



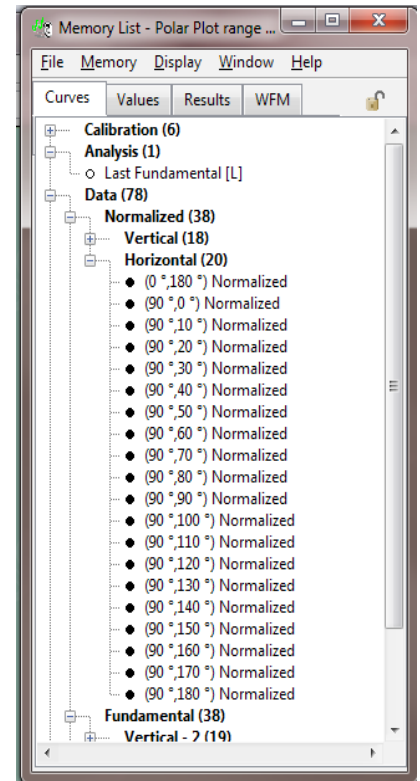
## SoundCheck® 10.0 New Features

### Better Data Organization with Memory List Grouping

The memory list, which functions as SoundCheck's database of curves, values, waveforms and results, can now be organized into custom named folders. This enables grouping by step type (e.g. all calibration curves in one sub-folder), sequence order, name, or any other custom folder structure. The Windows Explorer-like tree can be expanded and hidden at any time and full functionality is available via a contextual right click menu. In addition, curves can be dragged and dropped onto graphs, values can be dragged onto tables, etc.

### Multiple Virtual Instruments

Now many instances of the same virtual instrument may be opened at once. This means that for multi-channel applications, a new instance of the VI can be opened for each channel. It also enables both the spectrum analyzer and the RTA to simultaneously be viewed while running a sequence so real time live data can be viewed. By using two signal generators, signals can be mixed (e.g. pink noise and a sine sweep) for signal conditioning. Waveforms in the memory list may also now be played directly from the Signal Generator VI.



Memory List Grouping

### RTA Algorithm in Analysis Step (included with RTA VI optional module)

The RTA Algorithm, now available in the analysis step, applies the RTA filter bank on the selected response waveform and yields the average 1/n octave spectrum in the memory list.

The advantage of this method over the RTA virtual instrument is that the analysis is perfectly synchronized with the stimulus, and the averaging time fits exactly to the length of the waveform. This eliminates the need for several stimulus repetitions and reduces the total test time. This function can also be used for multichannel acquisitions, giving the capability to use RTA analysis on multiple waveforms nearly simultaneously. This algorithm yields the exact same response spectrum measured with the RTA virtual instrument, and it conforms to the ANSI S1.11 - 2004 class 0 standard.



Multiple Virtual Instruments



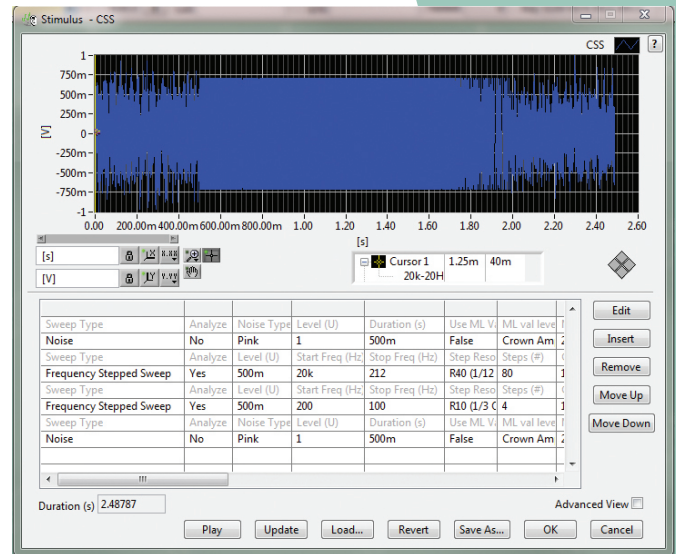
## SoundCheck® 10.0 New Features (cont.)

### ASIO Driver Support

ASIO drivers generally offer excellent soundcard control, and ASIO support opens up a much wider range of professional audio and multichannel soundcards.

### Stimulus Analyze/Ignore Option

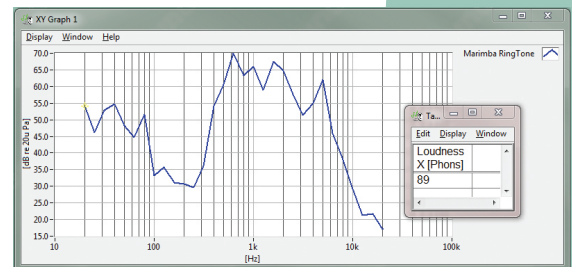
The new 'Analyze' option in the stimulus editor allows the user to choose whether or not sections of the stimulus will be analyzed or ignored by an analysis step. This feature is particularly useful for telephony testing and for other devices that need to be conditioned before achieving a stable measurement. For example, the first section of the stimulus will contain a conditioning signal (like artificial speech) that will open the Voice Activity Detector. A second section will be the sine-based test signal to analyze (e.g. multitone or sine sweep). The Stimulus-Analyze option will tell the analysis step to process only the test signal and ignore the conditioning signal.



New stimulus functionality

### Zwicker Loudness (optional module)

Zwicker Loudness calculates the overall perceived loudness of a sound. This new post-processing operation uses a psycho-acoustic model which takes into account the nonlinearity of the human ear to sound at different frequencies and levels. It provides the capability to measure the perceived loudness of complex sounds, e.g. telephone ring tones.

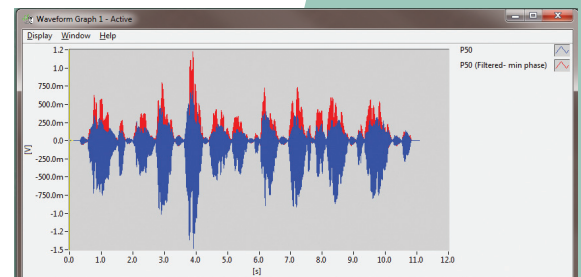


Zwicker Loudness Measurement

**Time Domain Waveform Filters (optional module)** The new Waveform Filter post-processing operation allows the user to choose a curve from the memory list, use it as the frequency response and apply it to a waveform in the memory list. The result is a new waveform that has its spectral content shaped by the selected curve. There is also an option for minimum phase and inverting the curve. This may be used, for example, for measuring the A-weighted peak acoustic pressure of a waveform. The A-weighting curve is first applied to the acoustic waveform via the waveform filtering post processing step, and then the peak value of the resulting waveform is measured. This method is used in the IEEE 269 and TIA 920 telephony standards.

### Quick Polarity Test

A polarity test is often used to verify that a device is wired correctly. The quick polarity test is performed in an analysis step, and uses the impulse response from the Auto Delay function. It analyzes the peak of this impulse response and measures if it is negative or positive to determine overall polarity. It is a simple and easy alternative to phase domain testing for simple devices or single drivers where the phase does not change more than 180 degrees. Polarity measurement using phase response is still available as an alternative method for more complex devices



Time Domain Waveform Filters