	
Dimensions		
	inches	millimeters
Height	22.50	572
Width	41.50	1054
Depth	19.75	502
Weights		
	pounds	kilograms
Net Weight	154	70.1
Shipping Weight	172	78.3





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DIMENSIONAL DRAWING



ARCHITECTURAL SPECIFICATIONS

The biamplified 3-way full range loudspeaker systems shall incorporate 2x 12-in LF transducers, a 10-in MF cone and a 1.4-in exit/44mm voice coil HF compression driver.

The LF drivers shall be mounted in slanted baffles and separated to create a dipolar array. The MF driver shall be loaded into a midrange horn constructed of 3mm birch plywood backed with high density polyurethane foam. The HF driver shall be loaded on a constant directivity horn with a nominal coverage pattern of 90° (h) x 45° (v). An internal passive filter network shall provide fourth order acoustical crossover and system equalization between the MF and HF sub-systems.

System frequency response shall vary no more than ± 3 dB from 58 Hz to 17 kHz measured on axis. The mid/high section shall produce a Sound Pressure Level (SPL) of 105 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 136.6 dB SPL on axis at 1 meter. The low frequency section shall produce a Sound Pressure Level (SPL) of 100 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 135.0 dB SPL on axis at 1 meter. The mid/high section shall handle 360 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms. The low frequency section shall handle 800 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 4 Ohms.

The loudspeaker enclosure shall be rectangular in shape. It shall be constructed of 15mm thickness void-free cross-grain-laminated Baltic birch plywood and shall employ extensive internal bracing. It shall be finished in black polyurethane. Input connectors shall be 4-terminal barrier strip. Twelve (12) 3/8"-16 threaded mounting/suspension points (3 each top and bottom, 2 on each side and back) shall be provided. The front of the loudspeaker shall be covered with a powder coated perforated steel grill.

The biamplified 3-way full range loudspeaker shall be the EAW model ASR690.

SERVICE ITEMS

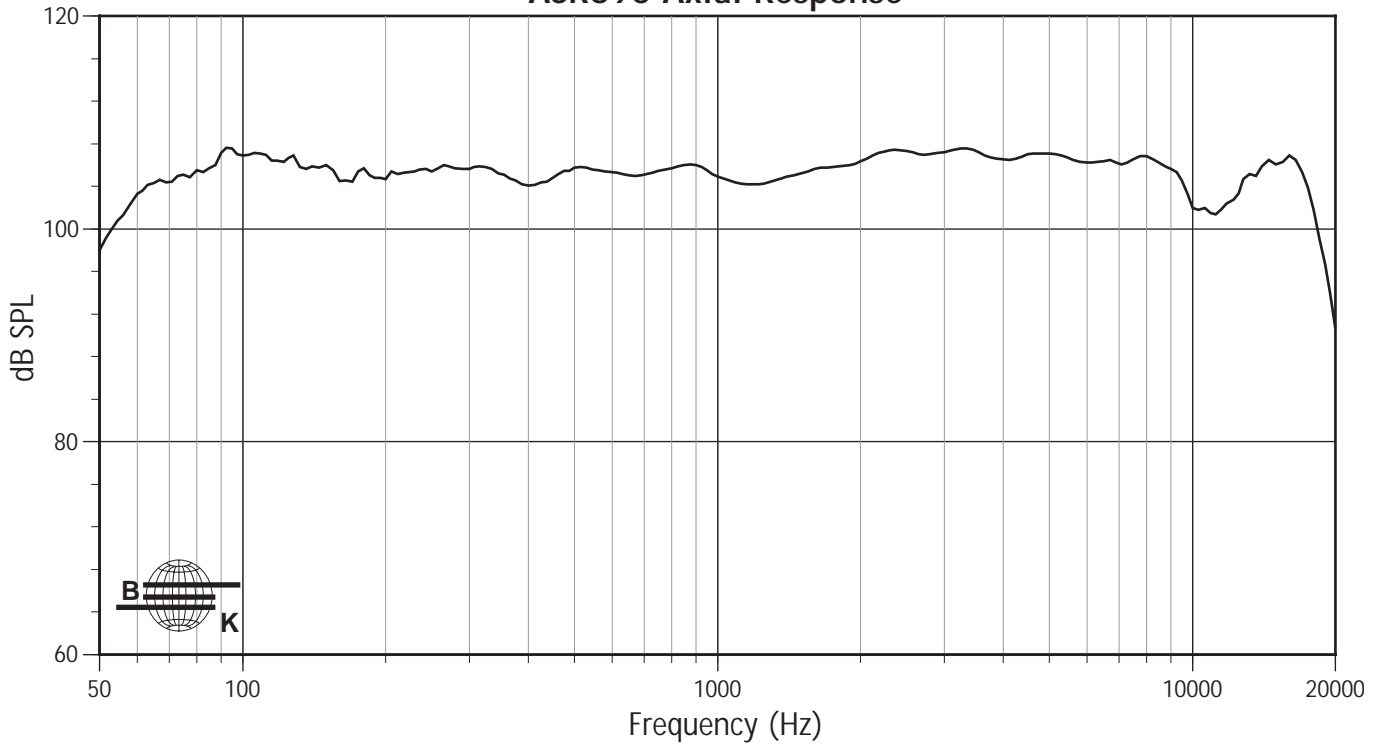
LF: Complete Cone Driver	EAW Part No. 804051
MF: Complete Cone Driver	EAW Part No. 804021
HF: Complete Compression Driver/Tweeter	EAW Part No. 803039
LF: Recone Assembly	EAW Part No. 460048
MF: Recone Assembly	EAW Part No. 460010
HF: Diaphragm Assembly	EAW Part No. 806019
Filter/Crossover Network: Complete Assembly	EAW Part No. 255345



PERFORMANCE SPECIFICATIONS ASR690

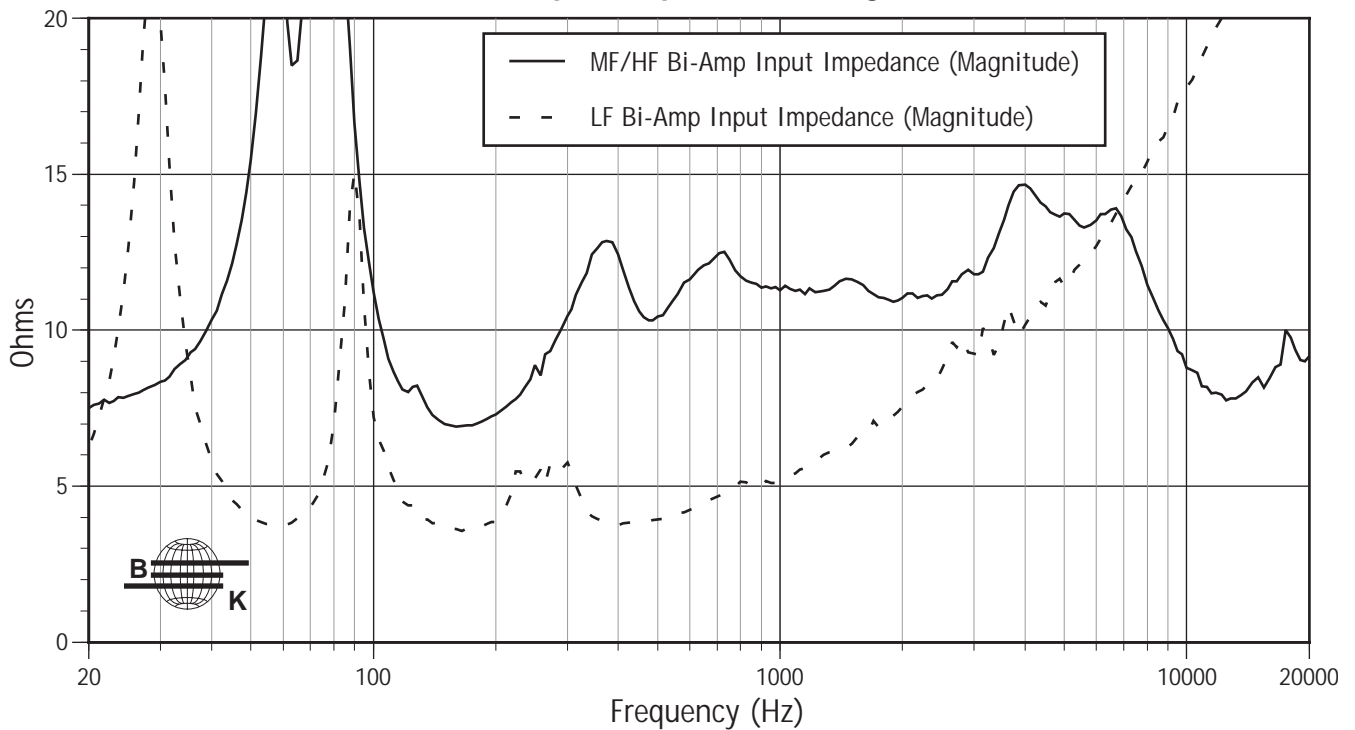
FREQUENCY RESPONSE

ASR690 Axial Response



INPUT IMPEDANCE

ASR690 Input Impedance (Magnitude)

