PRELIMINARY PRODUCT INFORMATION

Technical Specifications KF853

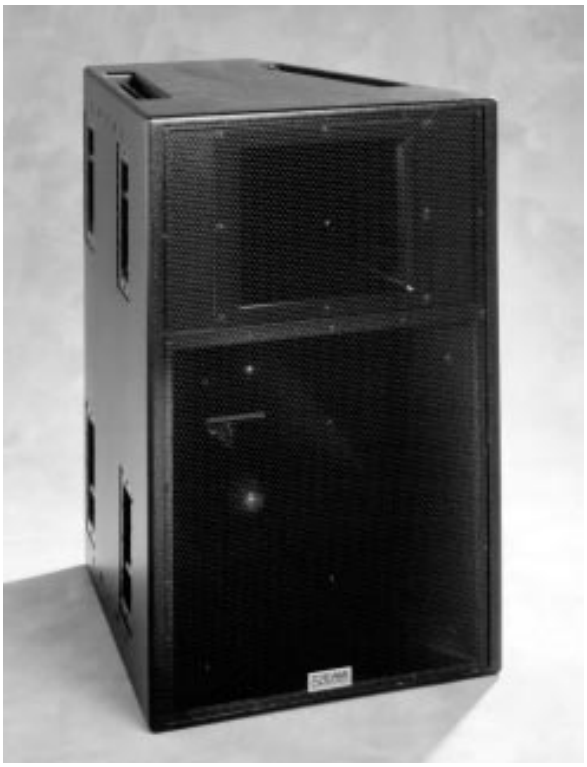
APPLICATIONS

The KF853 Virtual Array® System is a long-throw two way horn-loaded loudspeaker designed to cover the frequency range from 200Hz to 17kHz. The frequency response of this system is optimized to compensate for atmospheric attenuation of high frequencies over long distances. The large vertical dimension of the midrange horn allows for excellent pattern control down to the lowest frequencies of operation. Dual 10" midrange drivers offer peak output levels of up to 147 dB at 1 meter. EAW's new proprietary ferrofluid cooled CD5003 high frequency compression driver provides high output with extremely low distortion.

The KF853 has been specifically engineered to operate in conjunction with the BH853 long-throw horn-loaded mid-bass system as the long-throw element of the KF850 "family". Other "family" members include: the KF850 three-way system, KF852 mid-high system, BH852 horn-loaded mid-bass system and the SB850 & SB1000 direct radiating subwoofers. Together, they form the elements of the KF850 Stadium Array System. Arrays incorporating these loudspeaker systems are easily scalable from clubs and proscenium theaters to arenas, stadia and the largest outdoor events.

SPECIFICATIONS

Frequency Response		
±1.5 db	200 to 17k Hz	
-10 dB:	130 Hz	
Efficiency / Axial Sensitivity		
MF 1 W @ 1m:	118 dB SPL	
HF 1 w @ 1m:	117 dB SPL	
Impedance		
MF/HF:	8 Ω (Nominal)	
Power Handling		
MF 100 hr. Sine Wave:	300 Watts	
HF 100 hr. Sine Wave:	70 Watts	
MF AES Standard:	800 Watts	
HF AES Standard:	200 Watts	
Maximum Output		
MF Peak SPL:	147 dB SPL	
HF Peak SPL:	140 dB SPL	
MF Long Term:	142 dB SPL	
HF Long Term:	135 dB SPL	
Nominal Coverage Angles (-6 dB)		
Horizontal:	40 degrees	
Vertical:	30 degrees	
Additional Descriptive Data		
MF Subsystem:	2 x 10-in Cone; Horn Loaded	
HF Subsystem:	1x 2-in Throat Compression Driver On Constant Directivity Horn	
Powering Mode:	Tri-Amp (LF component: BH852)	
Standard Crossover:	MX8000-853	
Finish:	Black Catalyzed Polyurethane	
Connectors:	1 ea. Male & Female Cannon AP6, Banana Test Points	
Rigging:	2 x Anchra Track, Top & Bottom; Internal Subframe	
Grill:	Vinyl Coated Perforated Steel; Open Cell Foam Backing	
Dimensions & Weights		
Height:	42.0 in	(1066 mm)
Width:	27.38 in	(695 mm)
Depth:	25.5 in	(647 mm)
Back Width:	15.5 in	(394 mm)
Net Weight:	231 lbs	(103.0 Kg)
Shipping Weight:	246 lbs	(110.7 Kg)



OTHER RELEVANT DOCUMENTS

- Group C Hardware Technical Specifications
- Group C Price Lists
- APP Testing Procedures*
- Weather Proofing Technical Specifications
- Structural/Mechanical Technical Specifications*

ARCHITECTURAL SPECS

The 2-way mid/high loudspeaker system shall incorporate two 10-inch cone mid-frequency transducers and a 2 inch throat compression driver mounted to a constant directivity HF horn. The system shall have Frequency Response of 200 Hz to 17 kHz ± 1.5 dB; Axial Sensitivity (1W @ 1m) of 118 dB SPL (MF), 117 dB SPL (HF); 100 hour sine wave Power Handling of 300 Watts (MF), 70 Watts (HF); Nominal horizontal coverage of 30° between -6 dB points; Nominal vertical coverage of 40° between -6 dB points.

The system's midrange drivers shall be loaded into a constant horizontal coverage horn constructed of 3 mm cross-grain-laminated birch hardwood, reinforced with high density polyurethane foam and incorporating dual center displacement plugs. The high frequency driver shall utilize a titanium diaphragm not less than 75 mm in diameter and include ferrofluid in the voicecoil gap to aid in cooling and damping. Internal filters shall allow tri-amp operation and shall include driver protection and equalization networks.

The loudspeaker enclosure shall be trapezoidal in shape and constructed of 18mm thickness, void-free, cross-grain-laminated birch plywood and shall include extensive internal bracing. It shall be finished in black catalyzed polyurethane. All external hardware shall be stainless steel or aluminum or shall be coated to protect against rust and corrosion. The front of the system shall be covered with a perforated steel grill, coated with vinyl to dampen resonance and backed with open cell foam to protect against dust. Heavy duty Aircraft Seat Track suspension points shall be installed in the top and bottom of the enclosure. Aluminum bar-stock shall connect the top and bottom suspension points.

The loudspeaker system shall be the KF853.

EASTERN ACOUSTIC WORKS

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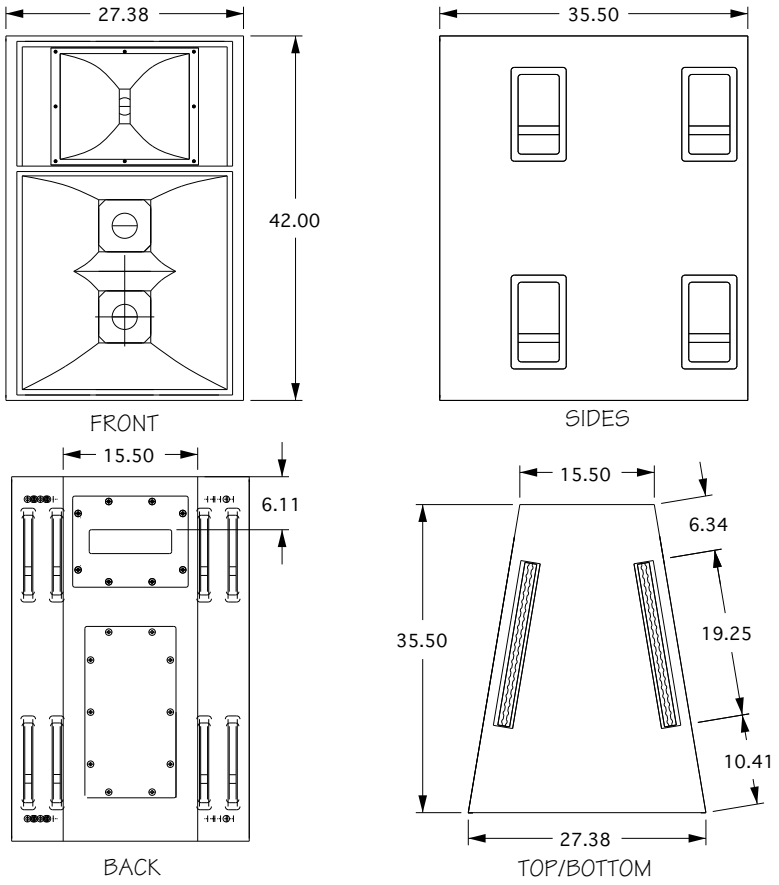
Drawings KF853

