TECHNICAL SPECIFICATIONS KF650e

DESCRIPTION

A 3-way full range system in a vented trapezoidal enclosure. Includes a 15-in woofer in a wave guide cavity with ARC™ device, a horn-loaded 10-in midrange cone and a 2-in exit compression driver mounted coaxially in the wave guide cavity on a 60 x 45 constant directivity horn. Powering mode is switchable: biamplified (passive MF/HF crossover) or triamplified.

APPLICATIONS

The KF650e Virtual Array system's true 3-way design dramatically improves the quality of vocal reproduction while its cone-driven midrange horn and horn loaded woofer extend pattern control into the lower octaves. Universal suspension hardware (flytrack with integral 3/8"-16 mounting point) supports permanent or portable applications. Six year warranty.

Applications include:

Band PA	Ballroom Events
Corporate Events	Convention Centers
Large HOW's	Live Music Club

DESCRIPTIVE DATA

Part Number	999017
Product Group	S
LF Subsystem & Loading	1x 15-in in a Wave Guide Cavity with ARC™
MF Subsystem & Loading	1x 10-in Horn-Loaded Cone
HF Subsystem & Loading	1x 2-in Exit Compression Driver on Constant Directivity Horn
System Configuration	3-way, Full Range
Powering Configuration(s)	Switchable: Biamplified (passive MF/HF crossover) or Triamplified
Controls (switches, knobs)	Powering Mode Switch
Recommended High-Pass Frequency (24 dB/Octave)	45Hz
Cabinet Type (shape)	Trapezoidal
Enclosure Materials	Baltic Birch Plywood
Finish	Black catalyzed polyurethane
Connectors	2x Neutrik NL4 Speakon 1 each male and female AP6
Suspension Hardware	(6) 3-position flytracks with integral 3/8"-16 threaded mounting/suspension points (3 each top and bottom)
Grill	Vinyl coated perforated steel, foam backed
Options	MX300i and MX800i 179001 Flyclip with ring 179002 Flyclip with hook

NOMINAL DATA

Frequency Response (Hz)	
±3 db	65Hz to 17kHz
-10 dB	50Hz

Axial Sensitivity (dB SPL/1 Watt/1m)	
Biamped MF/HF	107
LF	100
MF	107
HF	107
Impedance (Ohms)	
Biamped MF/HF	8
LF	8
MF	8
HF	8
Power Handling, AES Standard (Watts)	
Biamped MF/HF	400
LF	1000
MF	400
HF	200
Calculated Maximum Output (dB SPL, @ 1m)	
Biamped MF/HF Peak	139.0
LF Peak	136.0
MF Peak	139.0
HF Peak	136.0
Biamped MF/HF Long Term	133.0
LF Long Term	130.0
MF Long Term	133.0
HF Long Term	130.0
Nominal Coverage Angle / -6 dB points (degrees)	
Horizontal	60
Vertical	45
Recommended Complementary Systems	
Sub	SB528/SB600e/SB625P

Dimensions	**inches**	**millimeters**
Height	33.25	845
Width (Front)	19.75	502
Width (Rear)	12.93	328
Depth	19.75	502
Trapezoid Angle	10 degrees per side	

Weights	**pounds**	**kilograms**
Net Weight	140	63.7
Shipping Weight	145	66.0

EASTERN ACOUSTIC WORKS

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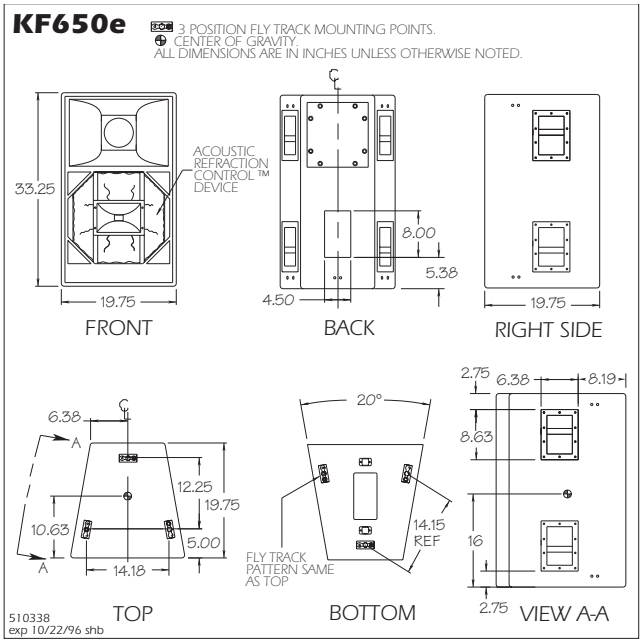
EAW products are continually improved. All specifications are therefore subject to change without notice. • PUB# KF650e 999017 (A)/14p/4/7/97 • Printed In USA

DIMENSIONAL DRAWING



SERVICE ITEMS

LF: Complete Cone Driver	
EAW Part No.	804036
MF: Complete Cone Driver	
EAW Part No.	804022
HF: Complete Compression Driver/Tweeter	
EAW Part No.	803010
Filter/Crossover Network: Complete Assembly	
EAW Part No.	202238

ARCHITECTURAL SPECIFICATIONS

The three-way full range loudspeaker systems shall incorporate a 15-in LF transducer, a 10-in cone MF transducer and a 2-in exit compression driver HF transducer.

The LF driver shall be mounted in a wave guide cavity for optimum low frequency directivity. The MF driver shall be loaded into a midrange horn constructed of 3mm birch plywood reinforced with high density polyurethane foam. The MF horn shall incorporate a phase/displacement plug. The HF driver shall be mounted coaxially within the woofer cavity and shall be loaded on a constant directivity horn with a nominal coverage pattern of 60° (h) x 40° (v). A device to absorb refracted HF energy shall be installed behind the HF section. An internal passive filter network shall provide fourth order acoustical crossover between the mid and high frequency sections in biamped mode and system equalization.

System frequency response shall vary no more than ±3 dB from 65 Hz to 17 kHz measured on axis. In biamped mode, the mid/high section shall produce a Sound Pressure Level (SPL) of 107 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 139 SPL on axis at 1 meter. It shall handle 400 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms. The LF 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 136 SPL on axis at 1 meter. It shall handle 1000 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms.

In triamped mode, the low frequency and high frequency sections shall meet all biamped mode performance criteria. In addition, the midrange frequency section in triamped mode shall produce a Sound Pressure Level (SPL) of 107 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 139 SPL on axis at 1 meter. It shall handle 400 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 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 catalyzed polyurethane. Input connectors shall be one each male and female Neutrik NL4 SpeakOn plus one each male and female AP6. The system shall include a switch allowing it to be operated in biamp or triamp powering mode. A total of six 3-position flytracks with integral 3/8"-16 threaded mounting point (3 each top and bottom) shall be provided. The front of the loudspeaker shall be covered with a vinyl coated perforated steel grill backed with open cell foam to protect against dust.

The three-way full range loudspeaker shall be the EAW model KF650e.

