



7.0 MH692iE SYSTEM

7.1 MH692iE Architectural Specifications

The two-way midrange/high frequency loudspeaker system shall incorporate two 10 inch mid frequency cone transducers and a compression driver mounted to a constant directivity high frequency horn. The system shall meet the following performance criteria: Frequency Response of 160 Hz to 19 kHz $\pm$ 3 dB; Axial Sensitivity (1W @ 1m) of 111 dB SPL; 100 hour sine wave Power Handling of 350 Watts (MF), 80 Watts (HF); Horizontal coverage of 90° between -6 dB points; Vertical coverage of 45° between -6 dB points.

The system's mid frequency drivers shall be loaded into identical constant horizontal coverage horns constructed of 3 mm cross-grain-laminated birch hardwood. The horn flares shall be reinforced with high density polyurethane foam and shall incorporate center displacement plugs. The high frequency driver shall utilize a titanium diaphragm.

The trapezoidal enclosure shall be constructed of void-free cross-grain-laminated birch plywood and shall have internal bracing. It shall be finished in a black catalyzed polyurethane coating. 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 protective perforated steel grill assembly coated with vinyl to dampen resonance. Hanging fixture attachment points shall be installed in the top and bottom of the enclosure and mating clips shall be included with the system. Cabinet sides shall be tapered in such a way as to simplify construction of arrays.

The two-way midrange/high frequency loudspeaker system shall be the EAW model MH692iE.

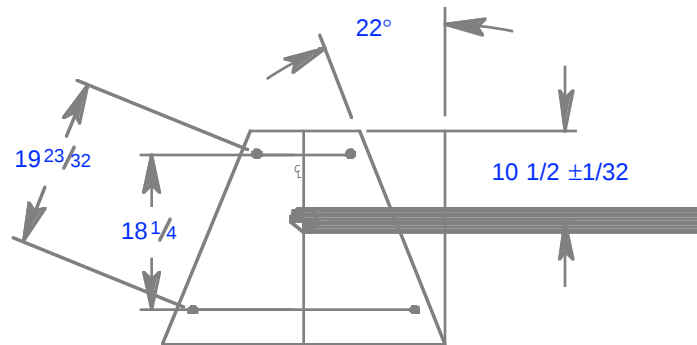


7.2

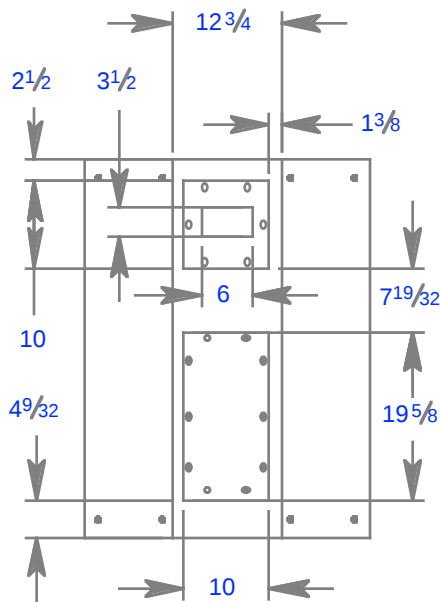
MECHANICAL DRAWINGS

7.2.2

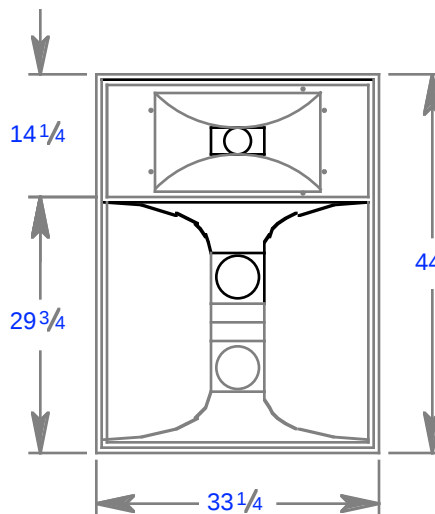
MH692iE



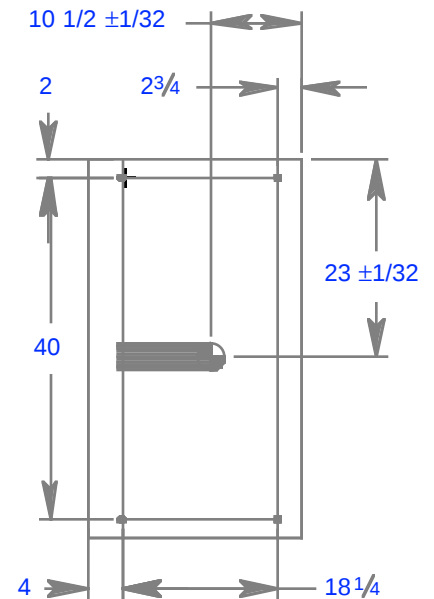
TOP/BOTTOM



BACK

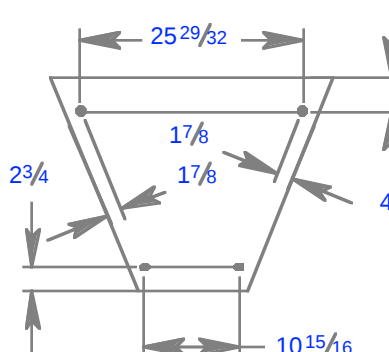


FRONT



SIDES

● CENTER OF BALANCE



TOP/BOTTOM

● MOUNTING POINTS
3/8"-16 NUTS WELDED
TO A
2" x 2" STEEL L-PLATE

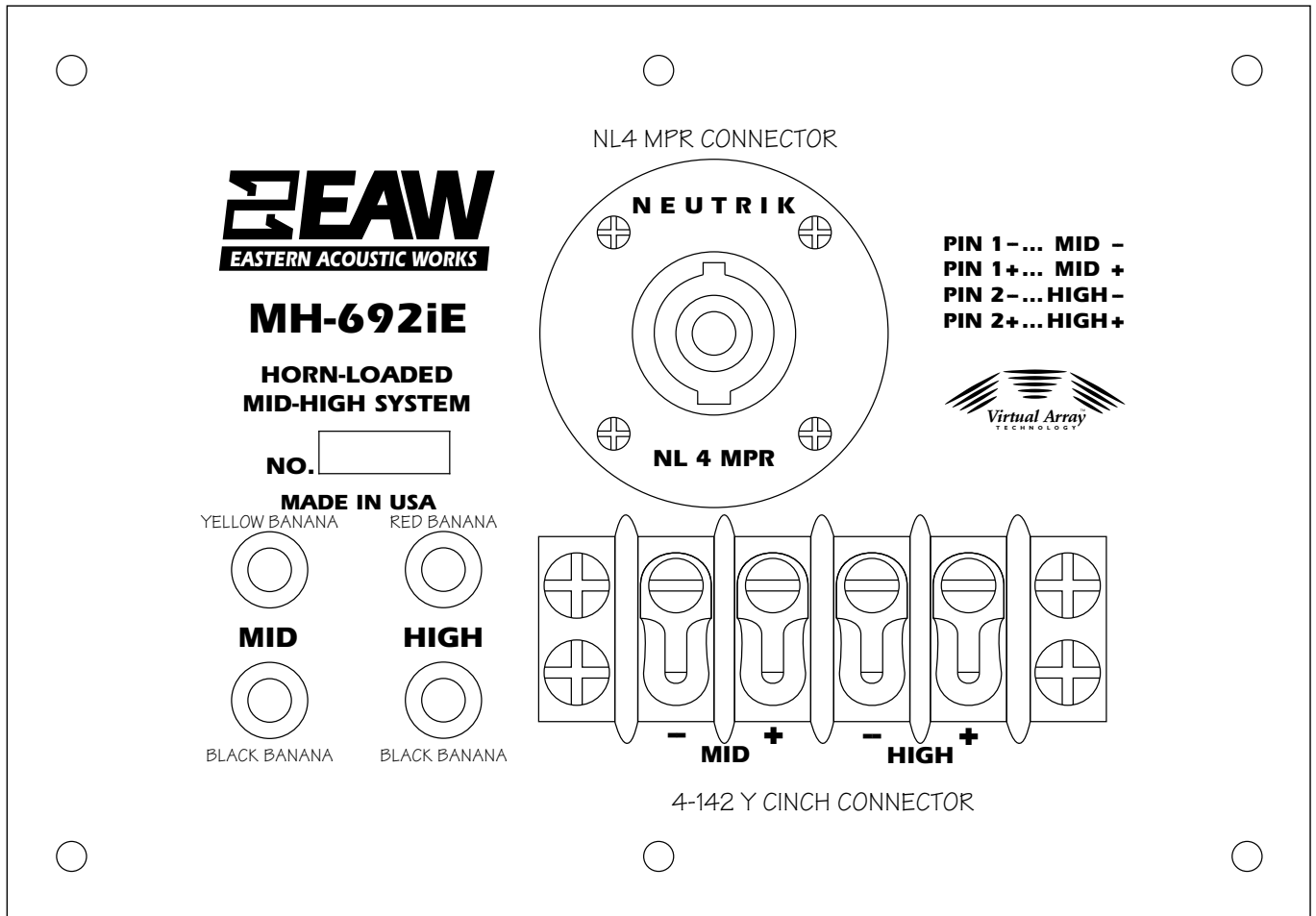


7.3

INPUT PANEL DRAWINGS

7.3.1

MH692iE Bi-amp Configuration



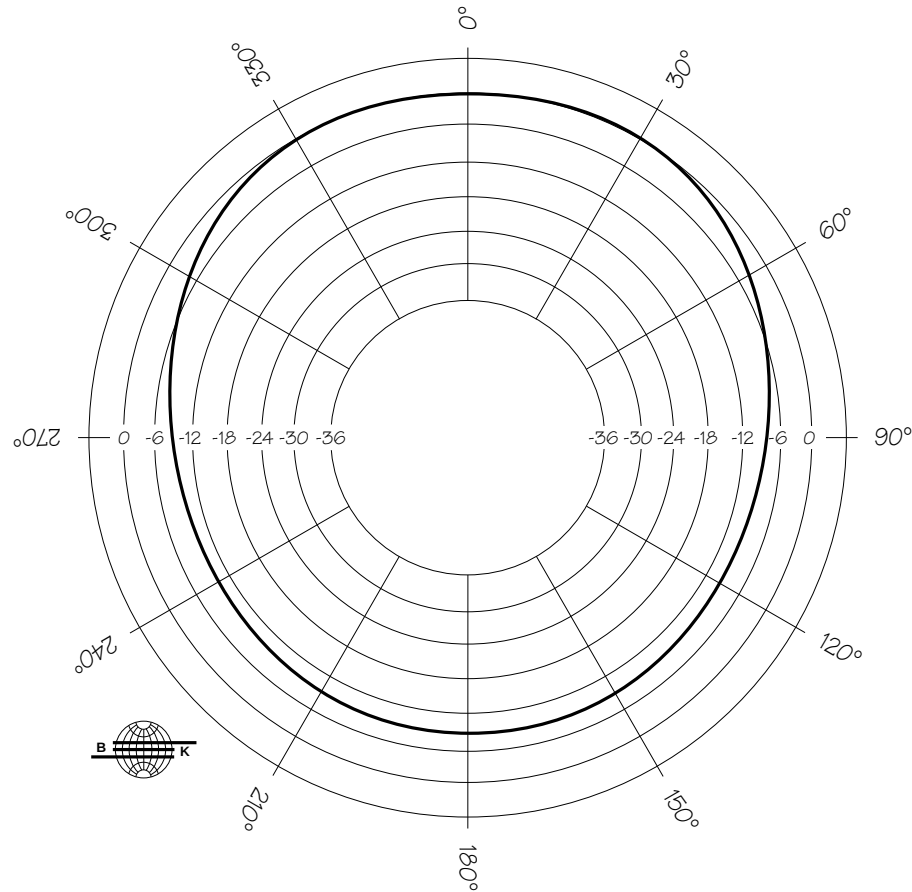


7.5

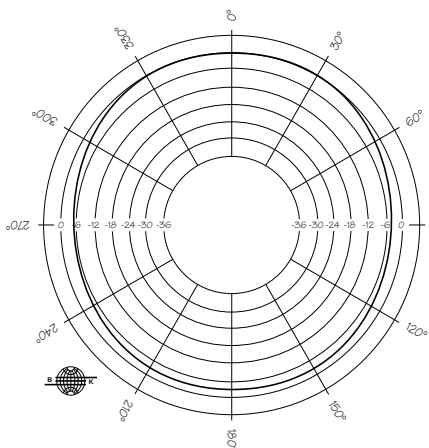
MH692iE POLAR RESPONSE

7.5.1 Horizontal Polar Data

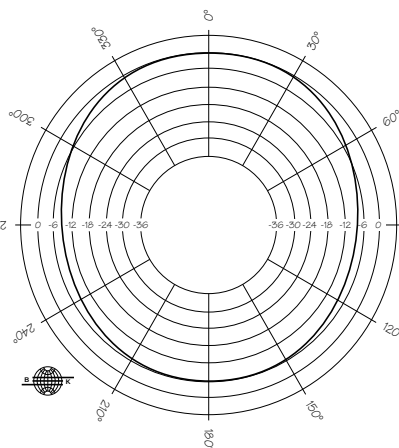
7.5.1.1 Octave Band 125 Hz



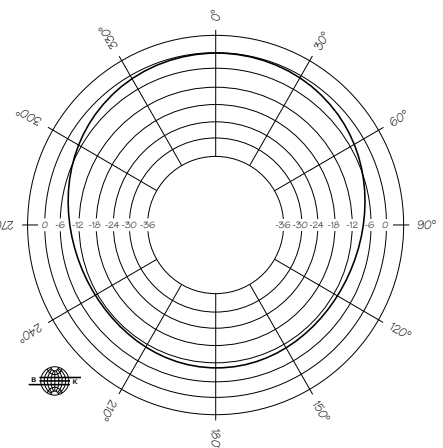
MH692 Horizontal Polar Data
Octave Band 125 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 100 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 125 Hz



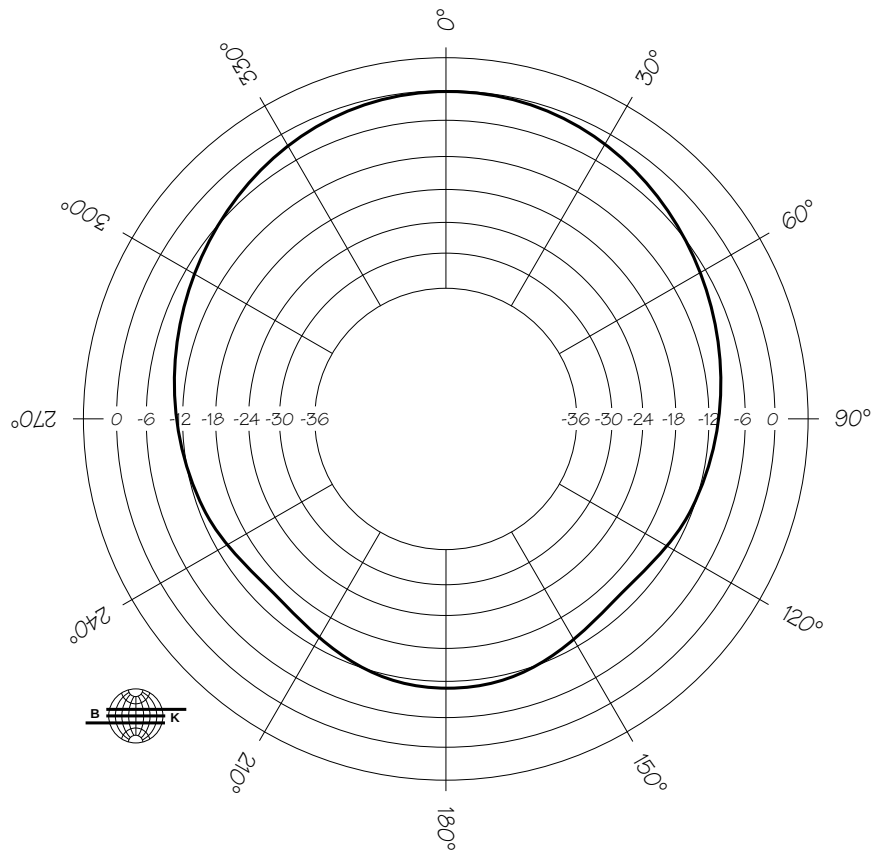
MH692 Horizontal Polar Data
1/3 Octave Band 160 Hz



