



TECHNICAL SPECIFICATIONS MQ2412

DESCRIPTION

- Low frequency loudspeaker system
- Optimized for permanent installation only
- 4x direct radiating 12-in woofers
- optimized to array with MQ2364 and MQ2394

The new MQ Series represents the next generation of permanent installation loudspeaker 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 MQ2412 uses four direct radiating 12-in woofer cones in an optimally tuned, vented enclosure.

APPLICATION

The MQ2412 low frequency module works with the MQ2364 and MQ2394 mid/high modules to create arrays for use in a wide variety of permanently installed applications.

The most common array configuration is 2x MQ2364's separated by a single MQ2412. In such an array, a certain amount of splay must be provided to achieve optimal coverage. Rigging systems currently available allow users up to 10° of overlap between the mid/high enclosures.

When arraying 2x MQ2394's separated by a single MQ2412, the modules should be tight packed 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

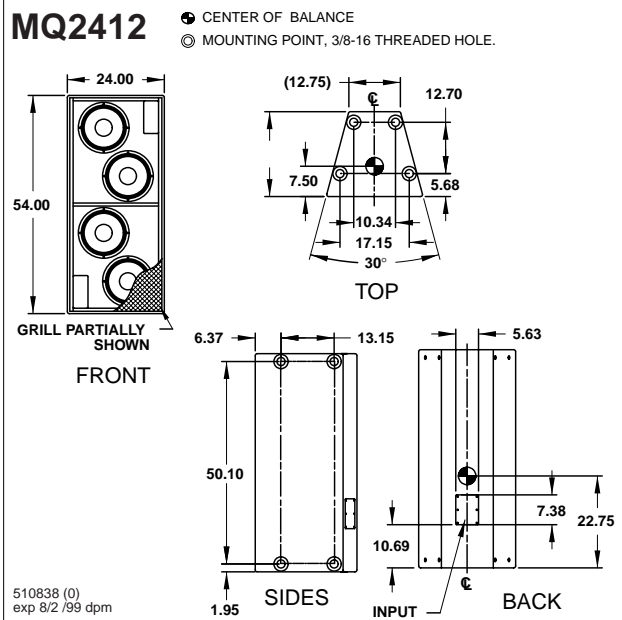
Configuration	Dedicated LF Module	
LF Subsystem	4x 12-in woofers	
Cabinet Type (shape)	Trapezoid	
Enclosure Materials	Baltic Birch Plywood	
Finish	Black Polyurethane	
Connectors	2x 4-Terminal Barrier Strip & 2x Neutrik NL4 Speakon	
Suspension Hardware	(16) 3/8"-16 Threaded Mounting Suspension Points (4 each top, bottom and sides)	
Grill	Powder Coated Perforated Steel	
Dimensions	inches	millimeters
Height	54	1372
Width (front)	24	610
Width (rear)	12.75	324
Depth	21	533
Trapezoid Angle	30°	
Weights	pounds	kilograms
Net Weight	168	76.4
Shipping Weight	182	82.8
Companion Systems		
Sub Bass	SB528, BH822e	
Mid/High	MQ2364, MQ2394	





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DIMENSIONAL DRAWINGS



ARCHITECTURAL SPECIFICATIONS

The low frequency loudspeaker systems shall incorporate 4x 12-in LF transducers. The LF drivers shall be mounted in separate vented subenclosures tuned for optimum low frequency response.

System frequency response shall vary no more than ± 3 dB from 45 Hz to 1600 Hz measured on axis. The loudspeaker shall produce a Sound Pressure Level (SPL) of 102 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. The loudspeaker shall handle 2000 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 4x 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 polyurethane. Input connectors shall be 2x 4-terminal barrier strips and 2x Neutrik NL4 Speakon with connections as follows (LF1 is topmost driver, LF4 is lowest):

NL4 (left) NL4 (right)

Pins 1 +/- LF1 +/- LF3 +/-

Pins 2 +/- LF2 +/- LF4 +/-

A total of sixteen 3/8"-16 threaded mounting/suspension points (4 each top, bottom, sides) shall be provided. The front of the loudspeaker shall be covered with a powder coated perforated steel grill.

The low frequency loudspeaker shall be the EAW model MQ2412.

NOMINAL DATA

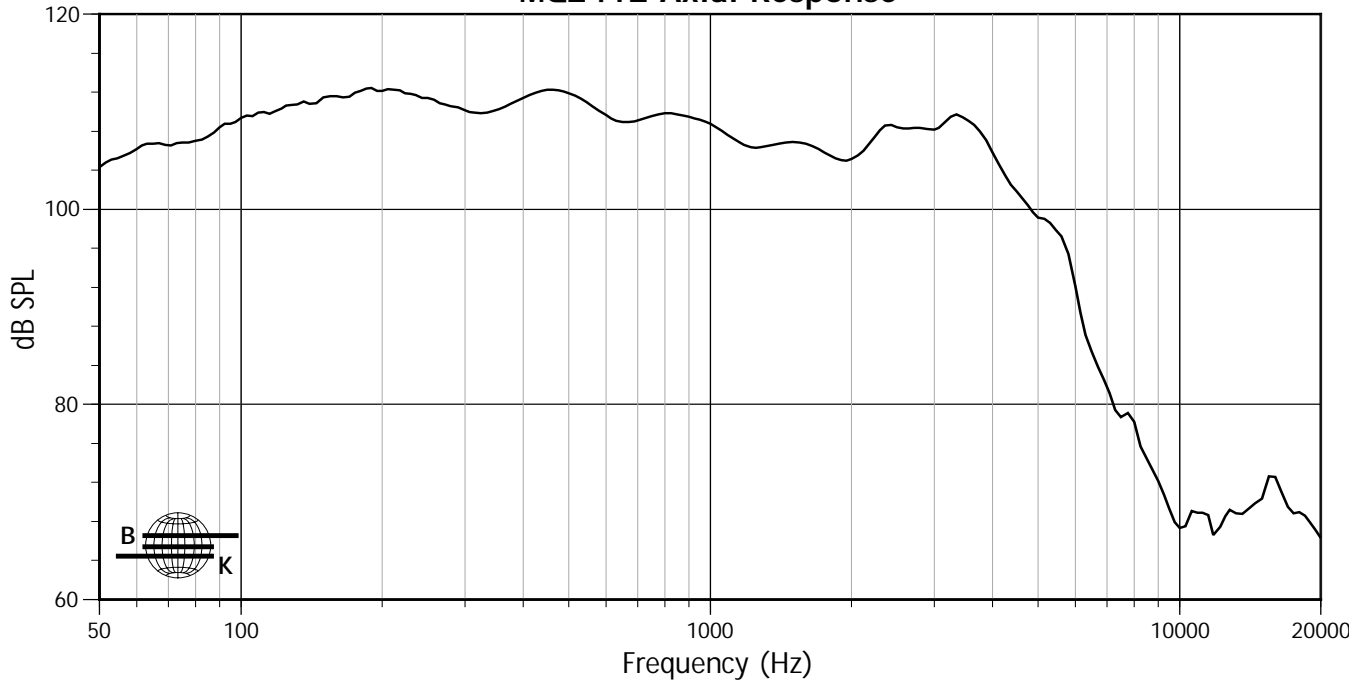
Frequency Response (1 W @ 1m)	
± 3 dB	45 Hz to 1.6 kHz
-10 dB	34 Hz
Axial Sensitivity (dB SPL, 1 Watt @ 1m)	
LF	102
Impedance (Ohms)	
LF	4x 8
Power Handling, AES Standard (Watts)	
LF	2000
Calculated Maximum Output (dB SPL)	
LF Peak	141.0
LF Long Term	135.0
Nominal Coverage Angle/-6 dB points (degrees)	
Horizontal	160
Vertical	60
Recommended High-Pass Frequency	
24 dB/Octave	32 Hz



PERFORMANCE SPECIFICATIONS MQ2412

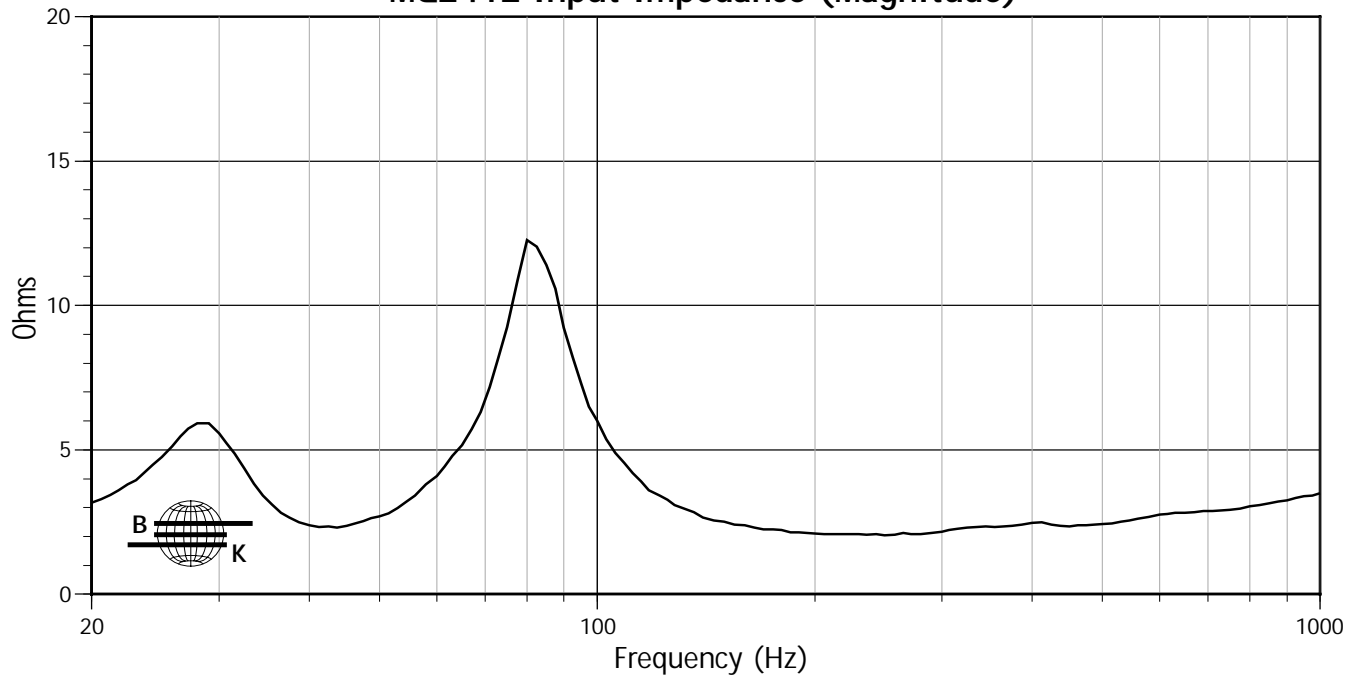
FREQUENCY RESPONSE

MQ2412 Axial Response



INPUT IMPEDANCE

MQ2412 Input Impedance (Magnitude)

