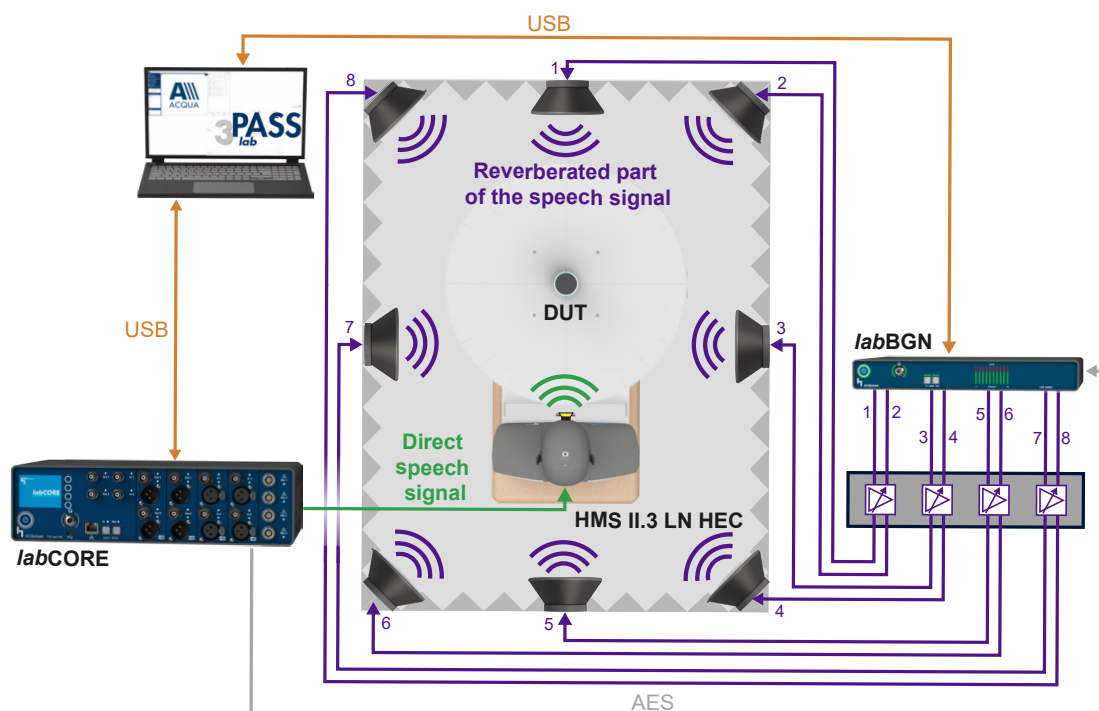# 3PASS *reverb*

Option for 3PASS: Simulation of Reverberation Scenarios

Code 6996

3PASS *reverb* is an option for 3PASS *lab* and 3PASS *flex*. It extends 3PASS *lab*/3PASS *flex* to simulate reverberation of a single talker at the microphone of the device under test. 3PASS *reverb* supports measurements according to ETSI TS 103 557.

OVERVIEW

KEY FEATURES

› Reproducible simulation of reverberation for arbitrary source signals
› Works with existing and equalized setups from 3PASS *lab* and 3PASS *flex*
› Included reverberations for various rooms
› Recording of customized impulse responses

APPLICATION

Performance evaluation of speech signal processing affected by reverberation simulation.

REQUIREMENTS

Software

ACQUA (Code 6810)
› Advanced Communication Quality Analysis Software, Full license version

One of the following background noise simulation applications:

3PASS *lab* (Code 6990)
› Advanced background noise simulation system with automated equalization – lab version
3PASS *flex* (Code 6995)
› Advanced background noise simulation system with automated equalization – flex version

Hardware

One artificial head of the HMS II Series including an artificial mouth.

*lab*CORE (Code 7700)
› Modular multi-channel hardware platform
*core*BUS (Code 7710)
› *lab*CORE I/O bus mainboard
*core*OUT-Amp2 (Code 7720)
› *lab*CORE power amplifier board

DETAILS

Description

3PASS *reverb* works with an impulse response that has been recorded in a specific room. The impulse response describes the acoustic fingerprint of the room. 3PASS *reverb* simulates the reverberation of the room by applying the impulse response to a source signal. Simultaneously, an artificial head or loudspeaker plays back the source signal via ACQUA without reverberation. Consequently, 3PASS *reverb* simulates a realistic sound field with the reverberation of a determined room. Test room requirements shall comply with ETSI TS 103 *557* requirements.

By default, 3PASS *reverb* includes impulse responses for various rooms. Recordings of impulse responses for customized rooms are possible. 3PASS *reverb* can calculate room parameters (e.g., reverberation time RT60 and clarity C80) for evaluating the quality of a recorded impulse response.

Options

Equipment for Preparatory Measurements

*core*IN-Mic4 (Code 7730)
› *lab*CORE microphone input board

Measurement microphone
› Third-party product

SCOPE OF DELIVERY

3PASS *reverb* (Code 6996)
› as V2C file for 3PASS dongle
› Prepared room impulse responses, background noises, and ACQUA demo database

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