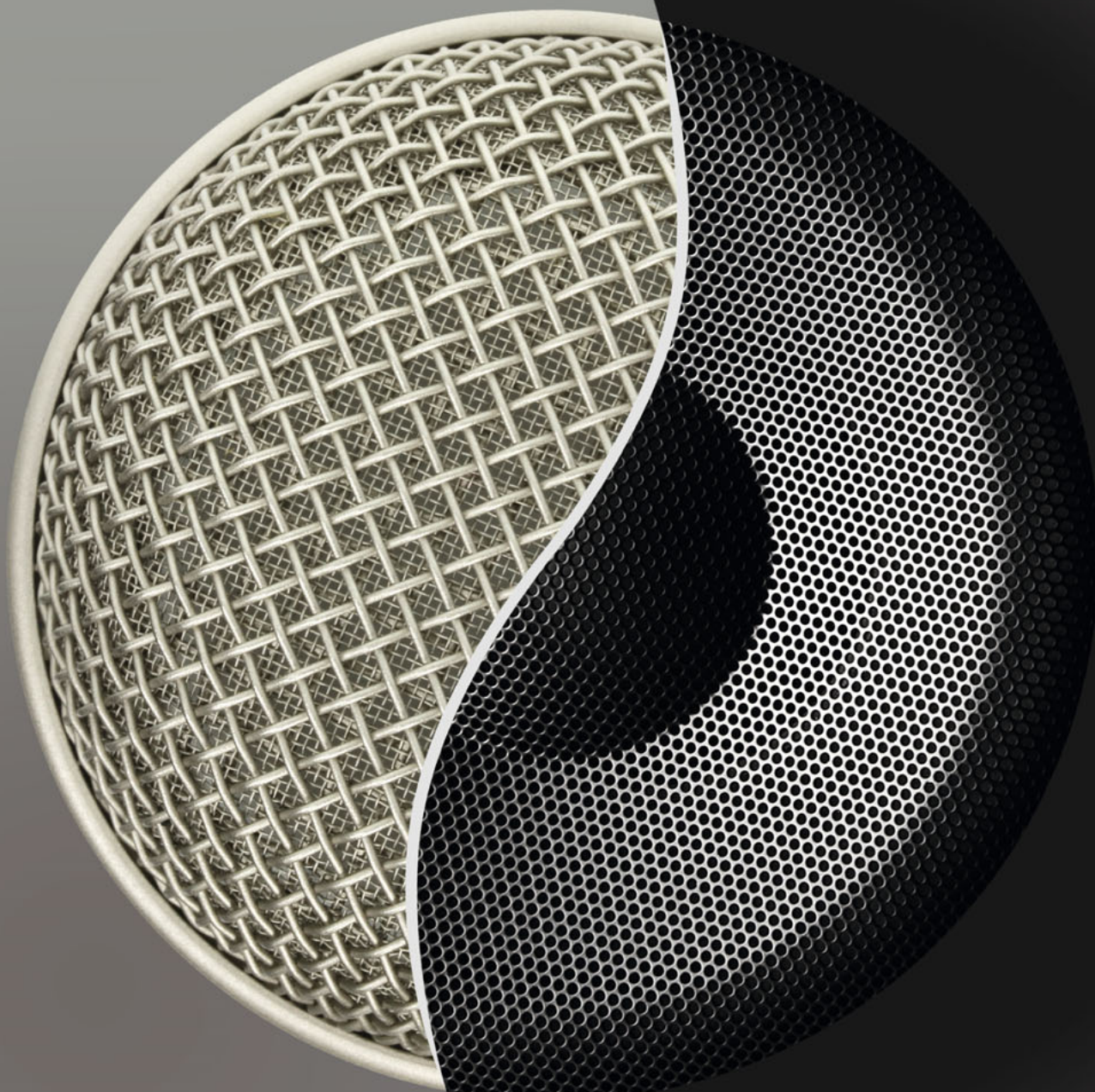


KH 120



▶ NEUMANN.BERLIN



Experienced in Sound.



