Technical Specifications KF852E

APPLICATIONS

The KF852E Virtual Array® System is a two way horn-loaded loudspeaker designed to cover the frequency range from 200Hz to 17kHz. 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 143dB at 1 meter. EAW's proprietary ferrofluid cooled CD5002 high frequency compression driver provides high output with extremely low distortion.

The KF852E has been specifically engineered to complement the BH852 horn-loaded mid-bass system (shown at right beneath the KF852E) and SB850 direct radiating subwoofer. All are designed to function as a part 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.

The KF852E is available in two basic versions: the KF852EF intended for portable use and the KF852EP which is optimized for use in permanent installations.

SPECIFICATIONS

Frequency Response		
±1.5 db	200 to 17k Hz	
-10 dB:	130 Hz	
Efficiency / Axial Sensitivity		
MF 1 W @ 1m:	114 dB SPL	
HF 1 w @ 1m:	112 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:	143 dB SPL	
HF Peak SPL:	135 dB SPL	
MF Long Term:	138 dB SPL	
HF Long Term:	130 dB SPL	
Nominal Coverage Angles (-6 dB)		
Horizontal:	55 degrees	
Vertical:	40 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:	MX800i-852E	
Finish:	Black Catalyzed Polyurethane	
"F" Connectors:	1 ea. Male & Female Cannon AP6, Banana Test Points	
"P" Connectors:	6 pin barrier strip, Banana Test Points	
Rigging:	2 x AirCargo 20864 Track, Top & Bottom; Internal Subframe	
Grill:	Vinyl Coated Perforated Steel; Open Cell Foam Backing	
Dimensions & Weights		
Height:	42.0 in	(1066.8 mm)
Width:	26.38 in	(670 mm)
Depth:	29.5 in	(749.3 mm)
Back Width:	16.5 in	(419.1 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*
- Water 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 114 dB SPL (MF), 112 dB SPL (HF); 100 hour sine wave Power Handling of 300 Watts (MF), 70 Watts (HF); Nominal horizontal coverage of 55° 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 networks.

The loudspeaker enclosure shall be trapezoidal in shape and constructed of 18mm thickness void-free cross-grain-laminated birch plywood with internal bracing. It shall be finished in black catalyzed polyurethane. All external hardware shall be stainless steel 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. Hanging fixture attachment points shall be installed in the top and bottom of the enclosure.

The loudspeaker system shall be the KF853EF (KF852EP).

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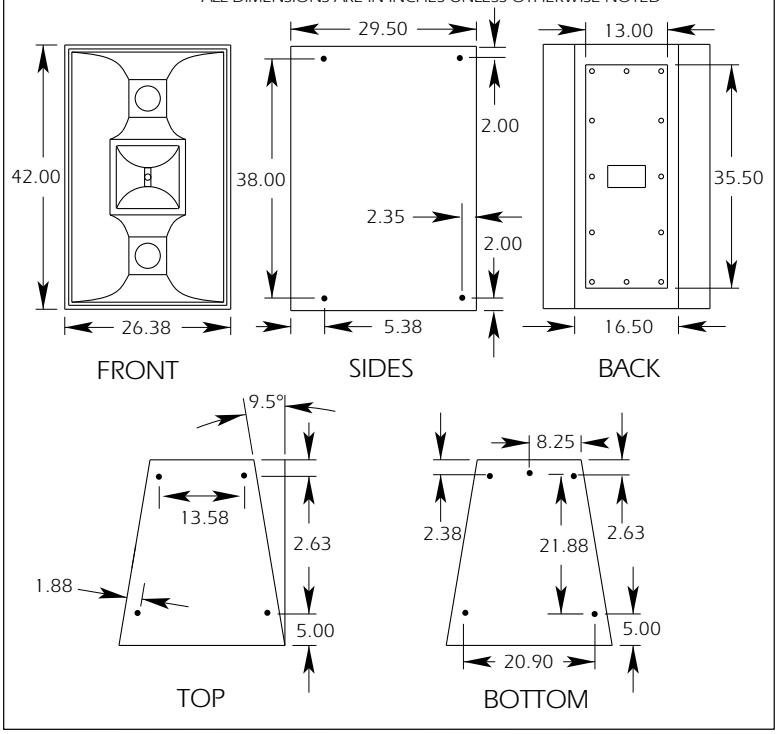
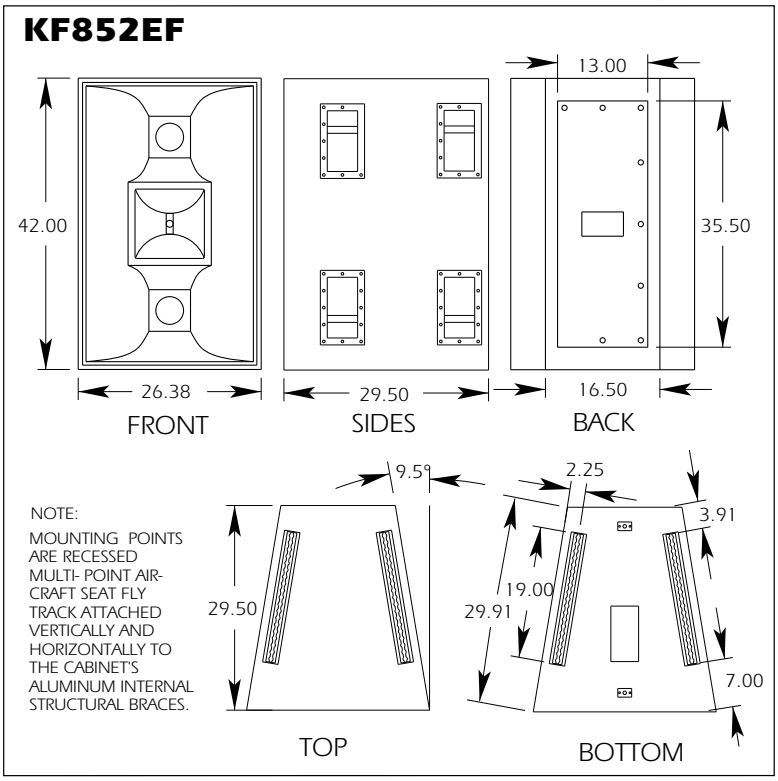
DIMENSIONAL DRAWINGS

KF852EP

• MOUNTING POINTS 3/8"-16 NUTS WELDED TO A 2"x 2" STEEL PLATE
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

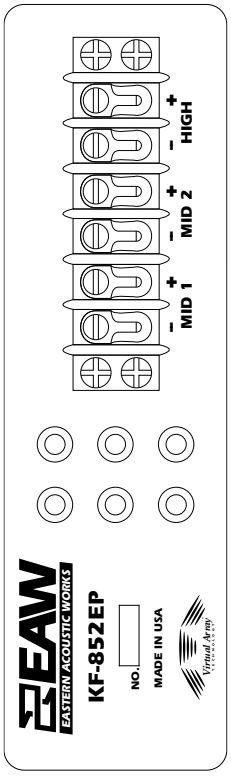


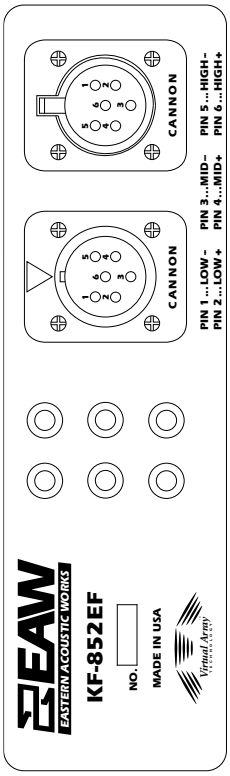
KF852EF



NOTE:
MOUNTING POINTS ARE RECESSED MULTI- POINT AIR-CRAFT SEAT FLY TRACK ATTACHED VERTICALLY AND HORIZONTALLY TO THE CABINET'S ALUMINUM INTERNAL STRUCTURAL BRACES.

