

Simulate room reverberation with 3PASS *reverb*

HEAD acoustics launches world's first acoustic environment for realistic measurements

Users of mobile phones, voice-operated smart home devices or hands-free terminals have to deal with different background noises and room reverberation that impair their user experience. Therefore, realistic performance tests of communication devices do not only need to consider background noise but also reverberation. HEAD acoustics launches 3PASS *reverb* for this purpose, a software option for its background noise simulation systems 3PASS *lab* and 3PASS *flex*. 3PASS *reverb* is capable of simulating realistic room reverberation.

Realistic reproduction in the laboratory

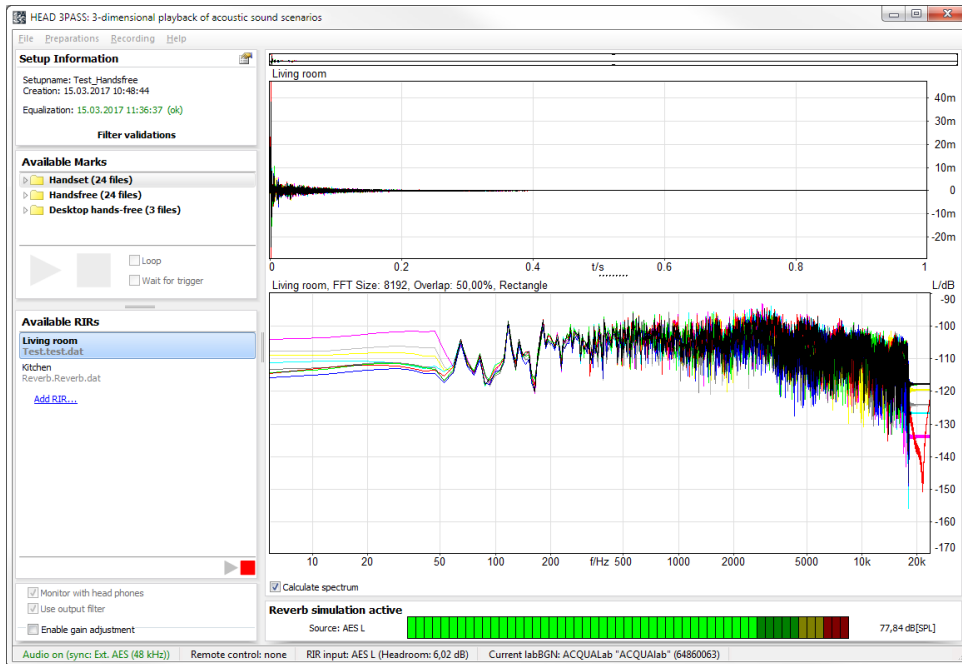
With 3PASS *reverb*, the audio experts of HEAD acoustics have developed a methodology that enables developers and manufacturers to reproduce different room characteristics like realistic reverberation in the laboratory. The software simulates the reverberation of the room by applying the previously recorded impulse responses to any audio signal in real time. While an artificial head measurement system plays back the direct sound signal, the background noise system covers playback of the reverberation components based on the impulse response from the original room. Exemplary impulse responses from various rooms are included as standard in 3PASS *reverb*.

The methodology invented by HEAD acoustics has been successfully approved as ETSI standard TS 103 557 in December 2018.

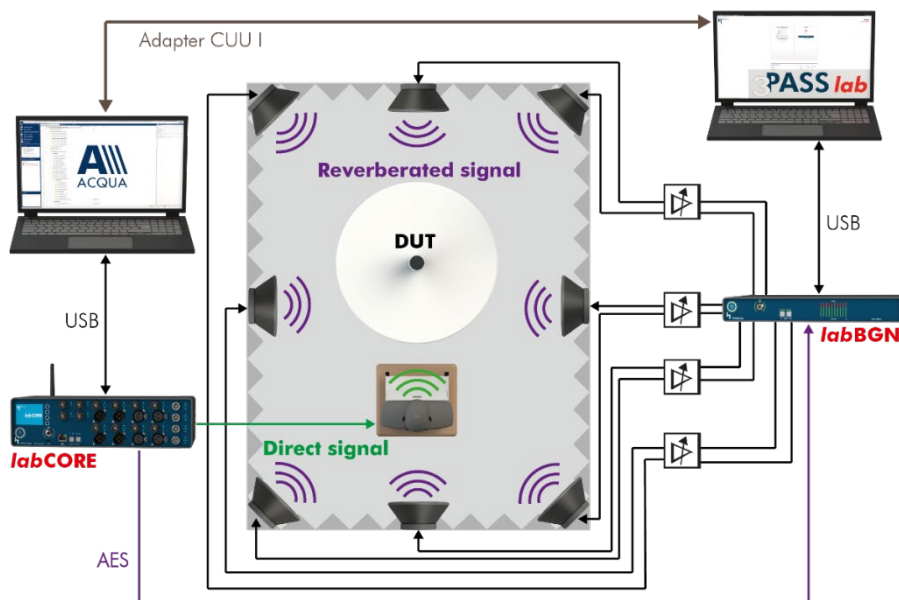
About HEAD acoustics

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, speech 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



Screenshot 3PASS *reverb*: The audio file of the impulse response is displayed in the upper window and the spectrum of the same impulse response in the lower window



Exemplary test setup for 3PASS *reverb*: a head and torso simulator in front of the test object plays back the direct sound signal (green waves), the 3PASS *lab* system plays back the room reverberation (purple waves)