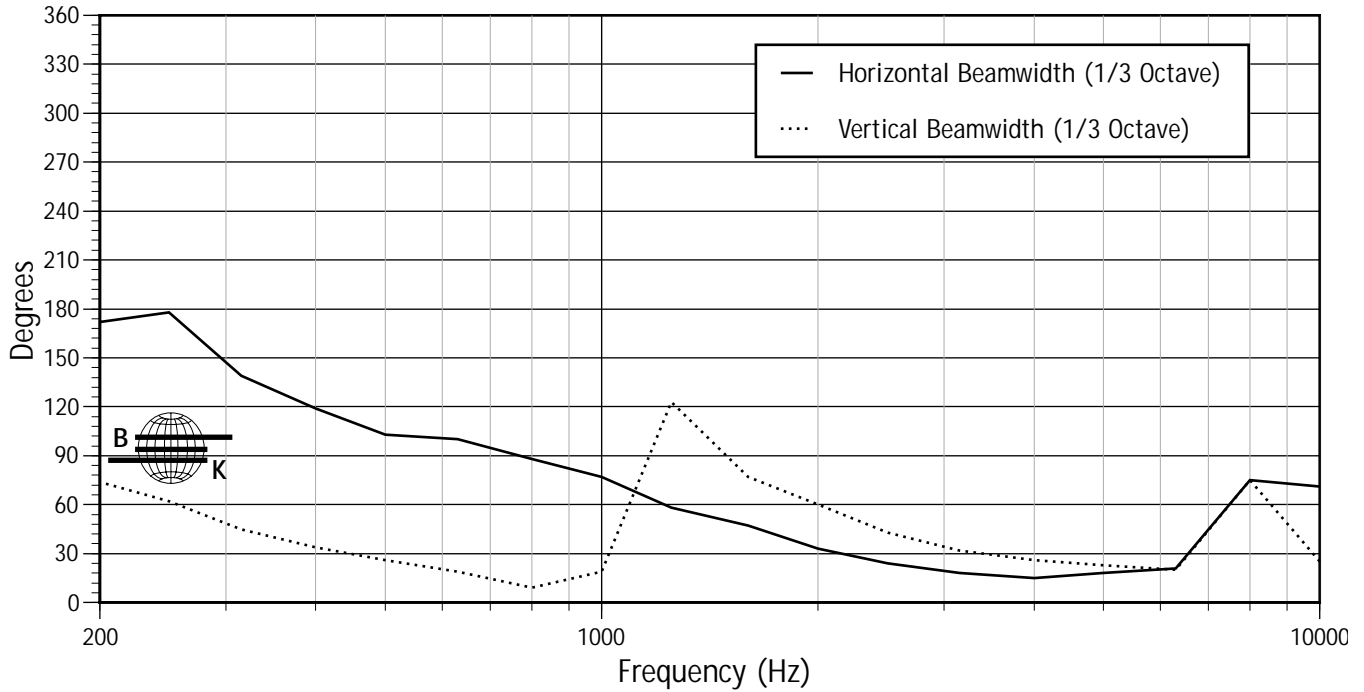




PERFORMANCE SPECIFICATIONS MQ2412

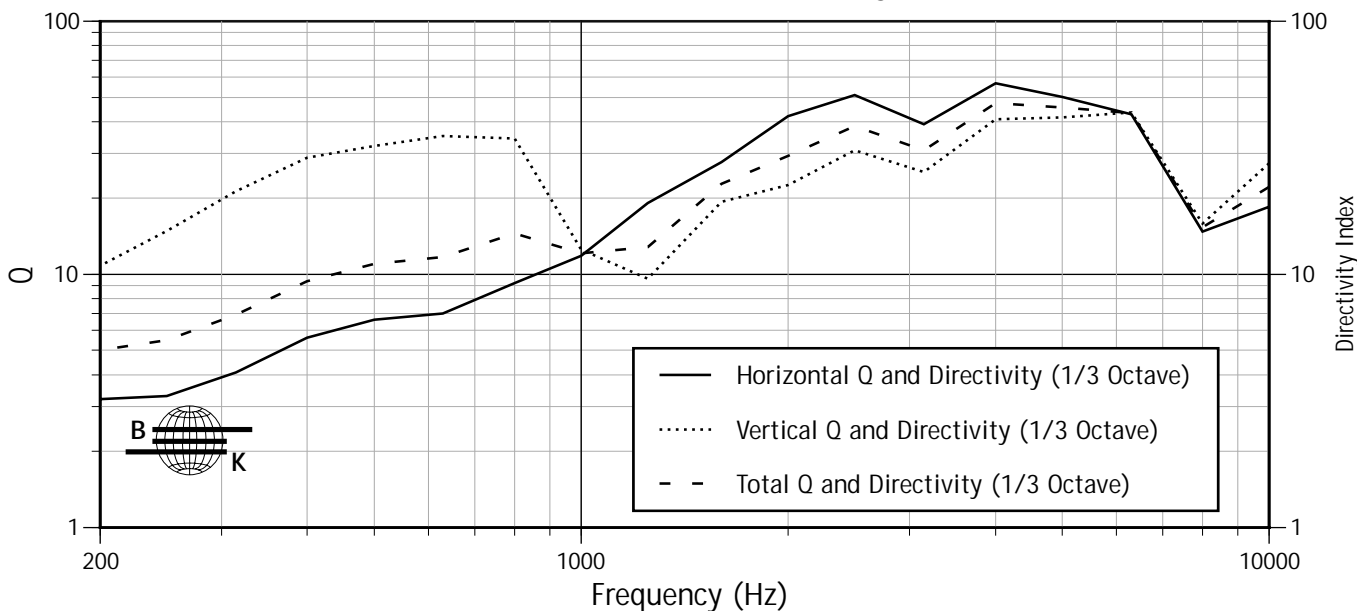
BEAMWIDTH

MQ2412 Beamwidth vs Frequency



Q & DIRECTIVITY INDEX (DI)

MQ2412 Q and Directivity

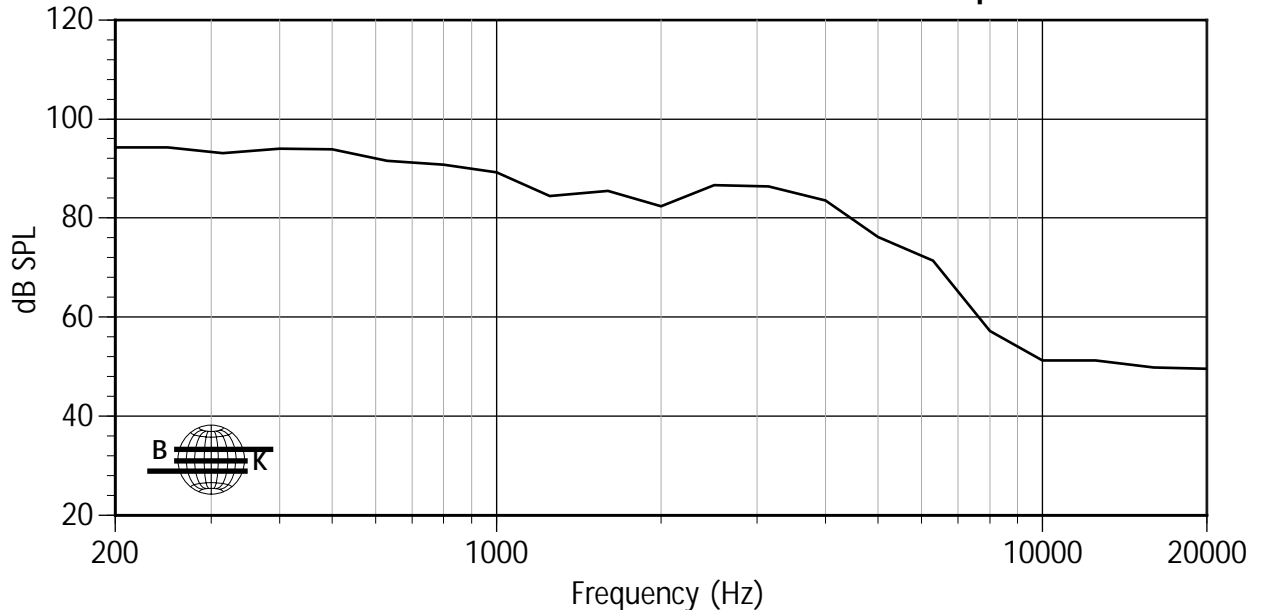




PERFORMANCE SPECIFICATIONS MQ2412

POWER RESPONSE

MQ2412 Beamwidth Delimited Power Response





PERFORMANCE SPECIFICATIONS MQ2412

Q & DIRECTIVITY & BEAMWIDTH BY FREQUENCY

Frequency	Hor Beamwidth	Ver Beamwidth	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir
100	360	360	1.8	2.9	2.2
125	360	360	2.1	3.4	2.6
160	360	360	2.5	6	3.6
200	172	74	3.2	10.8	5
250	178	62	3.3	14.8	5.5
315	139	45	4.1	21.3	6.9
400	119	34	5.6	28.9	9.4
500	103	26	6.6	32.2	11
630	100	19	7	35.2	11.7
800	88	9	9.2	34.4	14.5
1000	77	19	11.8	12.5	12.1
1250	58	123	19.1	9.6	12.8
1600	47	77	27.8	19.3	22.8
2000	33	60	42.1	22.5	29.3
2500	24	43	50.9	30.9	38.4
3150	18	32	39.1	25.4	30.8
4000	15	26	56.7	40.9	47.5
5000	18	23	50.3	41.6	45.5
6300	21	20	42.8	43.6	43.2
8000	75	75	14.7	15.9	15.3
10000	71	25	18.5	27.4	22.1
12500	26	18	34.7	38.5	36.5
16000	39	48	20.4	22.5	21.4
20000	93	43	8.4	21.5	12.8

