

HQS-Audio: Testing loudspeakers, headphones and audio systems in vehicles comprehensively and in a targeted manner

Database for the analysis system ACQUA provides whole set of electroacoustic measurements

HEAD acoustics, one of the world's leading companies in the field of voice and audio quality optimization, introduces HQS-Audio onto the market. The new database for the analysis system ACQUA helps to comprehensively test the quality of audio devices. Whether loudspeakers, headphones or audio systems in vehicles: HQS-Audio provides independent test runs for each application, consisting of various electroacoustic measurements. HQS-Audio is an essential tool for manufacturers as well as for R&D divisions to test and optimize audio devices in a targeted manner.

Advanced analyses implemented

Besides the analysis of frequency response and signal-to-noise ratio, HQS-Audio offers extended tests of distortions: Measurements of intermodulation distortion as well as total harmonic distortion (THD) including noise (THD+N) are part of the database as well as Relative Approach analysis. Based on the hearing model, this algorithm can be used to highlight pulse-like noises. Therefore, Relative Approach is ideally suited as an additional measurement to detect Rub & Buzz effects caused by misalignment of the voice coil of a loudspeaker. As an additional highlight, HQS-Audio offers special performance tests for headphones with passive and active noise filtering (Noise Cancelling/ANC): This test verifies the tested headphones' ability to isolate the listener from the surrounding background noise. This is done either by passive noise isolation or by using modern signal processing techniques like active noise suppression. In combination with the high-precision HRT I turntable from HEAD acoustics, users are able to measure directivity characteristics of passive and active loudspeakers. Last but not least, HQS-Audio offers the calculation of Thiele-Small parameters.

Various test signals and fully automated measurements

HQS-Audio uses various test signals such as realistic speech signals or logarithmic sine sweeps. Since the database is perfectly suited for testing smart speakers and other active speakers, both mono and stereo reproduction is taken into account. All measurements in the database can be conducted fully automated. This enables manufacturers to analyze and optimize their audio devices quickly and comprehensively. Users are able to configure individual analyses intuitively and to adapt them according to the device under test. All measurement data is recorded and documented in ACQUA. The entire database of HQS-Audio is clearly structured and provides users with useful information on individual measurements.

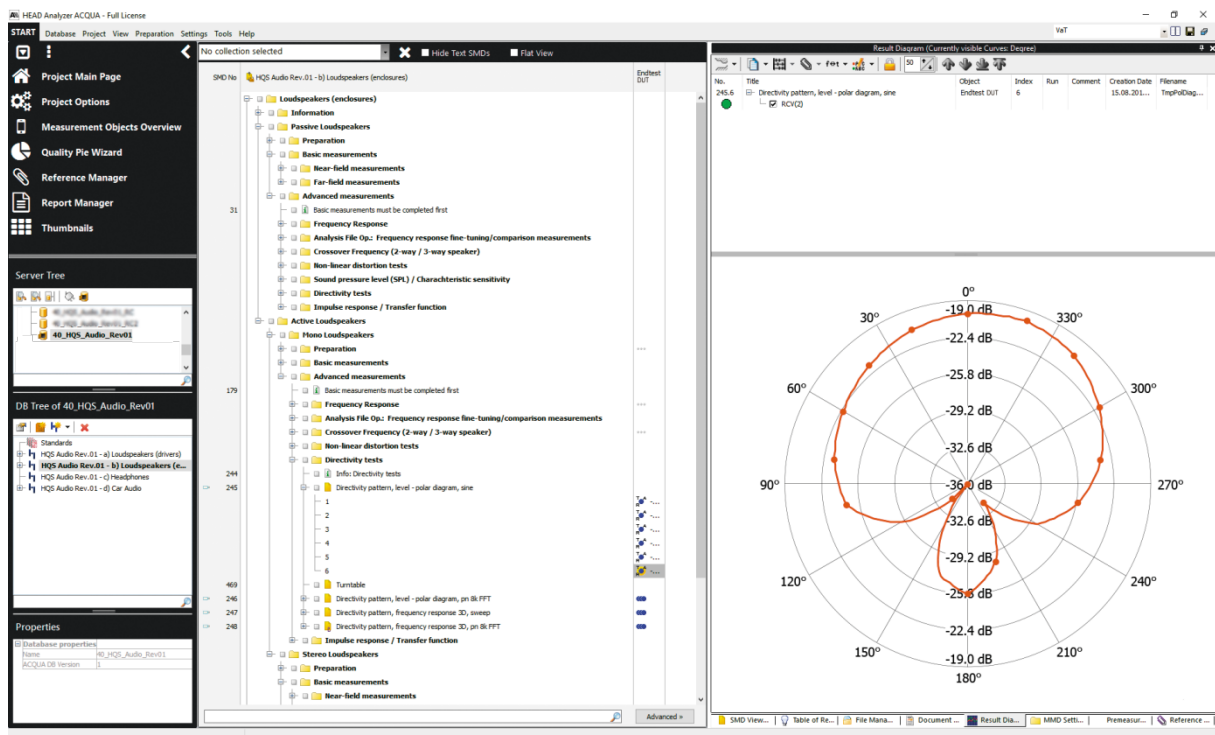
Product variant of HQS-Audio solely for testing loudspeakers