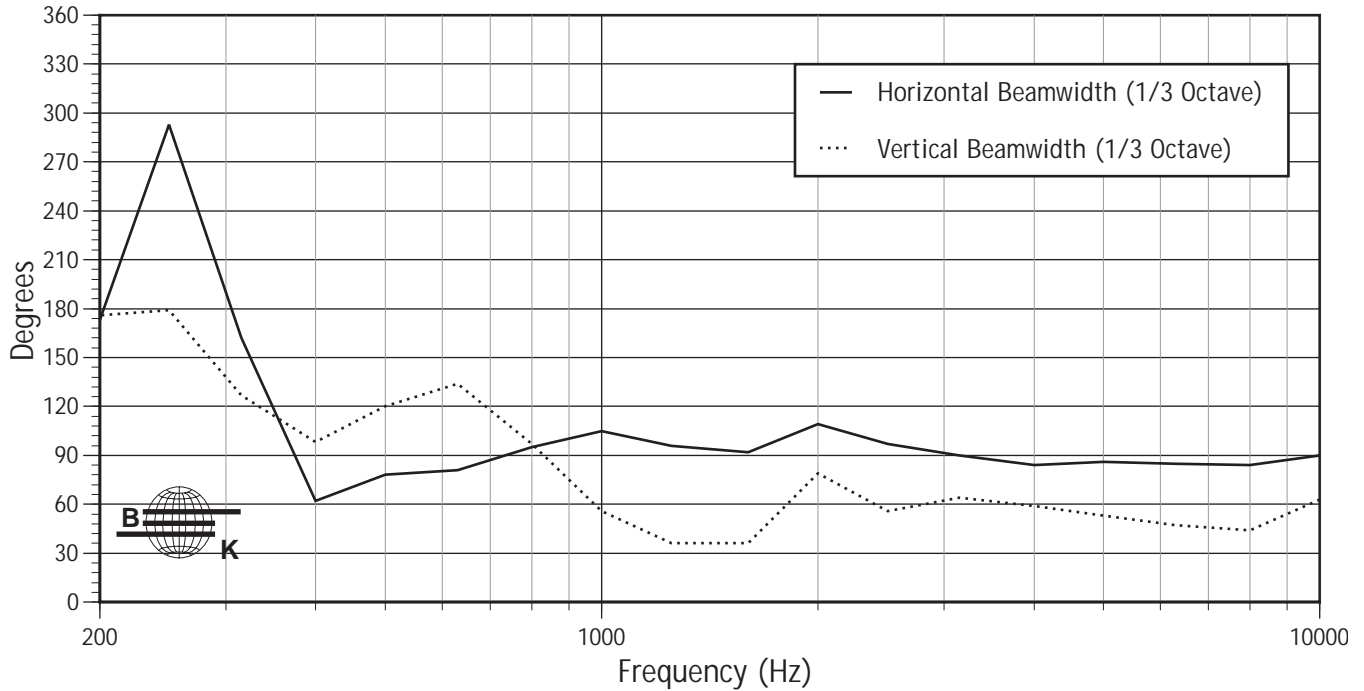




PERFORMANCE SPECIFICATIONS ASR690

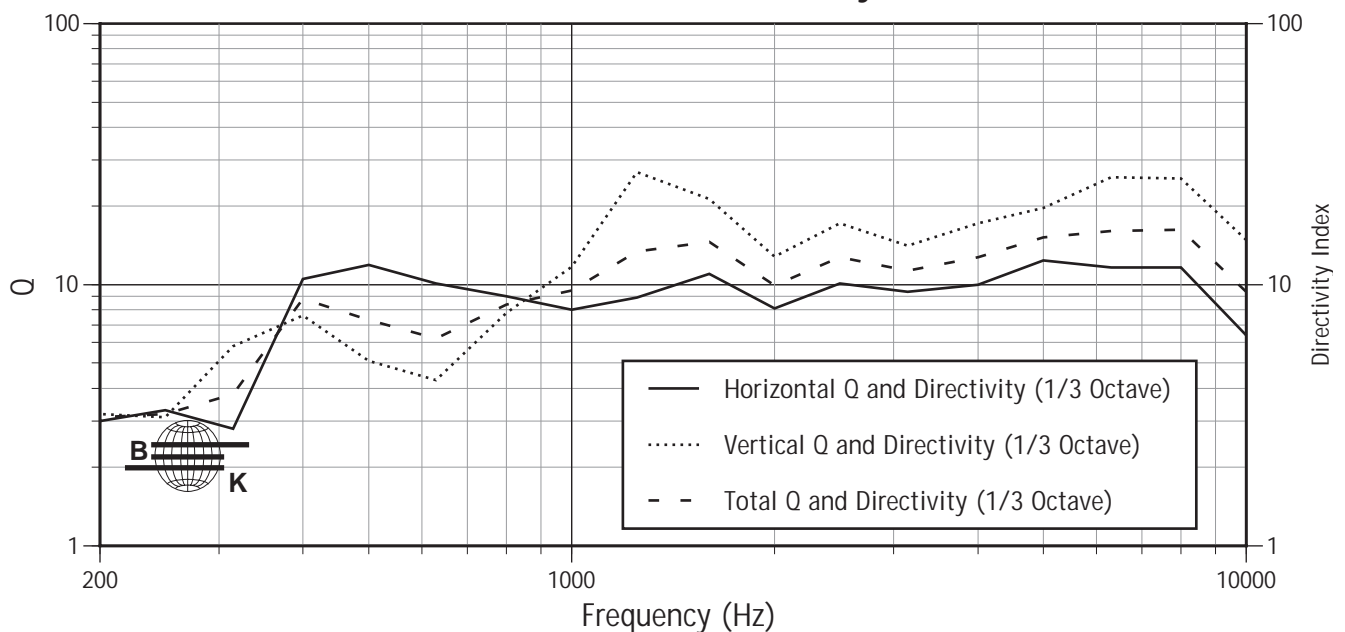
BEAMWIDTH

ASR690 Beamwidth vs Frequency



Q & DIRECTIVITY INDEX (DI)

ASR690 Q and Directivity





PERFORMANCE SPECIFICATIONS ASR690

Q & DIRECTIVITY & BEAMWIDTH BY FREQUENCY

Frequency	Hor Beamwidth	Ver Beamwidth	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir
100	360	360	1.6	2	1.8
125	360	360	1.6	1.9	1.7
160	360	360	2.5	2.8	2.7
200	173	176	3	3.2	3.1
250	293	179	3.3	3.1	3.2
315	162	127	2.8	5.8	3.8
400	62	98	10.5	7.6	8.8
500	78	120	11.9	5.1	7.3
630	81	134	10.1	4.3	6.2
800	95	97	9	7.8	8.4
1000	105	56	8	11.7	9.5
1250	96	36	8.9	26.9	13.4
1600	92	36	11	21.3	14.6
2000	109	79	8.1	12.8	9.9
2500	97	56	10.1	17.2	12.7
3150	90	64	9.4	14.1	11.3
4000	84	59	10	17.2	12.7
5000	86	53	12.4	19.7	15.2
6300	85	47	11.6	25.8	16
8000	84	44	11.6	25.5	16.2
10000	90	63	6.4	14.8	9.4
12500	81	49	14.5	22.2	17.5
16000	36	40	38	31.4	34.4
20000	39	40	32.1	37.6	34.7

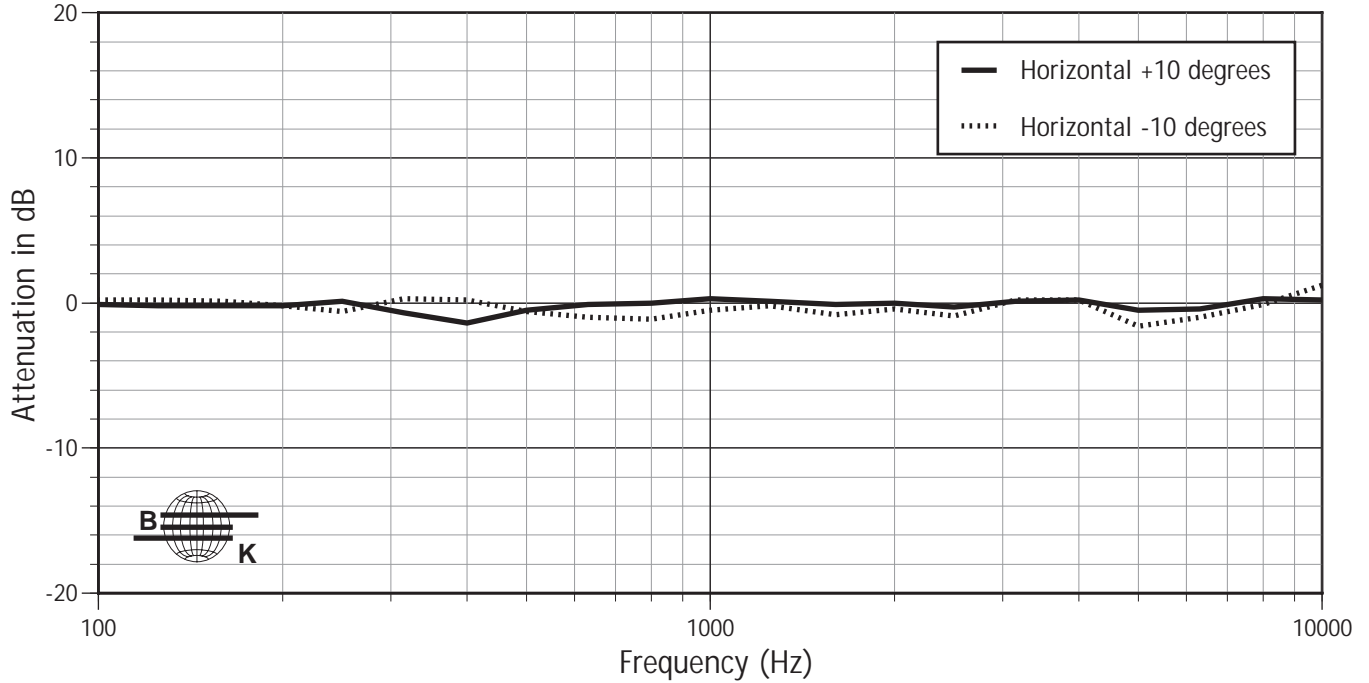


PERFORMANCE SPECIFICATIONS ASR690

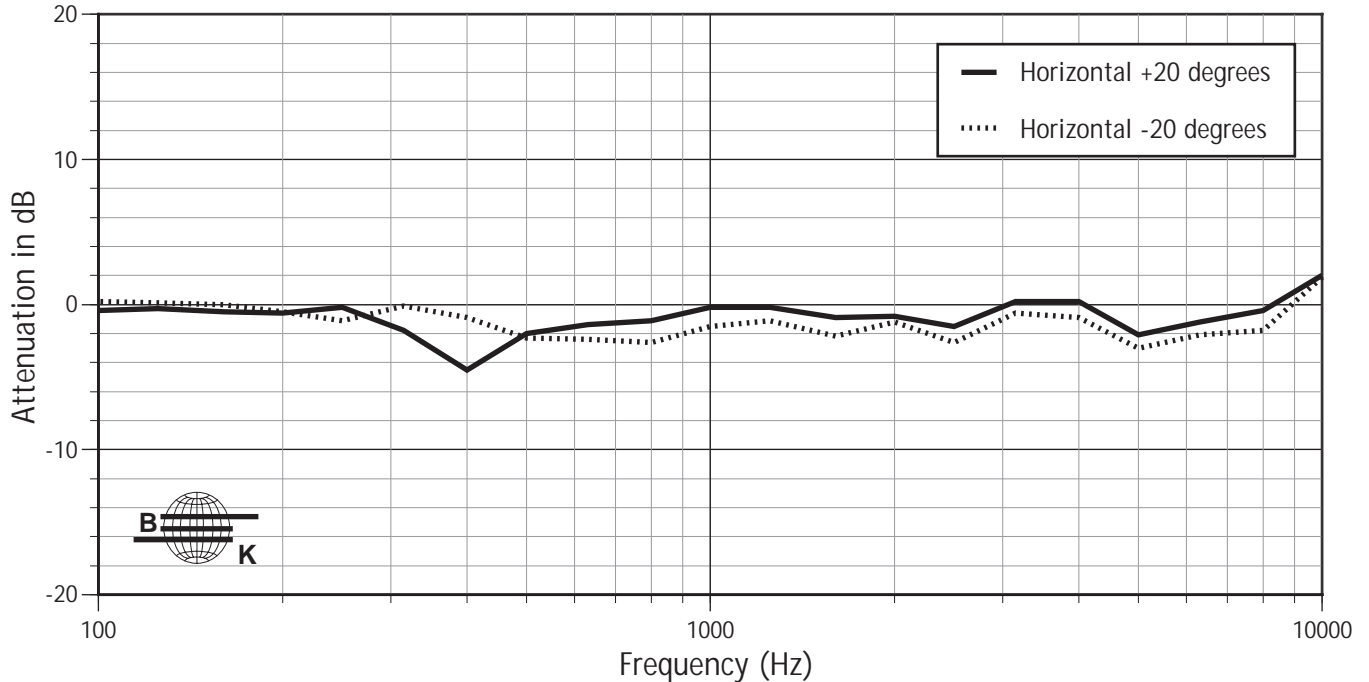
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

