



TECHNICAL SPECIFICATIONS AS690i

DESCRIPTION

A biamplified 3-way full range system (passive mid/high crossover) in a trapezoidal 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 AS690i is engineered for use in permanent installations. Dipolar array technology provides effective vertical pattern control to 200 Hz while maintaining a 36-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	999719
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)	Trapezoidal
Enclosure Materials	Baltic Birch Plywood
Finish	Black Polyurethane
Connectors	2x 2-Terminal Barrier Strip
Suspension Hardware	(11) 3/8"-16 Threaded Mounting/Suspension Points (3 on Top, 2 each Bottom, Back and Sides)
Grill	Powder Coated Perforated Steel
Options	104001 3/8"-16 Eyebolt (FC300B)



NOMINAL DATA

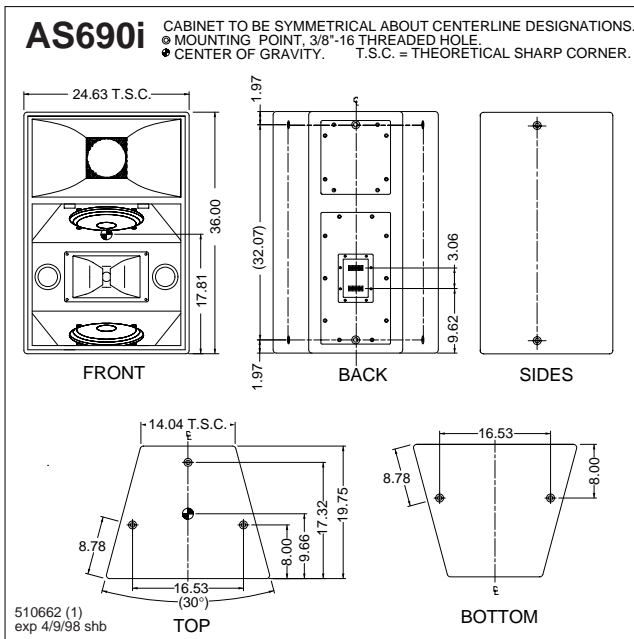
Frequency Response (1 Watt @ 1m)		
±3 dB	70 Hz to 17 kHz	
-10 dB	50 Hz	
Axial Sensitivity (dB SPL, 1 Watt @ 1m)		
Passive MF/HF	105	
LF	100	
Impedance (Ohms)		
Passive MF/HF	8	
LF	4	
Power Handling, AES Standard (Watts)		
Passive MF/HF	360	
LF	800	
Calculated Maximum Output (dB SPL @ 1m)		
Passive MF/HF 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	36.00	914
Width (Front)	24.63	626
Width (Rear)	14.01	449
Depth	19.75	502
Trapezoid Angle	15 degrees per side	
Weights		
	pounds	kilograms
Net Weight	149	67.8
Shipping Weight	155	70.5





TECHNICAL SPECIFICATIONS AS690i

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 subsystems.

System frequency response shall vary no more than ± 3 dB from 70 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 trapezoidal 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 2x 2-terminal barrier strips. Eleven (11) 3/8"-16 threaded mounting/suspension points (3 on top, 2 each on bottom, back and sides) 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 AS690i.

SERVICE ITEMS

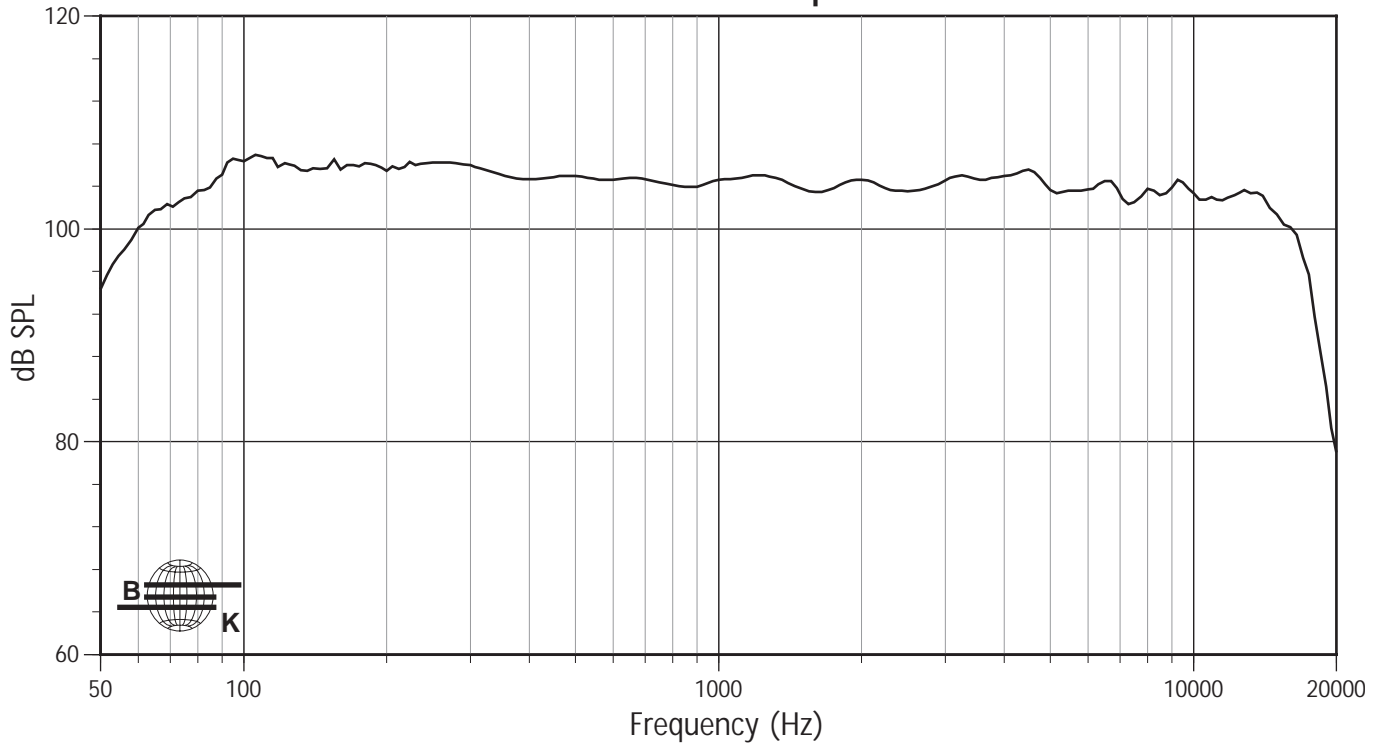
LF: Complete Cone Driver	EAW Part No.	804051
MF: Complete Cone Driver	EAW Part No.	804021
HF: Complete Compression Driver/Tweeter	EAW Part No.	803039
LF: Recone Assembly	EAW Part No.	460048
MF: Recone Assembly	EAW Part No.	460010
HF: Diaphragm Assembly	EAW Part No.	806019
Filter/Crossover Network: Complete Assembly	EAW Part No.	225367



PERFORMANCE SPECIFICATIONS AS690i

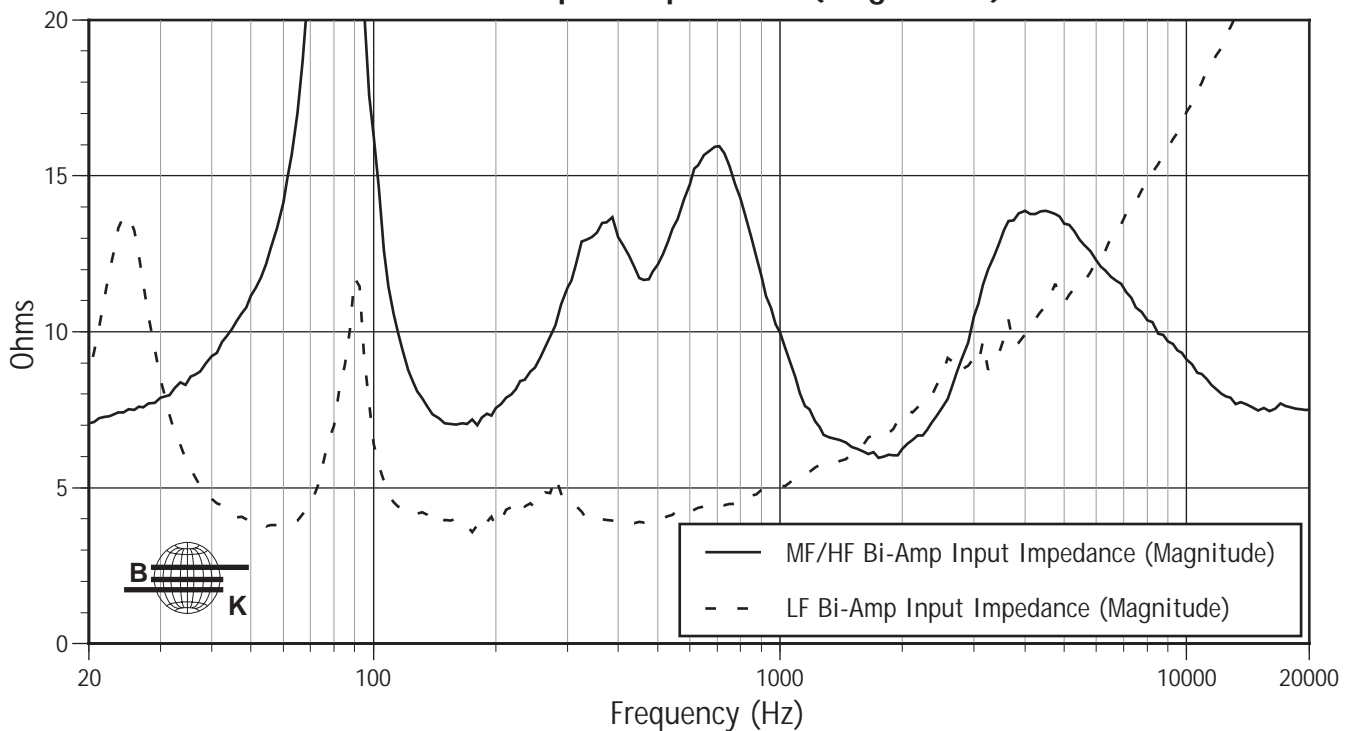
FREQUENCY RESPONSE

AS690i Axial Response



INPUT IMPEDANCE

AS690i Input Impedance (Magnitude)