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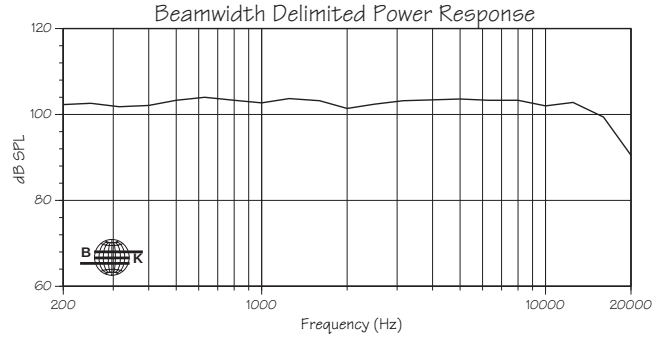
TECHNICAL SPECIFICATIONS KF650e

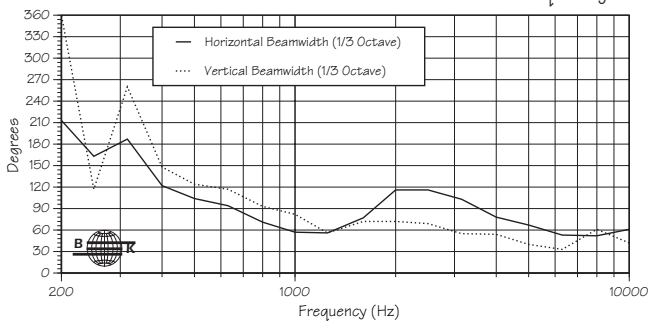
FREQUENCY RESPONSE

KF650is with MX300i-653
Beamwidth Delimited Power Response



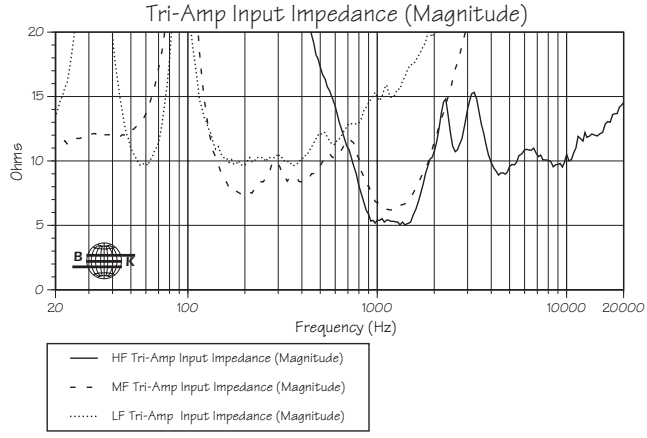
BEAMWIDTH

KF650is with MX300i-653 Beamwidth vs Frequency

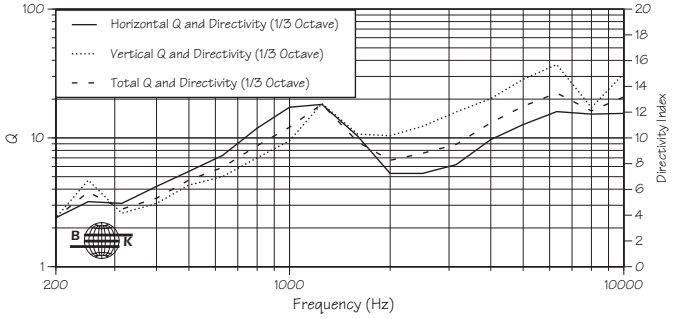


INPUT IMPEDANCE

KF650is with MX300i-653
Tri-Amp Input Impedance (Magnitude)

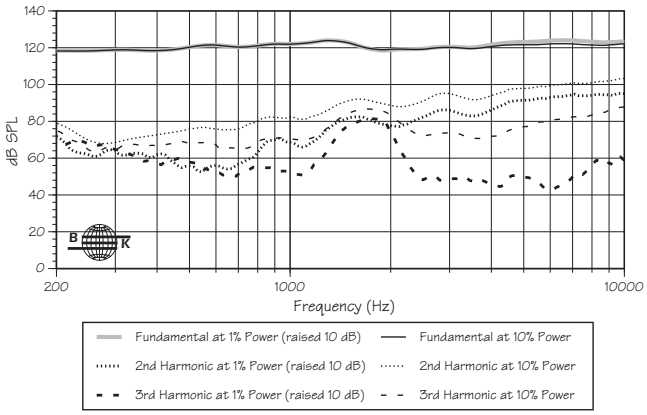


KF650is with MX300i-653 Q and Directivity



DISTORTION

KF650is with MX300i-653 Harmonic Content



Q & BEAMWIDTH BY FREQUENCY

Freq	Hor Q	Ver Q	Tot Q	Hor Beamwidth	Ver Beamwidth
100	1.8	1.7	1.7	360	360
125	1.6	1.5	1.5	360	360
160	2.5	2.6	2.5	188	183
200	2.4	2.4	2.4	213	360
250	3.2	4.7	3.8	163	117
315	3.1	2.6	2.8	187	260
400	4.2	3.1	3.4	122	148
500	5.5	4.3	4.7	104	124
630	7.3	5	5.9	94	117
800	11.9	7	8.7	71	93
1000	17.3	9.5	12.1	57	82
1250	18.2	18.5	18.3	56	56
1600	10.3	10.7	9.3	77	72
2000	5.3	10.4	6.7	116	72
2500	5.3	12.3	7.6	116	69
3150	6.2	15.9	8.9	103	55
4000	9.7	20.2	13.1	78	54
5000	12.7	28.5	17.6	67	40
6300	16	37.1	22.3	53	33
8000	15.3	17.2	16.2	52	61
10000	15.5	31.6	20.8	61	42
12500	11.6	41.8	18.2	70	27
16000	11.4	26.6	15.9	80	43
20000	37.3	58.3	45.5	28	24

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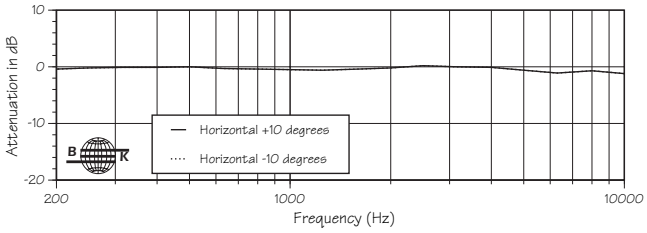
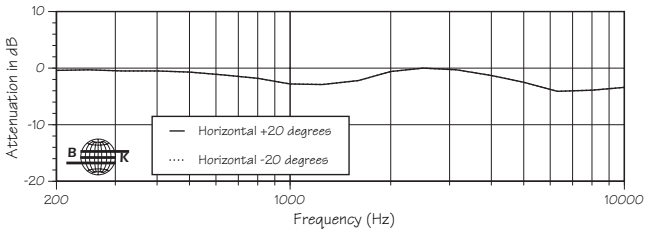
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