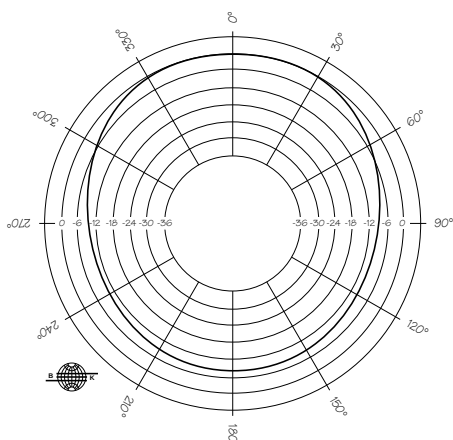
7.5 MH692iE POLAR RESPONSE

7.5.1 Horizontal Polar Data

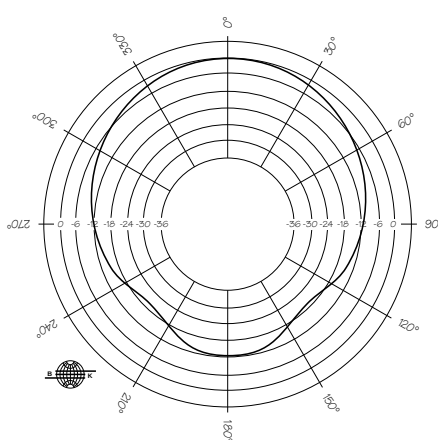
7.5.1.2 Octave Band 250 Hz



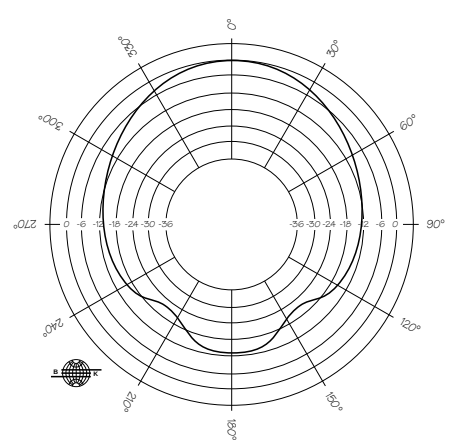
MH692 Horizontal Polar Data
Octave Band 250 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 200 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 250 Hz



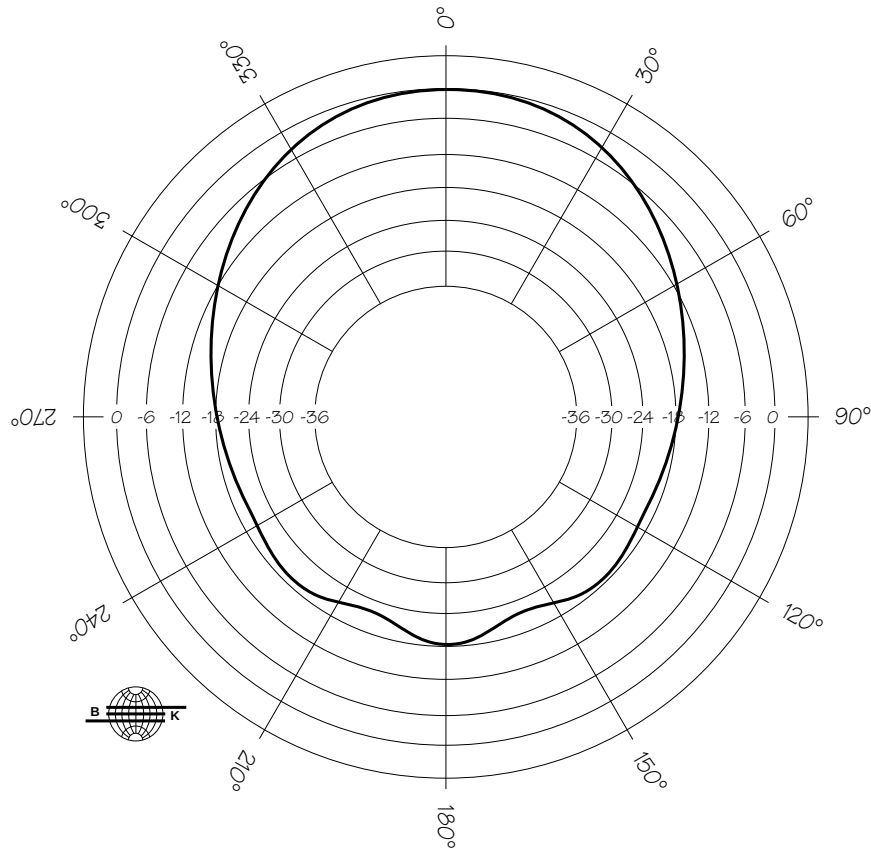
MH692 Horizontal Polar Data
1/3 Octave Band 315 Hz



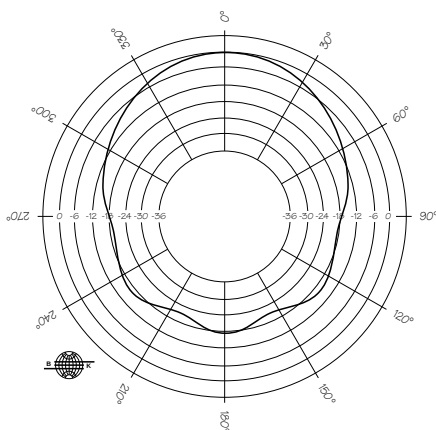
7.5 MH692iE POLAR RESPONSE

7.5.1 Horizontal Polar Data

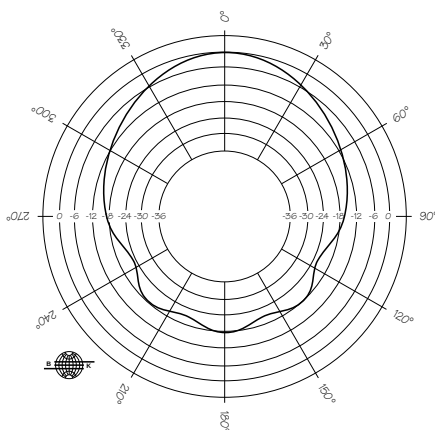
7.5.1.3 Octave Band 500 Hz



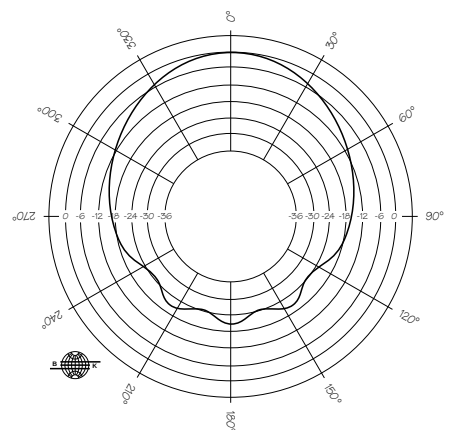
MH692 Horizontal Polar Data
Octave Band 500 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 400 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 500 Hz

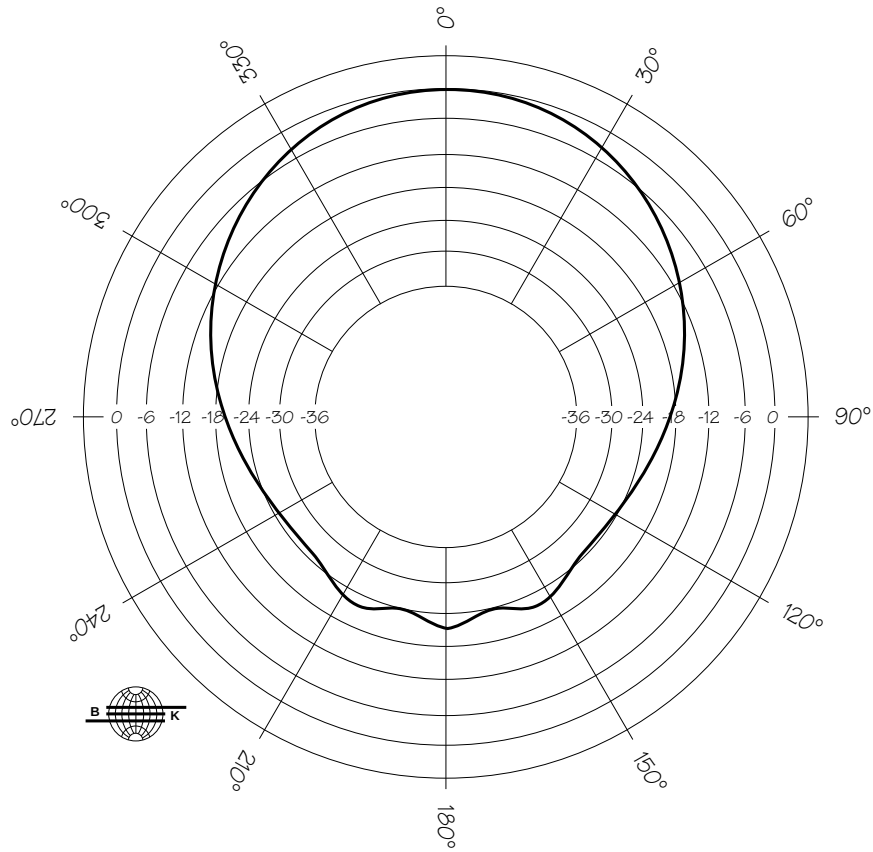


MH692 Horizontal Polar Data
1/3 Octave Band 630 Hz

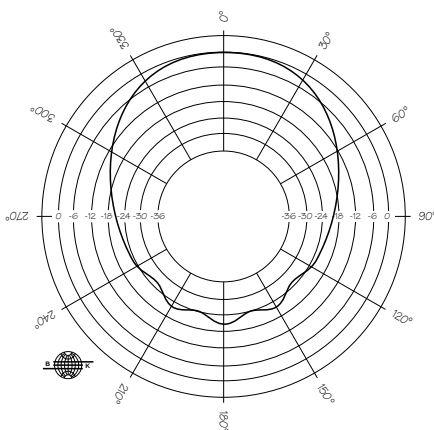


7.5 MH692iE POLAR RESPONSE

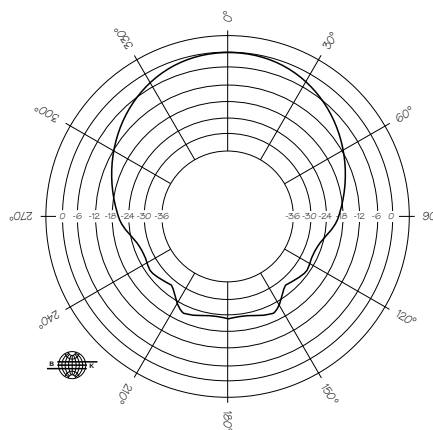
7.5.1 Horizontal Polar Data
7.5.1.4 Octave Band 1,000 Hz



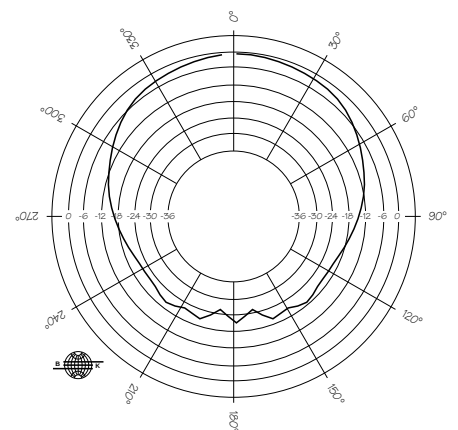
MH692 Horizontal Polar Data
Octave Band 1000 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 800 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 1000 Hz

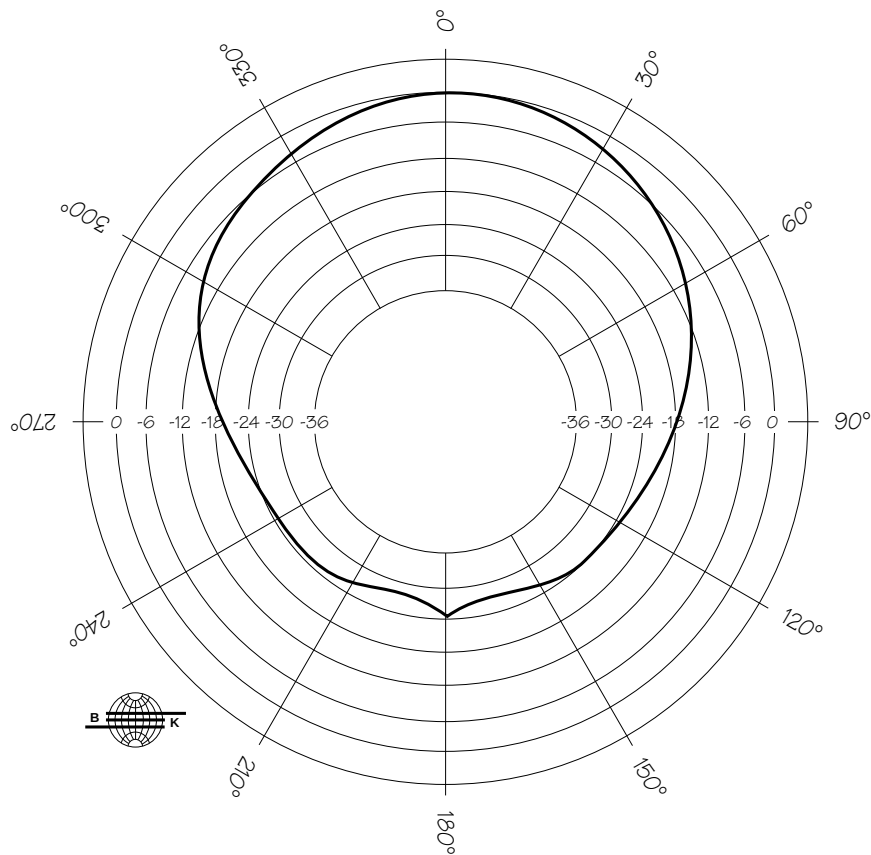


MH692 Horizontal Polar Data
1/3 Octave Band 1250 Hz

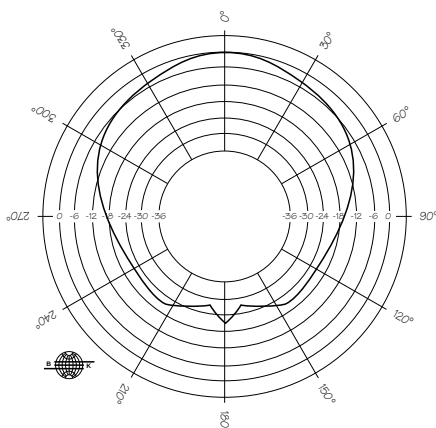


7.5 MH692iE POLAR RESPONSE

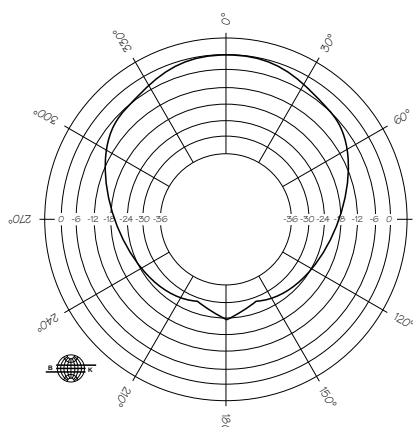
7.5.1 Horizontal Polar Data
7.5.1.5 Octave Band 2,000 Hz



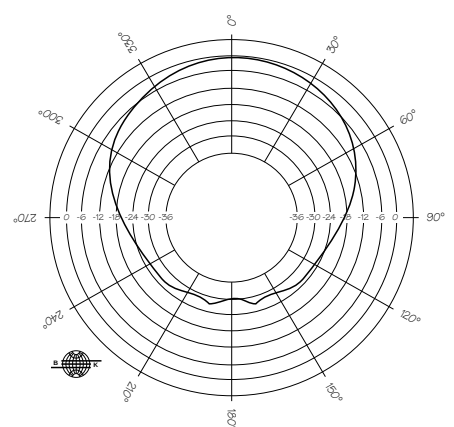
MH692 Horizontal Polar Data
Octave Band 2000



MH692 Horizontal Polar Data
1/3 Octave Band 1600 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 2000 Hz