▶ 6 decades
disc cutting lathes



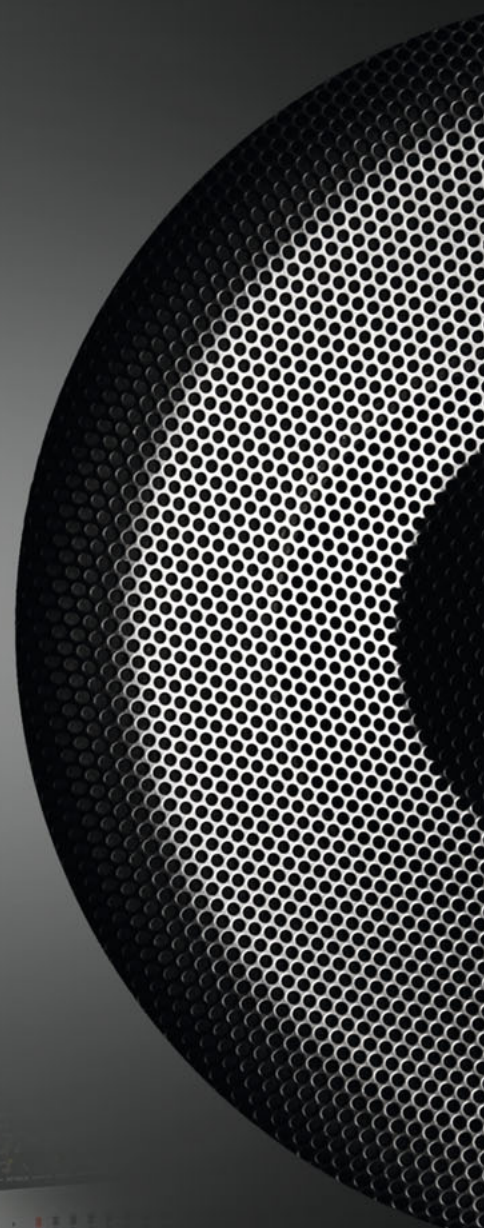
▶ 3 decades
mixing consoles and
signal processing



▶ 8 decades
acoustic transducers

Best Input.

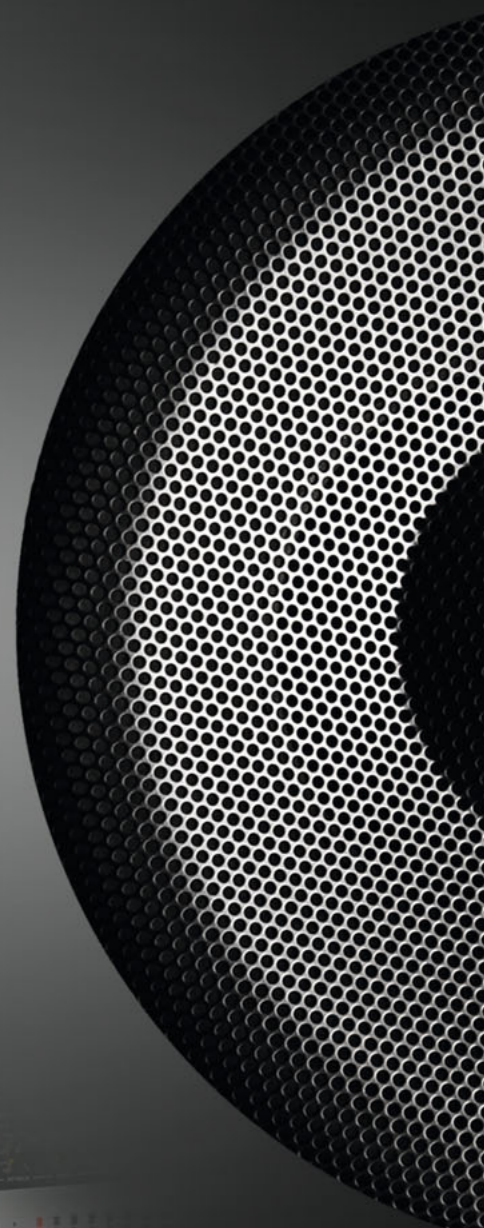
Best Output.