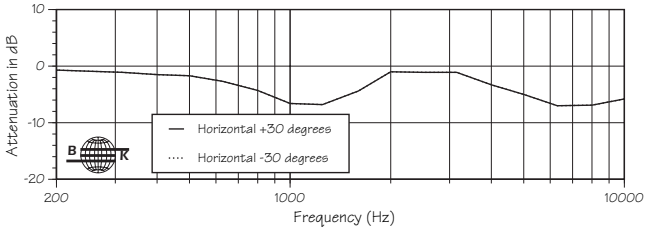
KF650e with MX300i-653 Horizontal ±10°



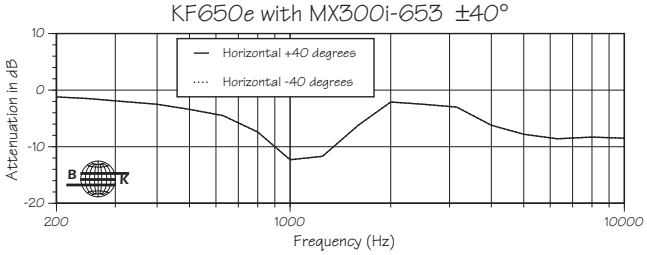
KF650e with MX300i-653 Horizontal ±20°



KF650e with MX300i-653 Horizontal ±30°



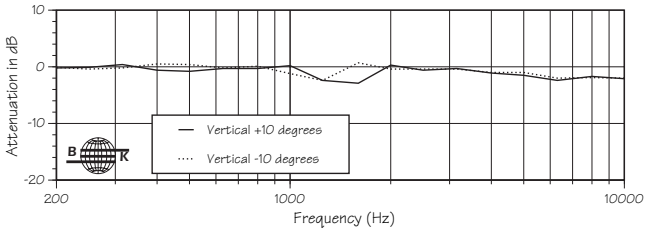
KF650e with MX300i-653 ±40°



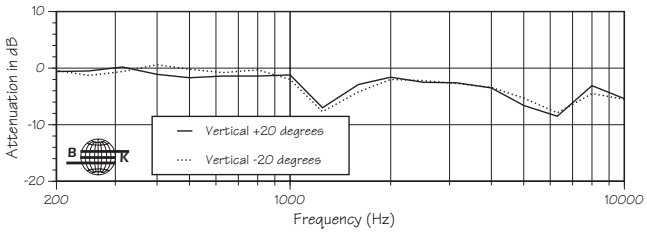
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

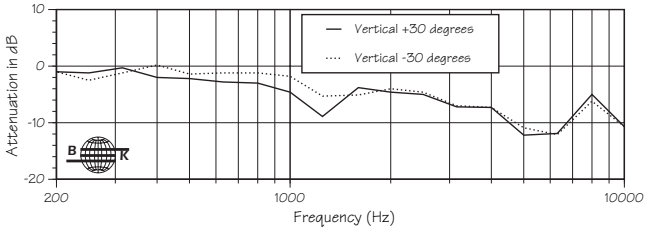
KF650e with MX300i-653 ±10°



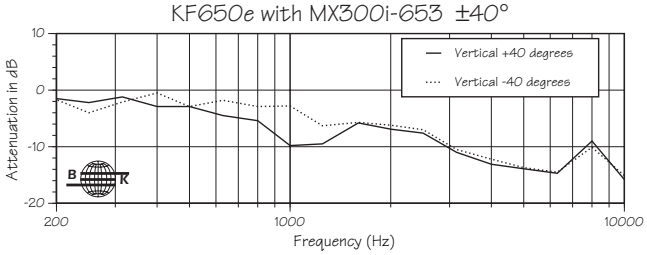
KF650e with MX300i-653 ±20°



KF650e Vertical ±30°



KF650e with MX300i-653 ±40°



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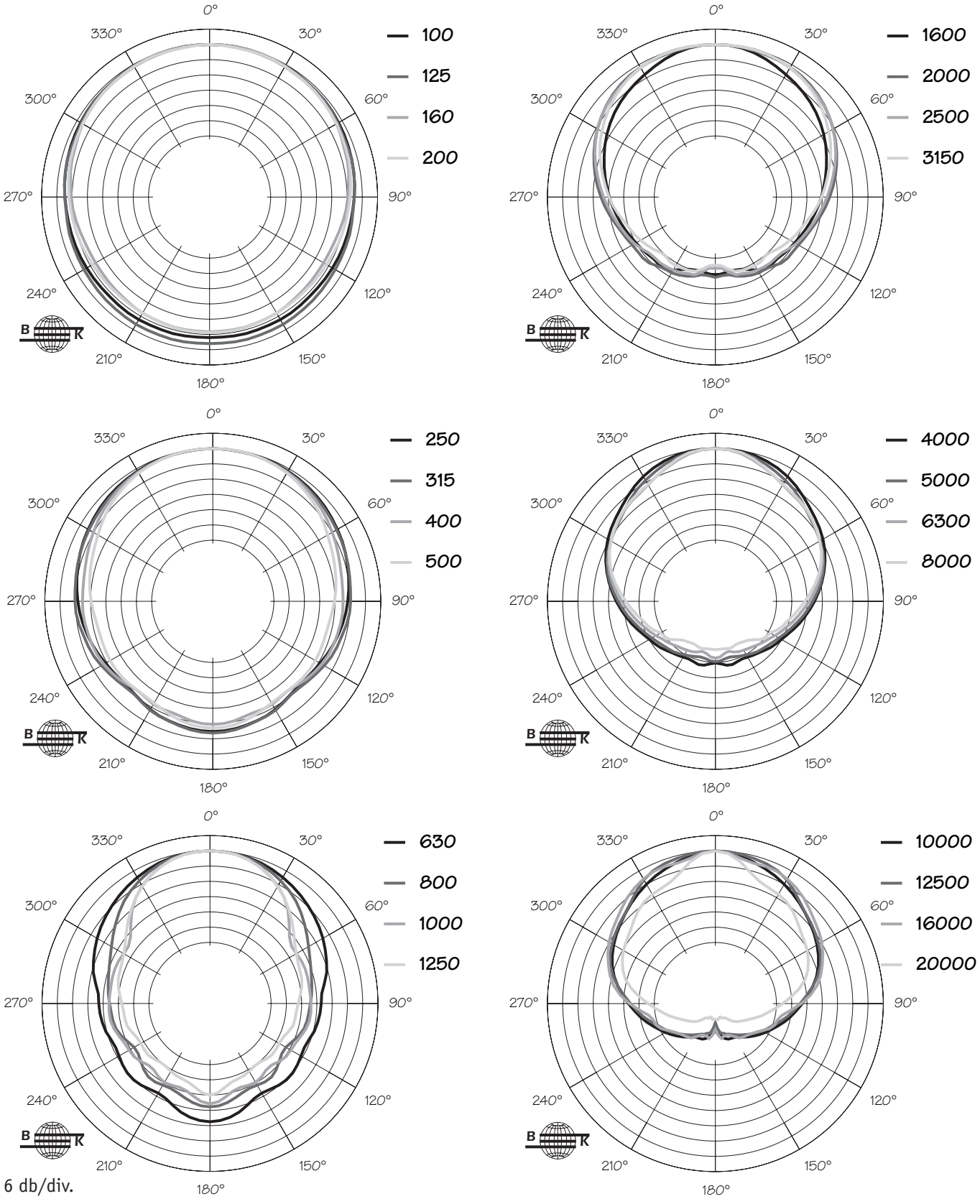
HORIZONTAL 1/3 OCTAVE POLAR DATA KF650E