INPUT PLATES

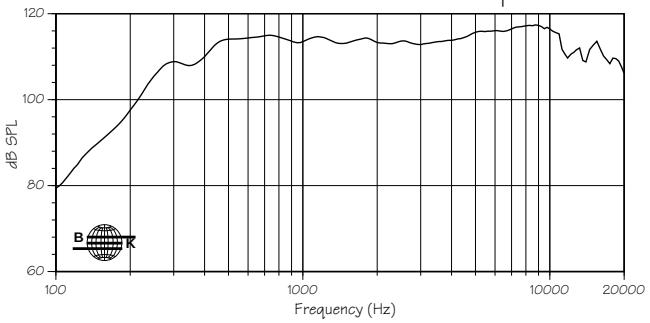




Performance Data KF852E

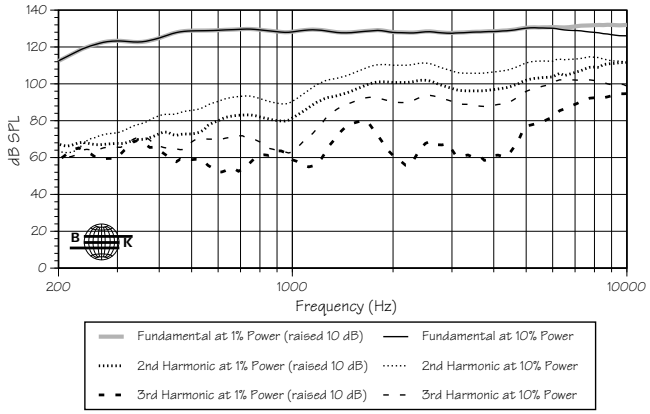
FREQUENCY RESPONSE

KF852E with MX800i-852E Axial Response



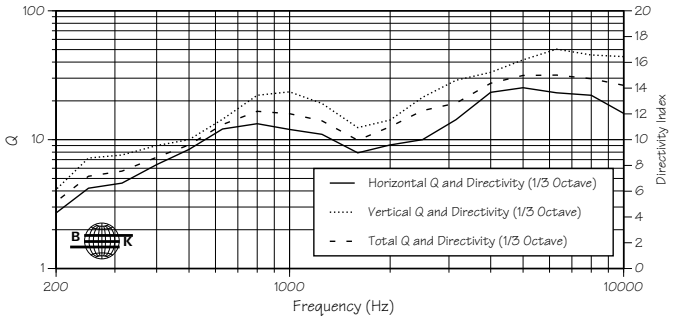
DISTORTION

KF852E with MX800i-852E Harmonic Content



Q & DIRECTIVITY INDEX (DI)

KF852E with MX800i-852E Q and Directivity

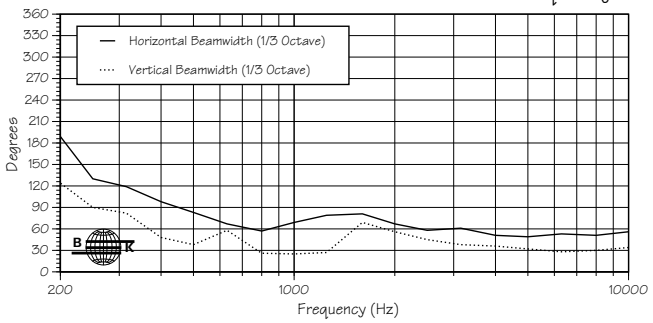


Q & BEAMWIDTH BY FREQUENCY

Freq	Hor Q	Ver Q	Tot Q	Hor Beamwidth	Ver Beamwidth
100	1.8	2	1.8	360	360
125	1.9	2.6	2.2	360	360
160	3.3	4.3	3.6	160	127
200	2.7	4.1	3.3	189	124
250	4.2	7.2	5.2	130	90
315	4.6	7.6	5.7	119	82
400	6.4	9	7.3	98	48
500	8.4	10	9.1	83	38
630	12.1	14.4	13.1	67	58
800	13.3	22.1	16.6	57	26
1000	12	23.5	15.9	69	25
1250	11	19.1	14	79	27
1600	7.9	12.4	9.9	81	69
2000	9.1	14.2	12.6	67	56
2500	10	21.3	16.8	58	45
3150	14.3	28.9	19.2	61	38
4000	23.3	33.3	27.4	51	36
5000	25.3	41.6	31.5	49	32
6300	23.1	50.4	31.7	53	28
8000	22.1	45.4	29.7	51	30
10000	16	44.1	26.4	56	34
12500	15	30.3	20.3	60	38
16000	14.8	37.2	20.3	63	34
20000	36.6	35.7	36.2	43	36

BEAMWIDTH

KF852E with MX800i-852E Beamwidth vs Frequency

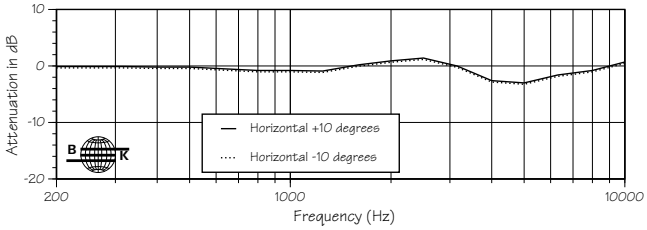


Performance Data KF852E

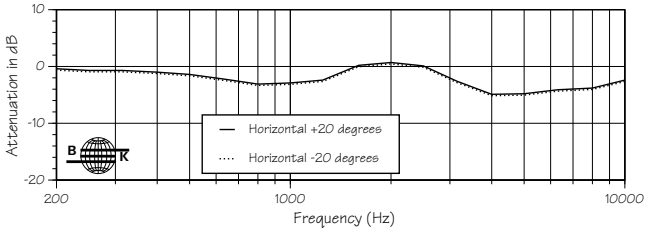
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

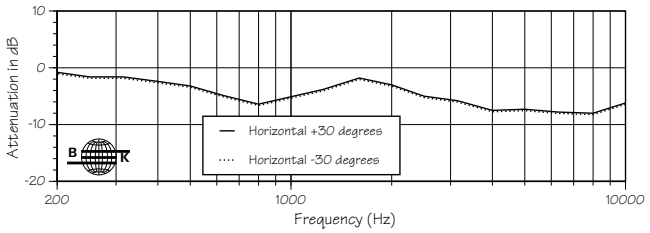
KF852E with MX800i-852E Horizontal ±10°



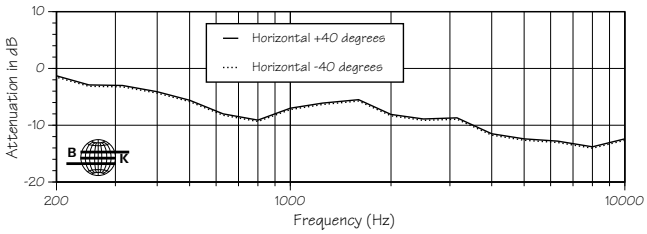
KF852E with MX800i-852E Horizontal ±20°



KF852E with MX800i-852E Horizontal ±30°



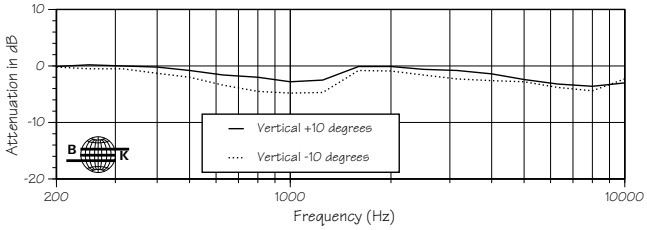
KF852E with MX800i-852E Horizontal ±40°



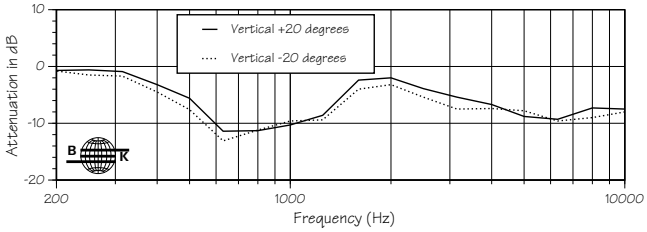
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