DIMENSIONAL DRAWINGS

KF853



INPUT PLATES

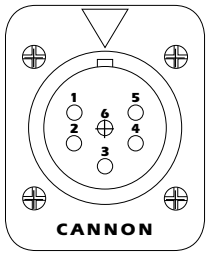
EAW
EASTERN ACOUSTIC WORKS

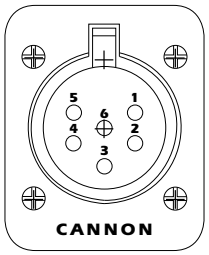
KF-853EF

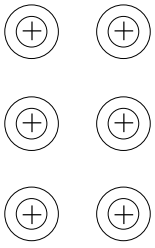
NO. [ ]

MADE IN USA

Virtual Array TECHNOLOGY





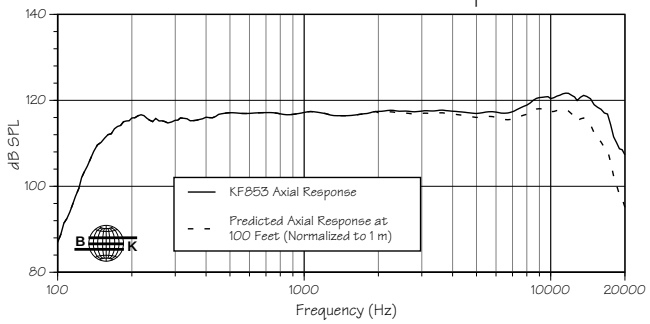


PIN 1...LOW– **PIN 3...MID–** **PIN 5...HIGH–**
PIN 2...LOW+ **PIN 4...MID+** **PIN 6...HIGH+**

Performance Data KF853

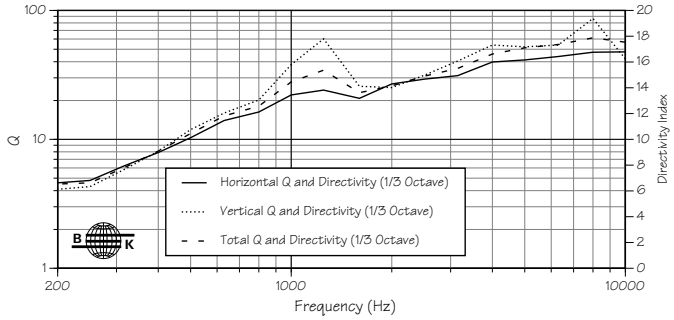
FREQUENCY RESPONSE

KF853 with Processor Axial Response



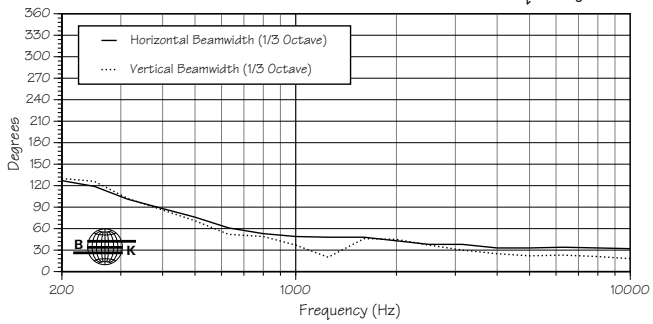
Q & DIRECTIVITY INDEX (DI)

KF853 with Processor Q and Directivity



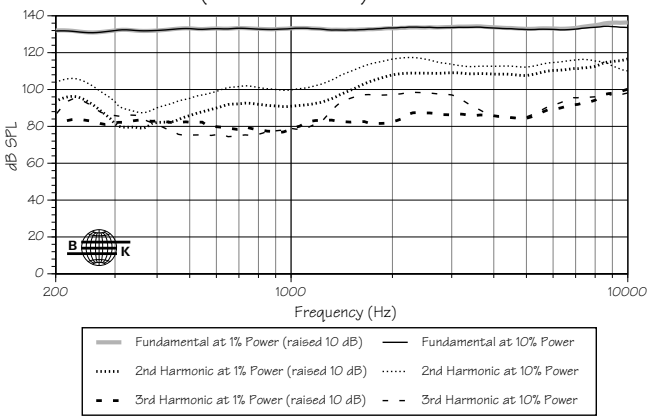
BEAMWIDTH

KF853 with Processor Beamwidth vs Frequency



DISTORTION

KF853 (with Processor) Harmonic Content



Q & BEAMWIDTH BY FREQUENCY

Freq	Hor Q	Ver Q	Tot Q	Hor Beamwidth	Ver Beamwidth
200	4.6	4.1	4.5	127	130
250	4.8	4.3	4.6	119	126
315	6.2	5.8	6	101	102
400	7.9	8.1	8.1	88	86
500	10.3	11.9	11.1	76	71
630	14	16	15.2	61	52
800	16.3	20.2	18.1	53	49
1000	22.1	38	27.9	49	37
1250	24.1	60.2	34.4	48	20
1600	20.8	25.8	23	48	46
2000	26.9	25.2	26	43	45
2500	29.3	31.4	30.9	38	37
3150	31.2	40.5	35.5	38	30
4000	39.8	53.9	45.9	33	25
5000	41.3	52.2	51.3	33	22
6300	43.9	53.9	54.4	34	23
8000	47.4	86.6	61.3	33	21
10000	47.7	42.1	56.7	32	18
12500	54.3	47.6	54	31	30
16000	41.9	85.3	56.2	36	23
20000	24.7	31.3	33.7	40	18

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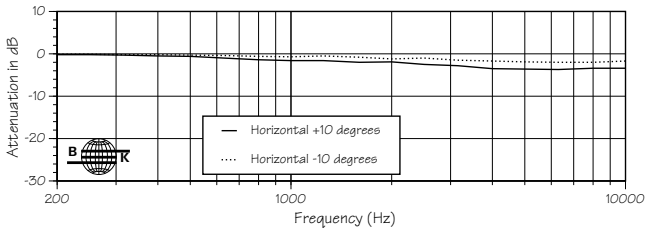
Performance Data KF853

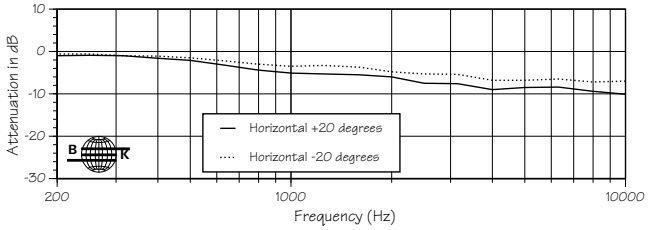
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

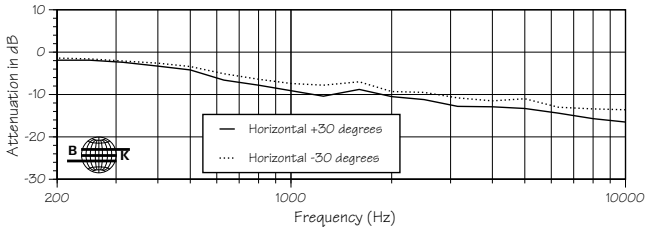
KF853 with Processor Horizontal ±10°



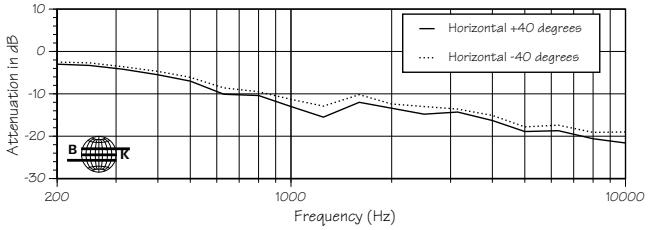
KF853 with Processor Horizontal ±20°



KF853 with Processor Horizontal ±30°



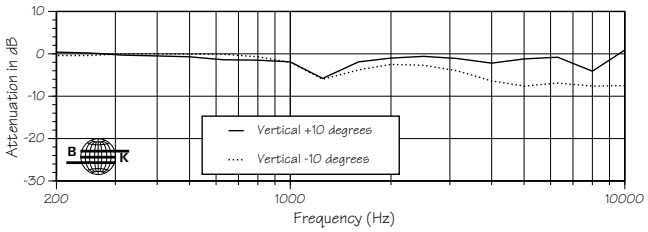
KF853 with Processor Horizontal ±40°



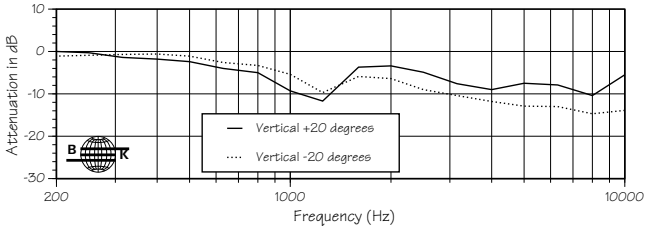
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

