Listen

SoundCheck®
Audio Test and Measurement System

SoundCheck® 21 New Features

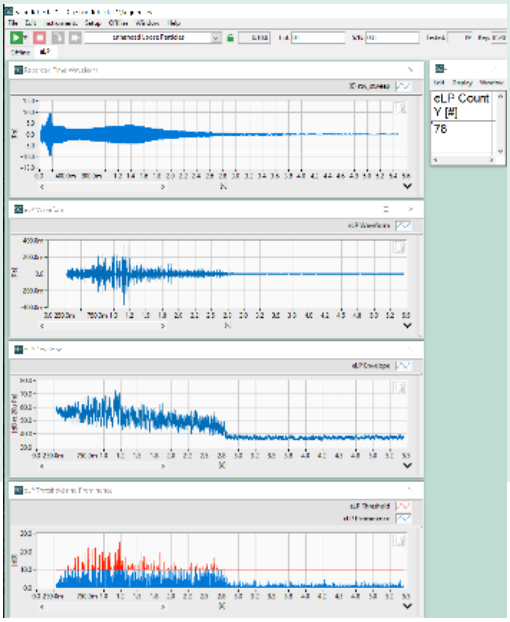
SoundCheck 21 introduces our new enhanced Loose Particles algorithm for transient distortion measurement in a wide range of devices. It also offers increased multichannel measurement capability with the new multichannel FFT analyzer. Other enhancements such as the ability to save metadata, sequence protection and AudioConnect 2 control round out the increased functionality of this year's update.

Enhanced Loose Particle Detection

A new enhanced loose particle detection algorithm for measurement of transient distortion is more accurate and offers improved correlation to subjective listening. It also makes it easier to distinguish defects from background noise.

The new algorithm builds on the success of Listen's original 2005 algorithm, the first method developed for detecting random transient production line defects such as rattling parts, loose particles and other foreign material in the voice coil gap. Based on the same time-envelope analysis, it introduces advanced algorithmic techniques to better highlight the loose particle defects while minimizing other artifacts. Advanced filtering methods enable the stimulus to be removed from the response so only the defects can be heard.

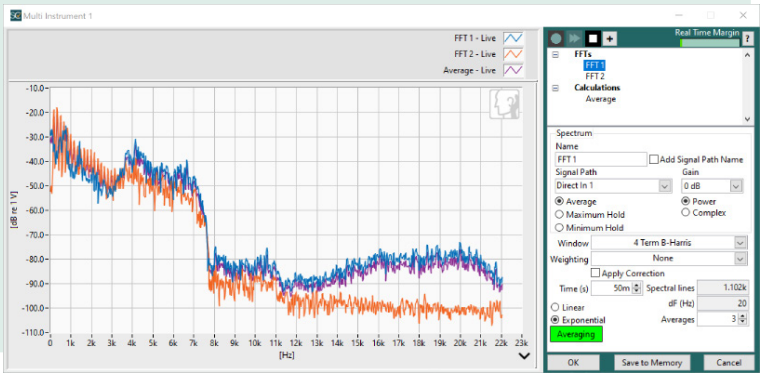
This makes it easy to set limits in line with subjective tests. In addition to identifying distortion caused by foreign material in the voice coil gap of a speaker, it is also valuable for detecting rattling buttons on smart devices and bluetooth speakers, and identifying buzz, squeak and rattle in automotive audio applications.