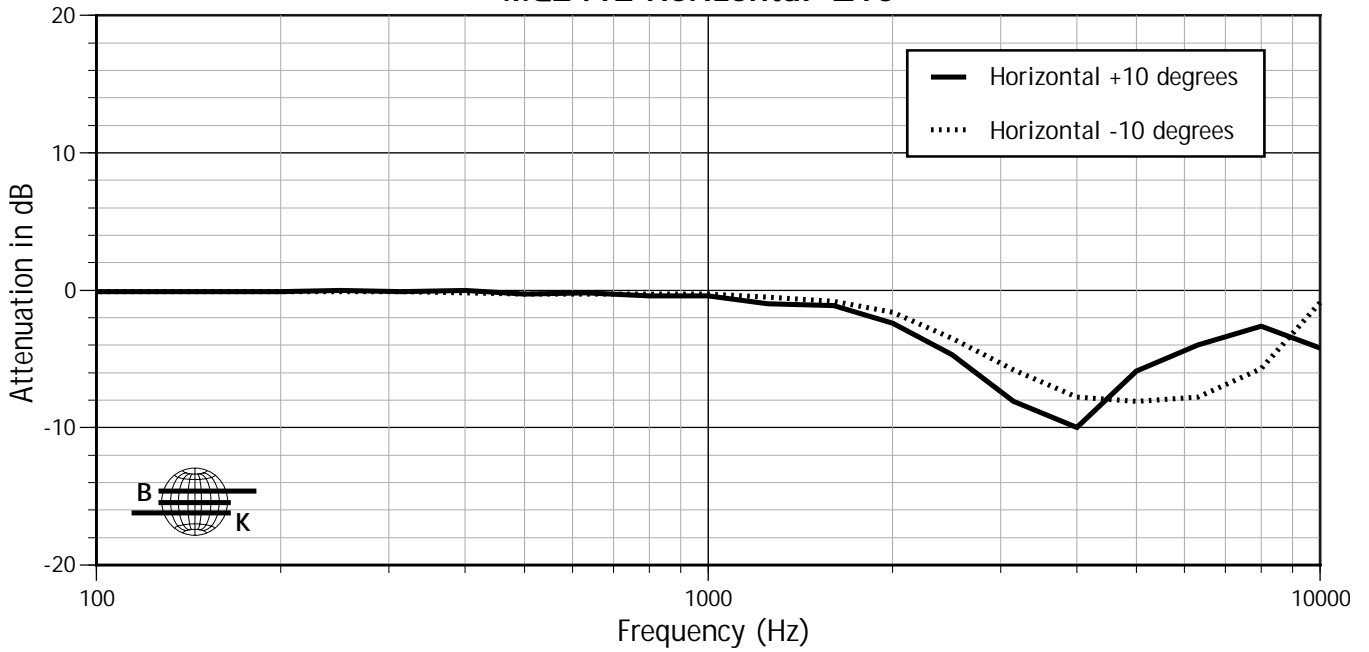


PERFORMANCE SPECIFICATIONS MQ2412

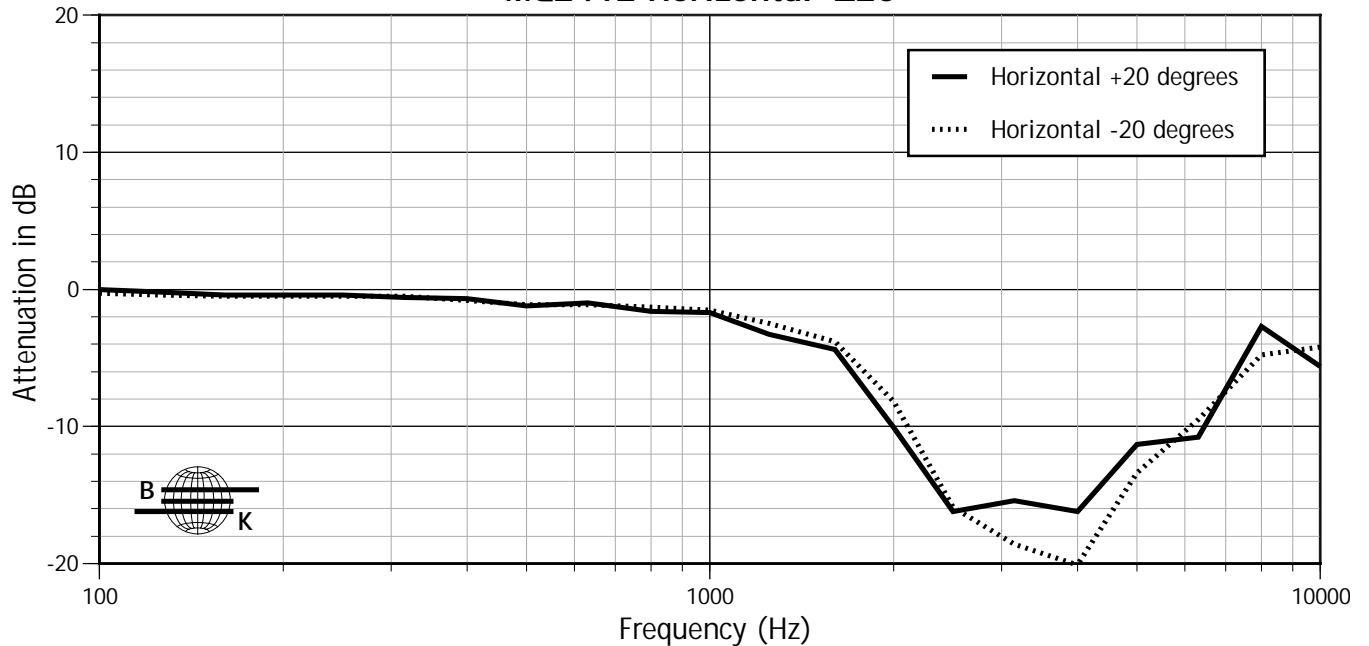
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2412 Horizontal $\pm 10^\circ$



MQ2412 Horizontal $\pm 20^\circ$



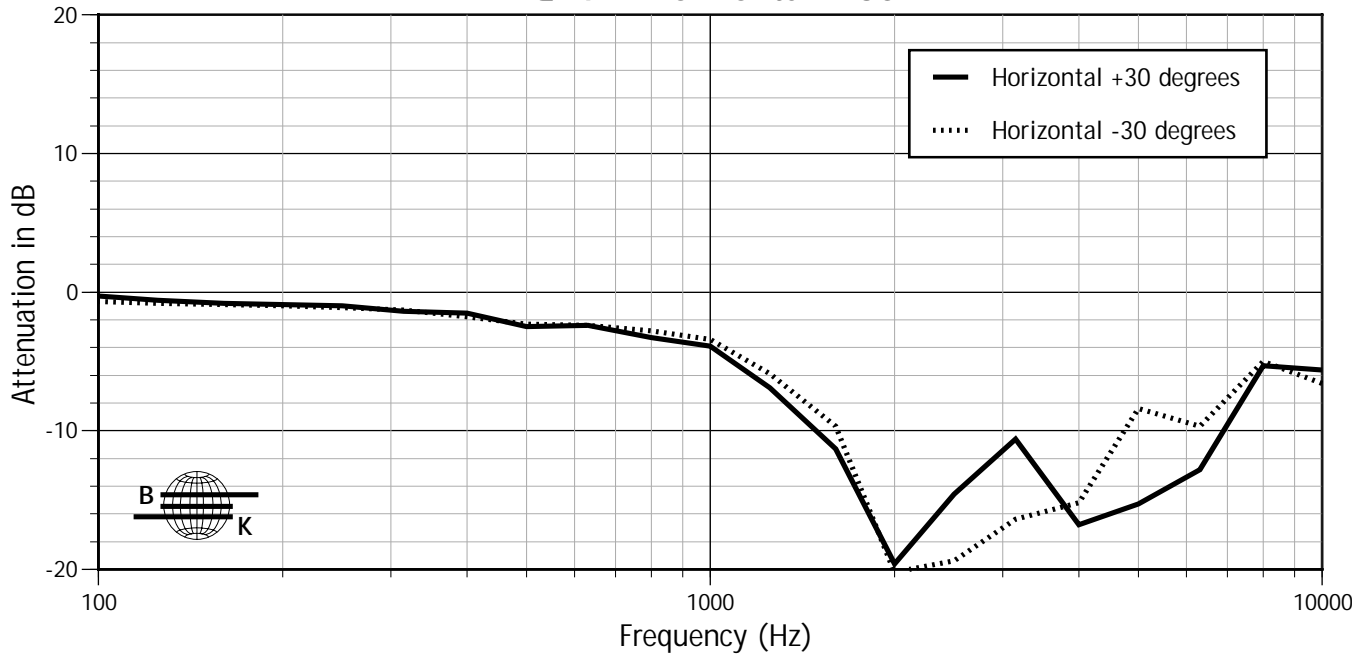


PERFORMANCE SPECIFICATIONS MQ2412

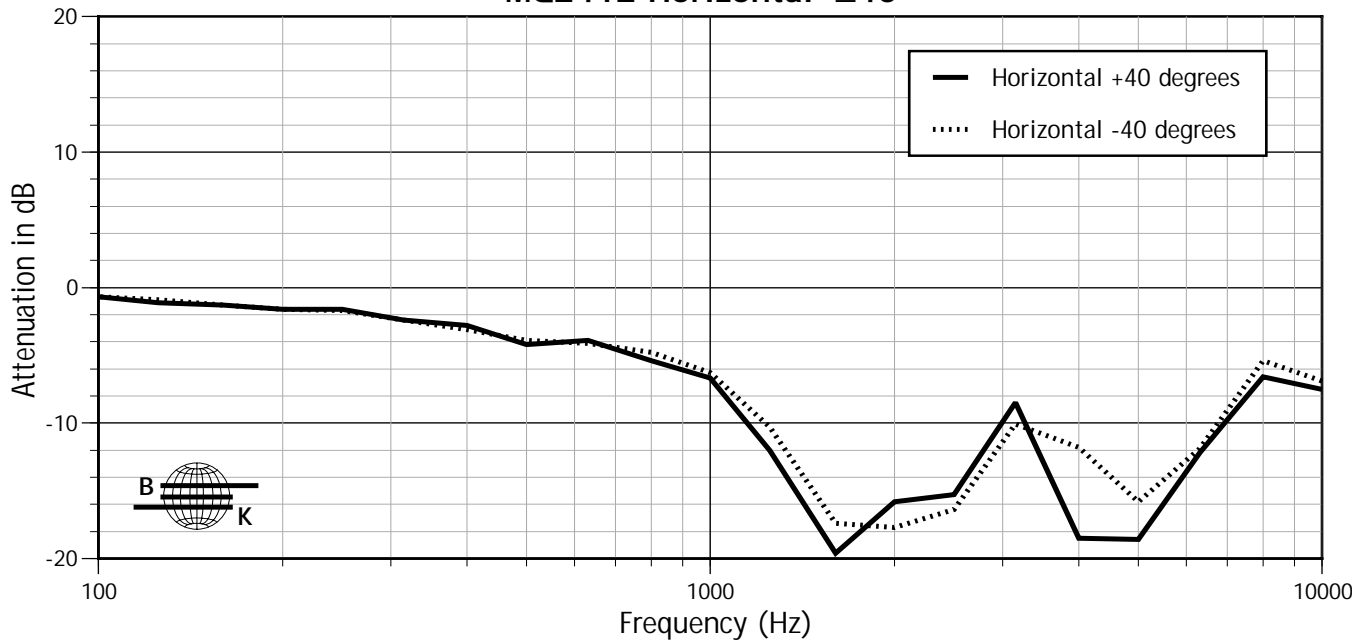
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2412 Horizontal $\pm 30^\circ$