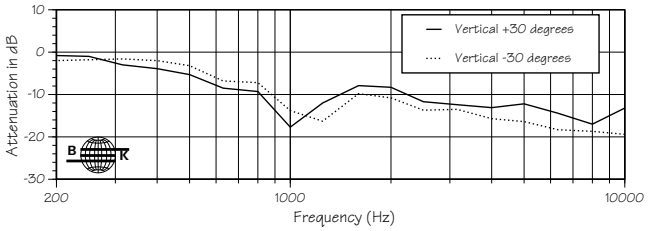
KF853 with Processor Vertical ±10°



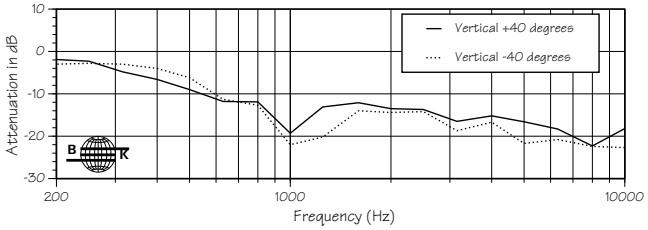
KF853 with Processor Vertical ±20°



KF853 with Processor Vertical ±30°

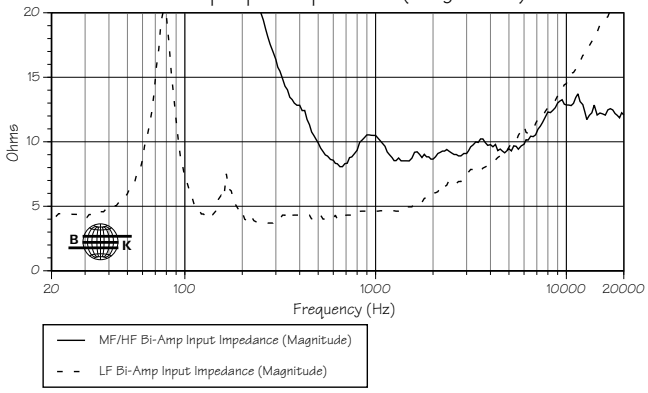


KF853 with Processor Vertical ±40°



INPUT IMPEDANCE

KF853 with Processor
Bi-Amp Input Impedance (Magnitude)



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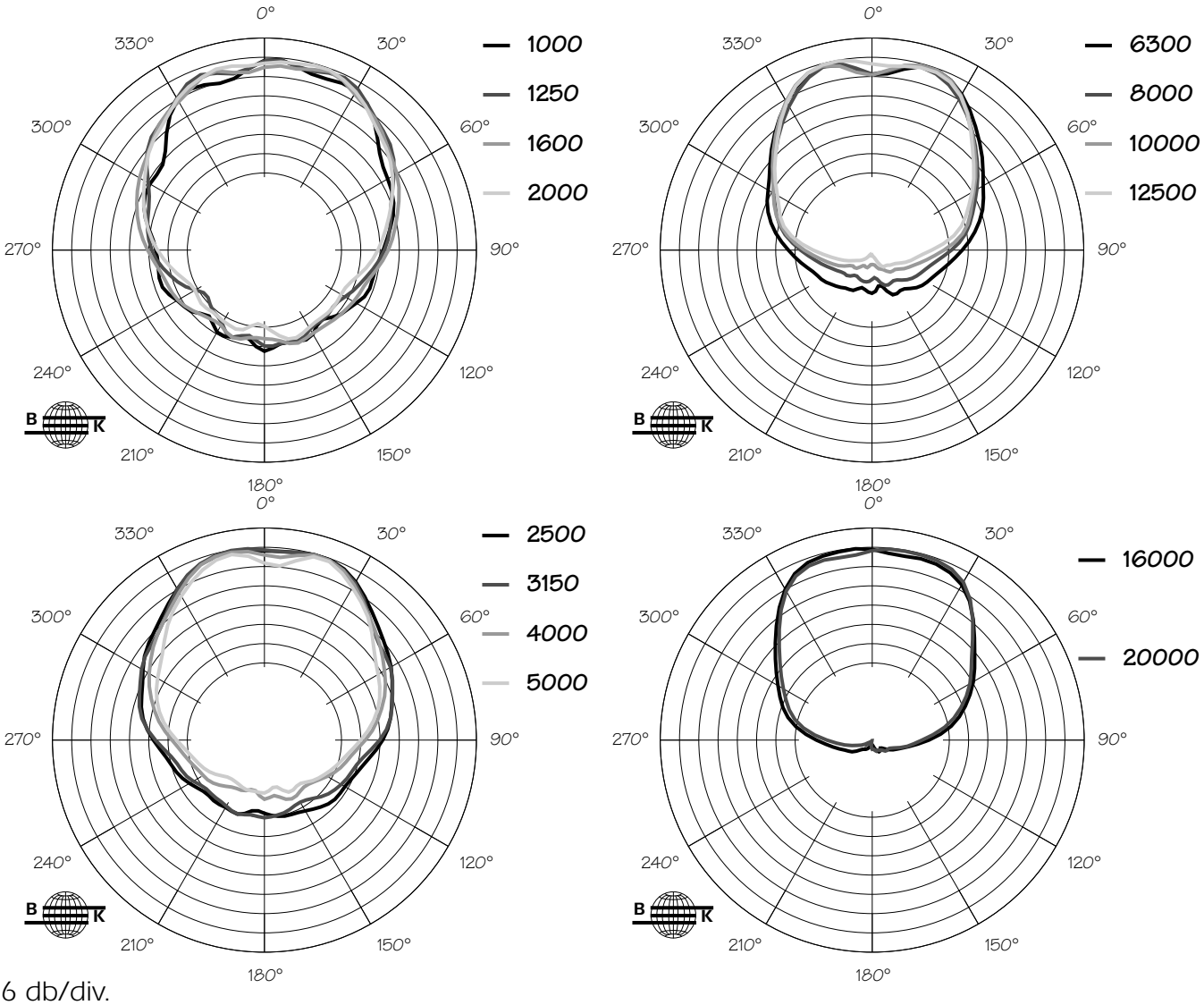
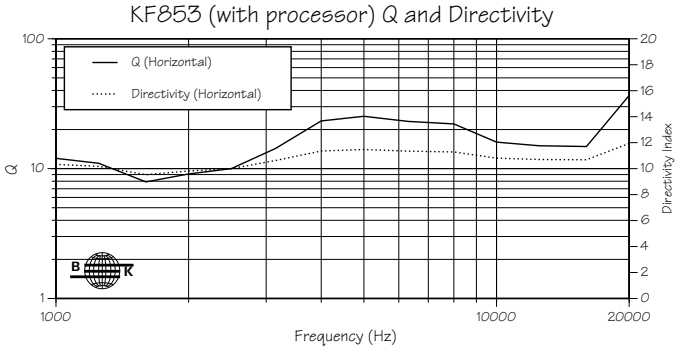
Performance Data 2-Array KF853

KF853 2-ARRAY 1/3 OCTAVE HORIZONTAL POLARS

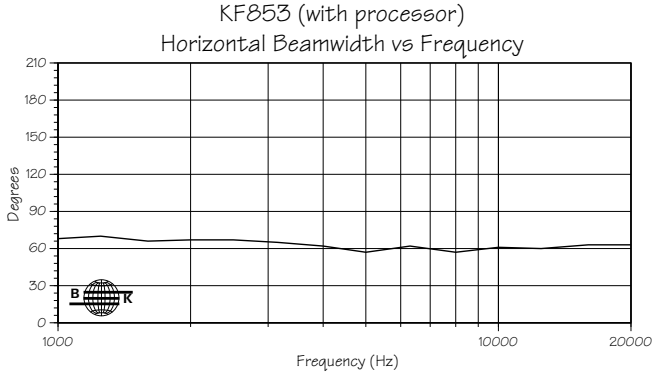


6 db/div.