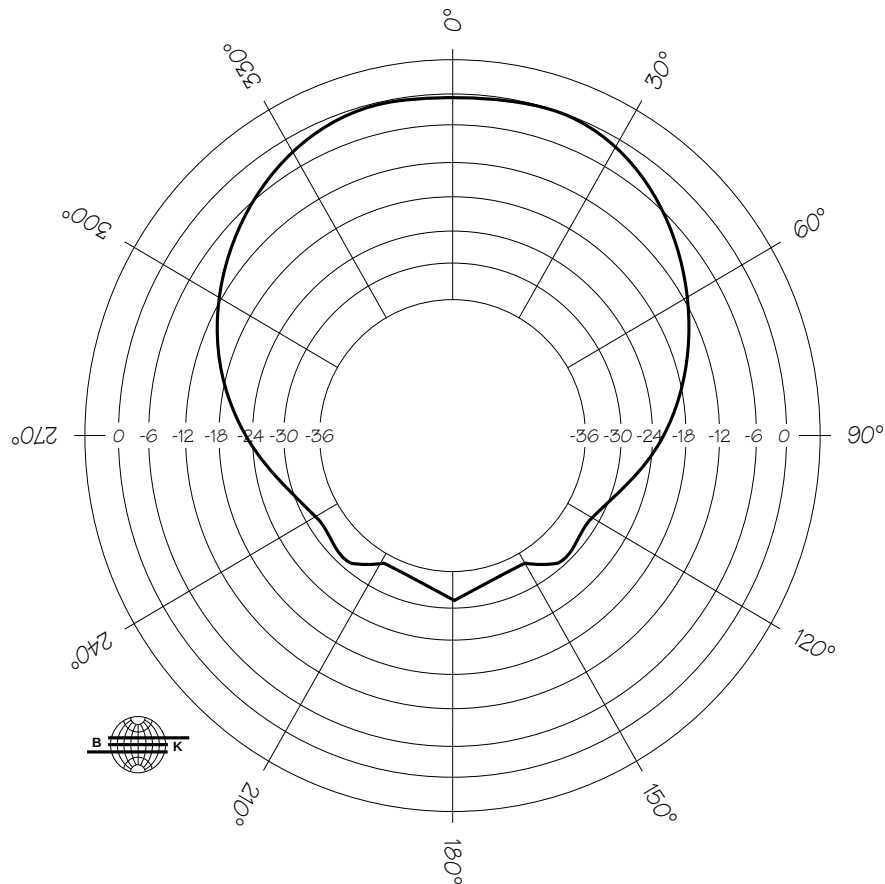


MH692 Horizontal Polar Data
1/3 Octave Band 2500 Hz

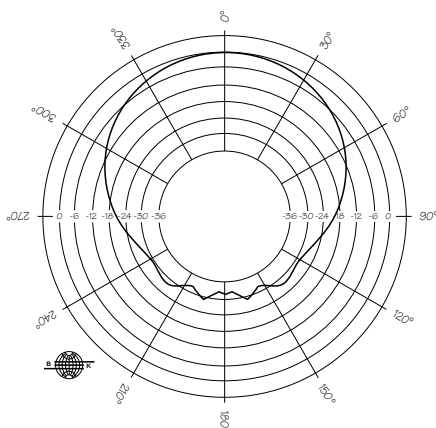


7.5 MH692iE POLAR RESPONSE

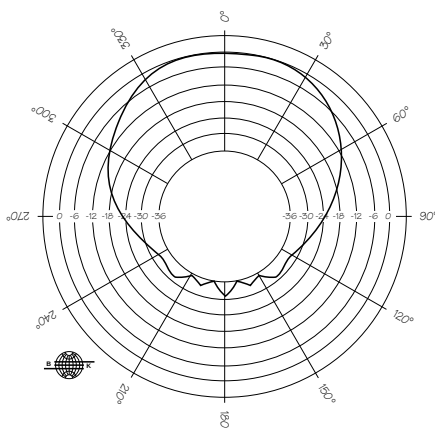
7.5.1 Horizontal Polar Data
7.5.1.6 Octave Band 4,000 Hz



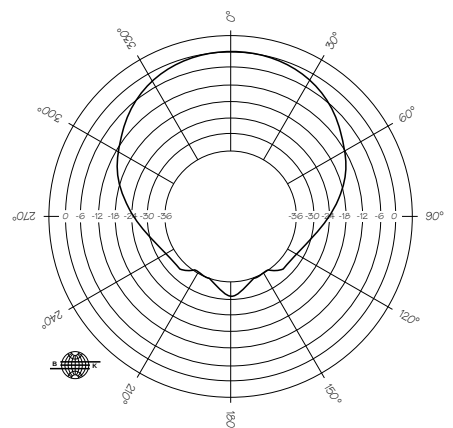
MH692 Horizontal Polar Data
Octave Band 4000 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 3150 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 4000 Hz

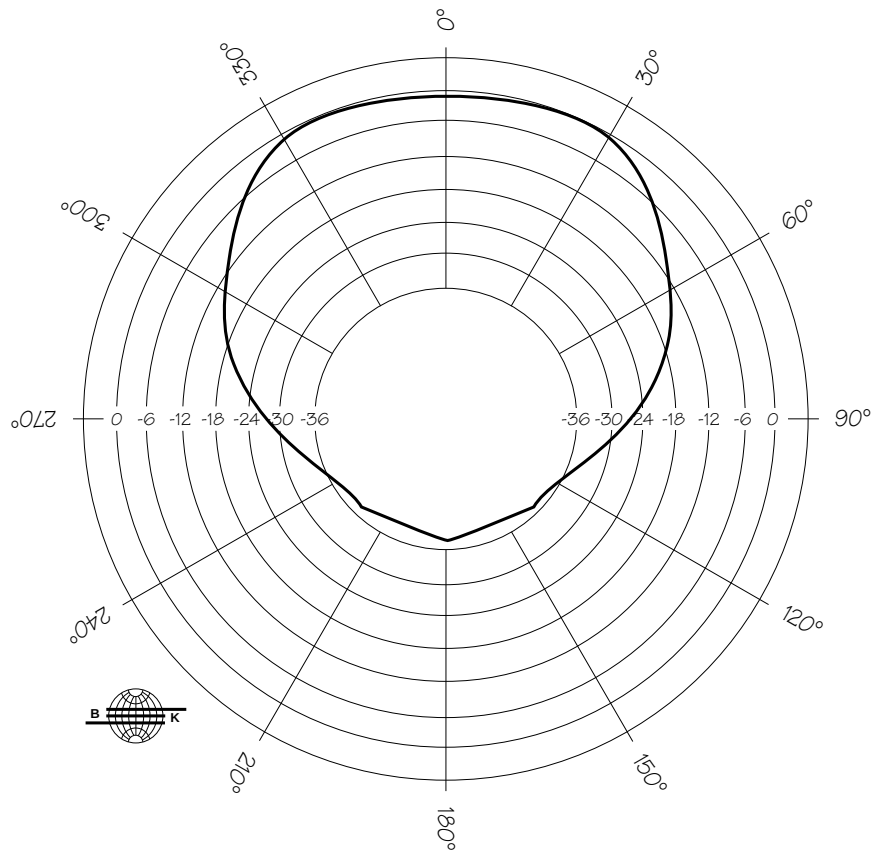


MH692 Horizontal Polar Data
1/3 Octave Band 5000 Hz

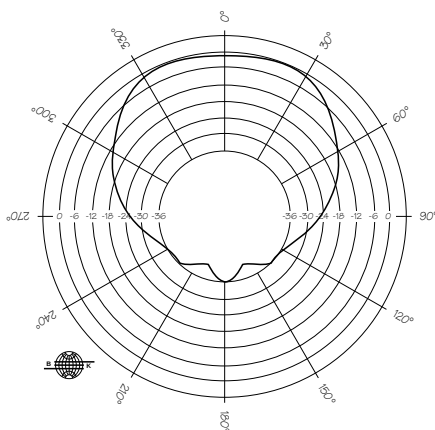


7.5 MH692iE POLAR RESPONSE

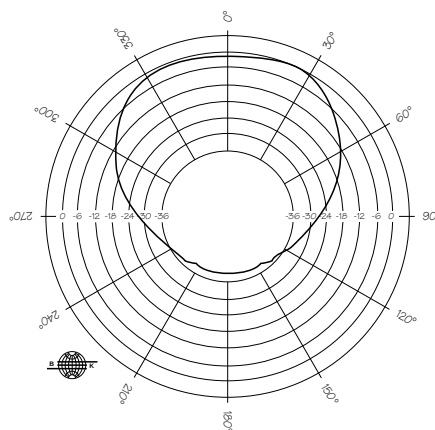
7.5.1 Horizontal Polar Data
7.5.1.7 Octave Band 8,000 Hz



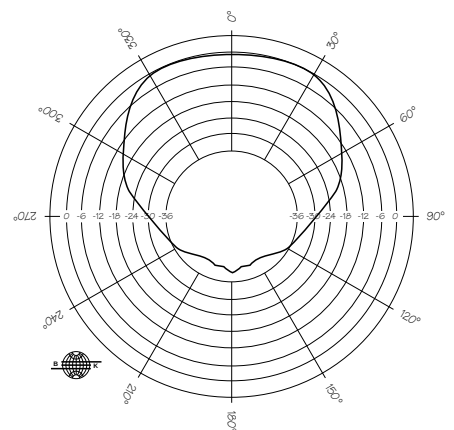
MH692 Horizontal Polar Data
Octave Band 8000 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 6300 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 8000 Hz



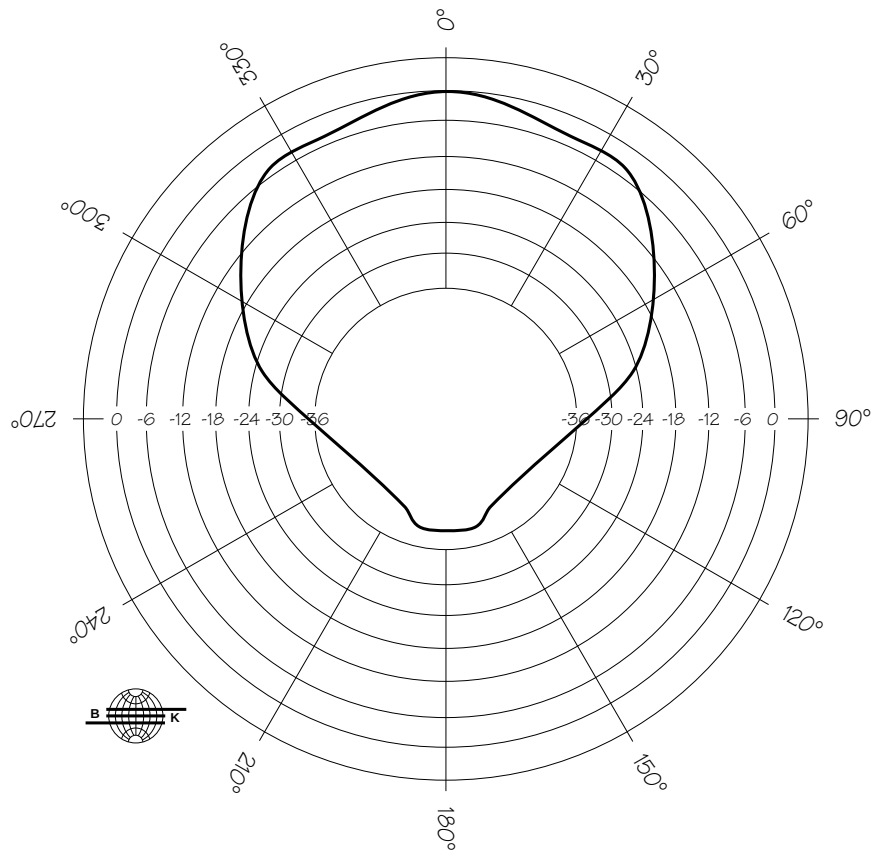
MH692 Horizontal Polar Data
1/3 Octave Band 10000 Hz



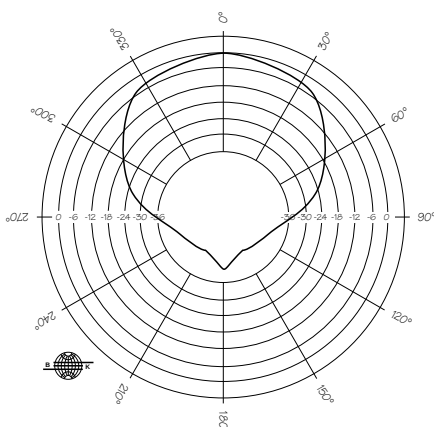
7.5 MH692iE POLAR RESPONSE

7.5.1 Horizontal Polar Data

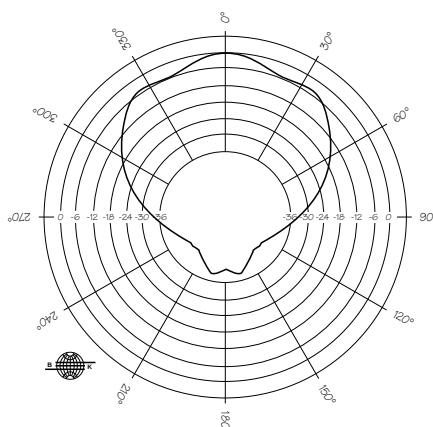
7.5.1.8 Octave Band 16,000 Hz



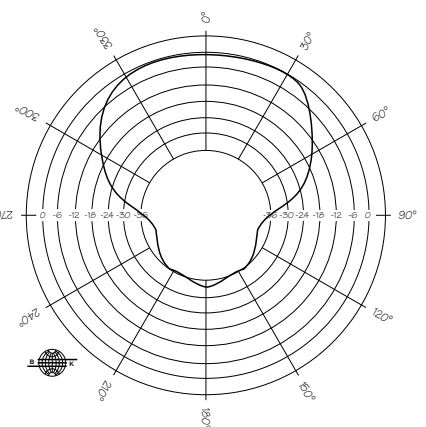
MH692 Horizontal Polar Data
Octave Band 16000 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 12500 Hz



MH692 Horizontal Polar Data
1/3 Octave Band 16000 Hz



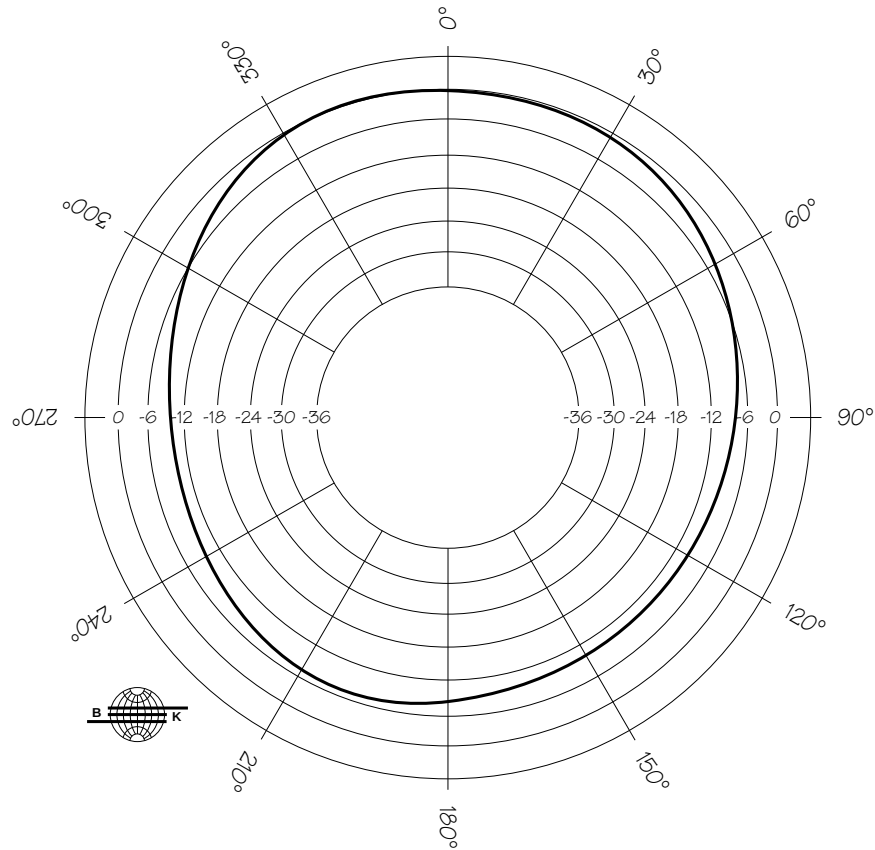
MH692 Horizontal Polar Data
1/3 Octave Band 20000 Hz



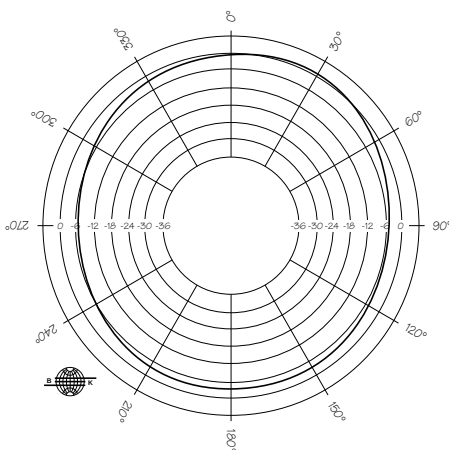
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

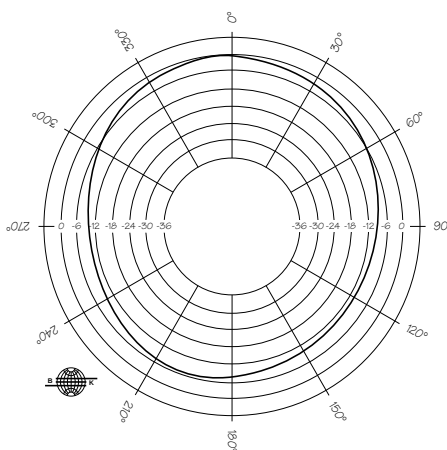
7.5.2.1 Octave Band 125 Hz



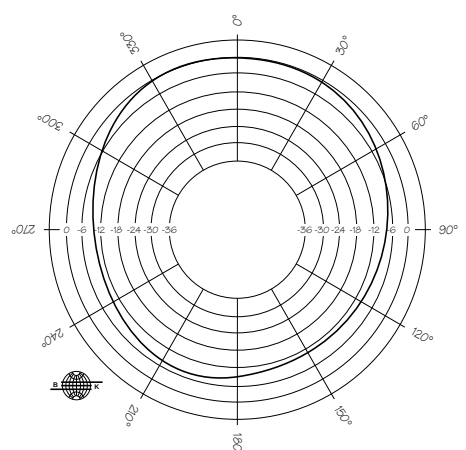
MH692 Vertical Polar Data
Octave Band 125 Hz



