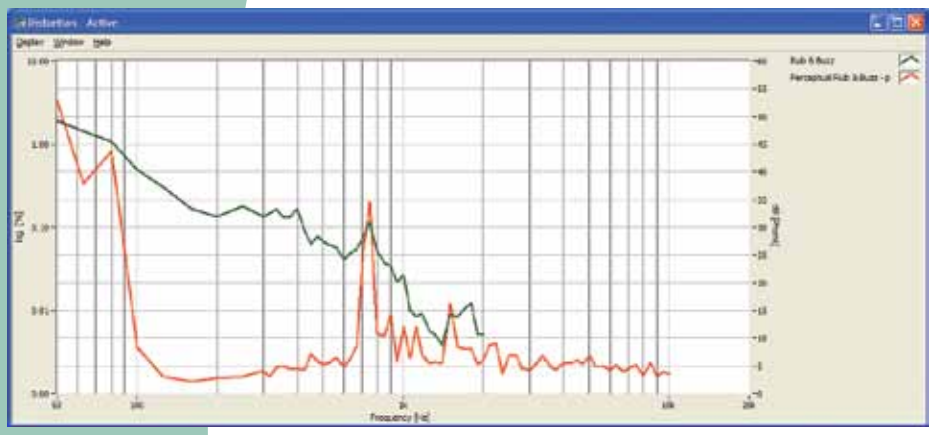
SoundCheck® 9.1 New Features

NEW CLEAR™ Perceptual Distortion Algorithm for Rub & Buzz Measurement

SoundCheck 9.1 introduces Listen's new CLEAR (**C**epstral **L**oudness **E**nhanced **A**lgorithm for **R**ub & Buzz) algorithm for perceptual Rub & Buzz analysis. This new algorithm uses a simplified auditory perceptual model to measure the perceived loudness of the Rub & Buzz distortion in phons rather than the more traditional dB SPL and % distortion units. This model better identifies whether distortion due to manufacturing defects can be heard by the listener than conventional measurements.



Perceptual Rub & Buzz using new CLEAR™ algorithm shows audible distortion more clearly. Traditional Rub & Buzz measurements do not take into account the insensitivity of the human ear to low and high frequencies, therefore making it more difficult to identify problem areas and set limits on a production line. This speaker clearly shows audible distortion below resonance (<100 Hz) and at cone breakup (750 Hz). Both curves are shown on a 60 dB scale for easier comparison even though the units are different (Perceptual distortion in Phons and traditional distortion in %).

In addition to a result which corresponds more accurately to the human ear, this new test method also offers significant advantages for use on the production line. It is less sensitive to transient background noises than traditional methods, therefore is reliable in noisy environments. In addition, it is easier to set up. Since it analyzes all harmonics, the user does not have to select the harmonics to be analyzed, and limit setting is simpler as a flat line can be used regardless of frequency and level (rather than measurement relative to a reference standard as is necessary with conventional distortion measurements). Full details of the research leading to the development of this algorithm are given in the paper 'Practical Measurement of Loudspeaker Distortion Using a Simplified Auditory Perceptual Model' presented at the 127 AES in October 2009 (available on the Listen website).

Refined RTA

The RTA has been re-designed to offer improved performance. The filters have been improved and fully tested for compliance with ANSI S1.11-2004, and the averaging time is more accurate. In addition, it is also now compatible with NI cards.

Device Selection

A device can now be selected in the hardware editor using its device ID rather than its name. This is useful for testing USB and Bluetooth devices where Windows software automatically changes the device name each time it is connected. Using the device ID instead of the name simplifies automation of tests for production line use.

NIDAQmx drivers

Digital I/O cards with NIDAQmx drivers are now supported.

Windows 7 Compatibility

SoundCheck 9.1 has been fully tested for compatibility with both the 32 bit and 64 bit versions of Windows 7. Please consult Listen for Windows 7 Soundcard compatibility.

Hardware Key Number Display

The hardware key number is now displayed on the main panel. This facilitates vendor inspection of test software.