Best Input. Best Output.

- ▶ Attention to detail
- ▶ User oriented engineering
- ▶ Reliability
- ▶ Accuracy
- ▶ Precision
- ▶ Unique quality management
- ▶ Perfection
- ▶ Consistency
- ▶ Authenticity
- ▶ Transparency
- ▶ Versatility
- ▶ Control
- ▶ Flexibility
- ▶ The measure of all sound



Neumann Studio Monitor Systems

Neumann is well-known in the audio industry for its high quality microphones in studios, broadcast, and on stage. Neumann has also been a pioneer in the audio industry for over 80 years with a long history of world-class products. These products have kept Neumann on the cutting edge of technology – from mixing consoles and disc cutting lathes, to more recent innovations in digital technology with the Solution-D system. Now Neumann is excited to introduce its latest innovation, the KH 120, representing the first product in the new line of Neumann Studio Monitors.

The Neumann KH 120

The KH 120 studio monitor is designed for use as a near-field loudspeaker or as a rear loudspeaker in larger multi-channel systems. The KH 120 represents the latest in acoustic and electronic simulation and measurement technologies to ensure the most accurate sound reproduction possible. It has a Mathematically Modeled Dispersion™ waveguide (MMD™), flexible acoustical controls, analog class-AB amplifiers, various input formats and an extensive mounting hardware range. All of this provides the user with the maximum versatility over a wide variety of acoustic conditions, source equipment, and physical locations.

A subwoofer, such as the Neumann KH 810, with its 7.1 High Definition Bass Manager™, can be added to deepen the low-frequency response to 18 Hz and increase the system's maximum output level. The KH 120 is perfect for tracking, mixing and mastering in music, broadcast, project and post-production studios.





1
Powerful titanium fabric dome
 ▶ Low-distortion high-frequency reproduction

2
Elliptical Mathematically Modelled Dispersion™ (MMD™) waveguide
 ▶ Smoother off-axis response
 ▶ More forgiving of diverse acoustical environments

3
Composite sandwich cone
 ▶ Damping of break-up modes
Long throw bass driver
 ▶ Low distortions at high sound levels

4
Two-color + dimmable Neumann logo
 ▶ Displays operation status and activation of the extensive protection system

5
Robust metal grille
 ▶ Protects against mechanical damage

6
Large front panel ports
 ▶ Reduced bass compression and easier to mount in tight spaces such as OB vans

!
More features:

