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THREE-WAY MONITOR KH 420



ENGLISH

KH 420



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The Neumann KH 420

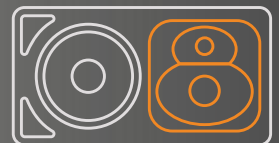
The KH 420 represents the result of using the latest techniques in acoustical, electronic and mechanical design to bring a new benchmark in audio reproduction quality. In-house computer optimized drivers, a waveguide featuring Mathematically Modeled Dispersion™ (MMD™), flexible acoustical controls, digital input options, and an extensive mounting hardware range allow the KH 420 to be used in diverse acoustical conditions, with any source equipment, and in a wide variety of physical locations.

The KH 420 has been designed for use as a mid-field or main monitor. It is particularly well-suited for use in music, broadcast, and post production studios for tracking, mixing, and mastering. The KH 420 can be used free-standing or flush mounted into a wall, and, in multichannel systems, can be mixed freely with other loudspeakers in the range.

A digital input module (DIM 1) with a delay feature for lipsync and time-of-flight adjustment can be added.



ROTATABLE WAVEGUIDE



1
Two-color + dimmable
Neumann logo

- ▶ Displays operation status and activation of the extensive protection system, and additional information if a DIM 1 is fitted

2
Elliptical Mathematically
Modeled Dispersion™ (MMD™)
waveguide for tweeter and
midrange drivers

- ▶ Smoother off-axis response
- ▶ More forgiving of diverse acoustical environments
- ▶ Wide horizontal dispersion brings freedom of movement across the mixing console
- ▶ Narrow vertical dispersion reduces reflections off the mixing console and ceiling

3
Powerful alloy fabric dome

- ▶ Low-distortion high-frequency reproduction

4
Midrange driver

- ▶ Dedicated driver reproduces important midrange frequencies and reduces Doppler effect which reduces intermodulation distortion
- ▶ New lightweight dome driver design with neodymium magnet has very high sensitivity which reduces distortion

5
Long throw bass driver and
flow optimized die cast basket

- ▶ Linear piston motor gives very low non-linear distortion even at high excursions
- ▶ Reduced air noise and rocking modes

6
Vented cabinet (magnetically
shielded) with field rotatable
waveguide

- ▶ Large front panel ports with high capacity for reduced compression
- ▶ Vertical or horizontal cabinet mounting is possible
- ▶ Computer optimized housing to reduce resonances and modes

! More features:

Smooth front panel with
no discontinuities

- ▶ Reduced diffraction and smoother frequency response

Production consistency

- ▶ Any KH 420 is "pair matched" to any other KH 420
- ▶ Pinpoint localization of reproduced signals



1
4-position bass, mid and treble acoustical controls
▶ More control in diverse acoustical environments

2
Parametric EQ
▶ Fixes unpredictable low-frequency response deviations caused by room acoustics
▶ Three frequency ranges for accurate adjustment
▶ Fine adjustment for frequency, gain and Q

3
Wide range input gain and output level controls
▶ Easier interfacing with signal sources and highest achievable signal-noise ratio

4
Display dimmer
▶ For low lighting level conditions or behind the screen applications

KH 420 WITH DIM 1 MODULE



5 XLR analog input with ground lift

- ▶ Low noise symmetrical input stage with high common mode rejection ratio (CMRR)
- ▶ Reduced buzzes in electrically noisy environments and overcomes ground loops

6 Universal dual switched-mode power supply (100 ... 240 V)

- ▶ One version works in any country and robust to poor quality mains supplies
- ▶ Dual power supplies (bass and mid/treble) for a better transient response

7 Mounting hardware options

- ▶ Great flexibility for mounting cabinets in diverse locations
- ▶ Electronics panel can be remote located

8 Accelerated Heat Tunneling heat sink

- ▶ More efficient cooling of power amplifiers
- ▶ Equally effective whether the cabinet is mounted vertically or horizontally

