



TECHNICAL SPECIFICATIONS MQ2394

DESCRIPTION

- Mid/High VA4 loudspeaker system
- Optimized for permanent installation only
- Dual horn-loaded 10-in cones with VA4 phase plug
- 2-in exit/75mm voice coil compression driver on constant directivity horn

The new MQ Series represents the next generation of permanent installation loudspeaker systems. Using VA4 Technology developed for the new KF700 Series, the MQ range replaces the MH and BV ranges of Virtual Array systems. The Series comprises matched sets of mid/high and low frequency enclosures that enjoy complementary dimensions and trapezoid angles to facilitate the creation of optimized-coverage arrays.

The MQ2394 uses dual horn-loaded 10-in midrange cones with a specially designed geometry that produces a time-coherent wavefront through the upper portion of the midrange that is critical to vocal articulation. A phase plug with radial slots then serves to reduce the mechanical reactance of the subsystem without affecting the directivity of the source, allowing for flawless arraying of multiple MQ mid/high modules.

A high power 2-in exit/75mm voice coil high frequency compression driver is mounted on a constant directivity horn for consistent, accurate dispersal of HF information. The MQ2364 provides a nominal coverage pattern of 90° (h) x 40° (v).

APPLICATION

The MQ2394 mid/high module works with the MQ2412 quad 12-in low frequency module to create arrays for use in a wide variety of permanently installed applications.

The most common array configuration is 2x MQ2394's separated by a single MQ2412. Unlike most other 90° horizontal coverage array modules, the MQ2394 is designed to tight pack with the MQ2412 to achieve optimal coverage. This provides an excellent center channel array for large, fan-shaped venues that use an L/C/R configuration.

All MQ Series enclosures feature a comprehensive system of 3/8"-16 threaded mounting points for maximum flexibility when suspending arrays overhead.

Applications include:

- Large House of Worship
- Arena
- Stadium
- Theater
- Performing Arts Center



DESCRIPTIVE DATA

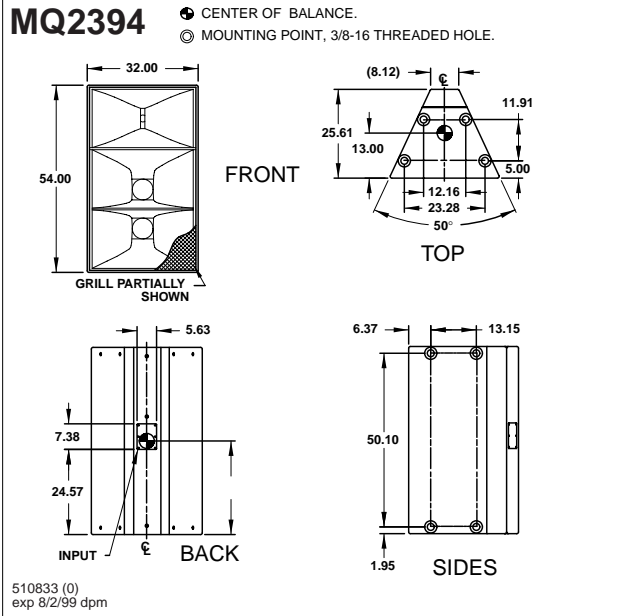
Configuration	Mid/High	
Powering	Bi-amplified	
MF Subsystem	2x 10-in Horn-Loaded Cone, Radial Phase Plug	
HF Subsystem	1x 2-in Exit/75mm Voice Coil Compression Driver on Constant Directivity Horn	
Cabinet Type (shape)	Trapezoid	
Enclosure Materials	Baltic Birch Plywood	
Finish	Black Polyurethane	
Connectors	4-Terminal Barrier Strip & 1x Neutrik NL4 Speakon	
Suspension Hardware	(16) 3/8"-16 Threaded Mounting Suspension Points (4 each top, bottom and sides)	
Grill	Powder Coated Perforated Steel	
Dimensions	inches	millimeters
Height	54.00	1372
Width (front)	32.00	813
Width (rear)	8.12	206
Depth	25.61	650
Trapezoid Angle	50°	
Weights	pounds	kilograms
Net Weight	205	93.3
Shipping Weight	230	104.7
Companion Systems		
Sub Bass	SB528, BH822e	
LF	MQ2412	





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DIMENSIONAL DRAWING



NOMINAL DATA

Frequency Response (1 W @ 1m)	
±3 dB	190 Hz to 19 kHz
-10 dB	140 Hz
Axial Sensitivity (dB SPL, 1 Watt @ 1m)	
MF	111.0
HF	110.5
Impedance (Ohms)	
MF	4
HF	8
Power Handling, AES Standard (Watts)	
MF	800
HF	200
Calculated Maximum Output (dB SPL)	
MF Peak	146.0
HF Peak	139.5
MF Long Term	140.0
HF Long Term	133.5
Nominal Coverage Angle/-6 dB points (degrees)	
Horizontal	90
Vertical	40
Recommended High-Pass Frequency	
24 dB/Octave	190 Hz

ARCHITECTURAL SPECIFICATIONS

The two-way mid/high loudspeaker system shall incorporate 2x 10-in cone MF transducers and a 2-in exit compression driver HF transducer.

The MF drivers shall be loaded into separate midrange horns 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 loaded on constant directivity horn with a nominal coverage pattern of 90° (h) x 40° (v). An internal passive filter network shall provide system equalization.

System frequency response shall vary no more than ±3 dB from 190 Hz to 19 kHz measured on axis. The midrange frequency section shall produce a Sound Pressure Level (SPL) of 111 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 146 dB SPL on axis at 1 meter. The high frequency section shall produce a Sound Pressure Level (SPL) of 110.5 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 139.5 dB SPL on axis at 1 meter. The midrange frequency section shall handle 800 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 4 Ohms. The high frequency section shall handle 200 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 4-terminal barrier strip and one Neutrik NL4 Speakon. A total of sixteen 3/8"-16 threaded mounting/suspension points (4 each top, bottom and sides) shall be provided. The front of the loudspeaker shall be covered with a powder coated perforated steel grill.

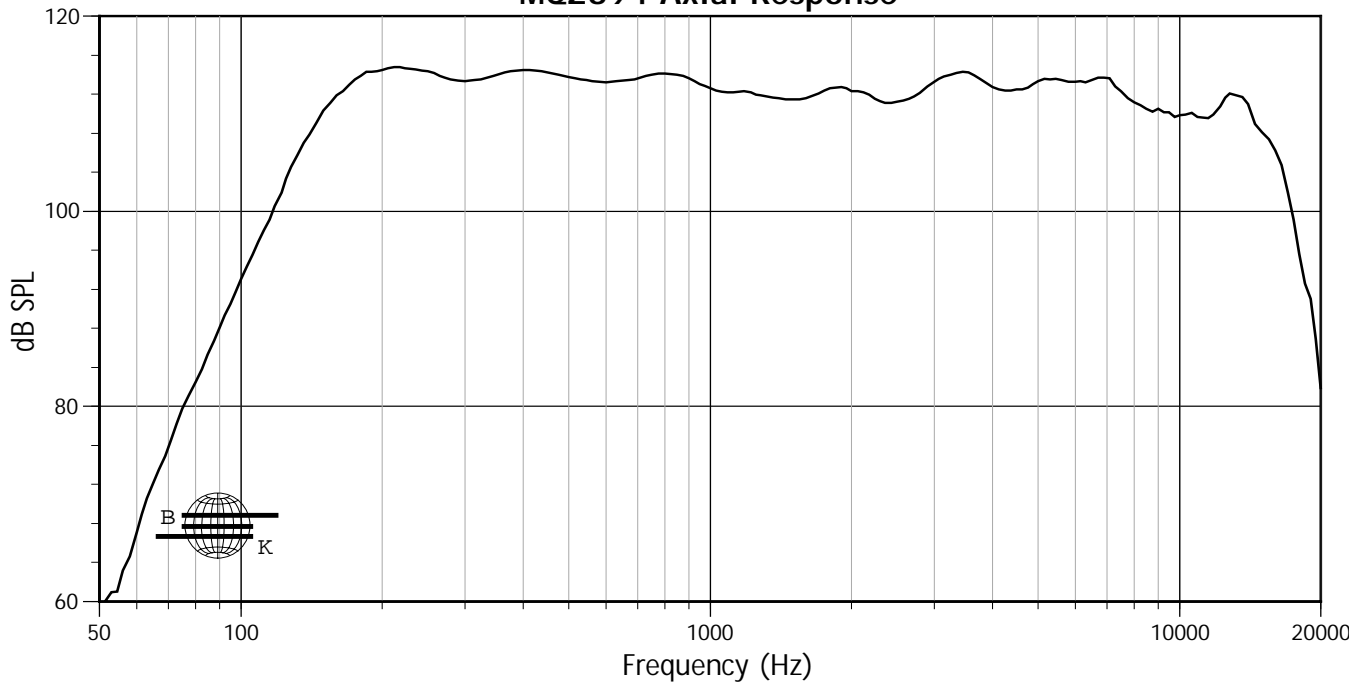
The two-way mid/high loudspeaker shall be the EAW model MQ2394.



PERFORMANCE SPECIFICATIONS MQ2394

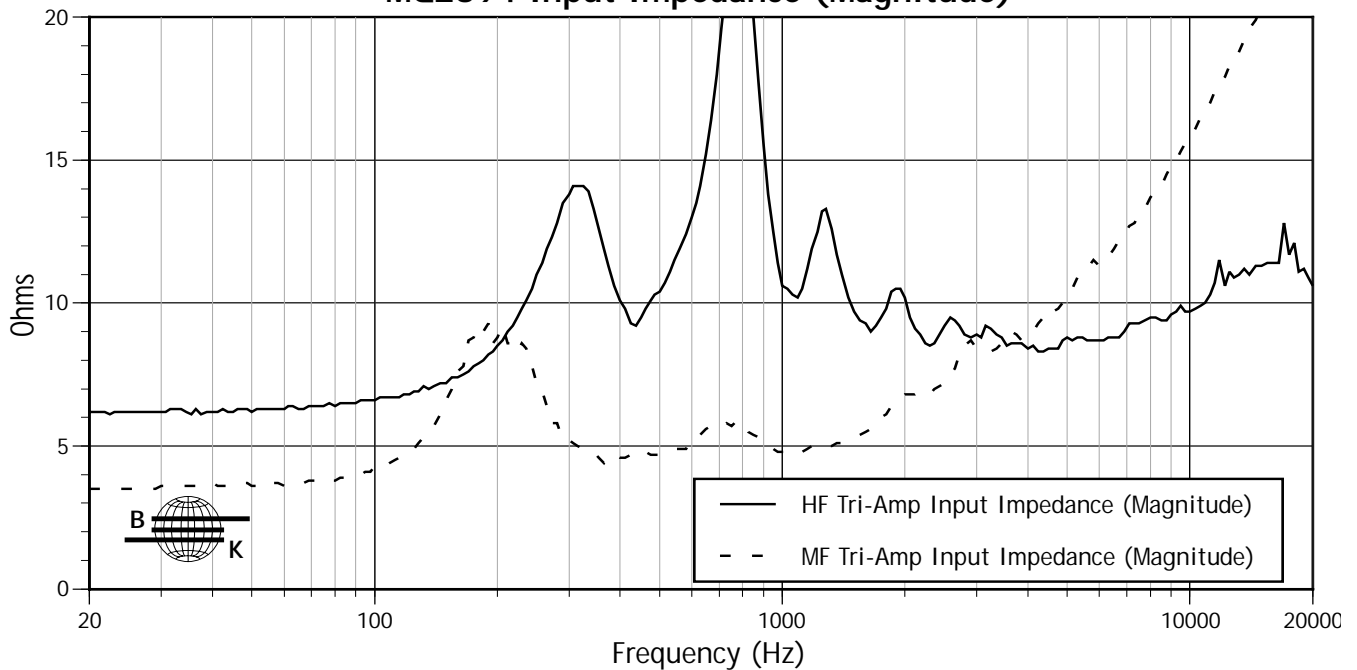
FREQUENCY RESPONSE

MQ2394 Axial Response



INPUT IMPEDANCE

MQ2394 Input Impedance (Magnitude)