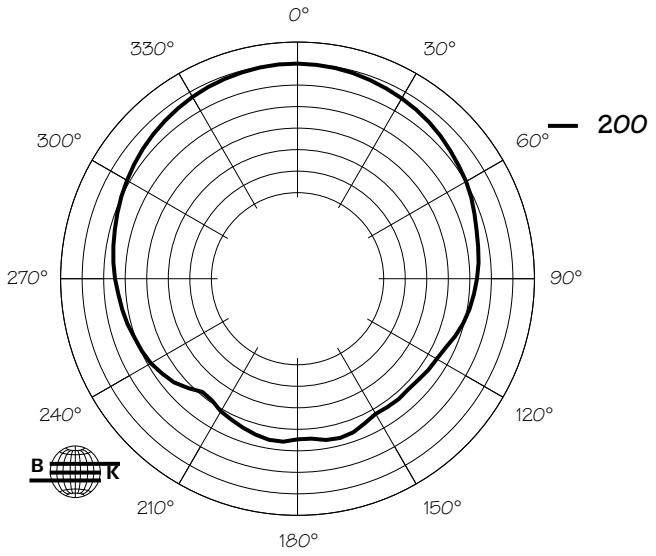
KF853 Q & DIRECTIVITY

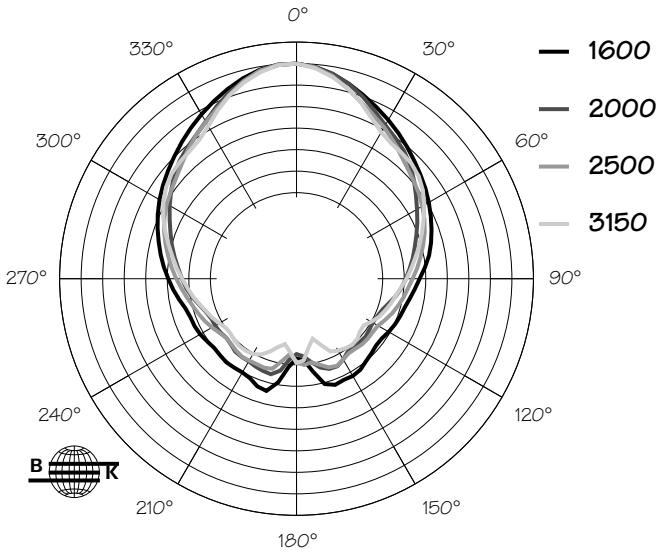


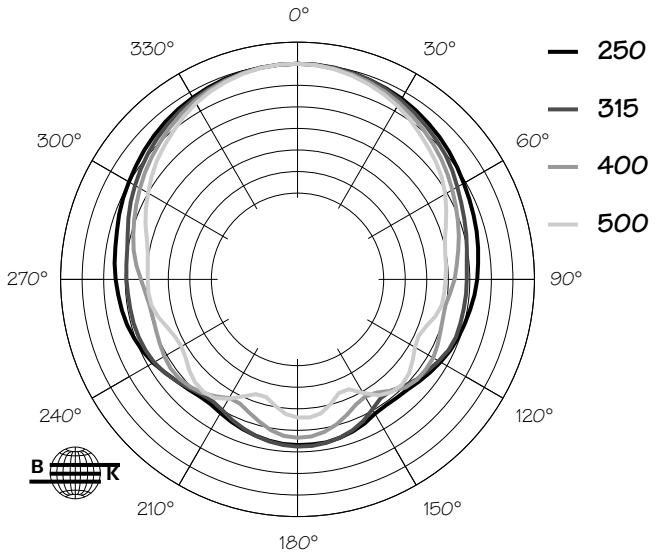
KF853 BEAMWIDTH

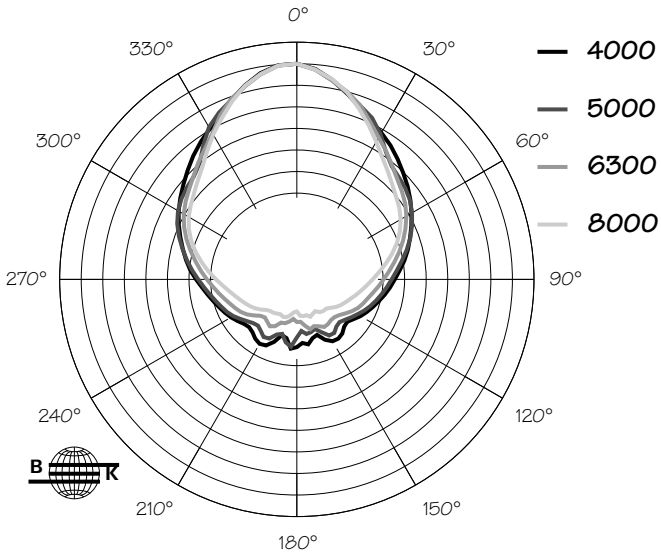


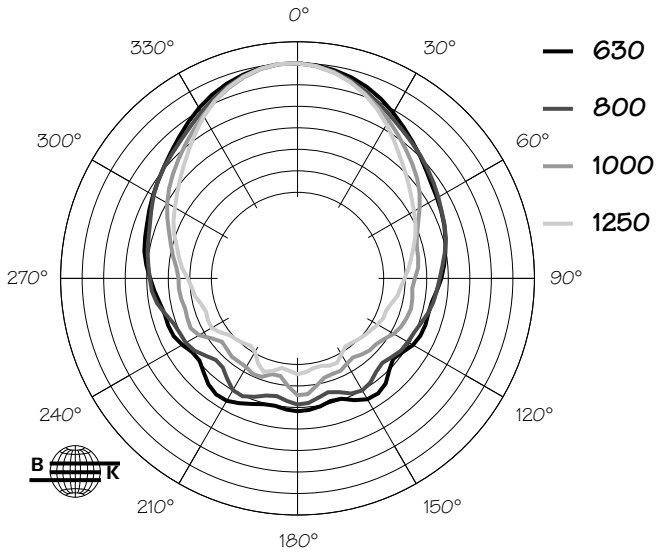
Horizontal 1/3 Octave Polar Data KF853

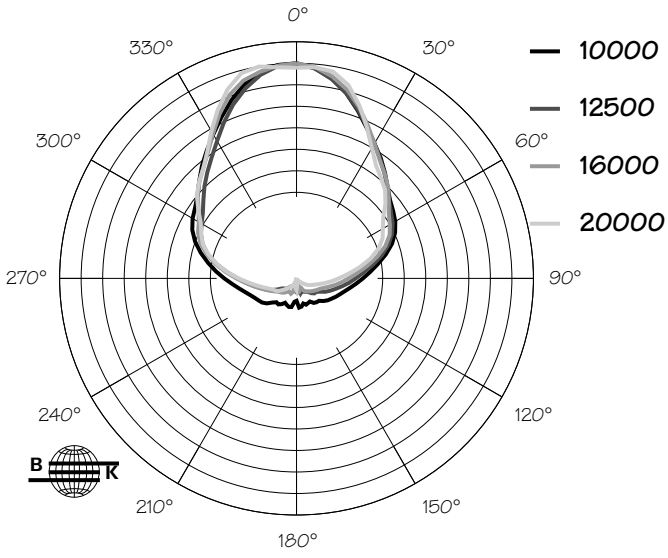












6 db/div.