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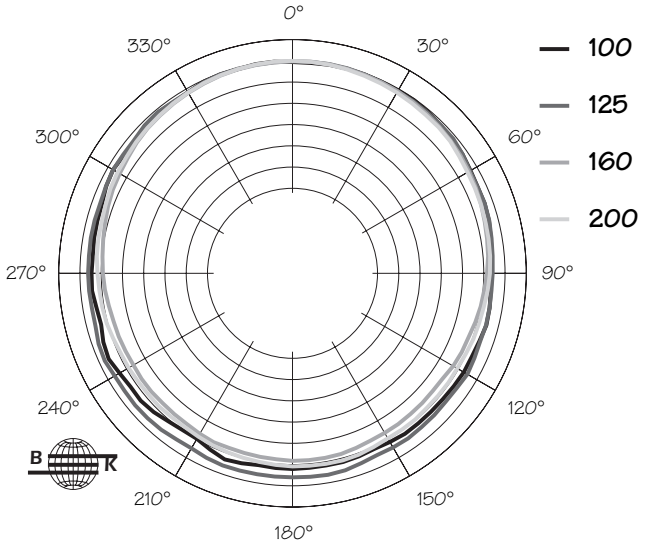
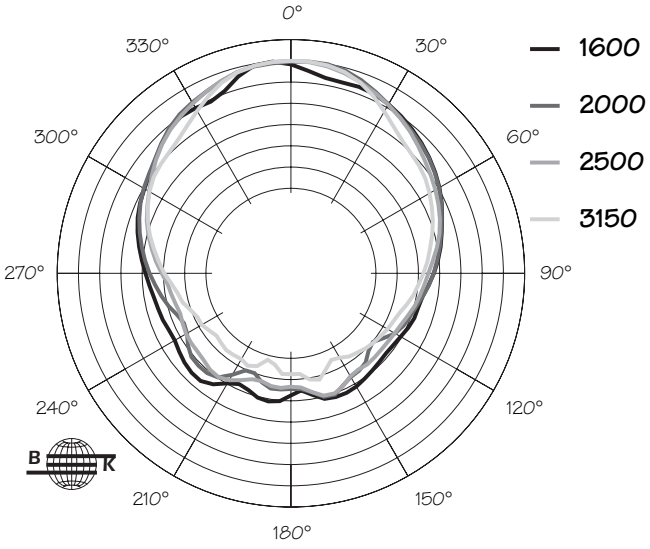
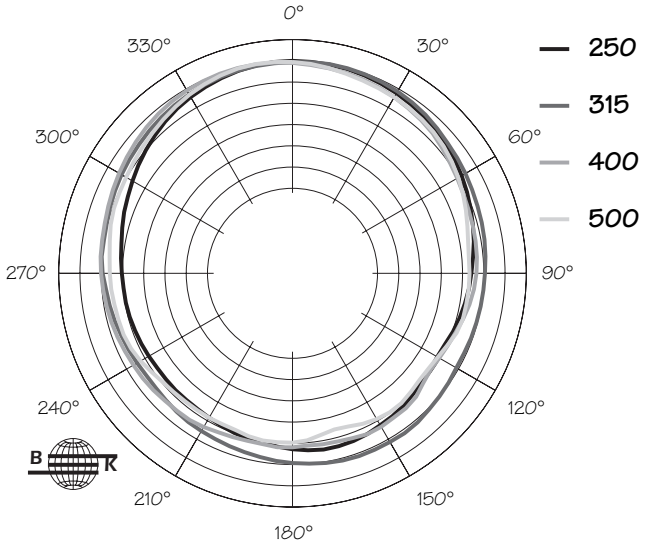
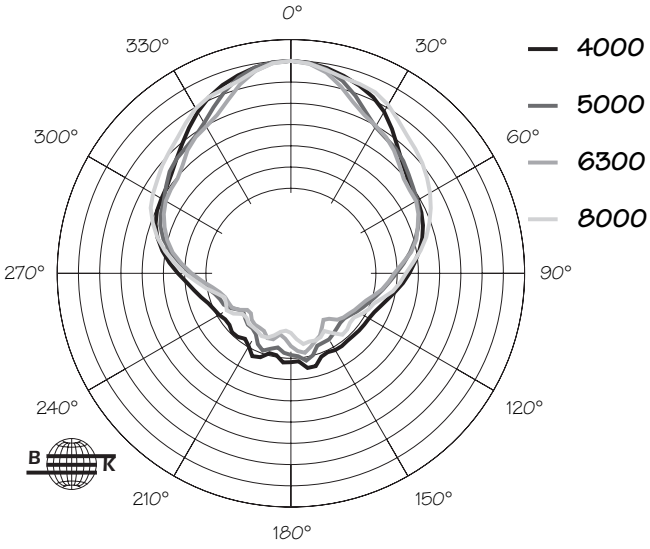
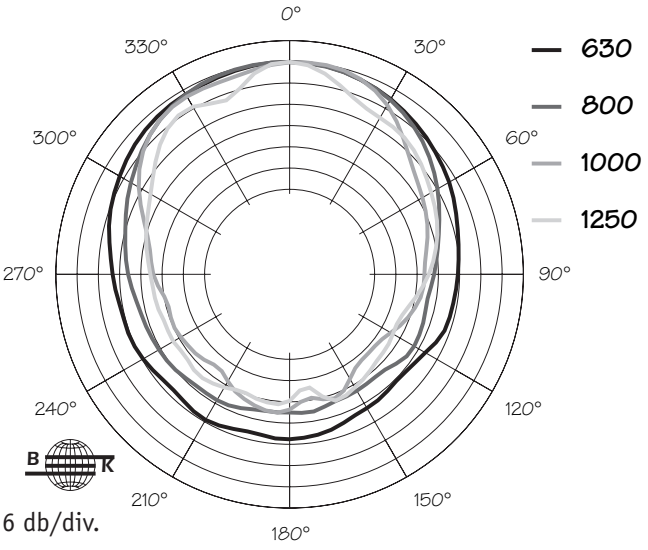
VERTICAL 1/3 OCTAVE POLAR DATA

