TECHNICAL SPECIFICATIONS LS432

- Line source loudspeakers with coherent, intelligble, consistent coverage from 200 Hz to 20 kHz
- System includes 4x 4-in woofers and 3x 1-in soft dome tweeters
- Sophisticated frequency shading produces coherent summation of the multiple drivers
- Line source coupling effects keep vertical coverage narrow throughout the vocal range
- Direct radiating drivers provide extra wide horizontal coverage
- Low ceiling, hard floor – no problem

DESCRIPTION

EAW's LS432 line source loudspeaker system brings the classic column speaker up-to-date. Sophisticated frequency shading and all-pass filtering integrates the 4x 4-in woofers and 3x 1-in soft dome tweeters, maximizing the benefits of line source coupling while eliminating grading lobes.

The system maintains a well behaved nominal vertical coverage pattern of 20° to below 1000Hz. Even at 500 Hz, the vertical pattern is still 80°. With the enclosure baffle defining a gentle arc, the drivers form a curved line source to help prevent the vertical pattern from collapsing in the crossover region.

At the same time, the drivers act as direct radiators in the horizontal plane, giving the system an extra-wide 140° horizontal coverage pattern with response that meets professional standards for fidelity and intelligibility.

The internal passive crossover/filter network uses complex, asymmetrical slopes to integrate the subsystems and goes beyond merely dividing the signal to perform critical equalization functions.

APPLICATION

Like the classic column speakers of the '50s and 60's, the LS432 was designed to solve speech-only installation problems in highly reverberant spaces with low ceilings and hard floors. These might include small houses of worship, libraries or other civic spaces, and transportation hubs.

The 26-in tall, 6.25-in wide enclosure fits nicely on architectural columns and can be custom painted to blend in with any decor. The enclosure includes a comprehensive system of 1/4"-20 threaded mounting points for easy installation. The LS432 is available as the LS432-SLT with a 15° downward angle to the front baffle, letting the system be mounted near a higher ceiling without sacrificing coverage.

DESCRIPTIVE DATA

Configuration	2-way, Full Range	
Powering	Passive (LF/HF Crossover)	
LF Subsystem	4x 4-in Woofer	
HF Subsystem	3x1-inSoft Dome Tweeter	
Coverage Angles (h° x v°)	140 x 20	
Cabinet Type (shape)	Rectangular	
Enclosure Materials	Baltic Birch Plywood	
Finish	Black Polyurethane	
Connectors	2-Terminal Barrier Strip	
Suspension Hardware	(8) 1/4"-20 Threaded Mounting/ Suspension Points (1 each Top, Bottom, and Sides; 4 Back)	
Grill	Vinyl Coated Perforated Steel	
Options	FC142 Forged Shoulder Eyebolt	
Dimensions	**inches**	**millimeters**
Height	26.00	660
Width	6.25	159
Depth (Max)	6.00	152
Depth (Top)	5.75	146
Depth (Bottom)	5.75	146
Weights	**pounds**	**kilograms**
Net Weight	20	9.1
Shipping Weight	23	10.5

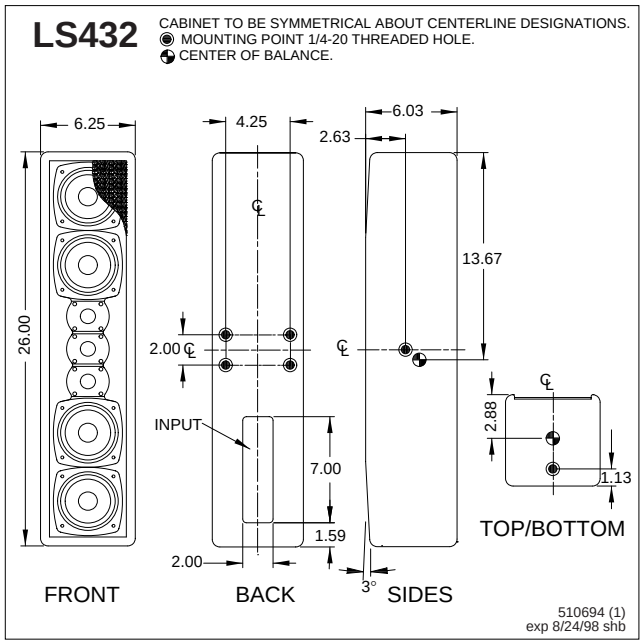
EASTERN ACOUSTIC WORKS

One Main Street, Whitinsville, MA 01588 • (508) 234 - 6158 • FAX (508) 234 - 8251 • Email info@eaw.com • Web http://www.eaw.com

 • PUB# LS432-888138 (A)/2 pp/2/1/99 • Printed In USA

TECHNICAL SPECIFICATIONS LS432

DIMENSIONAL DRAWING



SERVICE ITEMS

LF: Complete Cone Driver	
EAW Part No.	804082
HF: Complete Compression Driver/Tweeter	
EAW Part No.	805015
Filter/Crossover Network: Complete Assembly	
EAW Part No.	225410

NOMINAL DATA

Frequency Response (1 Watt @ 1m)	
±3 dB	200 Hz to 20 kHz
-10 dB	100Hz
Axial Sensitivity (dB SPL, 1 Watt @ 1m)	
Full Range	95
Impedance (Ohms)	
Full Range	8
Power Handling, AES Standard (Watts)	
Full Range	150
Calculated Maximum Output (dB SPL)	
Full Range Peak	122.8
Full Range Longterm	116.8

ARCHITECTURAL SPECIFICATIONS

The two-way full range loudspeaker systems shall incorporate four 4-in LF transducers and three 1-in soft dome tweeter HF transducer.

All seven drivers shall be mounted in a vertical column to create a line source. The LF drivers shall be mounted two each above and below the three HF drivers. An internal frequency shading filter set shall maximize beneficial line source coupling while minimizing grading lobes. An internal passive filter network shall provide fourth order acoustical crossover and system equalization between the low and high frequency sections.

System frequency response shall vary no more than ±3 dB from 200 Hz to 20 kHz measured on axis. The system shall produce a Sound Pressure Level (SPL) of 95 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 122.8 dB SPL on axis at 1 meter. The system shall handle 150 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms.

The loudspeaker enclosure shall be rectangular in shape with a convex arc to the front baffle. 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 two-terminal barrier strip. A total of 8x 1/4"-20 threaded mounting/suspension points (1 each top, bottom and sides, 4 back) shall be provided. The front of the loudspeaker shall be covered with a vinyl coated perforated steel grill.

The 2-way full range loudspeaker shall be the EAW model LS432.

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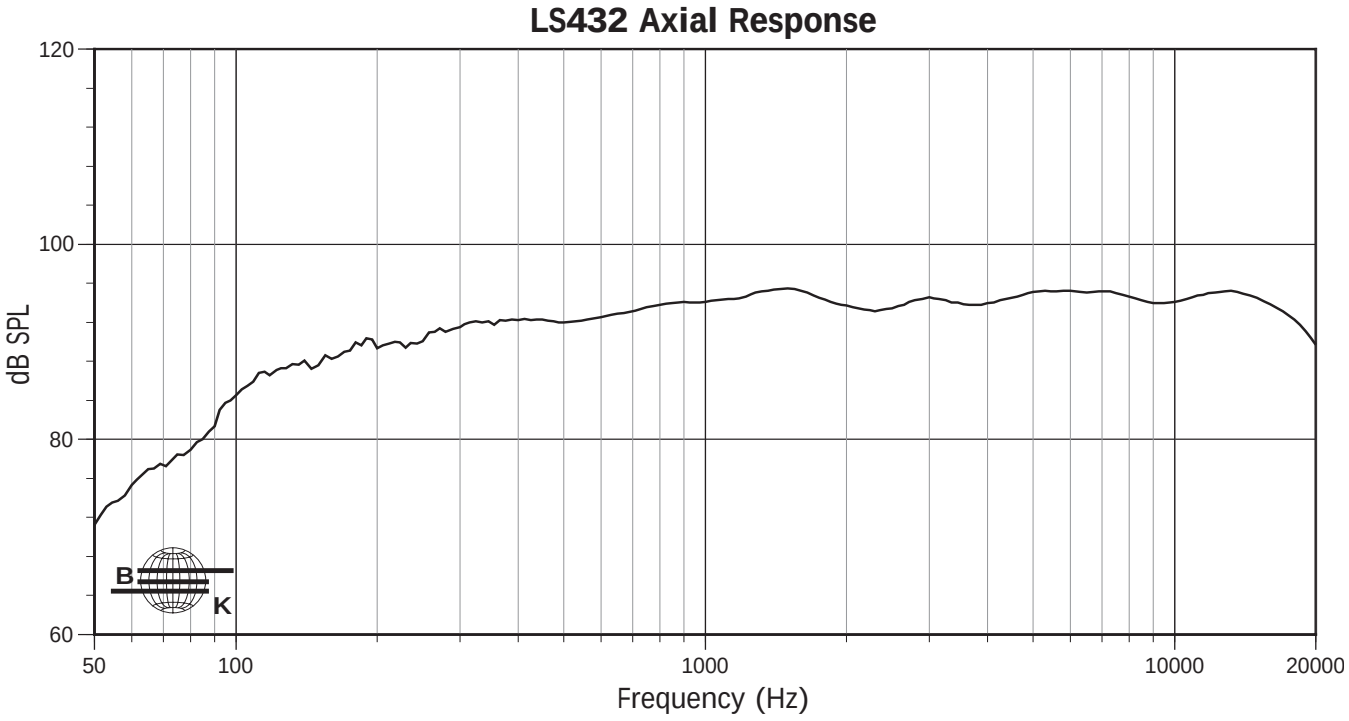
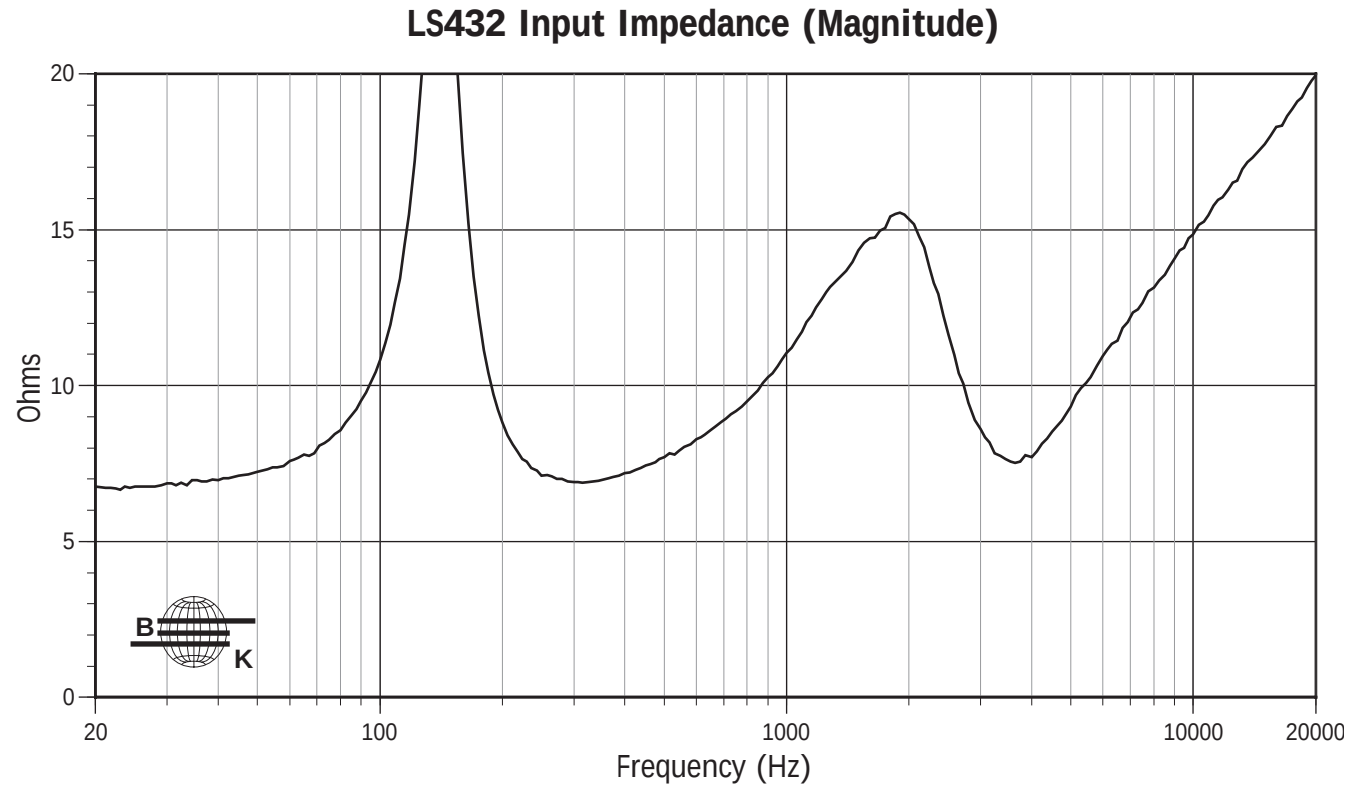
FREQUENCY RESPONSE