MH692 Vertical Polar Data
1/3 Octave Band 100 Hz



MH692 Vertical Polar Data
1/3 Octave Band 125 Hz



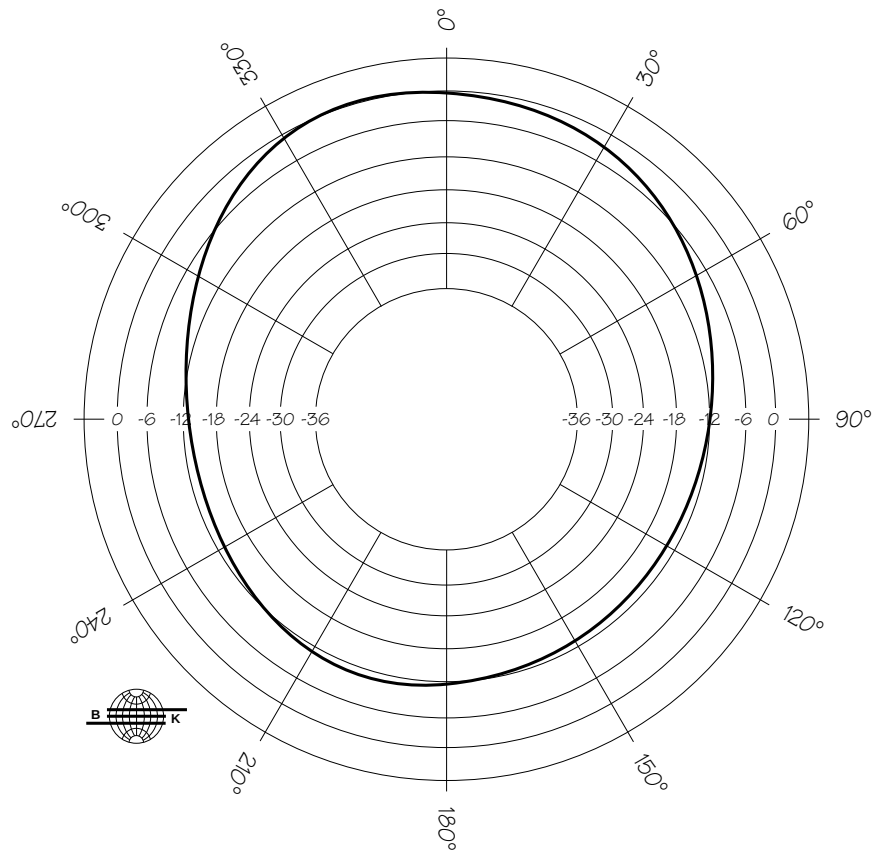
MH692 Vertical Polar Data
1/3 Octave Band 160 Hz



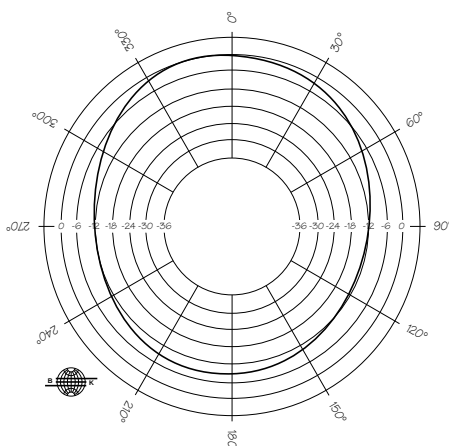
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

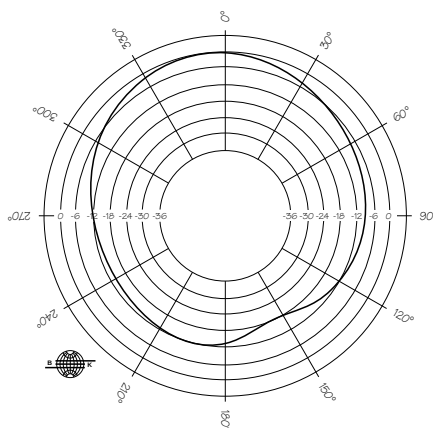
7.5.2.2 Octave Band 250 Hz



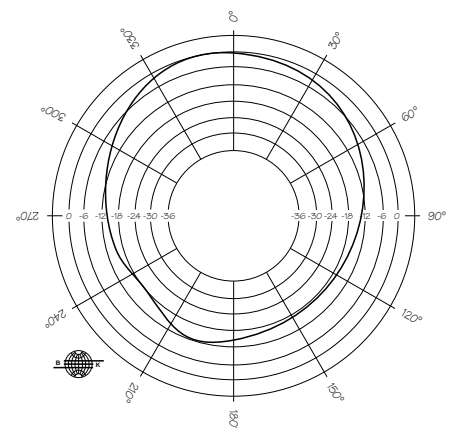
MH692 Vertical Polar Data
Octave Band 250 Hz



MH692 Vertical Polar Data
1/3 Octave Band 200 Hz



MH692 Vertical Polar Data
1/3 Octave Band 250 Hz



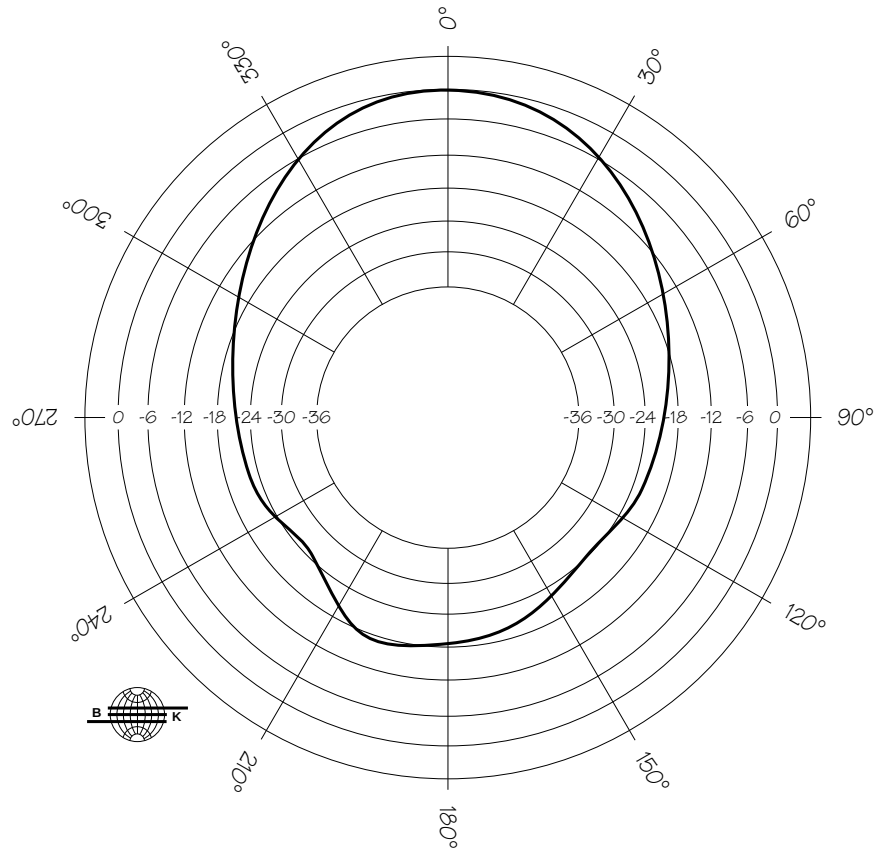
MH692 Vertical Polar Data
1/3 Octave Band 315 Hz



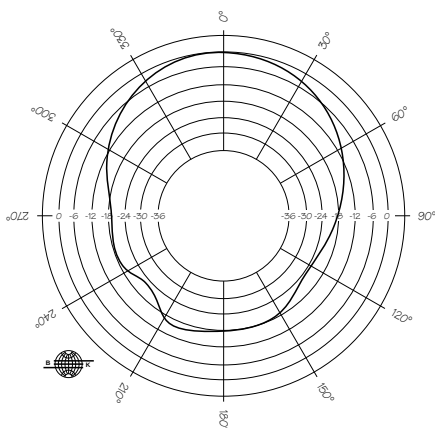
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

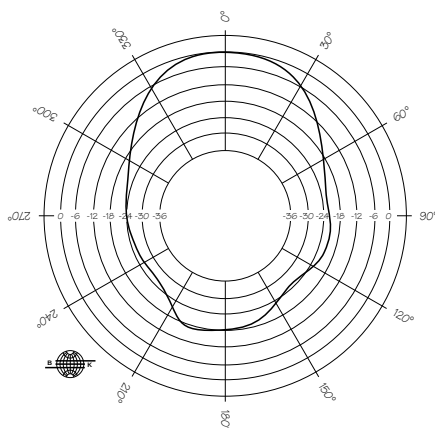
7.5.2.3 Octave Band 500 Hz



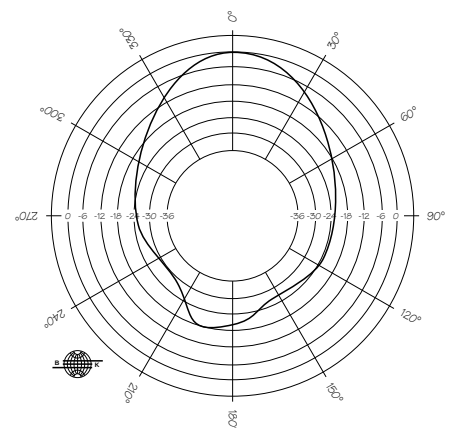
MH692 Vertical Polar Data
Octave Band 500 Hz



MH692 Vertical Polar Data
1/3 Octave Band 400 Hz



MH692 Vertical Polar Data
1/3 Octave Band 500 Hz



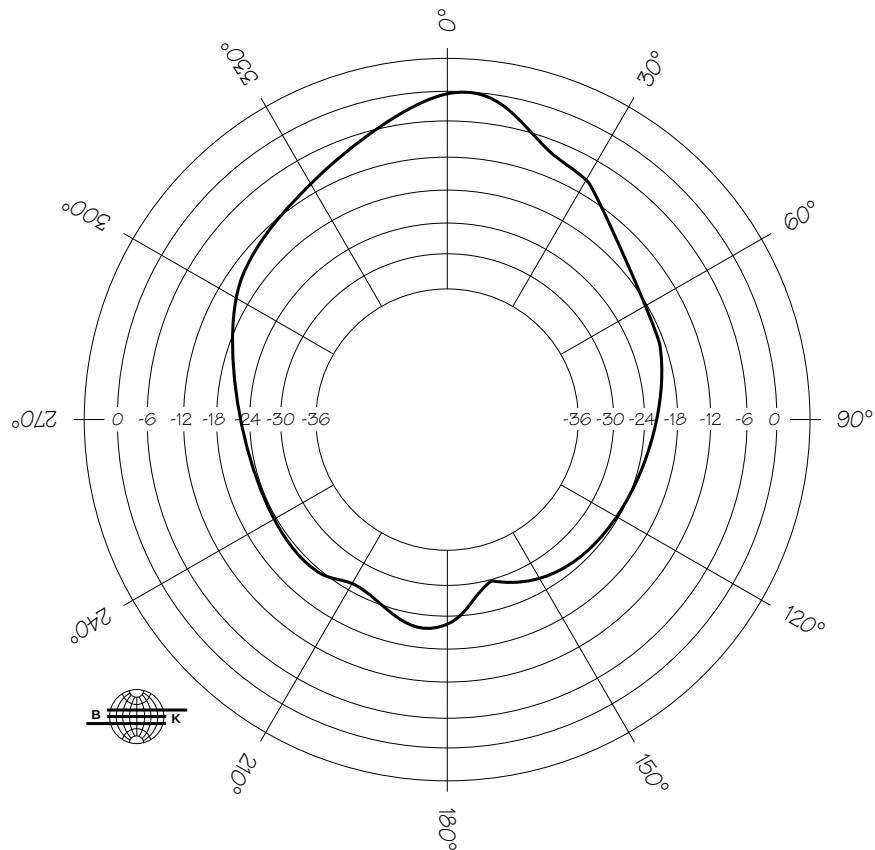
MH692 Vertical Polar Data
1/3 Octave Band 630 Hz



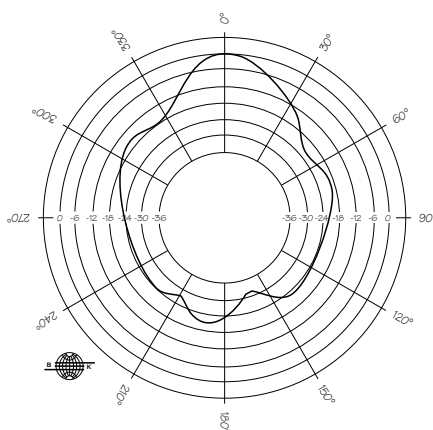
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

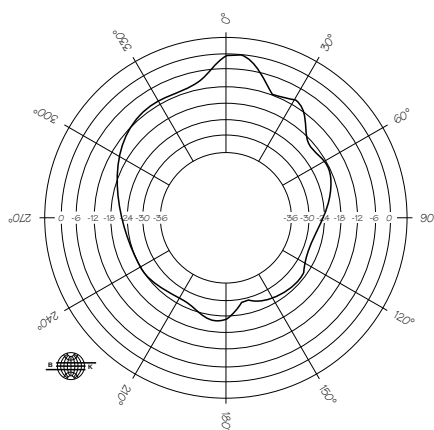
7.5.2.4 Octave Band 1,000 Hz



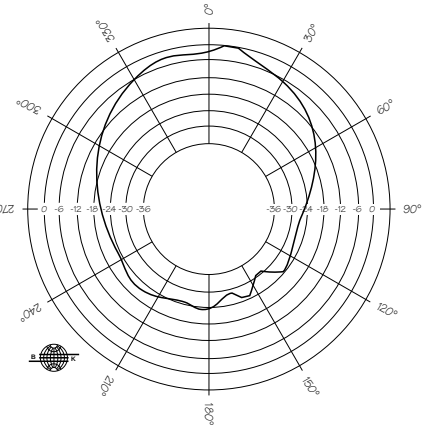
MH692 Vertical Polar Data
Octave Band 1000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 800 Hz



MH692 Vertical Polar Data
1/3 Octave Band 1000 Hz



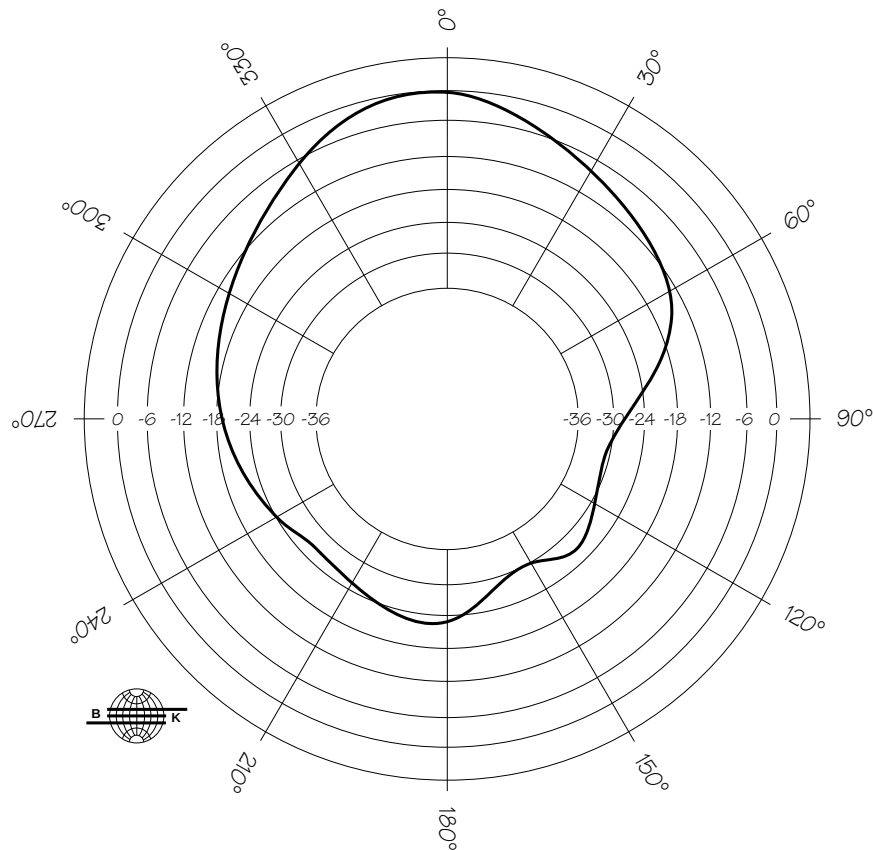
MH692 Vertical Polar Data
1/3 Octave Band 1250 Hz



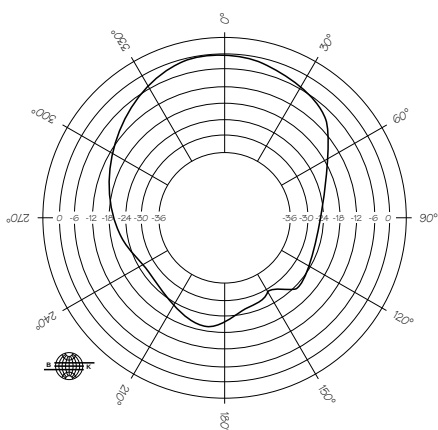
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