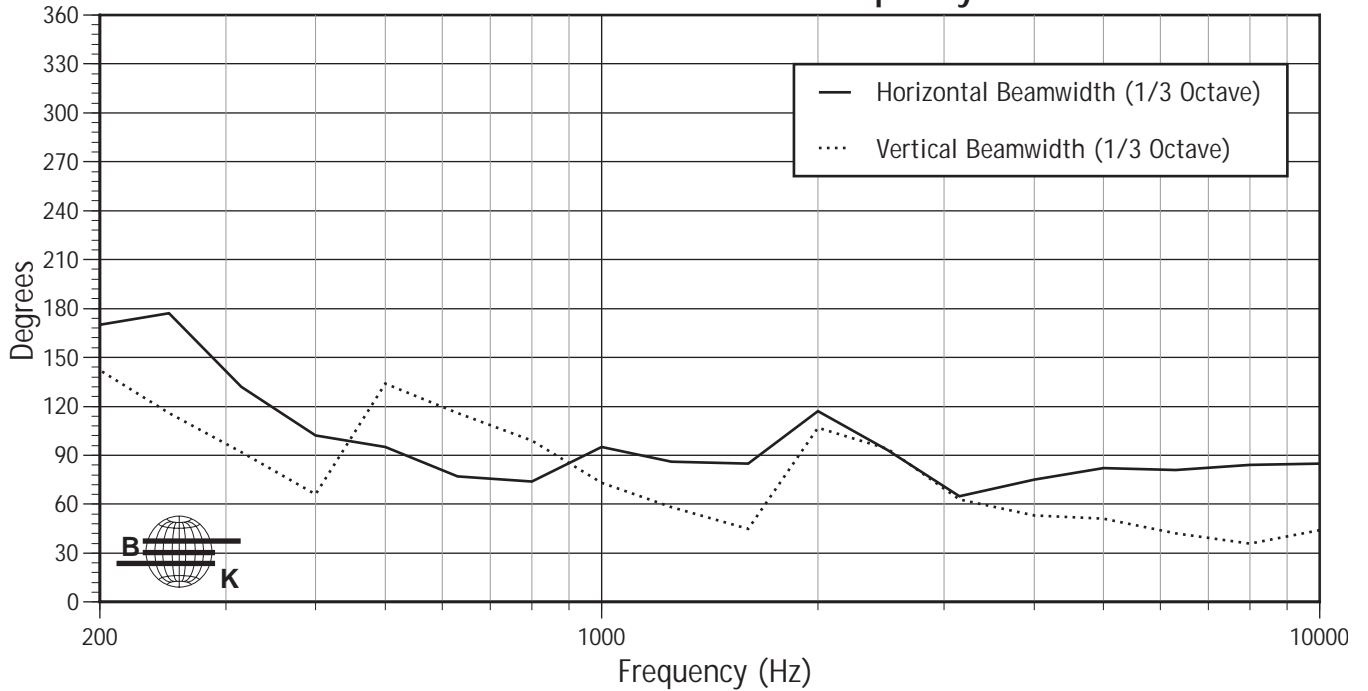




PERFORMANCE SPECIFICATIONS AS690i

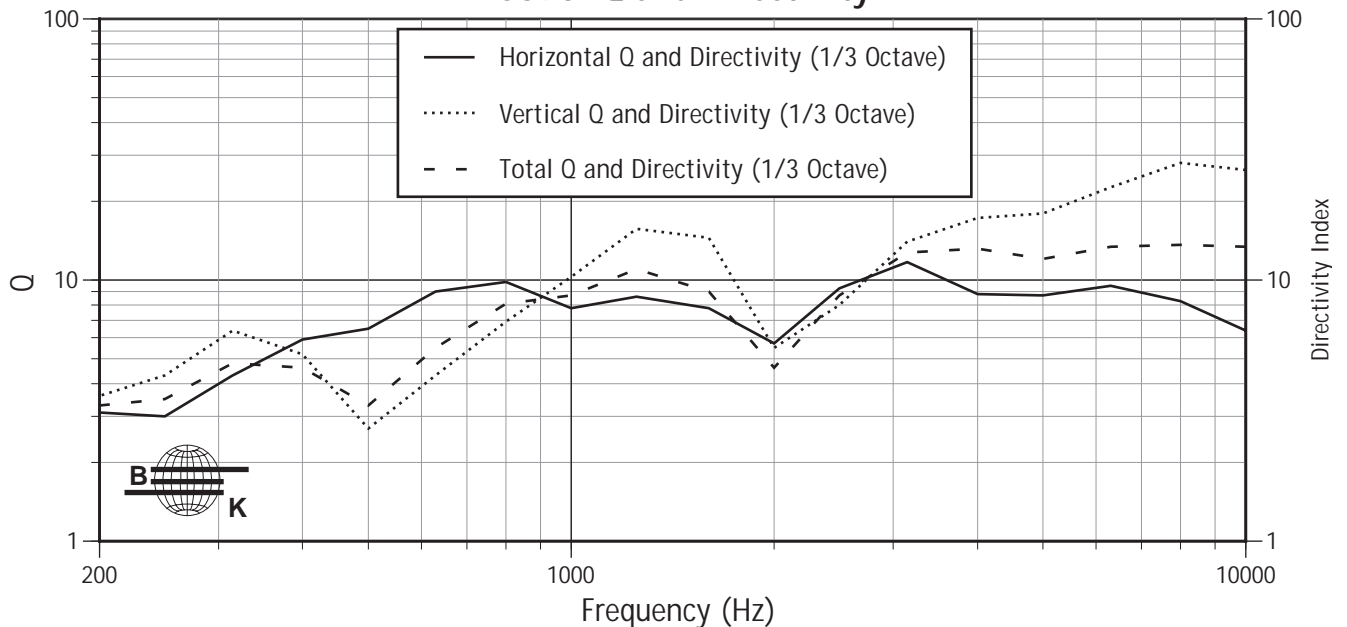
BEAMWIDTH

AS690i Beamwidth vs Frequency



Q & DIRECTIVITY INDEX (DI)

AS690i Q and Directivity





PERFORMANCE SPECIFICATIONS AS690i

Q & BEAMWIDTH BY FREQUENCY

Frequency	Hor Beamwidth	Ver Beamwidth	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir
125	360	360	1.8	1.8	1.8
160	360	360	2.7	3	2.8
200	170	142	3.1	3.6	3.3
250	177	116	3	4.3	3.5
315	132	92	4.3	6.4	4.8
400	102	66	5.9	5.2	4.6
500	95	134	6.5	2.7	3.3
630	77	116	9	4.3	5.5
800	74	99	9.8	6.9	8.1
1000	95	73	7.8	10.3	8.7
1250	86	58	8.6	15.7	11
1600	85	45	7.8	14.5	9
2000	117	107	5.7	5.5	4.6
2500	93	94	9.3	8	8.7
3150	65	63	11.7	14	12.7
4000	75	53	8.8	17.3	13.2
5000	82	51	8.7	18	12
6300	81	42	9.5	22.6	13.4
8000	84	36	8.3	28.1	13.6
10000	85	44	6.4	26.4	13.4
12500	86	44	6.6	24	12.9
16000	73	53	11.9	15.5	12.1
20000	65	44	14.5	24.9	17.9