ASR690 Horizontal $\pm 10^\circ$



ASR690 Horizontal $\pm 20^\circ$



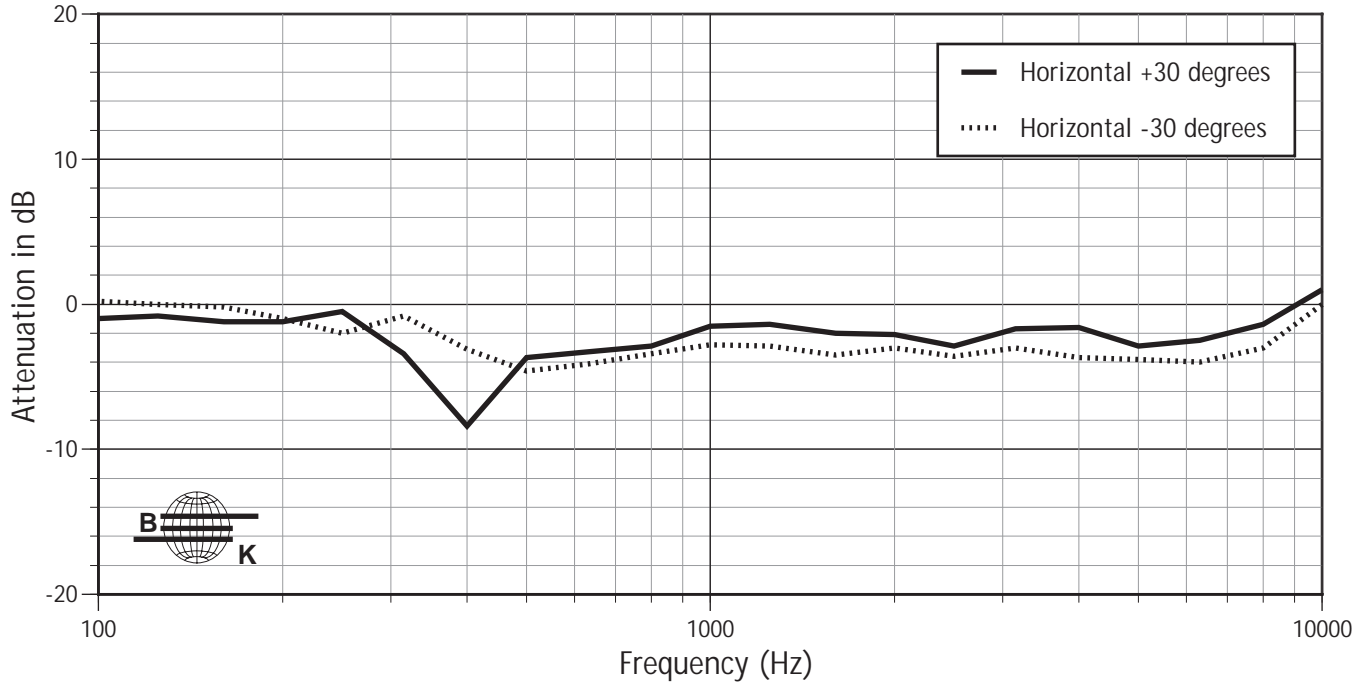


PERFORMANCE SPECIFICATIONS ASR690

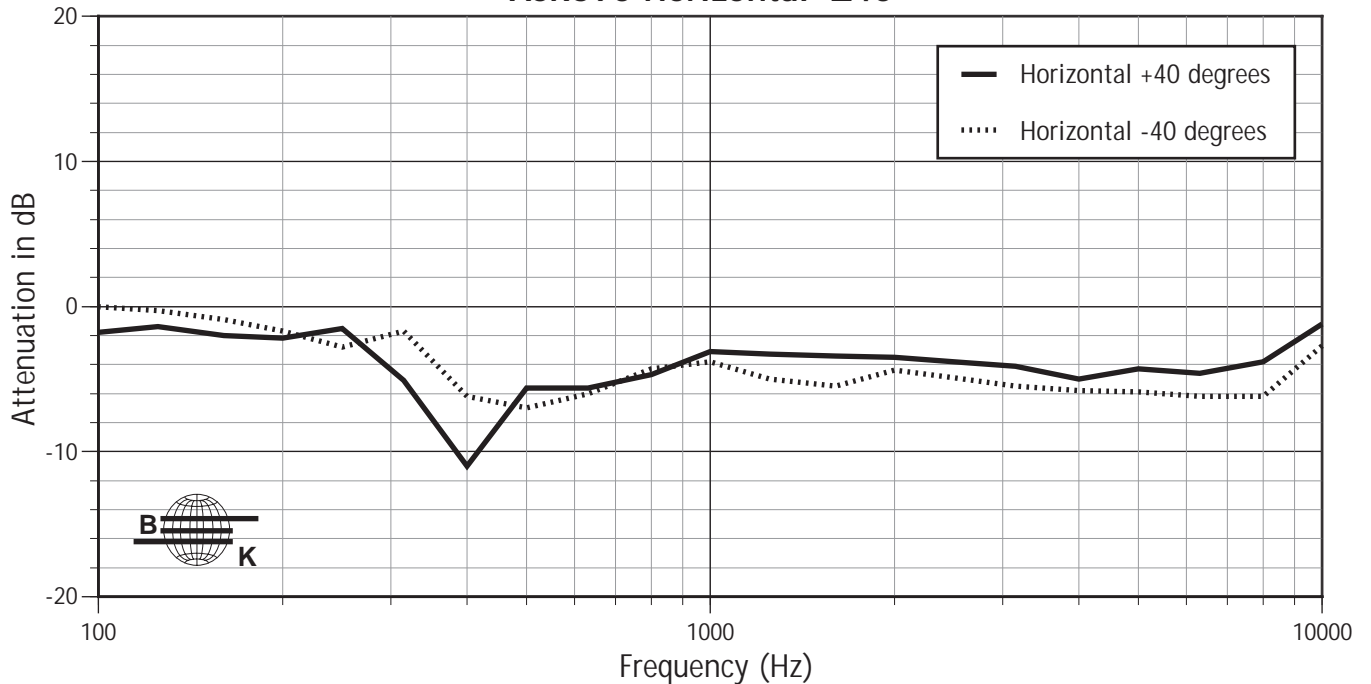
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

