

Features Updates of Release Version of dB-Lab 210.910 and QC 6.7

KLIPPEL Press Release November 2020

The KLIPPEL Analyzer System has received another minor software update for both R&D and QC applications. It is free of charge for any users of dB-Lab major version 210 or QC 6, respectively. The update provides two new relevant tools for output-based testing of contemporary DSP-enhanced speakers, headphones and other audio systems according to IEC 60268-21.

PREVIEW:HARDWARE ADD-ON FOR SCANNING VIBROMETER SYSTEM (SCN)

First, the [Klippel Scanning Vibrometer System \(SCN\)](#) gets a powerful add-on for acoustic testing. Thus, the hardware is extended with a microphone in addition to the existing laser sensor. Together with a baffle for measuring transducers up to 10" / 30 cm in diameter or compact (smart) speakers, it provides acoustic near field scanning technology to the SCN.

Comprehensive near & far field radiation data, such as directional characteristics and sound power as well as sound pressure output at any point in a 3D half-space can be calculated. This data is extrapolated from a double shell acoustic measurement and holographic processing for direct sound separation. This is the same technology used before in the [Klippel Near Field Scanner \(NFS\)](#), now available for the much smaller SCN hardware.

Setups using much larger and often still insufficient baffles can be replaced. An anechoic room is not required; a normal reverberant room such as a (home) office is sufficient. The SCN equipped with the new [SCN Near Field Add-On](#) enables mechanical, electrical and acoustical measurements in a very compact space. Auto-mated axis control ensures repeatable, precise and fast positioning of microphone and laser sensors.

This add-on will be available in early 2021. However, beta testers are very welcome to get their hands on the new test equipment. Please contact Klippel if you are interested.

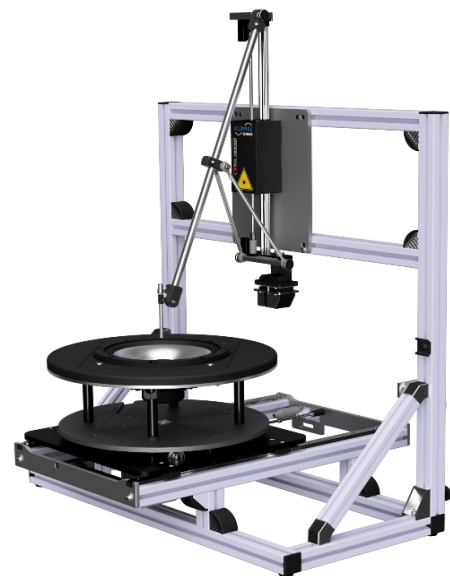


Figure 1: SCN Near Field Add-On

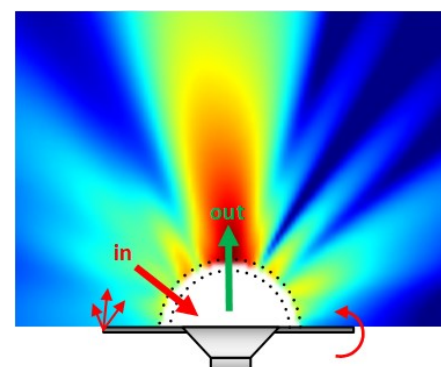


Figure 2: Holographic processing and Direct Sound Separation

MODULE EXTENSION

Second, the [Transfer Function Measurement \(TRF\)](#) module also got an extension for automatic testing at multiple excitation levels. The new [TRF Voltage Stepping \(STEP\)](#) module (Pre-Release) works with the TRF operation, simplifying the test procedure and the graphical result display. Limits can be applied to help easily rate U_{\max} and SPL_{\max} in accordance with IEC 60268-21.

Furthermore, the STEP module can be used for detailed analysis. For additional information, the measurement data can be automatically forwarded to the [Time-Frequency-Analysis \(TFA\)](#) module or, for perceptual analysis, the [Audio Player Module \(PLAY\)](#).

Figure 4 illustrates root cause analysis of a Rub & Buzz defect in order to trace down to where the defect occurs (excursion), at which frequency this problem happens and what the isolated defect symptom sounds like when separated from the fundamental component.

Both extensions complement KLIPPEL's transducer and audio system diagnostic tools and are fully compliant with IEC 60268-21.

More information about the new software update can be found on our website www.klippel.de and also in the [What's new in dB-Lab 210 – QC 6.7 information sheet](#).

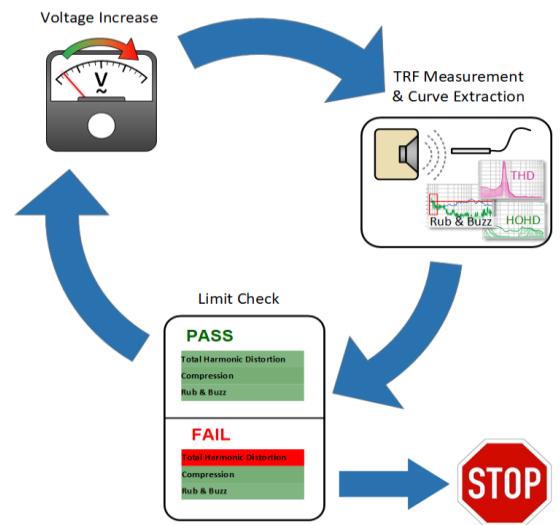


Figure 3: STEP module controls multiple measurement

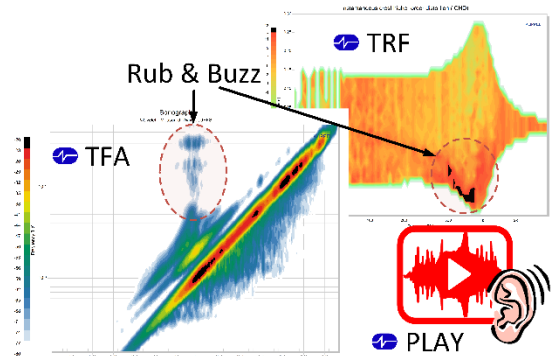


Figure 4: Root cause analysis of defects using STEP