

HEAD acoustics launches new generation of artificial heads with advanced types of artificial ears

Anatomically correct artificial ears / Fullband-capable two-way artificial mouth / Modular concept

The new generation of artificial head measurement systems by HEAD acoustics offers a variety of new and unique features for telecommunication and audio testing. The basis is a modular concept allowing to exchange different types of artificial ears by the user himself. The new type of artificial ear which better reproduces the ear canal geometry and the human ear impedance is combined with a truly fullband artificial mouth. In addition, numerous detailed refinements and an extensive range of accessories help to make life easier for acoustics engineers. Due to its modularity, the new artificial head is future proof. Users can be easily extend and upgrade the artificial head.

“The new HMS II.3 LN HEC artificial head is perfect for testing the voice and audio quality of all telecommunication and audio equipment,” says Christian Schüring, sales manager Telecom at HEAD acoustics GmbH. “By emulating the acoustically relevant structures of the pinna and ear canal as well as an improved replication of the ear impedance in combination with the outstanding dynamic range, the artificial head sets a new standard, especially for measurements of sound transducers close to the ear, such as headphones, hearing aids and mobile phones.”

New occluded ear simulator and pinnae

HMS II.3 LN HEC realistically emulates all the acoustically relevant structures of the human ear. The new pinnae with a human-like ear canal are especially suitable for testing e.g. in-ear headphones and ear buds. The artificial head is equipped with a low-noise occluded ear simulator whose impedance response matches that of the human ear. The high-sensitivity microphone capsule has an inherent noise floor of 16 dB_{SPL}(A) and a maximum sound pressure level of 148 dB_{SPL}. This dynamic range makes the artificial head the perfect measurement instrument for testing high-quality ANC headsets. In addition, measurements can cover the entire dynamic range of human hearing, from the hearing threshold to the pain threshold.

Two-way mouth loudspeaker

The artificial mouth of HMS II.3 LN HEC is equipped with a two-way loudspeaker. It reproduces the full frequency range of the audible human voice, making it ideal for fullband measurements. In sending direction, the transmission range is between 50 Hz and 20 kHz. The acoustic characteristics of the two-way mouth exceed the requirements of the international recommendation ITU-T P.58.

Modular concept

The modular concept is yet another feature of HMS II.3 LN HEC: in the future, ear simulators and pinnae of the new artificial head measurement systems can be interchanged quickly and easily. “This feature means that for the first time, users now have an artificial head that they can customize for different applications,” says Dr. Gierlich. “Depending on the measurement scenario, engineers can use different types of artificial ears for their measurements. They can choose from low-noise or standard occluded ear simulators, standard or simplified pinnae or the new pinnae with human-like ear canal.”

About HEAD acoustics

HEAD acoustics GmbH is a world-leading provider of holistic sound and vibration analysis solutions. In the telecommunications sector, the company enjoys global recognition due to its expertise and pioneering role in the development of hardware and software for measurement, analysis and optimization of voice and audio quality, and customer-specific solutions and services. The service portfolio of HEAD acoustics ranges from sound engineering for technical products and investigating environmental noise to speech quality engineering and consulting, training and support. The medium-sized company from Herzogenrath near Aachen has subsidiaries in China, France, the UK, Italy, Japan, South Korea and the USA, as well as numerous sales partners worldwide.

Images



HMS II.3 LN HEC is the new artificial head measurement system from HEAD acoustics. It is specifically designed for testing voice and audio quality of all telecommunication and audio equipment.



The new pinna has a human-like ear canal.