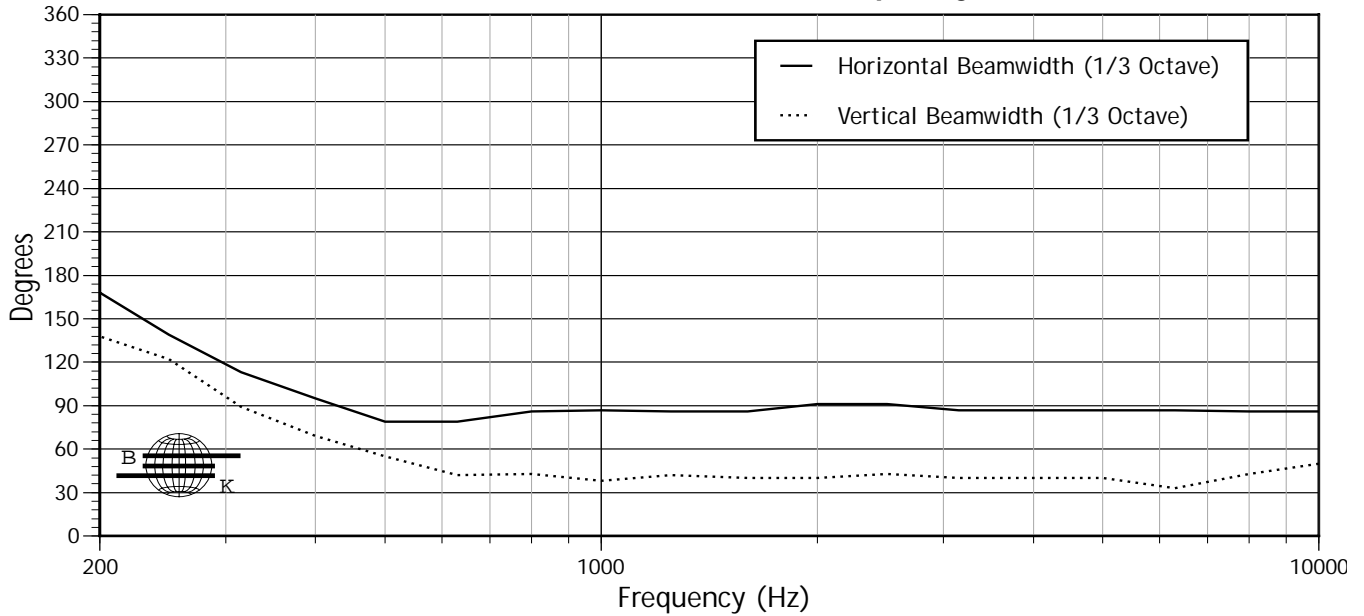




PERFORMANCE SPECIFICATIONS MQ2394

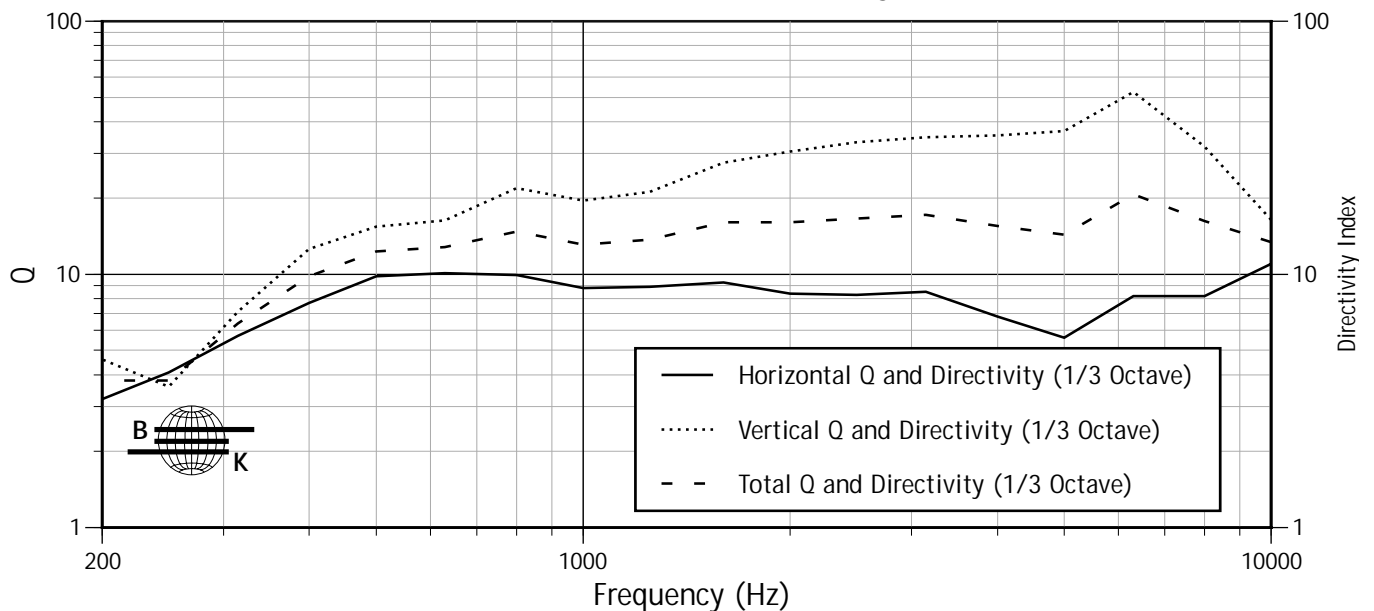
BEAMWIDTH

MQ2394 Beamwidth vs Frequency



Q & DIRECTIVITY INDEX (DI)

MQ2394 Q and Directivity

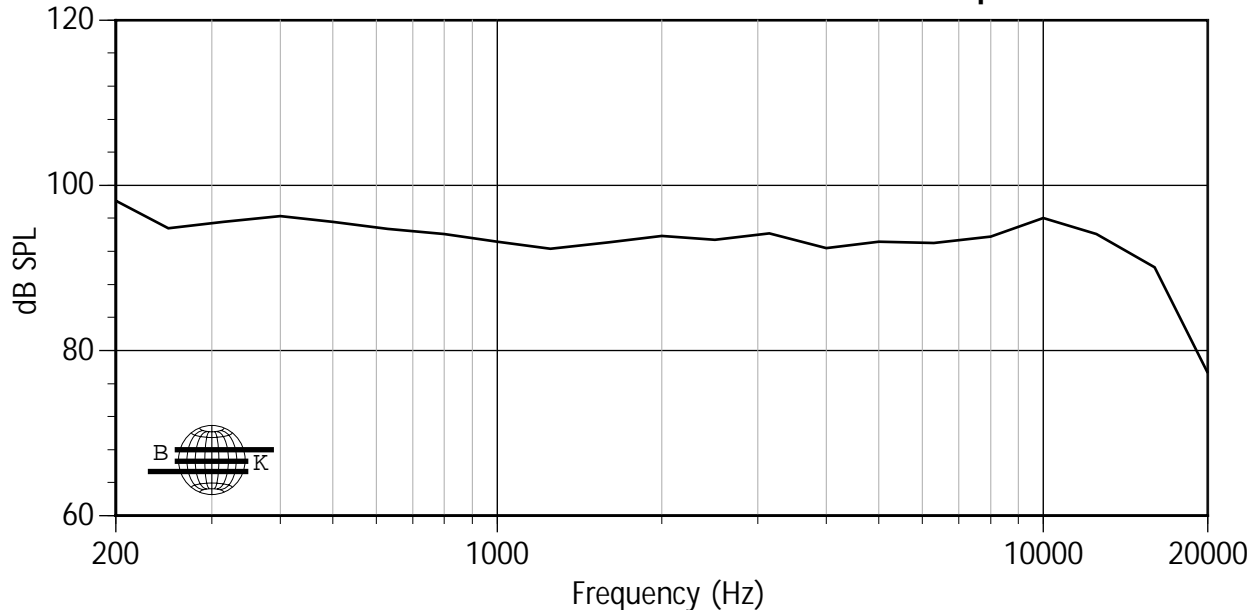




PERFORMANCE SPECIFICATIONS MQ2394

POWER RESPONSE

MQ2394 Beamwidth Delimited Power Response





PERFORMANCE SPECIFICATIONS MQ2394

Q & DIRECTIVITY & BEAMWIDTH BY FREQUENCY

Frequency	Hor Beamwidth	Ver Beamwidth	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir
100	104	360	5.3	2.3	3.5
125	132	360	4.3	3.7	4
160	159	127	3.5	5.5	4.4
200	168	138	3.2	4.6	3.8
250	139	122	4.1	3.6	3.8
315	113	89	5.7	7.1	6.4
400	95	69	7.7	12.6	9.8
500	79	55	9.8	15.4	12.3
630	79	42	10.1	16.3	12.8
800	86	43	9.9	21.9	14.7
1000	87	38	8.8	19.5	13.1
1250	86	42	8.9	21.1	13.7
1600	86	40	9.3	27.6	16
2000	91	40	8.4	30.5	16
2500	91	43	8.3	33.3	16.6
3150	87	40	8.5	34.7	17.2
4000	87	40	6.8	35.3	15.5
5000	87	40	5.6	36.7	14.3
6300	87	33	8.2	52.5	20.7
8000	86	43	8.2	32	16.2
10000	86	50	11	16.4	13.4
12500	78	44	15.1	24	19
16000	89	39	6.2	34.9	14.7
20000	63	38	20.1	40.2	28.4