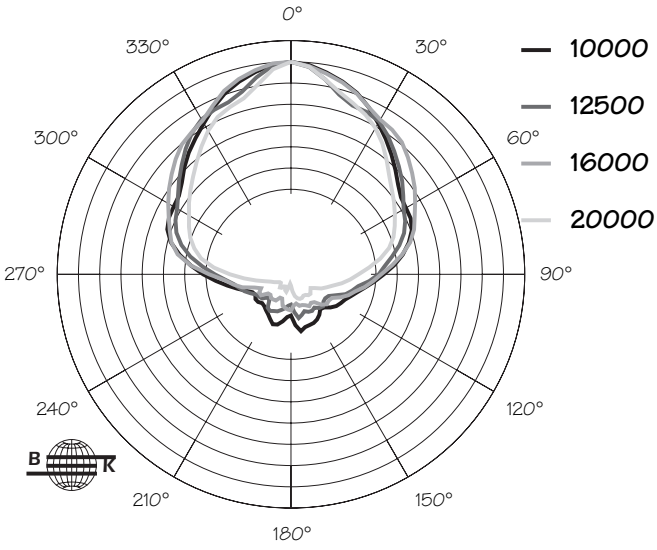












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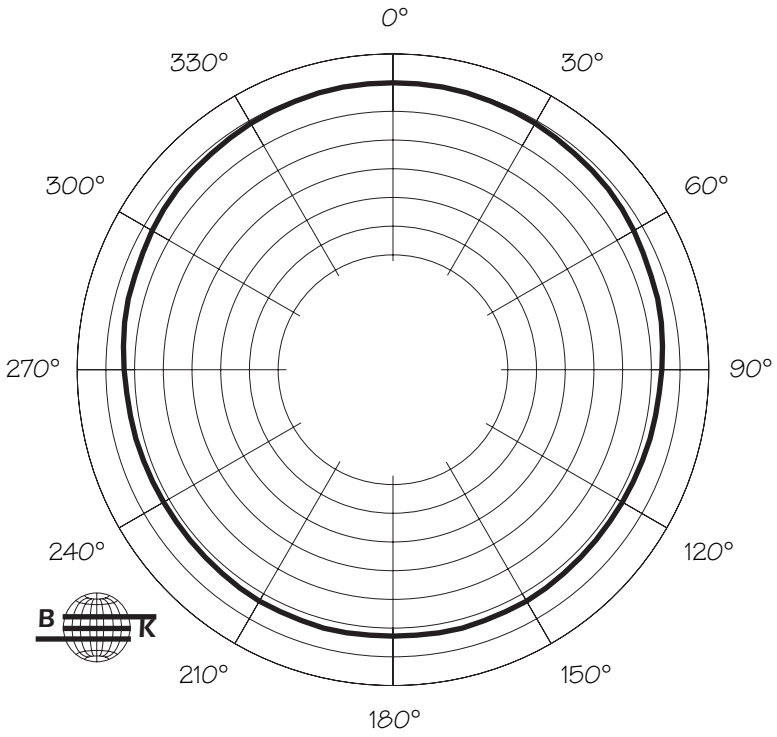
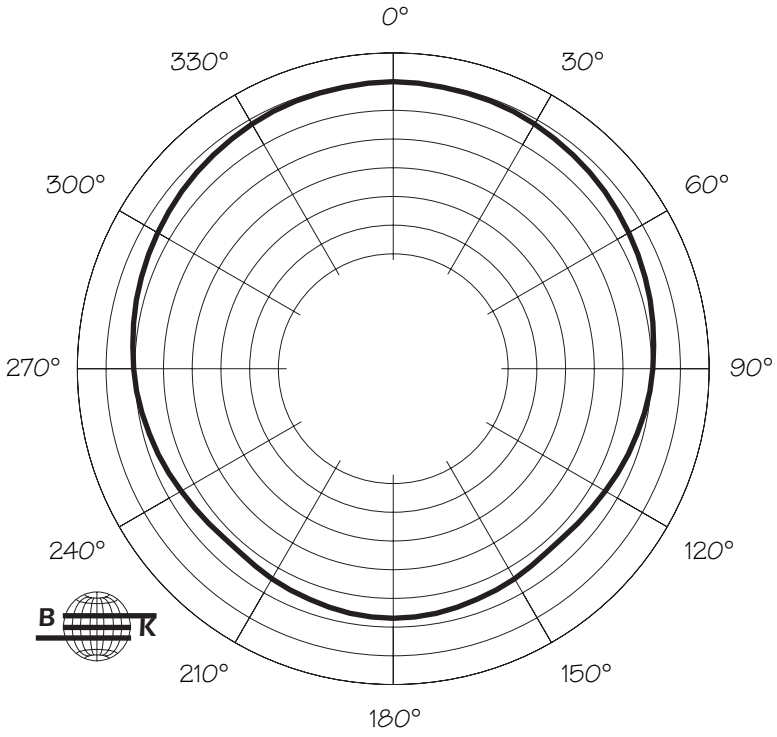
HORIZONTAL OCTAVE POLAR DATA KF650E

KF650e 125 Hz Horizontal Octave Polar Data



KF650e 250 Hz Horizontal Octave Polar Data



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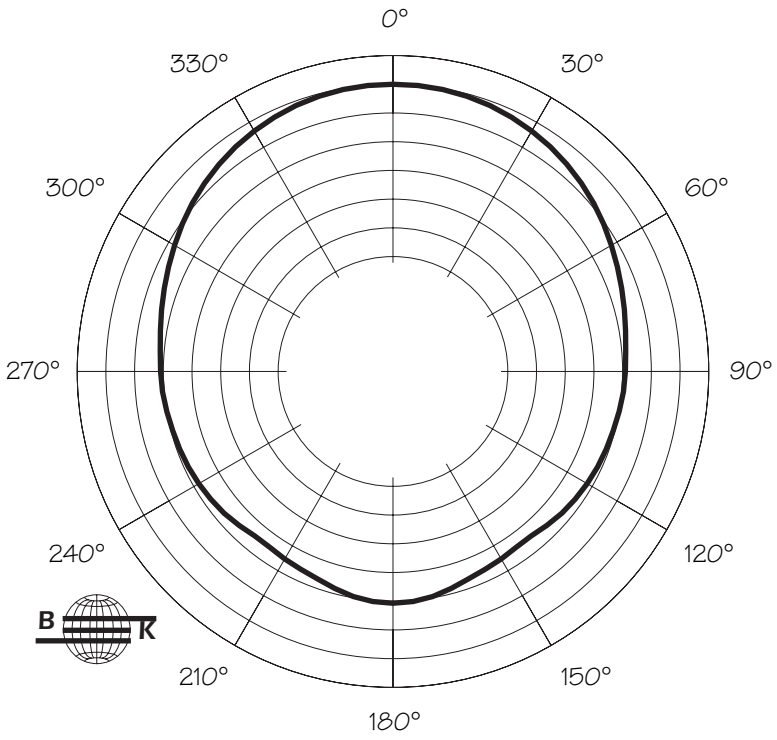
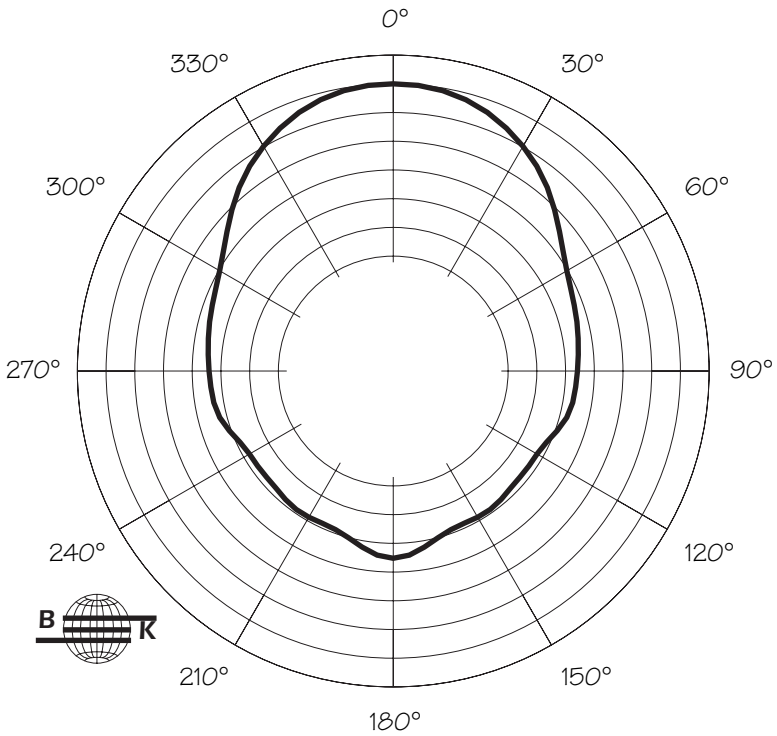
HORIZONTAL OCTAVE POLAR DATA KF650E