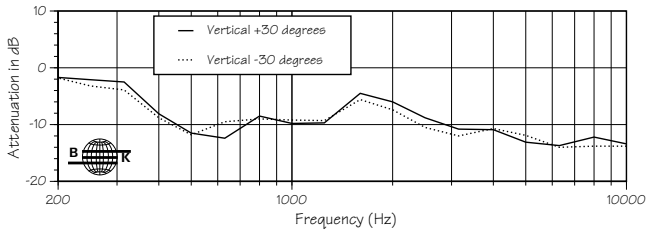
KF852E with MX800i-852E Vertical ±10°



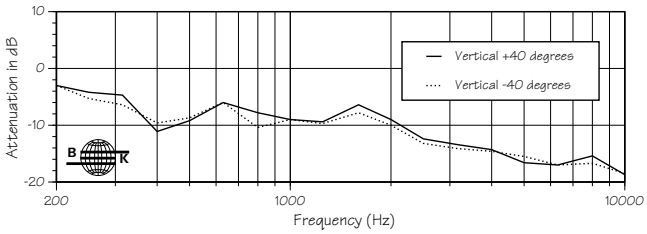
KF852E with MX800i-852E Vertical ±20°



KF852E with MX800i-852E Vertical ±30°

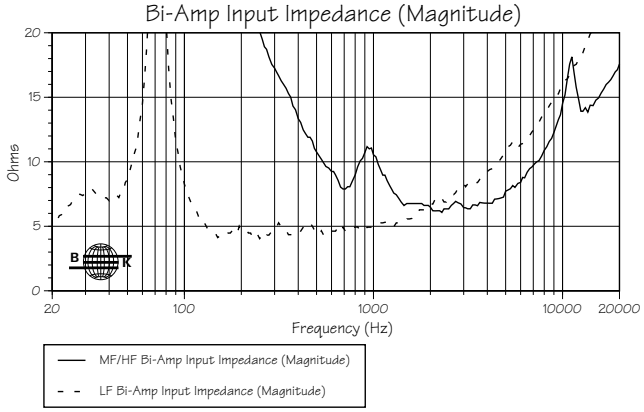


KF852E with MX800i-852E Vertical ±40°



INPUT IMPEDANCE

KF852E with MX800i-852E
Bi-Amp Input Impedance (Magnitude)



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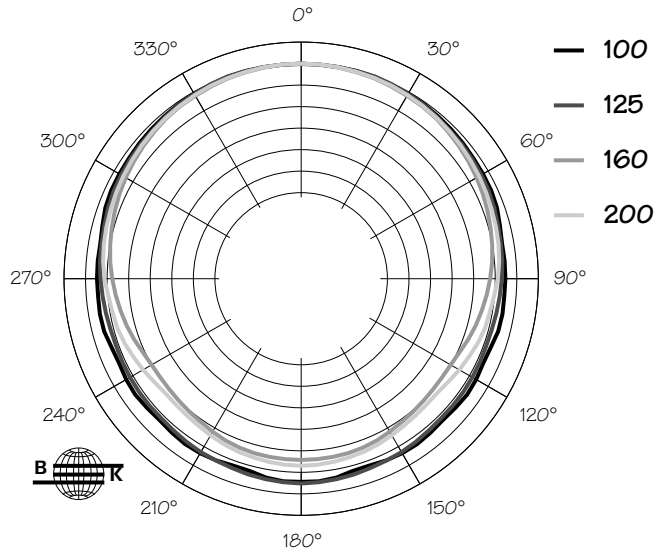
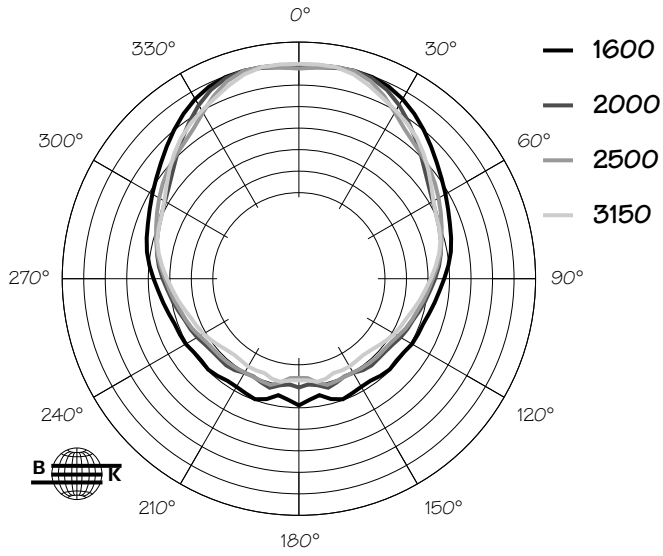
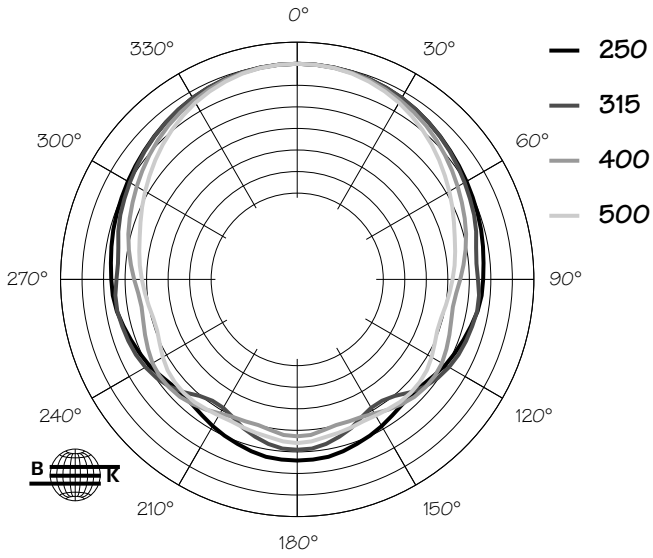
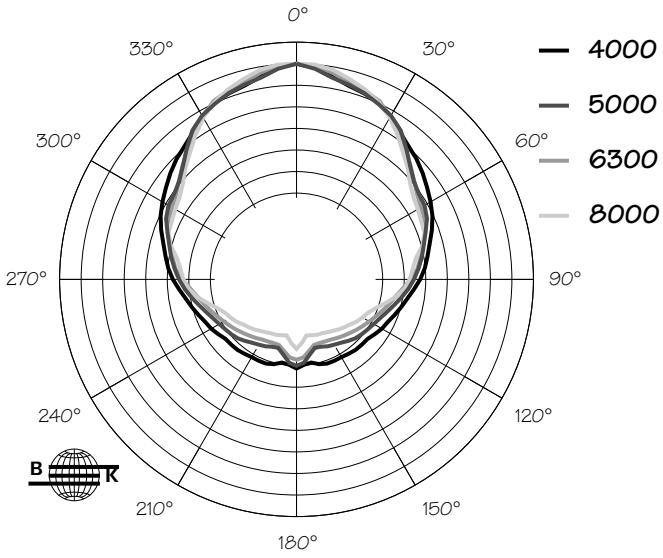
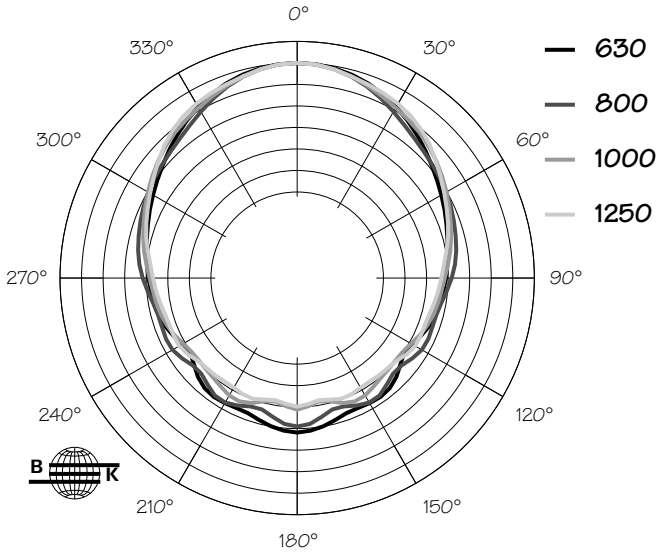
Horizontal 1/3 Octave Polar Data KF852E

