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Three drivers, one amazing monitor**

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22 Products Reviewed!

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NUMBER FOUR



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**Dynamic Drum Mics from Telefunken
Drum Sounds from The Loop Loft and XLN Audio
Cool Tools for iOS from Focusrite, Griffin Technology,
IK Multimedia, and Sonoma Wire Works**



BY LORENZ RYCHNER



at, where less than ideal circumstances may require extensive user control to achieve the desired balanced sound.

Three four-position switches allow for attenuation of bass (from 0 to -2.5 , -5.0 down to -7.5 dB) and low mids (from 0 to -1.5 , -3.0 down to -4.5 dB), while the treble may get a $+1.0$ boost or be attenuated from 0 dB down to -1.0 or -2.0 dB.

Another four-position switch allows adjustment of Output Level (dB SPL at 1 meter) at 94, 100, 108, and 114 for 0 dBu. A rotary pot regulates the input gain (sensitivity) from -15 dB to 0 dB. Maximum input level is stated as 24 dBu.

There is a four-position switch for adjustment of the Neumann logo's brightness, with three levels of brightness and an Off position. A ground-lift switch completes the rear controls. The cabinets are

Neumann KH 310 A Active Studio Monitor

This 3-way design is poised to open a lot of eyes—and ears

Neumann continues the line of monitor speakers carrying the KH moniker, harking back to the venerable Klein + Hummel brand that Sennheiser/Neumann acquired a few years back. We reviewed the model KH 120 A in the January 2012 issue, an active two-way cabinet that comes in two versions, with analog and with digital inputs.

A big step up in size and power, the tri-amped 3-way KH 310 A finally has come our way for evaluation after having been shown at trade shows since early 2012.

The box

Intended to sit sideways, the classy-looking dark-grey ("anthracite") KH 130 A is $15\frac{1}{8}$ " wide, 10" tall and $11\frac{1}{2}$ " deep. It weighs a hefty 28 lbs. 11 oz. A stereo pair consists of symmetrically opposite left and right speakers, the idea being that the $8\frac{1}{4}$ " woofer is on the inside and the white and brightly lit (and dimmable) Neumann logo on the outside. The 1" tweeter sits slightly recessed in a gently contoured waveguide above the 3" midrange speaker. The waveguide was designed for wide horizontal and narrow vertical dispersion, to allow for freedom of movement while maintaining a generous "sweet spot". Speaker grilles are an option at \$219.95 each; my test pair did not have them.

Three amplifiers drive the three transducers, rated at 150 W (continuous) for

the woofer amp, and 70 W each for the midrange and tweeter amps. The crossovers are set at 650 Hz and 2 kHz.

The box is made of painted wood and polyurethane, the back panel of black anodized aluminum. The back has two mounting rails for permanent installation, not something we see often on studio monitors—and Neumann offers a variety of mounting options. This begs the question—what is the intended use of this monitor? Turns out that the KH 310 A is designed with quite a range of applications in mind. To quote the Neumann website:

"The KH 310 is designed for use as a near-field monitor, as a front loudspeaker in mid-sized multi-channel systems, or as a rear loudspeaker in a larger multi-channel system. It can be used in project, music, broadcast centers, OB vans, and post production studios for tracking, mixing, and mastering."

The rear

There is only one input socket per box, a balanced XLR. Neumann realizes that not everybody has a mixer that outputs on XLR, so the manual depicts a wiring diagram for those who want to make their own RCA-to-XLR adapters.

That helpful stance towards the end user continues—there are more user adjustments available than on your average monitor speaker, another indicator of the varied applications the box is aimed

sealed, magnetically shielded, and powered by regular 3-prong IEC plugs.

The set-up

Neumann is very particular in suggesting proper placement of the KH 310, dedicating a substantial portion of the manual to the topic. To quote, in part:

"Carry out the following steps very accurately, since the more accurate the physical arrangement of the loudspeakers in the room, the more accurate the reproduction will be at the listening position. Observe the recommended distances between the loudspeakers and your listening position (imperial dimensions are approximate): Minimum 0.75 m (2'6"), Recommended 1.0–2.5 m (3'–8'), Maximum 6.0 m (18'). Avoid positioning the loudspeaker at a distance of 0.8 to 2 m (2'6" to 6') from the wall behind the speaker."

Many of us will have no choice about the 6' behind the speaker to the nearest wall distance, in our home studios or in suggested applications like broadcast vans etc. That's where the above-mentioned user-adjustable frequency controls will have to come in.

The manual further suggests that the two cabinets, in the usual equilateral triangle (equal distance from tweeter to tweeter and from your ears to the tweeters), should be toed in by 30 degrees. Neumann takes this seriously—the use of a tape measure is suggested!

In a carefully staged and measured stereo setup I found the KH 310 to be quite forgiving about the sweet spot and imaging on the horizontal axis. The intended effect of the waveguide design was definitely in evidence—side-to-side movement didn't cause a loss of focus as quickly as did up-and-down movement at the listening position.

The sound

While I had the KH 310 cabinets at home I was delighted to run into Doug MacCleod who handed me his new CD *There's A Time*, recorded in HDCD at Skywalker by Prof. Keith O. Johnson. What a superbly performed and recorded project! The KH 310s did it justice, projecting the subtleties of the acoustic trio and of Doug's bluesy voice with exquisite nuances. Having recently moved, I'm still "learning" my new and still unfinished room, so I played material that I am very familiar with, and I experimented with the acoustic adjustments on the back of the boxes. I soon reset them to zero after I found the right spot in the room to give me the reliable sound I was after, with the help of IsoAcoustics' ISO•L8R 430 isolating speaker stands (reviewed in October 2013), and avoiding any surfaces in front of the cabinets that might have produced a splash reflection.

Even though the cabinets ended up less than 6' from the wall behind, I didn't need to attenuate bass, largely because the bass the KH 310 produces is very smooth and not hyped in any way. Neumann obviously is not particularly after the market segment that judges the success of a mix by the rumble it creates in the neighborhood. But not to be misunderstood—there is no lack of

bass when you expect bass; when you need to hear the orchestral low end in pieces like the openings of Bartók's Concerto for Orchestra or Shostakovich's 5th or 10th Symphony, or hear people like Victor Wooten and Marcus Miller let fly on their electric basses, you're not missing anything.

The crossover from woofer to mid-speaker is set higher than one might expect, but it is very smooth, I tried and couldn't hear it with any certainty. The mids and upper mids on the KH 310, to my ears, have a tonality that reminds me of the best European speakers I grew up with—hard to put into words, but in a way related to the difference in the tonal ideal between European and American orchestras, especially the brass sections.

Nothing is left out, everything is very well defined and balanced, and the tweeter brings out the lustre of good string sections and the sparkle of a well-voiced piano without a hint of shrillness.

All in all

A lot of attention to detail has gone into the design and manufacture of the KH 310 A cabinets. While marketed towards—and certainly eminently suited for—the studio, this cabinet makes for a fine hi-fi speaker in any critical listening environment. I found it to reveal detail as needed for close-up monitoring, but I can imagine that a 5.1 array in a well-tuned listening room, matched with a suitable subwoofer, would satisfy many a picky high-end audiophile. ➤

Price: \$2249.95 each

More from: Neumann USA, www.neumannusa.com