KF650e 500 Hz Horizontal Octave Polar Data



KF650e 1000 Hz Horizontal Octave Polar Data



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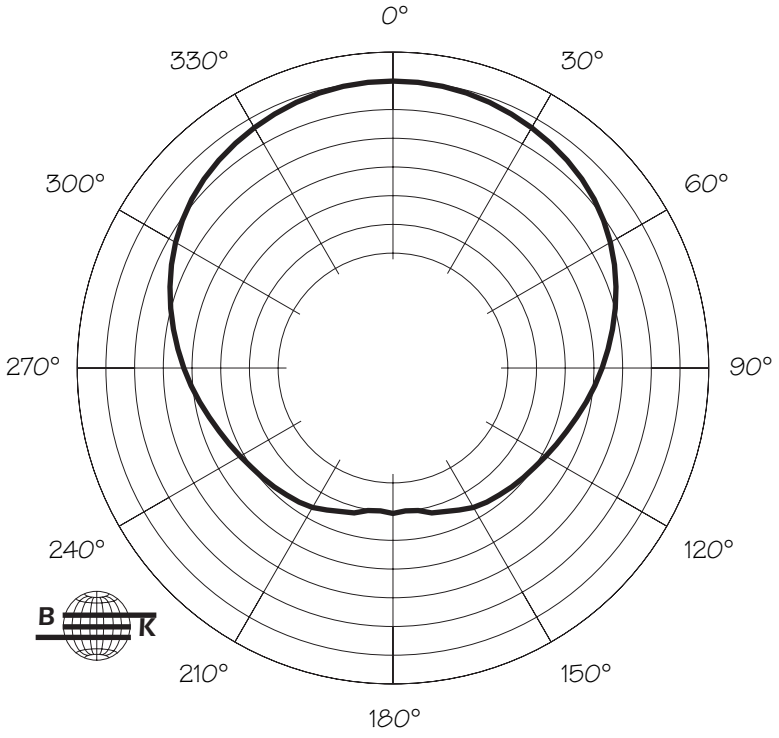
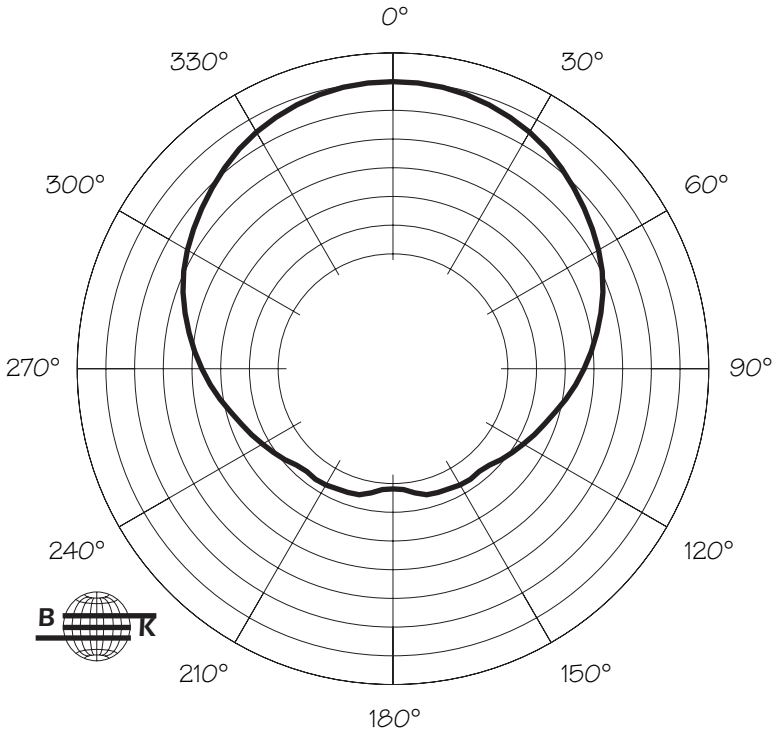
HORIZONTAL OCTAVE POLAR DATA KF650E

KF650e 2000 Hz Horizontal Octave Polar Data



KF650e 4000 Hz Horizontal Octave Polar Data



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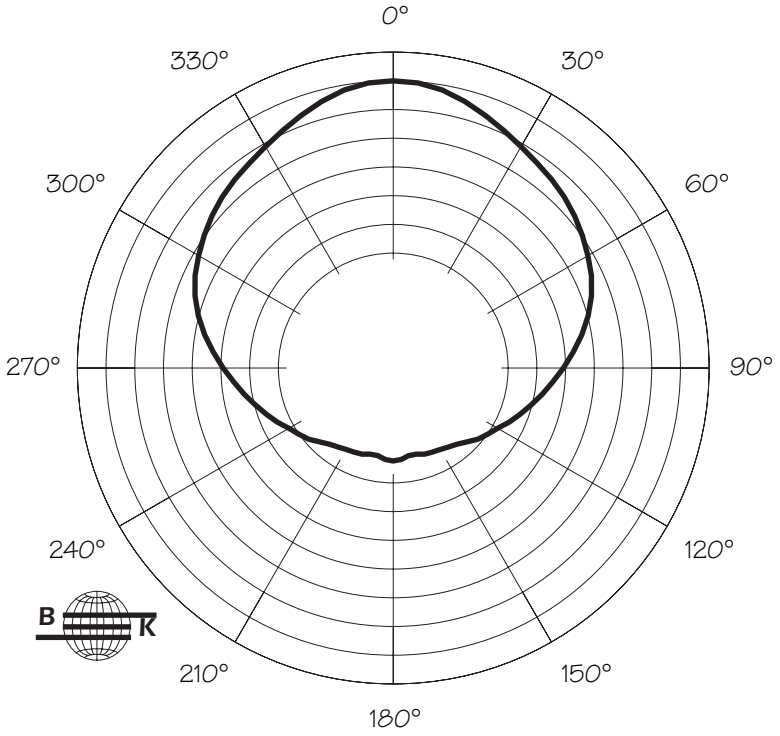
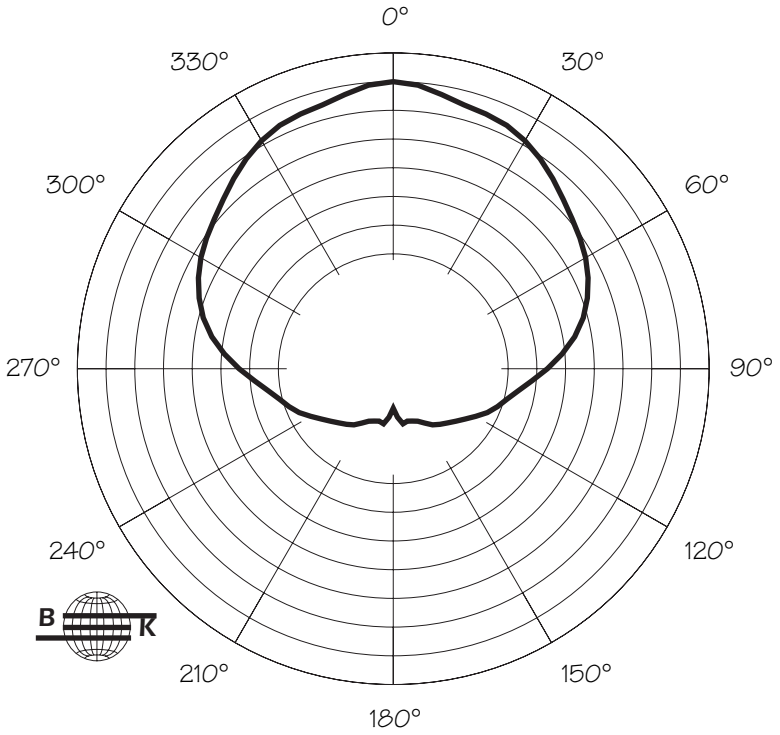
HORIZONTAL OCTAVE POLAR DATA KF650E