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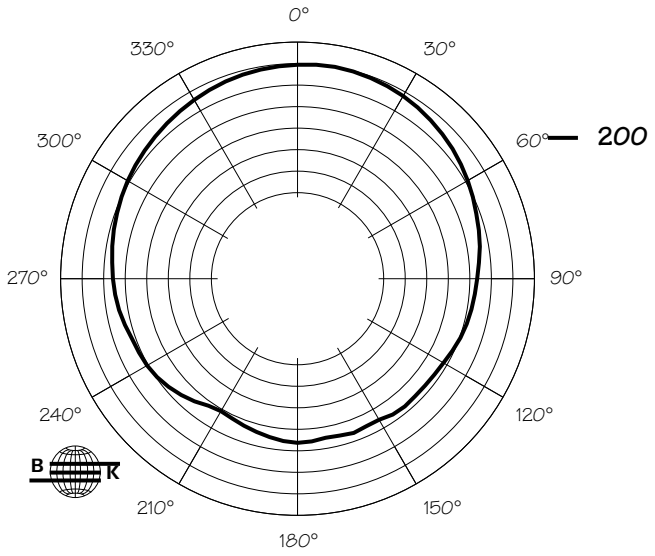
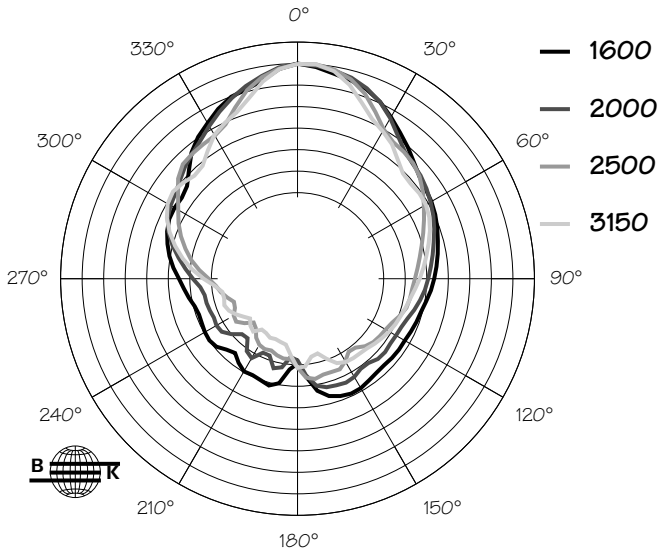
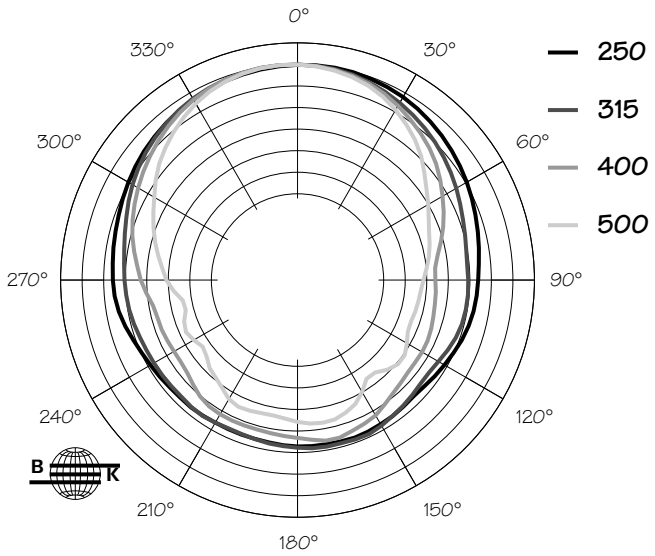
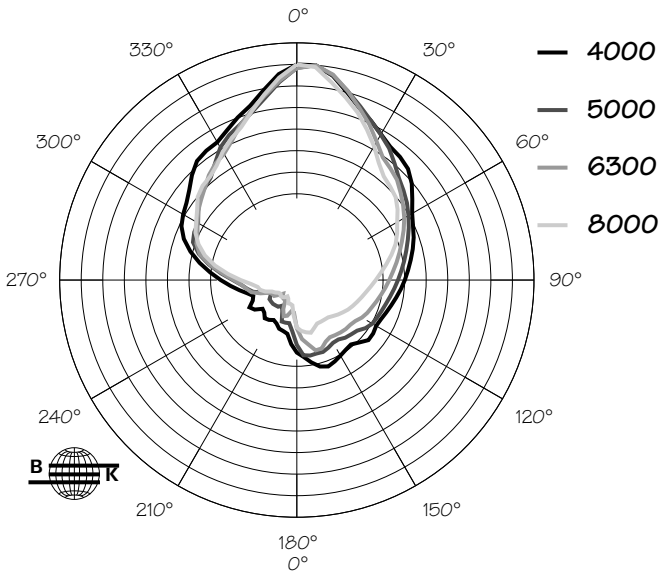
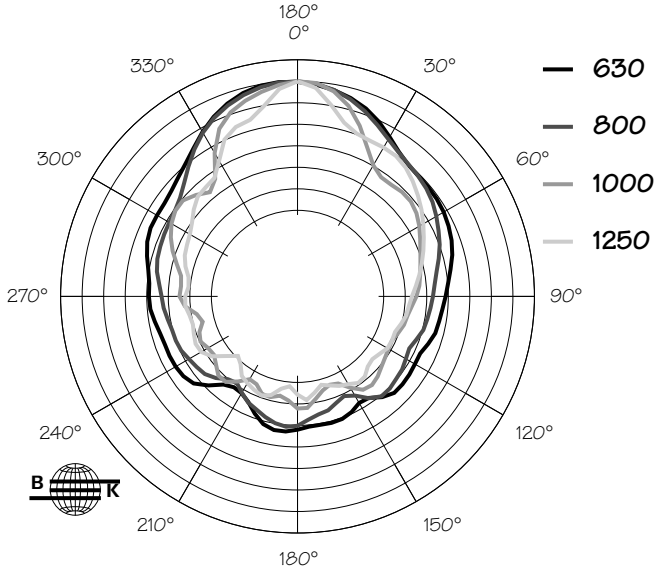
Vertical 1/3 Octave Polar Data KF853

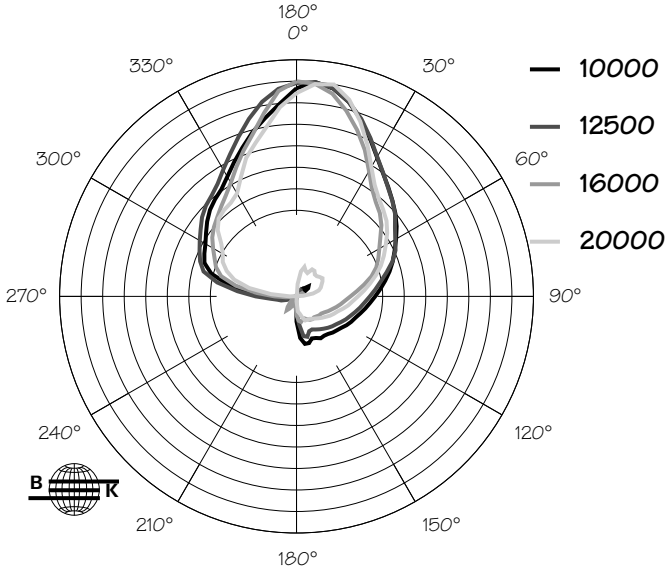












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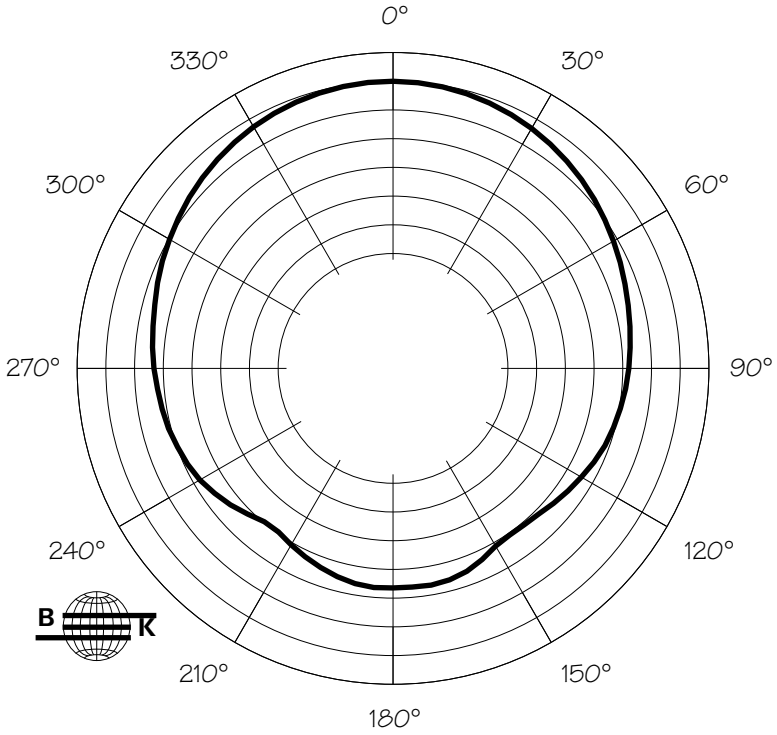
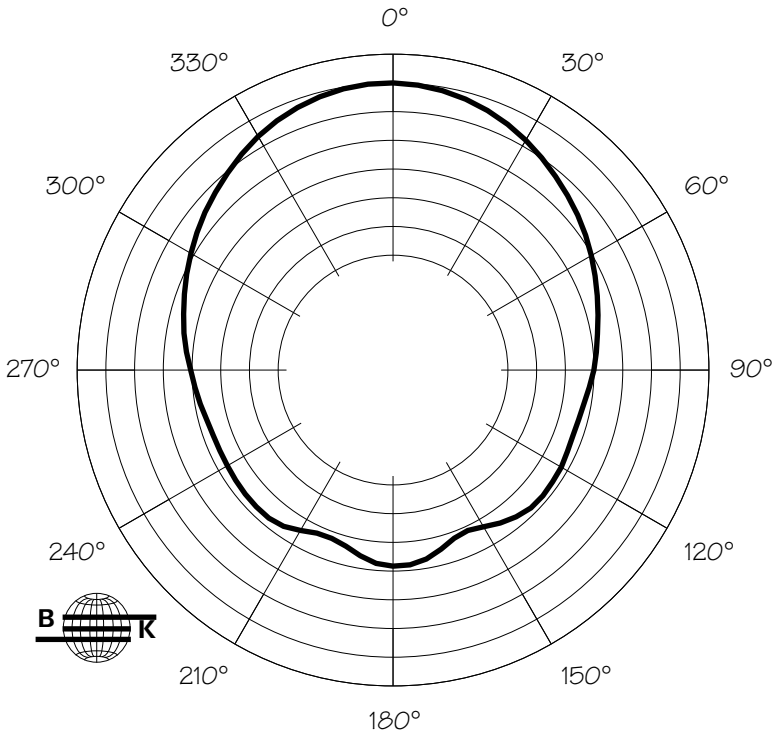
Horizontal Octave Polar Data KF853