MQ2412 Horizontal $\pm 40^\circ$



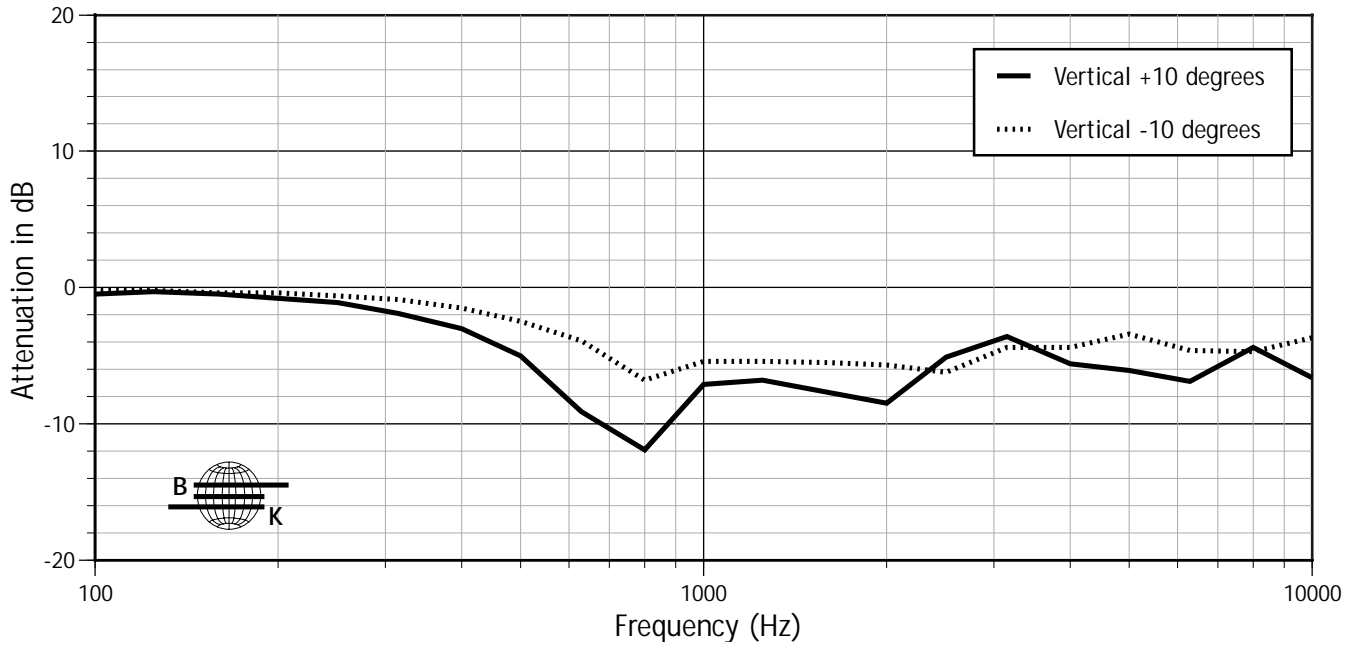


PERFORMANCE SPECIFICATIONS MQ2412

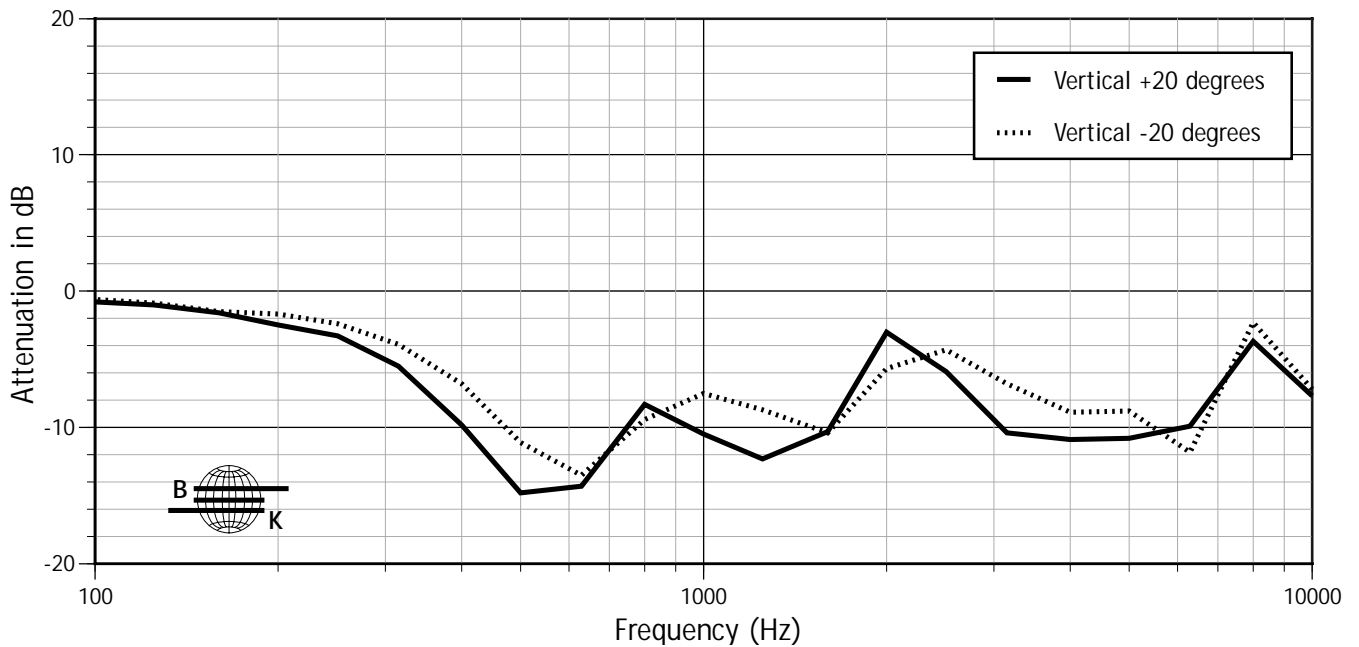
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2412 Vertical $\pm 10^\circ$