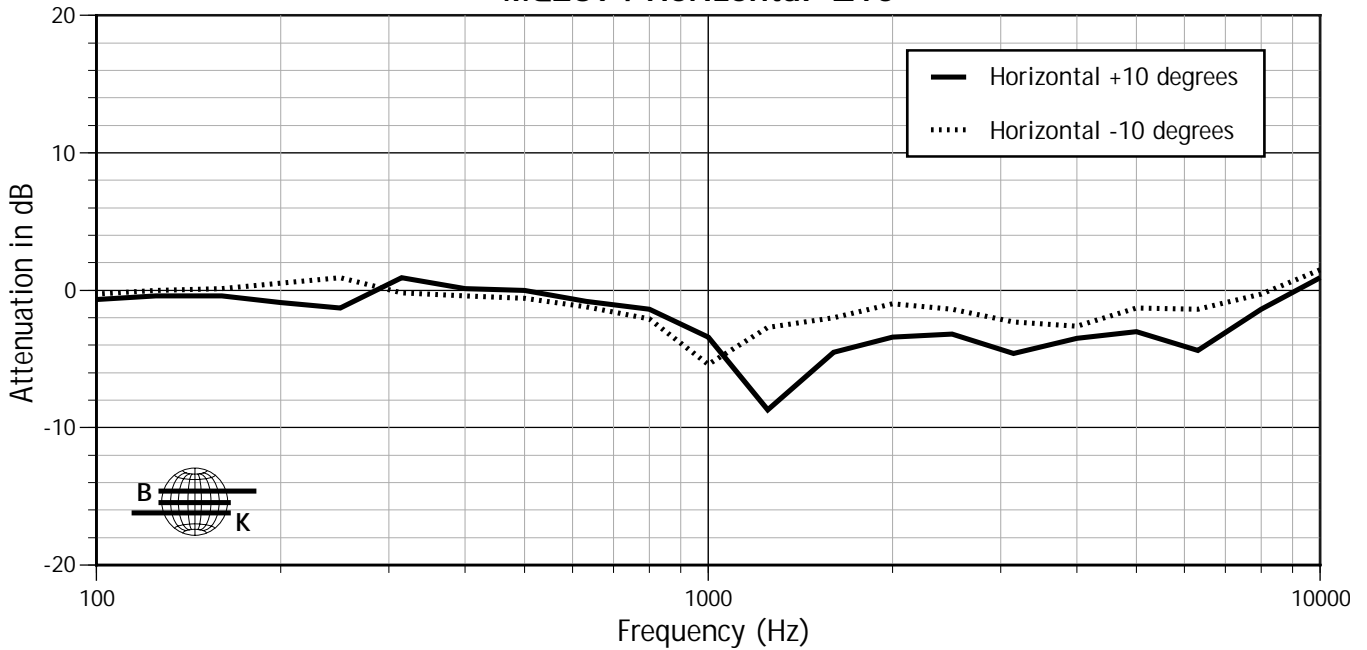


PERFORMANCE SPECIFICATIONS MQ2394

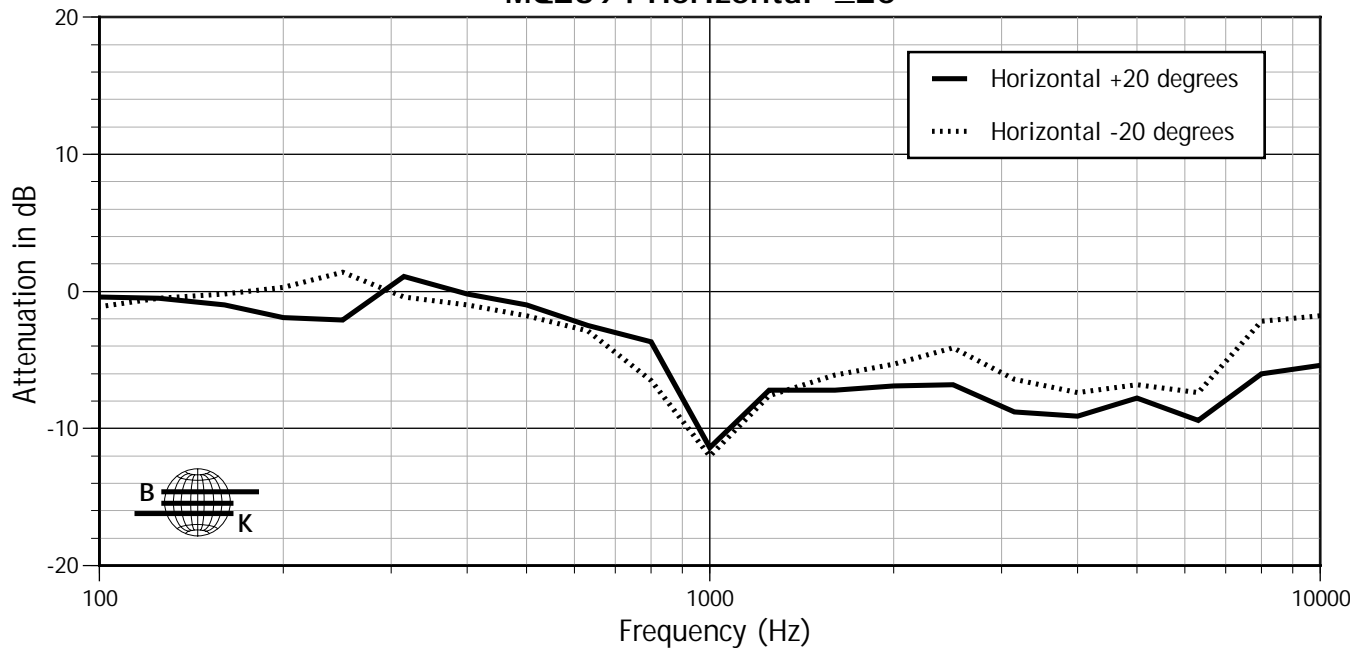
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2394 Horizontal $\pm 10^\circ$



MQ2394 Horizontal $\pm 20^\circ$



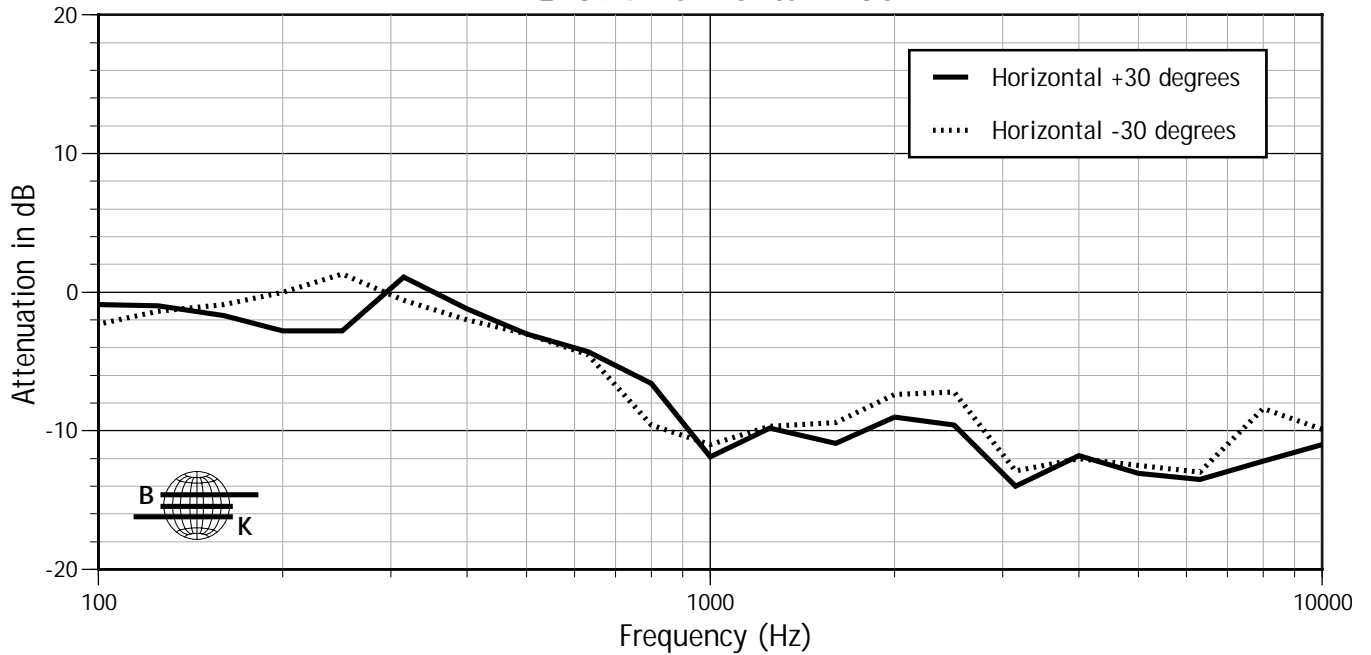


PERFORMANCE SPECIFICATIONS MQ2394

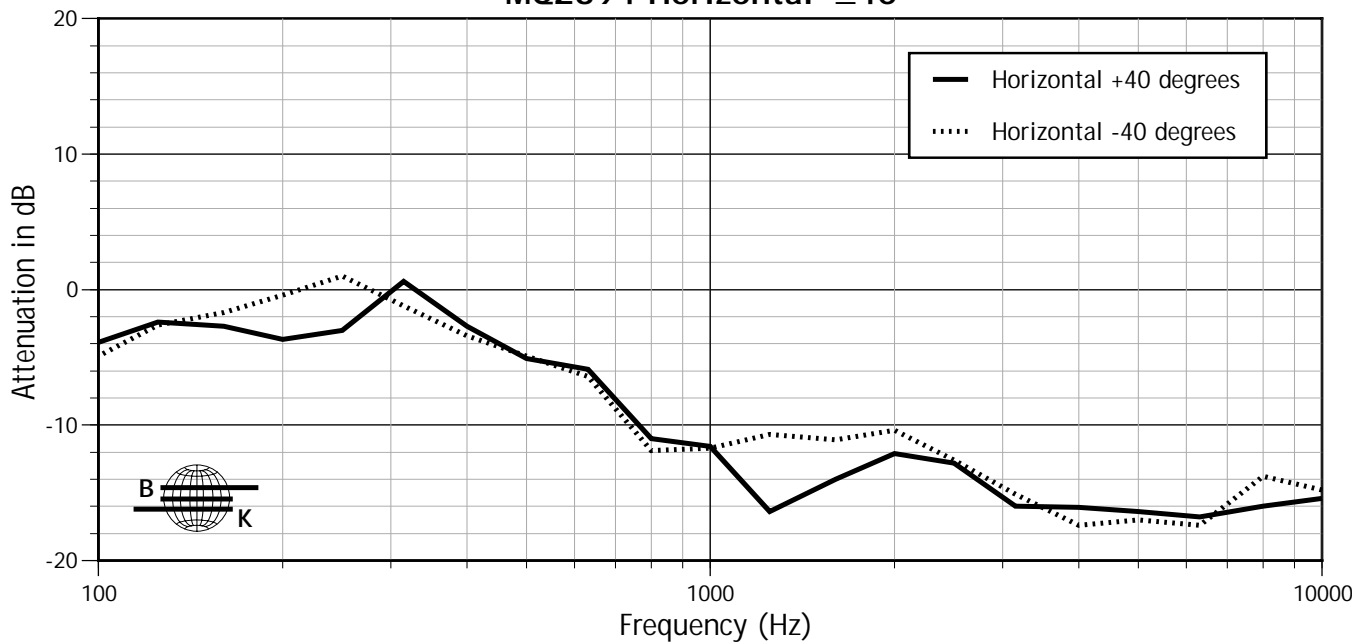
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2394 Horizontal $\pm 30^\circ$