9 Robust and reliable electronic design

- ▶ Powerful 330 + 140 + 140 Wpk amplifiers give an excellent transient response
- ▶ Independent thermo limiters for woofer, midrange and tweeter to protect the voice coils. Woofer soft clip and excursion limiters

10 Lipsync delay (0 ... 10/12 frames)*

- ▶ To align audio and video signals

Time-of-flight delay (0 ... 400 ms)*

- ▶ To compensate for listening distance differences

11 Signal select*

- ▶ Analog, Digital A, Digital B, Digital A+B (all available with and without delay)

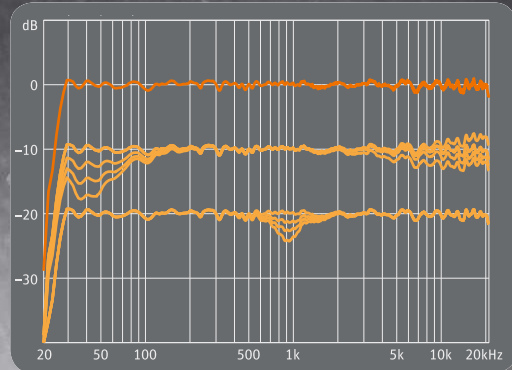
12 Digital XLR and BNC inputs and buffered BNC output / 24 bit, 192 kHz, AES3 and S/P-DIF*

- ▶ Compatible with commonly used digital signals

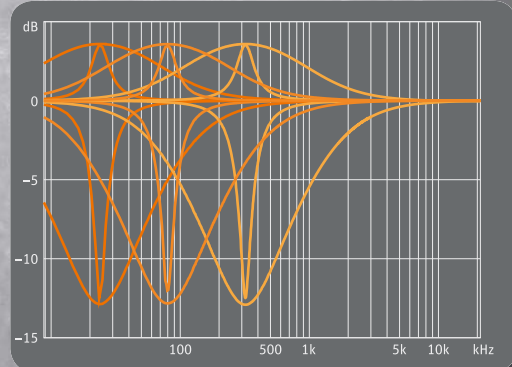
* When optional DIM 1 Digital Input Module (accessory) is fitted



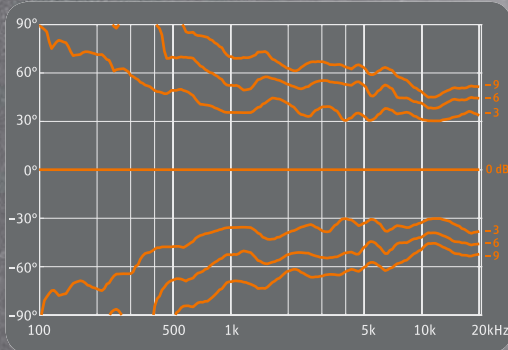
Frequency Response and Acoustical Controls (Bass/Mid/Treble)



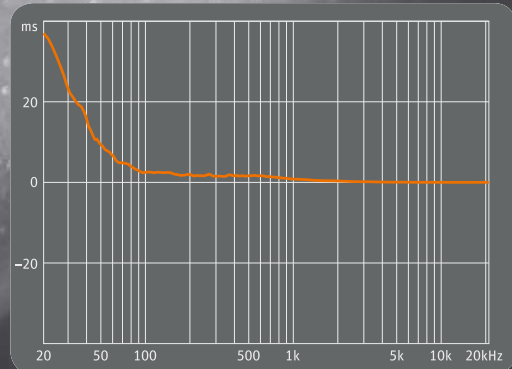
Parametric EQ



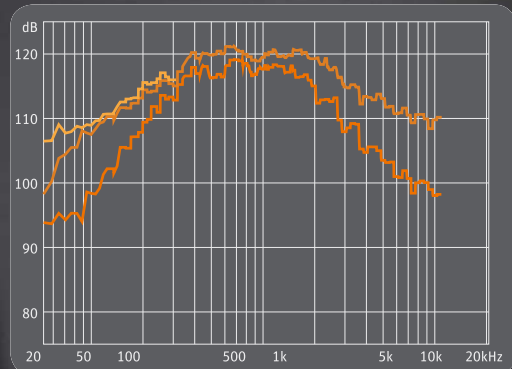
Horizontal Isobar Dispersion Plot



Group Delay



Max. Output Level (at 1% / 3% / 10% THD)