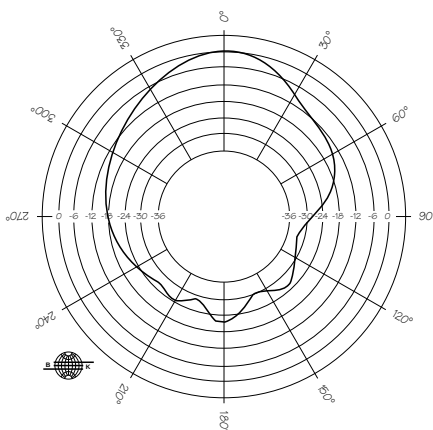
7.5.2.5 Octave Band 2,000 Hz



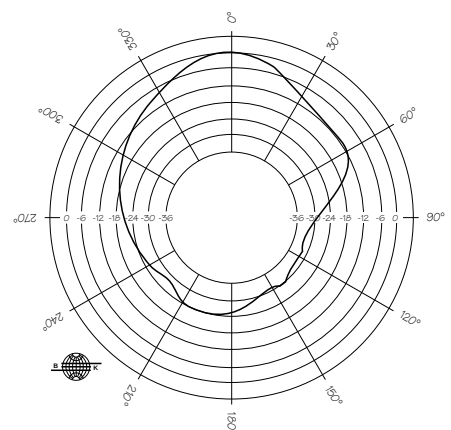
MH692 Vertical Polar Data
Octave Band 2000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 1600 Hz



MH692 Vertical Polar Data
1/3 Octave Band 2000 Hz



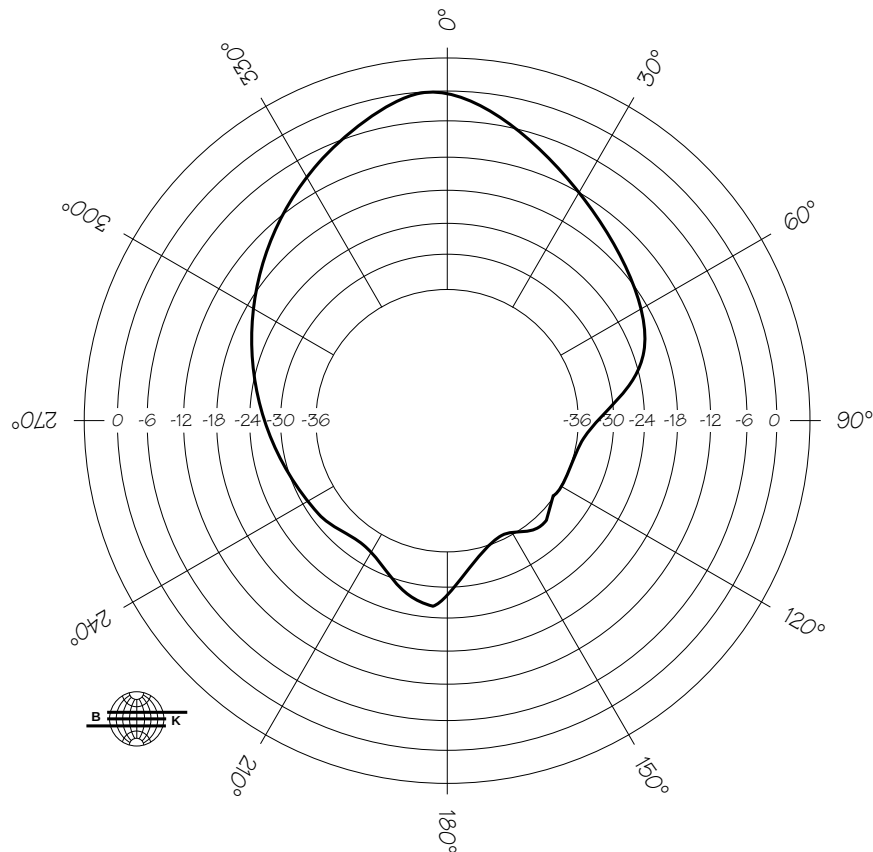
MH692 Vertical Polar Data
1/3 Octave Band 2500 Hz



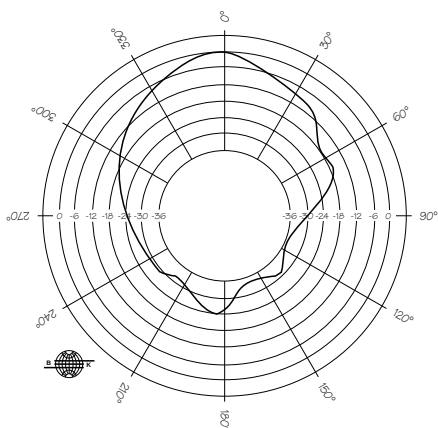
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

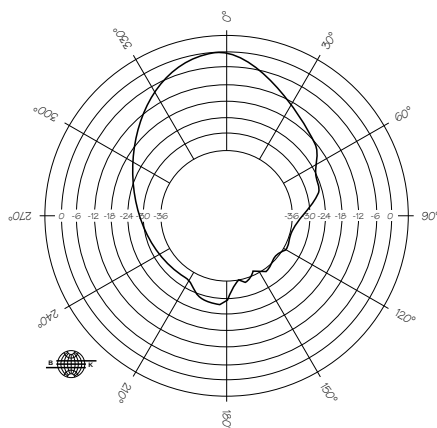
7.5.2.6 Octave Band 4,000 Hz



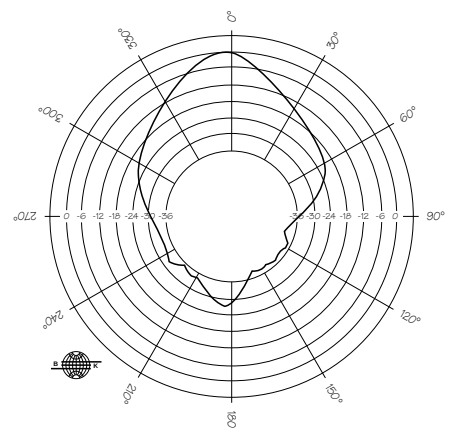
MH692 Vertical Polar Data
Octave Band 4000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 3150 Hz



MH692 Vertical Polar Data
1/3 Octave Band 4000 Hz



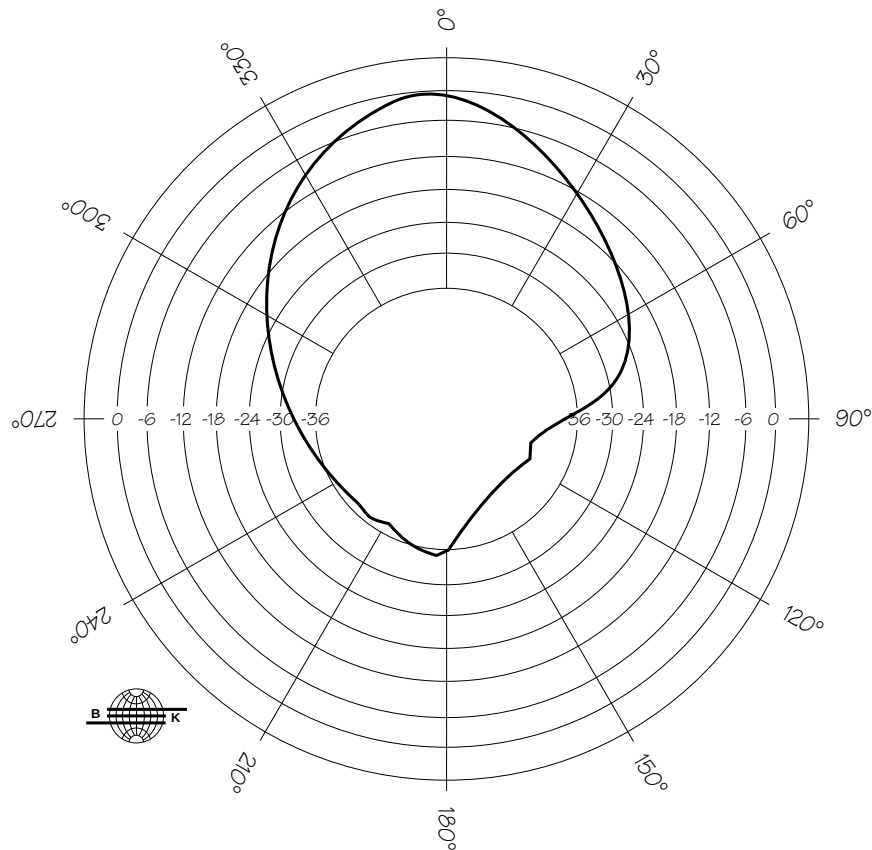
MH692 Vertical Polar Data
1/3 Octave Band 5000 Hz



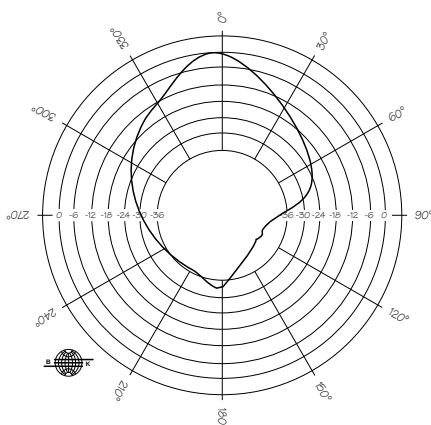
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

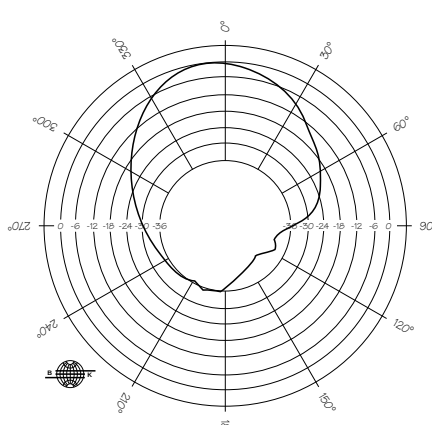
7.5.2.7 Octave Band 8,000 Hz



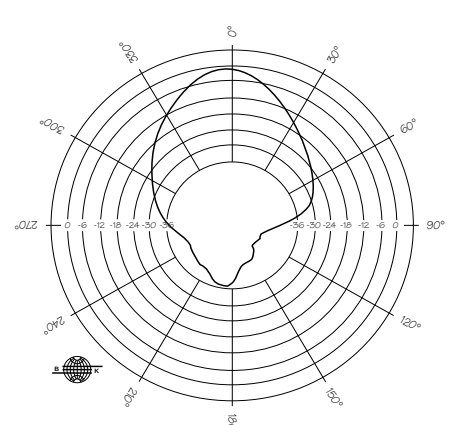
MH692 Vertical Polar Data
Octave Band 8000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 6300 Hz



MH692 Vertical Polar Data
1/3 Octave Band 8000 Hz



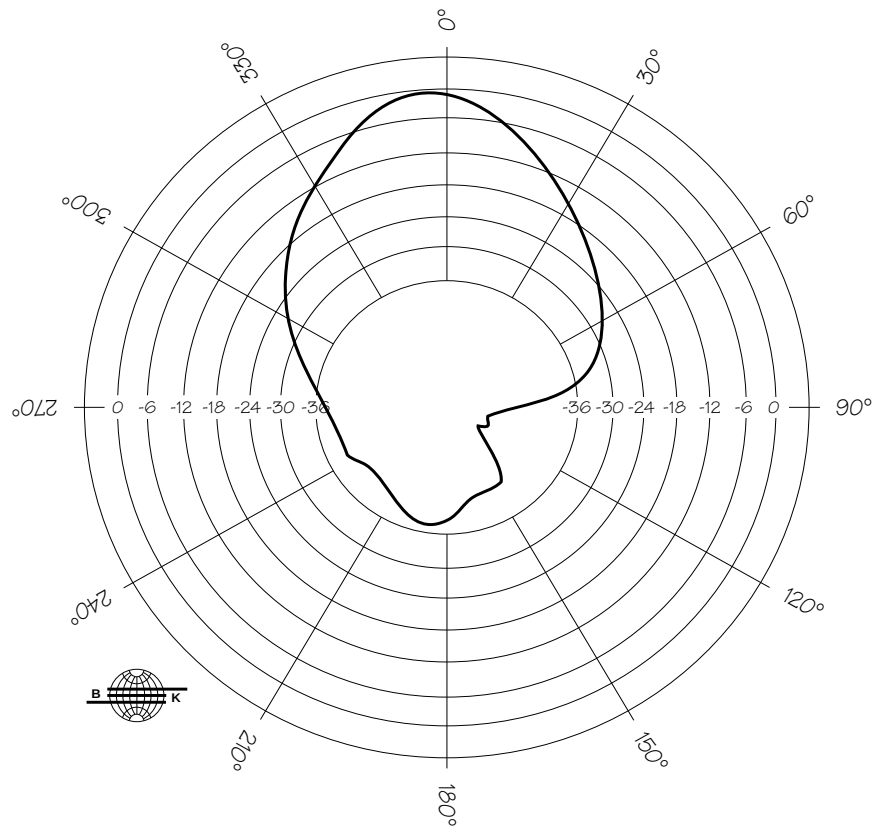
MH692 Vertical Polar Data
1/3 Octave Band 10000 Hz



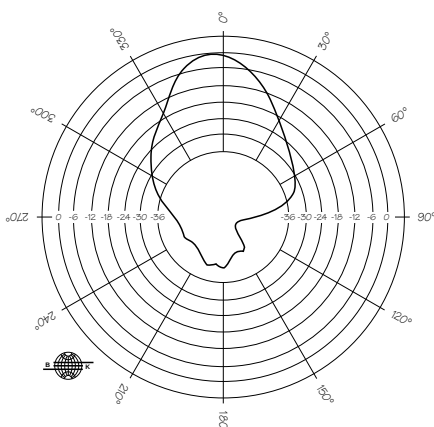
7.5 MH692iE POLAR RESPONSE

7.5.2 Vertical Polar Data

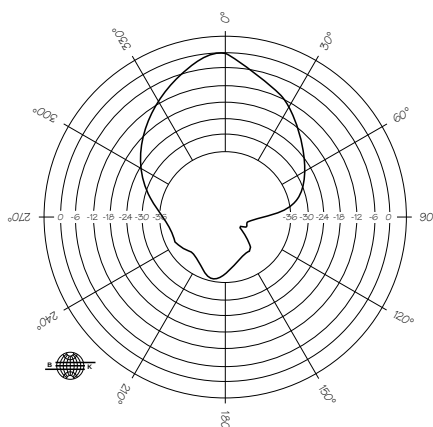
7.5.2.8 Octave Band 16,000 Hz



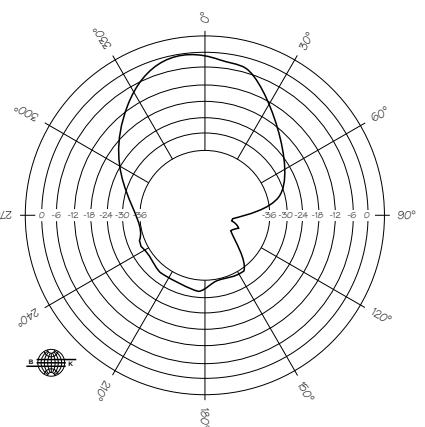
MH692 Vertical Polar Data
Octave Band 16000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 12500 Hz