MQ2394 Horizontal $\pm 40^\circ$



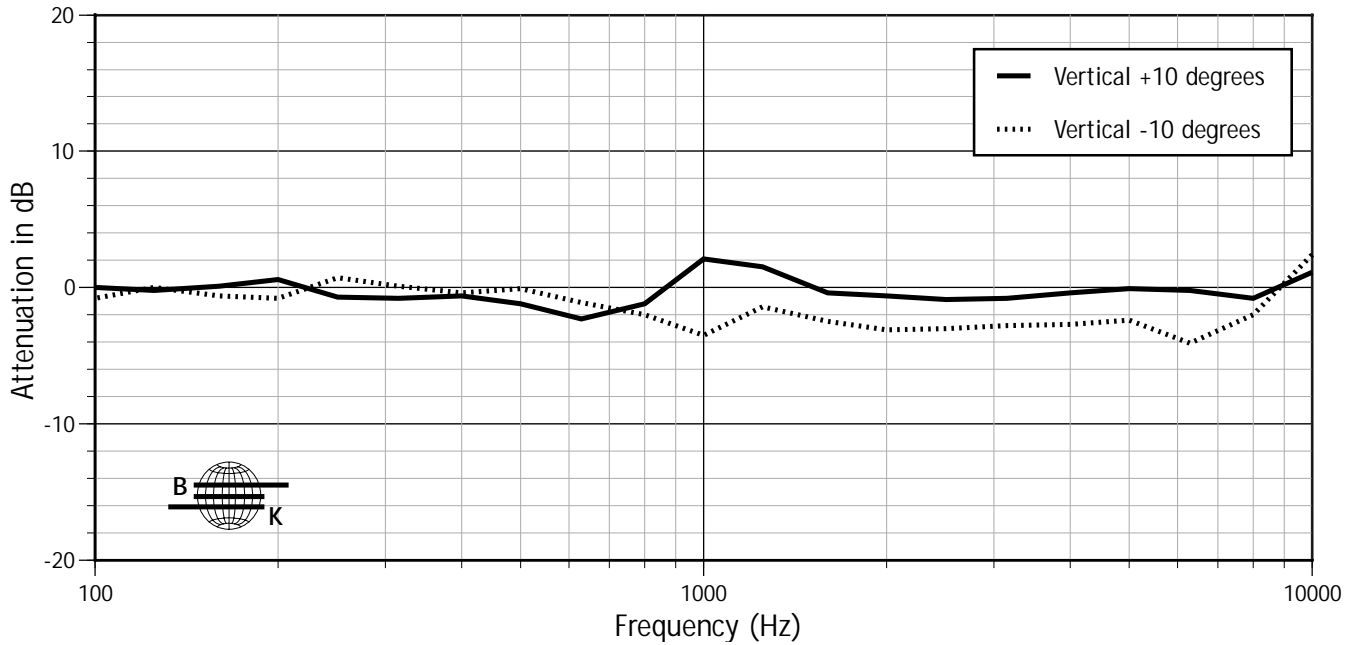


PERFORMANCE SPECIFICATIONS MQ2394

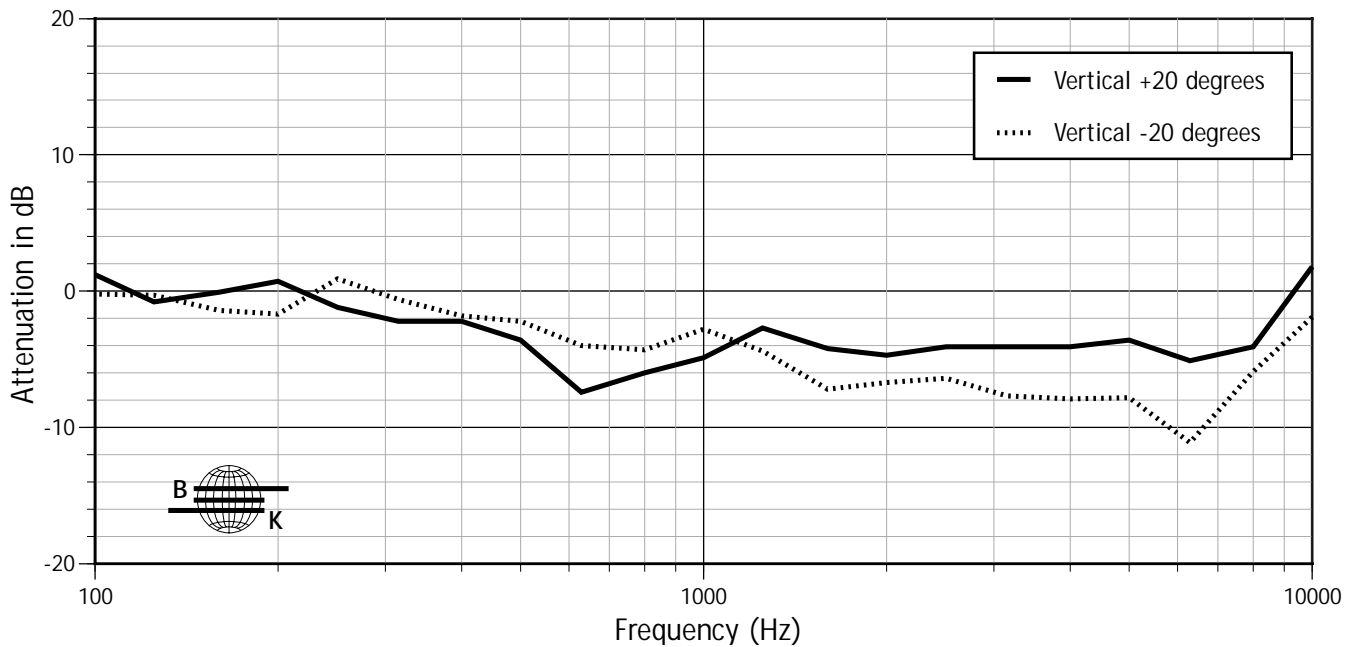
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2394 Vertical $\pm 10^\circ$



MQ2394 Vertical $\pm 20^\circ$



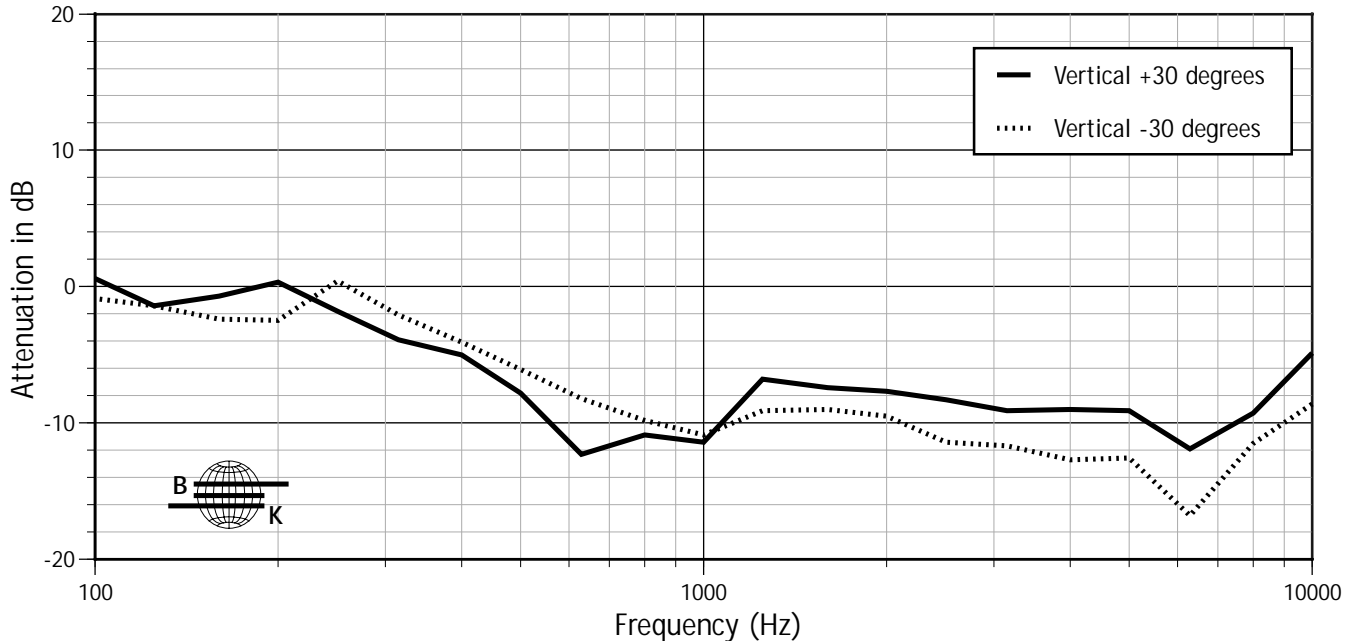


PERFORMANCE SPECIFICATIONS MQ2394

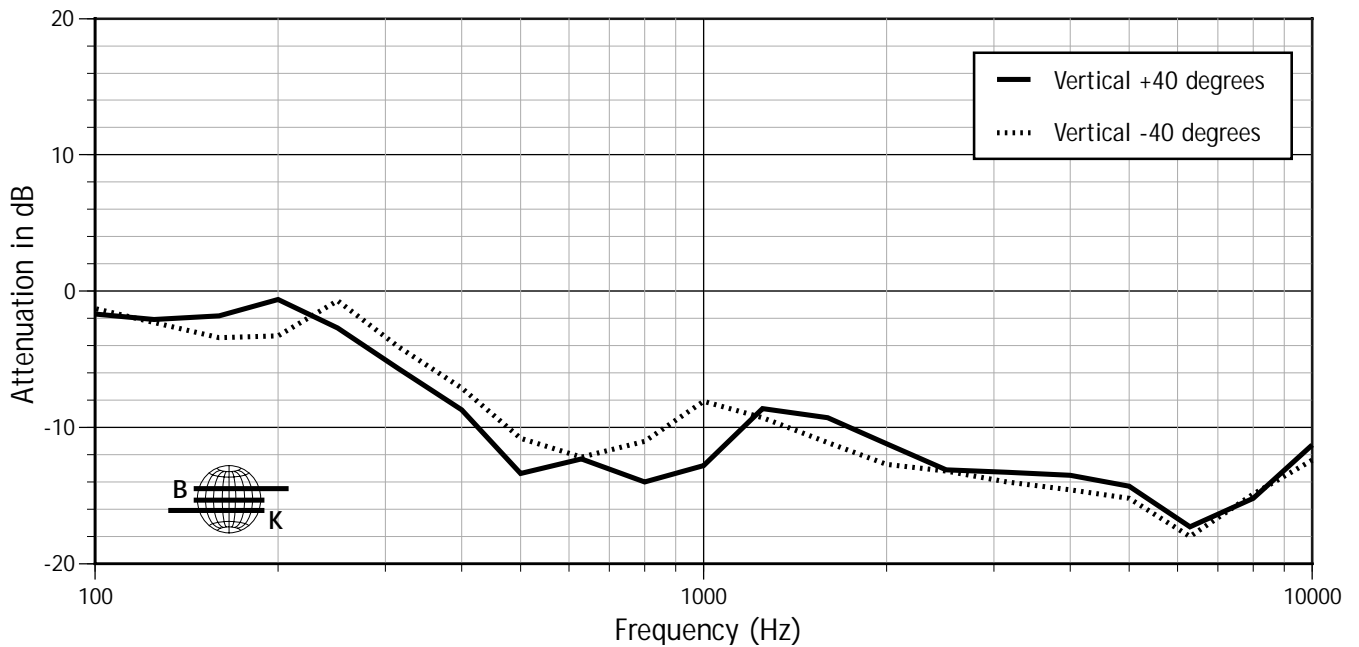
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2394 Vertical $\pm 30^\circ$