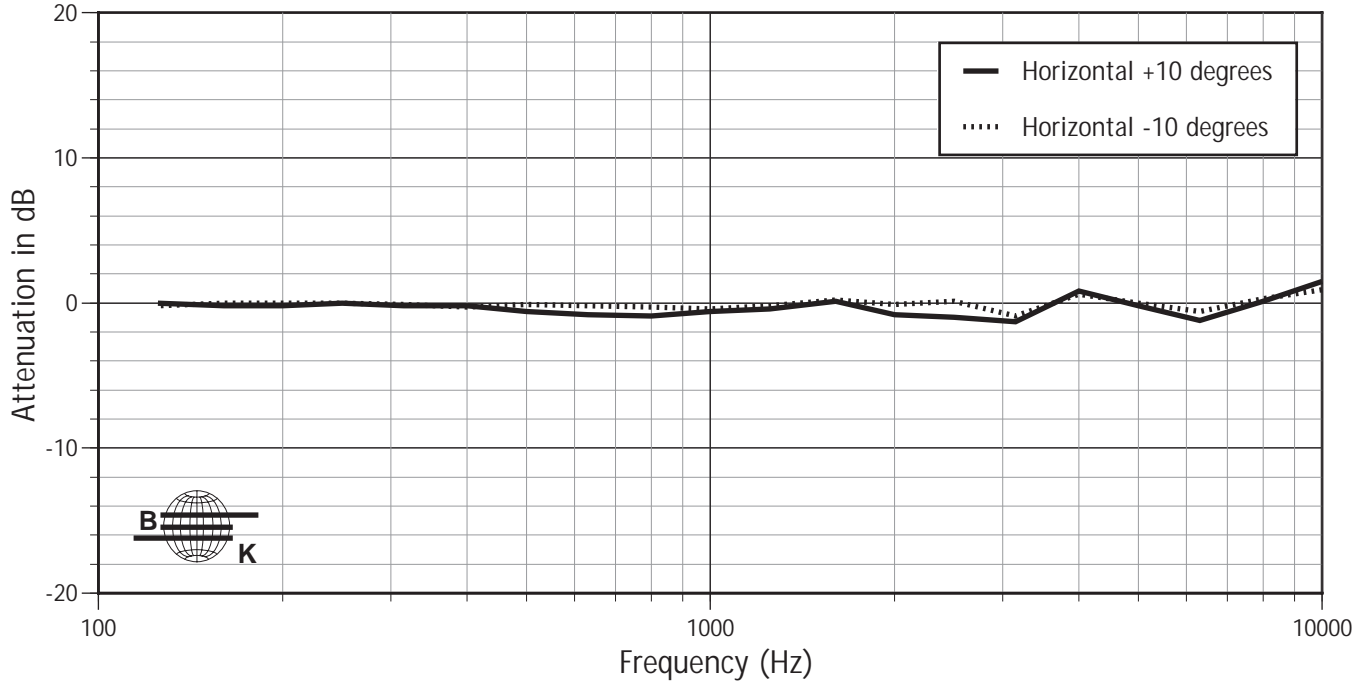


PERFORMANCE SPECIFICATIONS AS690i

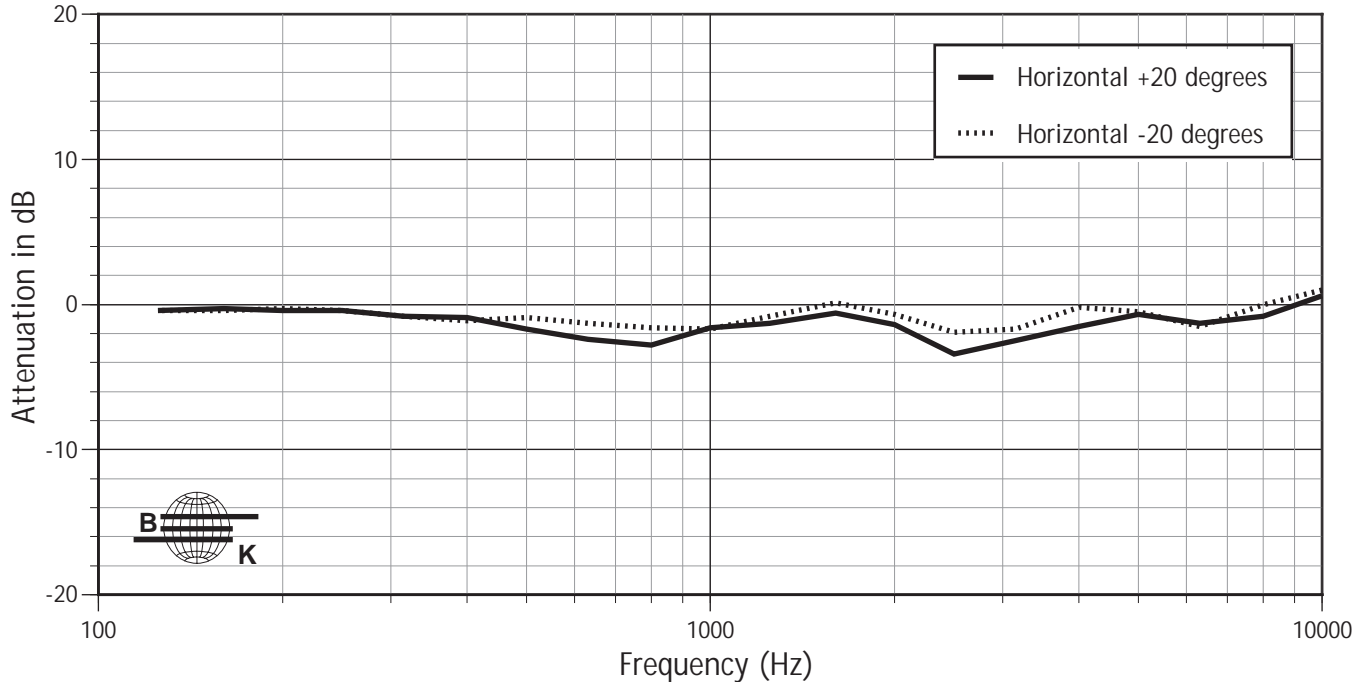
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

AS690i Horizontal $\pm 10^\circ$



AS690i Horizontal $\pm 20^\circ$

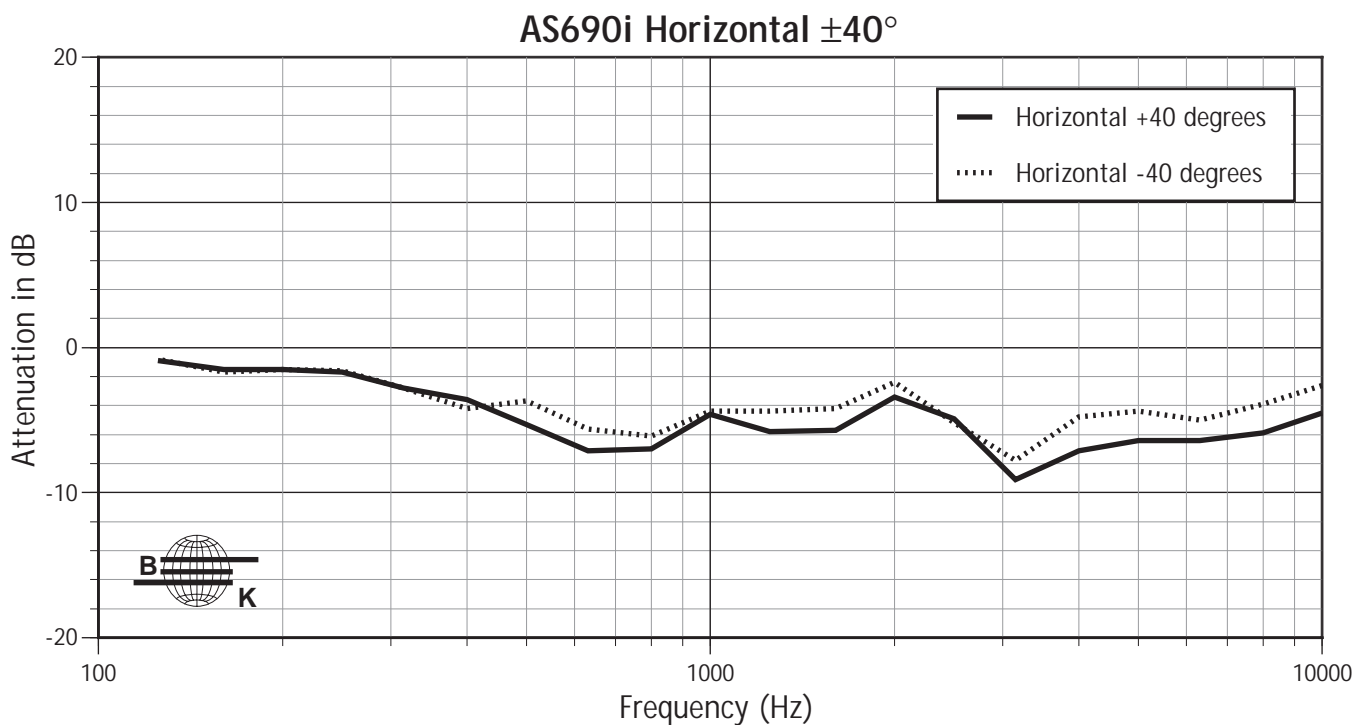
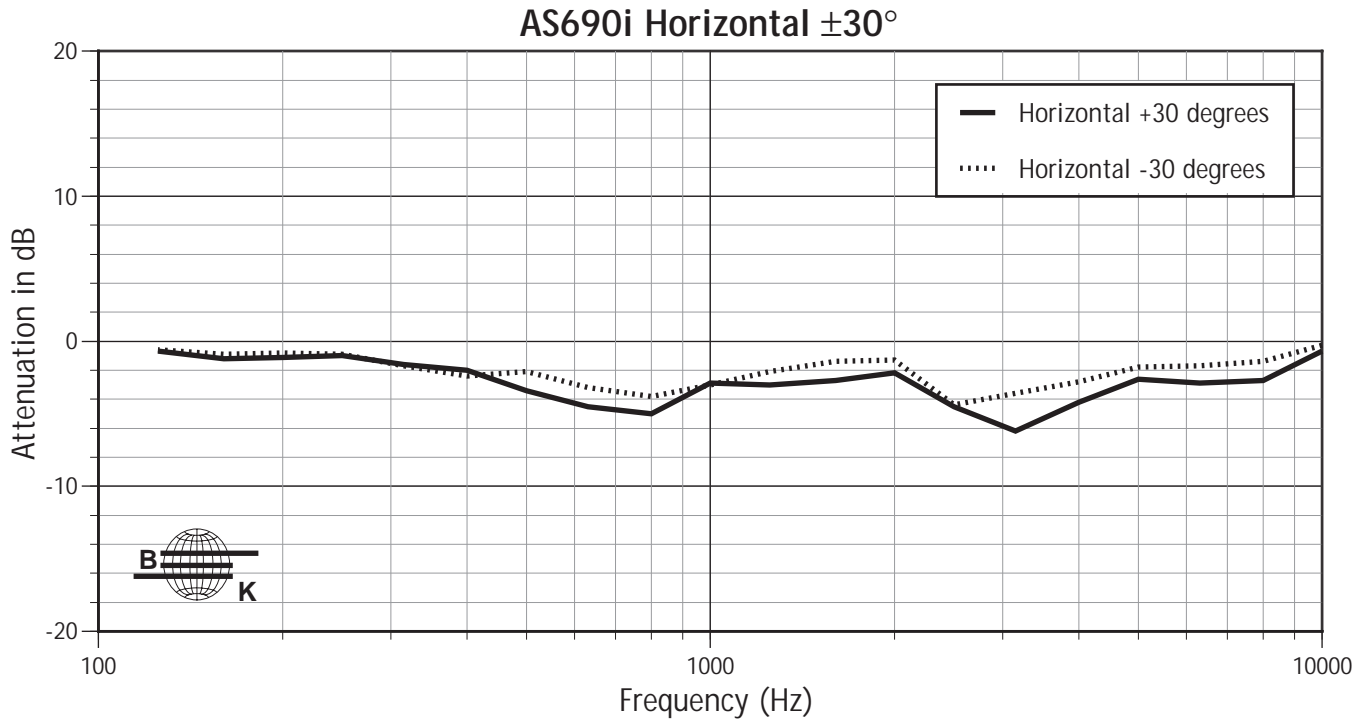




PERFORMANCE SPECIFICATIONS AS690i

HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.