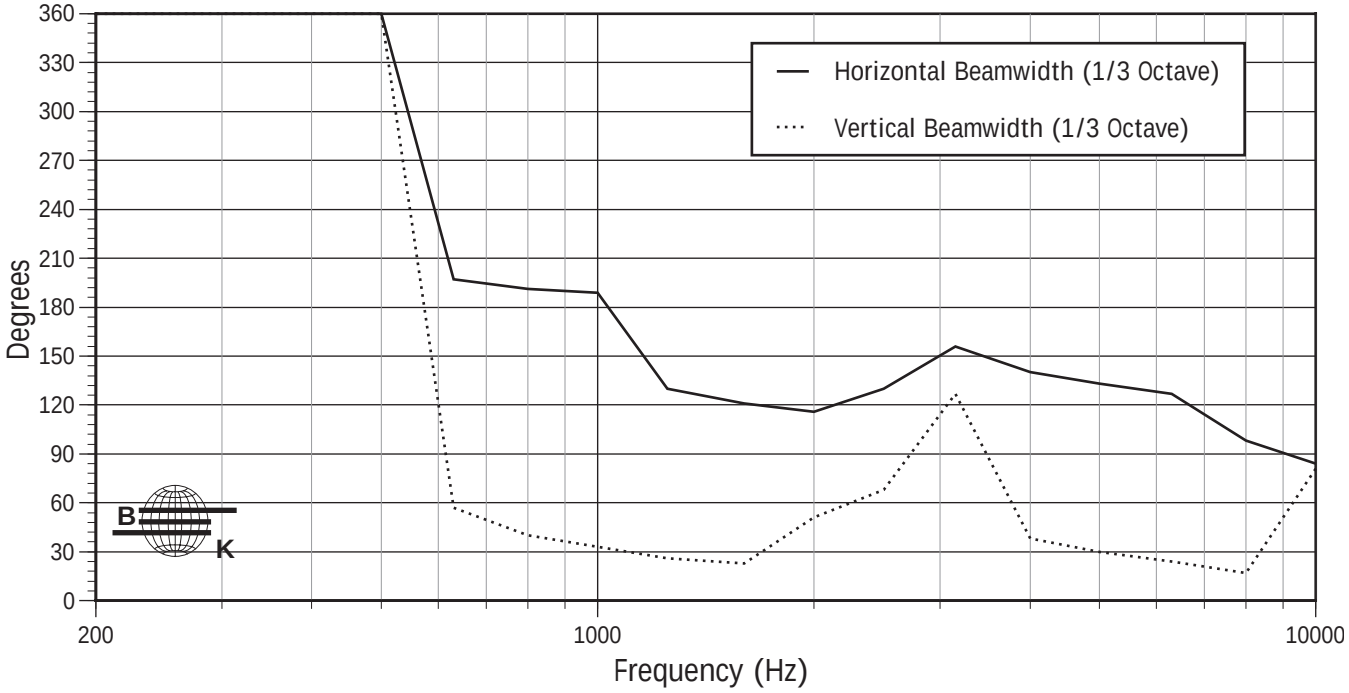


INPUT IMPEDANCE



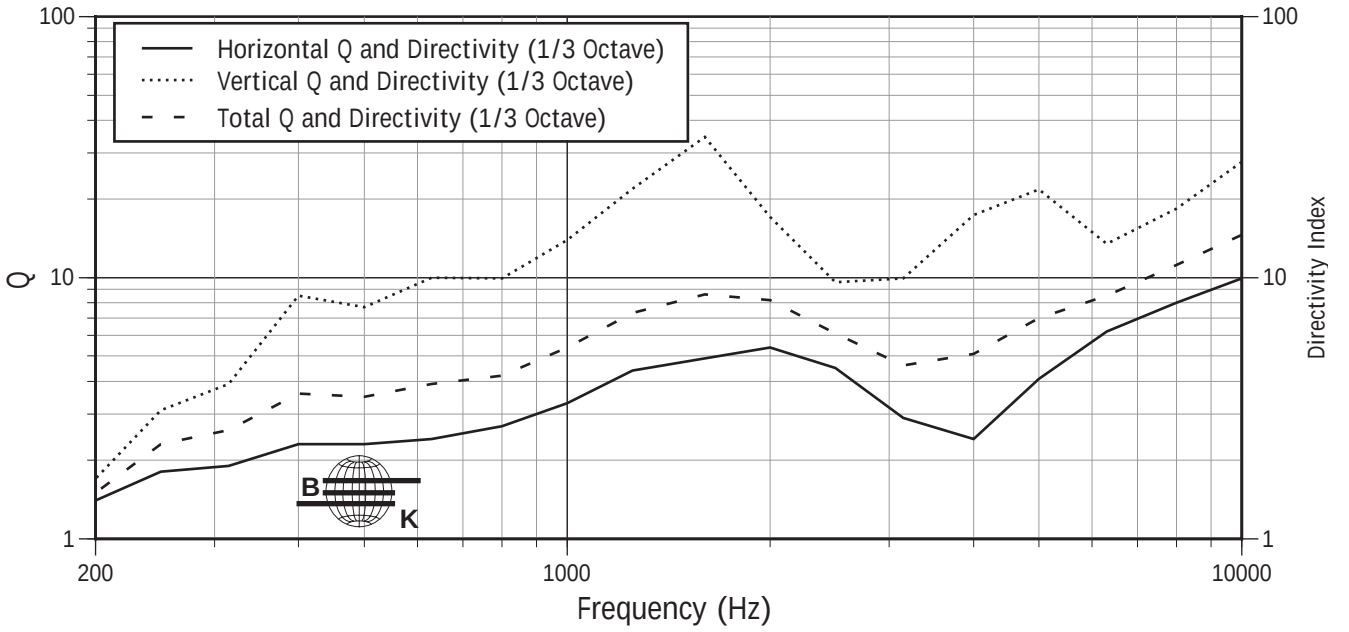
BEAMWIDTH

LS432 Beamwidth vs Frequency



Q & DIRECTIVITY INDEX (DI)

LS432 Q and Directivity



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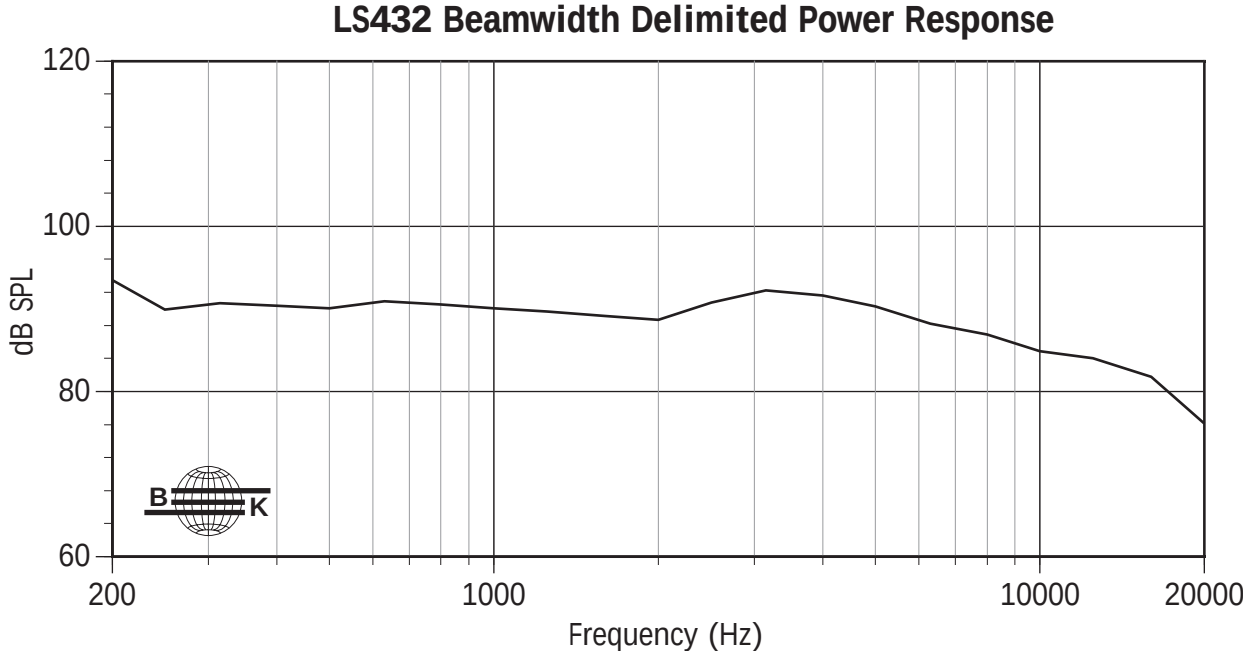
POWER RESPONSE



Q & DIRECTIVITY & BEAMWIDTH BY FREQUENCY

Frequency	Hor Beamwidth	Ver Beamwidth	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir
100	360	360	1.2	1.3	1.3
125	360	360	1	1	1
160	360	360	1.6	2.3	1.9
200	360	360	1.4	1.7	1.5
250	360	360	1.8	3.1	2.3
315	360	360	1.9	3.9	2.6
400	360	360	2.3	8.5	3.6
500	360	360	2.3	7.7	3.5
630	197	57	2.4	10	3.9
800	191	40	2.7	9.9	4.2
1000	189	33	3.3	13.9	5.4
1250	130	26	4.4	21.9	7.3
1600	121	23	4.9	34.6	8.6
2000	116	51	5.4	17.1	8.2
2500	130	68	4.5	9.6	6.1
3150	156	127	2.9	9.9	4.6
4000	140	38	2.4	17.4	5.1
5000	133	30	4.1	21.7	7
6300	127	24	6.2	13.5	8.5
8000	98	17	8	18.4	11.2
10000	84	81	9.9	27.8	14.6
12500	64	61	15.9	40.1	22.8
16000	50	53	25.7	31.3	28.3
20000	39	44	27.1	24.3	25.6