KF853 250 Hz Horizontal Octave Polar Data



KF853 500 Hz Horizontal Octave Polar Data



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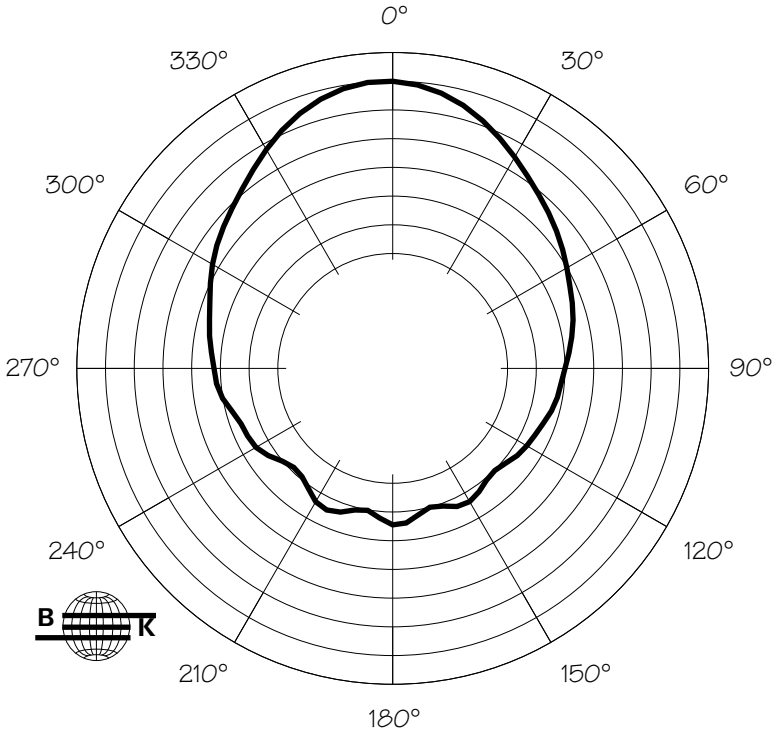
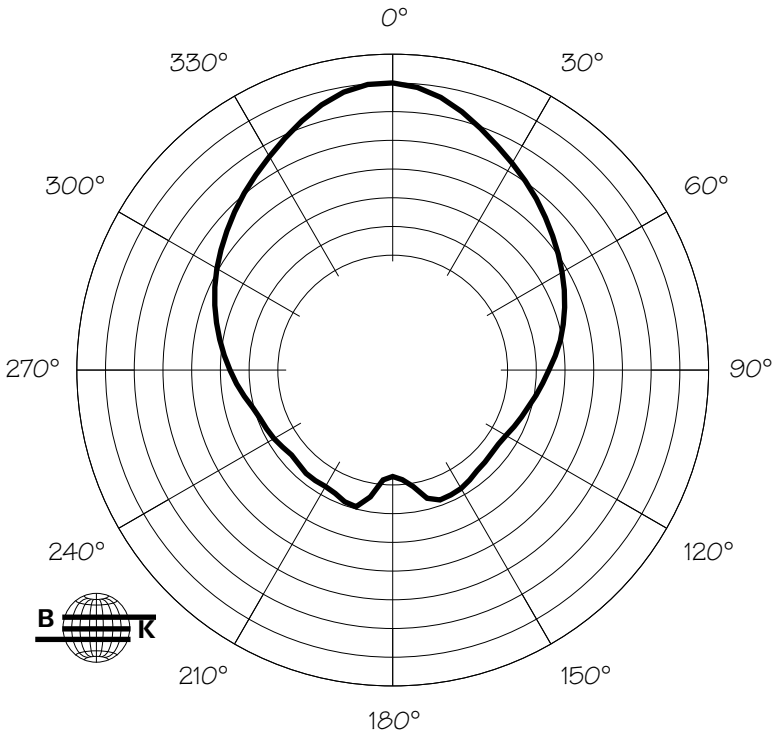
Horizontal Octave Polar Data KF853

KF853 1000 Hz Horizontal Octave Polar Data



KF853 2000 Hz Horizontal Octave Polar Data



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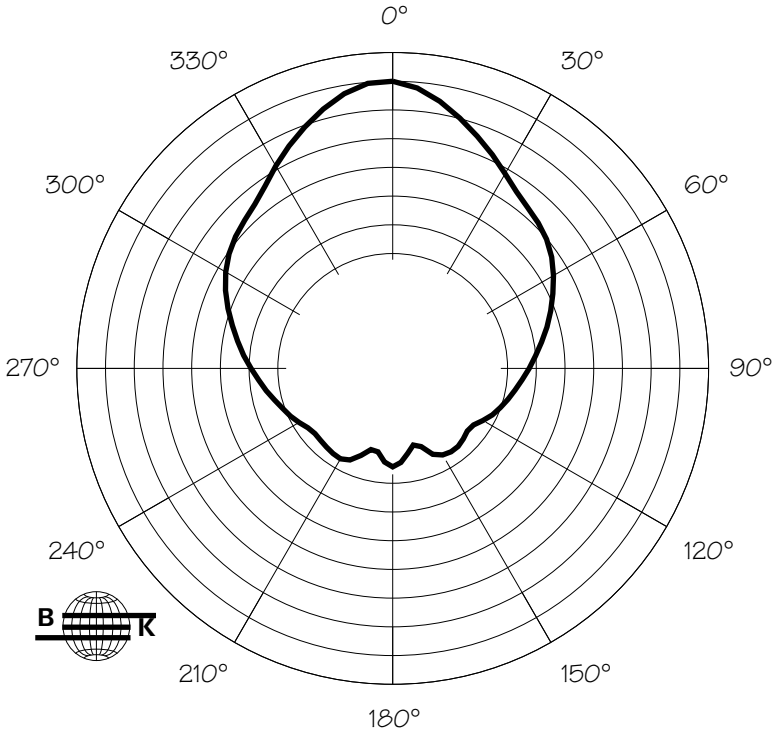
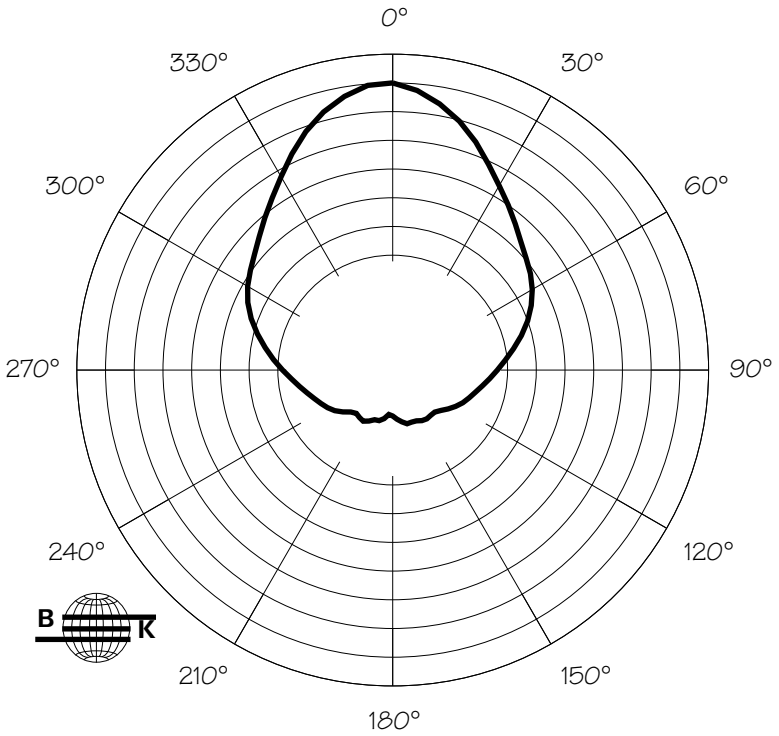
Horizontal Octave Polar Data KF853

KF853 4000 Hz Horizontal Octave Polar Data



KF853 8000 Hz Horizontal Octave Polar Data



6 db/div.