Wide horizontal dispersion
 ▶ Freedom of movement across the mixing console

Narrow vertical dispersion
 ▶ Reduces reflections off the mixing console

Non-parallel cabinet walls
 ▶ Greatly attenuated internal standing waves

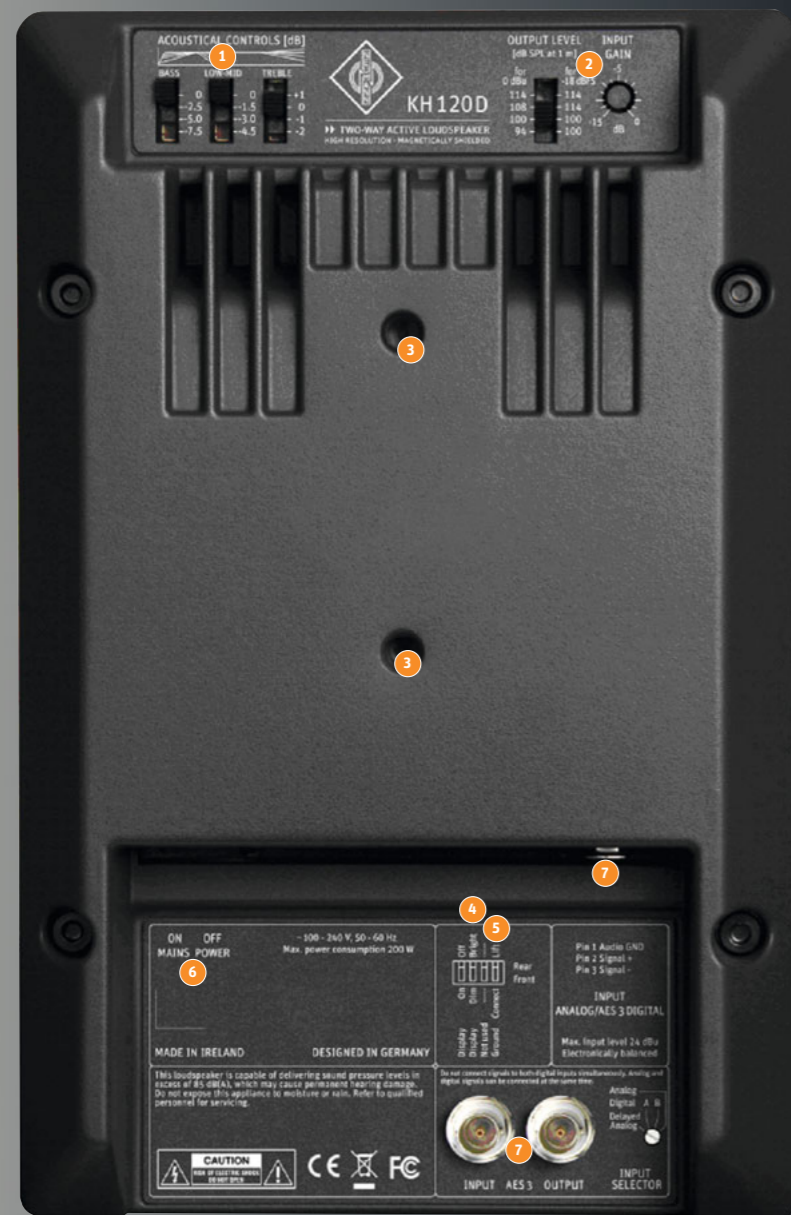
One-piece front panel with no discontinuities
 ▶ Reduced diffraction and smoother frequency response

Powerful analog amplifiers with large headroom
 ▶ Improved transient response

Production consistency
 ▶ Any KH 120 is "pair-matched" to any other KH 120

7
Compact aluminum cabinet (magnetically shielded)
 ▶ Minimizes resonances, better heat dissipation, long life





Separate woofer and tweeter electronic peak limiters and thermal-protection circuitry
▶ High reliability

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

2
Wide range input gain and output level controls
▶ Easier interfacing with signal sources

3
New mounting hardware options
▶ More flexibility in mounting cabinets in more diverse locations

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

5
Ground lift
▶ Reduced noise in electrically noisy environments and overcomes ground loops

6
Universal switched-mode power supply (100 ... 240 V)
▶ One version works in any country and robust to poor quality mains supply

7
XLR analog input / 24 bit, 192 kHz, AES3 (on XLR or BNC), S/P-DIF*
▶ Compatible with commonly used digital signals*

XLR / BNC inputs and buffered BNC output*
▶ For flexible and trouble-free digital interconnectivity

! More features:

Lipsync delay (0 ... 8.5/10.2 frames)*
▶ To align audio and video signals

Time-of-flight delay (0 ... 340 ms)*
▶ To compensate for listening distance differences

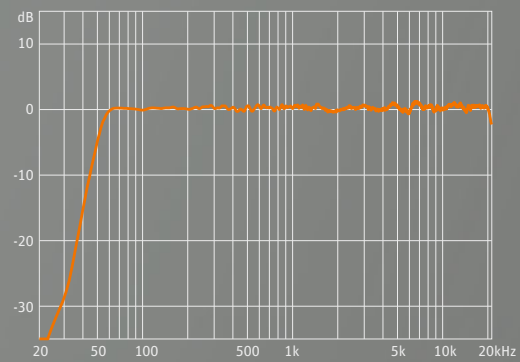
Remote volume control*
▶ For systems with no dedicated hardware volume control of their own

Volume control after DAC*
▶ Full-scale digital signal is attenuated in the analog domain

