

## Application example

**A powerful tool for checking, maintenance and repairs!**

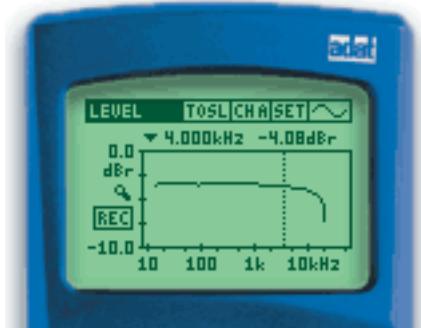
The Digilyzer DL1 is an ideal measurement solution for a wide range of applications such as dual-domain measurements of A/D converters or digital mixers. In the past, heavy and expensive equipment had to be used to check out the quality of an A/D converter. With NTI's Digilyzer DL1 and Minirator MR1 this task can be carried out with the same accuracy but for a fraction of the required investments. No more big set-ups are required and the search for external mains power sources becomes obsolete.



The DL1 provides the measurement functions 'Level RMS Sweep' and 'THD+N' (distortion), which are fundamental for checking A/D converters. The accurate measurement of possible A/D converter errors can be done as follows:

### a. Bad frequency response

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Use the Minirator MR1 as a signal source, select 'Sweep' and measure the frequency response at the A/D converter output with the DL1 in the 'Level RMS Sweep' mode. The result has to be a flat graph +/- 0.1 dB.

### b. Bit stuck

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A/D converters sometimes show the problem that one digit of the output signal is not changing anymore. This is called 'bit stuck'. Such errors cause distortions of the converted audio signal. The DL1 measurement function 'Bit Statistics', immediately displays the audio resolution and any bits that continuously show '0' or '1'.

### c. DC-offset and hum-problems

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Internal converter defects or external mains power may cause distortion included in the digital audio signal. The Digilyzer enables the detection of such tricky faults. Just select the 'Level RMS' mode and read the displayed measurement value. Any DC offset or hum problems can be cut off by selecting the 'HP400' filter. So any change in the measurement value (with and without filtering) indicates the reported problem.