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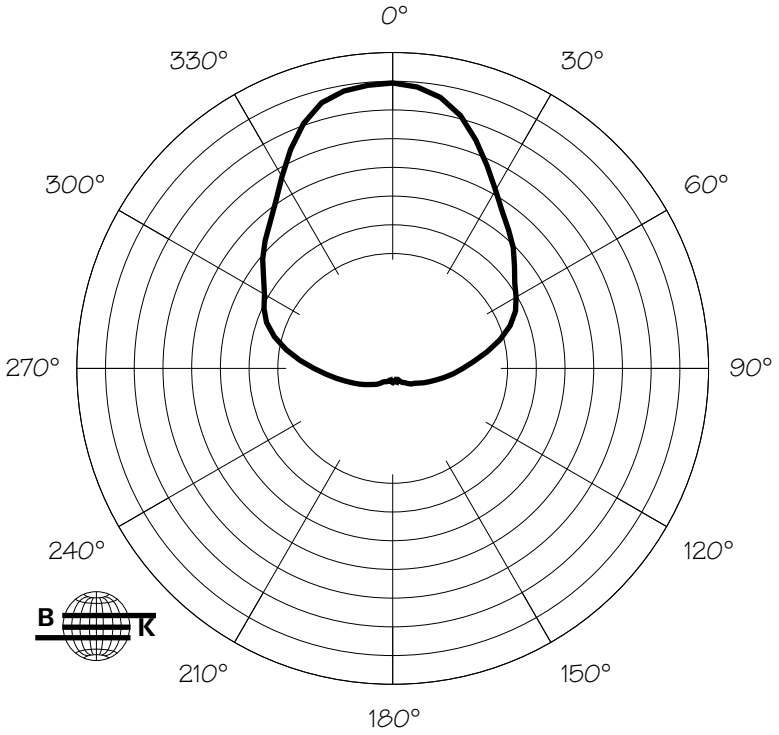
Horizontal Octave Polar Data KF853

KF853 16000 Hz Horizontal Octave Polar Data



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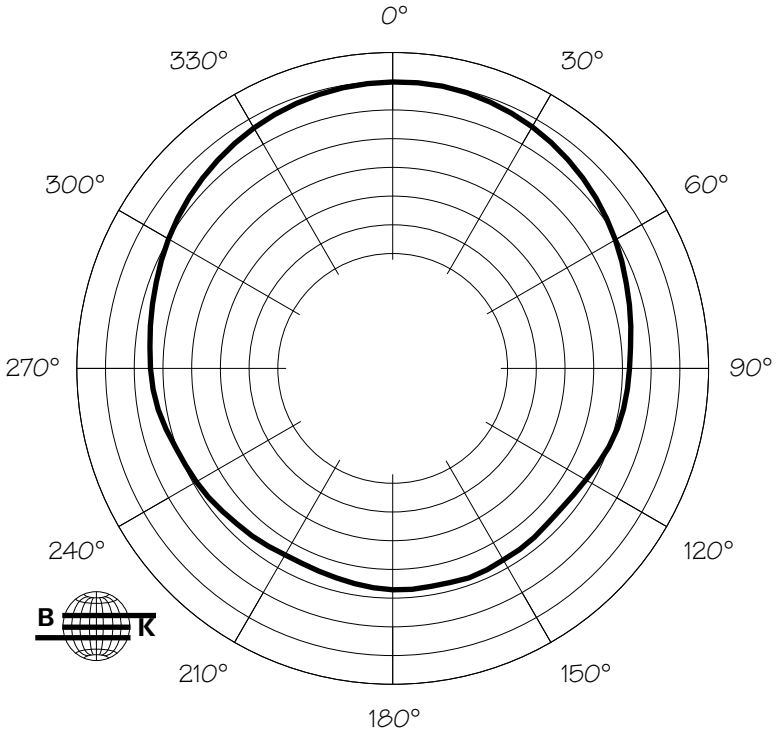
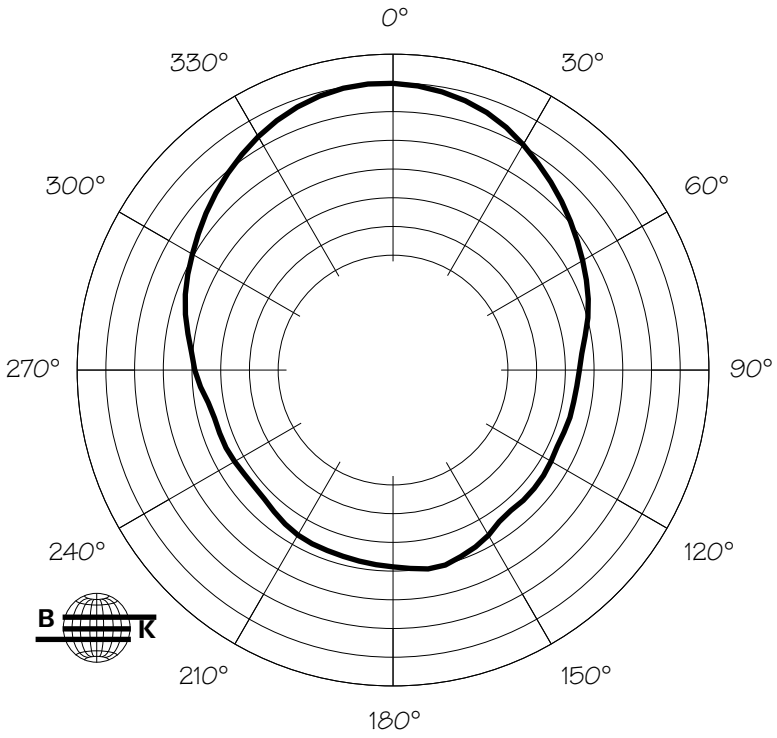
Vertical Octave Polar Data KF853