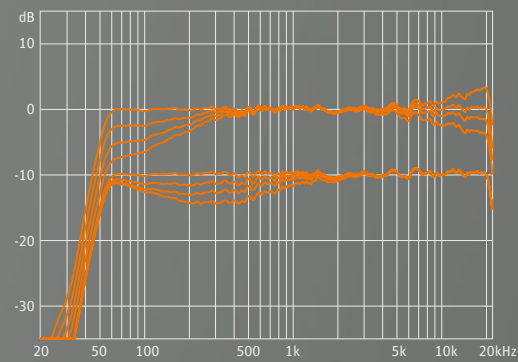
* Digital input version only (KH 120 D)



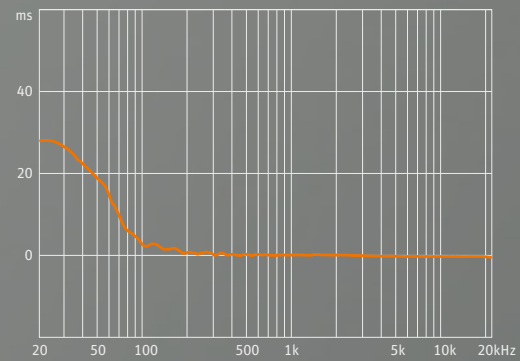
Frequency Response



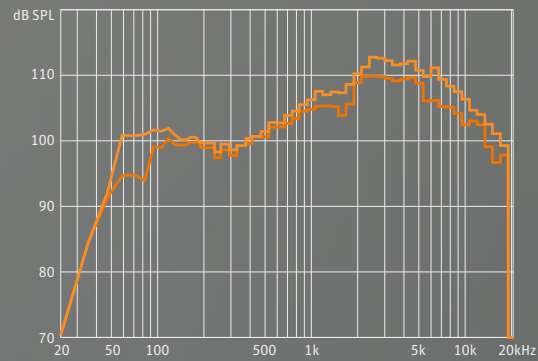
Acoustical Controls (Bass/Low-Mid/Treble)



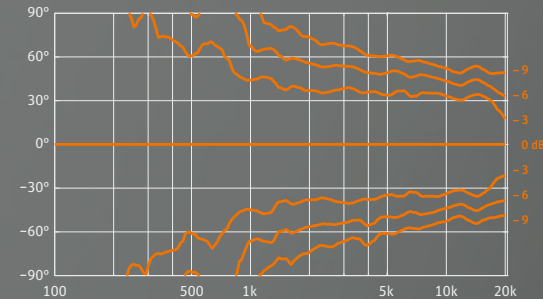
Group Delay



Maximum Output Level (at 1% / 3% THD)



Horizontal Isobar Dispersion Plot



▶ Acoustics

	KH 120 A	KH 120 D
-3 dB free field frequency response	52 Hz ... 21 kHz, ± 3 dB	
Pass band free field frequency response	54 Hz ... 20 kHz, ± 2 dB	
Self-generated noise (with input gain set to 100 dB for 0 dBu)	<20 dB(A) at 10 cm	
Sine wave output with a THD < 0.5 % at 1 m	95 dB SPL (>100 Hz)	
Max. SPL In half space at 3% THD at 1 m	111.1 dB SPL (averaged between 100 Hz and 6 kHz)	

▶ Electronics

Woofer/Tweeter amplifier, cont. (peak) output power*	50 W (80 W) / 50 W (80 W)	
Controller design	analog, active	
Crossover frequency	2.0 kHz	
Crossover slope	24 (dB/oct.), 4th order	
Equalization: Bass / Low-Mid / High	0, -2.5, -5, -7.5 dB / 0, -1.5, -3, -4.5 dB / +1, 0, -1, -2 dB	
Protection circuitry	Peak Limiter: Low; Thermo Limiter: Low, High	
Infrasonic filter frequency; slope	30 Hz; 6 dB/oct.	