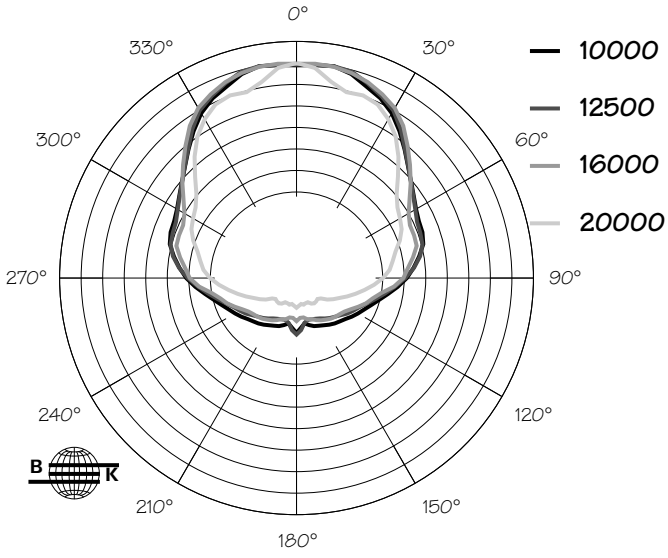




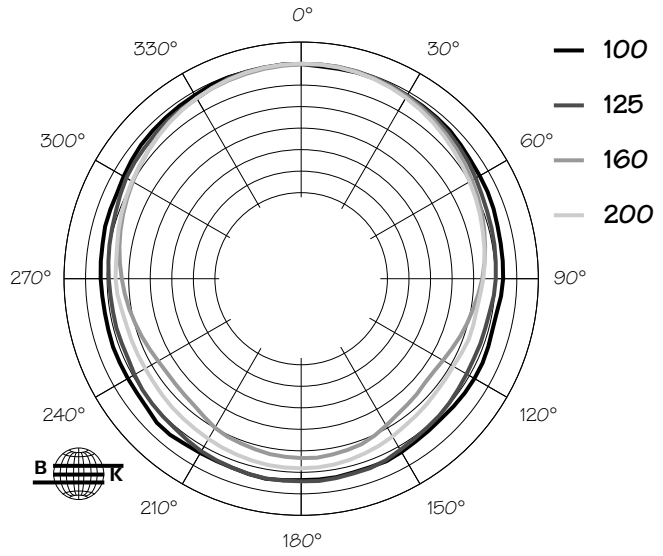


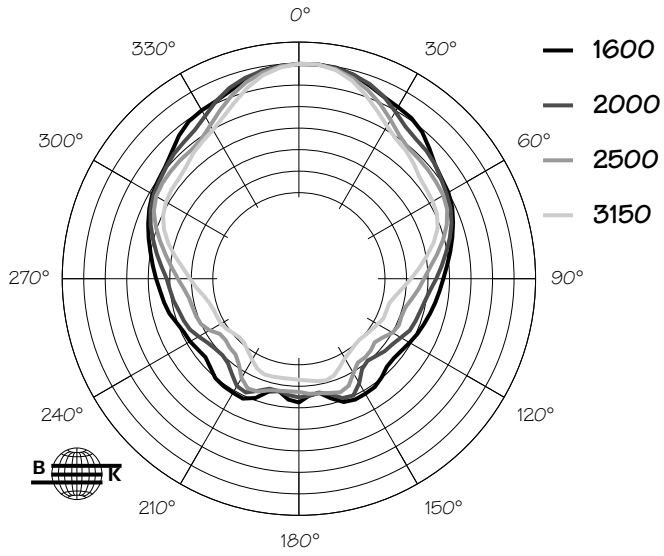


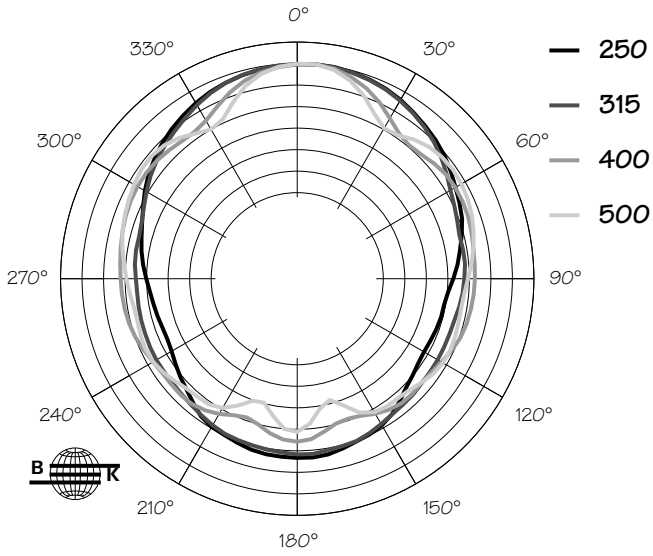


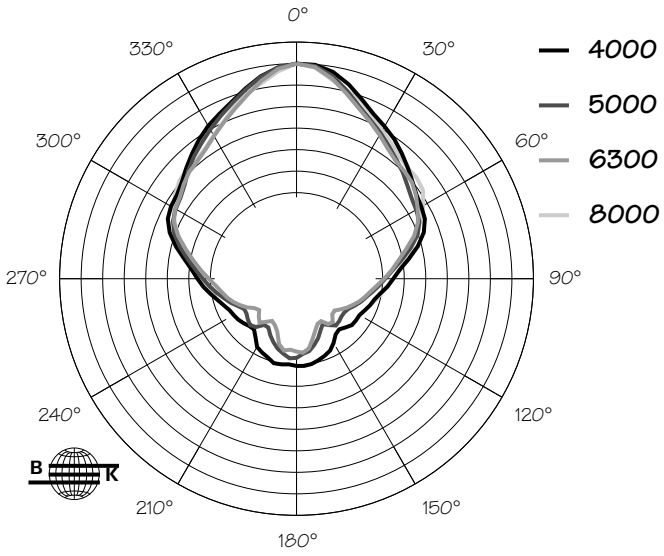


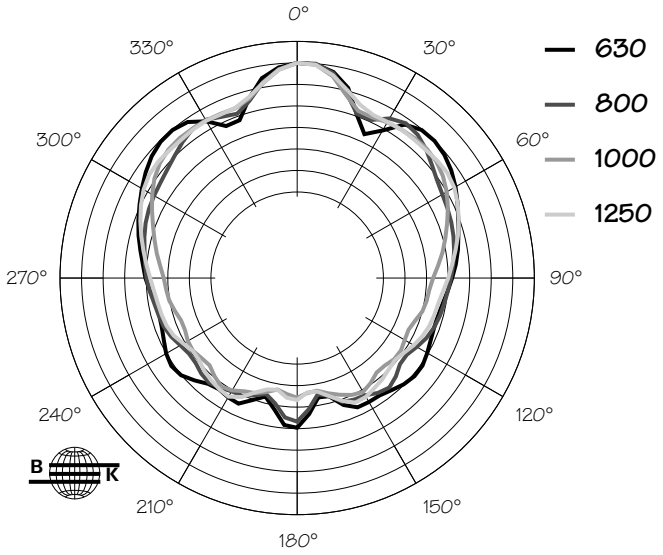
Vertical 1/3 Octave Polar Data KF852E

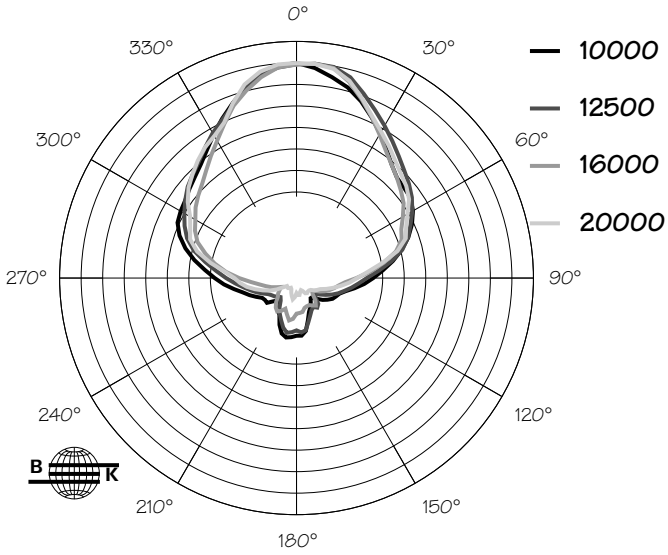












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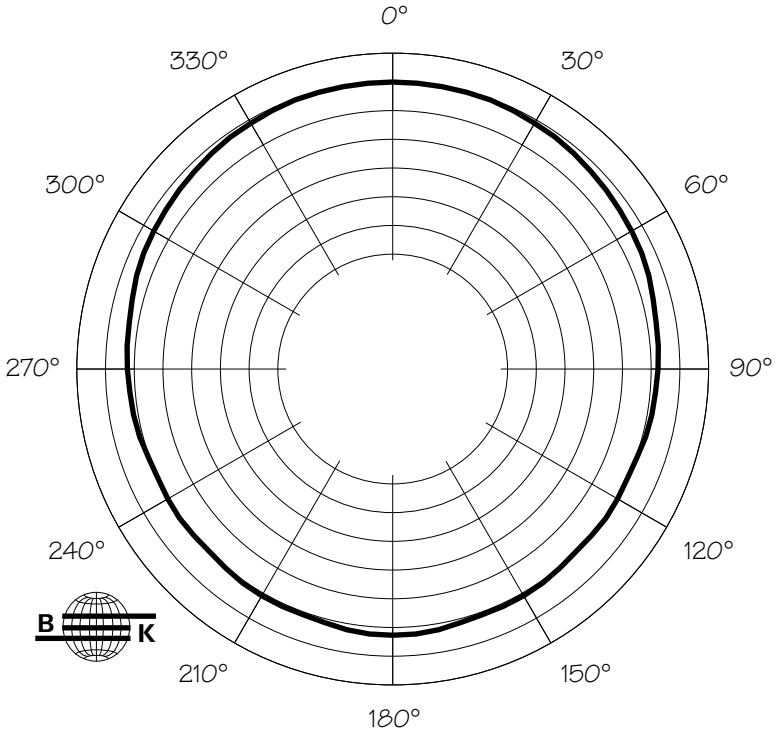
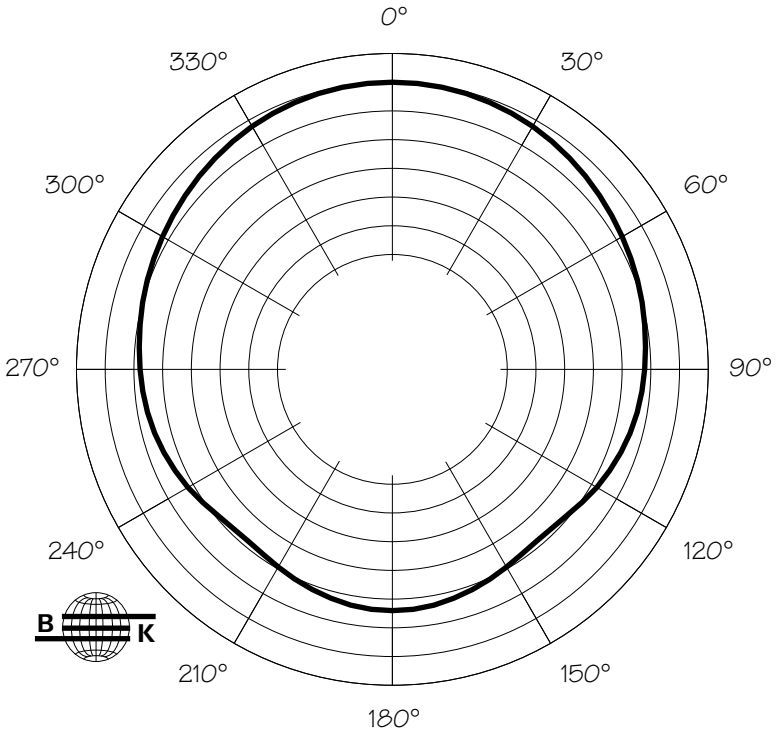
Horizontal Octave Polar Data KF852E