KF853 250 Hz Vertical Octave Polar Data



KF853 500 Hz Vertical Octave Polar Data



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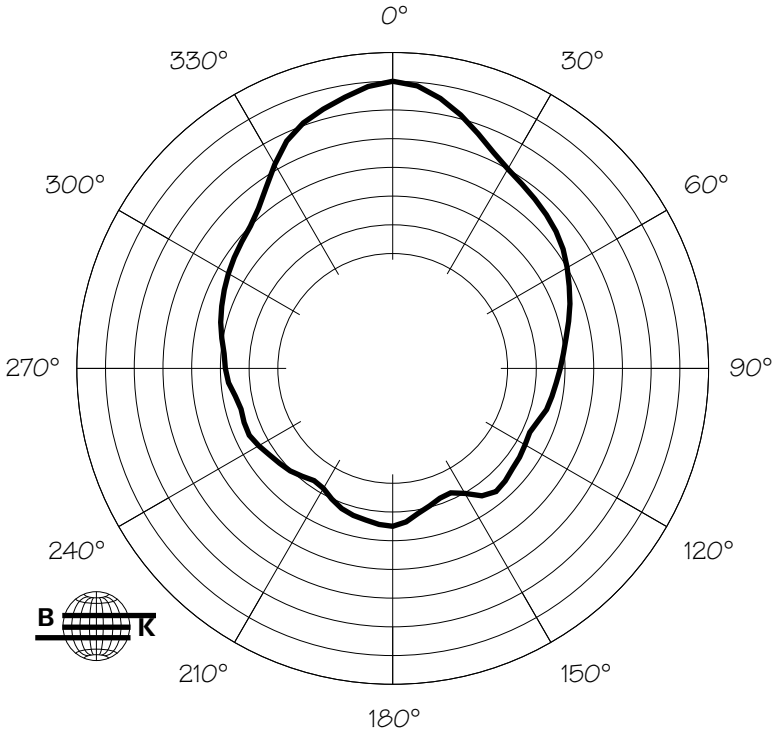
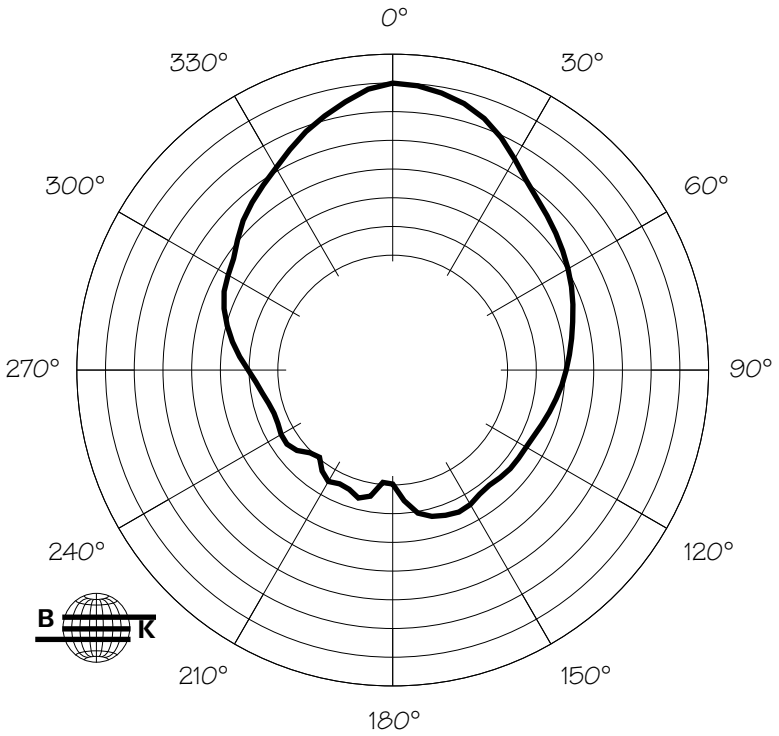
Vertical Octave Polar Data KF853

KF853 1000 Hz Vertical Octave Polar Data



KF853 2000 Hz Vertical Octave Polar Data

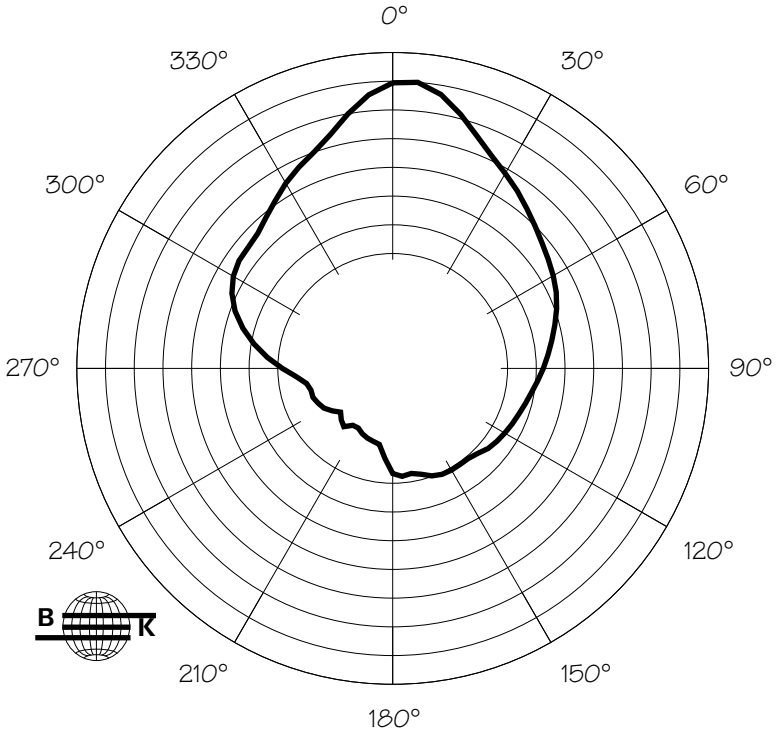


6 db/div.

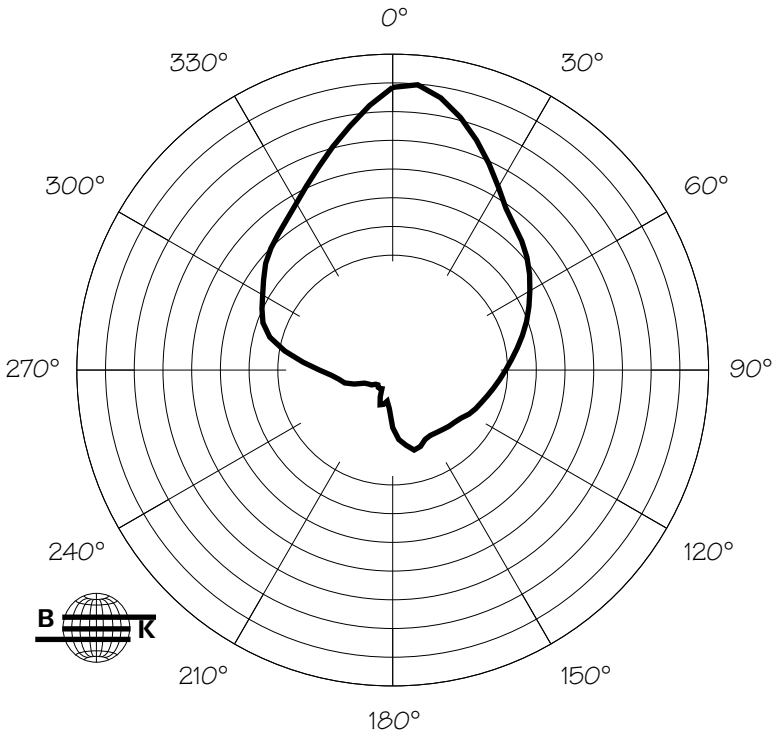
One Main Street, Whitinsville MA, 01588 USA ▪ Phone 508/234-6158 ▪ Toll Free 800/992-5013 ▪ Fax 508/234-8251 ▪ BBS 800/889-2540

Vertical Octave Polar Data KF853

KF853 4000 Hz Vertical Octave Polar Data



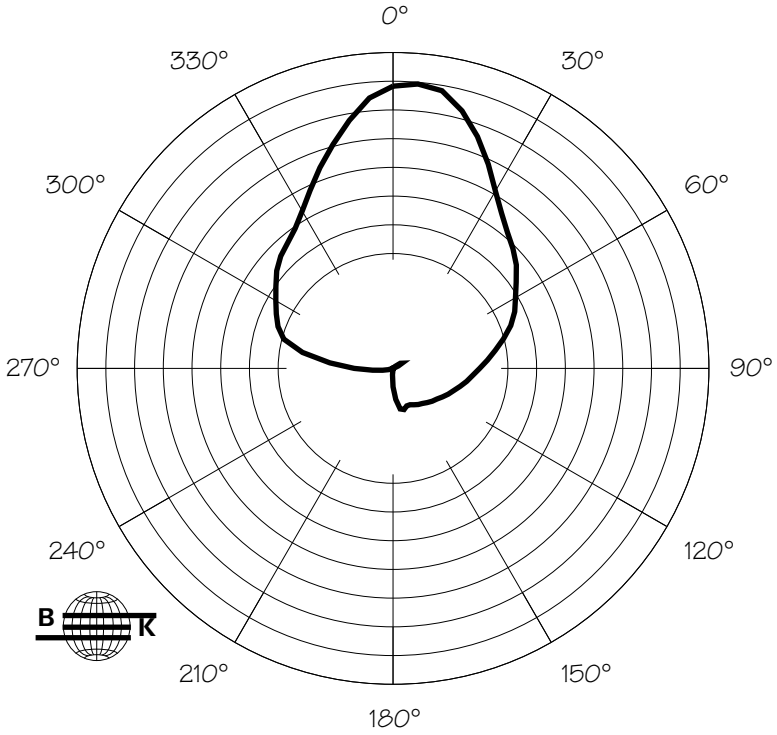
KF853 8000 Hz Vertical Octave Polar Data



6 db/div.

Vertical Octave Polar Data KF853

KF853 16000 Hz Vertical Octave Polar Data



6 db/div.