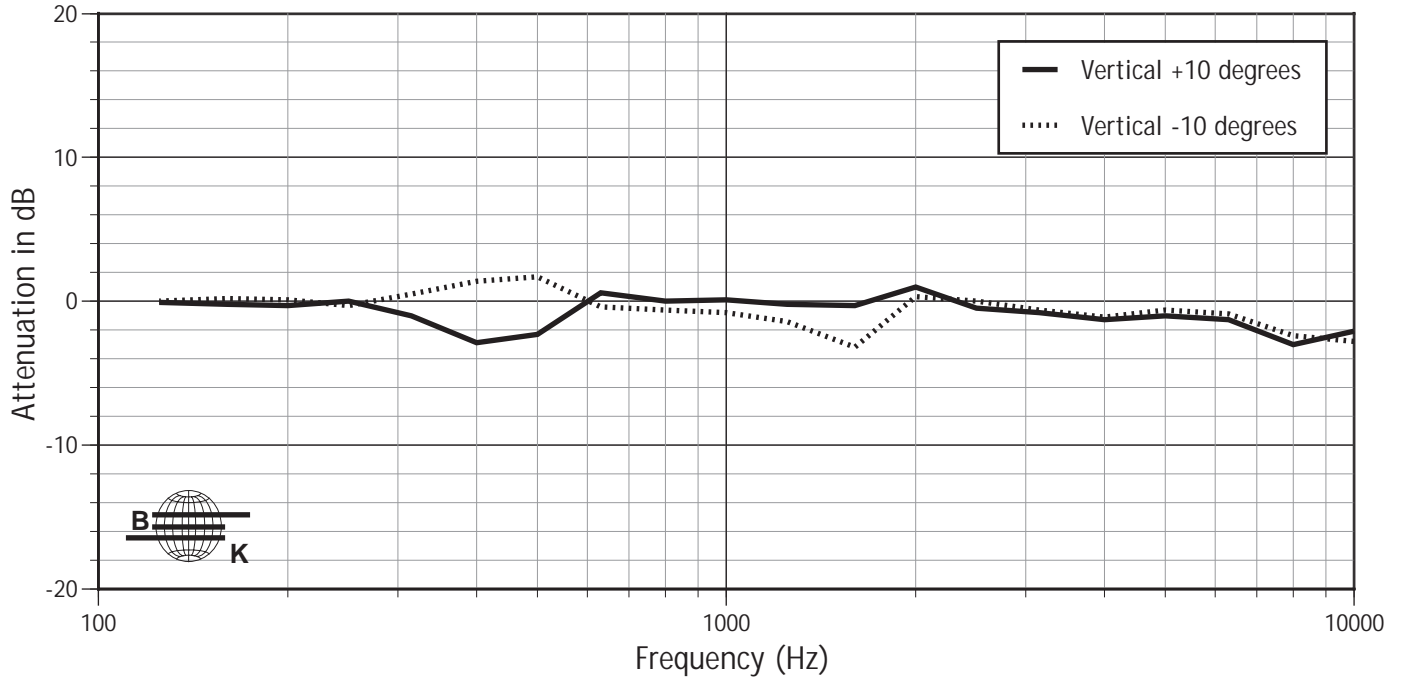


PERFORMANCE SPECIFICATIONS AS690i

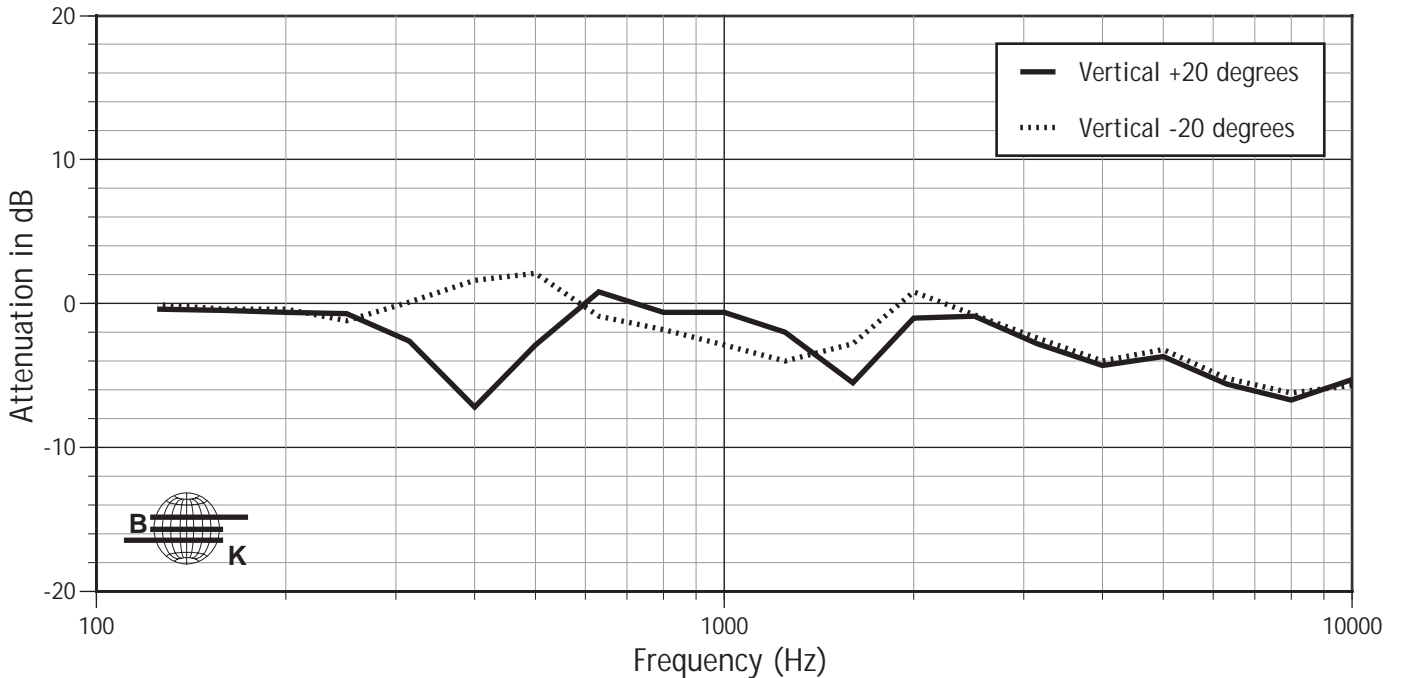
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

AS690i Vertical $\pm 10^\circ$



AS690i Vertical $\pm 20^\circ$

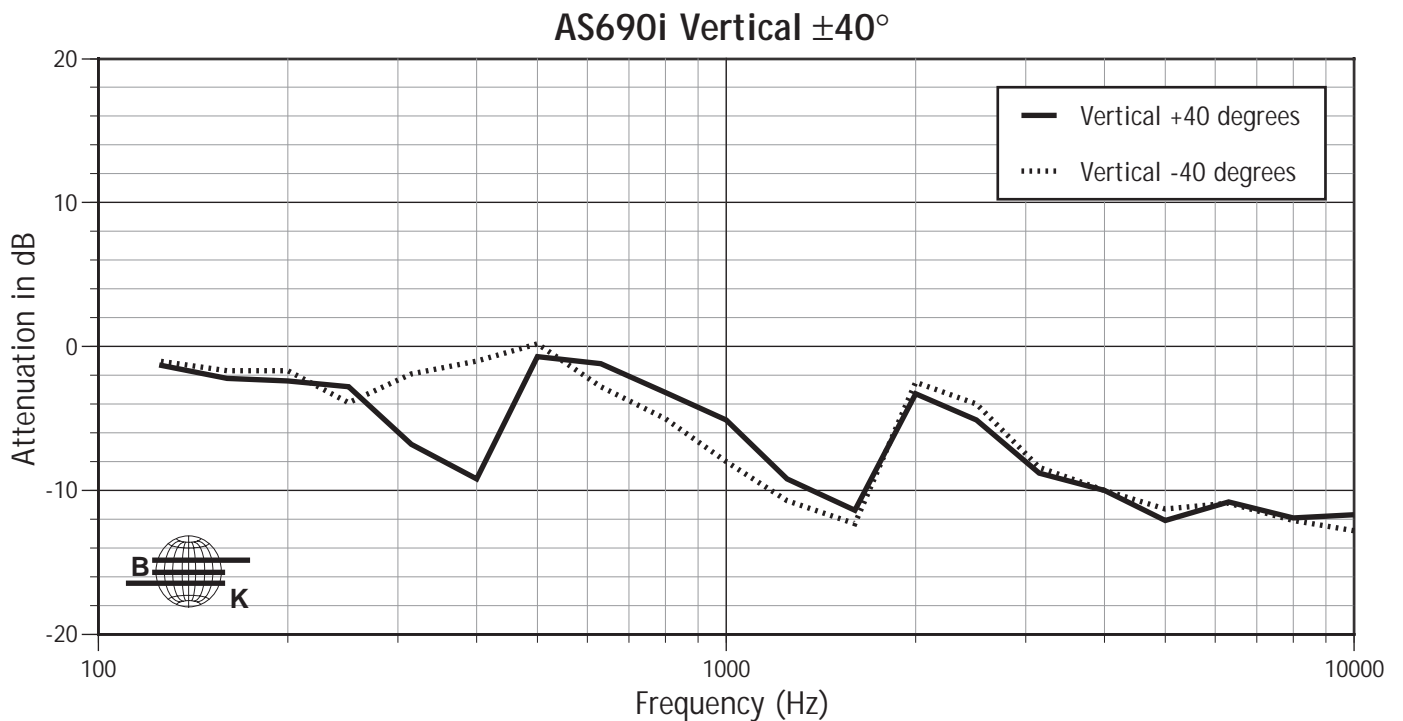
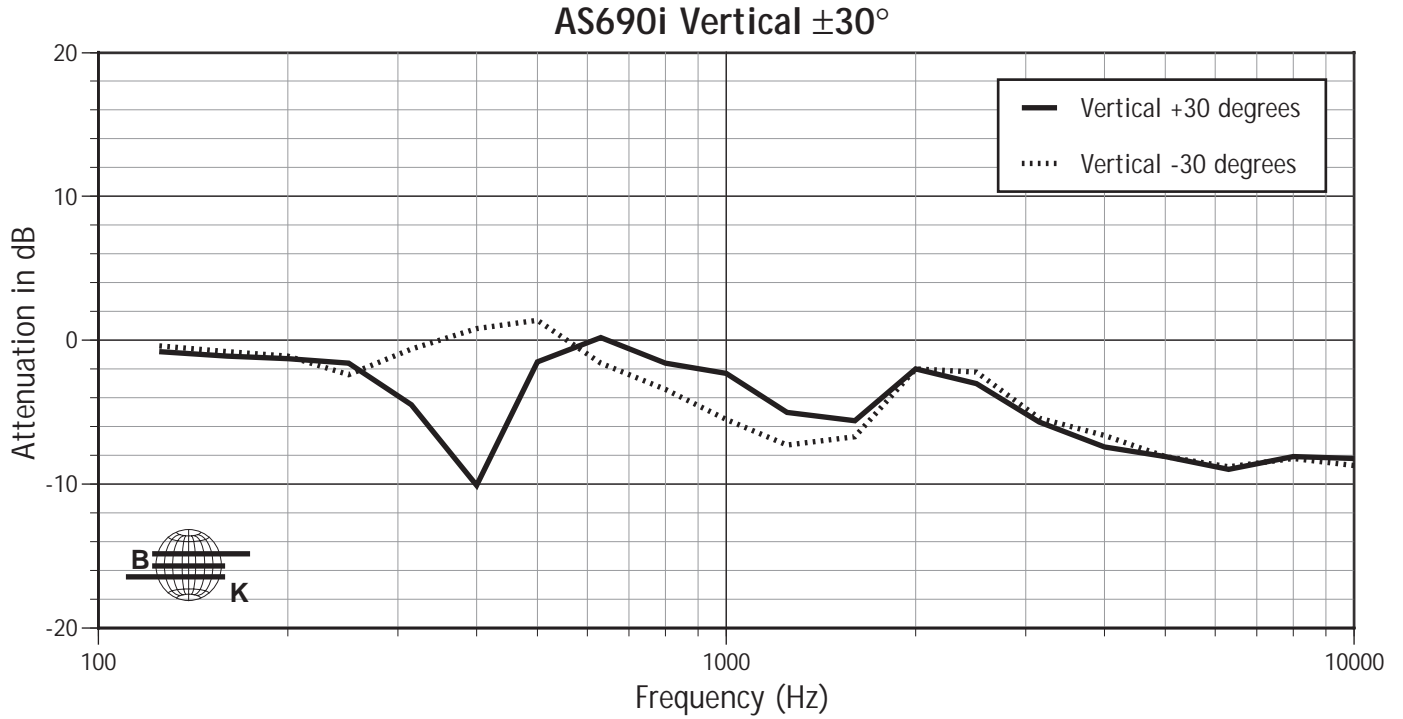