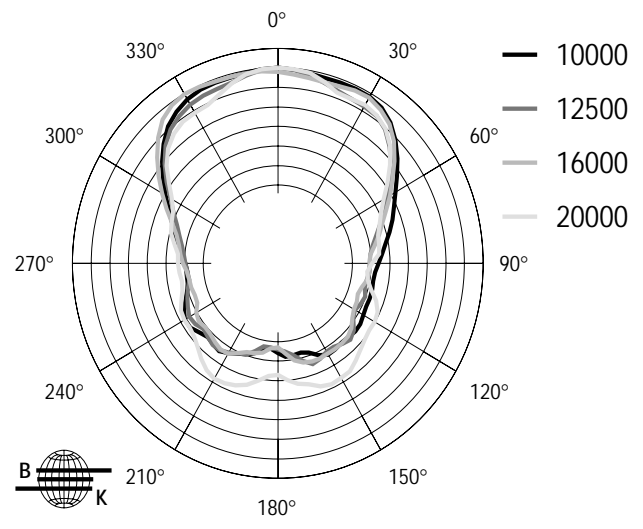
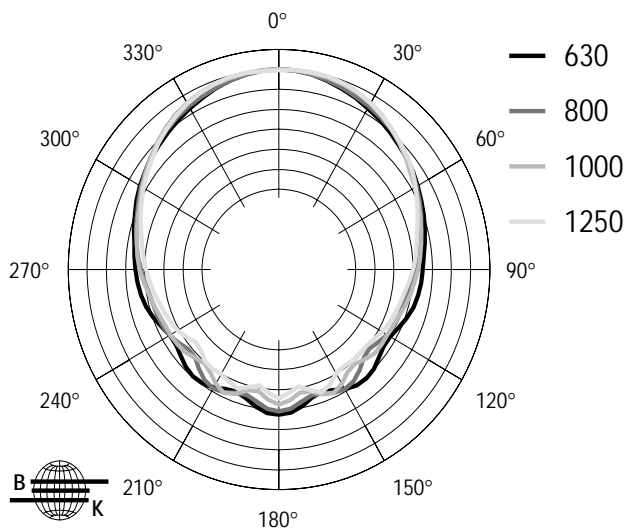
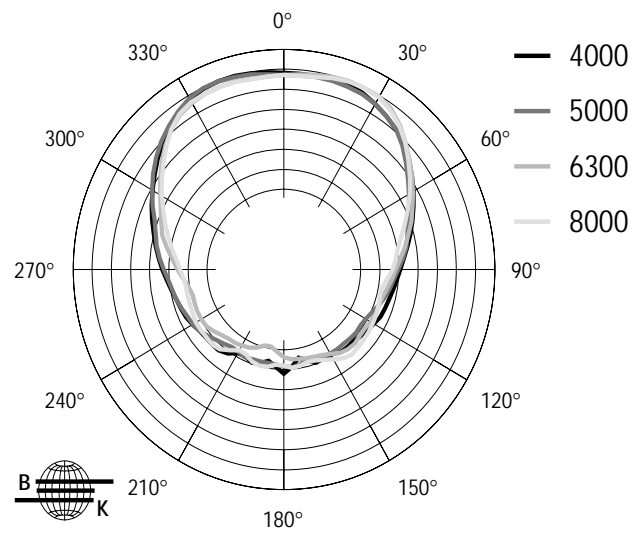
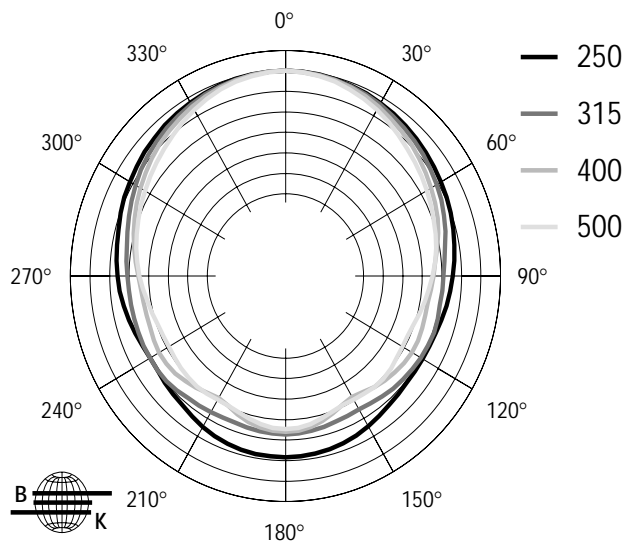
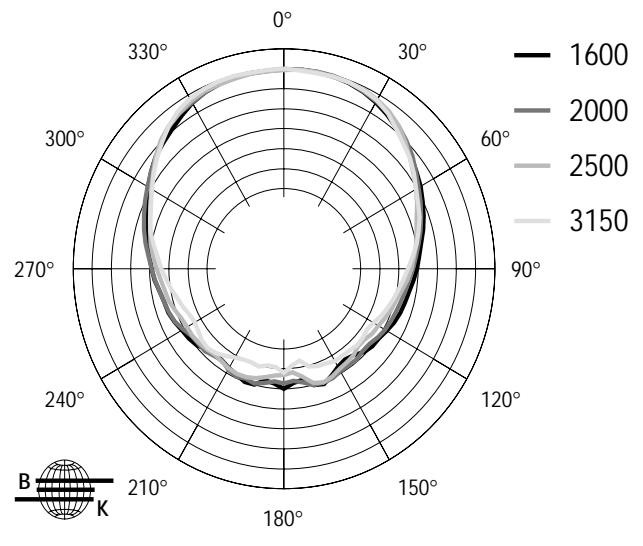
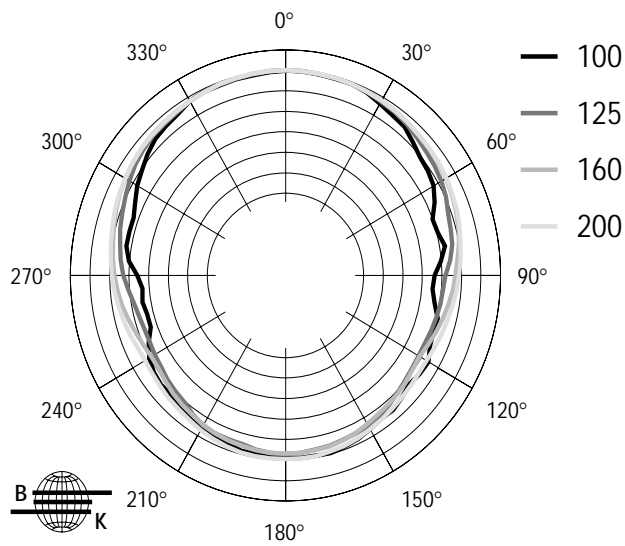


MQ2394 Vertical $\pm 40^\circ$





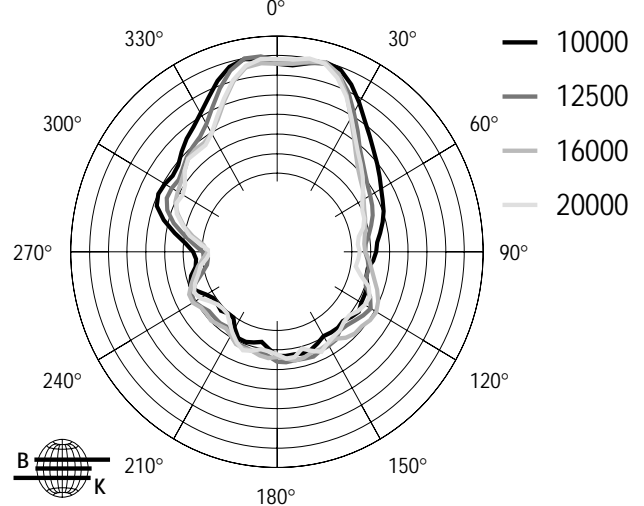
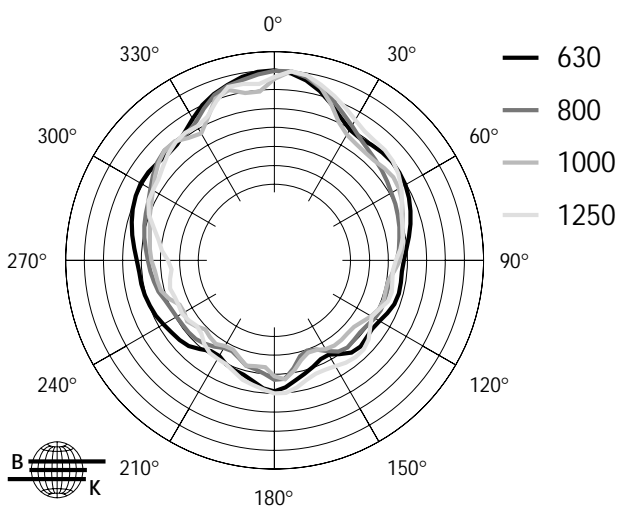
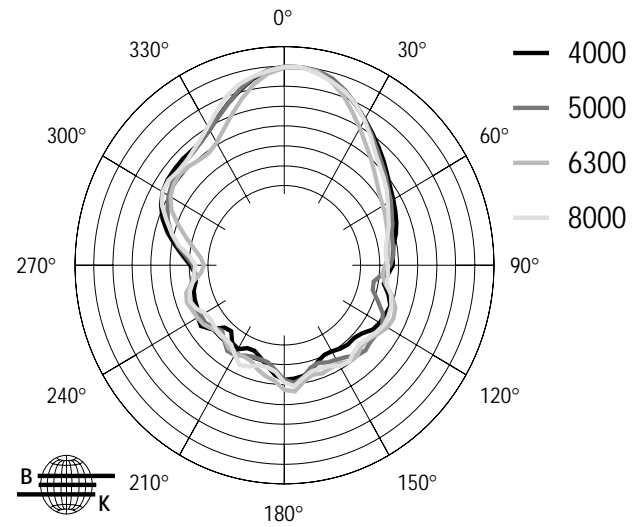
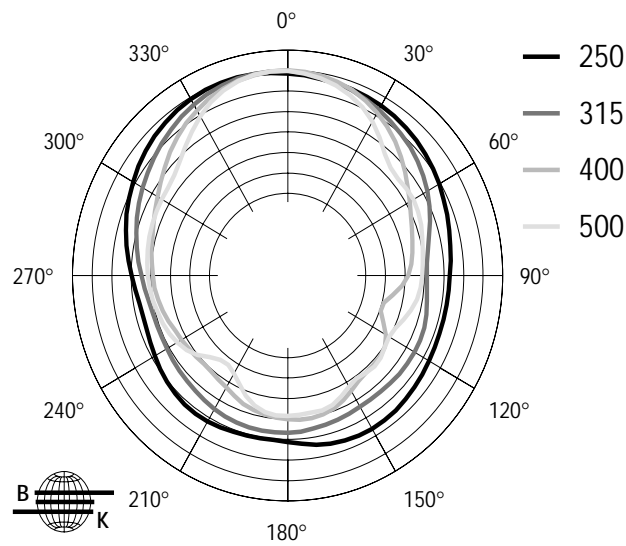
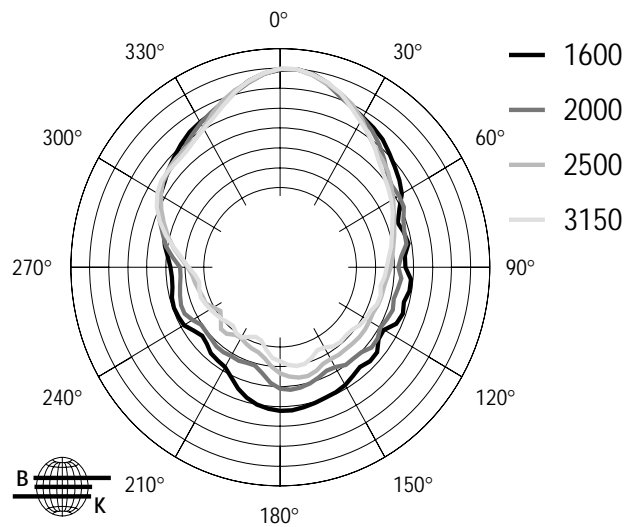
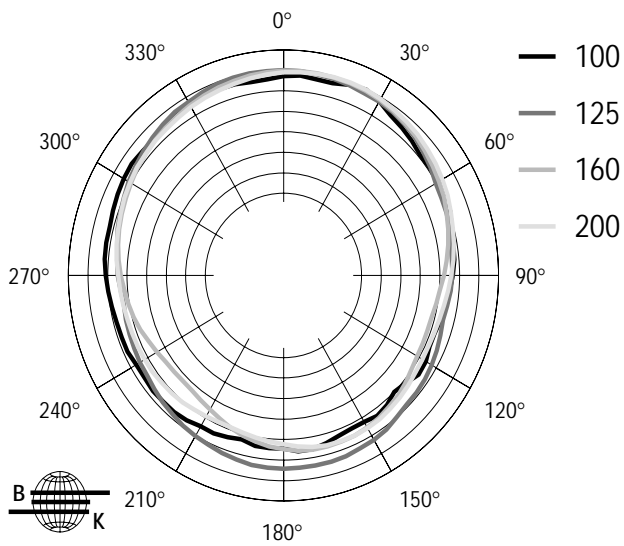
HORIZONTAL 1/3 OCTAVE POLAR DATA MQ2394