MQ2412 Vertical $\pm 20^\circ$



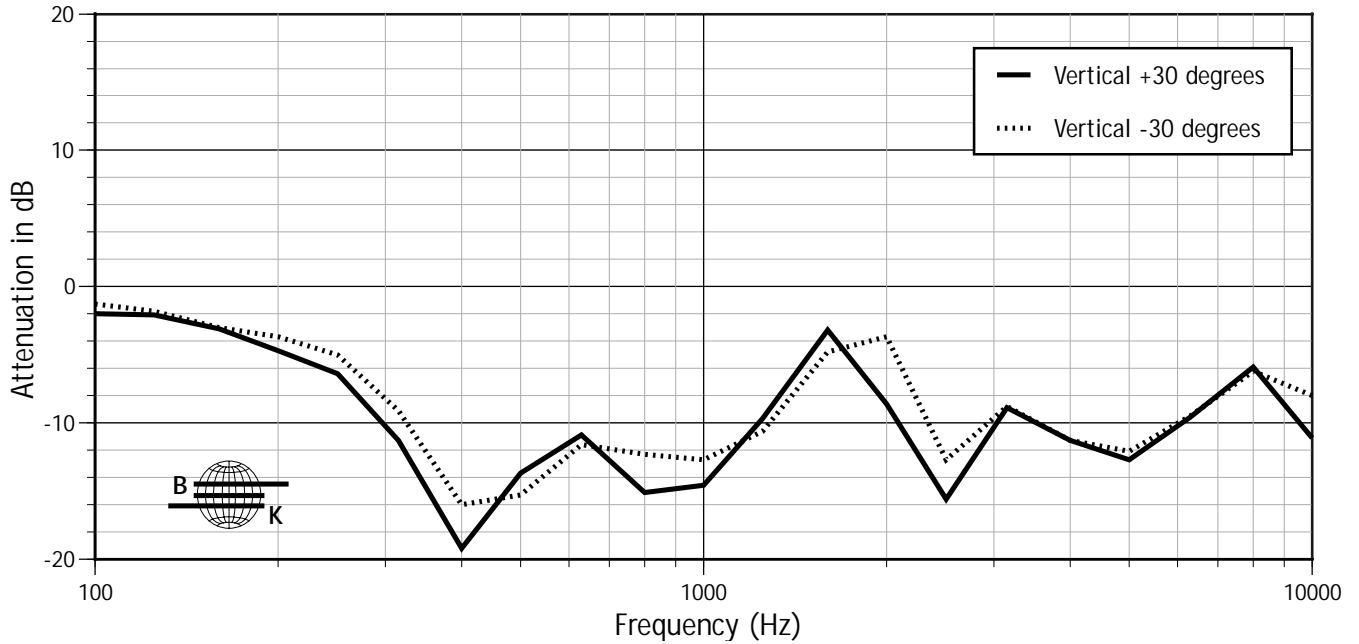


PERFORMANCE SPECIFICATIONS MQ2412

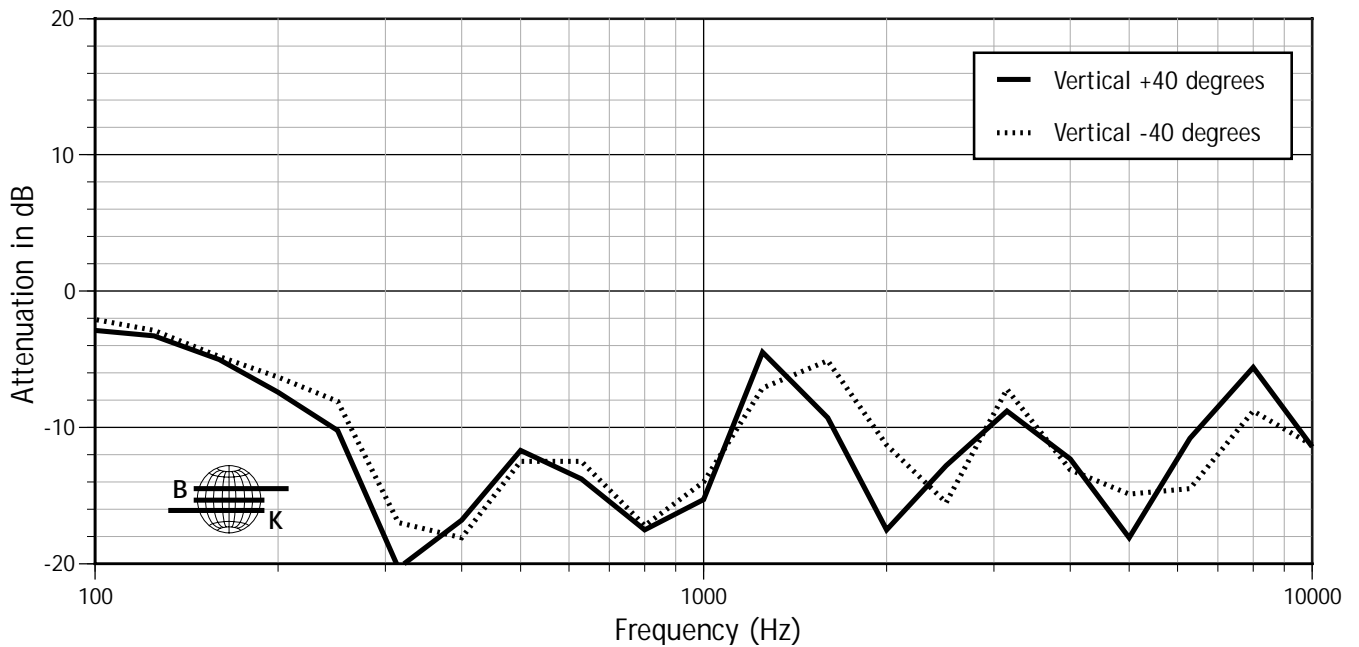
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

MQ2412 Vertical $\pm 30^\circ$

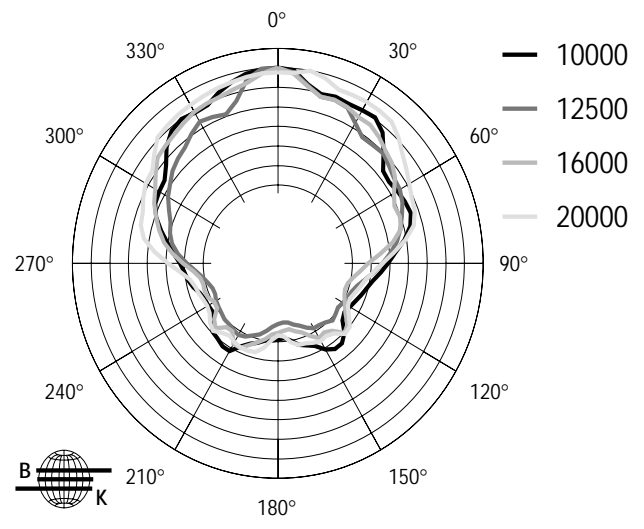
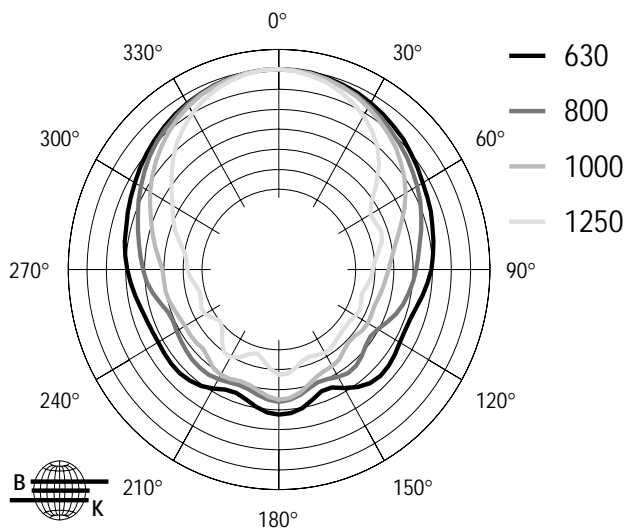
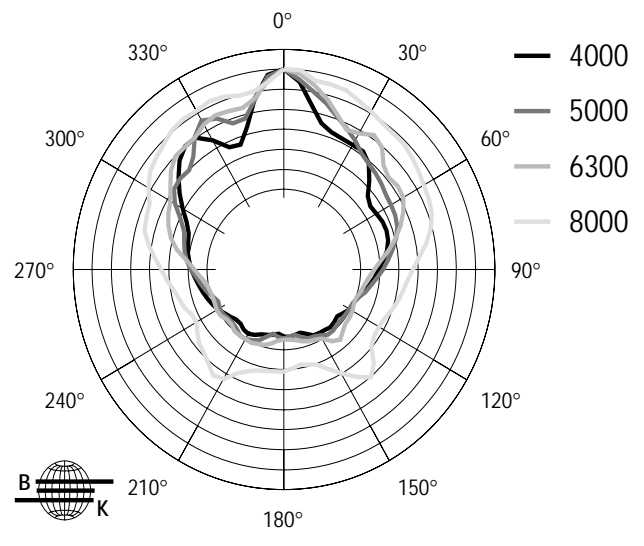
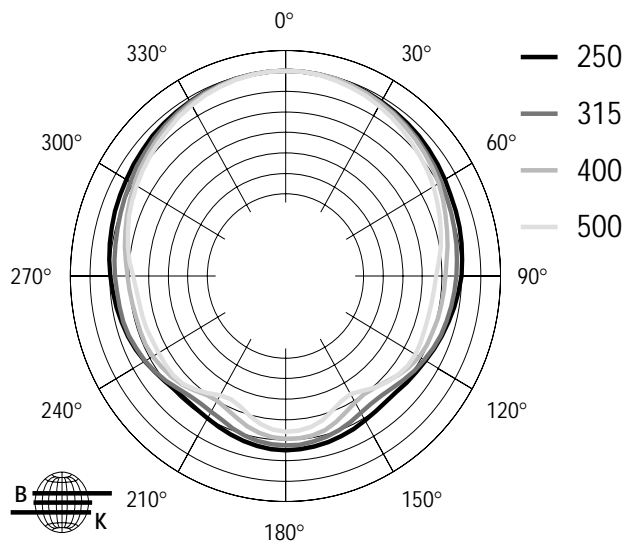
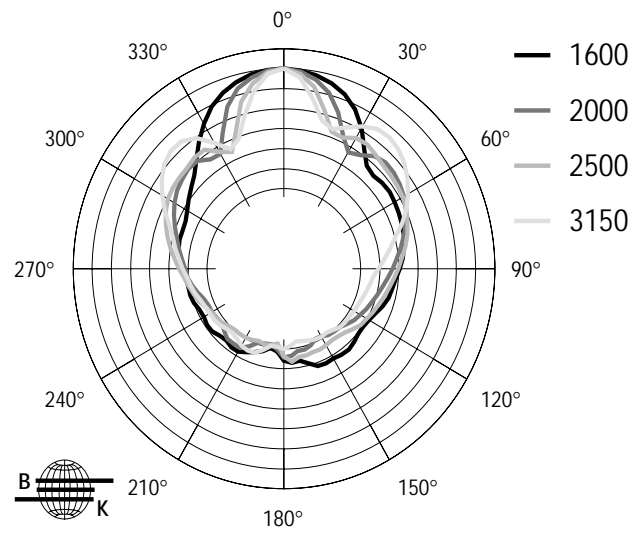
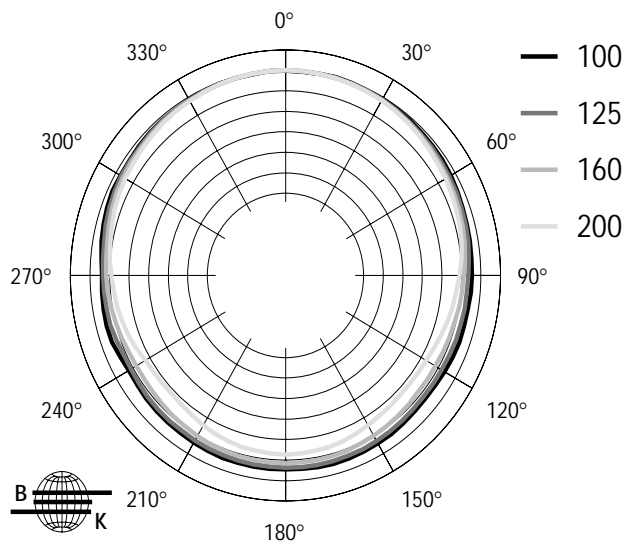