ASR690 Horizontal $\pm 30^\circ$



ASR690 Horizontal $\pm 40^\circ$



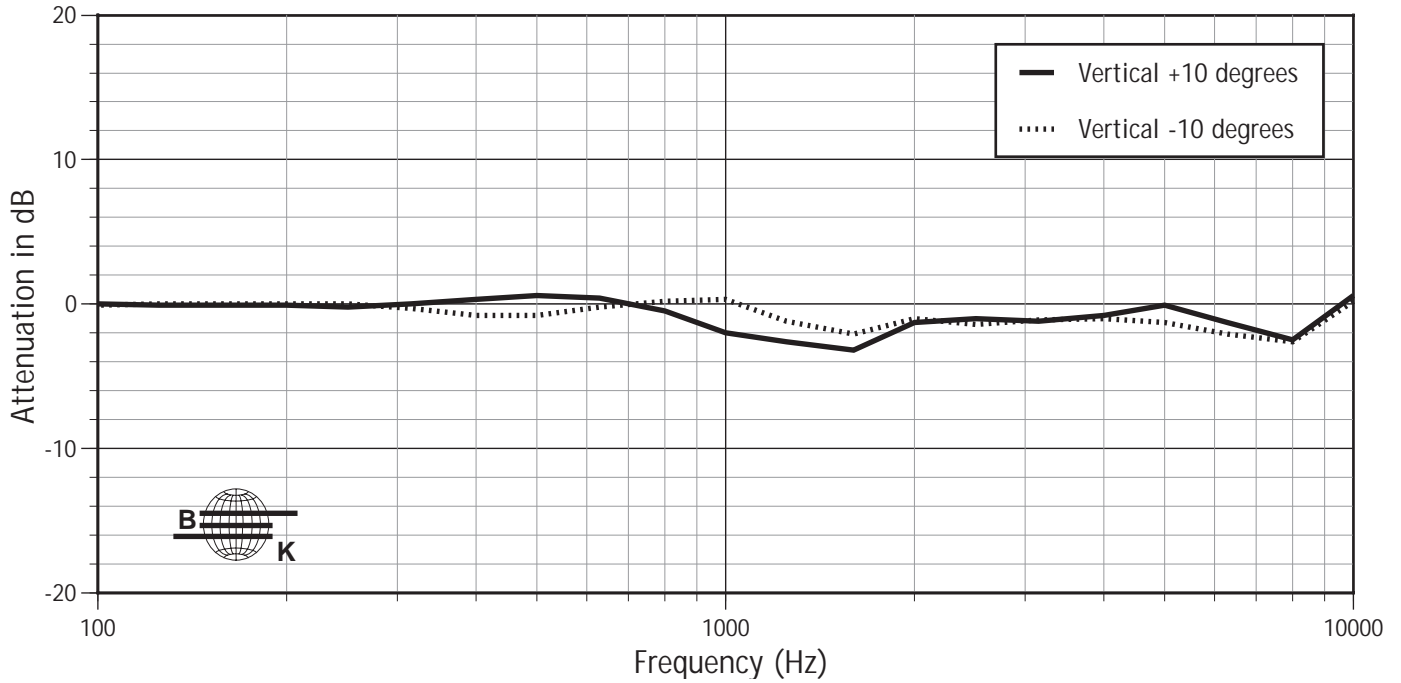


PERFORMANCE SPECIFICATIONS ASR690

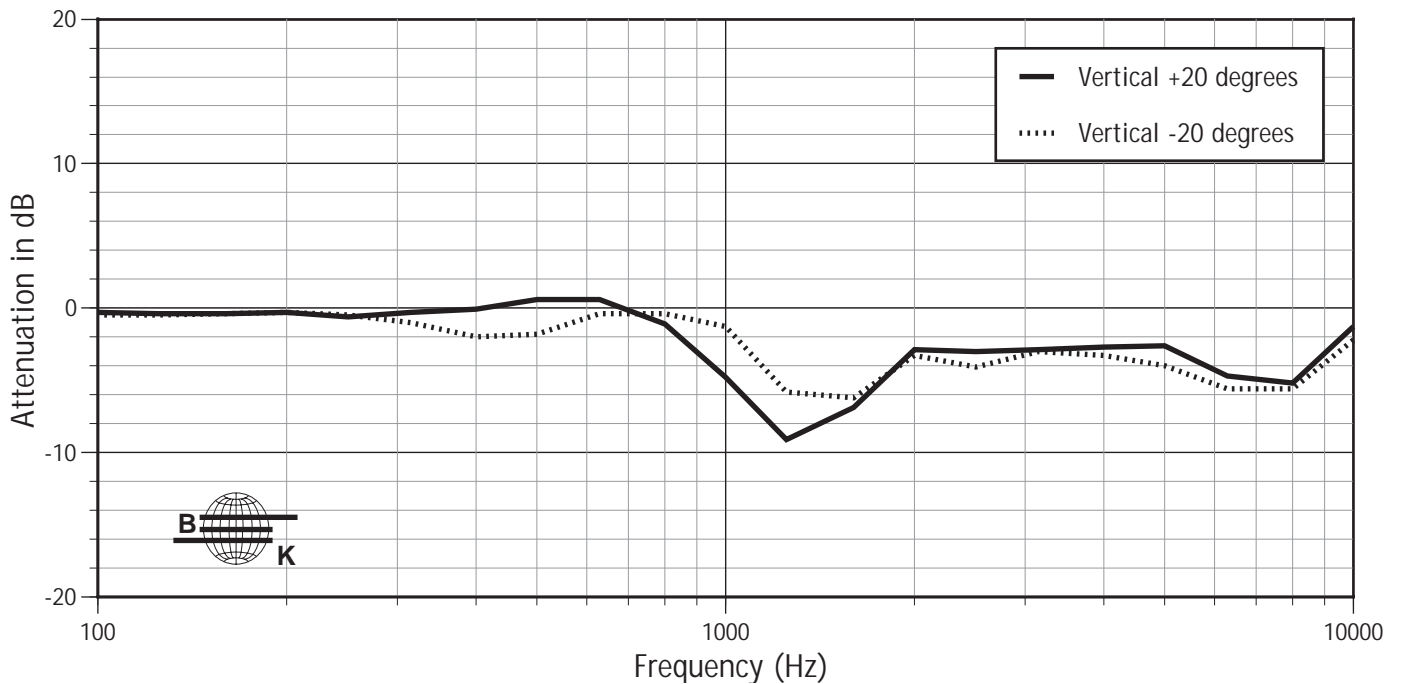
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

ASR690 Vertical $\pm 10^\circ$



ASR690 Vertical $\pm 20^\circ$



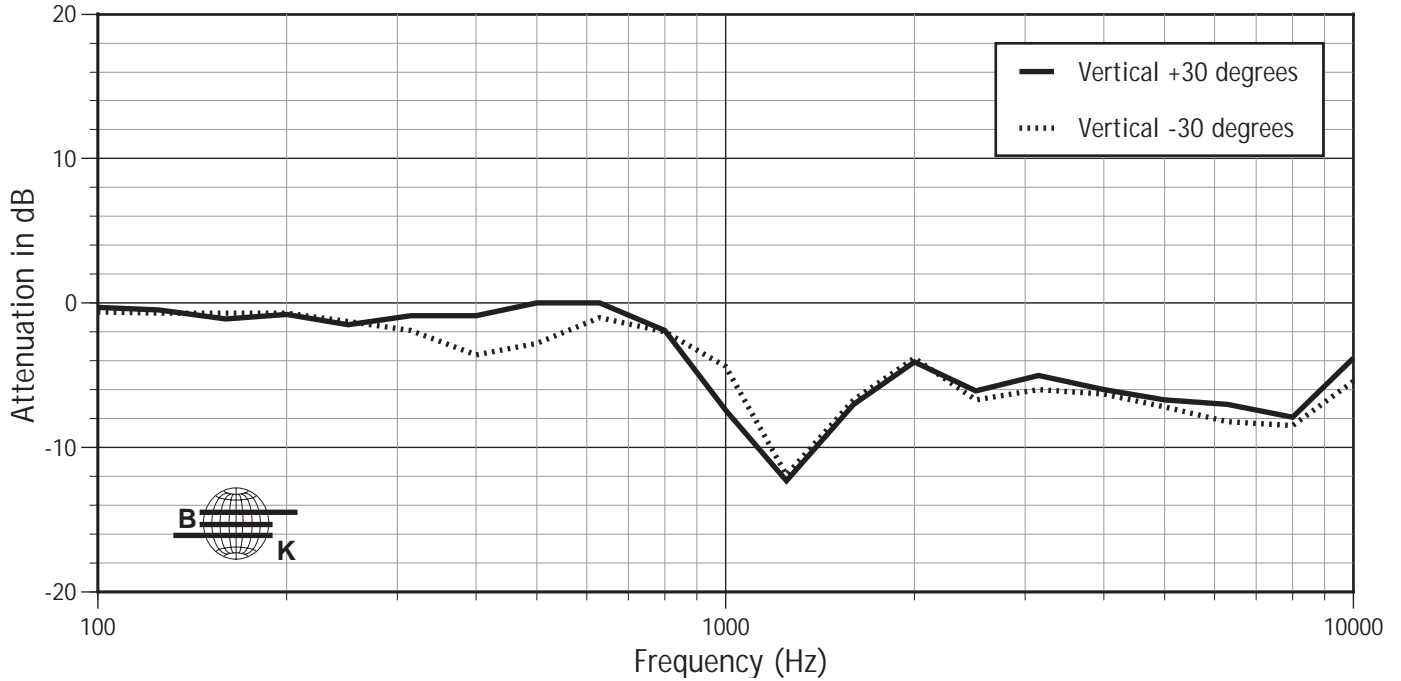


PERFORMANCE SPECIFICATIONS ASR690

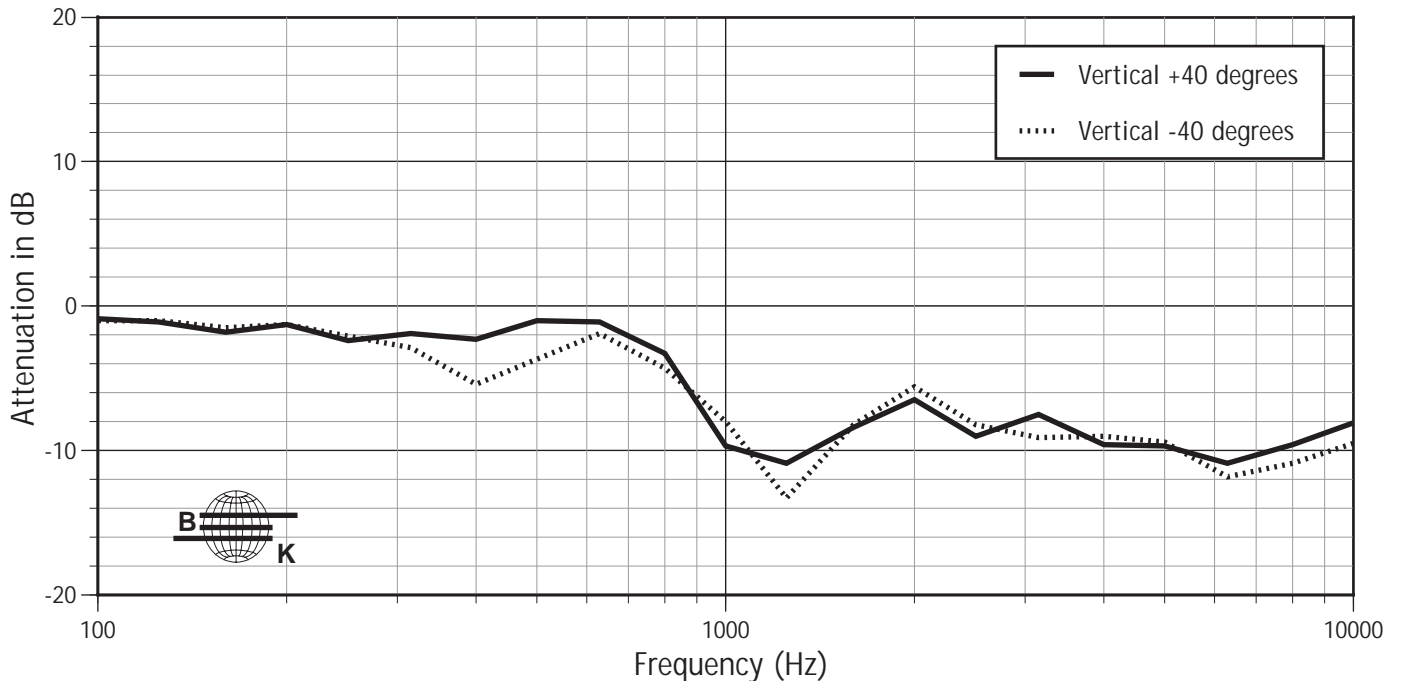
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

