Review KH 80 DSP English Translation

FUNK FÜR ALLE
Flexibel performen mit dem Beyerdynamic TG 500

SPECIAL
Licht programmieren
Das Auge hört mit. So wertet ihr eure Show effektiv optisch auf

Songdienlich spielen
So unterstützt ihr die Vocals effektiv

Ghost
Die schwedischen Okkult-Rocker im Interview
The Neumann brand name is mainly known for high-end studio microphones, but at the other end of the signal chain the company also has interesting products to offer. The new and smallest representative of the KH monitor range, for example, is equipped with unique control possibilities.

For some time, the microphone specialist Neumann has also been working at the other end of the signal chain, offering outstanding near-field and mid-field monitors in its KH studio monitor range. The KH 80 DSP, their latest product, not only extends the lower end of the product range, it also provides remote DSP control and integrated back panel controls to ensure that the monitors are ideally adapted to the room and adjusted to the listening environment. We have now tested in detail whether the new “small” KH 80 DSP is worthy to bear the “Neumann” brand name, and how it performs in practice.

**A spatial miracle**
When you hold the two KH 80 DSP units in your hands for the first time, you will be surprised at how much the manufacturer has managed to fit into this small housing – not only the loudspeakers, but also a two-channel output stage with the DSP control, the power supply unit and a two-part bass reflex channel. Every cubic centimetre is used to maximum effect! The metallic anthracite-coloured housing made of composite polycarbonate creates a solid and stable impression, and the clear lines and simple design give the loudspeaker a classic and high quality external appearance. The front of the KH 80 DSP is characterised by the 10 cm (4”) woofer, which is visible behind a metal grille, and the 2.5 cm (1”) tweeter, which is integrated into a waveguide. The dimmable illuminated Neumann logo has been placed to the left between the two drivers, and its colour changes to show the status of the loudspeaker. When the logo is white, everything is OK. If the logo flashes or lights up in rosé, this shows that some network activity is in progress. If the logo flashes or lights up in red, this indicates a serious problem. An exact breakdown of the individual colours and their meanings can be found in the very detailed and well-illustrated manual. Another eye-catcher on the front consists of the two outlet openings of the bass reflex system in the bottom left and right corners of the loudspeaker which look rather like the exhaust system of a high-performance car engine.

**Optimum room adaptation**
On the back of the KH 80 DSP, in addition to the cooling vents of the fan-free housing and the two integrated M6 mounting threads, we can see all of the connectors and operating controls. On the right, next to the power cable inlet, is the on/off switch for the mains power.
Round forms, attractive design: Neumann monitors look good, too.

Supply. The power supply unit can cope with alternating currents of between 100 and 240 Volt at 50 / 60 Hz so these monitors can therefore be used all over the world, as long as the matching power cable is at hand. To the right of the on/off switch is the RJ-45 socket which enables the KH 80 DSP to be connected to a LAN and to be controlled with the control software that will be available free of charge early 2018. An XLR/jack combo socket, which is embedded in the housing like the mains socket, accepts symmetrical and asymmetrical input signals with a level up +24 dBu. The detailed information in the operating manual about the correct installation and positioning of the loudspeakers is also exemplary. When the loudspeaker boxes have been properly installed and correctly mounted with the extensive accessories, the loudspeakers can then be adjusted to the specific situation of the room. All necessary operating controls are in a panel on the top edge of the back of the loudspeakers, so they are also easily accessible from the front. On the left is the “Settings” switch which offers four setting options to control the stand-by function and at the same time to select the general loudspeaker control method: either manually on the loudspeaker = “Local Control” or via the network with the Neumann. Control software = “Network Control”. The values set with the software are stored in the loudspeaker and can still be called up even after a complete power failure. It is also possible to reset the system to the factory settings using the “Settings” switch. However, the software is not yet available, so in the test we limit ourselves to the parameters which can be adjusted directly on the loudspeaker. Next to the “Settings” switch there is another switch with four fixed settings and the label “Acoustical Control”. If, for example, the loudspeaker is installed on the meter bridge of a mixer, the mixing console strongly boosts the low mid-range frequencies, so they are accentuated at the listening position, and the larger the surface and the shorter the distance from the loudspeaker, the more extreme the accentuation of the low mid-range frequencies becomes. The “Acoustical Control” switch can therefore be used to reduce the low mid-range frequencies in four steps: “Free Standing” means an attenuation of the low mid-range frequencies by 0 dB, “Small Desk” corresponds to -1.5 dB, “Medium Desk” corresponds to -3 dB and “Large Desk” corresponds to -4.5 dB. The next four-position switch, which is labelled “Output Level”, is used to adjust the sensitivity of the loudspeaker to the level of our audio signal. With an input signal of -20 dB, the switch should be set to the position “114”, but at a normal studio level of +4 dB it should be set to the position “94” (dB SPL). The continuous “Input Gain” control is then used for the fine adjustment of the volume of each loudspeaker to ensure that, at the listening position, the loudspeakers have the same level. Neumann recommends that the loudspeaker adjustment should be exactly measured, at least when the KH 80 DSP is installed for the first time. This is necessary to guarantee that the loudspeaker can deliver optimum quality and provide the best result.

Test and recommendations for use
In our test we connected the KH 80 DSP directly to our Soundcraft studio Round forms, attractive design: Neumann monitors look good, too.
mixing console which also supplies our “large” studio monitoring system with an audio signal. This enabled us to make a direct A/B comparison between the small KH 80 DSP and our P11A ADAM monitors, which have about eight times the volume, and a subwoofer. When we heard the first piece of music over the KH 80 DSP, we couldn’t believe our ears! Due to the woofer size of only 4” and the lower volume, we had expected a strong emphasis on the mid-range sounds, but what came out of the small loudspeaker boxes was a rounded sound image which was linear down to the lowest frequencies, with an excellent resolution of the important mid-range, with silky, crystal-clear highs and a powerful, rich but clearly defined low end. The small boxes were also really impressive in their output level, with no signs of weakness at all. Even at high output levels the sound image was still very linear, without any audible resonance frequencies.

With the KH 80 DSP, Neumann has really managed to put a fully professional monitor on the market which is worthy of the name of Neumann and gives a sound quality which can match its much larger brothers at all times. It is the ideal monitor for any home recording or project studio with professional ambitions!

Michael Hennig

**AT A GLANCE**
- NEUMANN KH 80 DSP
- Sales Sennheiser, www.neumann.com
- Price (RRP) 593.81 EUR
- Evaluation
  - Full, round sound
  - Extensive control options
  - Remote control via network
  - Universal applications