MH692 Vertical Polar Data
1/3 Octave Band 16000 Hz



MH692 Vertical Polar Data
1/3 Octave Band 20000 Hz



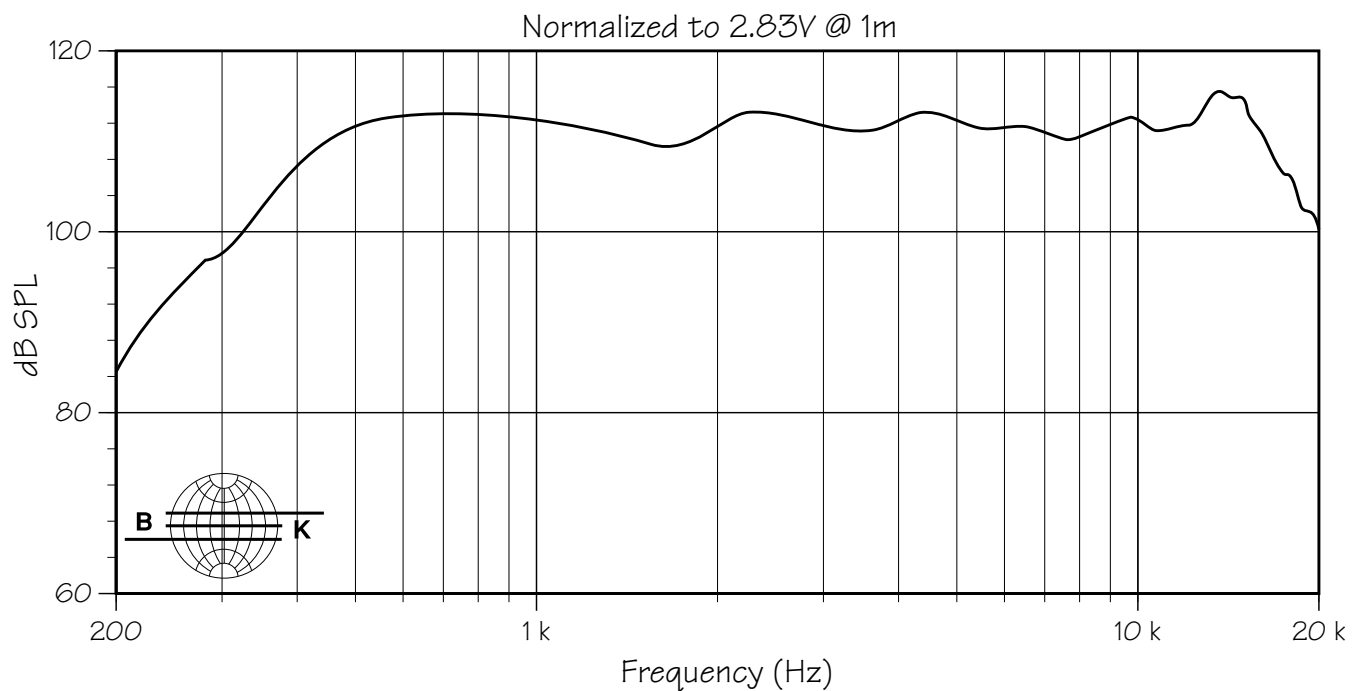
7.6

MH692iE PERFORMANCE DATA

7.6.1

Axial Frequency Response

MH692iE through MX300i-692EBH with (Sub ADJ)
Axial Frequency Response





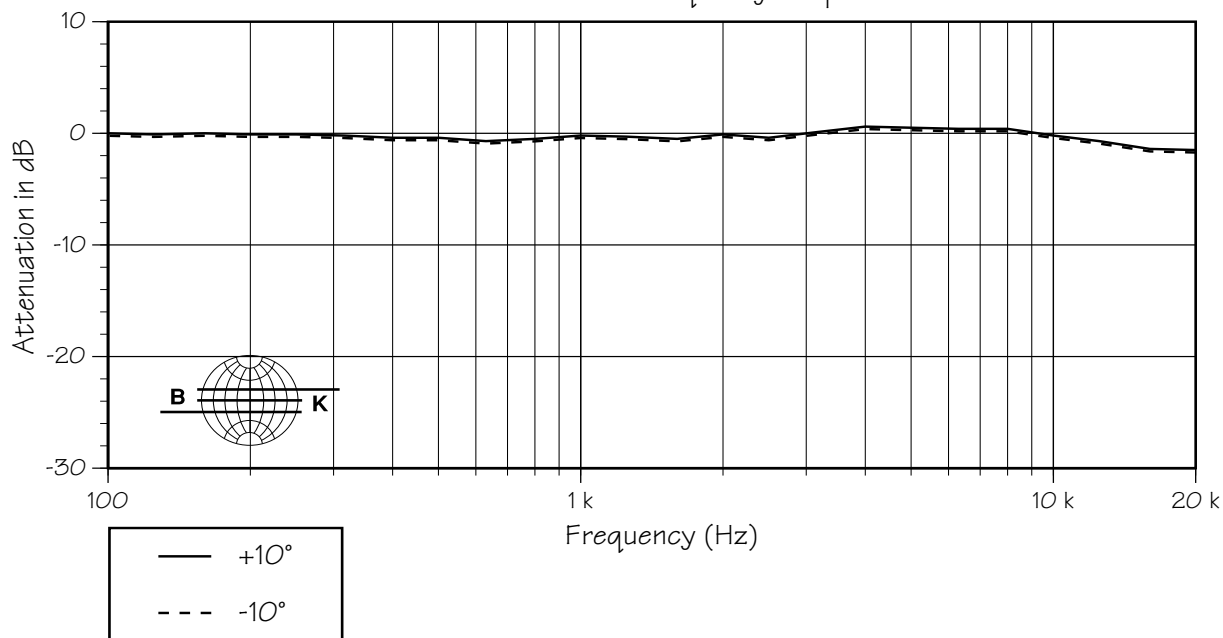
7.6 MH692iE PERFORMANCE DATA

7.6.2 Off Axis Frequency Response

7.6.2.1 Horizontal (Normalized To Axial Response)

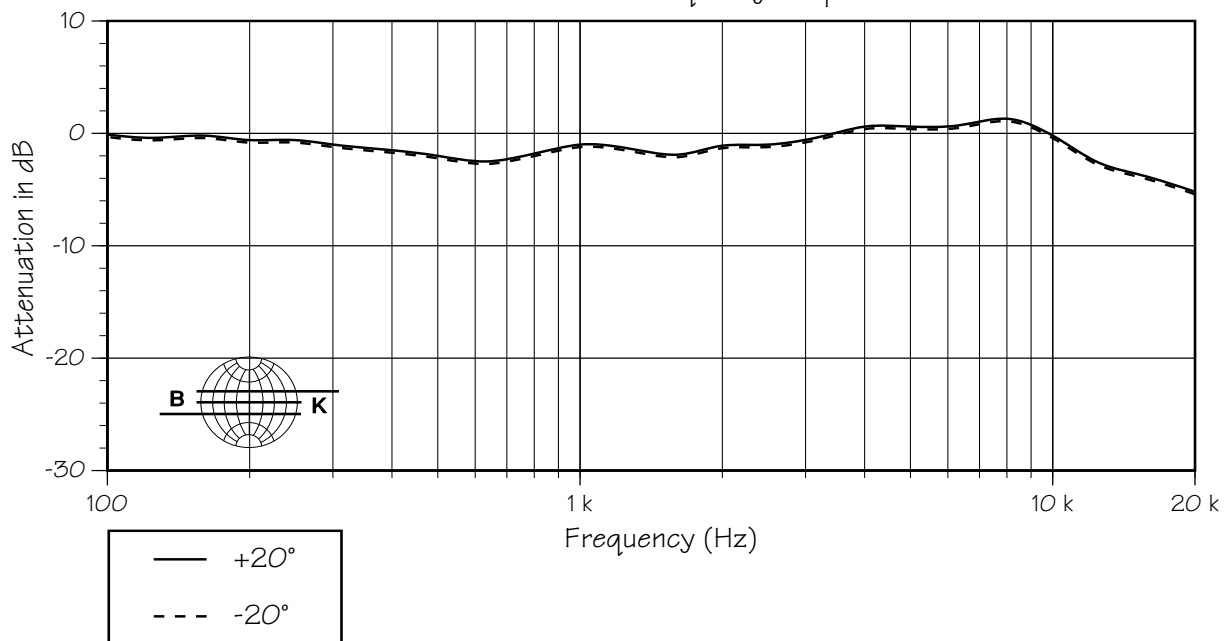
MH692E w/MX300i-692EBH

Horizontal Off-Axis Frequency Response



MH692E w/MX300i-692EBH

Horizontal Off-Axis Frequency Response





7.6

MH692iE PERFORMANCE DATA

7.6.2

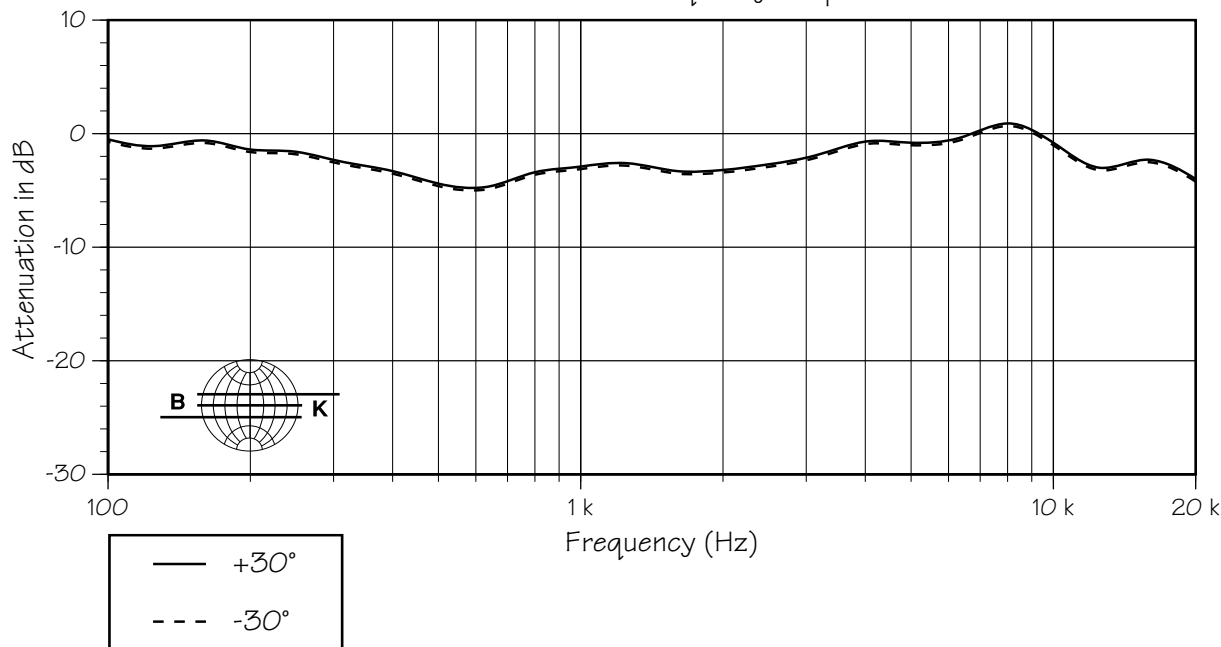
Off Axis Frequency Response

7.6.2.1

Horizontal (Normalized To Axial Response) Continued

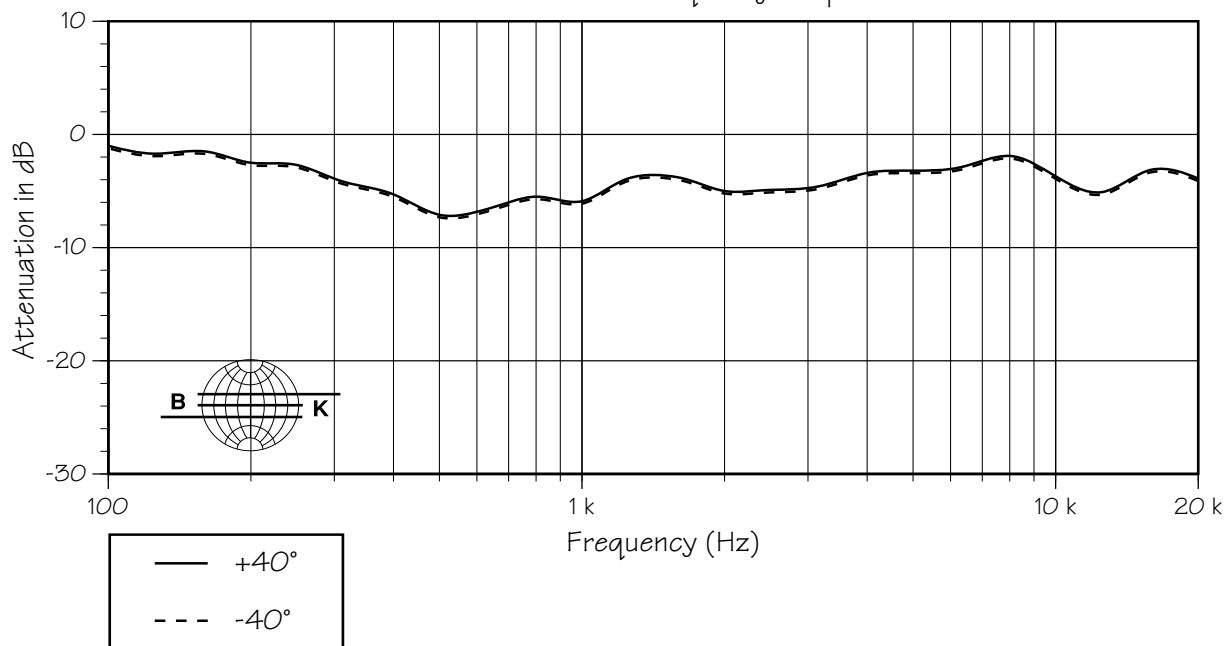
MH692E w/MX300i-692EBH

Horizontal Off-Axis Frequency Response



MH692E w/MX300i-692EBH

Horizontal Off-Axis Frequency Response





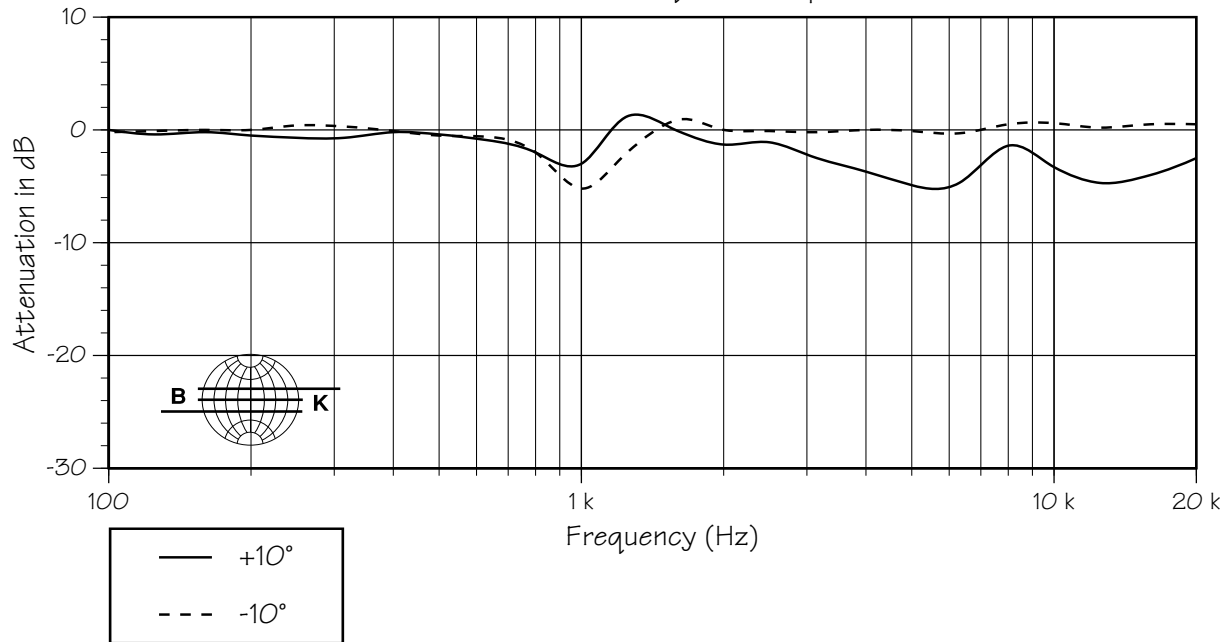
7.6 MH692iE PERFORMANCE DATA

7.6.2 Off Axis Frequency Response

7.6.2.2 Vertical (Normalized To Axial Response)

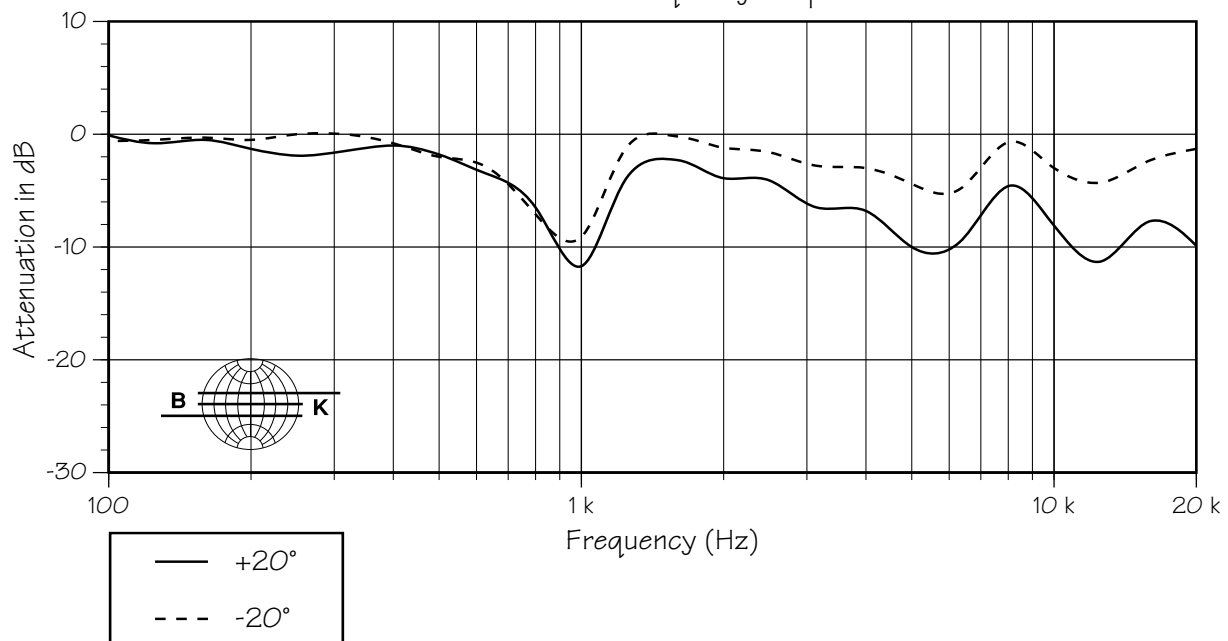
MH692E w/MX300i-692EBH

