



## AMBEO AT IBC

### New VR mixing software, binaural recording gear and the future of sports broadcasting

**Wedemark/Amsterdam, 14 September 2018** – At IBC, Sennheiser and Neumann will be presenting visitors with breadth of products and solutions for VR/AR experts and binaural audio enthusiasts at stand No. 8D50. The companies will show the workflow of binaural recording and processing, including their top 3D audio recording products. Sennheiser partner Dear Reality will be present to demonstrate software that enables users to mix VR in VR for the first time. In the nearby IBC Future Zone, Sennheiser and Lawo are inviting visitors to take a look at the future of sports broadcasting (8F25).

### dearVR SPATIAL CONNECT – Mixing VR in VR

Mixing VR in VR – this is the exciting possibility offered by dearVR SPATIAL CONNECT, a brand-new VR application. Launched by Sennheiser partner Dear Reality, this stand-alone software allows developers and engineers to mix immersive virtual reality experiences directly in a VR environment, eliminating tiresome switching back and forth between the mixing and the reproduction environments. “This is the mixing console of the future,” said Christian Sander of Dear Reality. “Sound engineers can mix with their hands and intuitively arrange the sound sources in a 3D space. The engineer cannot only hear all sound sources in the software but also see them – they are represented as spheres that can be moved and mixed as desired.”



The VR mixing software dearVR SPATIAL CONNECT presents “the mixing console of the future”

dearVR SPATIAL CONNECT controls the digital audio workstation, including the 3D audio processing plug-in dearVR PRO. During the mixing process, the developer or audio engineer wears VR glasses, and uses the VR controller and attached virtual ray to position the audio

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sources, set their level and control solo/mute and automated modes for the sound sources.

<https://youtu.be/ln61FNG3bB4>

dearVR SPATIAL CONNECT encodes binaural, Ambisonics and multichannel audio formats, and will be available in Q4 2018.

### **Get inside the sound with the Neumann KU 100 binaural head**

Binaural is one of the easiest formats to create and play back spatial audio. The much revered KU 100 binaural head is a true classic – to place the dummy head in the optimum listening position is basically all that is required for a realistic 3D audio recording. It offers listeners an immediate, truly immersive sound experience, transferring them into the environment where the acoustic event originally took place. The Neumann KU 100 offers lifelike, natural reproduction with stunning lateral and vertical localization, a breathtaking sense of space, and a room decay that surrounds the listeners fully.

The Neumann KU 100 binaural head delivers a truly immersive sound experience and is increasingly used for the production of VR and AR content



“With spatial audio and VR, AR, and MR massively on the rise, the KU 100 has met with great acclaim by these new user groups,” said Wolfgang Fraissinet, President of Neumann.Berlin. “This is also helped by software plug-ins such as the AMBEO Binaural Panner, which makes the mixing of binaural content much easier than in the past.” The AMBEO Binaural Panner allows the sound engineer to position additional mono or stereo sources within the 3D sound



field recorded by the KU 100, while avoiding an undesirably high amount of coloration that can result from artificial “binauralisation” of such additional sources.

The diffuse-field equalized KU 100 dummy head has been optimized for headphone playback but is also loudspeaker compatible, where it creates a stereo image similar to conventional microphones but with a superior sense of space and depth. To allow recordings in unusual settings, the dummy head can be powered by battery, besides the options of phantom powering via the mixing desk or using the included external power supply unit.

The Neumann KU 100 features very low self noise (equivalent noise level: 29 dB-CCIR/16 dB-A), a sensitivity of 20 mV/Pa and can handle sound pressure levels of up to 135 dB without audible distortion. With the -10 dB pre-attenuation switch activated, this value increases to 145 dB. A low-cut switch (linear, 40 Hz, 150 Hz) eliminates low-frequency noise.

The KU 100 binaural head is delivered in an aluminium case complete with microphone cable, adapter cable and plug-in mains unit.

### **Recording binaural audio on the move with the Sennheiser AMBEO Smart Headset**

With the AMBEO Smart Headset for iOS devices, Sennheiser and its partner Apogee have designed an intuitive and compact 3D recording solution that captures immersive 3D audio with mobile device simplicity. The binaural recordings created with the headset deliver a stunning spatial audio experience that places the listener inside the soundscape, playing back the directions of sounds and the spatial characteristics of a location.



Binaural recordings with your own head – and a great headset in the bargain – this is the AMBEO Smart Headset from Sennheiser



“The AMBEO Smart Headset is a convenient tool for content creators who use their iPhone or iPad for videos,” said product manager Nicole Fresen. “The binaural audio recorded with the headset will treat audiences not only to great pictures but also to natural, fully immersive sound. Videos will benefit from a heightened sense of realism, a feeling of being there and greater appeal overall.”

The AMBEO Smart Headset features two omni-directional microphones in its ear pieces that work alongside a premium A/D converter, mic preamp and SoftLimit from Apogee. Just like with a dummy head, the two microphones capture the subtle differences in timing, volume and timbre that occur as sounds from different directions reach each ear. When played back on stereo headphones, the result is a lifelike audio experience in picture-perfect fidelity.

In addition to this special binaural recording function, users will acquire a high-quality headset with powerful Sennheiser sound. An extra microphone allows users to make and answer phone calls or use Siri on their iOS device. Whenever users would like to tune out their environment, the AMBEO Smart Headset’s active noise cancellation blocks distracting sounds so that music or videos can be enjoyed to the full.

The AMBEO Smart Headset also features a Transparent Hearing function which enables the user to hear outside sounds. This is ideal when listening to music while doing outdoor sports but also for directly monitoring the audio that is being recorded binaurally. During the recording, Transparent Hearing should be set to ‘natural’ to be best connected to the audio environment.

#### **AMBEO Ultimate Kick: the future of sports broadcasting at IBC’s Future Zone**

Lawo and Sennheiser will demonstrate what the future holds for soccer game broadcasts at stand F25 in the IBC Future Zone (Hall 8). The manufacturers present a new Sennheiser microphone array technology, which is able to put a highly directional focus on the relevant sounds on the soccer pitch – for example, ball sounds and referee or players’ comments. The array is combined with Lawo Kick, software that works with camera tracking to locate the ball and control the directivity of the microphone array accordingly. Visitors will be able to compare this future array technology with today’s state-of-the-art broadcast capture.



Lawo and Sennheiser demonstrate the future of sports broadcasting at IBC

Renato Pellegrini of the AMBEO team commented: “For object-based broadcast formats, it is of paramount importance to obtain clear, clean audio signals without any background noise. This microphone array will be able to deliver clear signals with the utmost reduction in background noise, avoiding disturbing high-volume spill that interferes with the desired signal.”

**Visit Sennheiser at IBC in Hall 8, Stand No. D50 and in the Future Zone in Hall 8, Stand No. F25.**

#### **About Sennheiser**

Shaping the future of audio and creating unique sound experiences for customers – this aim unites Sennheiser employees and partners worldwide. Founded in 1945, Sennheiser is one of the world’s leading manufacturers of headphones, microphones and wireless transmission systems. With 21 sales subsidiaries and long-established trading partners, the company is active in more than 50 countries and operates its own production facilities in Germany, Ireland, Romania and the USA. Since 2013, Sennheiser has been managed by Daniel Sennheiser and Dr. Andreas Sennheiser, the third generation of the family to run the company. In 2017, the Sennheiser Group generated turnover totaling €667.7 million. [www.sennheiser.com](http://www.sennheiser.com)

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