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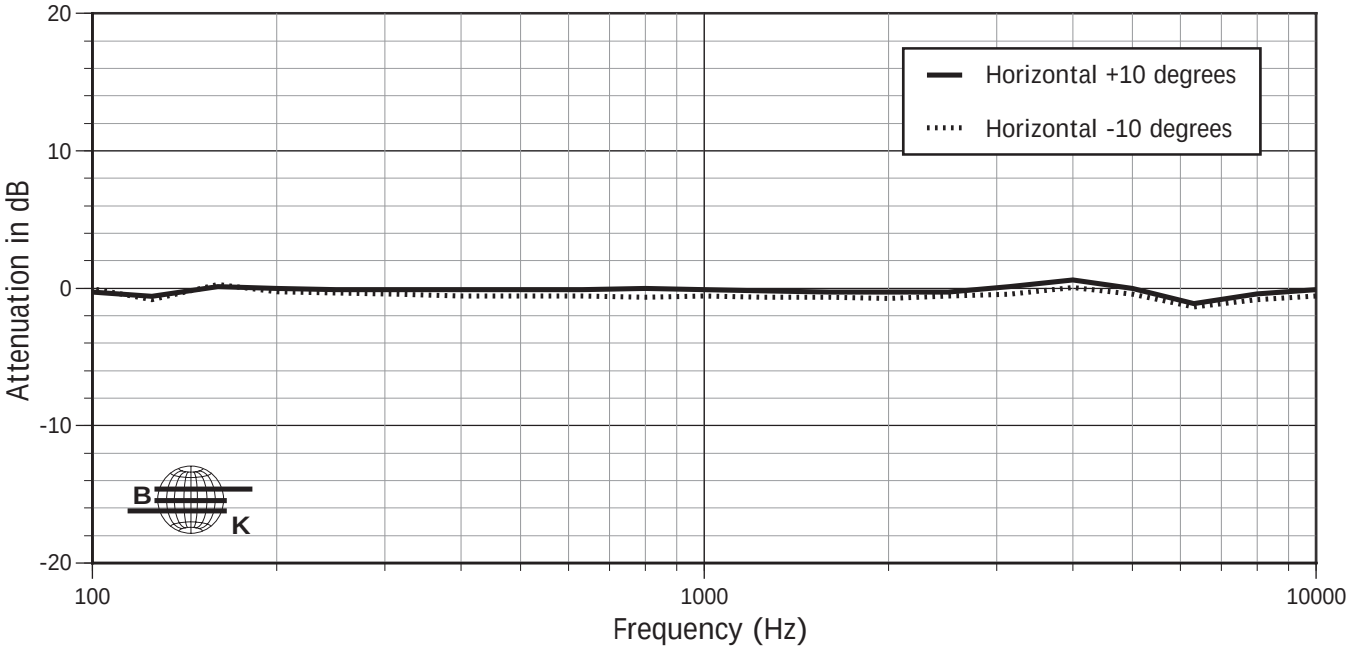
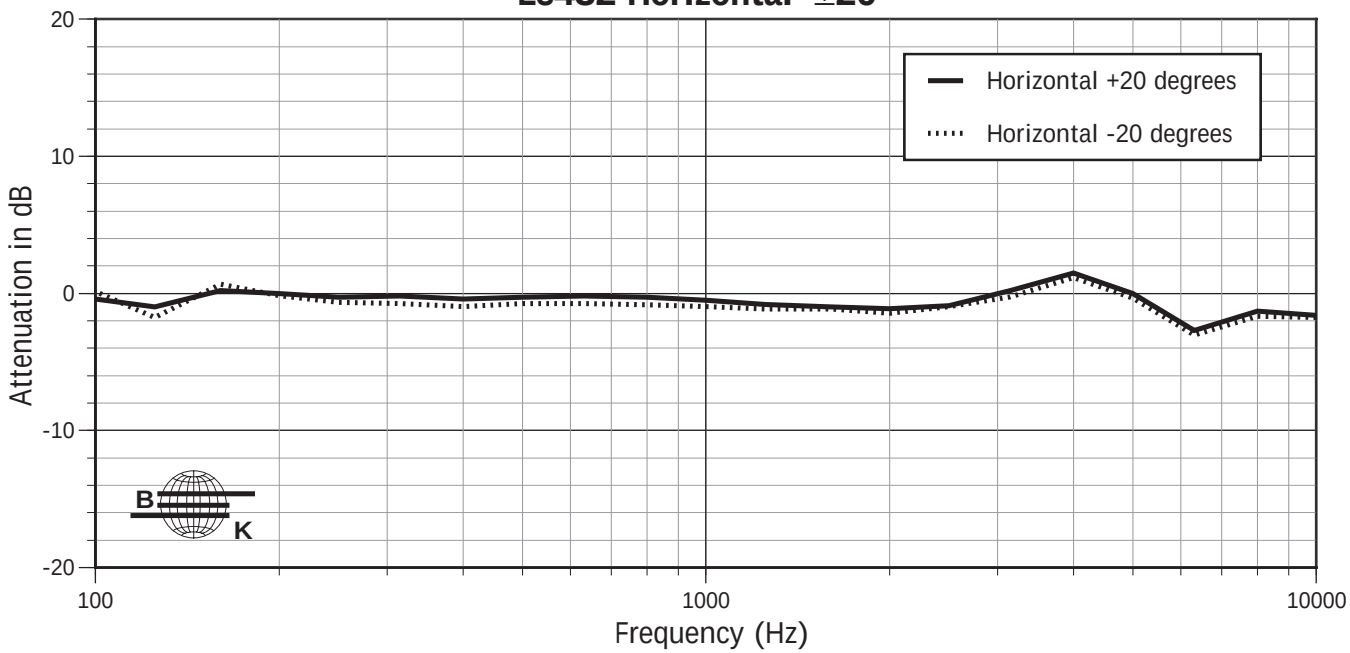
HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

LS432 Horizontal ±10°



LS432 Horizontal ±20°



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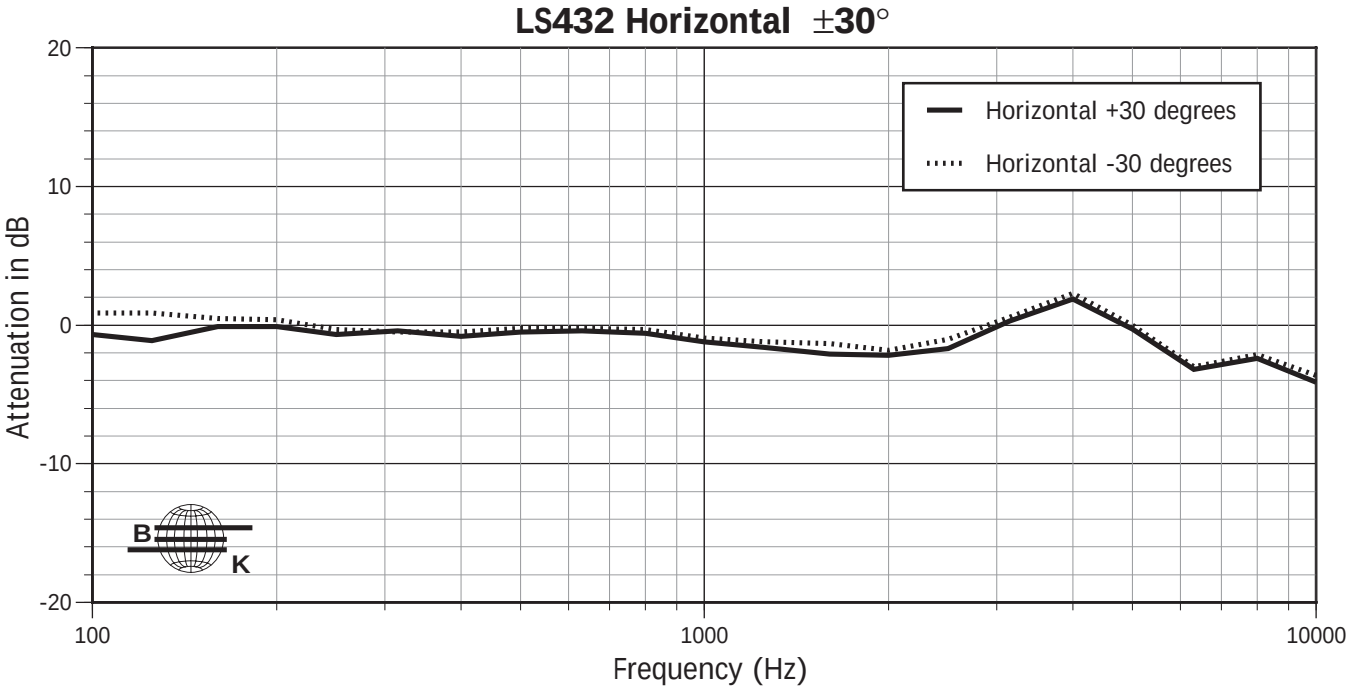
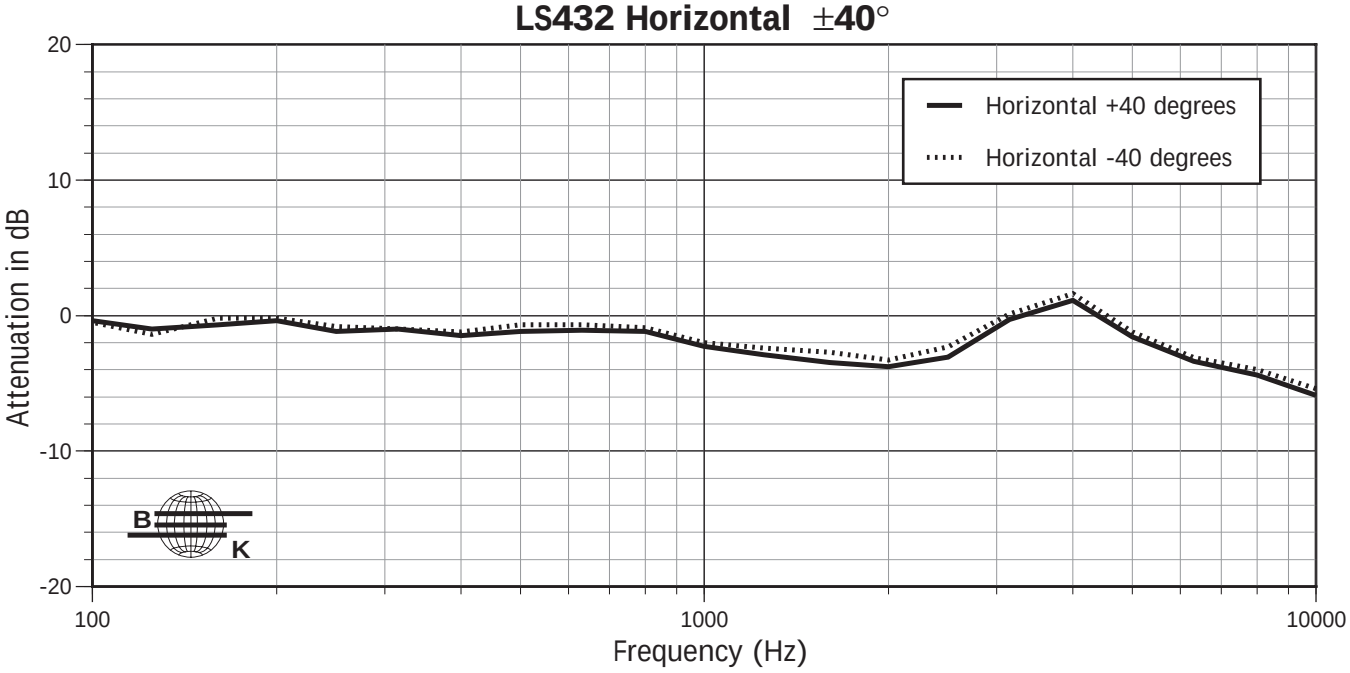
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