KF852E 125 Hz Horizontal Octave Polar Data

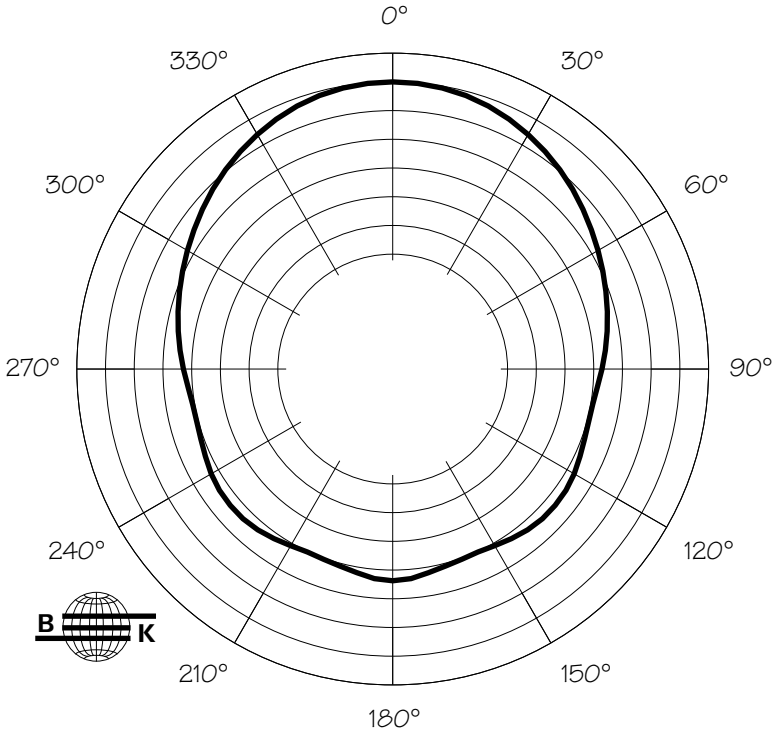


KF852E 250 Hz Horizontal Octave Polar Data

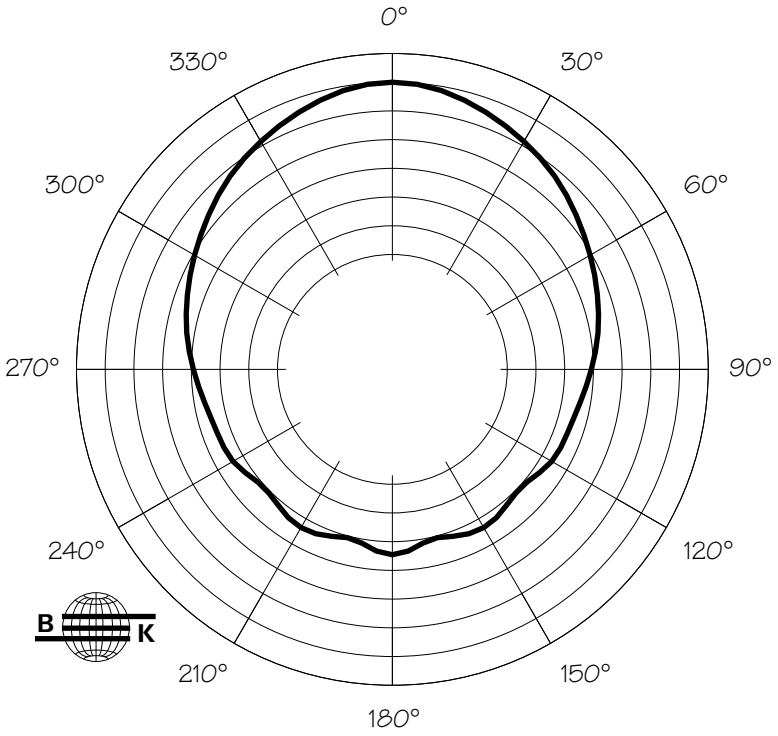


Horizontal Octave Polar Data KF852E

KF852E 500 Hz Horizontal Octave Polar Data

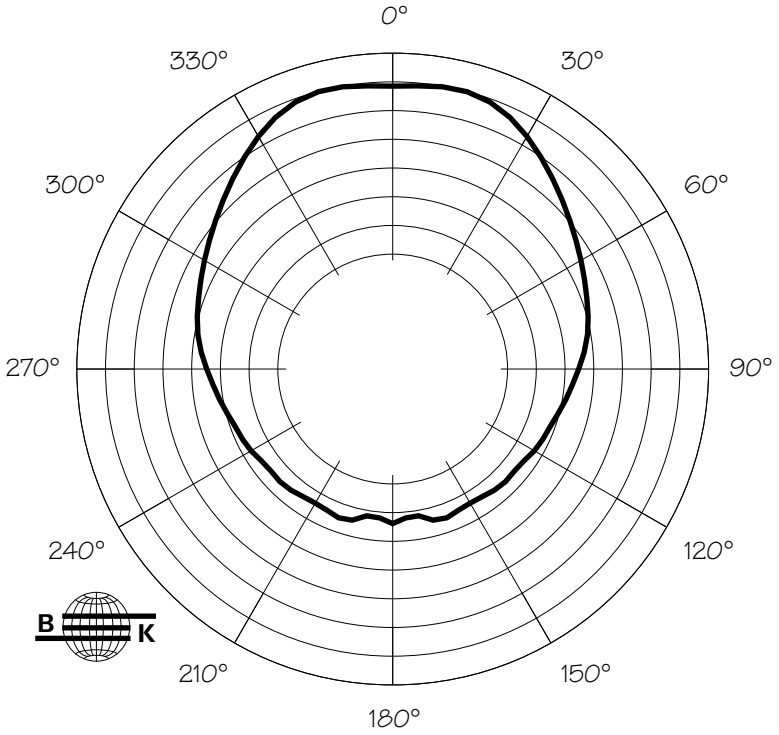


KF852E 1000 Hz Horizontal Octave Polar Data

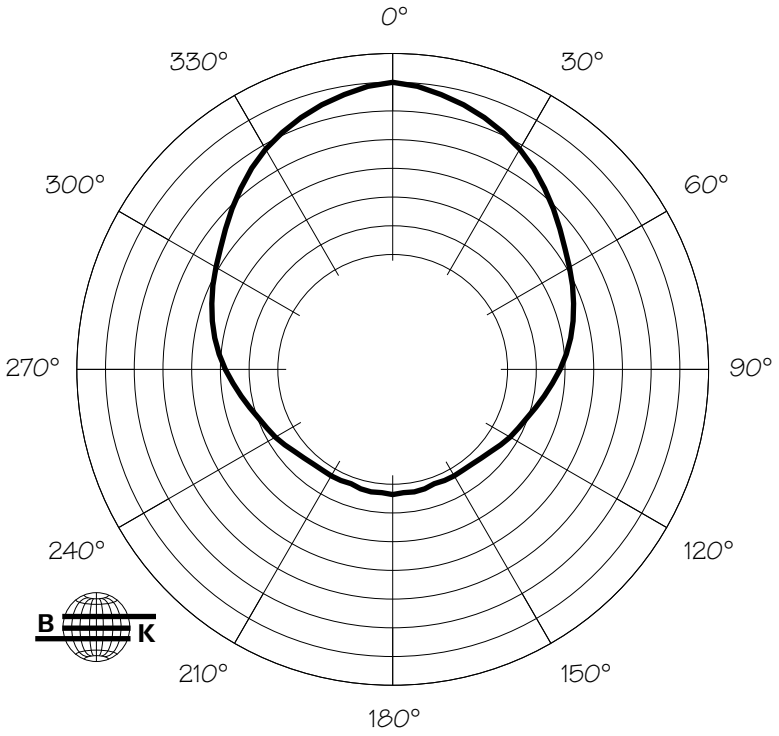


Horizontal Octave Polar Data KF852E

KF852E 2000Hz Horizontal Octave Polar Data

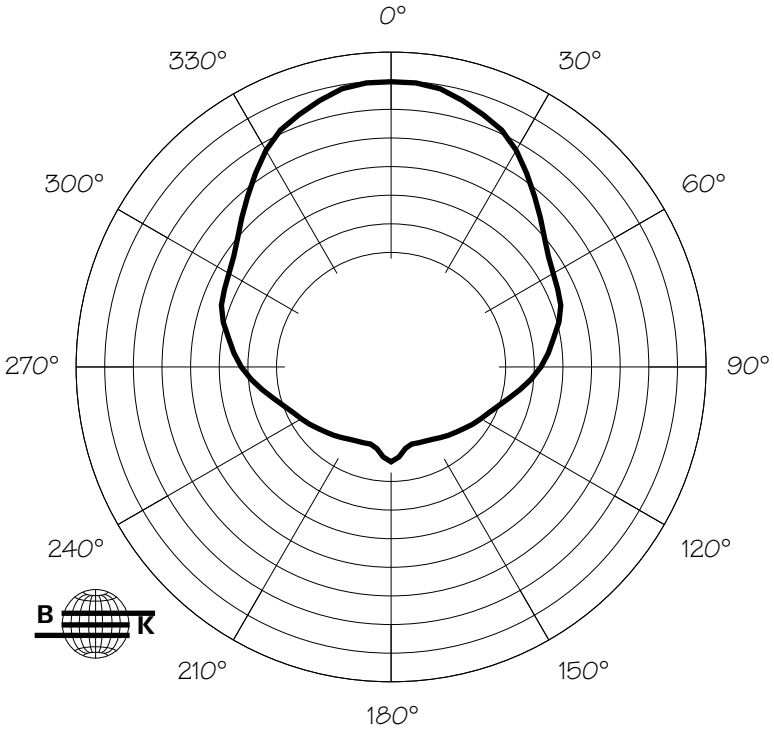


KF852E 4000 Hz Horizontal Octave Polar Data

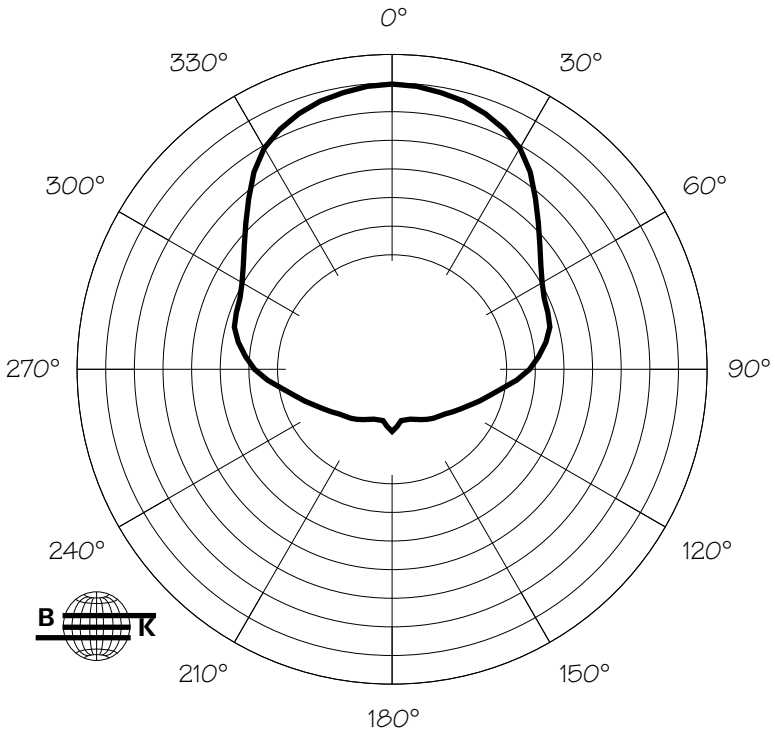


Horizontal Octave Polar Data KF852E

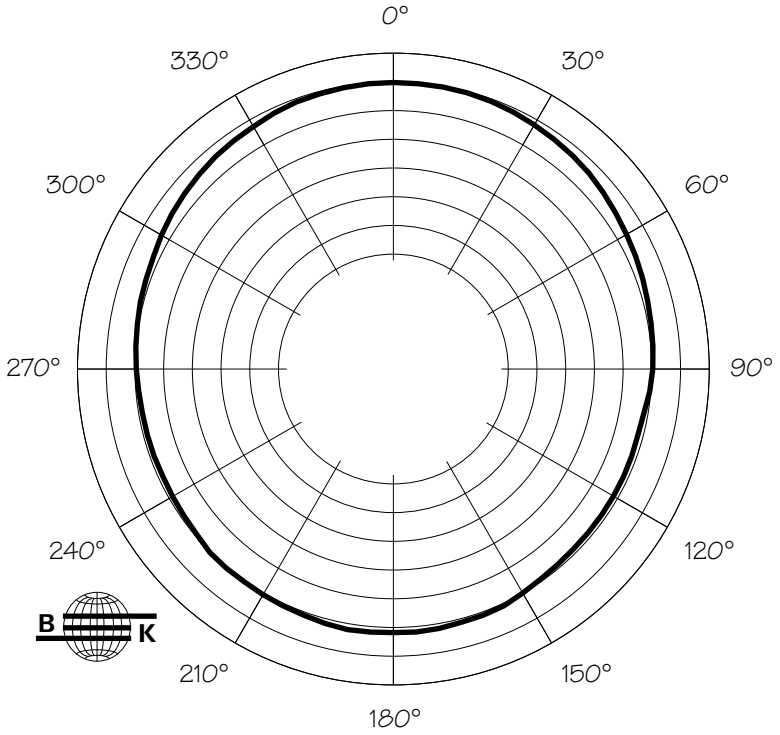
KF852E 8000 Hz Horizontal Octave Polar Data