ASR690 Vertical $\pm 30^\circ$

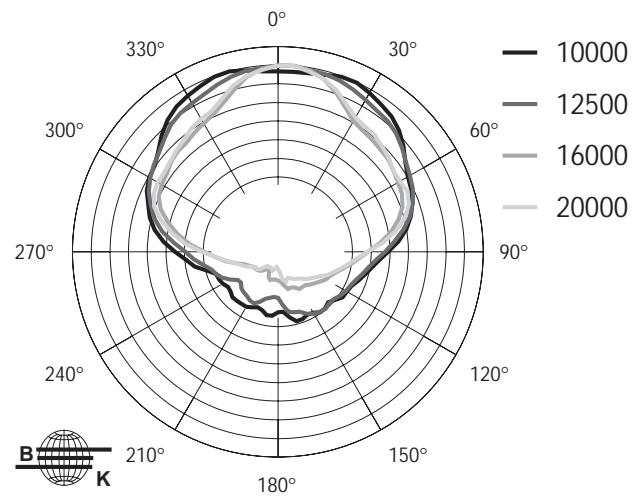
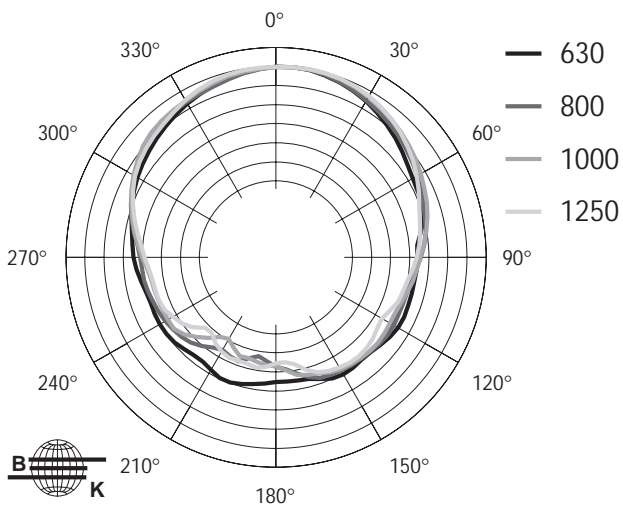
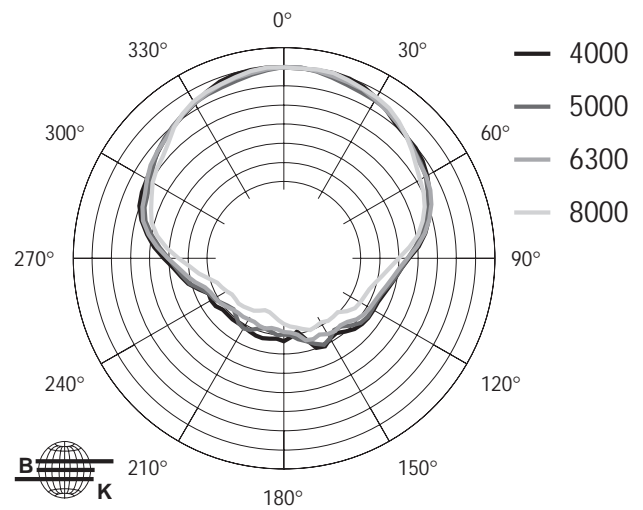
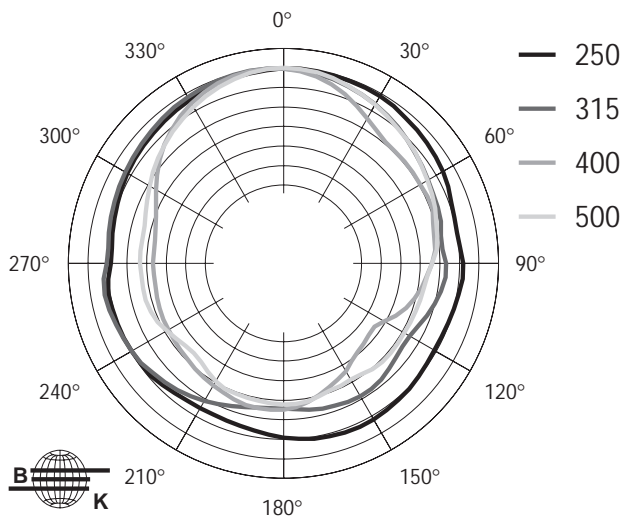
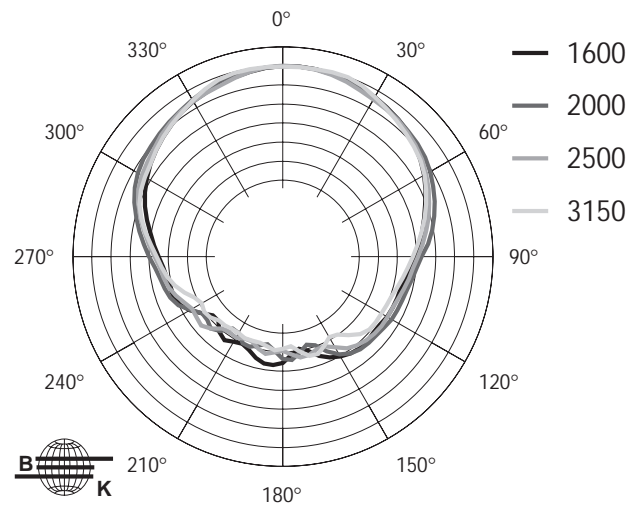
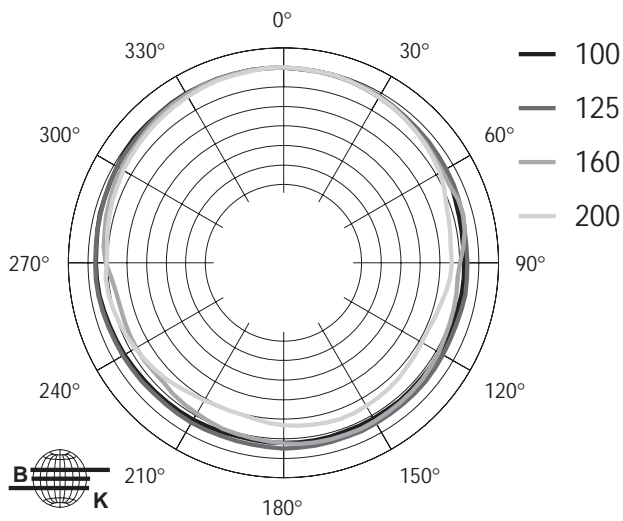


ASR690 Vertical $\pm 40^\circ$





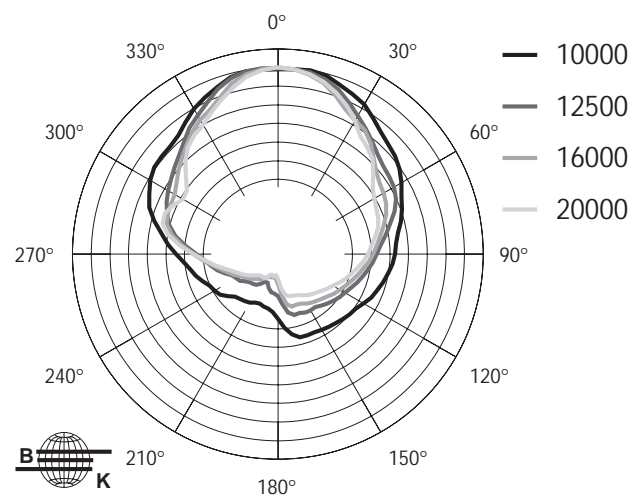
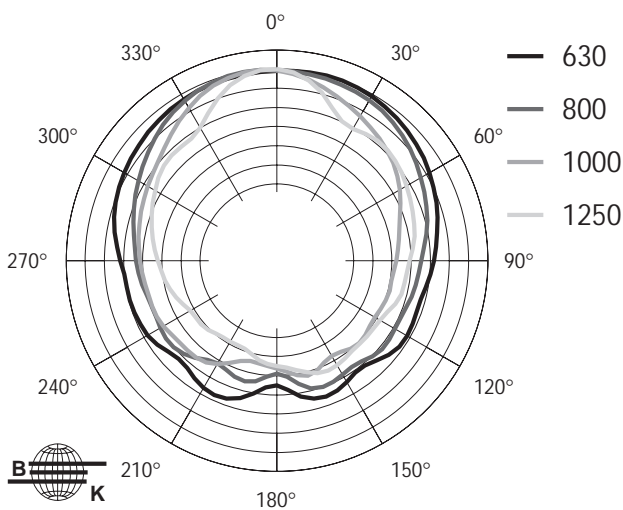
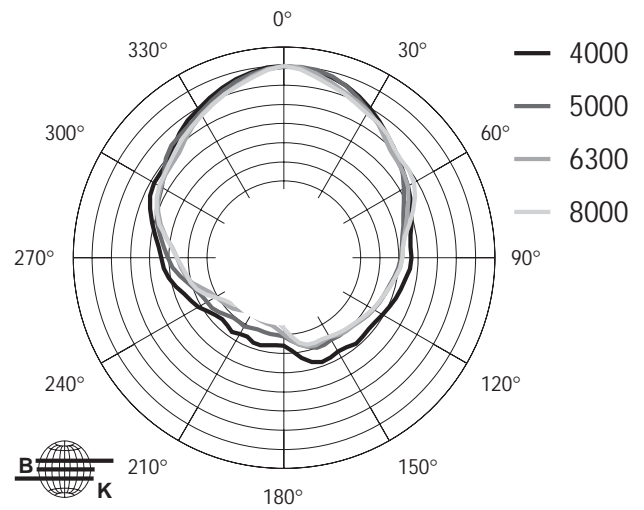
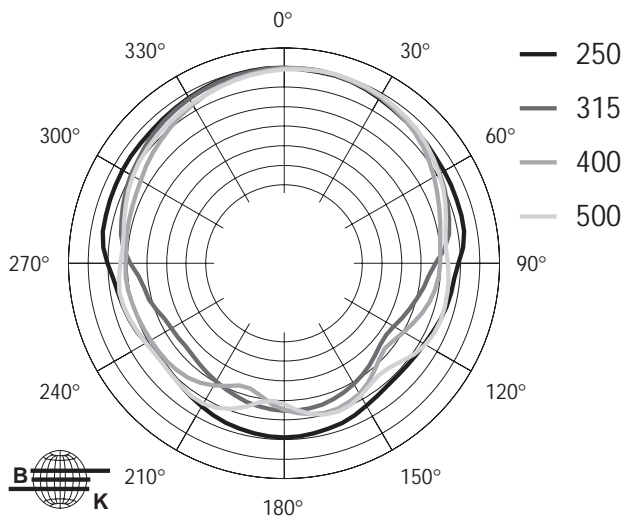
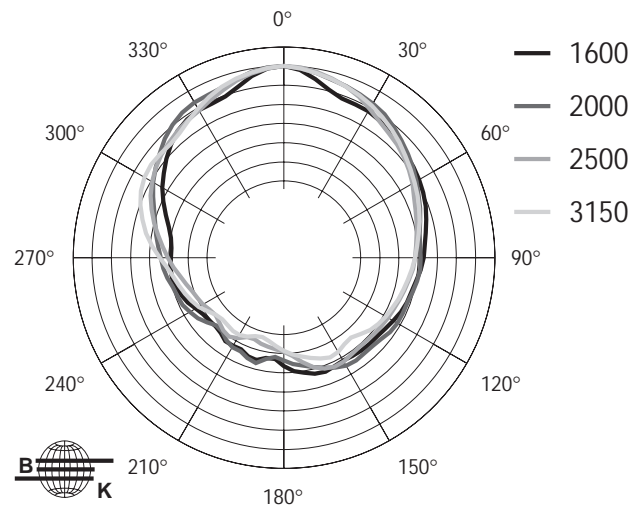
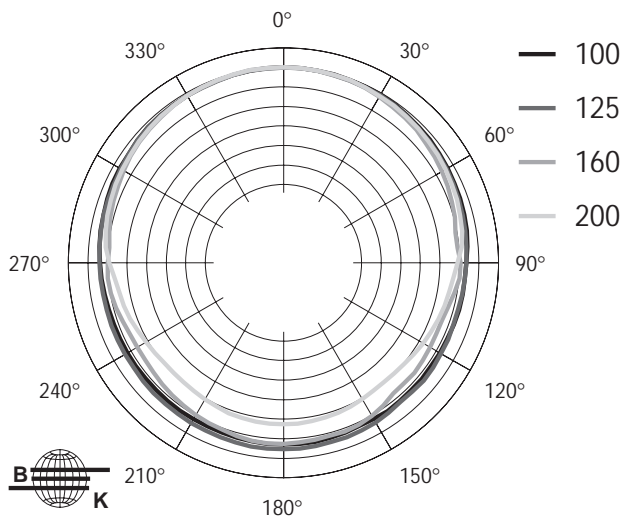
HORIZONTAL 1/3 OCTAVE POLAR DATA ASR690



6 db/div.