6 db/div.



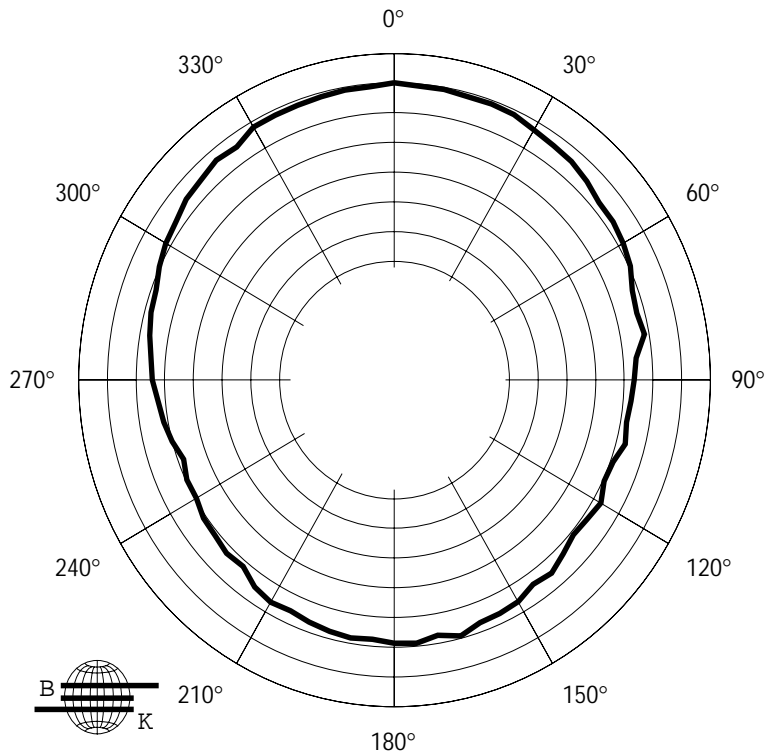
VERTICAL 1/3 OCTAVE POLAR DATA MQ2394



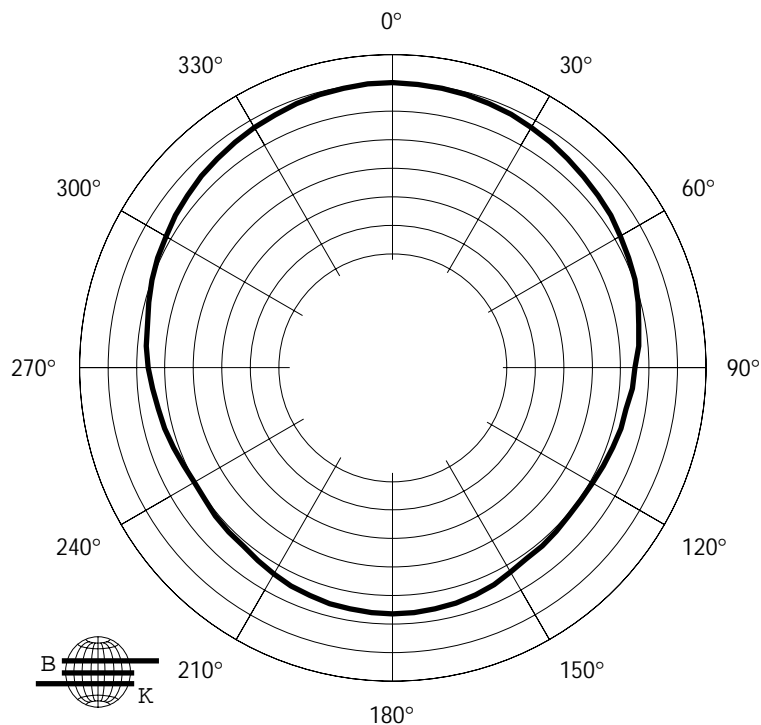


HORIZONTAL OCTAVE POLAR DATA MQ2394

MQ2394 125 Hz Horizontal Octave Polar Data



MQ2394 250 Hz Horizontal Octave Polar Data

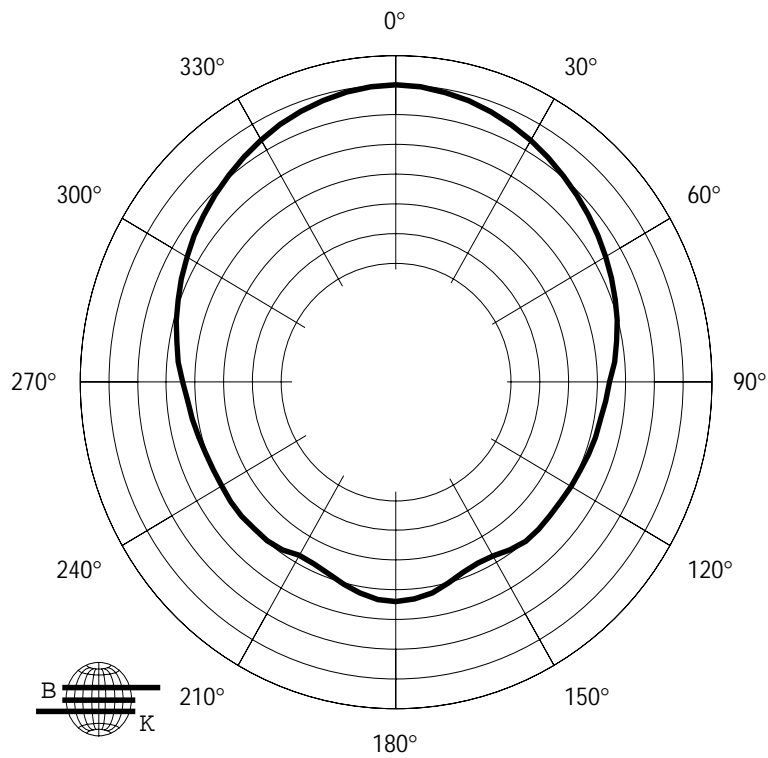


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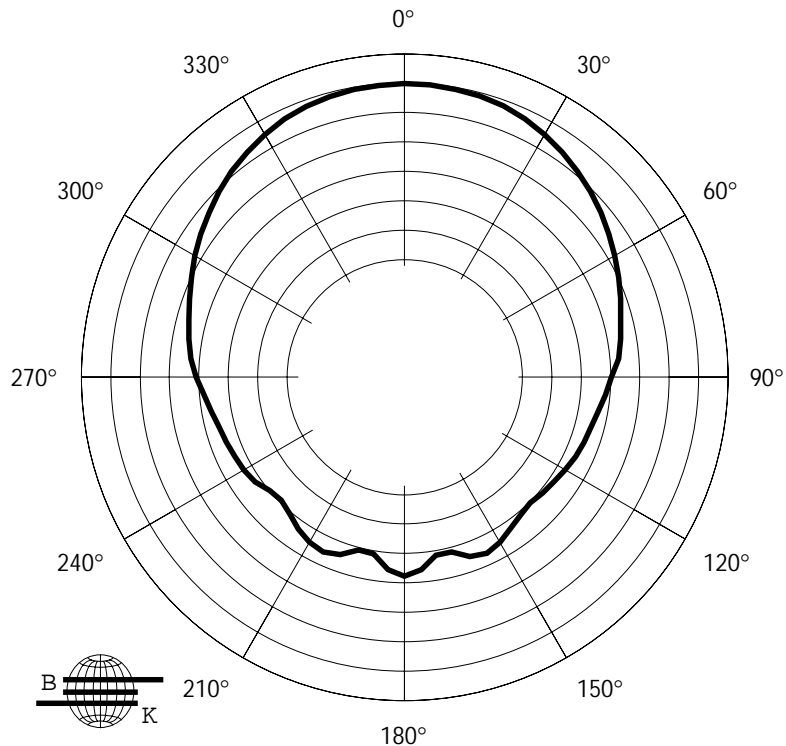