Vertical Off-Axis Frequency Response



MH692E w/MX300i-692EBH

Vertical Off-Axis Frequency Response





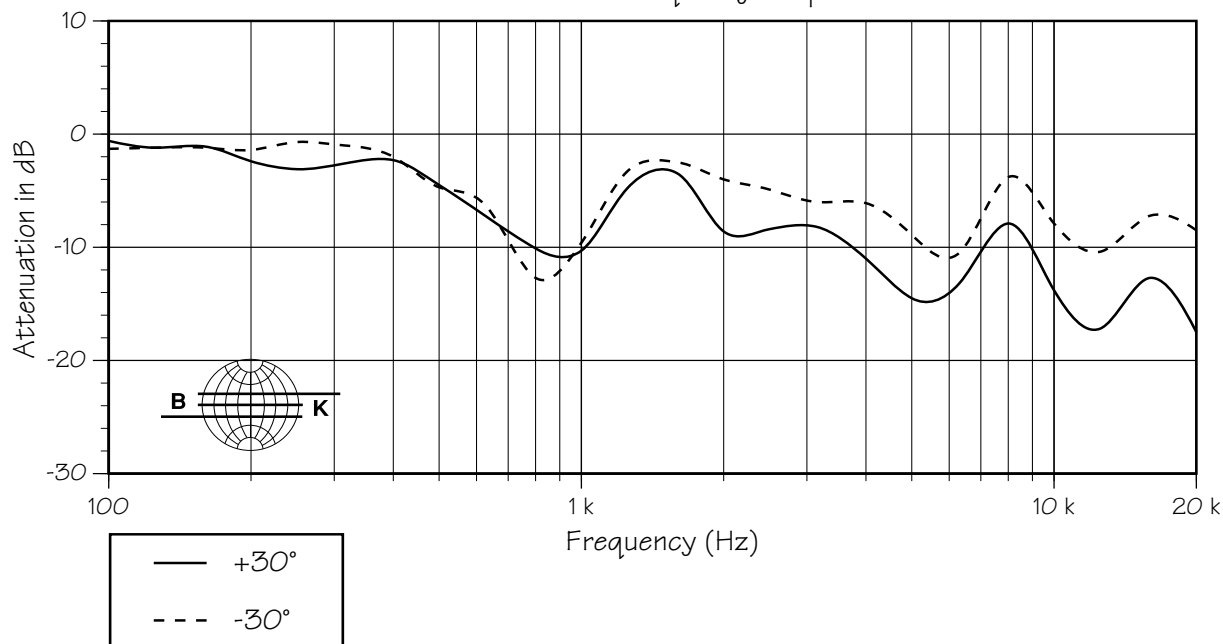
7.6 MH692iE PERFORMANCE DATA

7.6.2 Off Axis Frequency Response

7.6.2.2 Vertical (Normalized To Axial Response) Continued

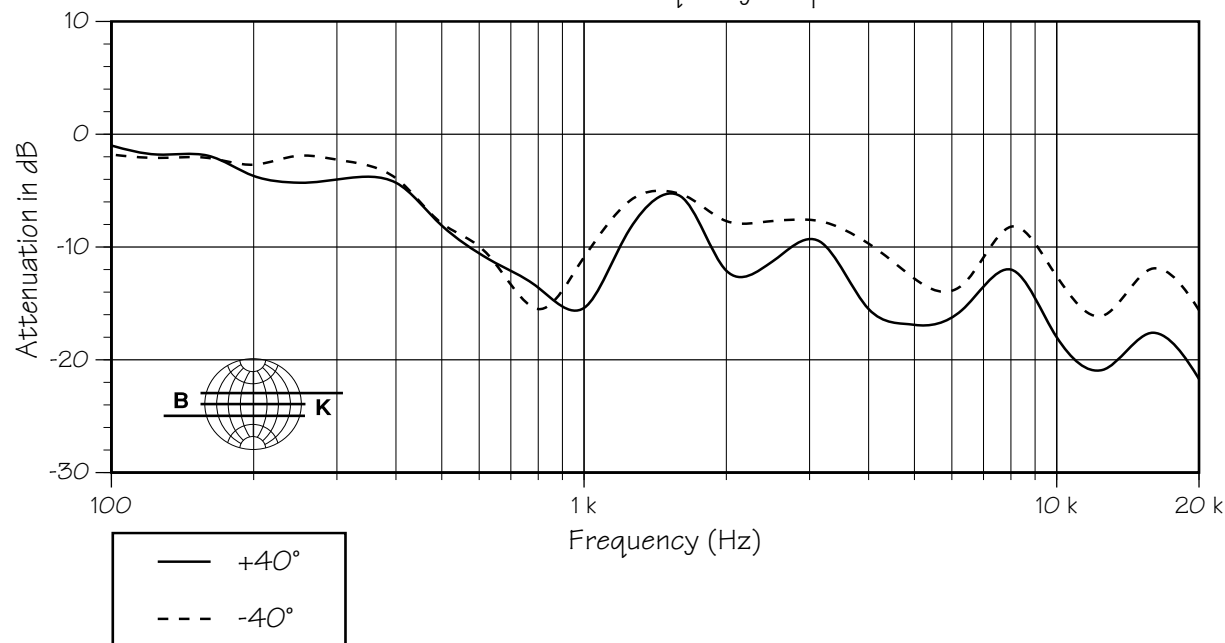
MH692E w/MX300i-692EBH

Vertical Off-Axis Frequency Response



MH692E w/MX300i-692EBH

Vertical Off-Axis Frequency Response





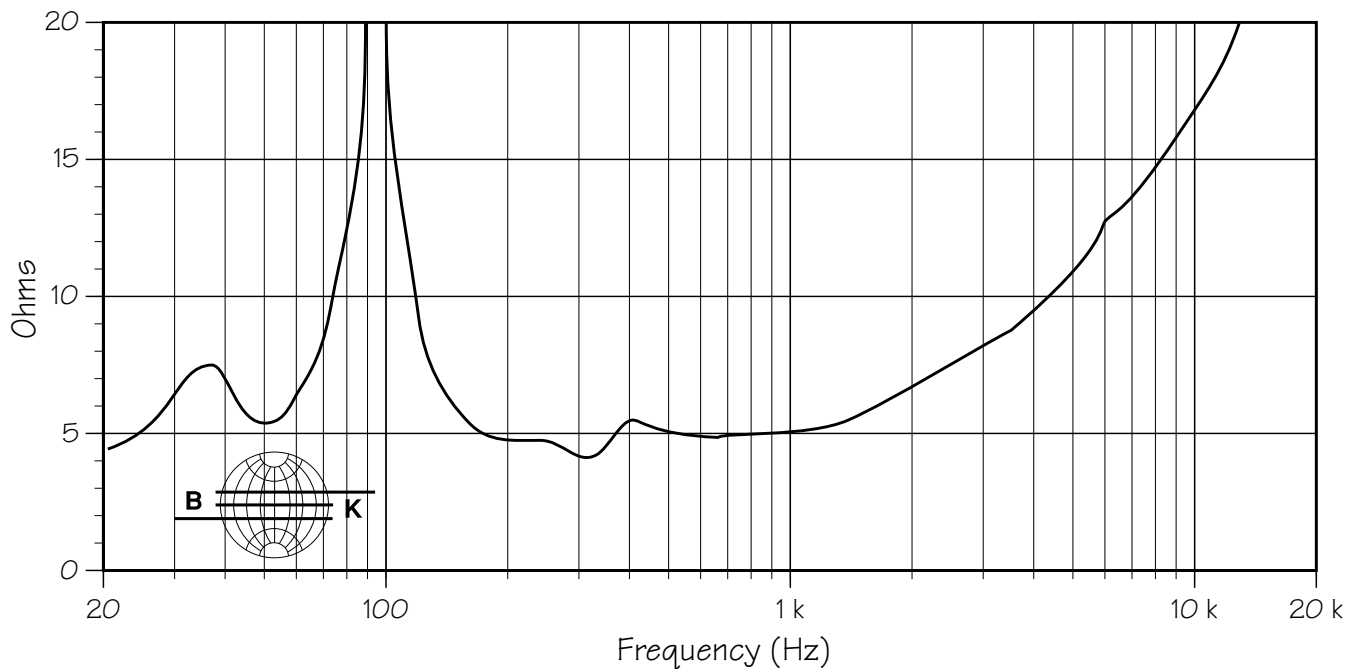
7.6

MH692iE PERFORMANCE DATA

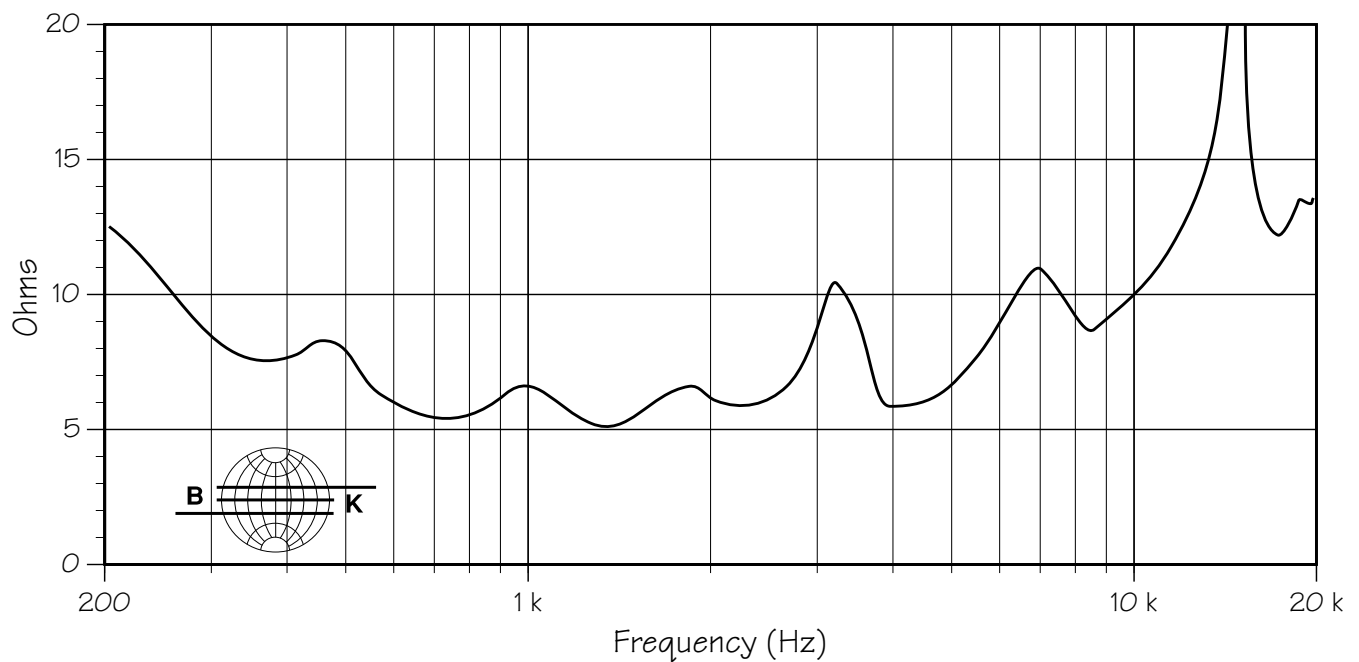
7.6.3

MH692iE Impedance

MH692E MF Input Impedance



MH692E HF Input Impedance



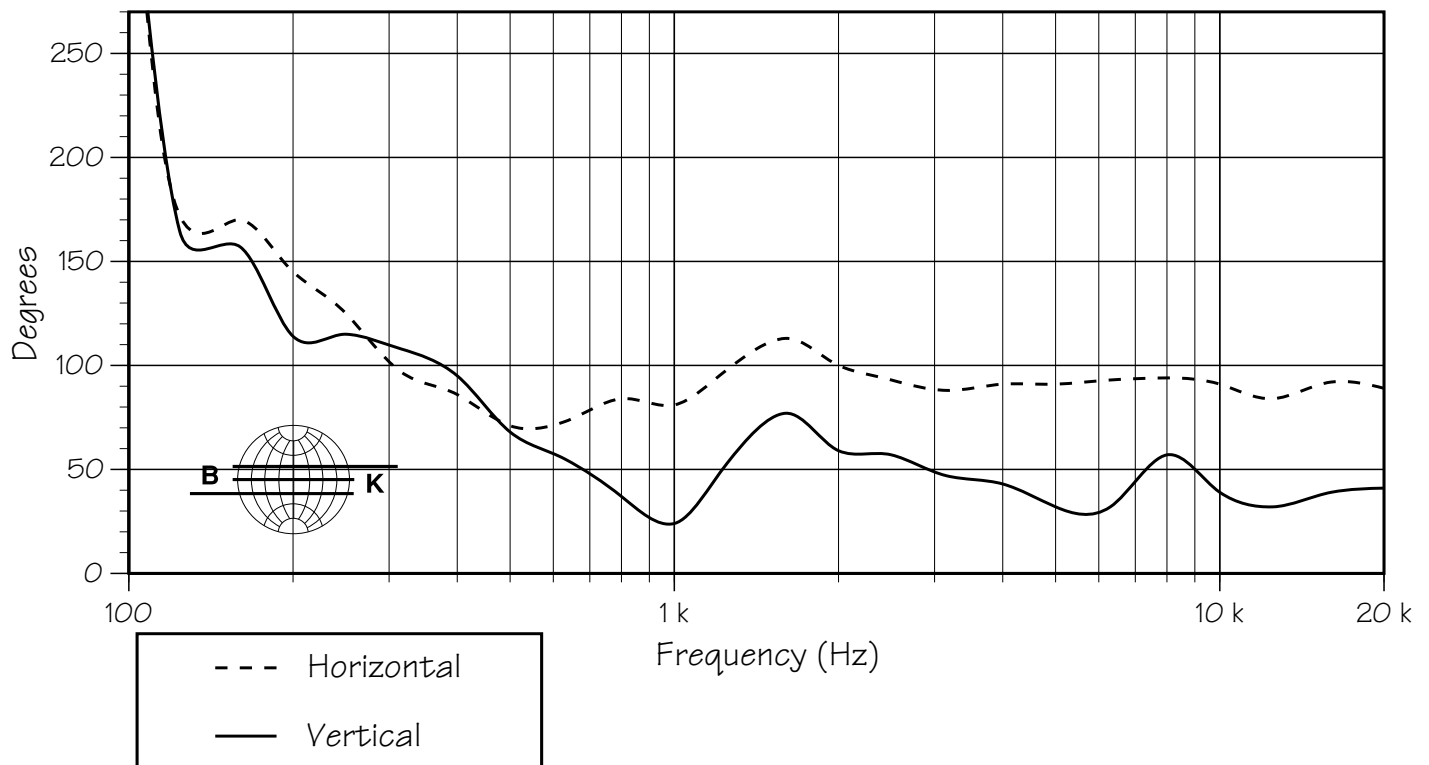


7.6 MH692iE PERFORMANCE DATA

7.6.4 Beamwidth vs Frequency

7.6.4.1 Graphic Data

MH692E w/MX300i-692EBH Beamwidth vs. Frequency





7.6

MH692iE PERFORMANCE DATA

7.6.4 Beamwidth vs Frequency

7.6.4.2 Tabular Data

Frequency	Horizontal	Vertical
100	360	360
125	166	158
160	170	157
200	145	114
250	125	115
315	97	108
400	86	95
500	71	68
630	73	55
800	84	37
1000	81	24
1250	98	53
1600	113	77
2000	100	59
2500	93	57
3150	88	47
4000	91	43
5000	91	32
6300	93	32
8000	94	57
10000	91	39
12500	84	32
16000	92	39
20000	89	41



