

HEAD acoustics launches modular multi-channel front end *labCORE*

Powerful and versatile all-in-one solution for a wide variety of applications

With the new modular multi-channel front end *labCORE*, HEAD acoustics introduces a powerful and versatile measurement instrument onto the market. Due to its modularity, its wide selection of digital and analog inputs and outputs as well as its programmable interfaces, *labCORE* is the all-in-one solution for voice and audio quality measurements. The front end is designed to be future-proof: on the basis of modular technology, new technologies can be added quickly and easily. Users can expand *labCORE* flexibly at any time by means of optional modules and thus tailor it exactly to their individual measuring tasks.

Numerous interfaces and versatile high-end modules

Currently common interfaces that are relevant for measurements of telecommunication devices as well as audio applications are integrated into *labCORE*. For example, a USB host interface, interfaces for I²S (Inter-IC Sound), AES/EBU, ADAT and SPDIF as well as a two-channel headphone connection (6.3 mm jack) are available by default. As optional modules, high quality two-channel analog inputs (*coreIN-A2*) and outputs (*coreOUT-A2*) are available from the outset, which can be switched to XLR/BNC. The THD+N value of these module inputs is -112 dB over wide frequency ranges and the S/N is better than -118 dB. In addition, sampling rates of up to 192 kHz are possible. Therefore, *labCORE* is ideally suited for high-end audio testing. Additional modules cover functions such as two-channel mouth amplifier (*coreOUT-Amp2*), binaural equalization (*coreBEQ*) and four microphone inputs (*coreIN-Mic4*). Different *coreIP* modules are available for users who conduct VoIP measurements and want to measure the voice quality of digital communication devices and transmission networks. Codecs such as EVS, AMR or OPUS as well as the Impairment function, which allows users to simulate different IP network failures directly at the signal source and apply them to the outgoing IP packets of the front end, are part of the optional IP modules. The IP functionalities are provided via the Ethernet interface (up to 1 Gbps) on the front of *labCORE*.

Transmission of up to 32 channels at 48 kHz simultaneously

labCORE enables users to simultaneously transfer up to 32 channels at 48 kHz or up to 8 channels at 192 kHz from PC to *labCORE* bidirectional. All configurations for the multi-channel front end can be set up quickly and easily in the upcoming version of ACQUA 4.0, the advanced communication quality analysis system. Thus, users are able to conduct fully automated measurements. On the front side of *labCORE* there is a 2.4" LCD display for status notification purposes. For mobile use, a HEAD*lab* Power Box can be connected to the multi-channel front end as an external battery. *labCORE* does not require a fan and therefore operates completely silent.

"Customer demands for voice and audio quality are constantly increasing. Thus, the products - such as mobile phones, in-vehicle hands-free systems or IoT devices such as smart speakers - must be tested for the highest requirements. With *labCORE*, we provide our customers with an extremely powerful measurement instrument that offers completely new possibilities, not least thanks to its multi-channel capability. This enables users from a wide variety of application fields to test their products precisely and to further develop them in targeted manner," says Dr. Hans W. Gierlich, Managing Director of Telecom Division.

About HEAD acoustics – Telecom Division

HEAD acoustics was founded in 1986 and has been involved in noise and vibration, electroacoustic and voice quality testing since its inception. HEAD acoustics is based in Herzogenrath, Germany, with affiliates in China, France, Great Britain, Japan, South Korea and USA as well as a world-wide network of representatives. The Telecom Division of HEAD acoustics manufactures telecom test equipment and provides consulting services in the field of speech and audio quality. Moreover, HEAD acoustics closely co-operates with DECT Forum, ETSI, ITU-T, 3GPP, TIA, CTIA, GSMA and other standardization bodies with regard to the development of quality standards for voice transmission and speech communication. In many partnership projects, HEAD acoustics has proven its competence and capabilities in conducting tests and optimizing communication products with respect to speech and audio quality under end-to-end as well as mouth-to-ear scenarios.

Images



labCORE is the modular multi-channel front end for precise and efficient voice and audio quality measurements



Front view of *labCORE* (maximum configuration)



Rear view of *labCORE* (example configuration)