HORIZONTAL OCTAVE POLAR DATA MQ2394

MQ2394 500 Hz Horizontal Octave Polar Data



MQ2394 1000 Hz Horizontal Octave Polar Data

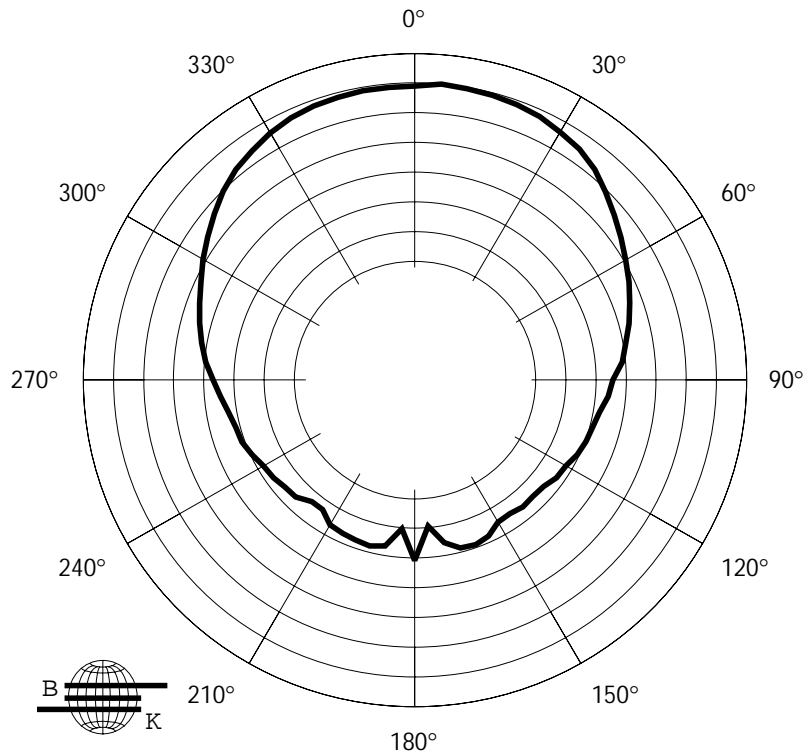


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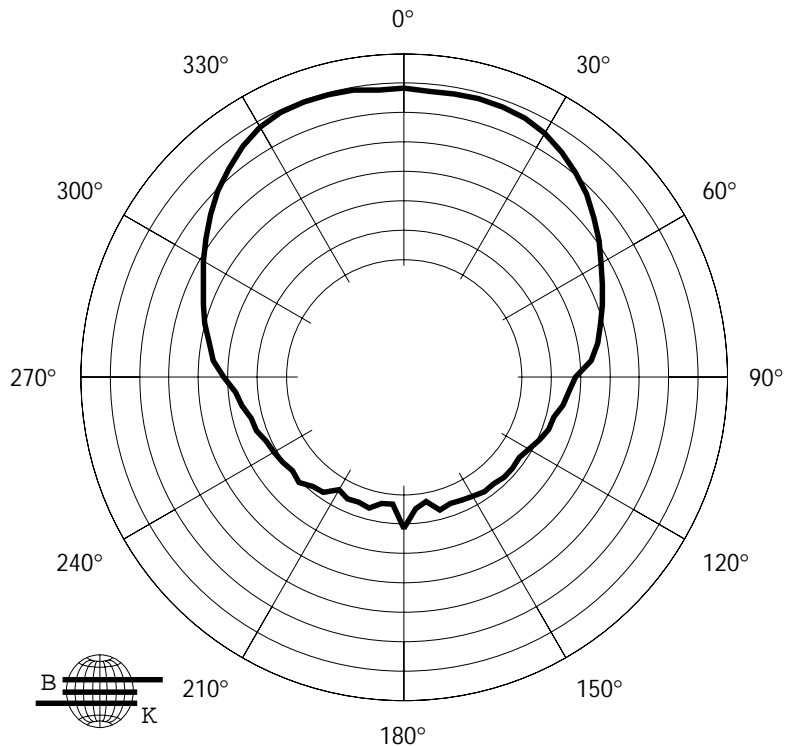


HORIZONTAL OCTAVE POLAR DATA MQ2394

MQ2394 2000 Hz Horizontal Octave Polar Data



MQ2394 4000 Hz Horizontal Octave Polar Data

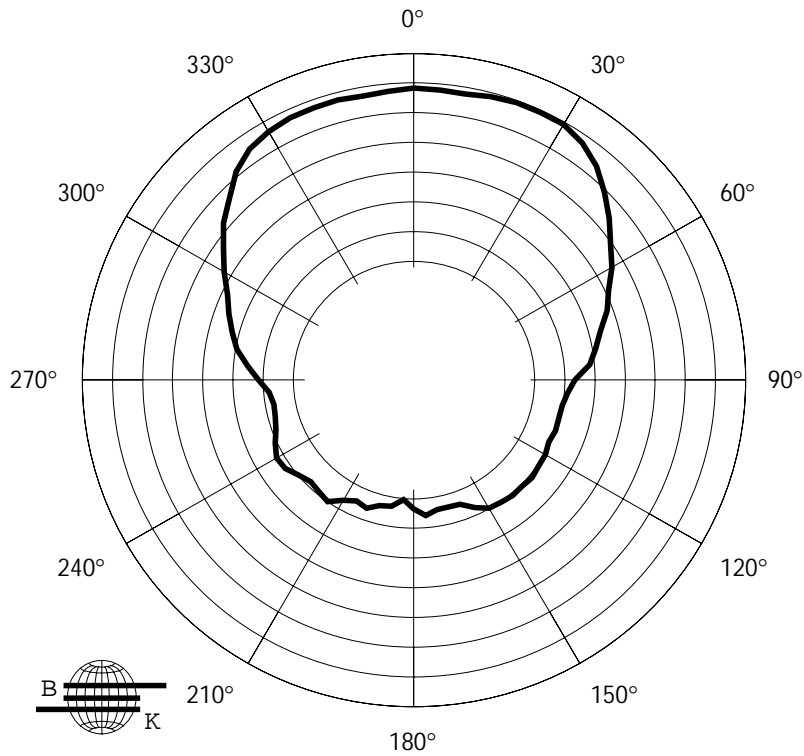


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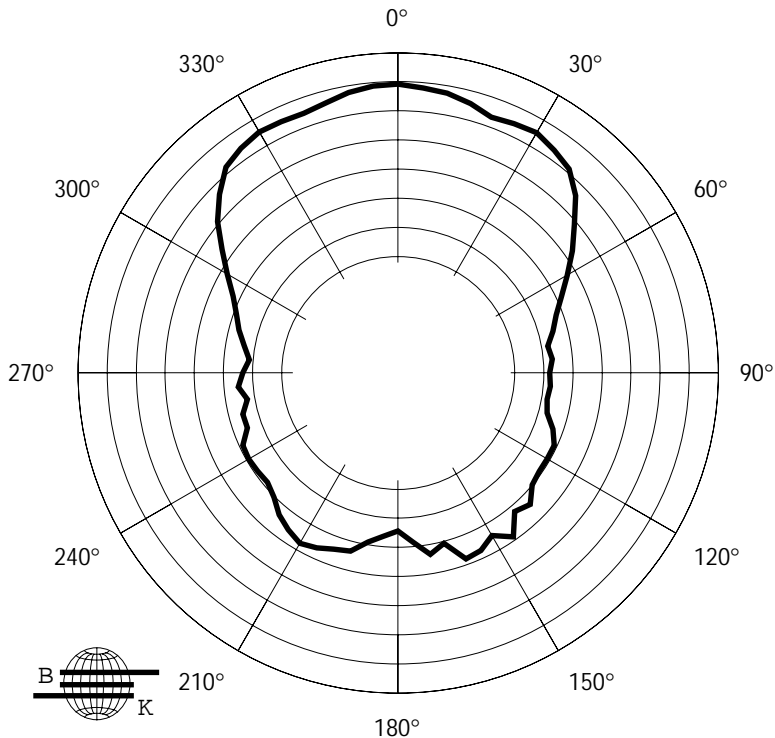


HORIZONTAL OCTAVE POLAR DATA MQ2394

MQ2394 8000 Hz Horizontal Octave Polar Data



MQ2394 16000 Hz Horizontal Octave Polar Data

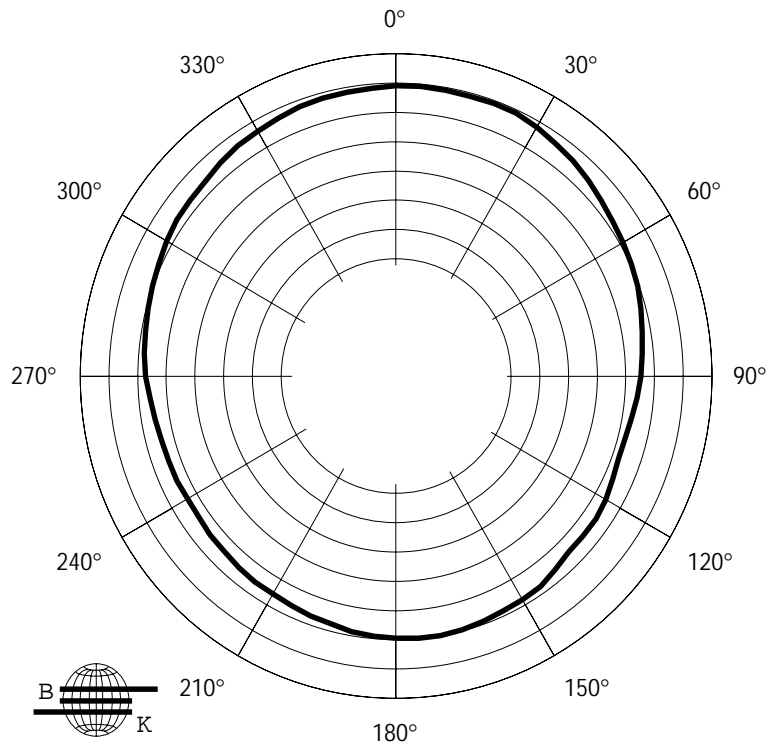


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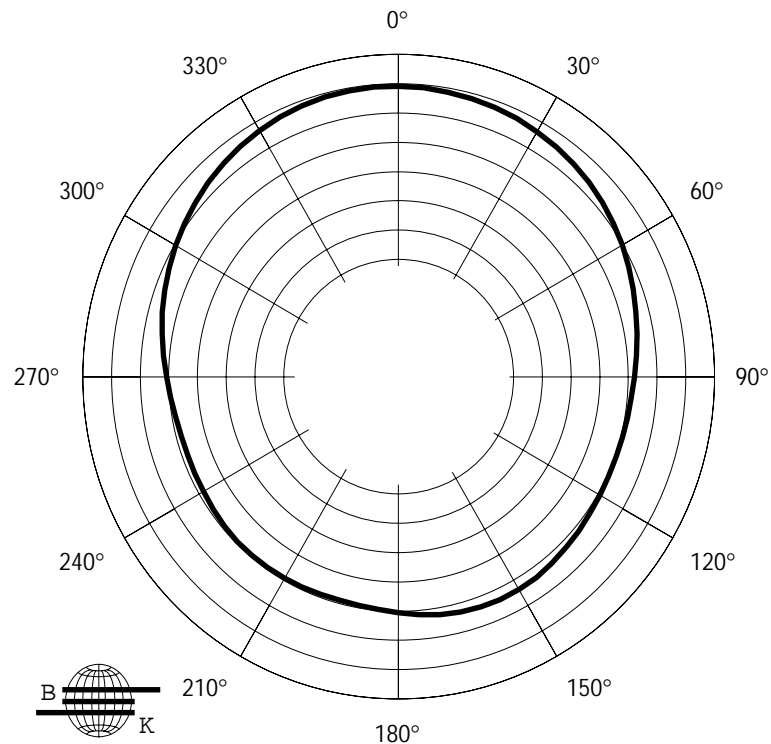