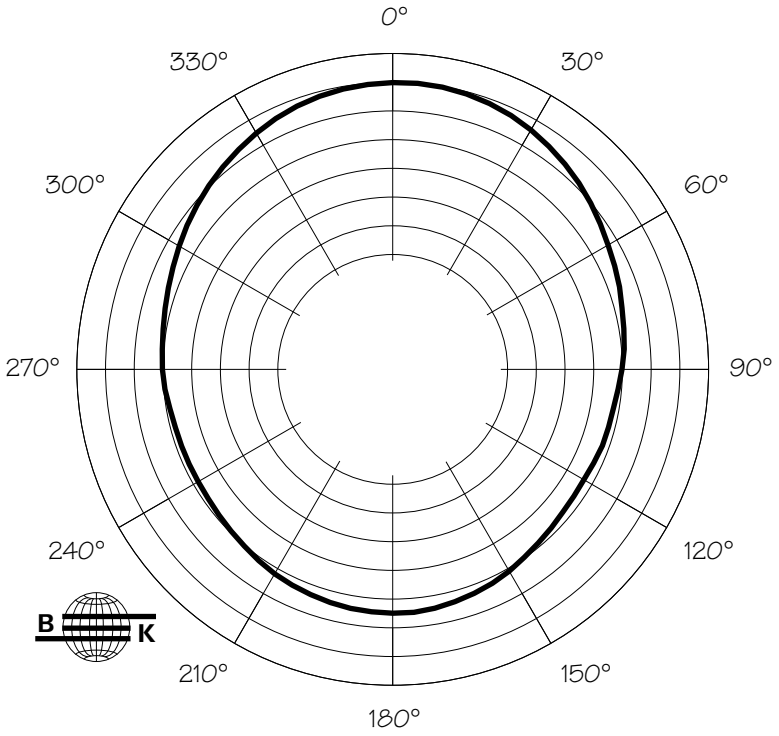
KF852E 16000 Hz Horizontal Octave Polar Data



