

Interview: Recording *Heavy MakeUp* with Edie Brickell, CJ Camerieri and Trever Hagen

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# Neumann KH 120 II DSP Powered Monitors

*A major update to a popular monitor design*

## REVIEW BY ALEX HAWLEY

More than a decade has passed since the original Neumann KH 120 A monitors hit the market (reviewed by Lorenz Rychner in the January 2012 issue). The original KH 120 A is known to be among the most accurate and compact near-field monitors money can buy, but a lot has changed since 2010. Neumann has continued to innovate and refine the KH line, illustrated by the highly celebrated KH 150 release earlier this year (reviewed by David Blascoe in the June 2023 issue). The KH 120 II update brings innovations found in the KH 150 to its smaller KH 120 II sibling.

### Overview

The Neumann KH 120 II is an active 2-way monitor with a 5.25" woofer and 1" tweeter. The drivers are similar to the newly designed KH 150 drivers, which have been in development for several years with the intent of low distortion and high SPL output. The 5.25" woofer reaches down to 44 Hz +/- 3dB, which is exceptional for its size, while the tweeter extends up to 21 kHz. The bass-reflex ports are front-firing, making it more flexible for placement in tighter spaces.

It's impressively compact, both in width and depth (11.3" T x 7.16" W x 8.94" D), making it ideal for home and project studios or anywhere desktop real estate is limited. My standard monitor used in my home setup features 4" drivers (it's a smaller room), but the KH 120 II occupies about the same amount of real estate with a very impressive output.

The KH 120 II is bi-amped with efficient Class D amplifiers: 145 W for the woofer and 100 W for the tweeter. While idling, energy consumption is reduced to 17 W and even further to 0.3 W when auto-standby mode kicks in (which can be turned off as needed).

### Digital Gold

Among the plethora of updates, the switch from an all-analog design to the incorporation of digital is perhaps the most significant. Neumann announced with its KH 150 release that all future models will incorporate internal DSP, and they didn't waste any time bringing it to another model.

This added DSP unlocks a level of precision not found in its predecessor, which extends beyond the ability to measure and account for room acoustics—using the MA 1 measurement microphone and software package (sold

separately). The internal DSP manages crossovers (reducing distortion compared to analog filters), ensures consistent tonality (Neumann notes a 0.5dB tolerance, improving on the 0.8dB figure from the KH 150), employs digital limiting to keep the drivers from overexerting and manages phase coherence between the drivers for a linear response. Simply put, the internal DSP is a highly detailed system optimized for low distortion and linearity.

The improvements aren't just digital; another major update is the cabinet construction. The original featured a fully die-cast aluminum cabinet, while the new model yet again borrows from the KH 150 by utilizing a wooden frame with composite polycarbonate front and rear moldings. Neumann notes the latest cabinet design reduces resonance and offers far more energy-efficient manufacturing. A side-effect of the new cabinet construction is a slightly larger footprint when compared with the previous gen KH 120. The waveguide is also updated in line with the KH 150, albeit scaled back for the smaller unit. Neumann calls the new waveguide Mathematically Modeled Dispersion (MMD).



## Around Back

Unsurprisingly, there are plenty of controls on the back panel. A series of switches across the top allows for quick tone and level adjustments, including bass, low-mid, high-frequency adjustments, input level trim, a maximum SPL Output level selection, input source selection, ground lift and a local/network control selection. In addition to the analog XLR input, there is a digital S/PDIF in/out, an Ethernet jack, an IEC jack and a dedicated on/off switch.

The Ethernet port enables use with the MA 1 Automatic Monitor Alignment system and for connecting to a computer for future firmware updates. Much like the KH 150, the KH 120 II is also available in an AES67 configuration, with two Ethernet ports for Audio-over-IP as well as control.

## Impressions

The KH 120 II monitors are as ruler-flat in response as I've heard from this compact of a monitor. The image is focused and tight, with an impactful transient response and sense of depth. Detailed guitars and vocals accurately highlight

the midrange. There is no sense of hype or embellishment. It is flat throughout the spectrum, with impressive low-frequency extension given the compact driver size. The low-end doesn't call unwanted attention to itself; instead, it naturally extends and blends into a single cohesive image.

I tested both with and without a sub-woofer, and I do think they benefit from the extra support. Even with its extended linear response, it's not surprising that a 5.25" woofer needs a bit of extra juice to reach those sub-low frequencies. The KH 750 DSP (which I reviewed in March 2021) obviously makes an ideal companion. Unfortunately, the review model has long been sent back, but it's easy to guess that it would make for a truly impressive 2.1 experience.

The high-frequency extension is smooth and natural—not at all bright or fatiguing. I've been able to mix for longer hours than usual and still feel sharp. For gauging high-end response, a few of my references include Steely Dan's *Gauche* and Tom Petty's *Wildflowers*, both of which I classify as tastefully bright. The hi-hats and sibilance range of the vocal

both feel appropriately bright for those mixes, and the KH 120 II presented them as balanced and life-like rather than brittle or harsh.

The most impressive aspect is the exceptional stereo imaging. While mixing, I can pinpoint instruments in the stereo field, and the phantom center always remains anchored and focused. Modulation and reverb effects display a great level of detail, which makes mixing a rewarding and joyful experience.

## Conclusion

It's hard not to gush over KH 120 II monitors. Neumann has raised the bar for what is possible in a compact near-field monitor, and it will be tough to put the genie back in the bottle after experiencing them. Mixes translated well during my testing, and it was a quick learning curve to get acclimated to their sound and confidently begin working. While they have a price tag to match the prestige, they are within reach for users serious about their sound. ➡

**Price:** \$999.00 (each); \$1,998.00 (pair)  
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