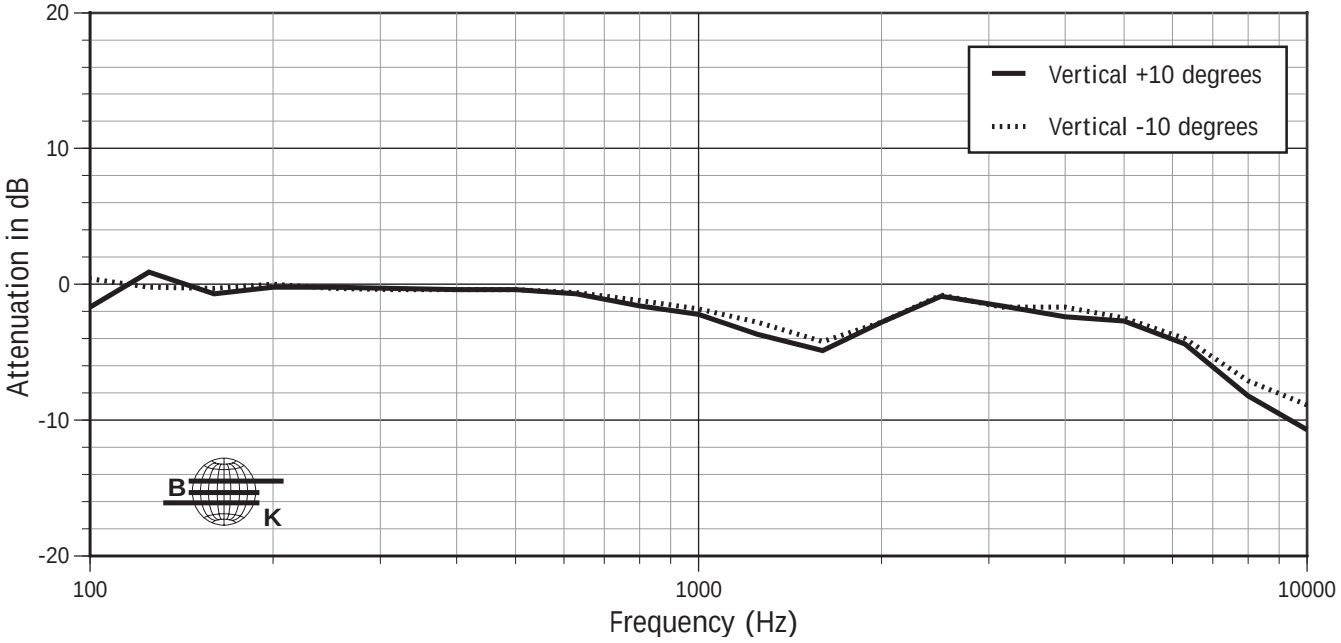




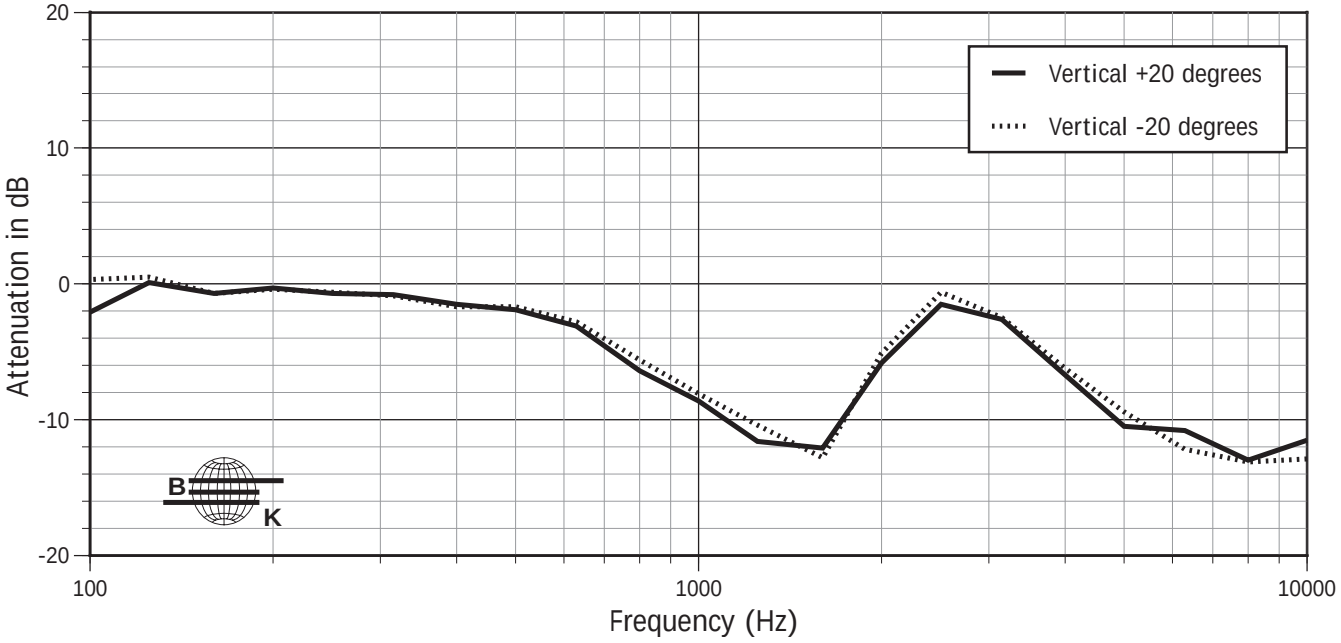
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

LS432 Vertical ±10°



LS432 Vertical ±20°



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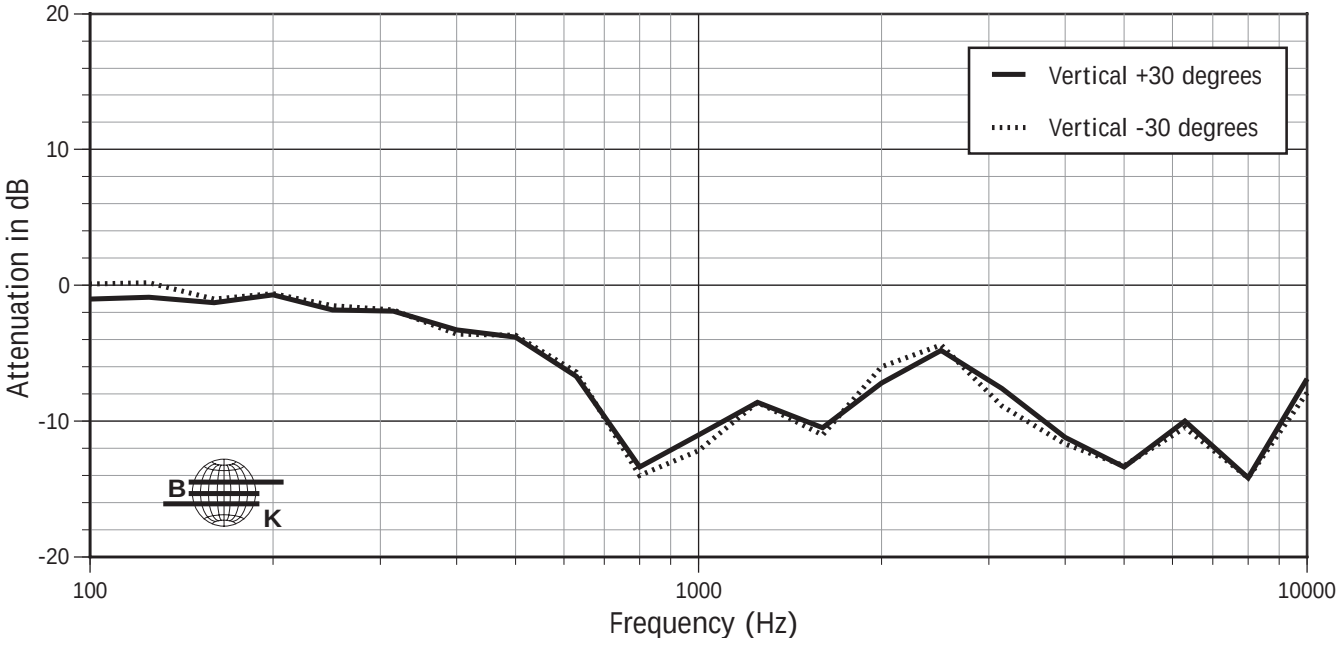
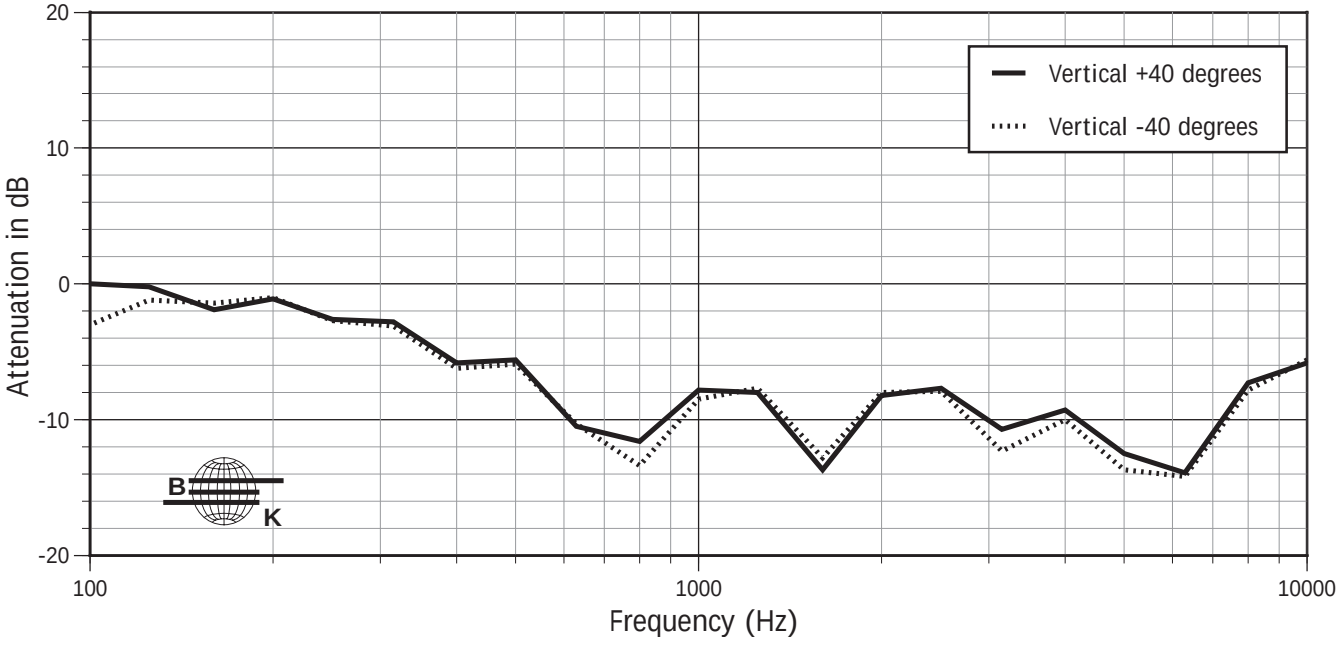
VERTICAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.