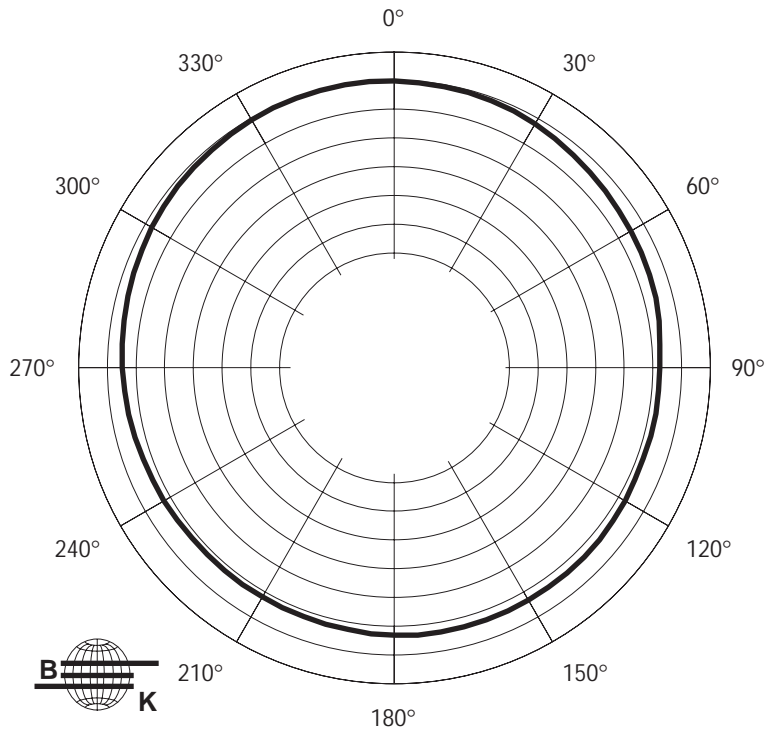
VERTICAL 1/3 OCTAVE POLAR DATA ASR690



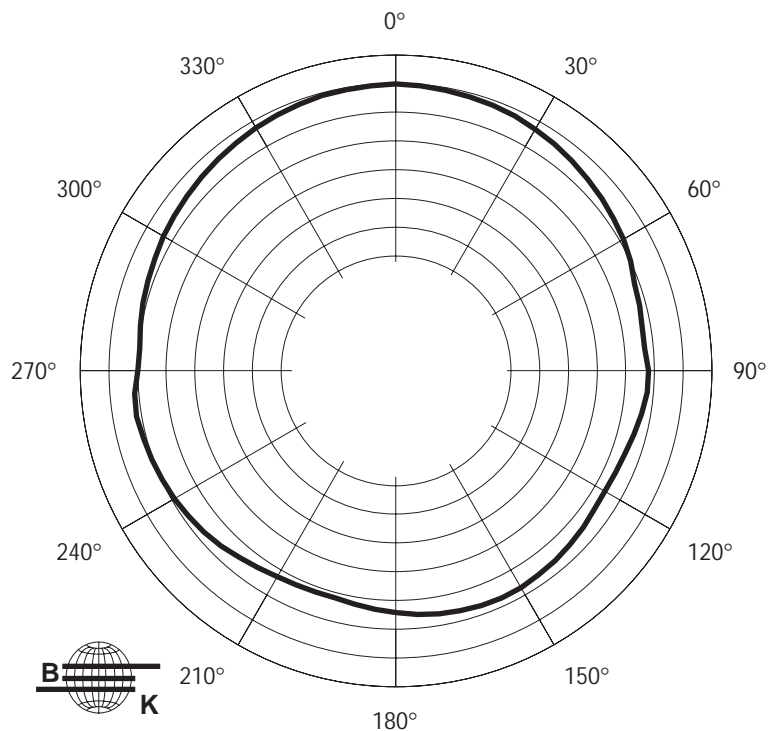


HORIZONTAL OCTAVE POLAR DATA ASR690

ASR690 125 Hz Horizontal Octave Polar Data



ASR690 250 Hz Horizontal Octave Polar Data

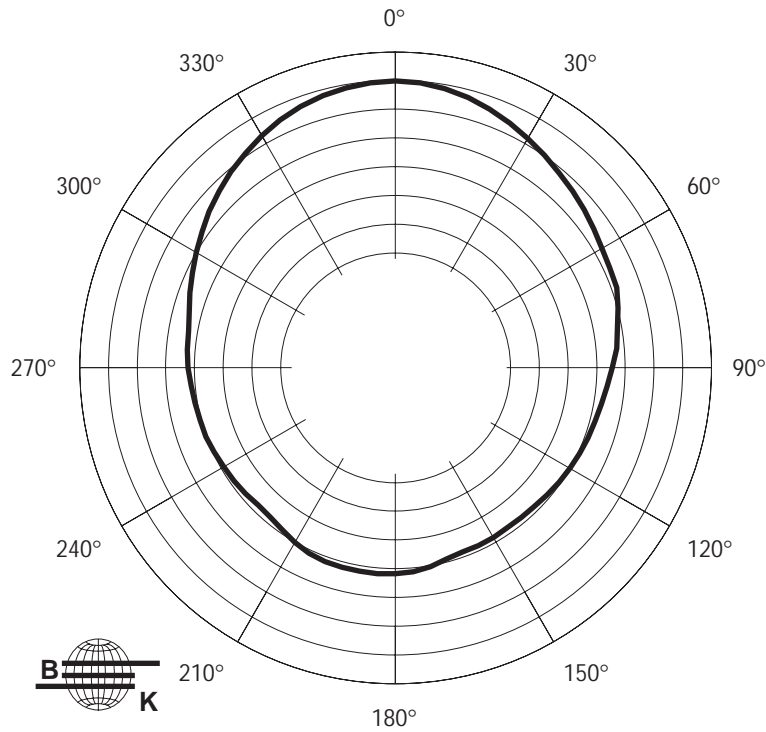


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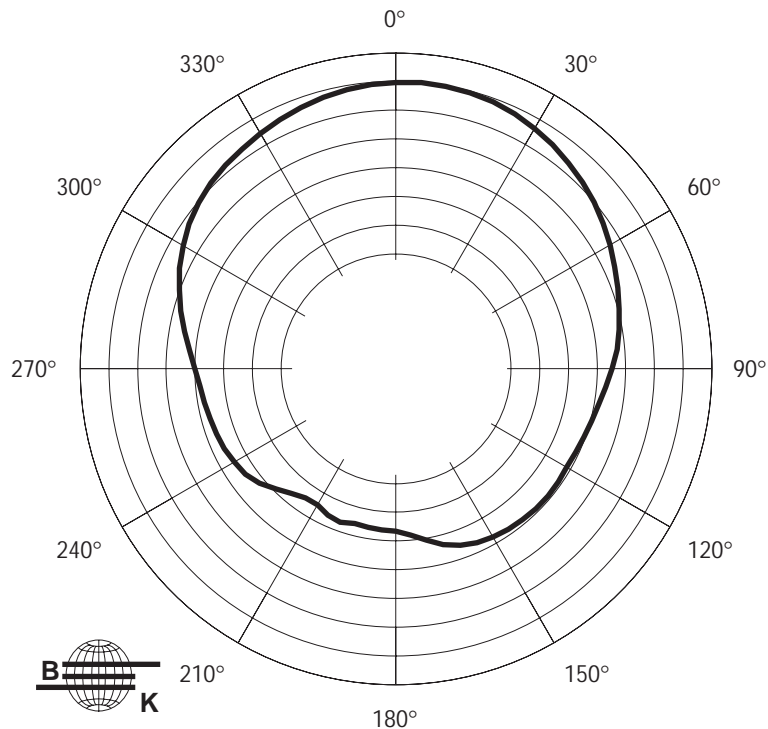