▶ Analog Input

Impedance, electrically balanced	XLR, >10 kΩ	
Input gain control (sensitivity)	0 dBu to -15 dBu	
Output level control	94, 100, 108, 114 dB SPL	
CMRR	>56 dB @ 15 kHz	

▶ Digital Input/Output

Format XLR (Format BNC)	-	AES3 (AES3, S/P-DIF)
Impedance XLR, balanced	-	110 Ω
Impedance BNC, unbalanced	-	75 Ω (input/output)
Input switching	-	Analog/Digital A or B / Delayed Analog
Digital converter: resolution, design	-	16 ... 24-bit DAC, ΔΣ
sampling rate	-	32 ... 192 kHz
Digital sensitivity	-	-18 dBFS
D-A dynamic range	-	120 dB
Audio-Video/lip sync and Time-of-Flight delay range	-	0 ... 340 ms
Audio-Video/lip sync max. frames	-	0 ... 8.5 (40 ms) frames 0 ... 10.2 (33 ms) frames
Resolution: time/distance	-	10.4 μs / 0.36 cm (1/8")
Latency D-A (A-D-A)	-	Approximately 1 ms (2 ms)

▶ Displays and Mains Power

Displays and indicators: power on	Neumann logo "White"	
limit/clip	Neumann logo "Red"	
digital delay setting acknowledgement	-	Neumann logo "Red" 3 flashes
digital error	-	Neumann logo "Red" flash
Mains Power Supply: voltage; frequency	100 - 240 V-; 50 / 60 Hz	
Power consumption: Idle / Full output	20 W / 200 W	40 W / 200 W

▶ Mechanics

Height x width x depth, mm (inches)	277 x 182 x 220 mm (10 7/8" x 7 1/8" x 8 5/8")	
Internal net volume / external volume	6.5 Liter / 9.7 Liter	
Weight	6.2 kg (13.7 lbs.)	6.3 kg (13.9 lbs.)
Drivers Woofer / Tweeter	130 mm (5.25") / 25 mm (1"), both magnetically shielded	
Mounting points	2 x M8 on rear panel	
Cabinet surface finish, color: custom	Painted aluminium, Anthracite (RAL 7021)	

* THD+N <0.1% with limiter deactivated

Additional technical information is available at www.neumann.com



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

To aid transportation and storage of the loudspeaker:

▶ BKH 120 Soft Carry Bag for a pair of KH 120s



▶ FKH 120 Flight Case for a pair of KH 120s



For the KH 120 D, to set the digital delay and remote control the volume:

▶ DDC 1 Digital delay controller

▶ SRC 1 Remote control

▶ Neumann also offers a large range of hardware accessories (LH nn) for mounting the loudspeaker cabinet in many ways:

On a floor stand:	LH 61 or LH 61+LH 28 or LH 61+LH 29 or LH 61+LH 48
On a mic stand:	LH 61
On a meter bridge/table top:	LH 65
On a wall:	LH 32 or LH 45+LH 47+LH 61
Off a ceiling:	LH 61 or LH 46+LH 47+LH 61 or LH 43+LH 47+LH 61
Off a lighting or truss bar:	LH 29+LH 61
On an Omnimount bracket:	LH 64
On a VESA mount bracket:	LH 64

Please refer to the web site www.neumann.com for details of the complete range of accessories currently available. In particular, look for the "Hardware Mounting Matrix" which shows how to connect the various LH brackets and adapters together to make a mounting solution. Detailed mechanical drawings are also available.



▶ LH 28 Tripod Stand Adaptor for mounting on standard 35 mm (1.4) diameter tripods.



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



▶ LH 32 Wall Bracket, can be tilted horizontally and vertically, tightens with bolts.



▶ 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.



▶ LH 47 Mounting Adaptor (115 mm) for ceiling and wall mounting.



▶ LH 48 Tripod Adaptor Plate (115 mm) to mount on König & Meyer tripods No. 26790 and No. 26795.



▶ LH 61 Adjustable L-Bracket

▶ LH 64 Omnimount/VESA Adaptor for Omnimount 75 / VESA 75 / VESA 100.

▶ LH 65 Table Stand with horizontal / vertical / height adjustment.

▶ Order Info

Product	Art. Number
KH 120 A Active Studio Monitor with analog input	503930
KH 120 D Active Studio Monitor with additional digital input	503932
Recommended for KH 120	
KH 810 10" subwoofer with 7.1 Bass Manager	503951