LS432 Vertical ±30°



LS432 Vertical ±40°



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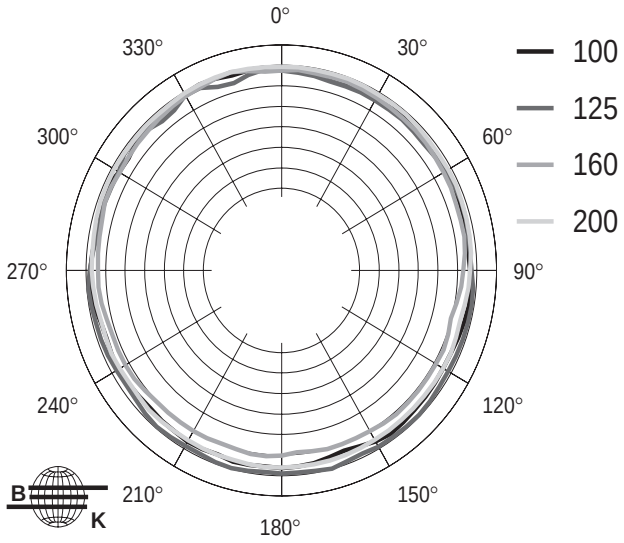
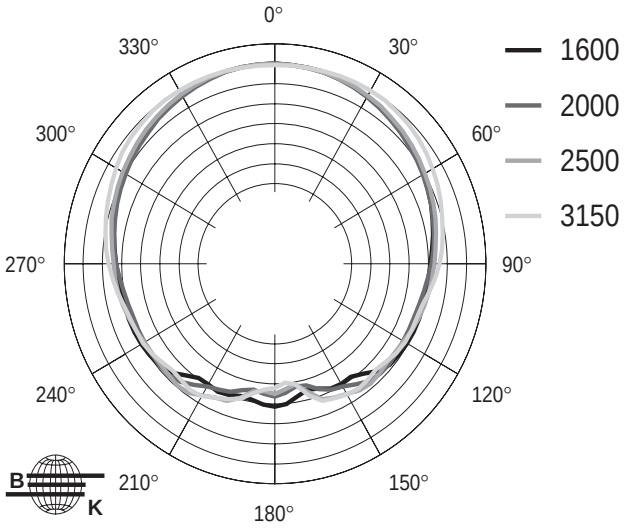
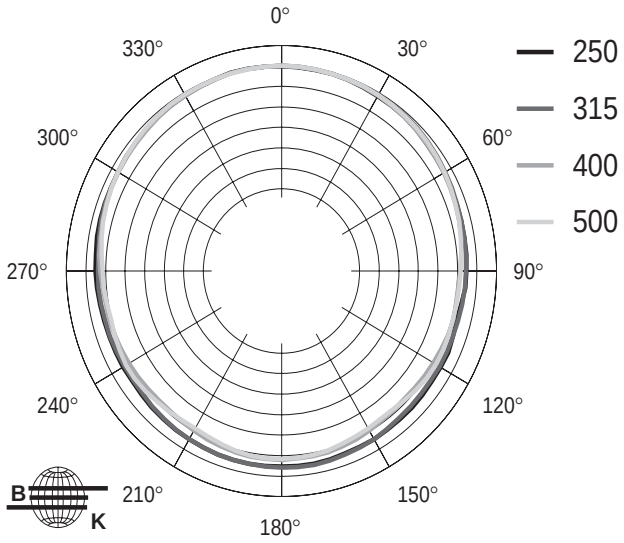
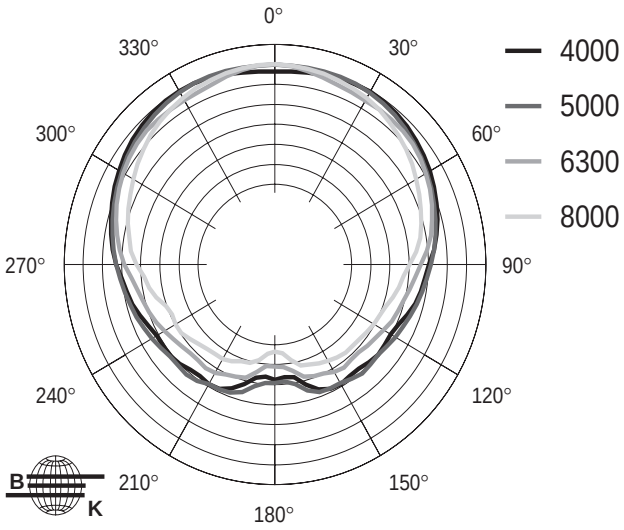
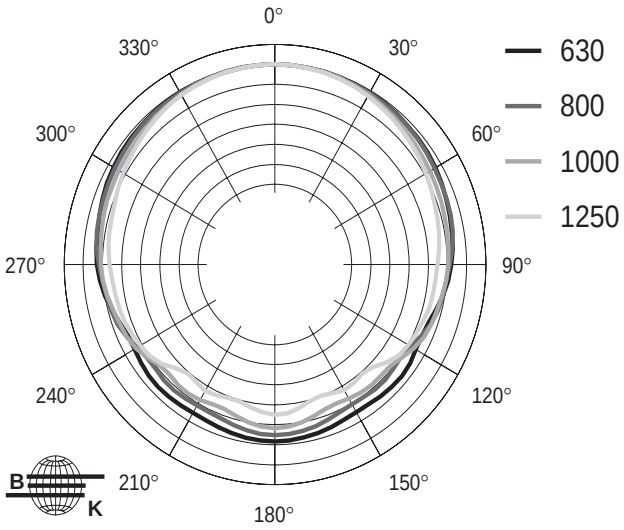
HORIZONTAL 1/3 OCTAVE POLAR DATA LS432

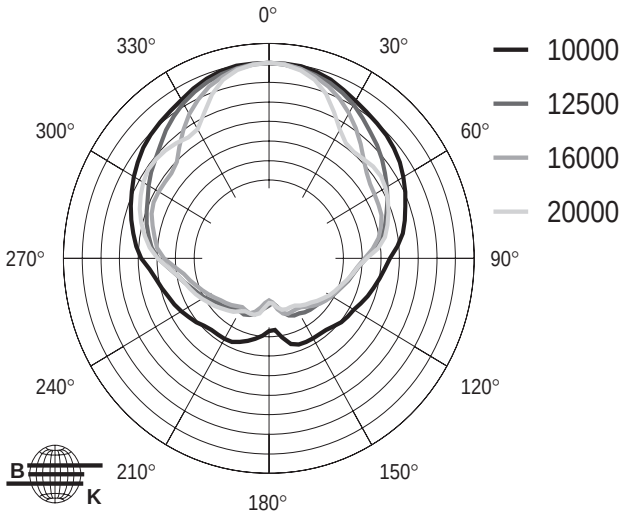












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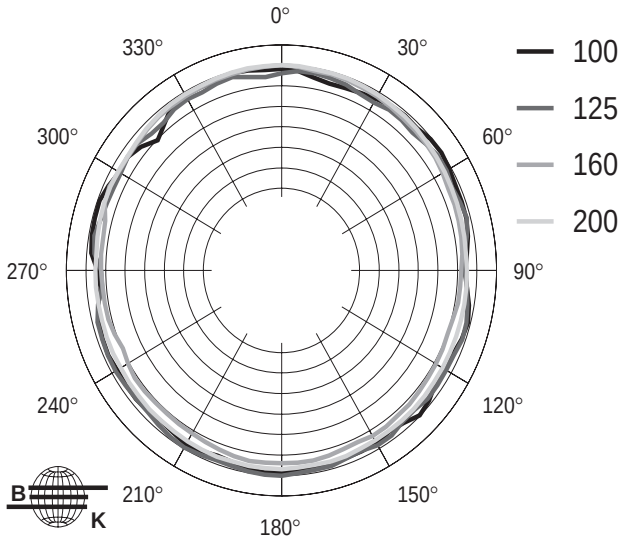
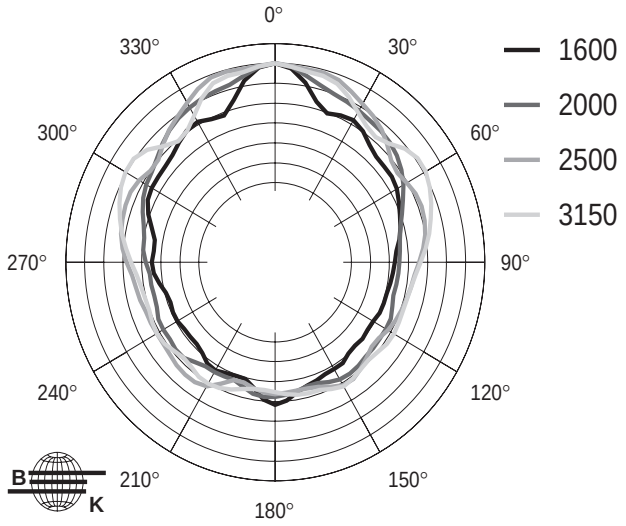
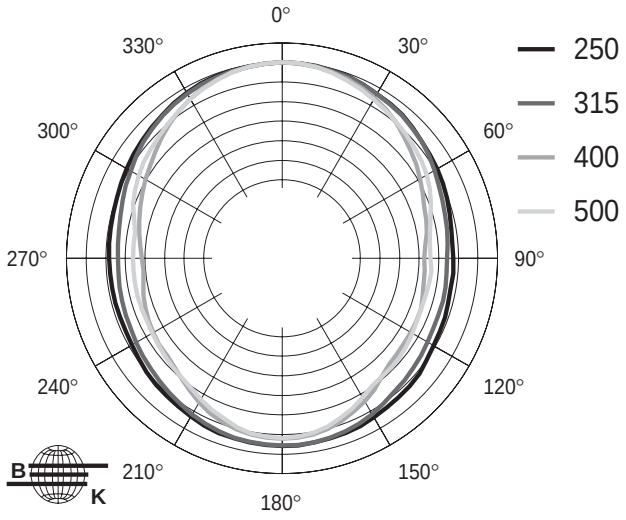
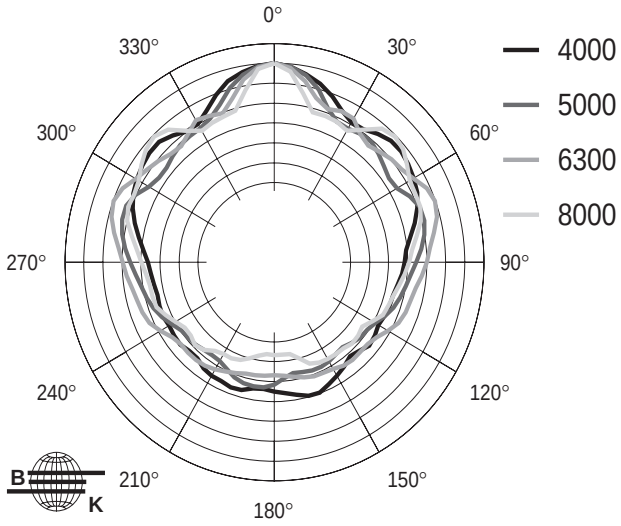
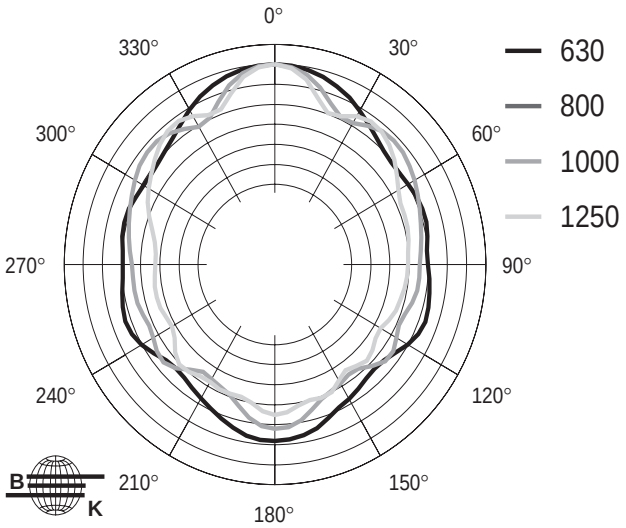
VERTICAL 1/3 OCTAVE POLAR DATA LS432