MQ2412 Vertical $\pm 40^\circ$





HORIZONTAL 1/3 OCTAVE POLAR DATA MQ2412

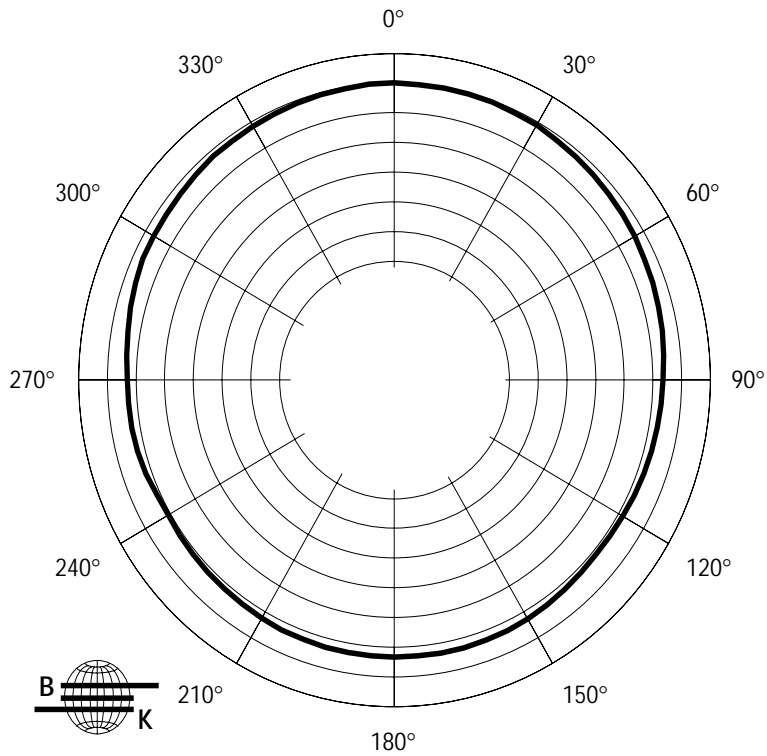


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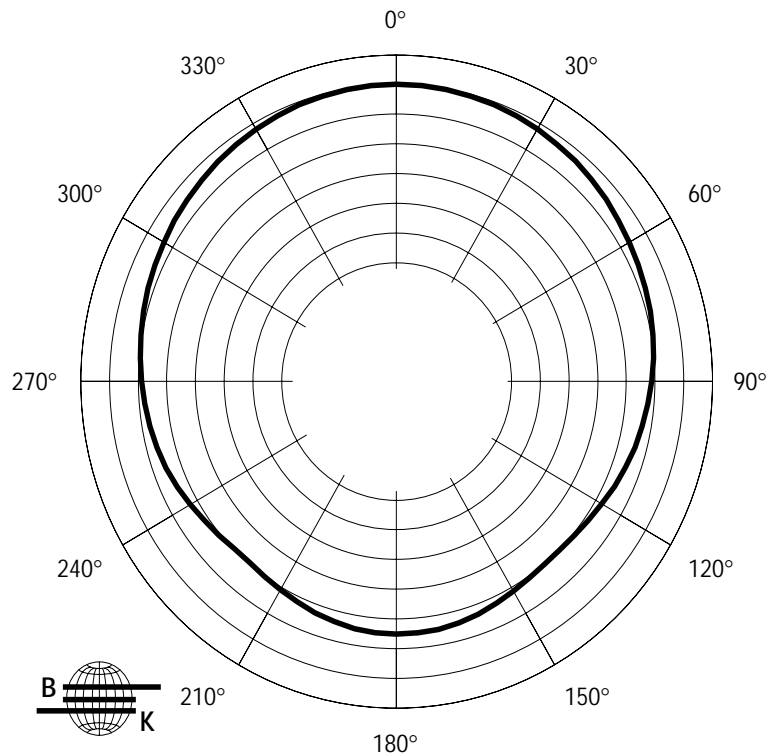


HORIZONTAL OCTAVE POLAR DATA MQ2412

MQ2412 125 Hz Horizontal Octave Polar Data



MQ2412 250 Hz Horizontal Octave Polar Data

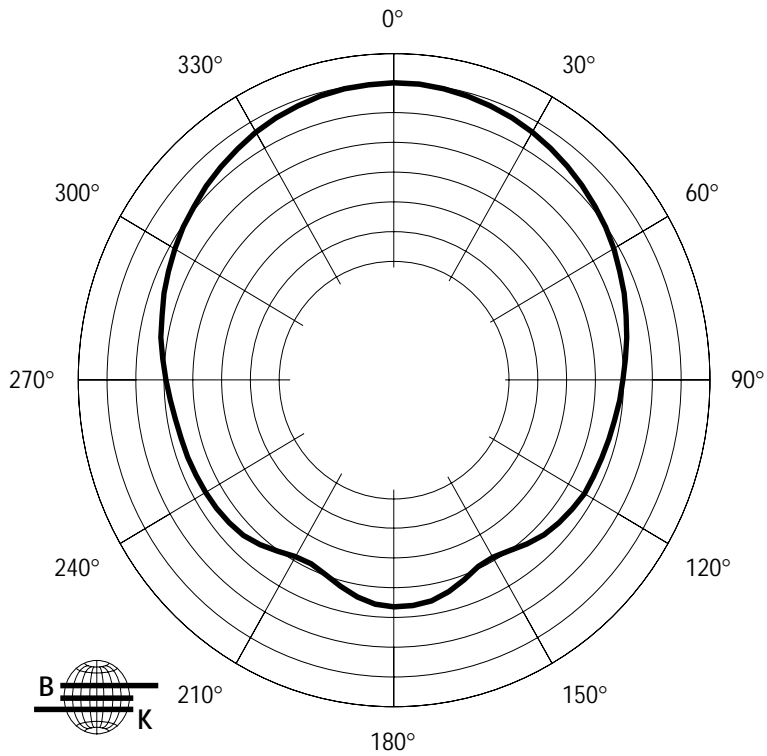


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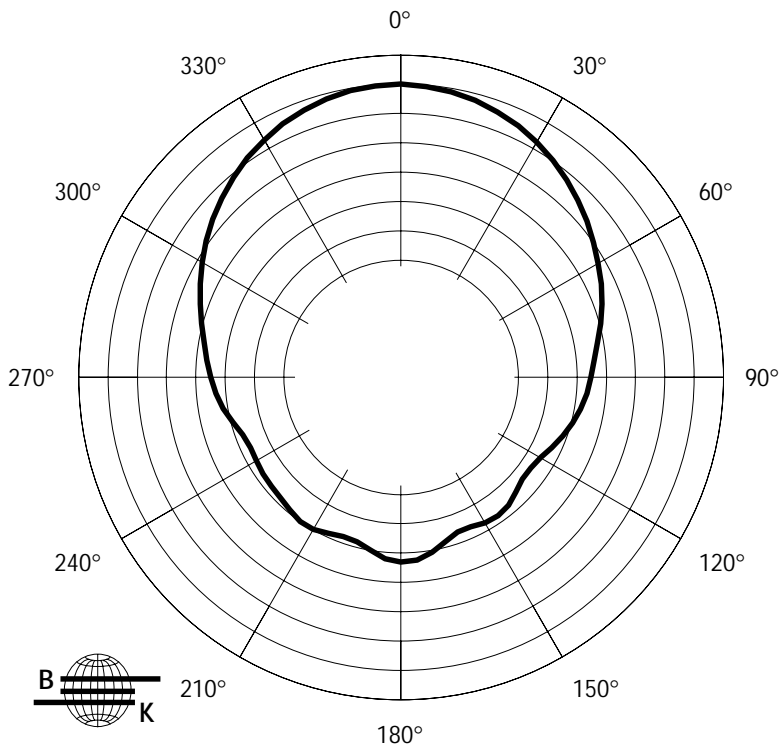


HORIZONTAL OCTAVE POLAR DATA MQ2412

MQ2412 500 Hz Horizontal Octave Polar Data



MQ2412 1000 Hz Horizontal Octave Polar Data

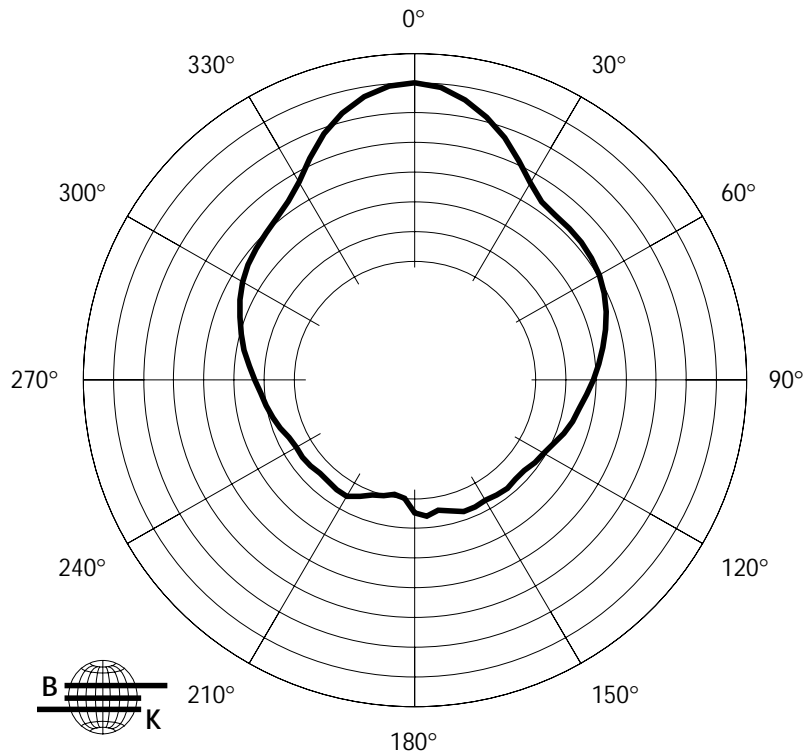


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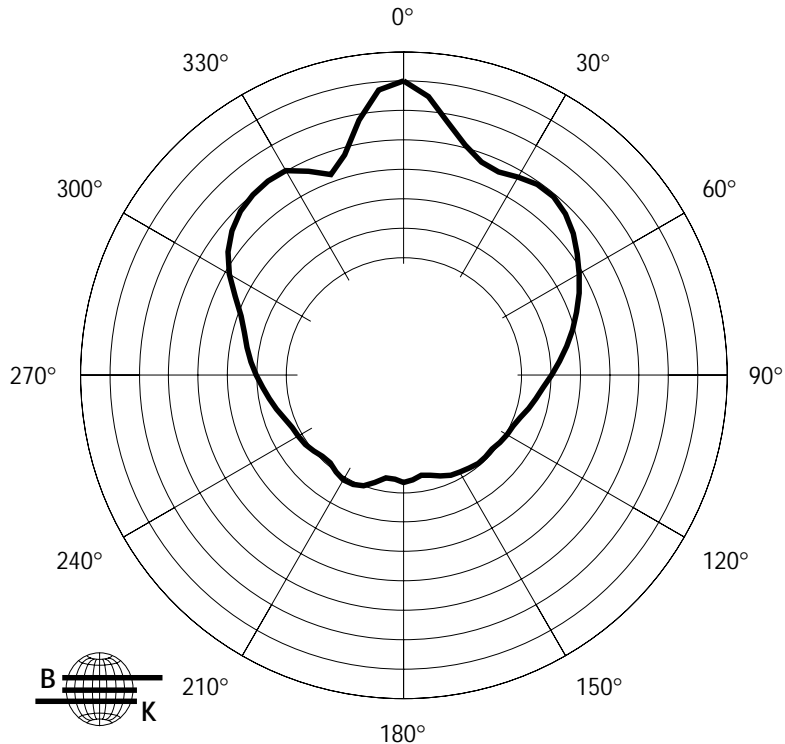


