

## **HEAD acoustics presents leading-edge testing solutions at the AES Headphone Conference**

At the *AES International Conference on Headphone Technology* in San Francisco, USA from August 27 to 29, HEAD acoustics will present the entire spectrum of leading-edge testing solutions for headphones and headsets. The solutions include speech and audio quality testing, ANC (Active Noise Cancellation) performance evaluation, realistic background noise simulation, and a new measurement method for listening effort.

### **ANC performance & speech and audio quality**

HQS-ANC-Headset is the fully automated database for HEAD acoustics communication analysis system ACQUA for testing and optimizing passive noise isolation and active noise cancellation of headphones and headsets. It also includes measurements that enables users to evaluate general audio quality, effectiveness of talk-through mode and performance in the presence of background noise. HQS-ANC-Headset is capable of measuring devices with passive (wired), USB-powered and Bluetooth® connection. With HQS-Audio, the measurement specialist presents another ACQUA database capable of testing the audio quality of headphones and headsets comprehensively. This allows users to efficiently test frequency response, signal-to-noise ratio, intermodulation distortion, THD and THD+N as well as conduct Relative Approach analyses.

### **Background noise and reverberation**

The simulation system 3PASS *flex* in combination with the enhanced microphone array MSA II, enables recording and reproduction of realistic three-dimensional background noise scenarios. This allows manufacturers to test headphones and headsets under realistic conditions. The microphone positioning of the MSA II is oriented in particular to the requirements in the development and metrological evaluation of ANC headphones. The symmetrical arrangement of the eight microphones enables a high-precision reproduction of the sound fields in the surrounding area of both ears. With the software option 3PASS *reverb*, manufacturers are able to reproduce different room characteristics like realistic reverberation in the laboratory. The software simulates the reverberation of the room by applying the previously recorded impulse responses to any audio signal in real time.

### **Listening Effort**

As an alternative to the measurement of speech intelligibility, listening effort has become more important in the field of speech communication in recent years. With the new analysis Listening Effort, HEAD acoustics presents for the first time a method for instrumentally assess the perceived listening effort. Thus, users can reliably test, for example, communication scenarios when using an ANC headset or the signal processing of mobile phones at the receiving side.

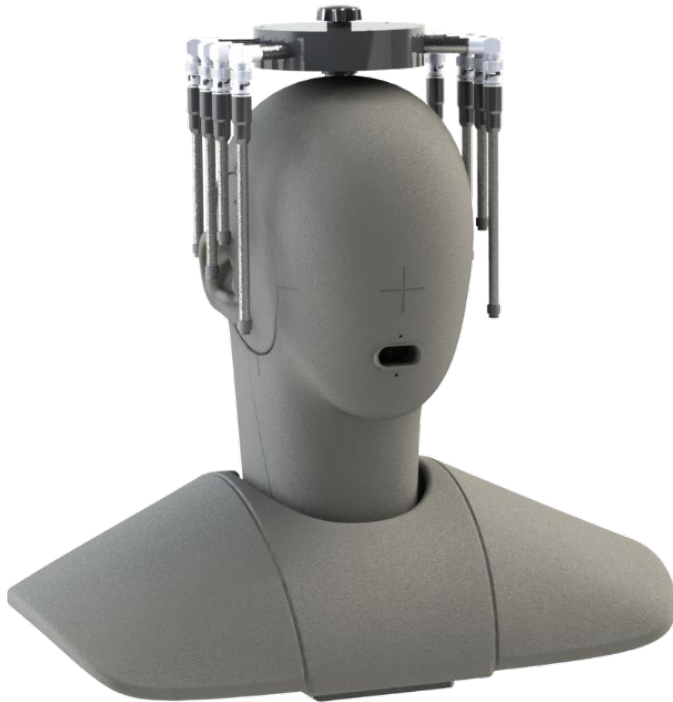
### About HEAD acoustics

HEAD acoustics GmbH is one of the world's leading companies for integrated acoustic solutions as well as sound and vibration analysis. In the telecom sector, the company enjoys global recognition due to the expertise and pioneering role in the development of hardware and software for the measurement, analysis and optimization of voice and audio quality as well as customer-specific solutions and services. HEAD acoustics' range of services covers sound engineering for technical products, investigation of environmental noise, voice quality engineering as well as consulting, training and support. The medium-sized company from Herzogenrath near Aachen (Germany) has subsidiaries in China, France, Italy, Japan, South Korea, the UK, and the USA as well as numerous sales partners worldwide.

### Images



HEAD acoustics' testing solutions enable manufacturers to test and further develop state-of-the-art (ANC) headphones and headsets.



The microphone array MSA II mounted on an artificial head measurement system like HMS II.3 allows realistic recordings of individual background noise scenarios for testing ANC headphones and headsets.