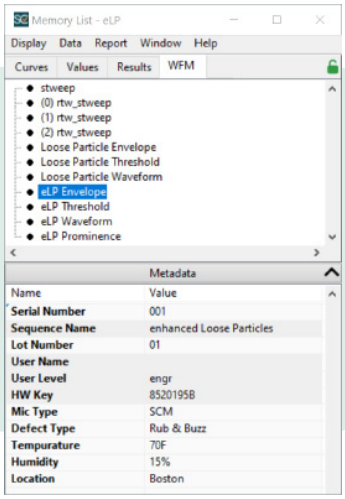
Multichannel Spectrum Analyzer

A new multichannel FFT analyzer replaces SoundCheck's original single channel spectrum analyzer. This high resolution constant bandwidth linear filter analyzer enables any number of live FFT spectra to be simultaneously viewed in real-time on the same graph. It offers many options including standard and custom windows and various weighting options. Averaging times and resolution are continuously variable and can be user-specified. Average, maximum and minimum levels can be identified, and overload and real-time indicators highlight any problematic signals. Channel subtraction, maximum, minimum and power average can be calculated and displayed in real-time. This saves screen space and allows direct comparisons when making multiple FFT measurements. Live FFT curves are displayed in the memory list and can be dragged and dropped into any graph for easy comparison to limits and reference curves.

SoundCheck's multichannel FFT and RTA can be viewed simultaneously, either side by side or superimposed on one another. This enables both high resolution spectra and constant percentage bandwidth resolution (e.g. 1/12th Octave) measurements to be viewed at the same time. Typical applications include analyzing broadband speech signals while accurately identifying single frequency interference tones, or analyzing intermodulation distortion in the presence of speech or music.



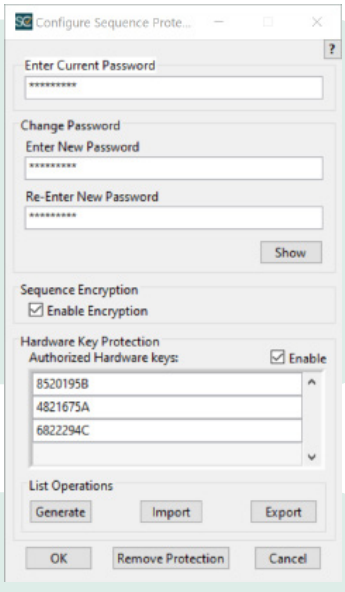
SoundCheck® 21 New Features (cont.)



Metadata for Simplified Data Collection and Recall

SoundCheck's new Metadata feature simplifies data collection and documentation. Curves, values, results and waveforms can now be saved to a single TDMS file, along with all test parameters acquired during the sequence run such as test conditions, test sequence used, operator, serial number, microphone position, data entered via a message step and more. Both system fields (e.g. sequence name, operator, SoundCheck serial number) and user-defined fields can be stored.

This data can be viewed or recalled in SoundCheck, as well as by certain other applications such as Excel. The TDMS format used to save the data is a fast binary format, minimizing read and write times when a sequence is running. This feature has many uses in both R&D and production applications.



Sequence Protection

Sequence protection guards your intellectual property and adds an additional level of assurance that your tests are run as-intended by your production facility or contract manufacturer. Any test sequence can now be locked and password-protected before distribution. Once in a locked state, it can be run, but sequence steps and limits cannot be edited without the password. Furthermore, the sequence steps cannot even be viewed, protecting the intellectual property in your sequences.

Sequences can also be configured to only run on a particular SoundCheck system, or block of systems. This further protects against unauthorized use and helps ensure the end-to-end integrity of your tests when working with contract manufacturers, guaranteeing that your products are tested exactly as you planned.

AudioConnect 2 Support

SoundCheck 21 supports AudioConnect 2™, Listen's new compact and high resolution (up to 192 kHz) dual-channel audio interface. AudioConnect 2 is designed for measurements anywhere from the production line to out in the field. With the option to power it via a laptop USB-C port, it is compact, portable, and easy to use.

Set-up and configuration is extremely simple and fast with full plug-and-play functionality and TEDS support for automatic identification, configuration and calibration of microphones and accelerometers.

AudioConnect 2 has no front panel controls; it is exclusively configured via the SoundCheck software. This provides an added level of test integrity by ensuring that settings cannot be inadvertently adjusted outside of your test configuration.