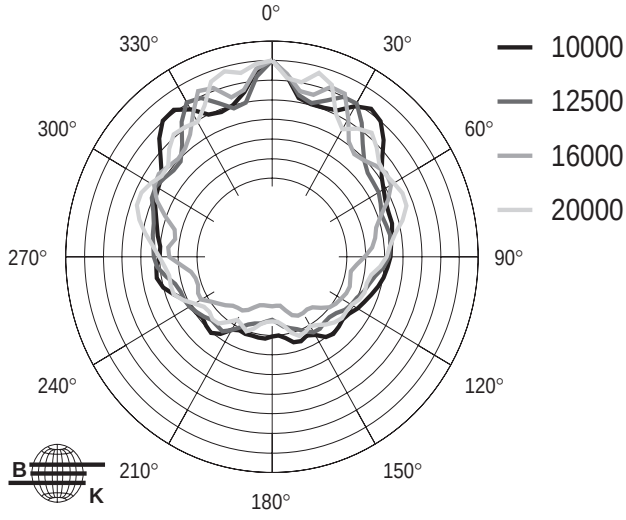












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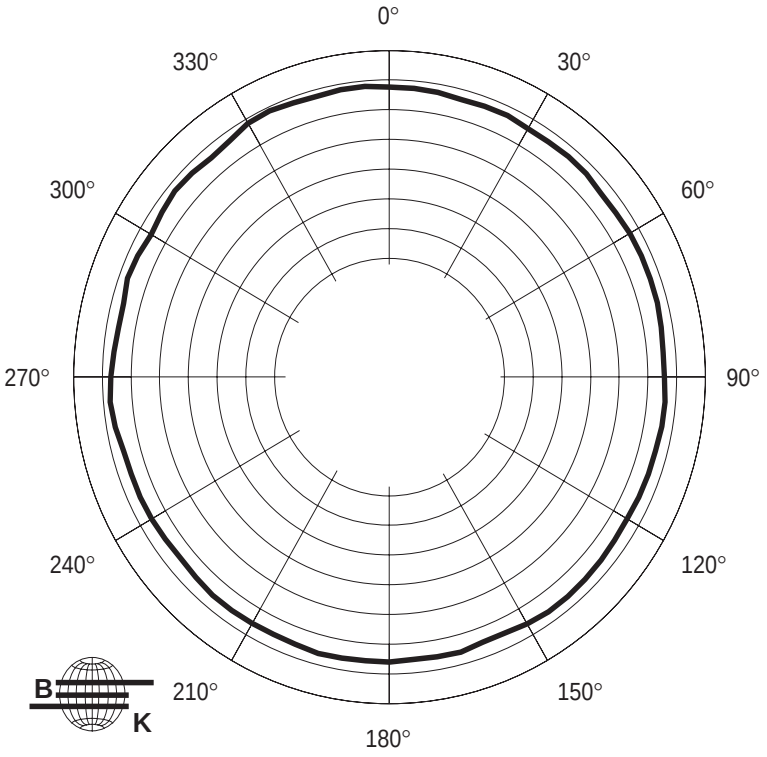
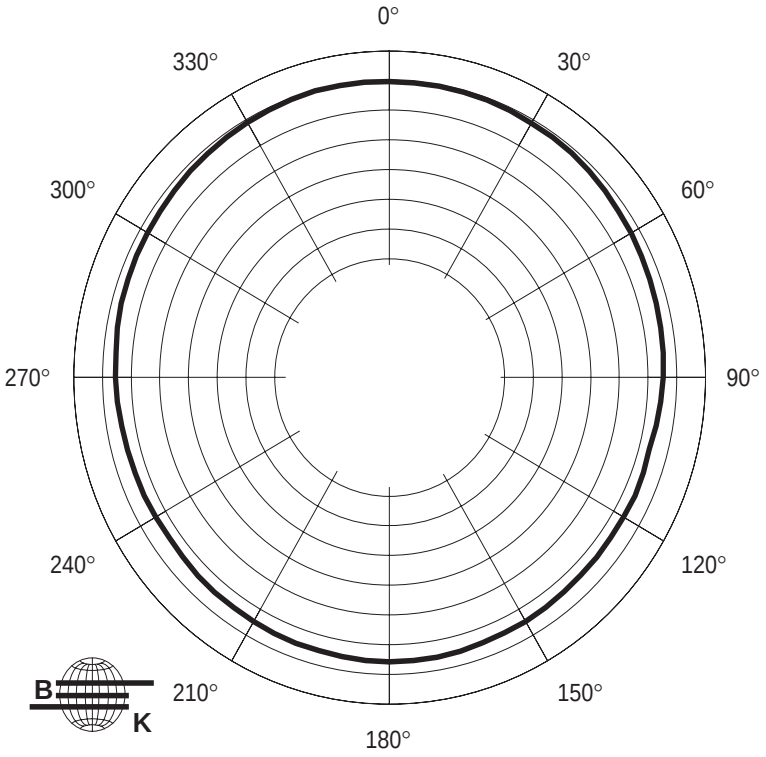
LS432 125 Hz Horizontal Octave Polar Data



LS432 250 Hz Horizontal Octave Polar Data



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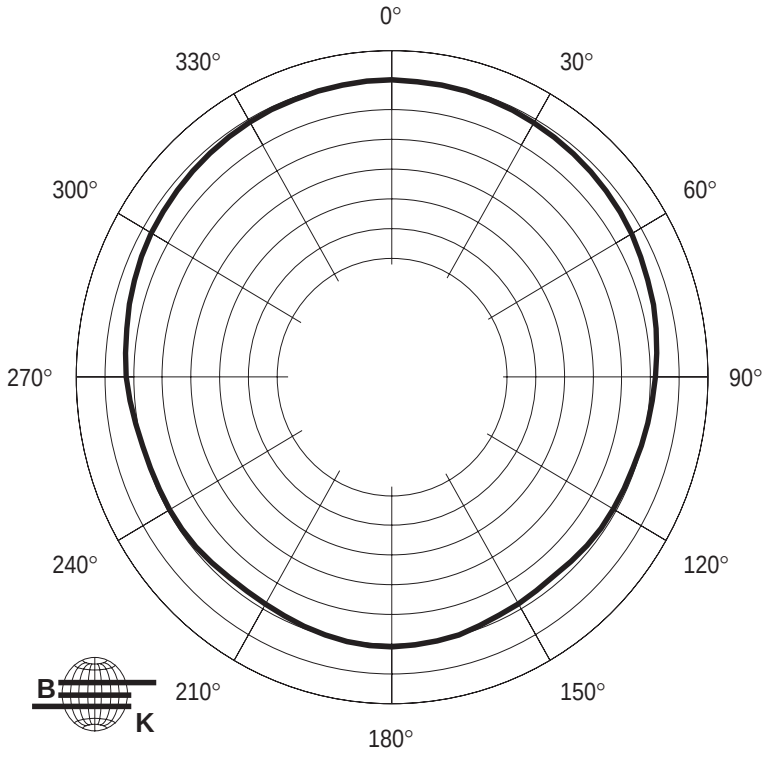
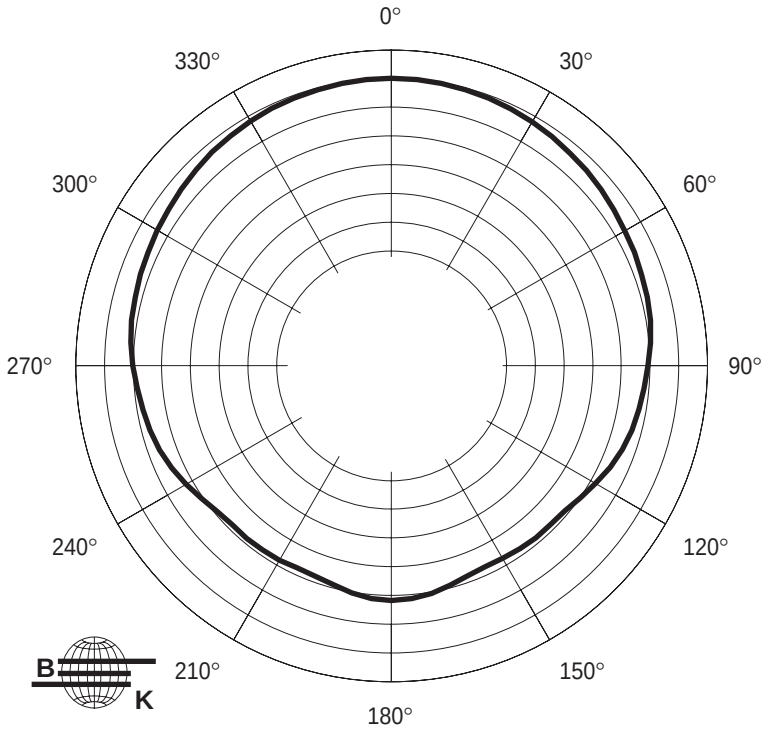
LS432 500 Hz Horizontal Octave Polar Data