PERFORMANCE SPECIFICATIONS AS690i

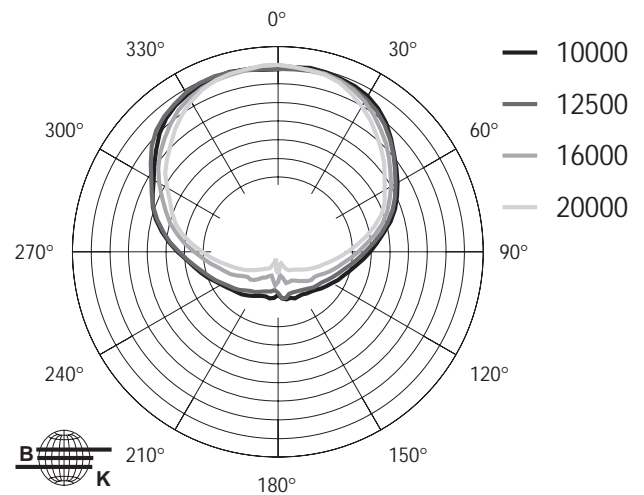
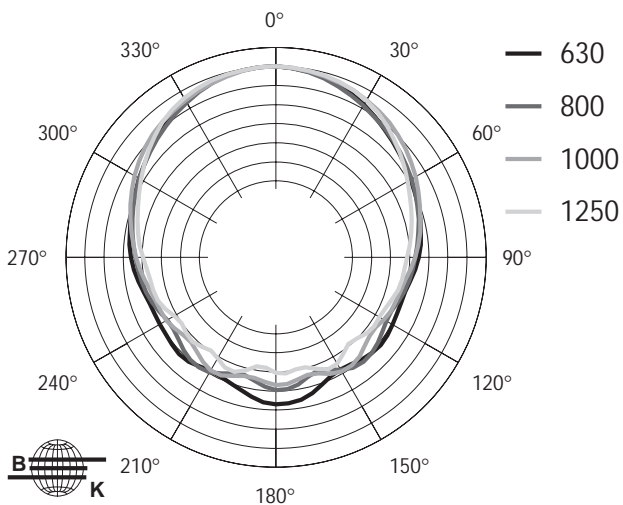
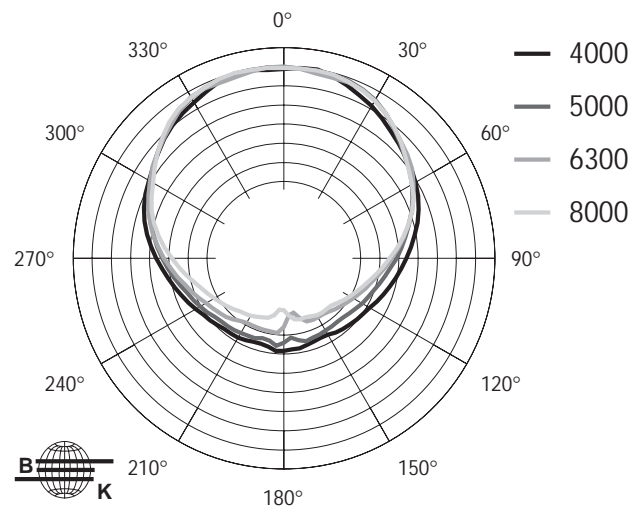
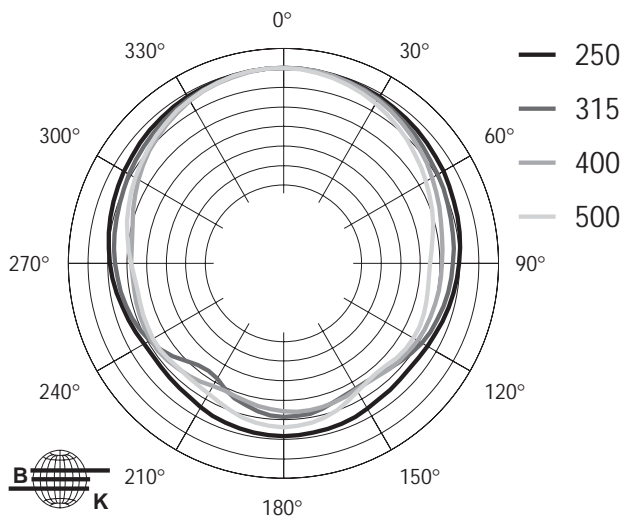
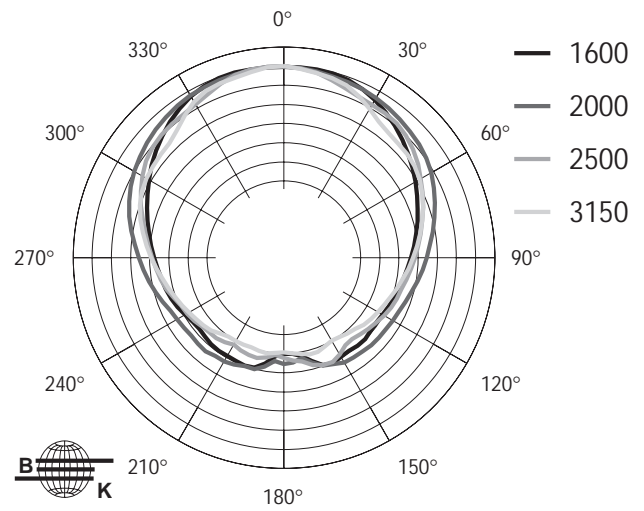
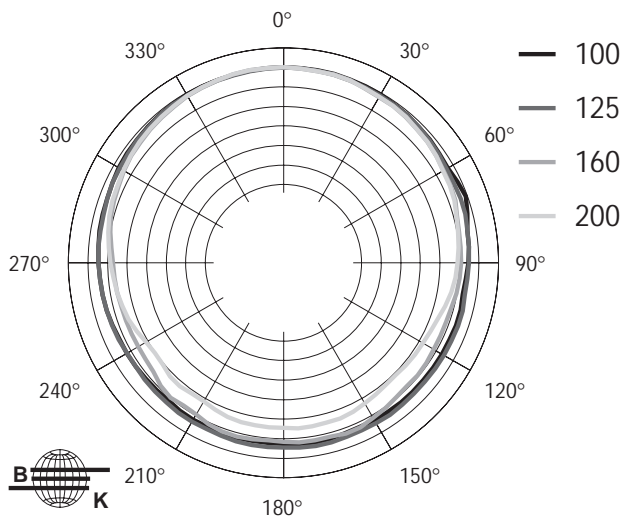
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.





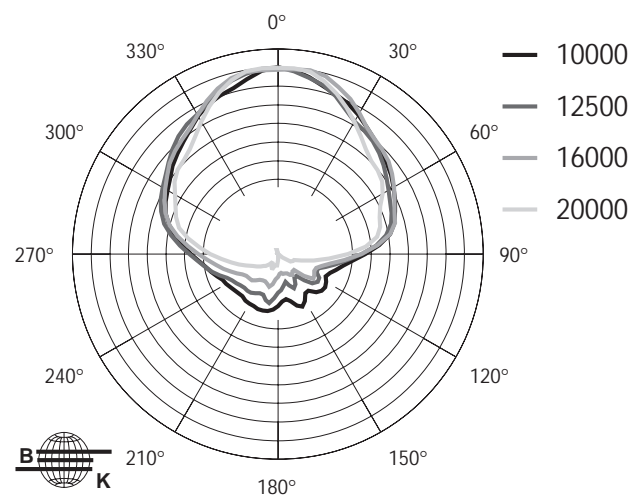
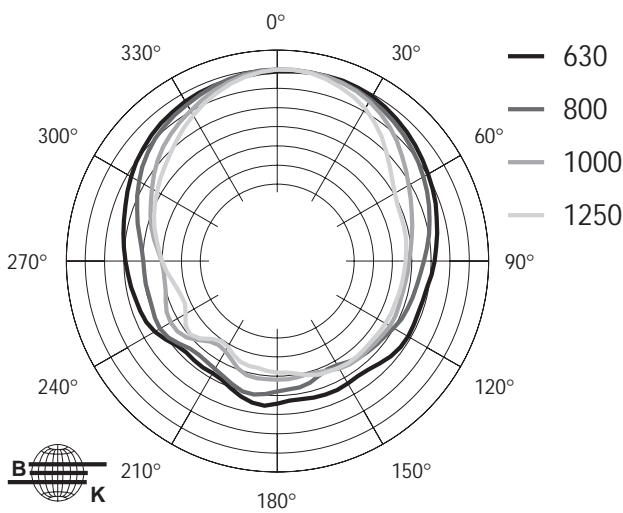
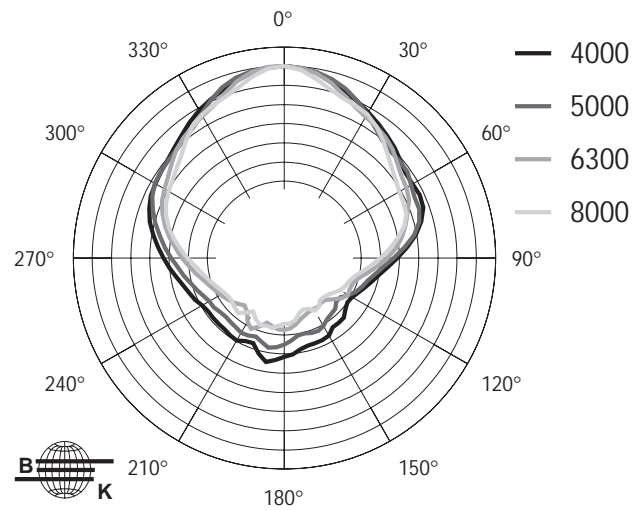
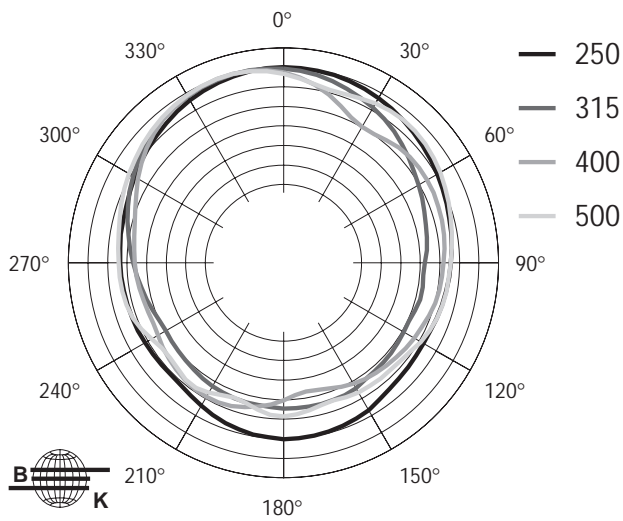
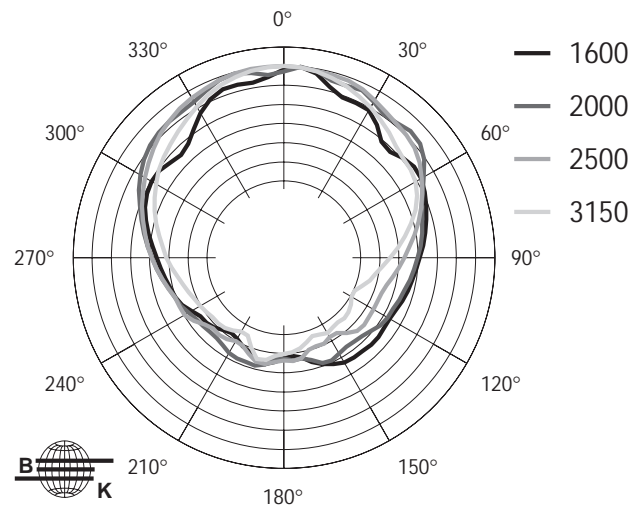
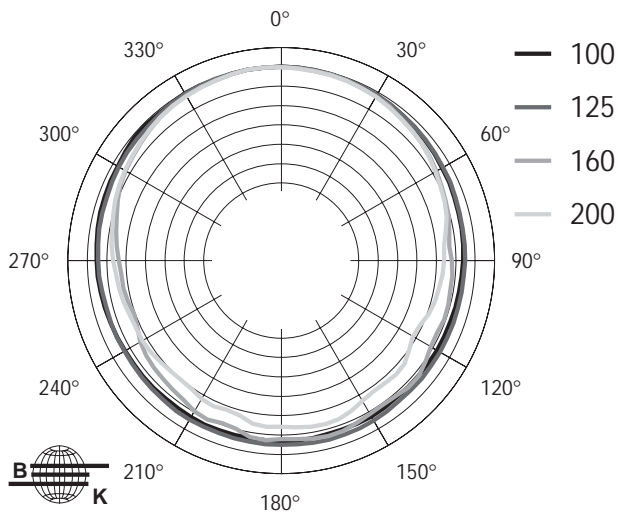
HORIZONTAL 1/3 OCTAVE POLAR DATA AS690i



6 db/div.