KF852E 125 Hz Vertical Octave Polar Data

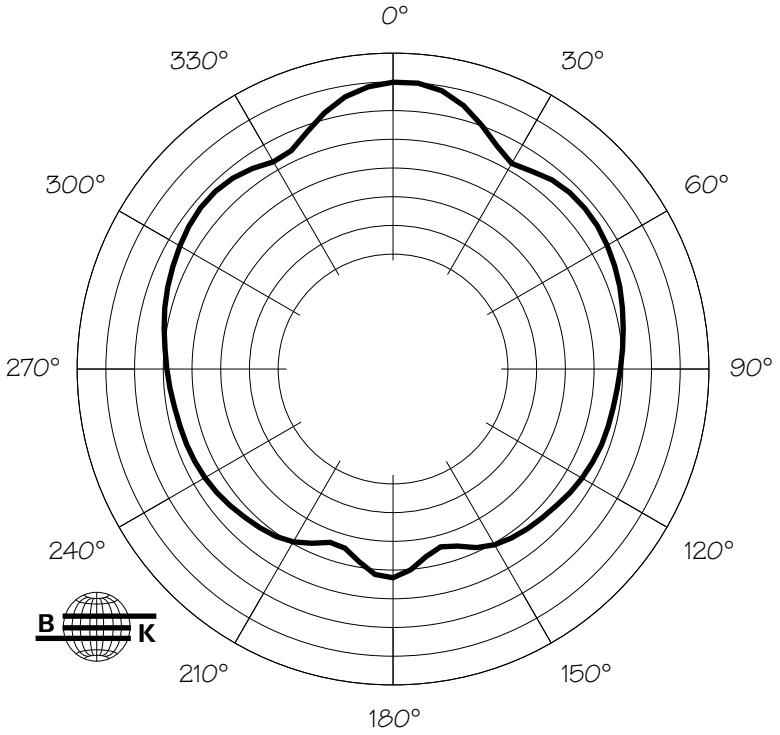


KF852E 250 Hz Vertical Octave Polar Data

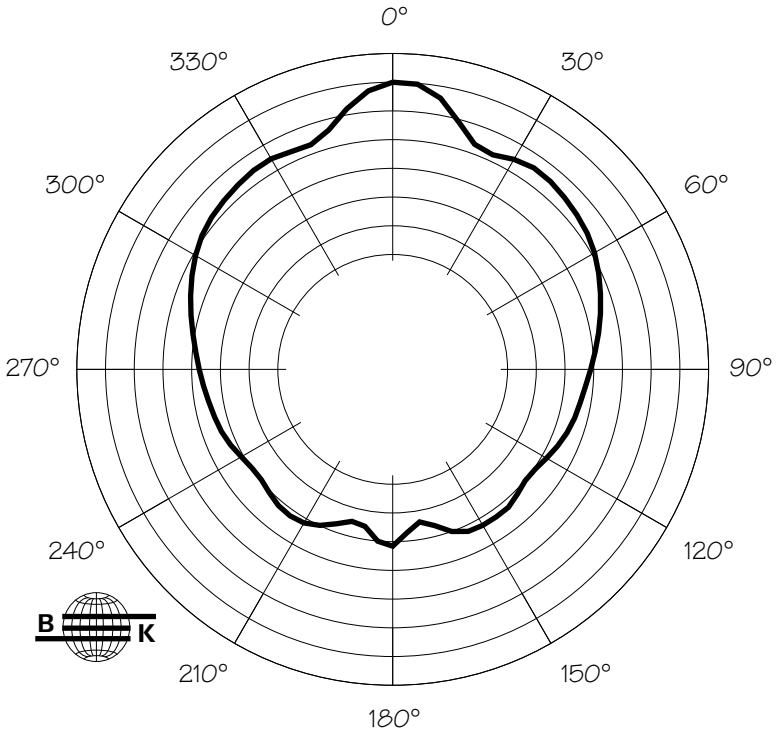


Vertical Octave Polar Data KF852E

KF852E 500 Hz Vertical Octave Polar Data

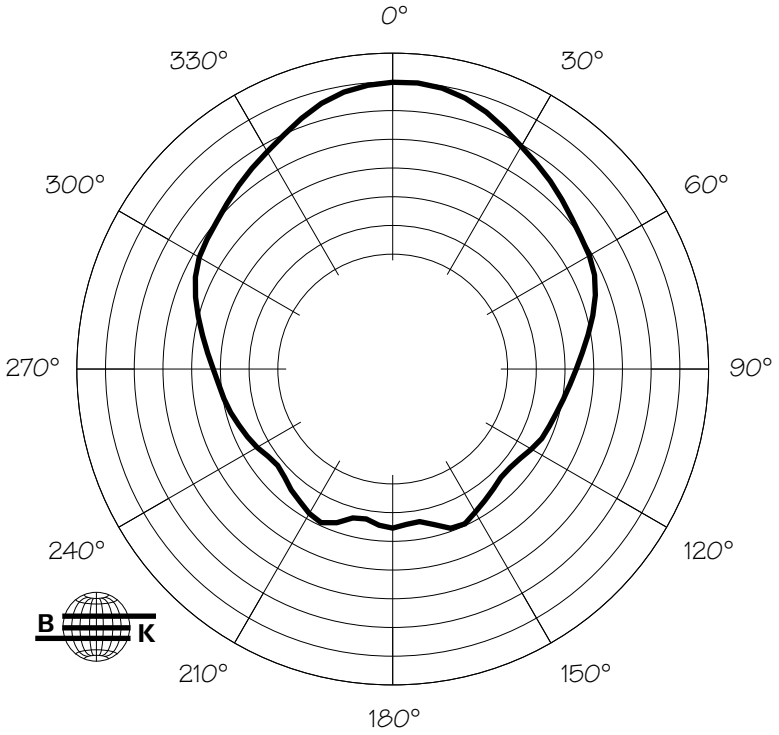


KF852E 1000 Hz Vertical Octave Polar Data

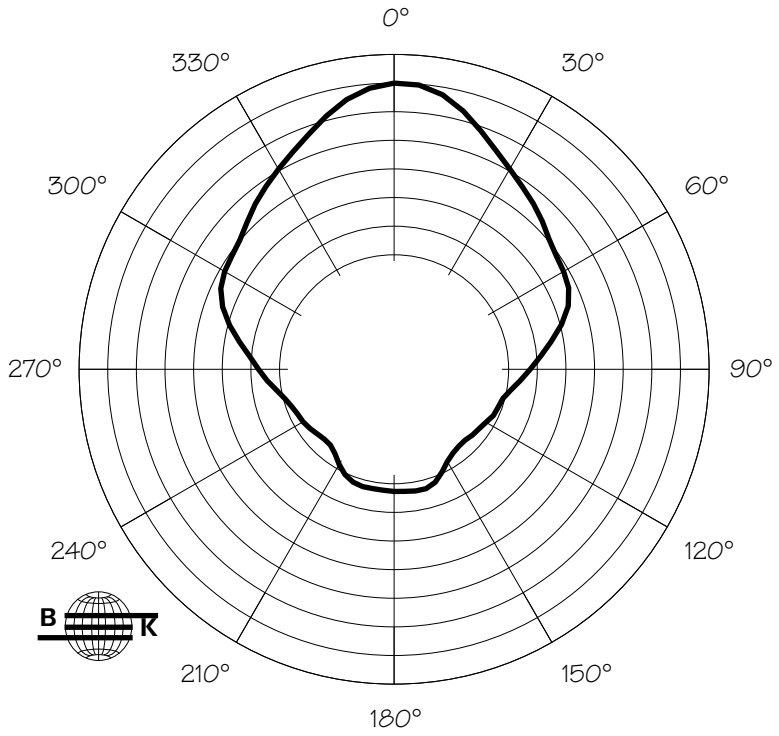


Vertical Octave Polar Data KF852E

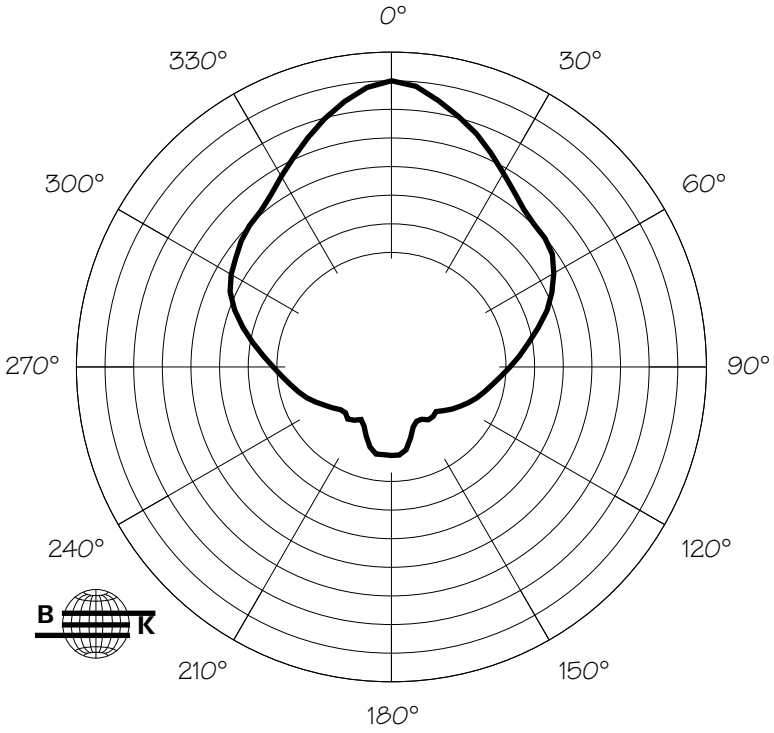
KF852E 2000 Hz Vertical Octave Polar Data



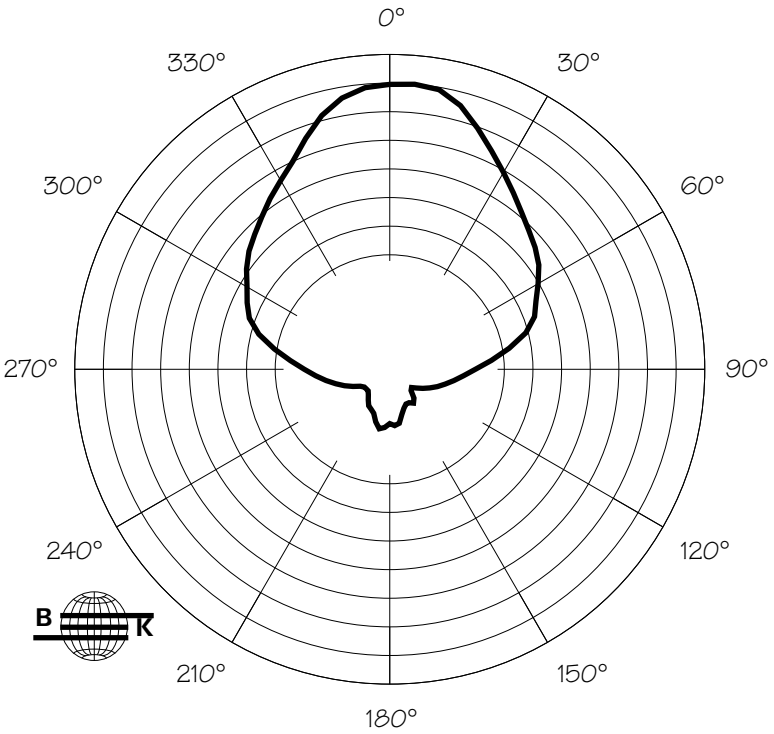
KF852E 4000 Hz Vertical Octave Polar Data



KF852 8000 Hz Vertical Octave Polar Data



KF852E 16000 Hz Vertical Octave Polar Data



Configuration Data KF852E

Part#: 80852EA Main System: KF852E with BH852 Notes: CD 5002 Subwoofer: SB850

Designation	Value	PCB #	Function	Implementation
R1	232k	1 & 2	Off Mode Fixed LF Hi-Pass (with R2)	-3 dB @ 40 Hz
R2	232k	1 & 2	SB Fixed Boost	+6.0 dB @ 35 Hz
R3	3.32k	1 & 2	Parametric EQ	-11 dB @ 3500 Hz, B=.9
R4	825 Ohms	1 & 2	Parametric EQ	-11 dB @ 3500 Hz, B=.9
R5	9.76k	1 & 2	Parametric EQ	-11 dB @ 3500 Hz, B=.9
R6	6.65k	1 & 2	Parametric EQ	-11 dB @ 3500 Hz, B=.9
R7	14.3k	1 & 2	Off Mode LF Dynamic Boost (with R8)	+6.0 dB @ 50 Hz
R8	93.1k	1 & 2	Adj./Dist. Mode Dynamic Hi-Pass	-3 dB @ 13 Hz