LS432 1000 Hz Horizontal Octave Polar Data



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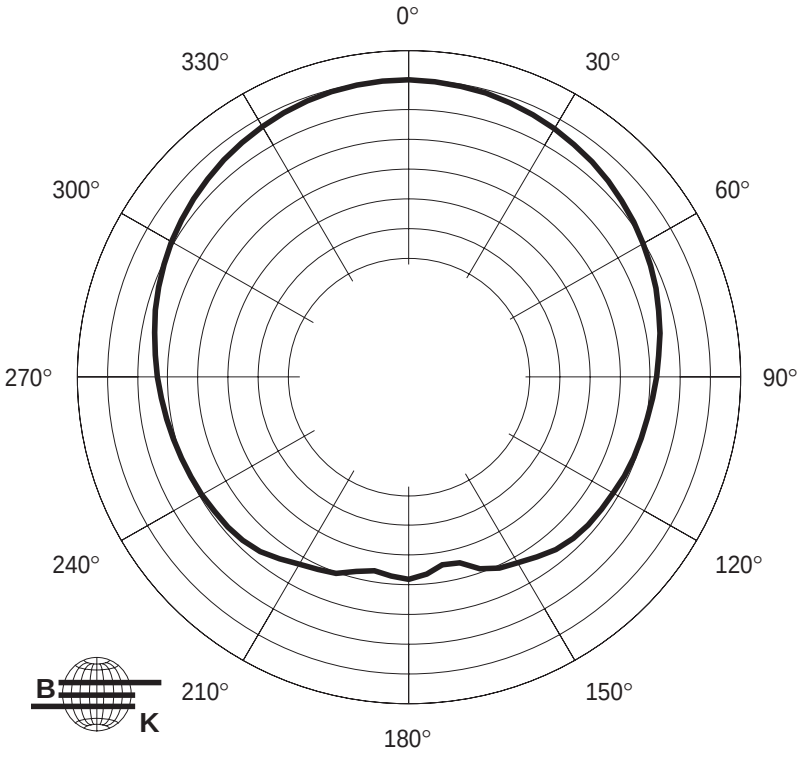
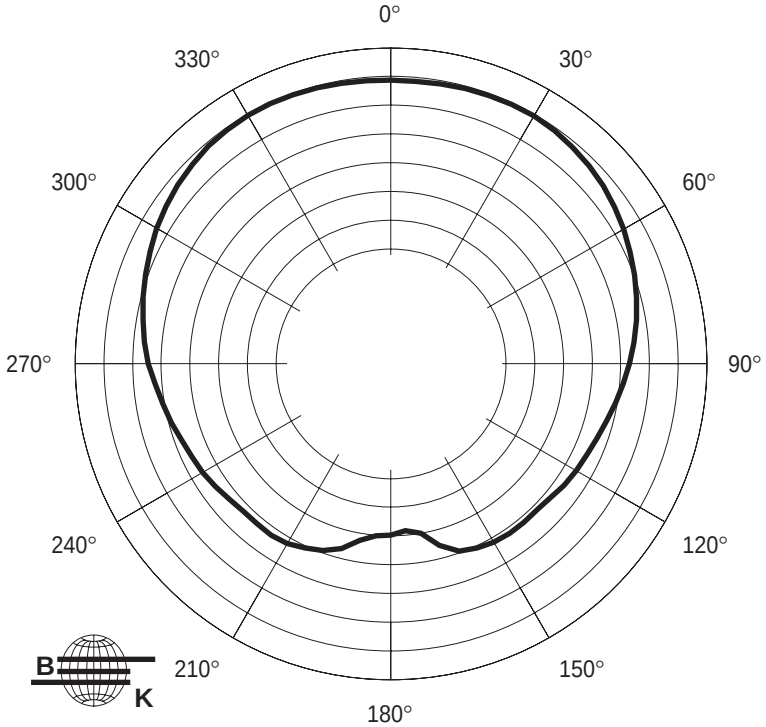
HORIZONTAL OCTAVE POLAR DATA LS432

LS432 2000 Hz Horizontal Octave Polar Data



LS432 4000 Hz Horizontal Octave Polar Data



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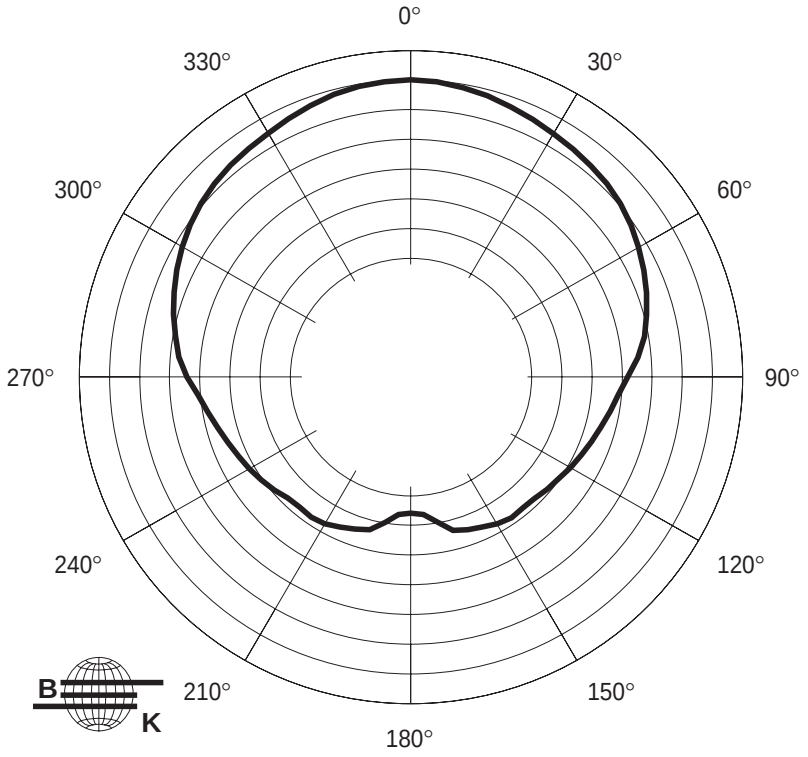
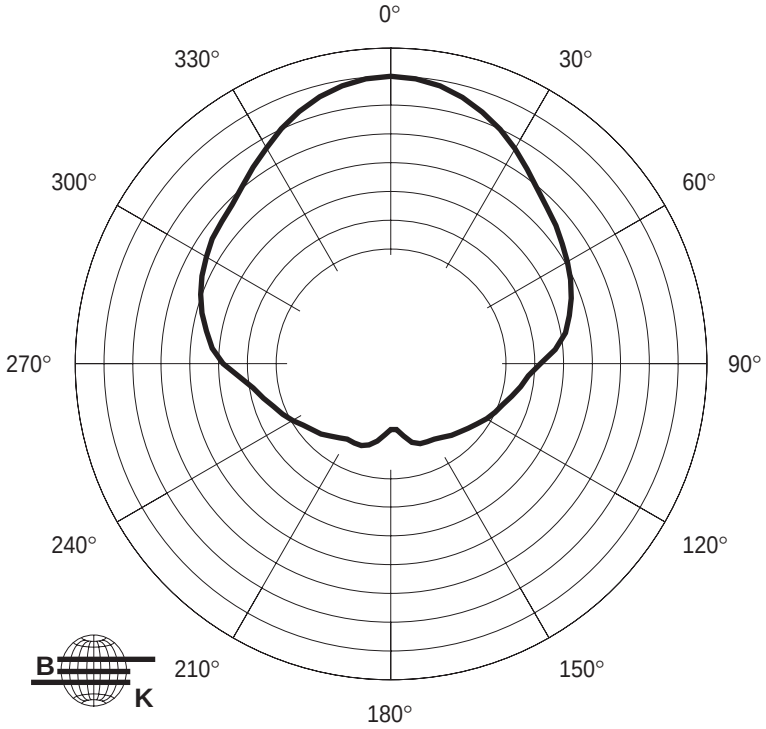
LS432 8000 Hz Horizontal Octave Polar Data



LS432 16000 Hz Horizontal Octave Polar Data



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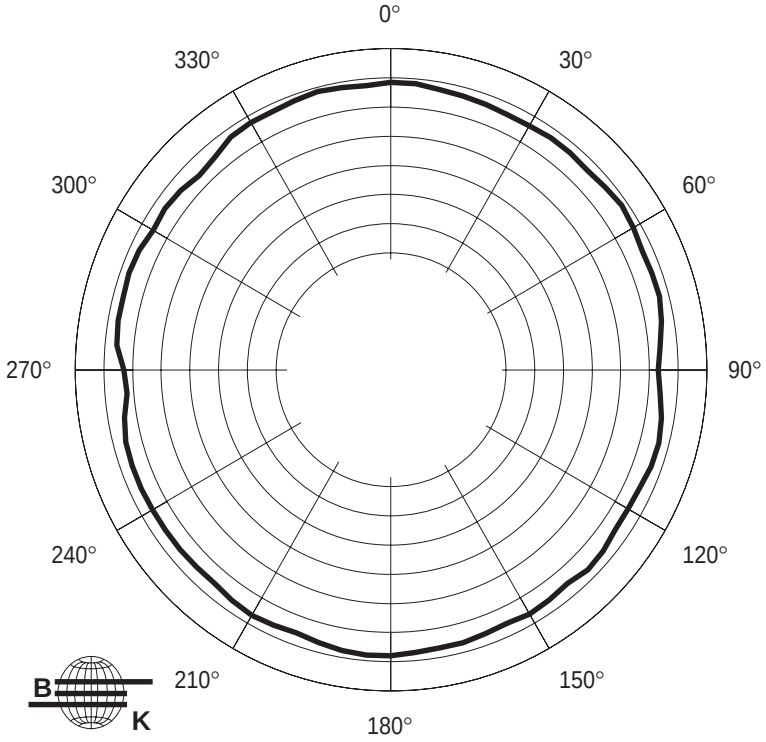
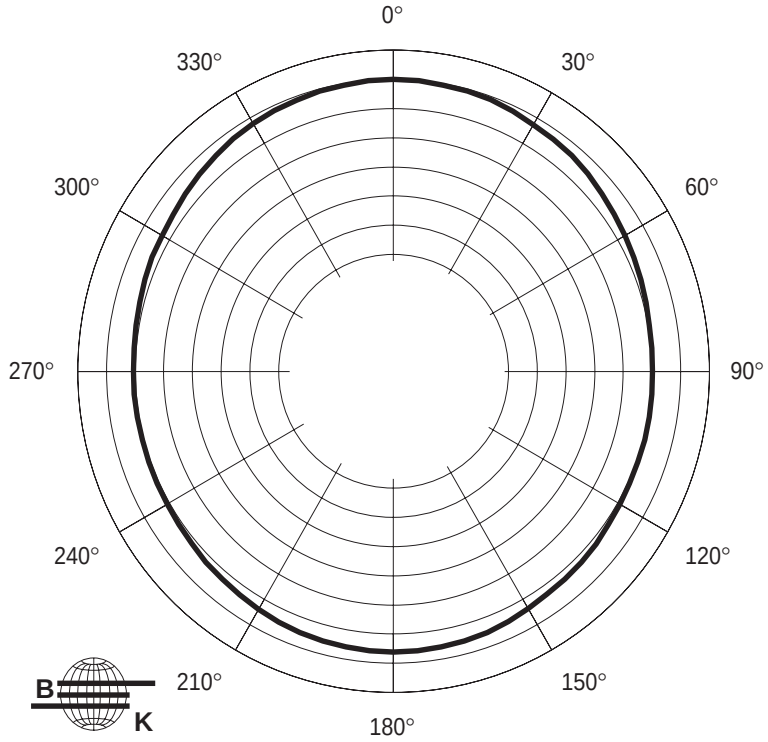
LS432 125 Hz Vertical Octave Polar Data