7.6

MH692iE PERFORMANCE DATA

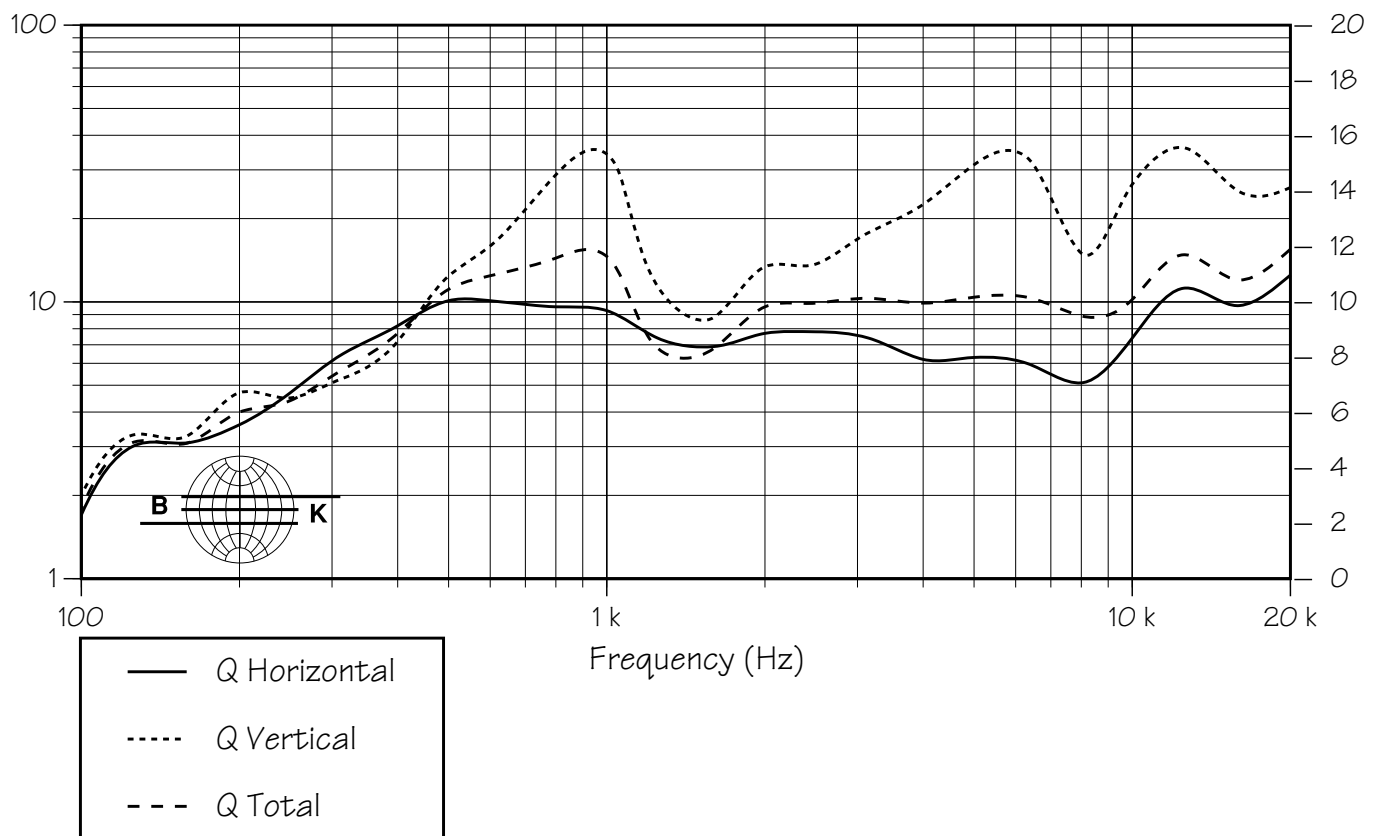
7.6.5

Q & Directivity vs Frequency

7.6.5.1

Graphic Data

MH692E w/MX300i-692EBH Q and Directivity Index



**7.6 MH692iE PERFORMANCE DATA**

7.6.5 Q & Directivity vs Frequency

7.6.7.2 Tabular Data

Frequency:	Horizontal:	Vertical:	Total:
100	1.7	2	1.8
125	3	3.3	3.1
160	3.1	3.3	3.1
200	3.6	4.7	4
250	4.7	4.5	4.4
315	6.5	5.3	5.7
400	8.2	7.2	7.7
500	10.1	12.4	11.1
630	10	17.3	12.7
800	9.6	28.8	14.4
1000	9.3	34.2	14.6
1250	7.4	11.1	6.5
1600	6.9	8.8	6.8
2000	7.7	13.4	9.6
2500	7.8	13.7	9.9
3150	7.4	17.8	10.3
4000	6.2	22.5	9.9
5000	6.3	31.3	10.4
6300	6	33.3	10.4
8000	5.1	15	8.9
10000	7.4	26.6	10.2
12500	11.2	36.1	14.8
16000	9.7	25	12
20000	12.5	25.9	15.5



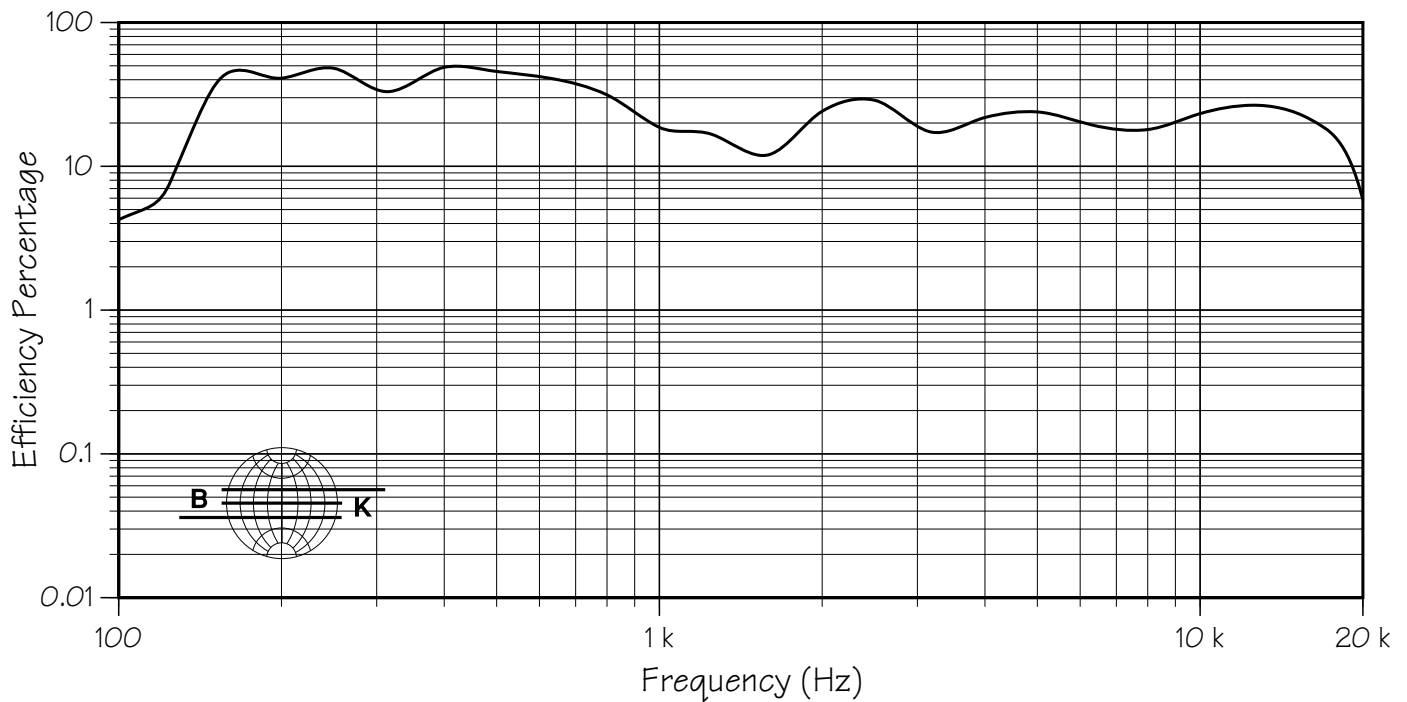
7.6

MH692iE PERFORMANCE DATA

7.6.6

Efficiency vs Frequency

MH692E w/MX300i-692EBH Percent Efficiency





7.6

MH692iE PERFORMANCE DATA

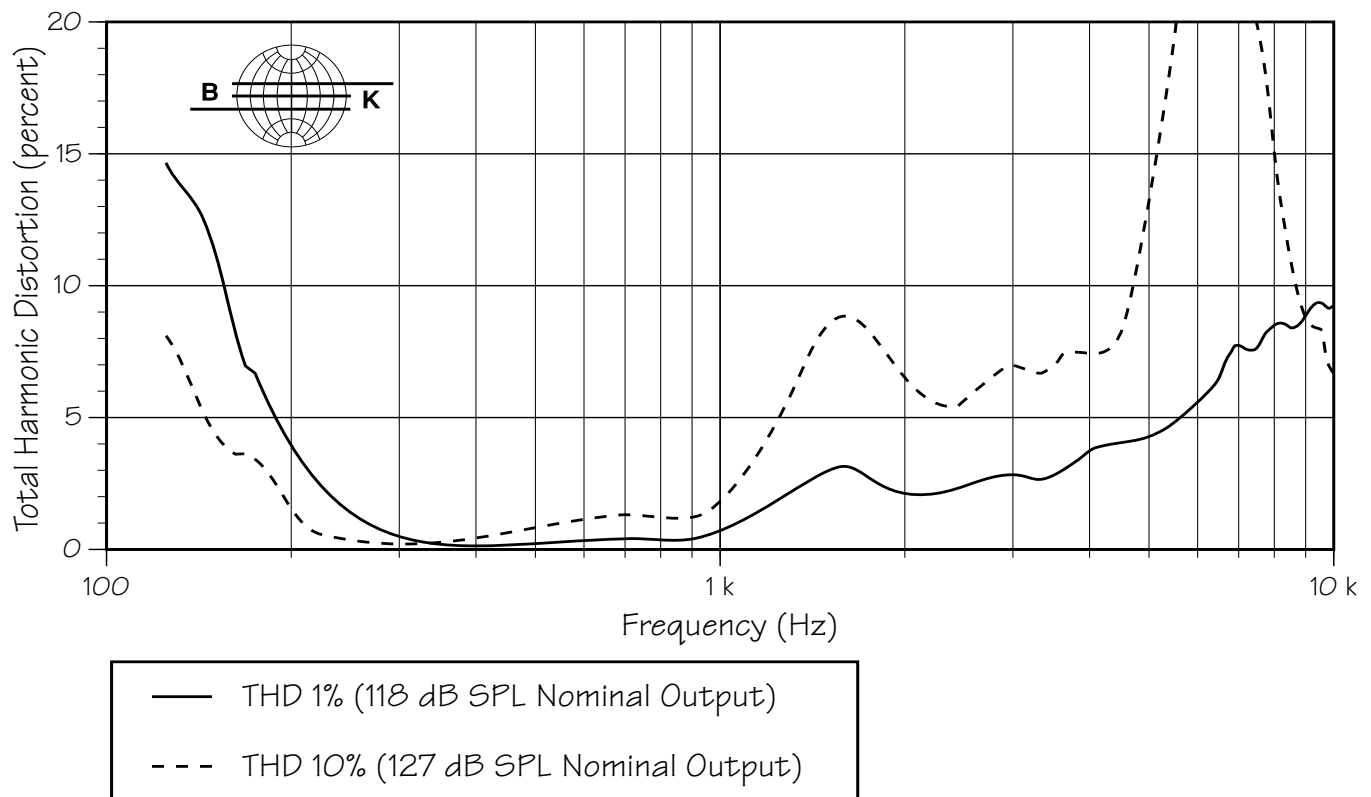
7.6.7

Distortion Measurements

7.6.7.1

Total Harmonic Distortion Data

MH692E Total Harmonic Distortion



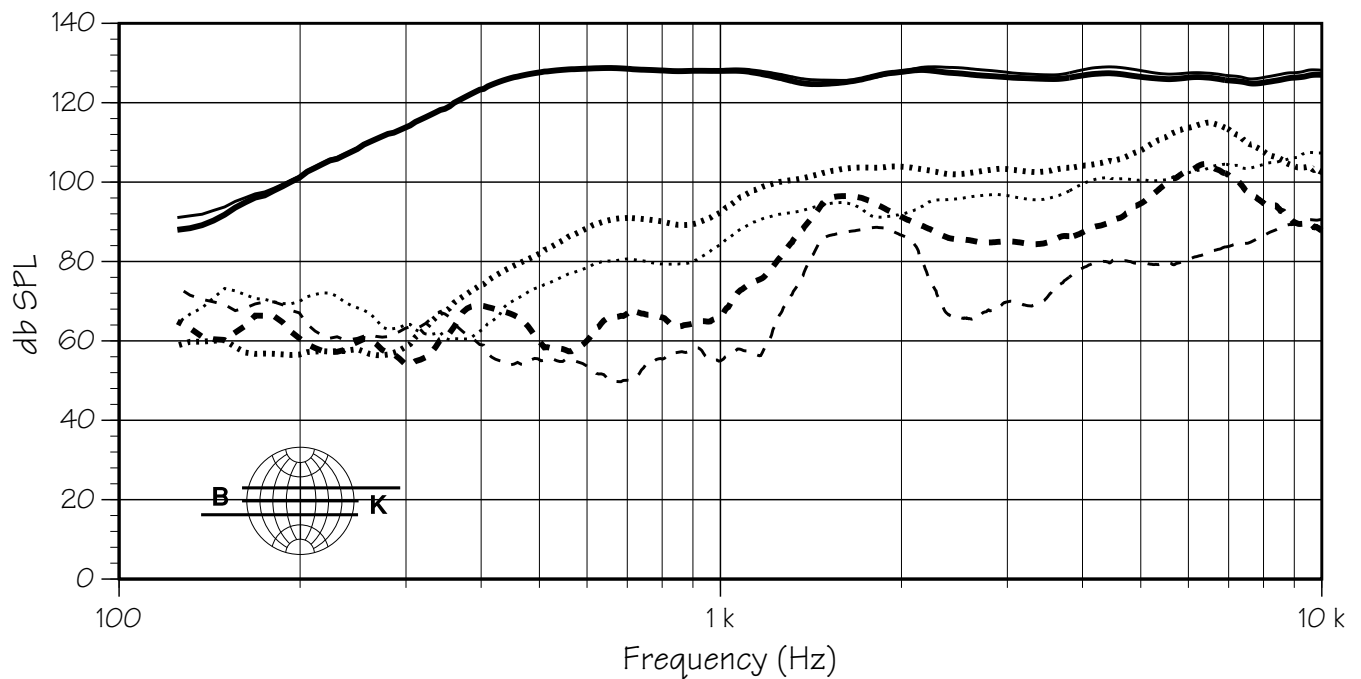


7.6 MH692iE PERFORMANCE DATA

7.6.7 Distortion Measurements

7.6.7.2 Harmonic Distortion Data

MH692E Harmonic Distortion



..... 2nd Harmonic (1%)	 2nd Harmonic (10%)
- - - 3rd Harmonic (1%)	- - - 3rd Harmonic (10%)
— Fundamental (1%)	— Fundamental (10%)

1% distortion curves raised 10 dB for comparison.



7.7 CCEP™ CROSSOVER DATA & POWERING OPTIONS

7.7.1 MX300i-692EBH CCEP™

7.7.1.1 Configuration Data

Part #: 392EBHA Notes: CD5001/.15ms Delay on MF and HF Main System: MH692 and BH862 Subwoofer: Not Applicable

Designation	Value	PCB #	Function	Implementation
R1	Open	1 & 2	Off Mode Fixed LF Hi-Pass (with R2)	-3 dB @ 40 Hz
R2	124k	1 & 2	SB Fixed Boost	+6.0 dB @ 60 Hz
R3	3.48k	1 & 2	Parametric EQ	" +2.2 dB @ 6600 Hz, B=.45"
R4	200 Ohms	1 & 2	Parametric EQ	" +2.2 dB @ 6600 Hz, B=.45"
R5	3.92k	1 & 2	Parametric EQ	" +2.2 dB @ 6600 Hz, B=.45"
R6	6.81k	1 & 2	Parametric EQ	" +2.2 dB @ 6600 Hz, B=.45"
R7	26.1k	1 & 2	Off Mode LF Dynamic Boost (with R8)	+6 dB @ 40 Hz
R8	121k	1 & 2	Adj./Dist. Mode Dynamic Hi-Pass	-3 dB @ 13 Hz
R9	121k	1 & 2	Adj./Dist. Mode Dynamic Hi-Pass	-3 dB @ 13 Hz
R10	392k	1 & 2	Off Mode LF Dynamic Boost (with R9)	+6 dB @ 40 Hz
R11	6.04k	1 & 2	Parametric EQ	" +2.2 dB @ 6600 Hz, B=.45"
R12	7.87k	1 & 2	Off Mode Fixed LF Hi-Pass (with R13)	-3 dB @ 40 Hz
R13	7.32k	1 & 2	SB Fixed Boost	+6.0 dB @ 60 Hz
R1	750 Ohms	3 & 4	LF Phase	100k/22nF -> 9.72 kHz
R2	6.49k	3 & 4	SB Gain	+2.5 dB
R3	3.48k	3 & 4	SB Gain	+2.5 dB
R4	124k	3 & 4	SB Threshold	1.5V
R5	5.11k	3 & 4	LF Gain	+0.2 dB
R6	4.87k	3 & 4	LF Gain	+0.2 dB
R7	1.0k	3 & 4	SB Phase	40k/100nF -> 1632 Hz
R8	36.5k	3 & 4	Off/Dist. Mode LF Hi-Pass	-3 dB @ 40 Hz
R9	2.67k	3 & 4	HF Gain	+4.0 dB
R10	133k	3 & 4	LF Threshold	1.0V
R11	43.2k	3 & 4	Off/Dist. Mode LF Hi-Pass	-3 dB @ 40 Hz
R12	7.32k	3 & 4	HF Gain	+4.0 dB
R13	174k	3 & 4	HF Threshold	0.5V
R14		3 & 4	Not Used	
R15		3 & 4	Not Used	
R16		3 & 4	Not Used	
R17		3 & 4	Not Used	
"RN2, RN8"	2.7k		HF Hi-Pass	1255 Hz (47 nF)
"RN4, RN10"	3.3k		LF Low-Pass	1027 Hz (47 nF)
"RN5, RN11"	3.9k		LF Hi-Pass	408 Hz (100 nF)
"RN6, RN12"	3.9k		SB Low-Pass	408 Hz (100 nF)
Jumper	Pin 5		HF EQ	—



7.7 CCEP™ CROSSOVER DATA & POWERING OPTIONS

7.7.1 MX300i-692EBH CCEP™

7.7.1.2 Response Data

MX300i-692EBH Response

