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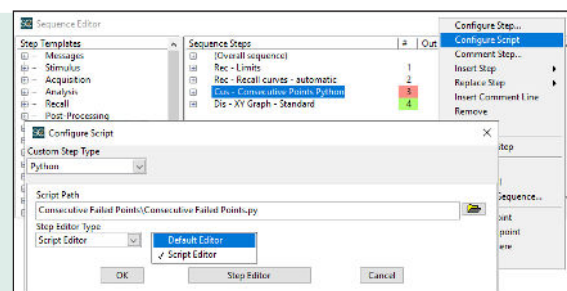
SoundCheck[®]
Audio Test and Measurement System

SoundCheck[®] 22 New Features

SoundCheck 22 leads the way in production line testing with Python integration, sequence versioning, more powerful metadata options and enhanced statistics functionality. R&D users also see a capability-boost with crest factor analysis, new post-processing functionality and upgraded virtual instruments.

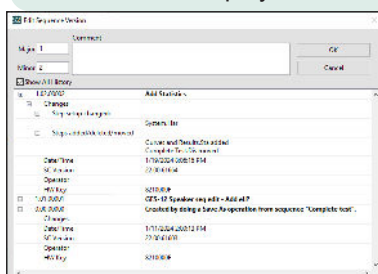
Python Custom Step Module

The new Python custom step module (part #2042) enables users to call custom Python functions from a SoundCheck sequence. This makes it easy to pass data and variables between SoundCheck and other devices or programs. Applications include sending custom commands to put a device into diagnostic mode or playing a test signal from a device. It also enables communication with custom databases, and passing directional measurements to programs such as VACS and EASE for balloon analysis. Users can also call MATLAB functions via Python for automated MATLAB analysis of SoundCheck measurements. The Python custom step module avoids requiring LabVIEW to integrate with other programs, simplifying programming and maintenance.



Crest Factor Analysis

Crest factor analysis is a technique that measures peak-to-RMS ratio to evaluate impulsive distortion and analyzes the dynamic range of real signals. It complements SoundCheck's unique enhanced Loose Particle algorithm for transient distortion measurement and enables comparison of the two methods using the same measured data. Crest factor can be calculated and displayed via a multimeter on the input signal path as well as in the analysis step.

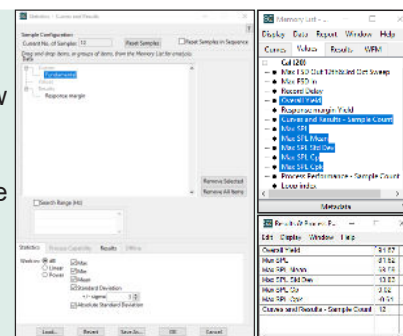


Sequence Versioning

Sequence versioning makes it easy to track changes made to a sequence to ensure that colleagues and contract manufacturers are using the correct version. Comment fields make it easy to document changes, and the sequence history view provides a log of historical changes. Archiving functionality allows the sequence to be backed up while it is being developed, so changes can easily be rolled back while retaining the versioning information.

New Statistics Module

SoundCheck's statistics module is completely overhauled to make it more powerful and intuitive. A new layout makes data selection easier, and curves, values, and results can now simply be dragged and dropped from the memory list into the statistics editor. A new 'Reset Statistics' step allows statistics to be reset during a sequence. This is useful when applying statistical analysis to data from a sequence loop or a fixed number of measurements, as the statistics data and sample count can be automatically cleared, ready for the next measurement, once the desired settings have been reached. Enhanced searching, including meta-data, makes it easy to select groups of curves from the memory list, and it is now even possible to specify a frequency range within which to run statistics.



Apple Silicon Support

SoundCheck displays significant speed and performance benefits on Apple computers with M processors. Step and sequence editing, in particular, are considerably faster.



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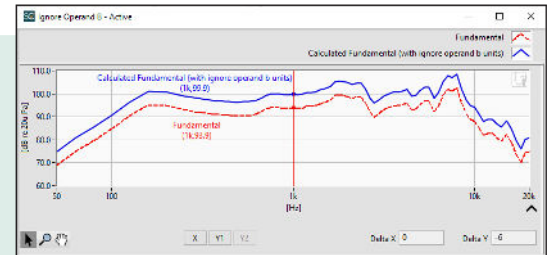
SoundCheck®
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SoundCheck® 22 New Features (cont.)

Powerful New Post-Processing Tools

New powerful post-processing tools expand SoundCheck's calculation capabilities and simplify complex applications. These include:

- Logarithm and Exponent calculation using base 2, 10, or custom values, in addition to the existing base e.
- Leq (equivalent continuous sound level) versus Time option for use in noise monitoring, communications applications, and many standards.
- A new 'Intersection Modes' option for greater specificity in the choice of finding intersection points.
- An option to ignore units in arithmetic and constant post-processing. This facilitates simple mathematical calculations, for example, quickly subtracting a fixed number of dB to correct sound level from the near field to the far field.
- A 'Cosine Taper' custom window in post-processing FFT which allows leading and trailing taper widths to be customized. This is useful for time-windowed measurements.

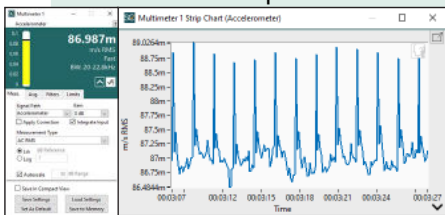


Metadata Enhancements

Additional metadata functionality makes this feature even more powerful. New system metadata options include SoundCheck version, sequence version, start and save date and time. Metadata can now be applied either during the run of a sequence or appended at the end, and the metadata may be applied to either a single measurement or a batch of measurements. This allows the addition of specific test condition information to an entire batch of measurements or allows a user to input information regarding the DUT at the end of the test, for example, a subjective opinion on sound quality. Metadata can even be loaded from a file, saving time and eliminating errors. It is easy to identify results by metadata as this can now be searched in the memory list, and the metadata of any selected curve can be displayed simply by selecting it in a display window.

Upgraded Signal Generator and Multimeter

The signal generator and multimeter offer added support for accelerometers and shakers in applications where haptic, or both acoustic and haptic, measurements need to be made. These include fan noise measurements, vibrating car seats, and MEMS microphone/accelerometer combinations. Acceleration units can now be calibrated in g as well as m/s^2 , and offer the option to integrate acceleration to velocity in the multimeter. The signal generator now allows maximum and minimum output levels and frequencies to be set. This limits the range of the signal path to help prevent accidental equipment damage. These levels are retained when the configuration is saved or used in a sequence, but levels can still be manually adjusted within these ranges. Waveforms can now be played back at their original recorded level with no gain applied. This is useful for listening tests.



Multi-Instrument Enhancements

The multi-instrument, which includes both an RTA and FFT analyzer, now includes additional display and calculation options. A single multi-instrument can have multiple simultaneous display windows. These are now detached from the control panel, and can be re-sized and re-positioned for unlimited desktop layout flexibility. Multi-instrument windows can now also be used in a sequence step to offer a clear readout of results while the sequence is running. Real time calculation can be implemented on a combination of live and stored (active and static) curves simultaneously which enables clear display of the difference between live results and a reference curve. Finally, a new dB addition option expands its calculation capabilities.