LS432 250 Hz Vertical Octave Polar Data



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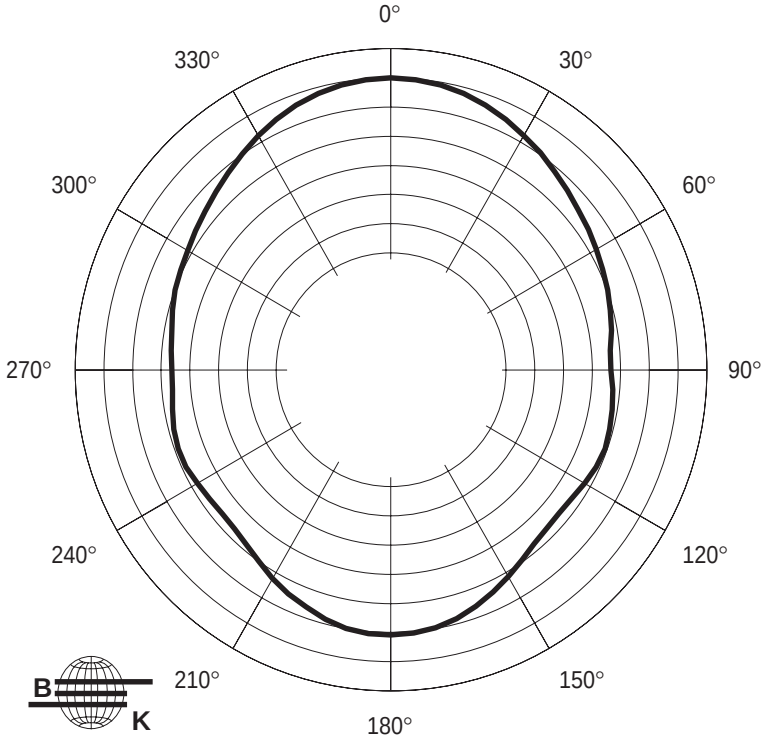
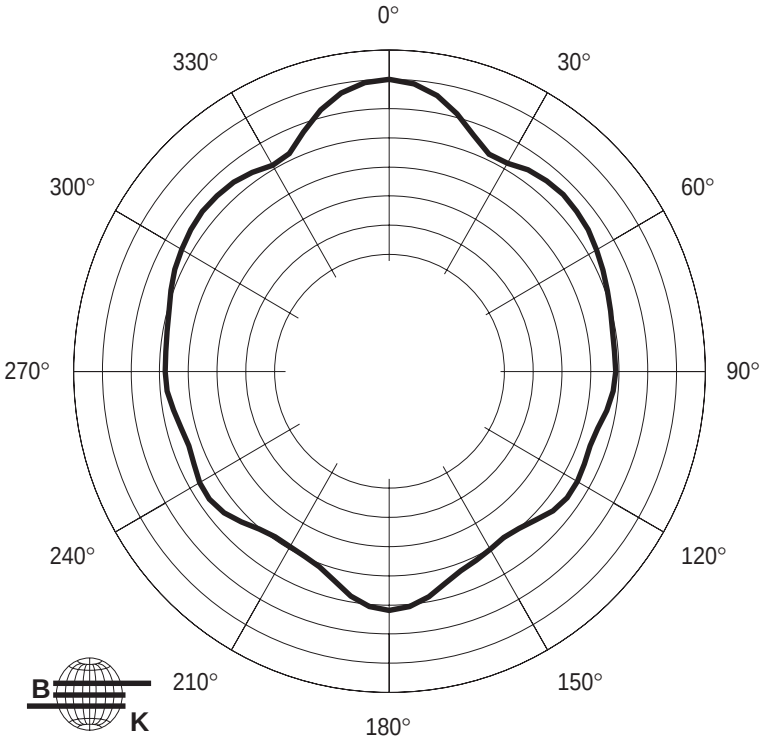
LS432 500 Hz Vertical Octave Polar Data



LS432 1000 Hz Vertical Octave Polar Data



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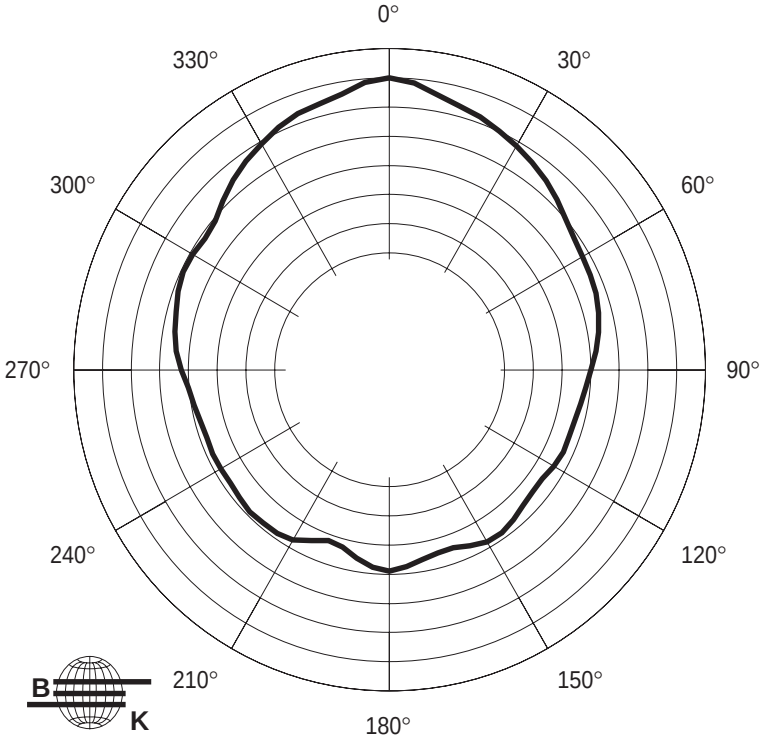
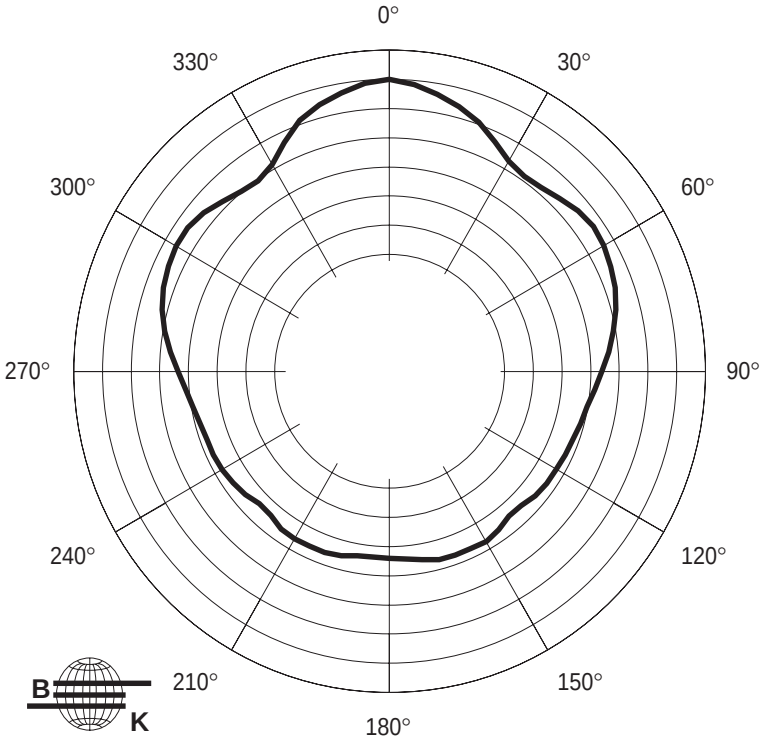
LS432 2000 Hz Vertical Octave Polar Data

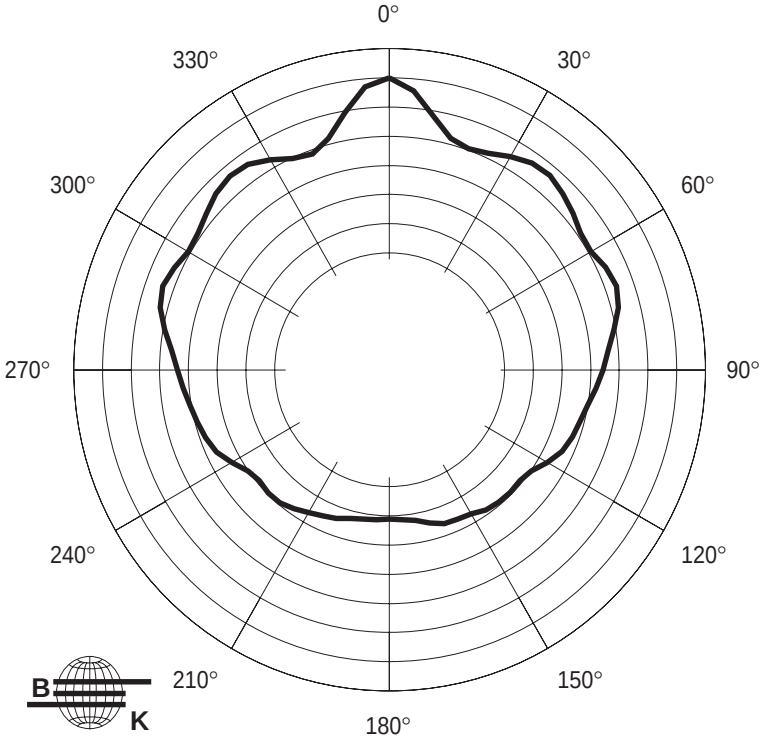


LS432 4000 Hz Vertical Octave Polar Data

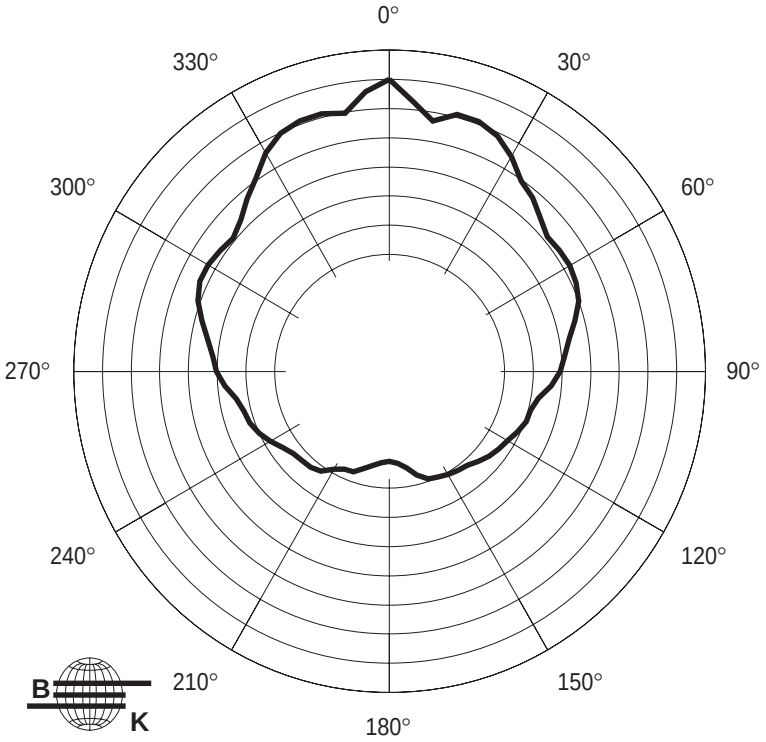


6 db/div.

LS432 8000 Hz Vertical Octave Polar Data



LS432 16000 Hz Vertical Octave Polar Data



6 db/div.

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