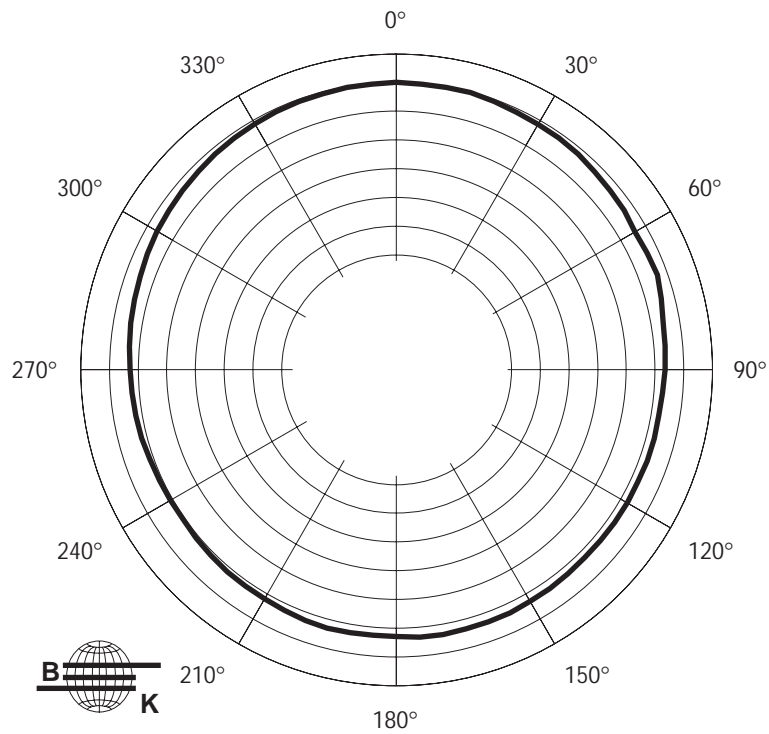
VERTICAL 1/3 OCTAVE POLAR DATA AS690i



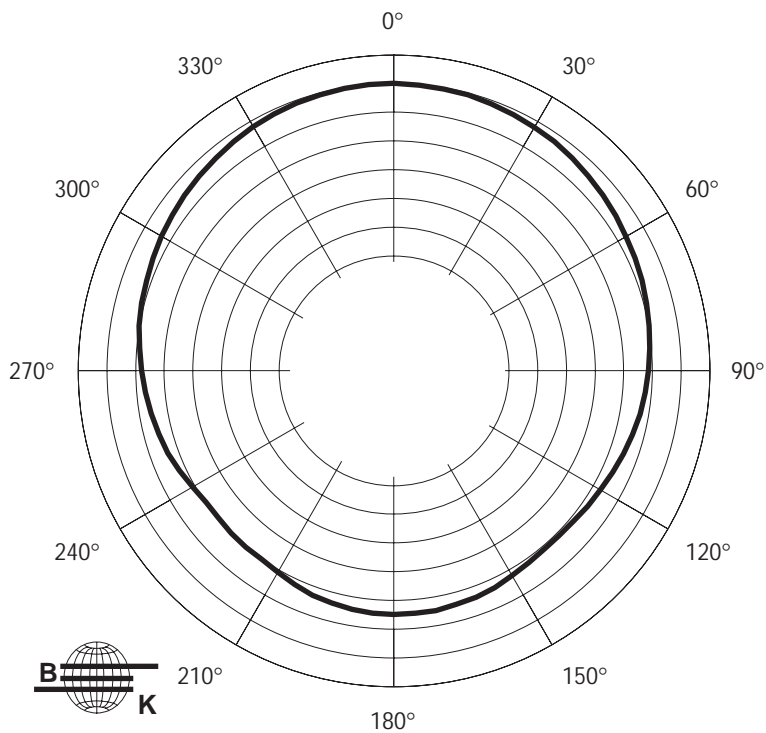


HORIZONTAL OCTAVE POLAR DATA AS690i

AS690i 125 Hz Horizontal Octave Polar Data



AS690i 250 Hz Horizontal Octave Polar Data

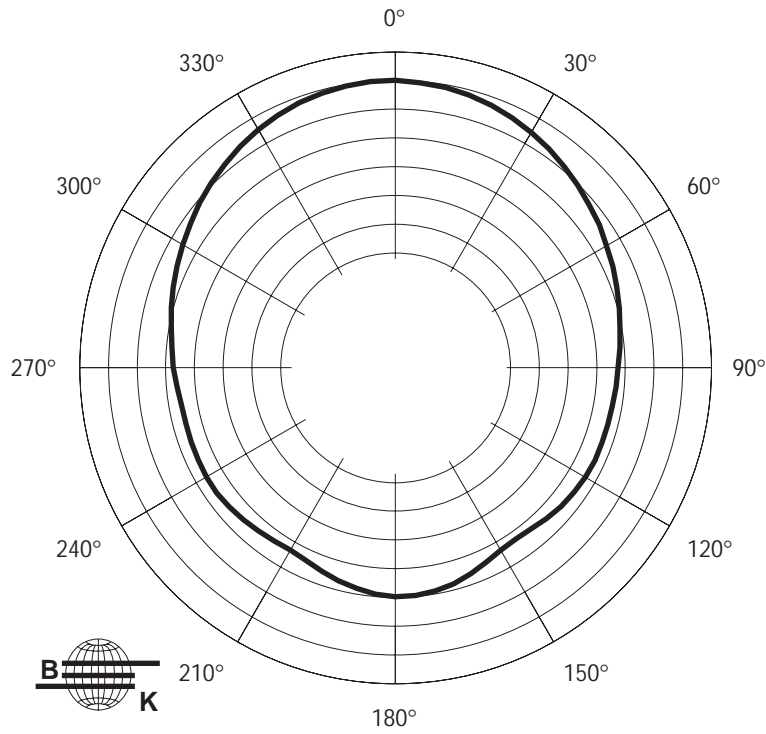


6 db/div.

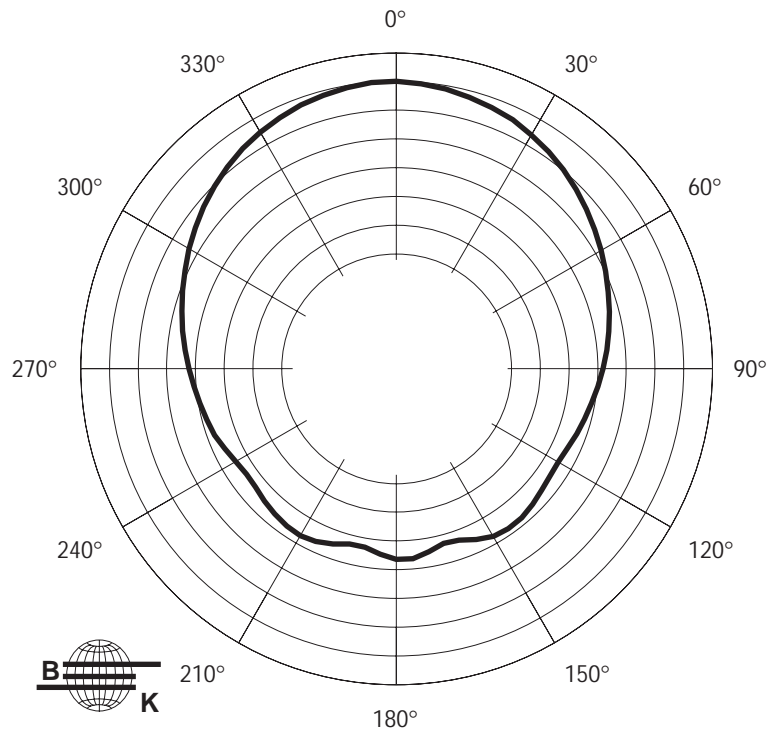


HORIZONTAL OCTAVE POLAR DATA AS690i

AS690i 500 Hz Horizontal Octave Polar Data



AS690i 1000 Hz Horizontal Octave Polar Data

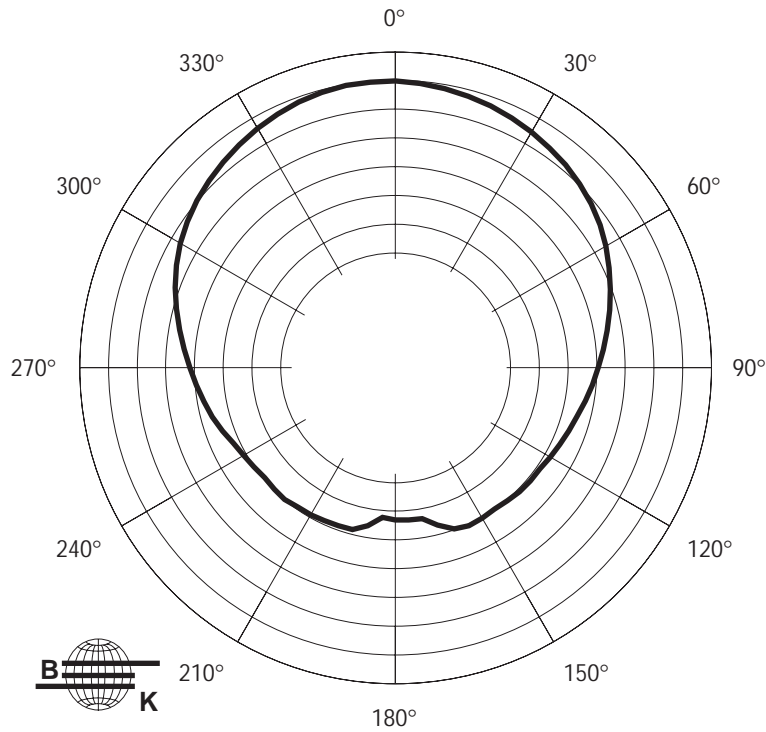


6 db/div.