VERTICAL OCTAVE POLAR DATA MQ2394

MQ2394 125 Hz Vertical Octave Polar Data



MQ2394 250 Hz Vertical Octave Polar Data

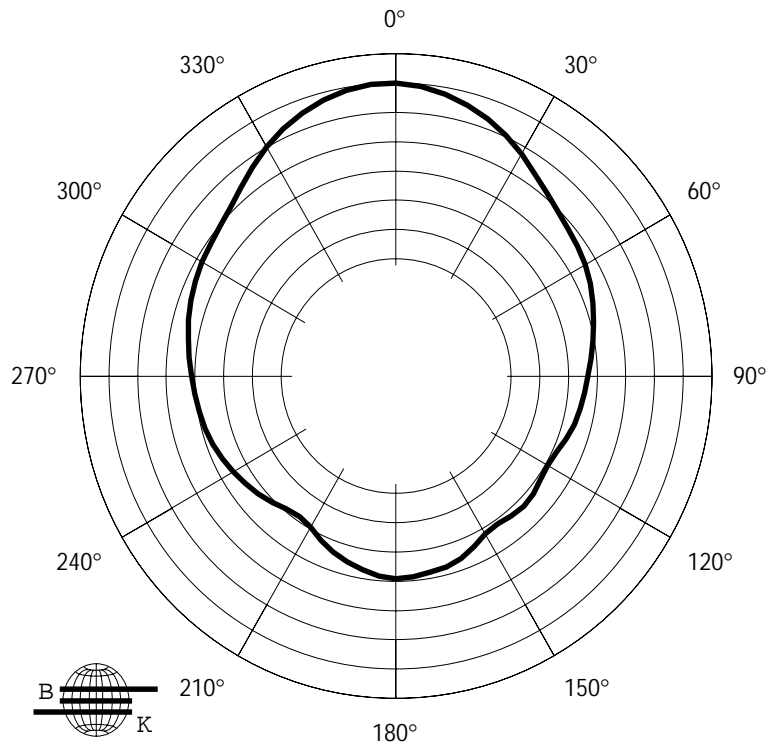


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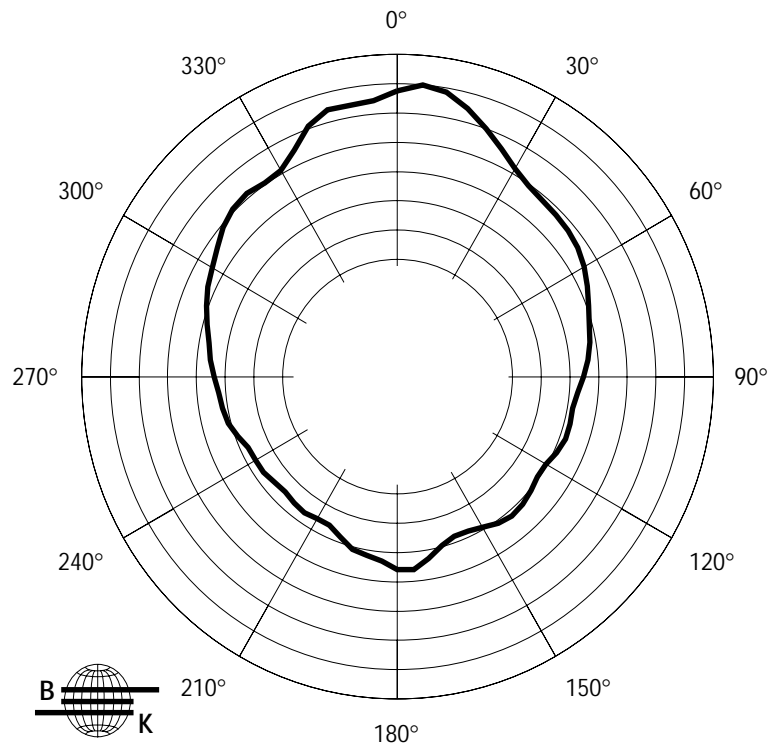


VERTICAL OCTAVE POLAR DATA MQ2394

MQ2394 500 Hz Vertical Octave Polar Data



MQ2394 1000 Hz Vertical Octave Polar Data

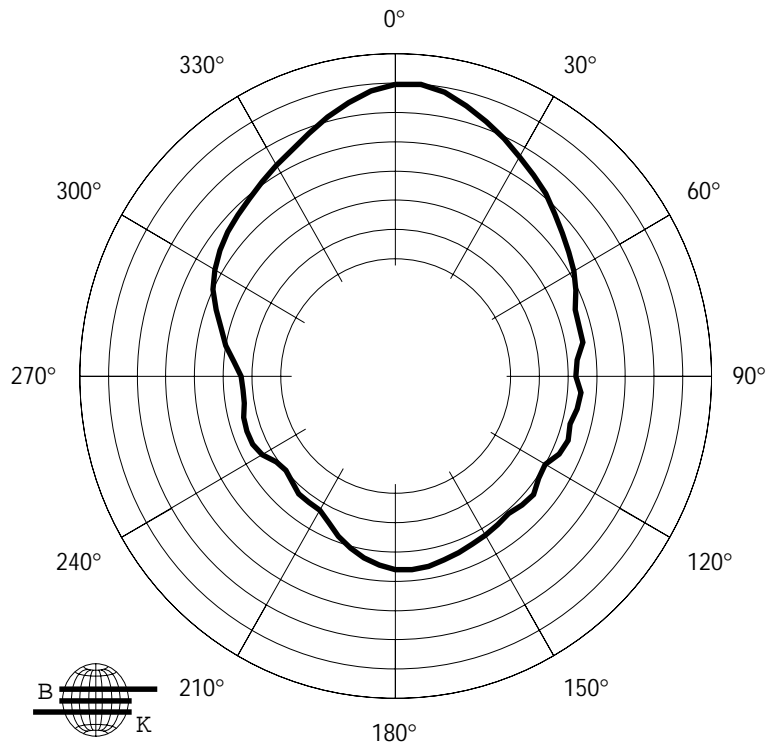


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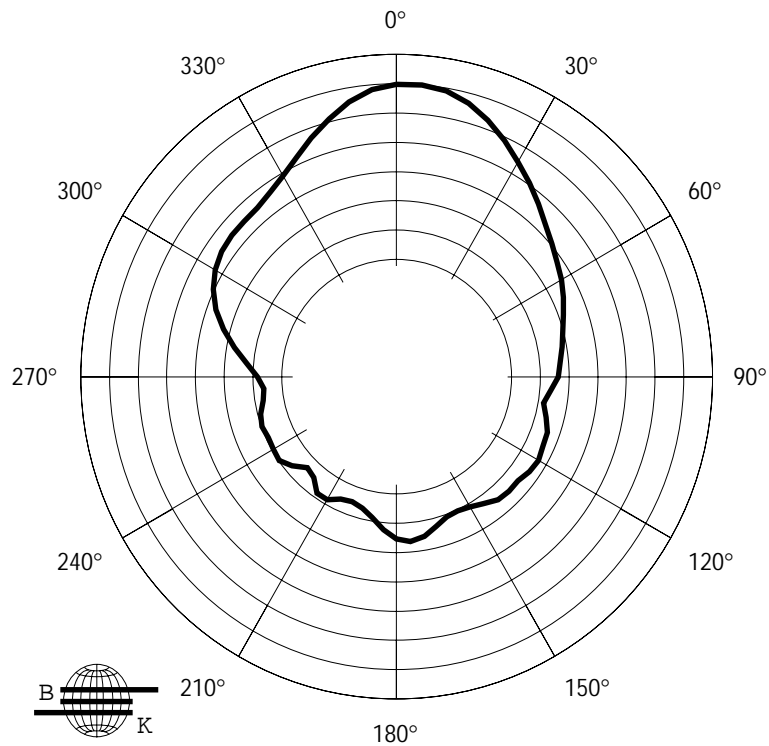


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MQ2394 2000 Hz Vertical Octave Polar Data



MQ2394 4000 Hz Vertical Octave Polar Data

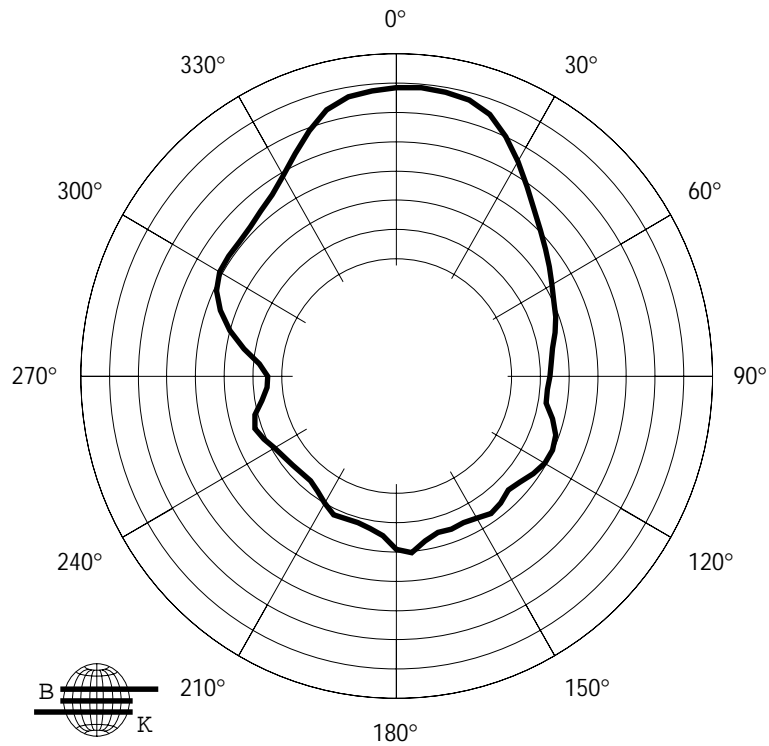


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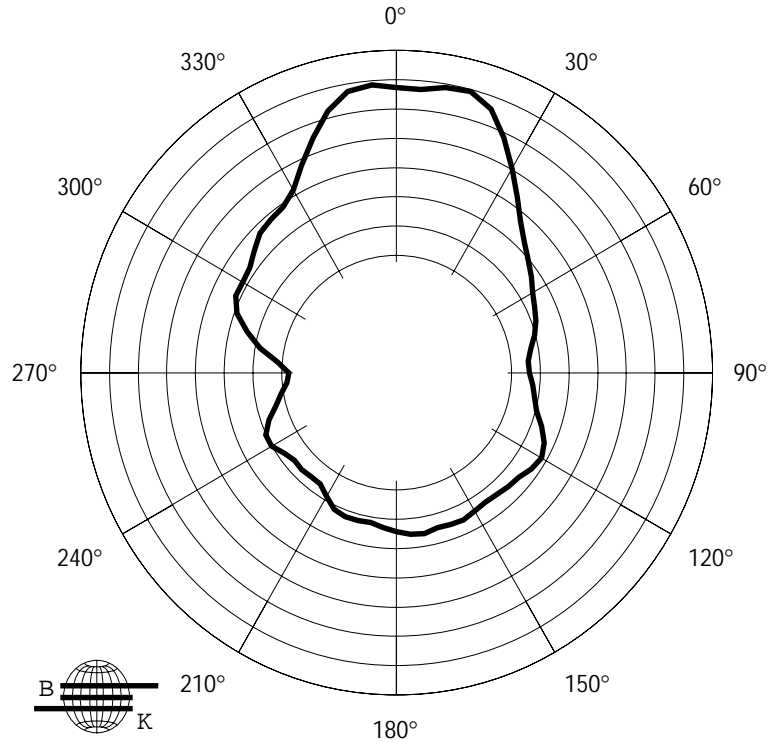


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MQ2394 8000 Hz Vertical Octave Polar Data



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