HORIZONTAL OCTAVE POLAR DATA ASR690

ASR690 500 Hz Horizontal Octave Polar Data



ASR690 1000 Hz Horizontal Octave Polar Data

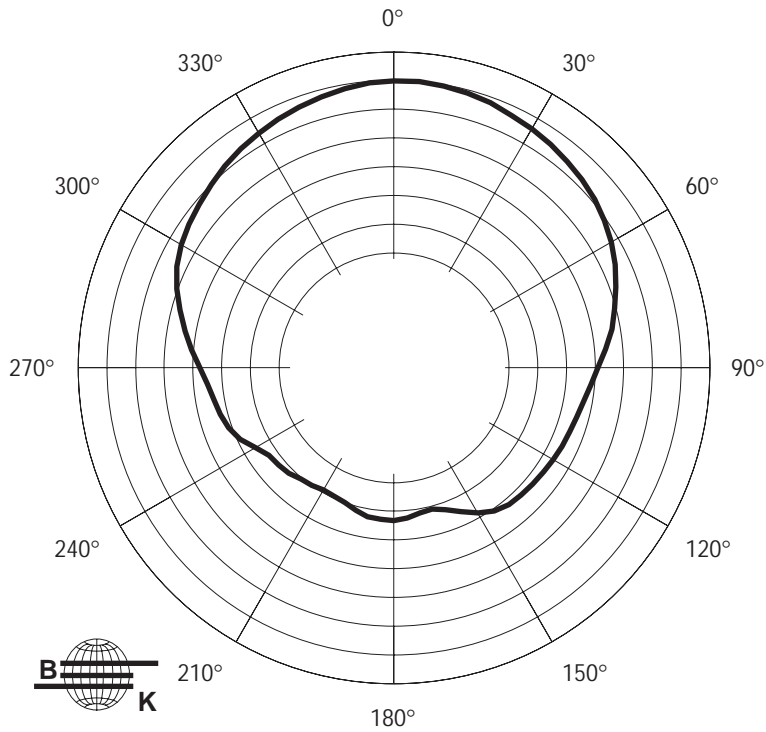


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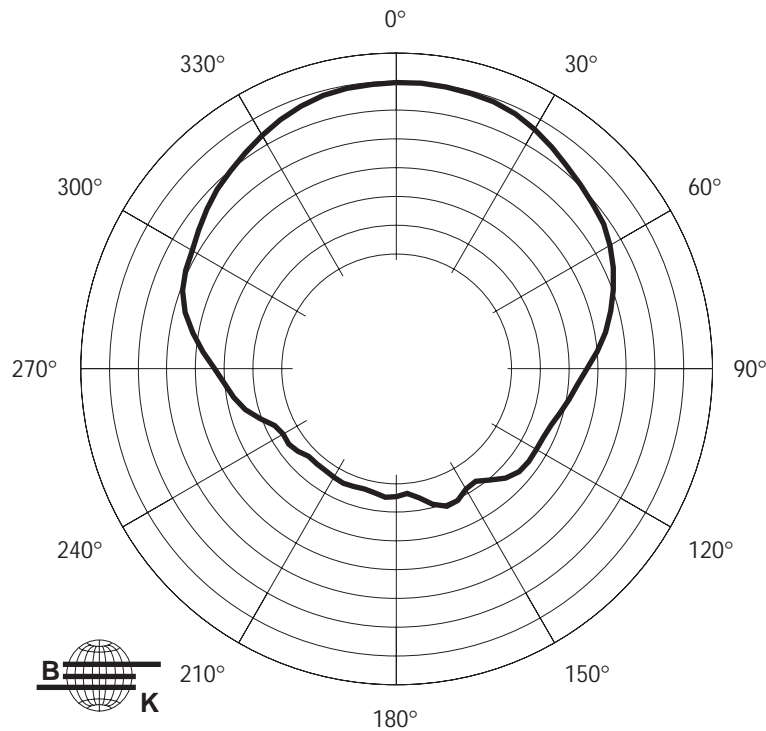


HORIZONTAL OCTAVE POLAR DATA ASR690

ASR690 2000 Hz Horizontal Octave Polar Data



ASR690 4000 Hz Horizontal Octave Polar Data

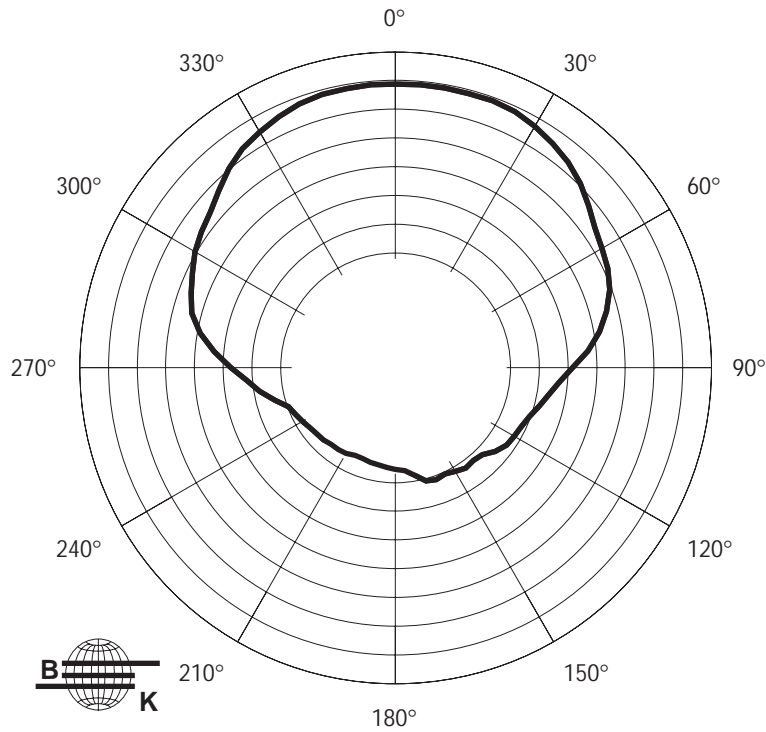


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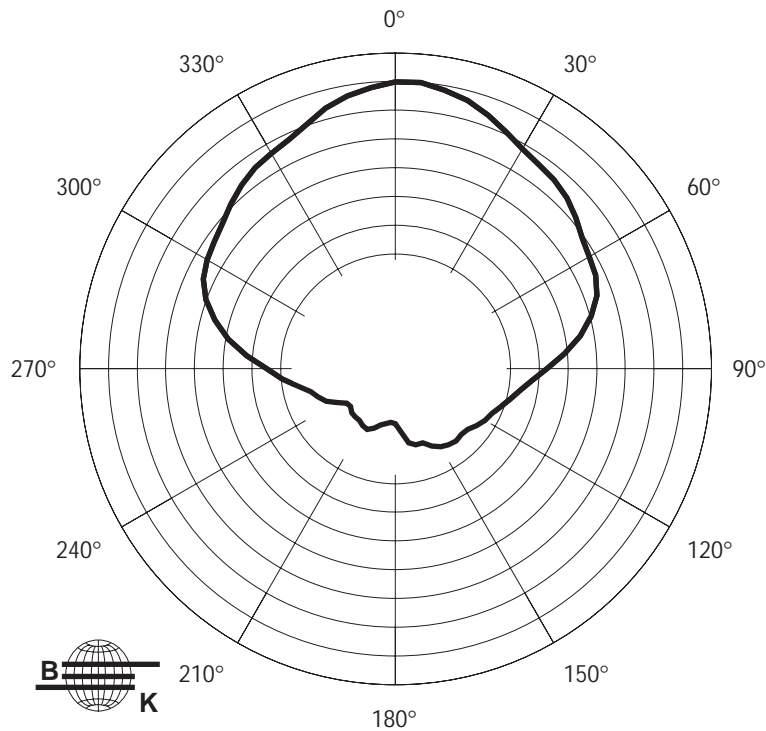


HORIZONTAL OCTAVE POLAR DATA ASR690

ASR690 8000 Hz Horizontal Octave Polar Data



ASR690 16000 Hz Horizontal Octave Polar Data

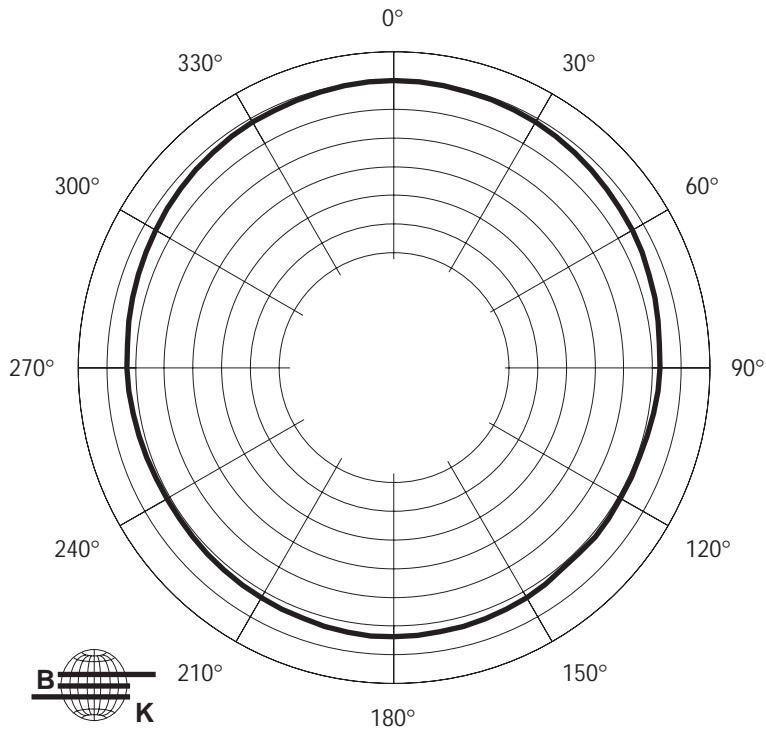


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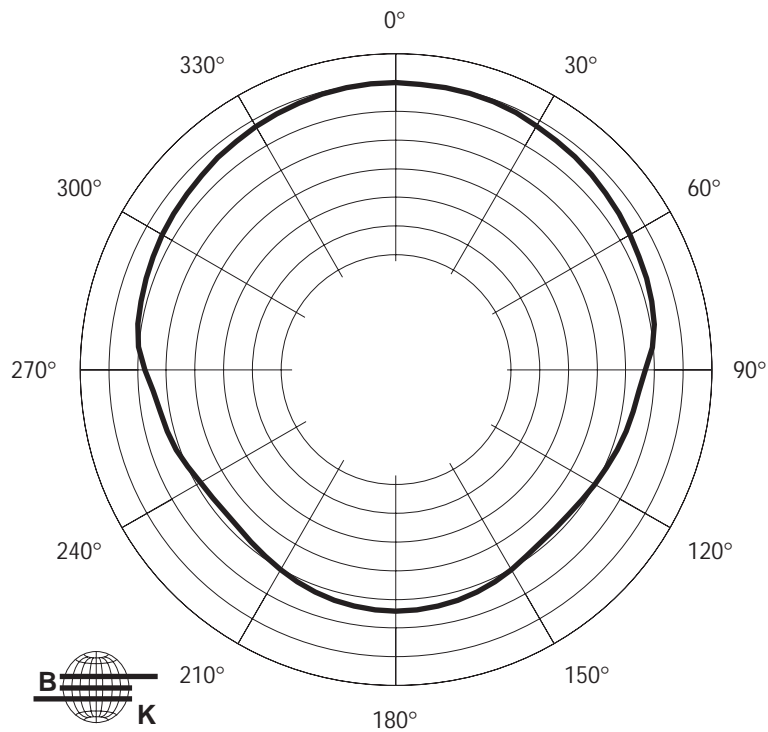