With HQS-AudioBasic, HEAD acoustics provides a product variant of HQS-Audio that solely focuses on electroacoustic tests of loudspeakers. HQS-AudioBasic is a subset of the HQS-Audio database, which contains all measurements for testing and optimizing active and passive loudspeakers.

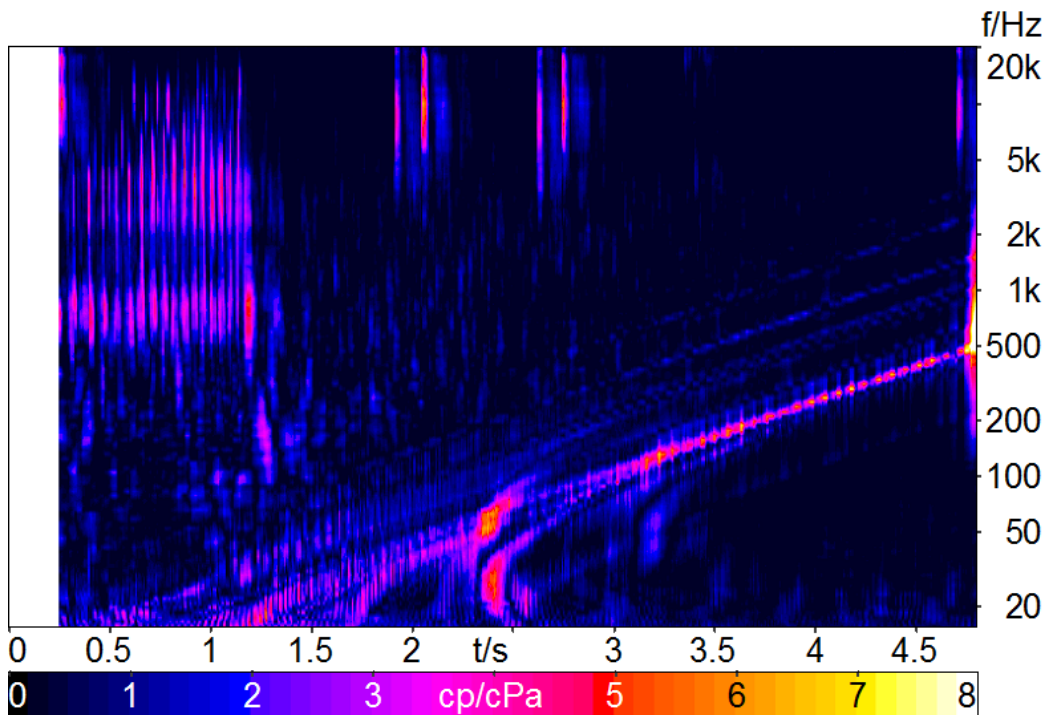
About HEAD acoustics – Telecom Division

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, Italy, 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 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



The HQS-Audio database for the analysis system ACQUA is perfectly suited to test and to optimize the quality of audio devices.



The Relative Approach analysis helps to detect Rub & Buzz effects of loudspeakers.



In combination with the turntable HRT I, users are able to test directivity characteristics of passive and active loudspeakers.