HORIZONTAL OCTAVE POLAR DATA MQ2412

MQ2412 2000 Hz Horizontal Octave Polar Data



MQ2412 4000 Hz Horizontal Octave Polar Data

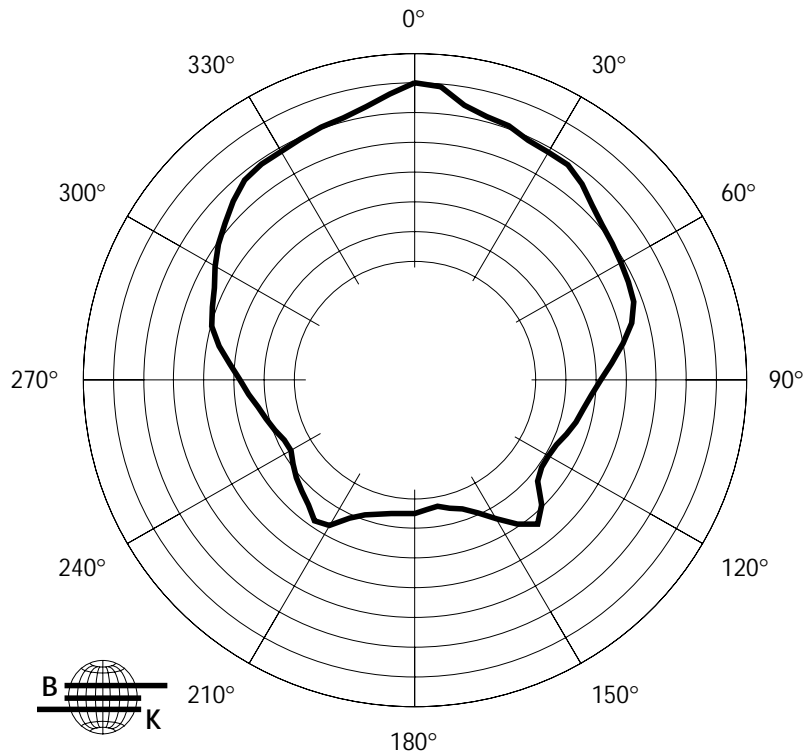


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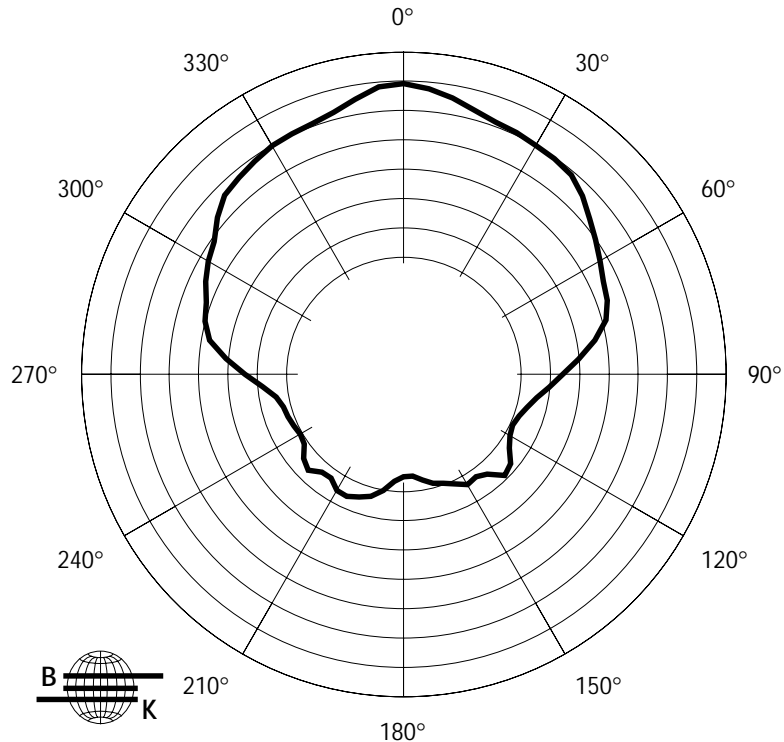


HORIZONTAL OCTAVE POLAR DATA MQ2412

MQ2412 8000 Hz Horizontal Octave Polar Data



MQ2412 16000 Hz Horizontal Octave Polar Data

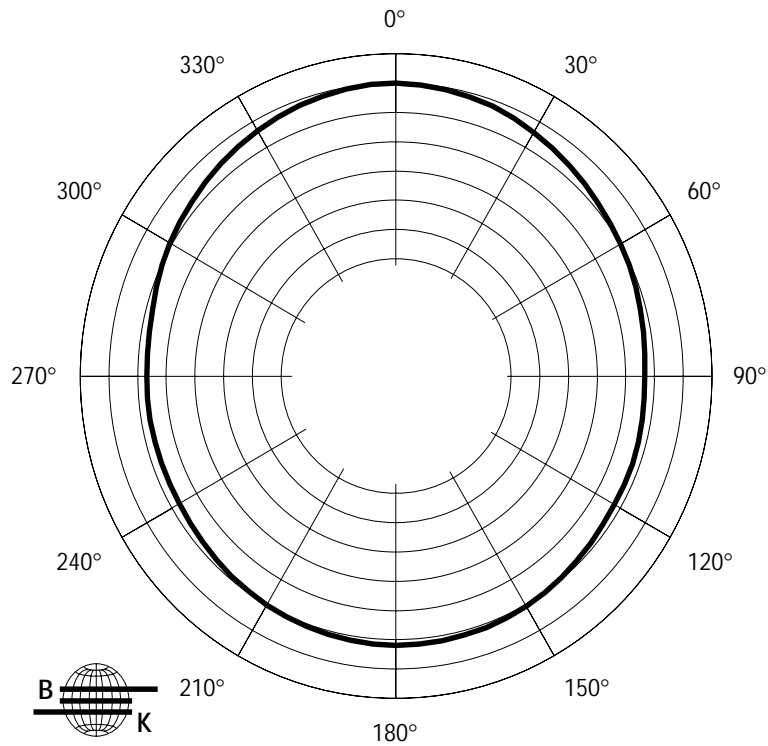


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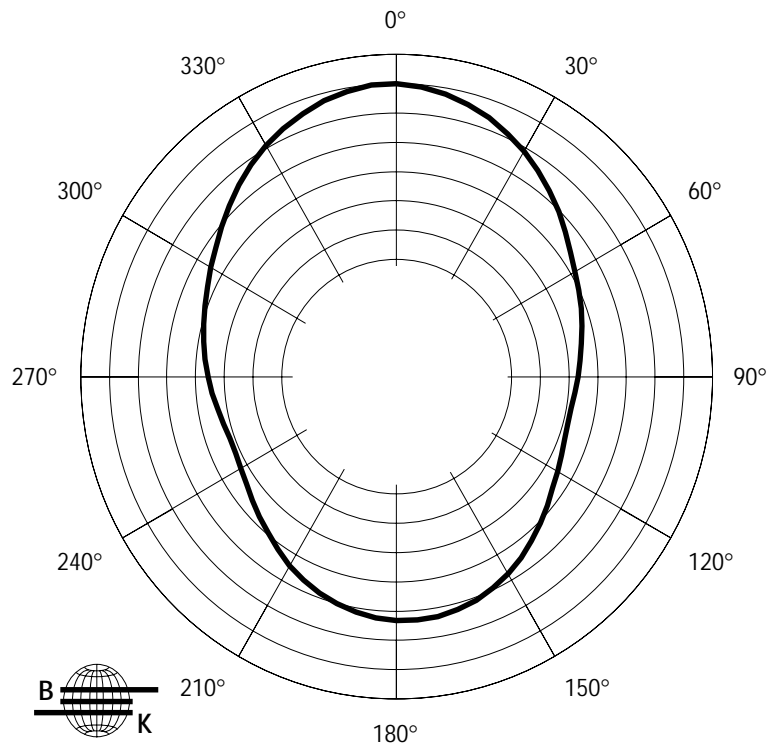