VERTICAL OCTAVE POLAR DATA ASR690

ASR690 125 Hz Vertical Octave Polar Data



ASR690 250 Hz Vertical Octave Polar Data

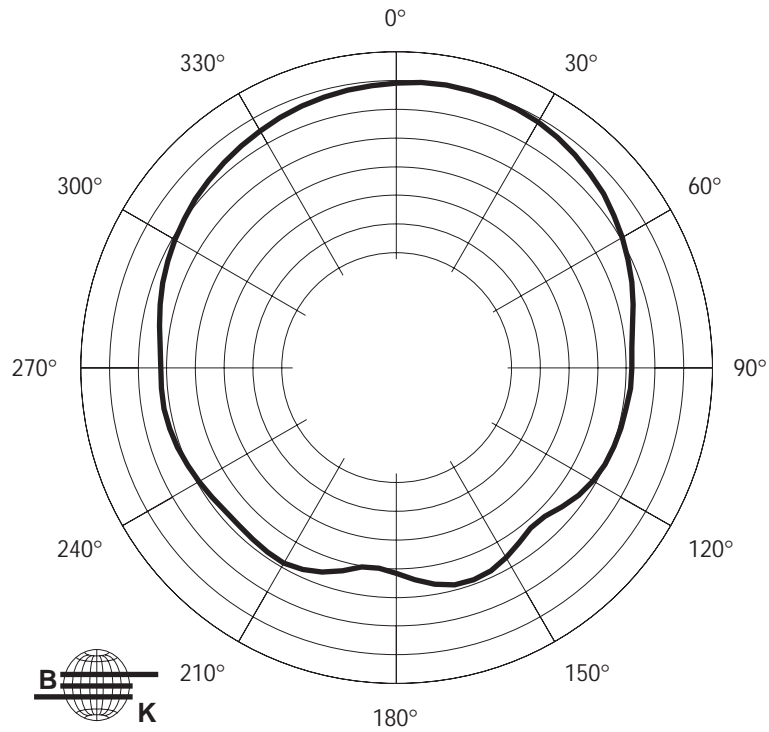


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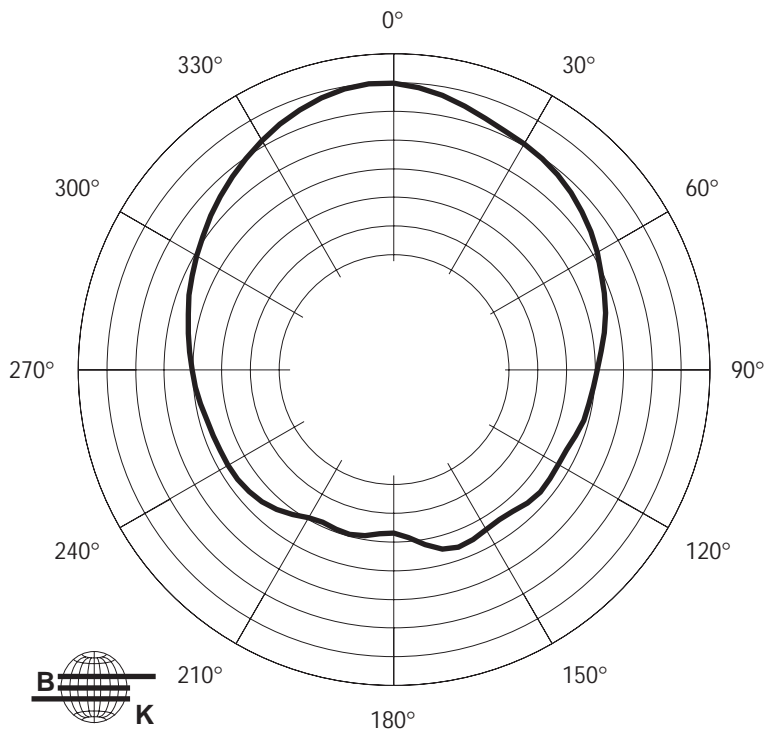


VERTICAL OCTAVE POLAR DATA ASR690

ASR690 500 Hz Vertical Octave Polar Data



ASR690 1000 Hz Vertical Octave Polar Data

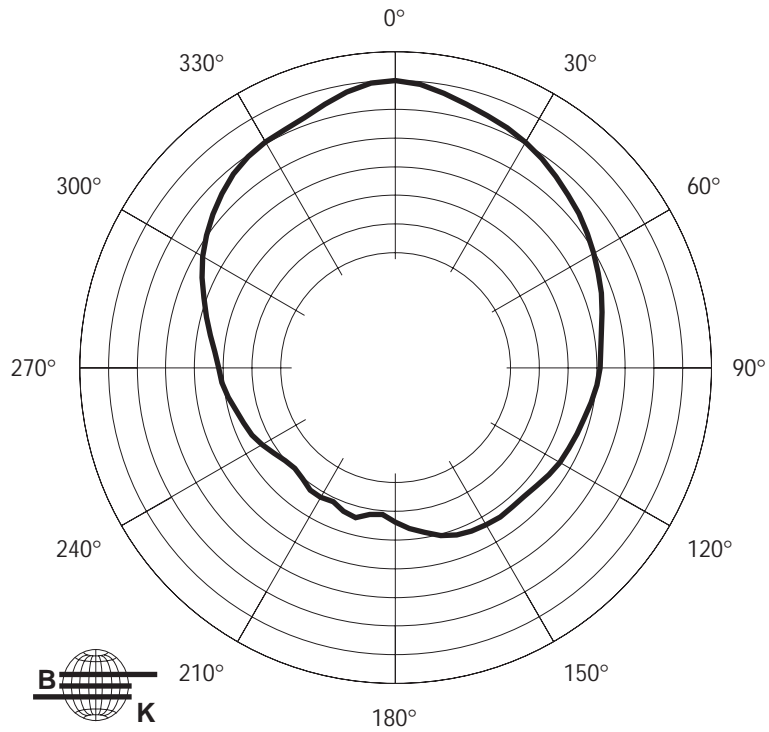


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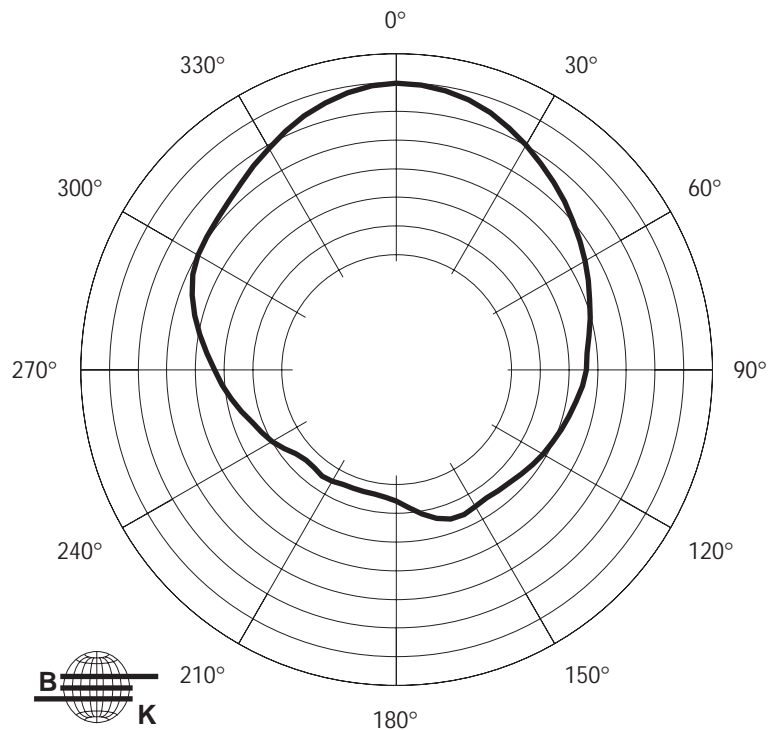


VERTICAL OCTAVE POLAR DATA ASR690

ASR690 2000 Hz Vertical Octave Polar Data



ASR690 4000 Hz Vertical Octave Polar Data

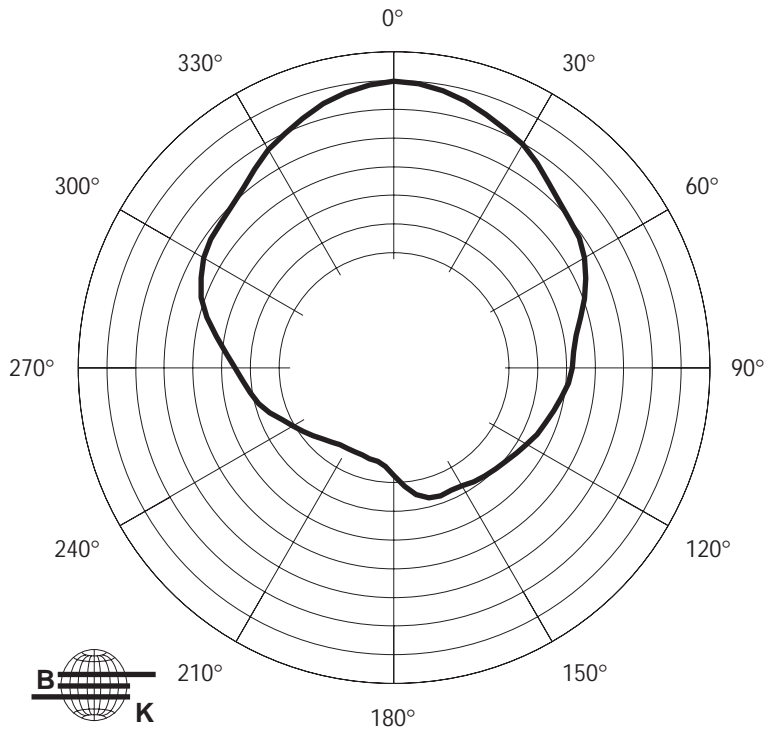


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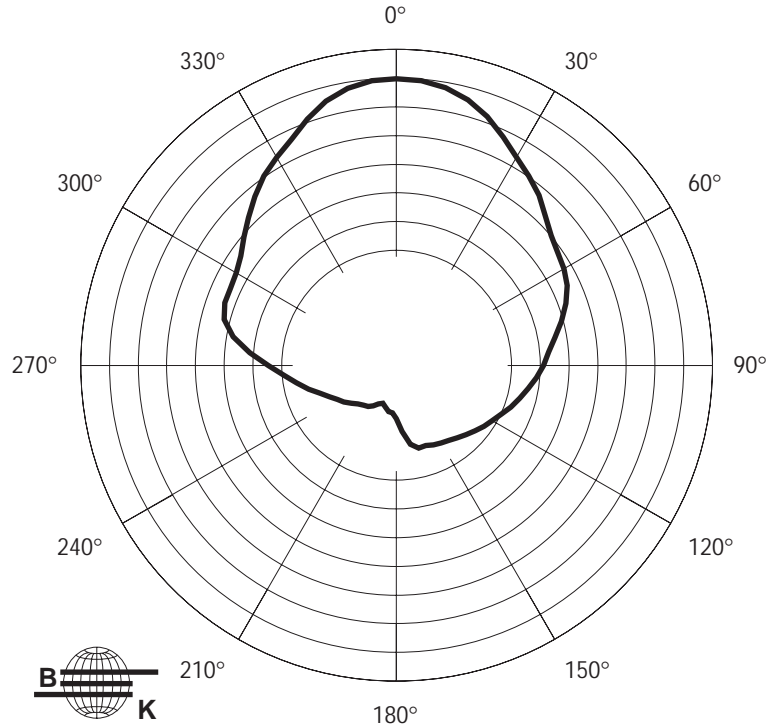


VERTICAL OCTAVE POLAR DATA ASR690

ASR690 8000 Hz Vertical Octave Polar Data



ASR690 16000 Hz Vertical Octave Polar Data



6 db/div.