R9	93.1k	1 & 2	Adj./Dist. Mode Dynamic Hi-Pass	-3 dB @ 13 Hz
R10	open	1 & 2	Off Mode LF Dynamic Boost (with R9)	+6.0 dB @ 50 Hz
R11	475 Ohms	1 & 2	Parametric EQ	-11 dB @ 3500 Hz, B=.9
R12	2.49k	1 & 2	Off Mode Fixed LF Hi-Pass (with R13)	-3 dB @ 40 Hz
R13	12.7k	1 & 2	SB Fixed Boost	+6.0 dB @ 35 Hz
R1	5.23k	3 & 4	LF Phase	100k/22nF -> 1456 Hz
R2	7.68k	3 & 4	SB Gain	+4.7 dB
R3	2.21k	3 & 4	SB Gain	+4.7 dB
R4	115k	3 & 4	SB Threshold	1.0 V
R5	7.15k	3 & 4	LF Gain	+3.5 dB
R6	2.87k	3 & 4	LF Gain	+3.5 dB
R7	21.0k	3 & 4	SB Phase	40k/100nF -> 116 Hz
R8	36.5k	3 & 4	Off/Dist. Mode Fixed LF Hi-Pass	-3 dB @ 40 Hz
R9	5.9k	3 & 4	MF Gain	-1.5 dB
R10	124k	3 & 4	LF Threshold	1.0V
R11	43.2k	3 & 4	Off/Dist. Mode Fixed LF Hi-Pass	-3 dB @ 40 Hz
R12	3.92k	3 & 4	MF Gain	-1.5 dB
R13	133k	3 & 4	MF Threshold	1.0V
R14	9.31k	3 & 4	HF Gain	+7.9 dB
R15	249k	3 & 4	MF Phase	100k/2.2 nF -> 1.01 kHz
R16	750 Ohms	3 & 4	HF Gain	+7.9 dB
R17	174k	3 & 4	HF Threshold	0.5 V
RN1, RN7	13k		HF Hi-Pass	1225 Hz (10 nF)
RN2, RN8	6.2k		MF Hi-Pass	256 Hz (100 nF)
RN3, RN9	10k		MF Low-Pass	1.6 kHz (10 nF)
RN4, RN10	6.2k		LF Low-Pass	256 Hz (100 nF)
RN5, RN11	20k		LF Hi-Pass	80 Hz (100 nF)
RN6, RN12	20k		SB Low-Pass	80 Hz (100 nF)
	High Frequency EQ jumper: Pin 5			

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MX800i-852E CCEP Configuration