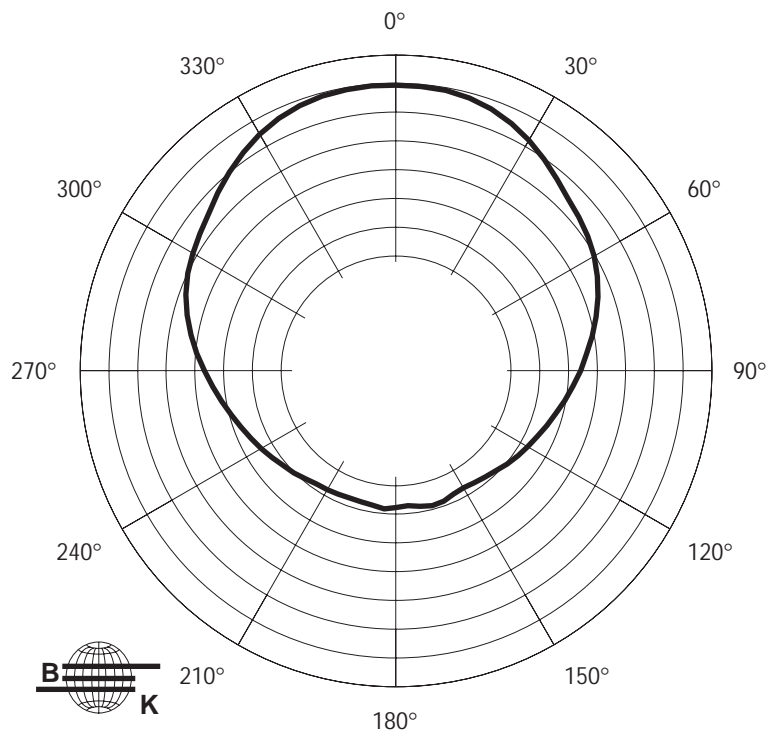


HORIZONTAL OCTAVE POLAR DATA AS690i

AS690i 2000 Hz Horizontal Octave Polar Data



AS690i 4000 Hz Horizontal Octave Polar Data

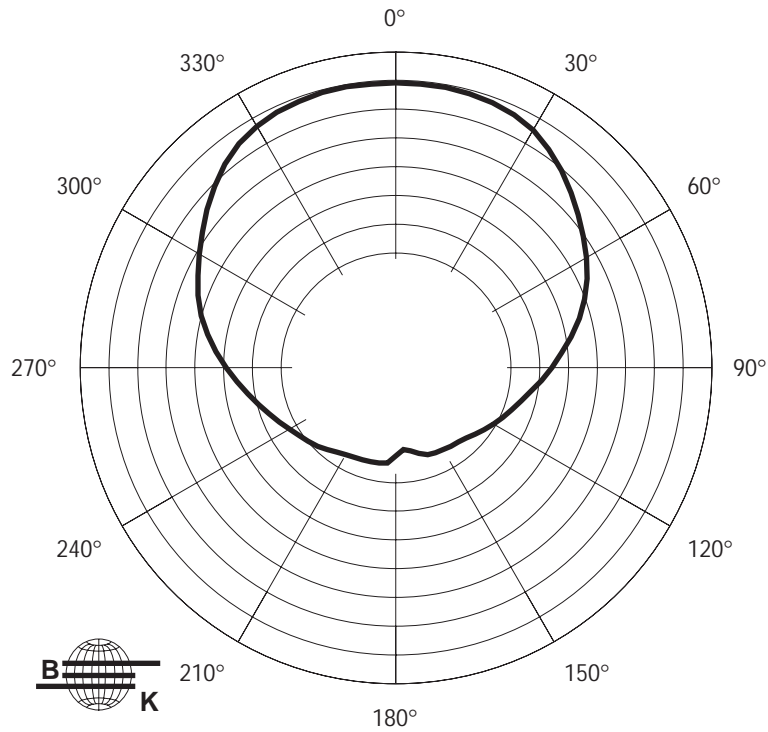


6 db/div.

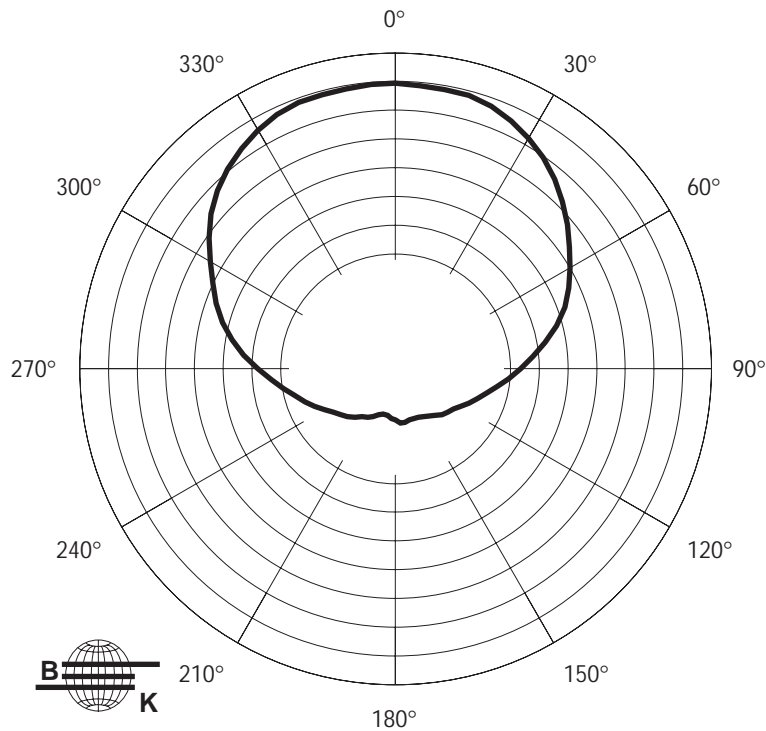


HORIZONTAL OCTAVE POLAR DATA AS690i

AS690i 8000 Hz Horizontal Octave Polar Data



AS690i 16000 Hz Horizontal Octave Polar Data

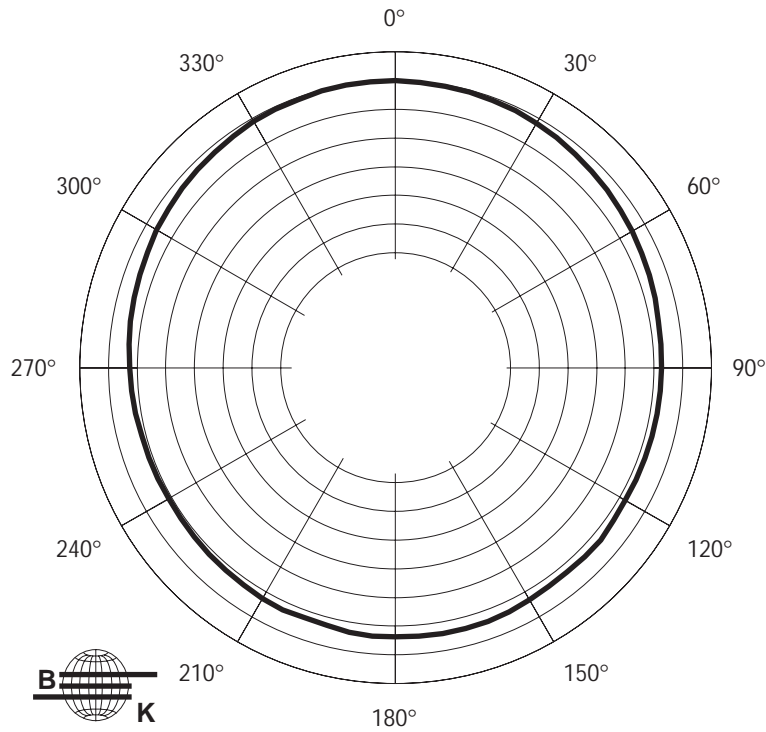


6 db/div.

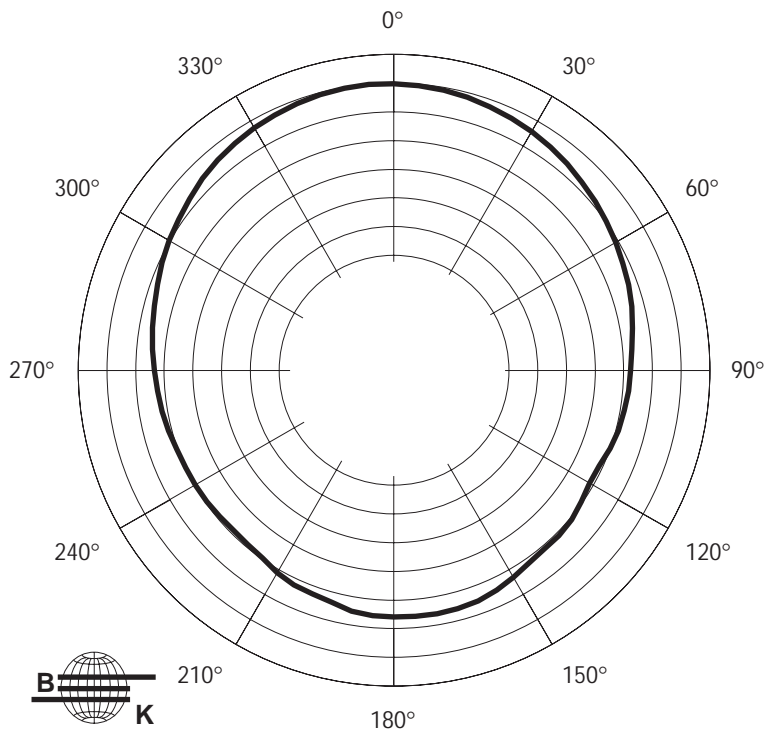


VERTICAL OCTAVE POLAR DATA AS690i

AS690i 125 Hz Vertical Octave Polar Data



AS690i 250 Hz Vertical Octave Polar Data

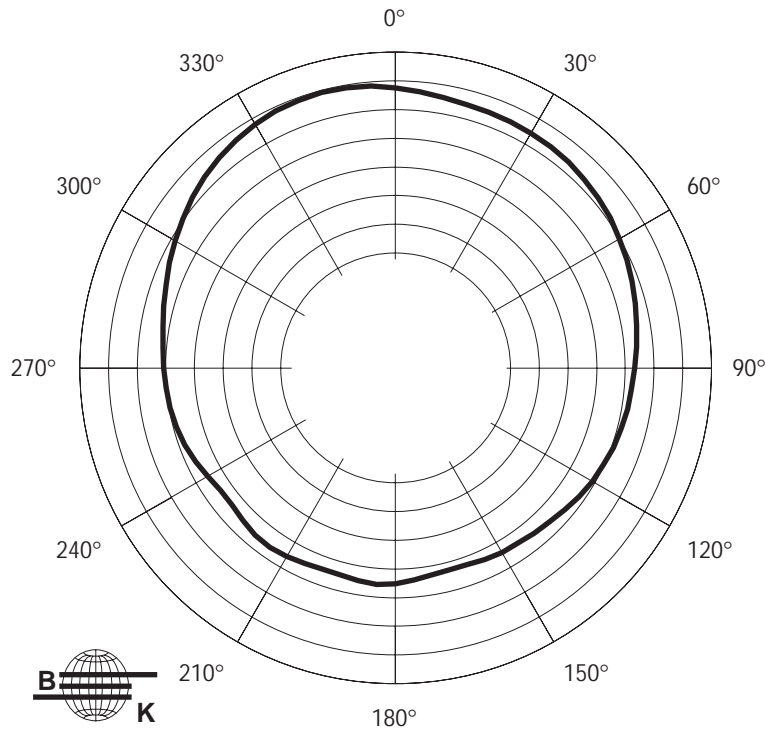


6 db/div.