KF650e 8000 Hz Horizontal Octave Polar Data



KF650e 16000 Hz Horizontal Octave Polar Data



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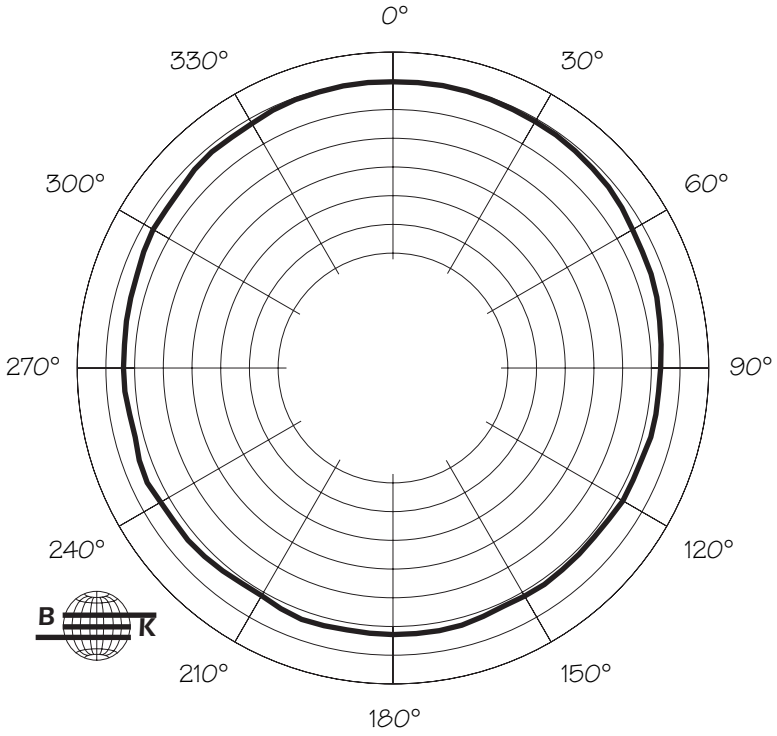
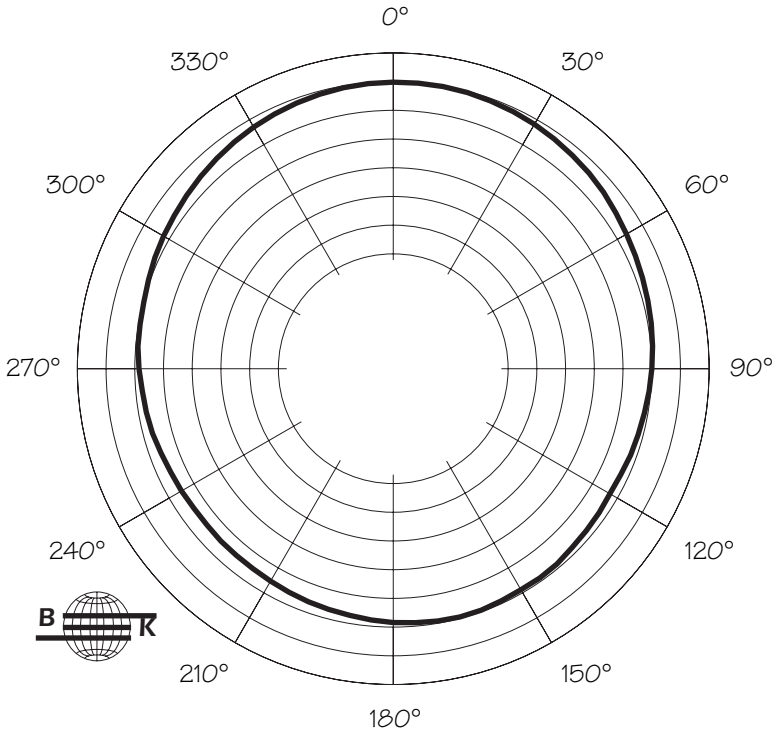
VERTICAL OCTAVE POLAR DATA KF650E

KF650e 125 Hz Vertical Octave Polar Data



KF650e 250 Hz Vertical Octave Polar Data



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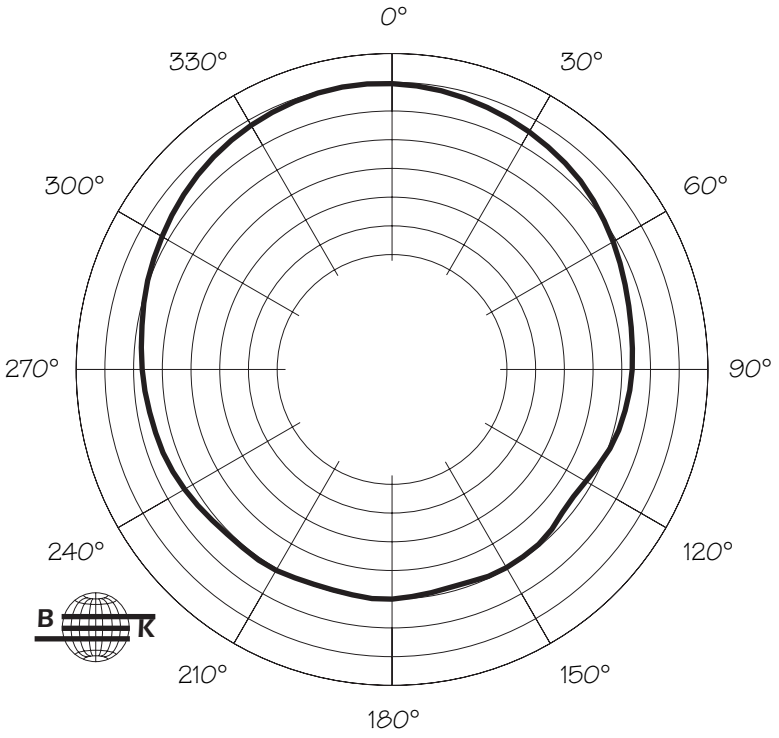
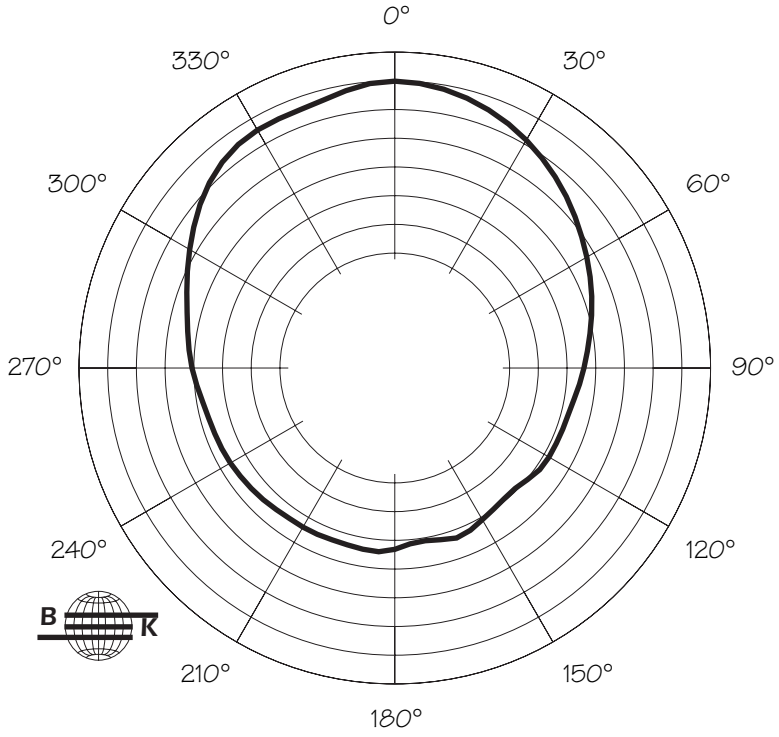
VERTICAL OCTAVE POLAR DATA KF650E