VERTICAL OCTAVE POLAR DATA MQ2412

MQ2412 125 Hz Vertical Octave Polar Data



MQ2412 250 Hz Vertical Octave Polar Data

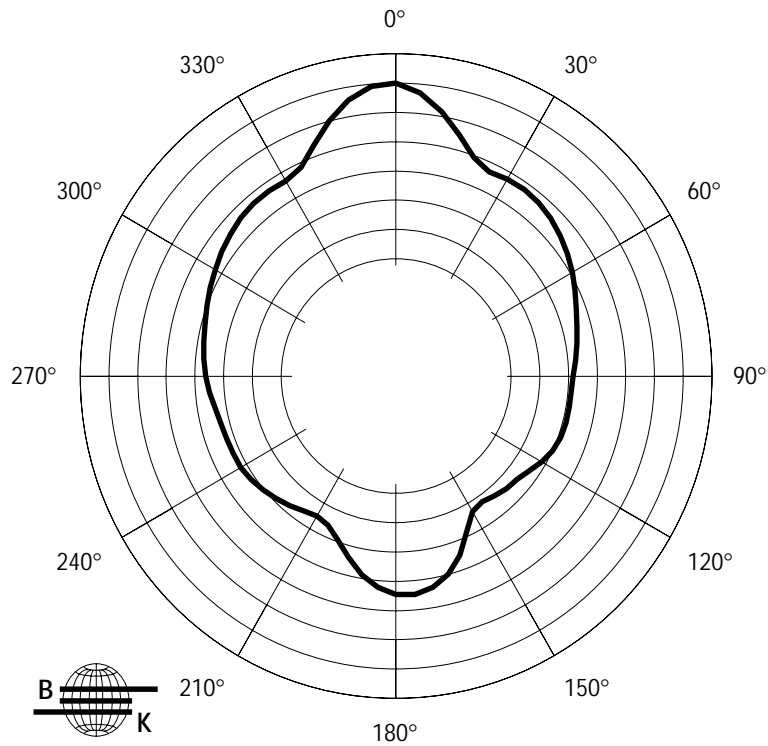


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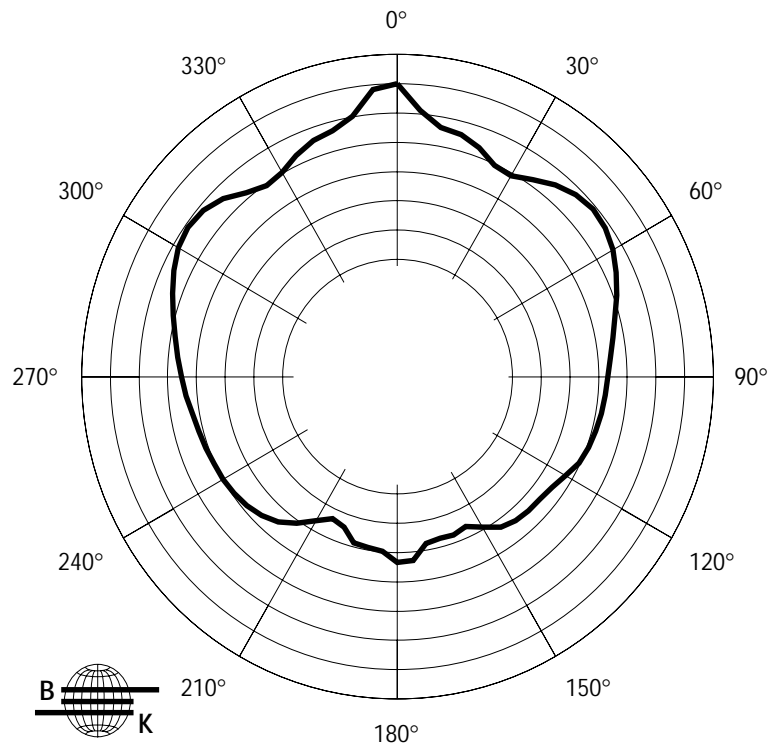


VERTICAL OCTAVE POLAR DATA MQ2412

MQ2412 500 Hz Vertical Octave Polar Data



MQ2412 1000 Hz Vertical Octave Polar Data

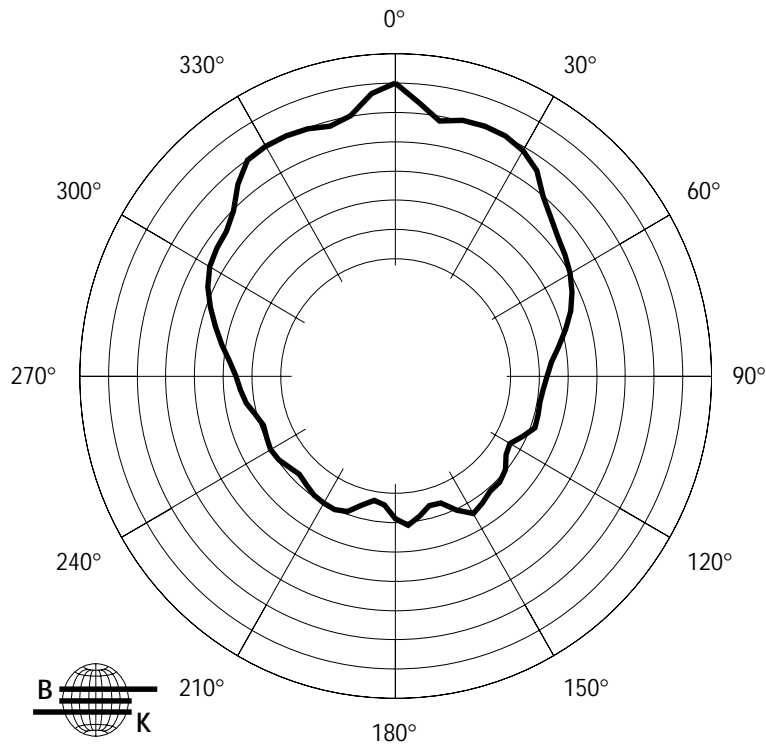


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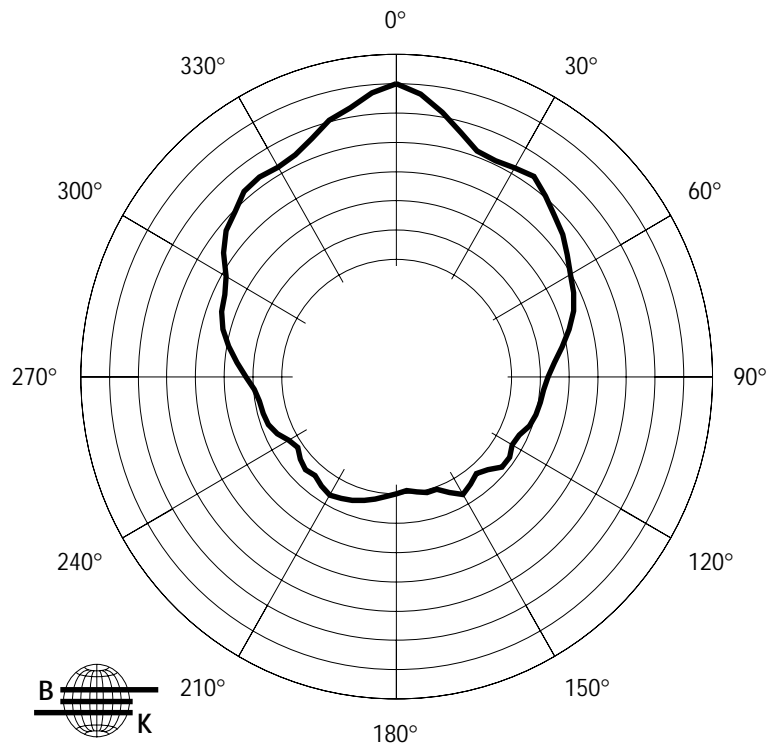


VERTICAL OCTAVE POLAR DATA MQ2412

MQ2412 2000 Hz Vertical Octave Polar Data



MQ2412 4000 Hz Vertical Octave Polar Data

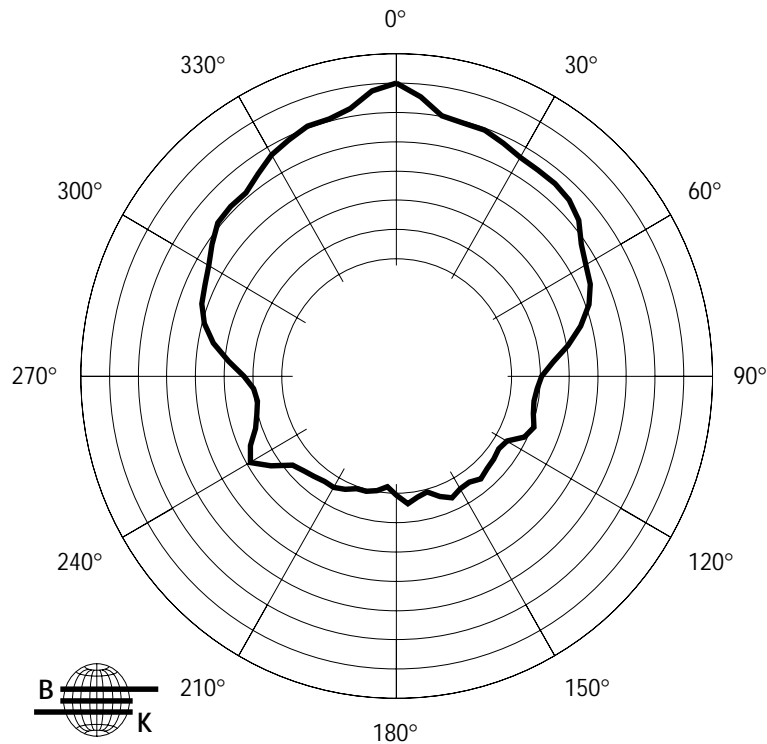


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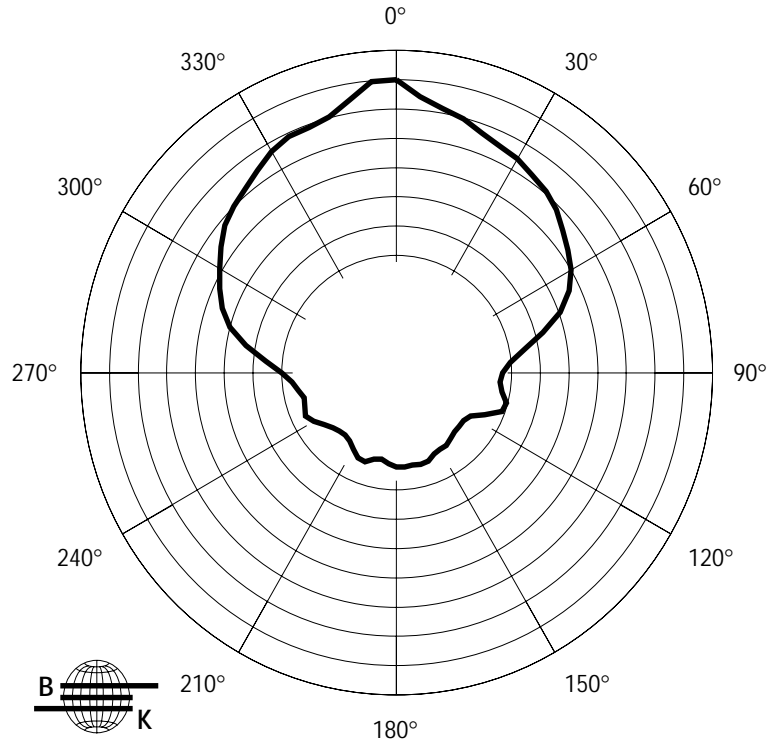


VERTICAL OCTAVE POLAR DATA MQ2412

MQ2412 8000 Hz Vertical Octave Polar Data



MQ2412 16000 Hz Vertical Octave Polar Data



6 db/div.