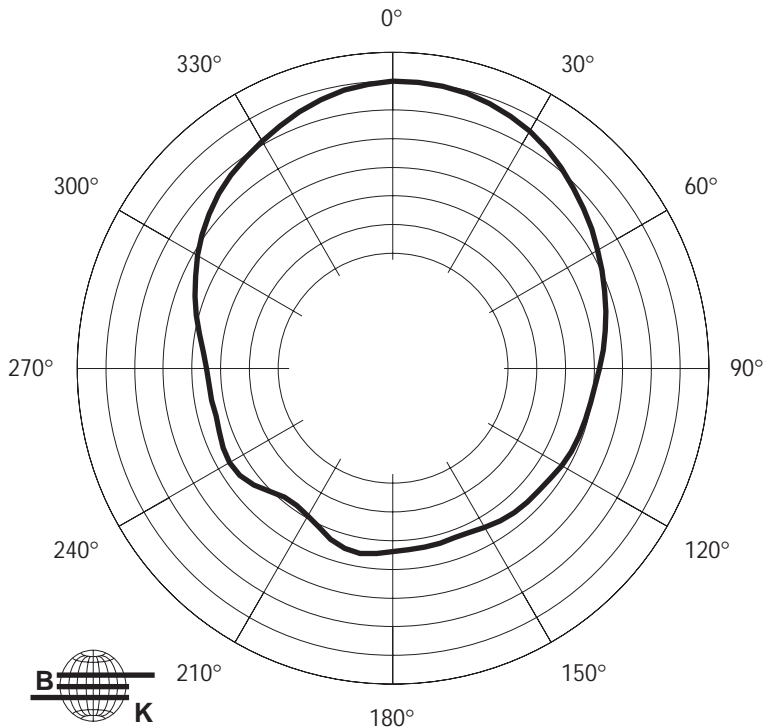


VERTICAL OCTAVE POLAR DATA AS690i

AS690i 500 Hz Vertical Octave Polar Data



AS690i 1000 Hz Vertical Octave Polar Data

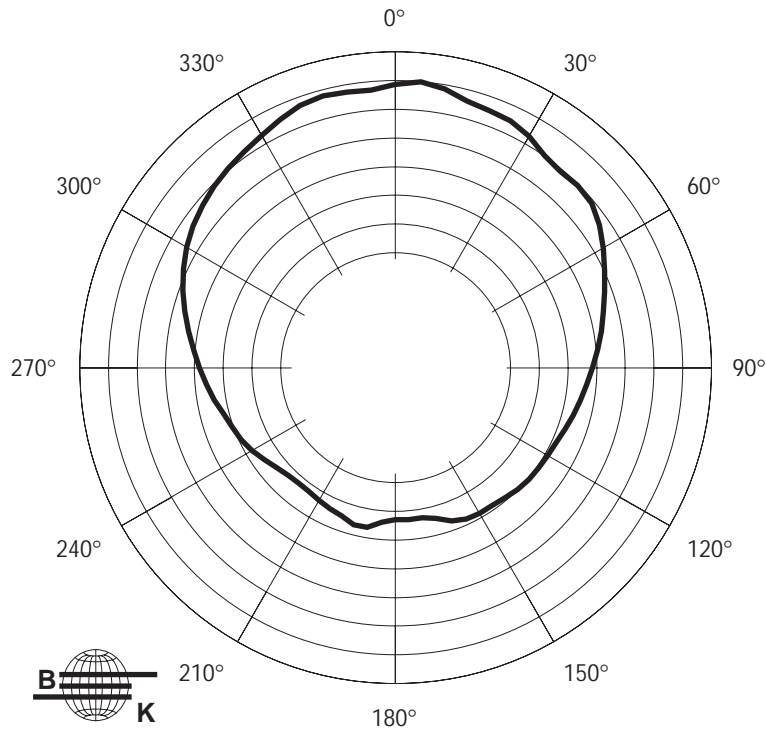


6 db/div.

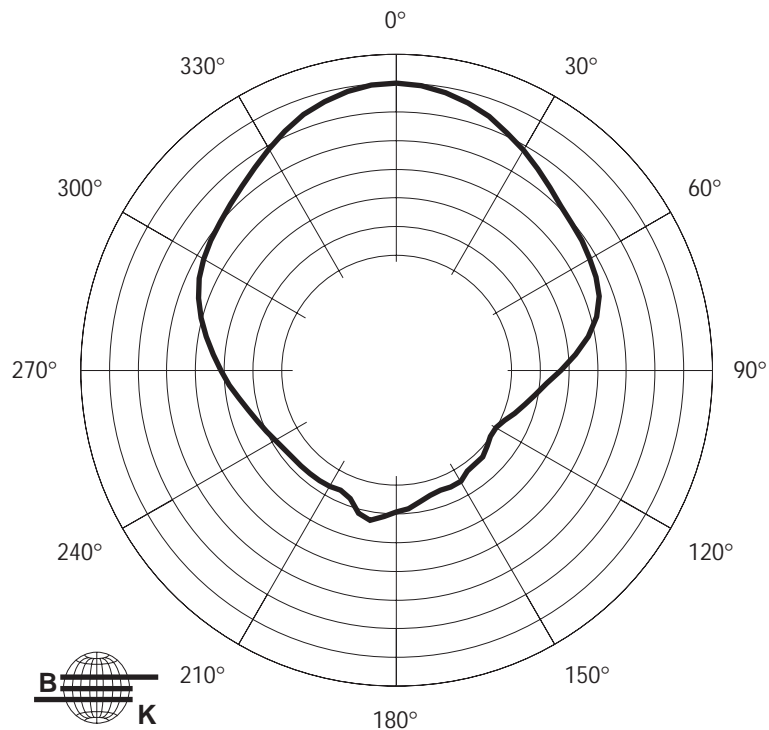


VERTICAL OCTAVE POLAR DATA AS690i

AS690i 2000 Hz Vertical Octave Polar Data



AS690i 4000 Hz Vertical Octave Polar Data

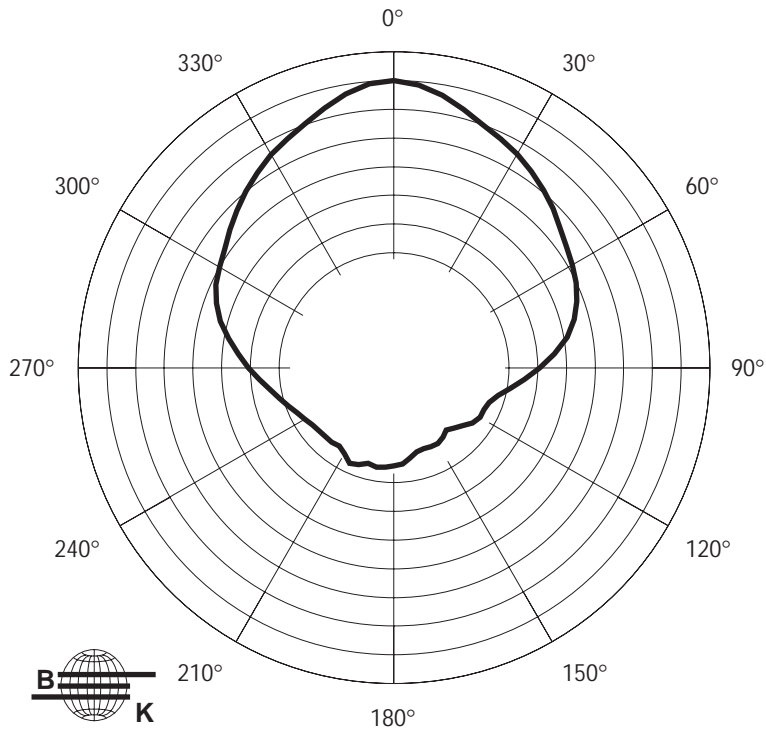


6 db/div.

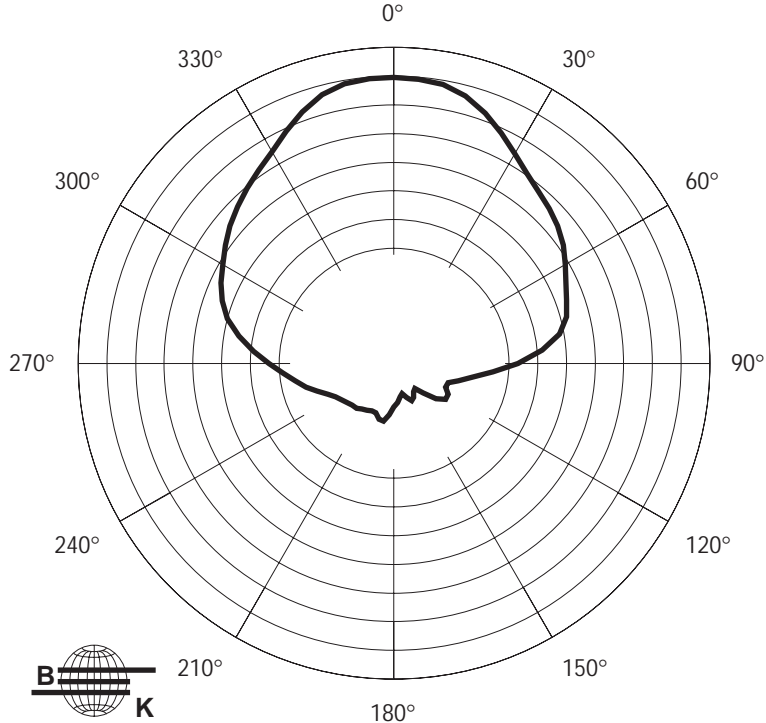


VERTICAL OCTAVE POLAR DATA AS690i

AS690i 8000 Hz Vertical Octave Polar Data



AS690i 16000 Hz Vertical Octave Polar Data



6 db/div.