KF650e 500 Hz Vertical Octave Polar Data



KF650e 1000 Hz Vertical Octave Polar Data



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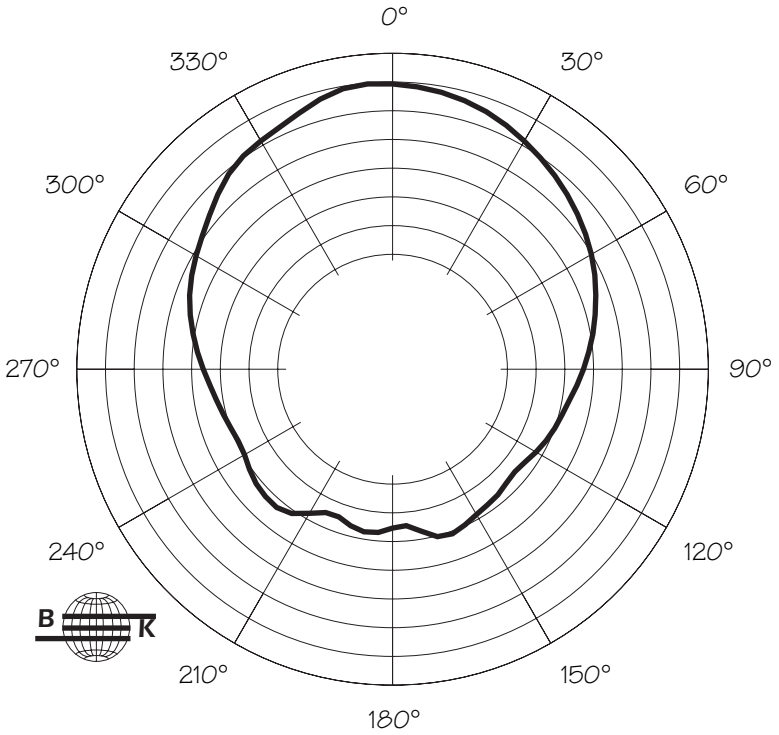
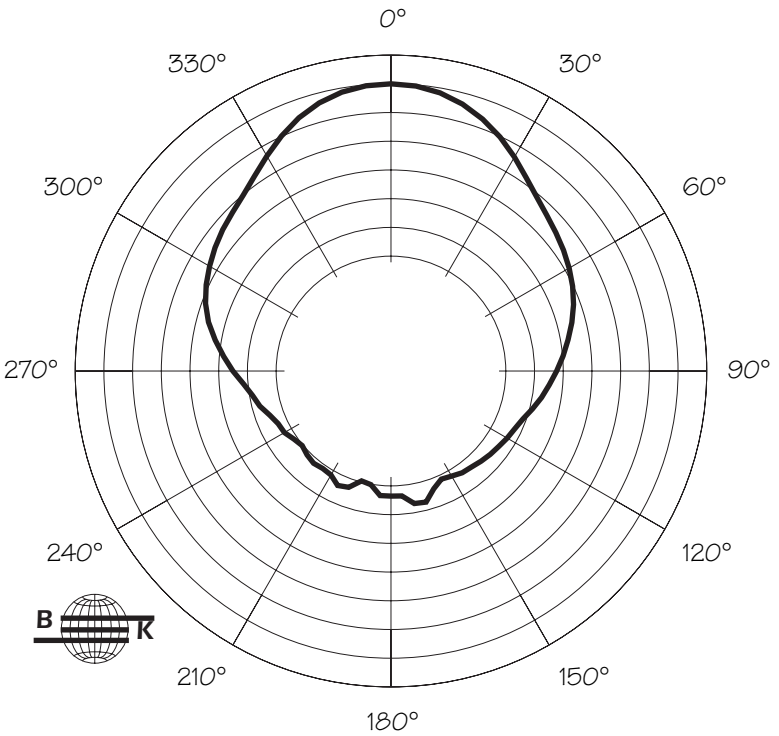
VERTICAL OCTAVE POLAR DATA KF650E

KF650e 2000 Hz Vertical Octave Polar Data



KF650e 4000 Hz Vertical Octave Polar Data



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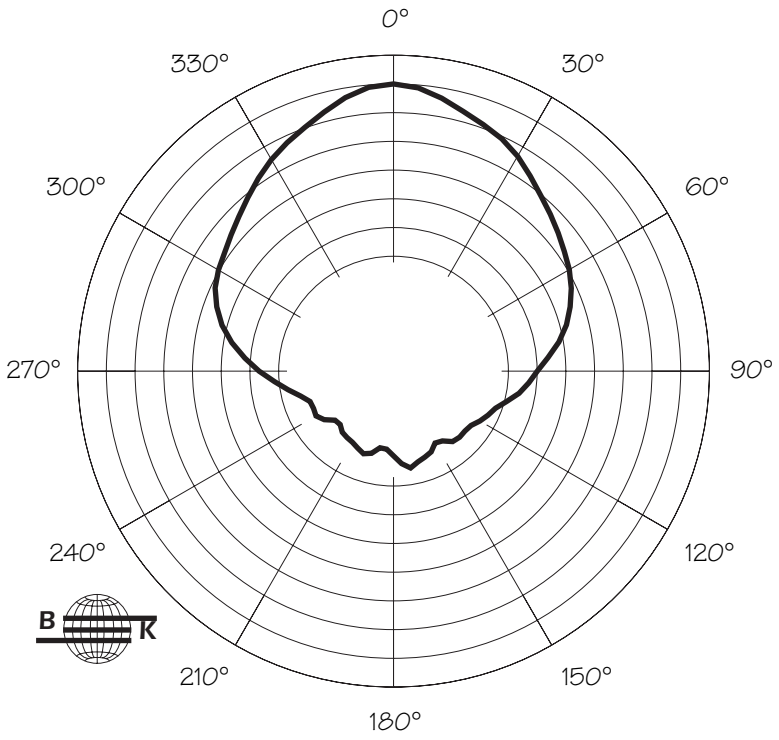
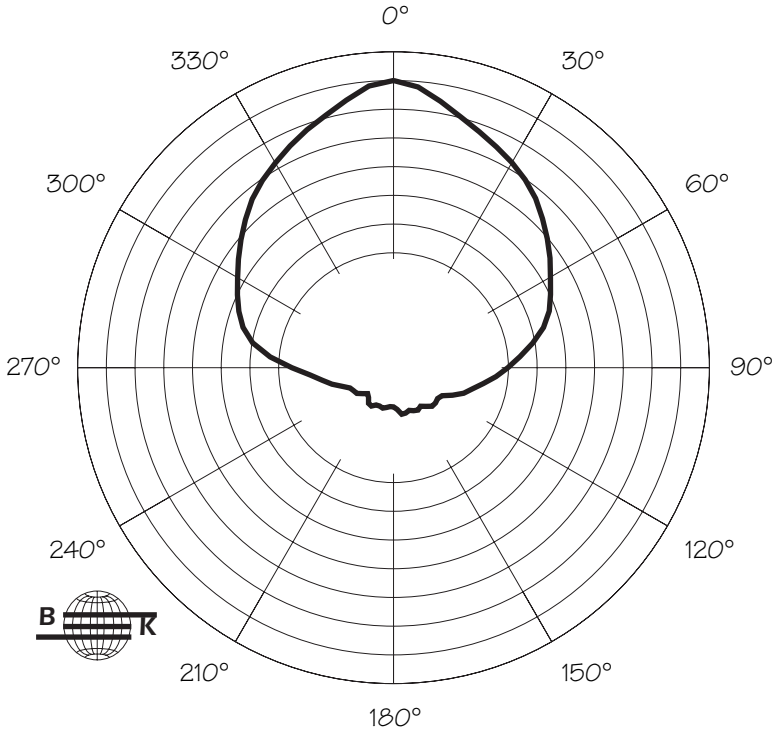
VERTICAL OCTAVE POLAR DATA KF650E

KF650e 8000 Hz Vertical Octave Polar Data



KF650e 16000 Hz Vertical Octave Polar Data



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