Accessories

▶ As a full service provider, Neumann offers an extensive range of accessories:

▶ LH 28 Tripod Stand Adaptor for mounting on standard 35 mm (1 3/8") diameter tripods.



▶ LH 29 TV-spigot for mounting onto a standard TV spigot.



▶ LH 36 Tilting Adapter up to 18°.



▶ LH 37 Subwoofer Adaptor for mounting onto a subwoofer with top panel flange.



▶ LH 41 Base Plate to fit the loudspeaker onto a tripod stand with or without an LH 36.



▶ LH 42 Ceiling System to suspend the loudspeaker from a ceiling.



▶ LH 43 Surface Mounting Plate Used to spread the weight of a ceiling mounted loudspeaker.



▶ LH 45 Wall Bracket 'L' shaped adaptor for wall mounting.



▶ LH 46 Adjustable Ceiling Drop Adaptor to vertically position a loudspeaker suspended off a ceiling.



▶ REK 4 Remote Electronics Kit to locate the electronics panel up to 30 m (90') away from the loudspeaker cabinet. Cables are also available.



To aid transportation, storage and protection of the loudspeaker:

▶ FKH 420 Flight Case for one KH 420



▶ GKH 420 B Metal Grille to protect the drivers.



▶ The mounting hardware can be used in different combinations to locate the loudspeaker in many places:

Mounting on a floor stand: KH 420 + LH 41 + LH 28 + K&M 26750 and 26735 or KH 420 + LH 41 + LH 36 + LH 28 + K&M 26750 and 26735

Mounting on a design monitor stand: KH 420 + LH 41 + K&M 26795 or KH 420 + LH 41 + LH 36 + LH 29 + K&M 26795

Mounting on a lighting stand: KH 420 + LH 41 + LH 29 or KH 420 + LH 41 + LH 36 + LH 29

Mounting on a subwoofer: KH 420 + LH 41 + LH 28 + pole + KH 870 or KH 420 + LH 41 + LH 36 + LH 28 + pole + KH 870 or KH 420 + LH 41 + LH 36 + LH 37 + KH 870 or KH 420 + LH 41 + LH 37 + KH 870

Mounting on a wall: KH 420 + LH 42 + LH 45

Mounting off a ceiling: KH 420 + LH 42 + LH 43 or KH 420 + LH 42 + LH 46

Mounting off a lighting or truss bar: KH 420 + LH 42 + LH 29

▶ Order Info

Product	Art. Number
KH 420 G Active mid-field monitor with analog controller, electronic-balanced input, Metallic Anthracite	505988
KH 420 G CCC Active mid-field monitor with analog controller, electronic-balanced input, Metallic Anthracite, CCC/KC certified	506792



Adding digital inputs	Art. Number
DIM 1 Digital input module with a delay feature for lipsync and time-of-flight adjustment	502251



Recommended for KH 420	Art. Number
KH 870 G 2 x 10" subwoofer with 7.1 Bass Manager	503947
KH 870 G CCC 2 x 10" subwoofer with 7.1 Bass Manager, CCC certified	505566



Please refer to the website ▶ www.neumann.com for additional technical information. Furthermore, look for the extensive range of accessories that turn individual products into a complete monitoring system. In particular, look for the "Hardware Mounting Matrix" which shows how to connect the various LH brackets and adaptors together to make a complete mounting solution. Detailed mechanical drawings are also available.