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Digidesign Mbox

Overview

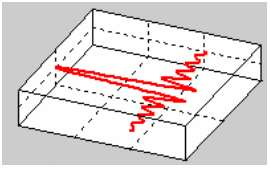
The Digidesign Mbox is an external USB soundcard. It offers 2 microphone preamps with 48V phantom power. It is fully powered via USB. Therefore no external power supply is required.

Features

- Two analog inputs and outputs
- 24-Bit interface
- 24-bit stereo S/PDIF digital I/O (RCA)
- Sample rate 96kHz
- Separate source selection (MIC/LINE/INST) and gain control per channel
- Microphone preamplifier with 48V phantom power
- Hi-Z input for instrument pickup
- Balanced/unbalanced connections
- Headphone output with dedicated volume control
- 100% USB powered
- ASIO driver interface

The Digidesign Mbox requires Windows XP. The setup routines refuse to install it on older versions.

This test report utilizes the high precision plug-in for WinAudioMLS with 192kHz/24bit ASIO, the high resolution **64-bit** FFT and the **digital notch** filter.



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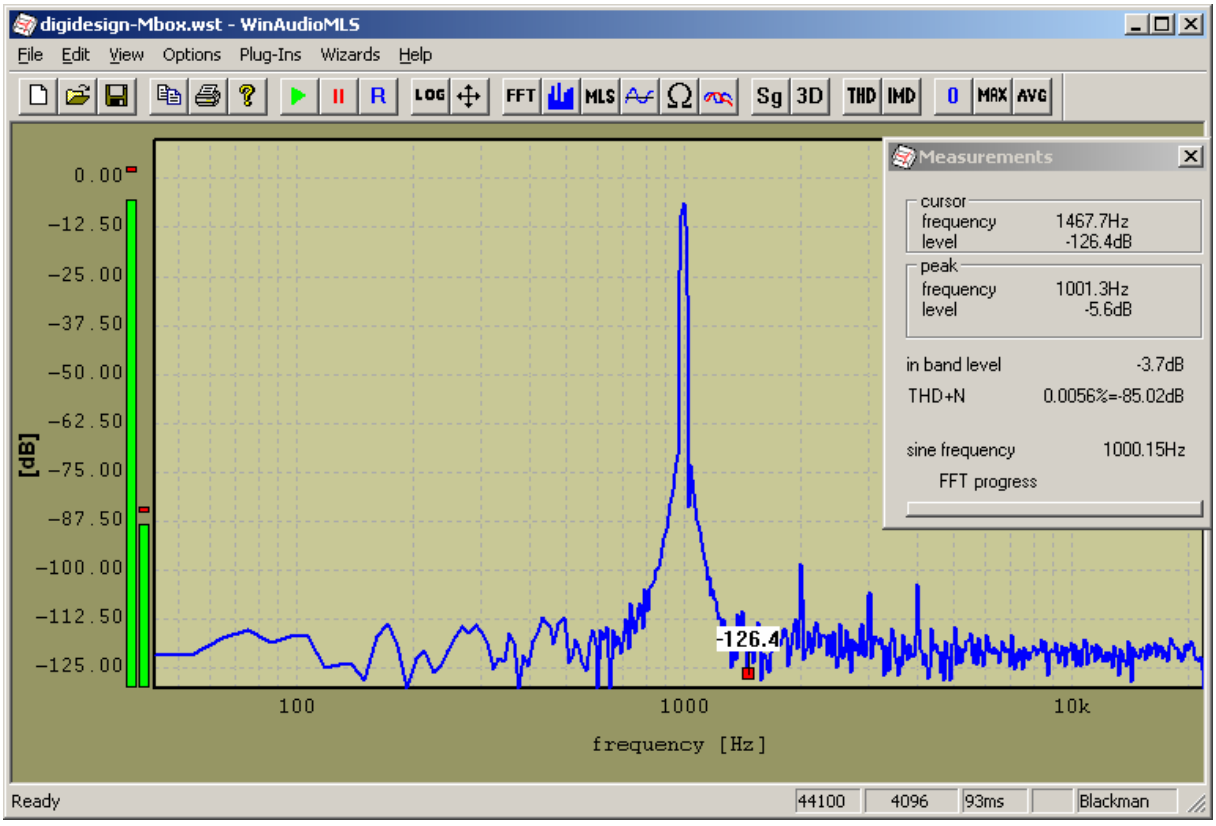
Measurements:

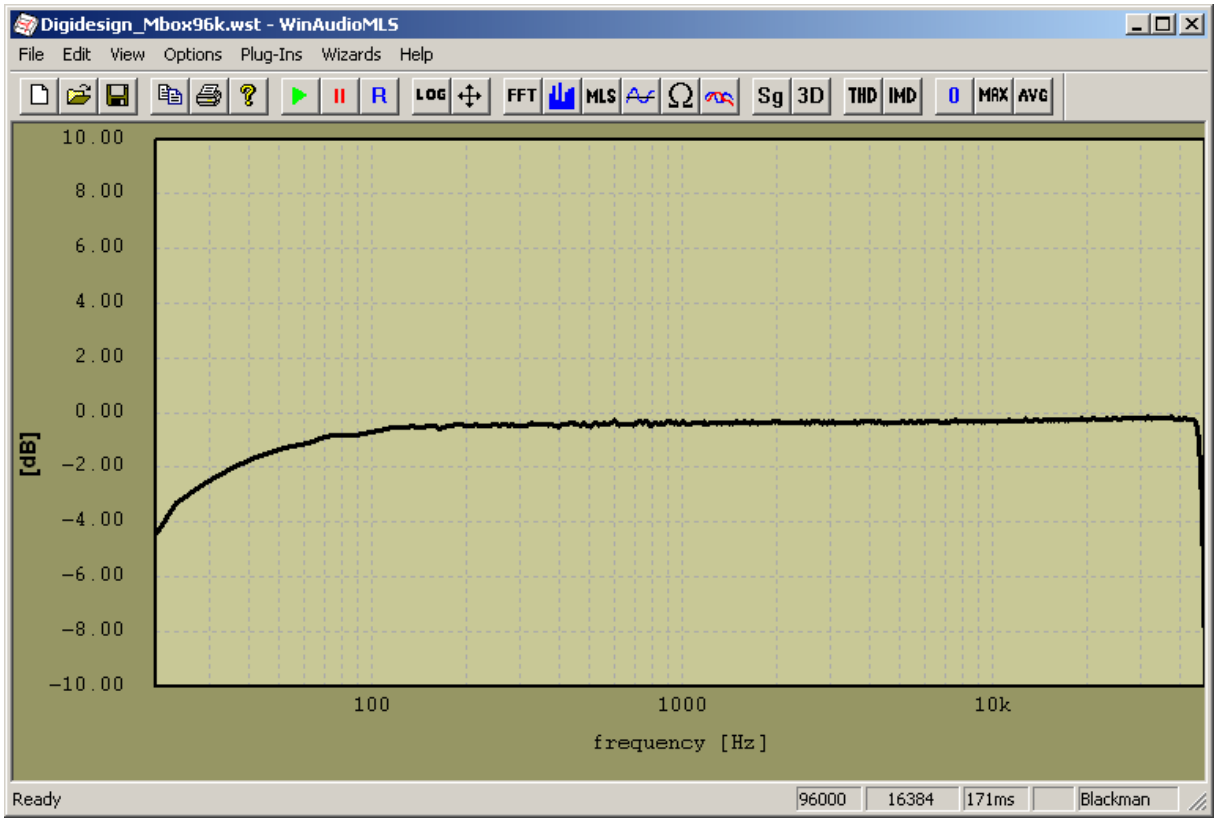
1.1 THD+N 24 bit ASIO weighted

Analog connection between input and output
THD+N -85 dB



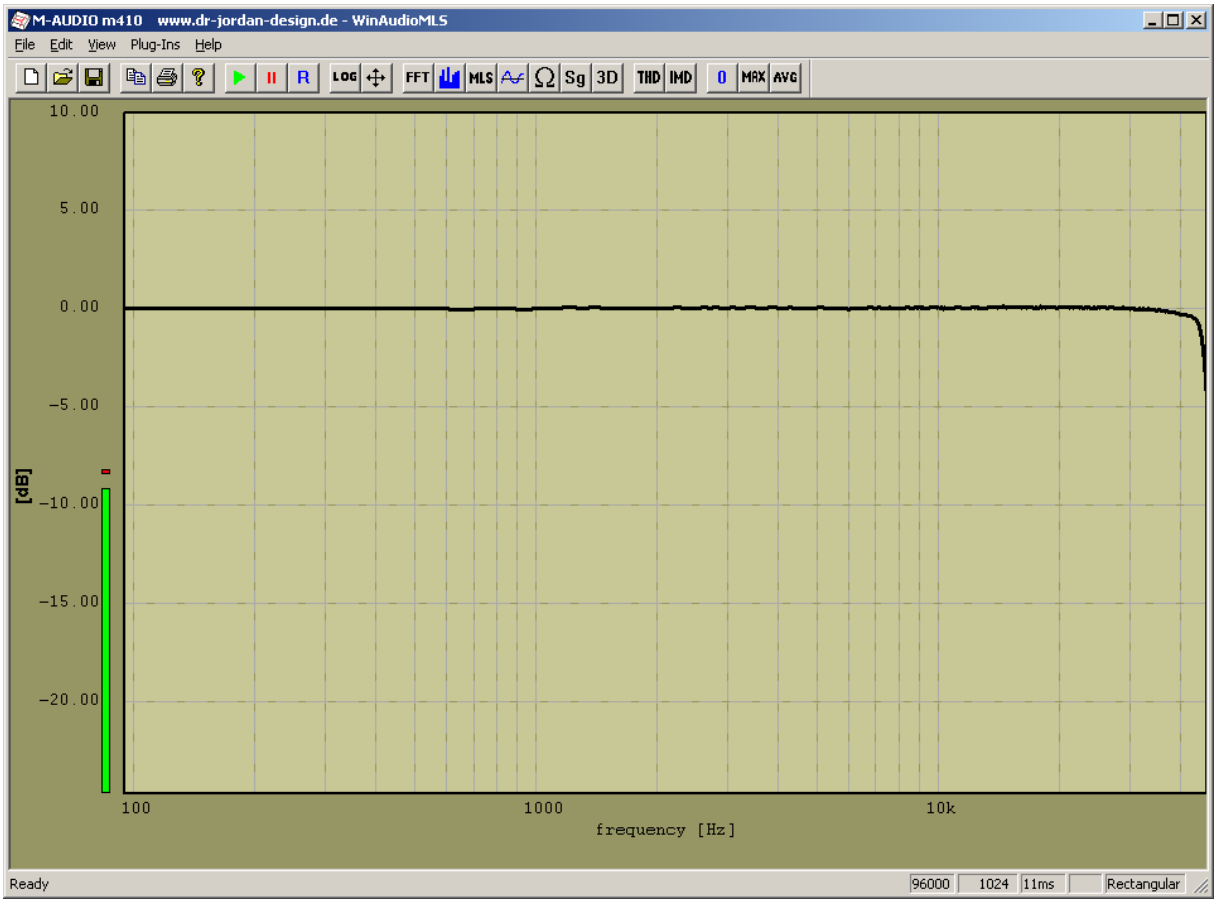
1.2 Frequency response 44.1kHz analog

- Sample rate is 44.1kHz.
- 24 bit ASIO mode



1.3 Frequency response 96kHz analog

- Sample rate is 96kHz.
- 24 bit ASIO mode



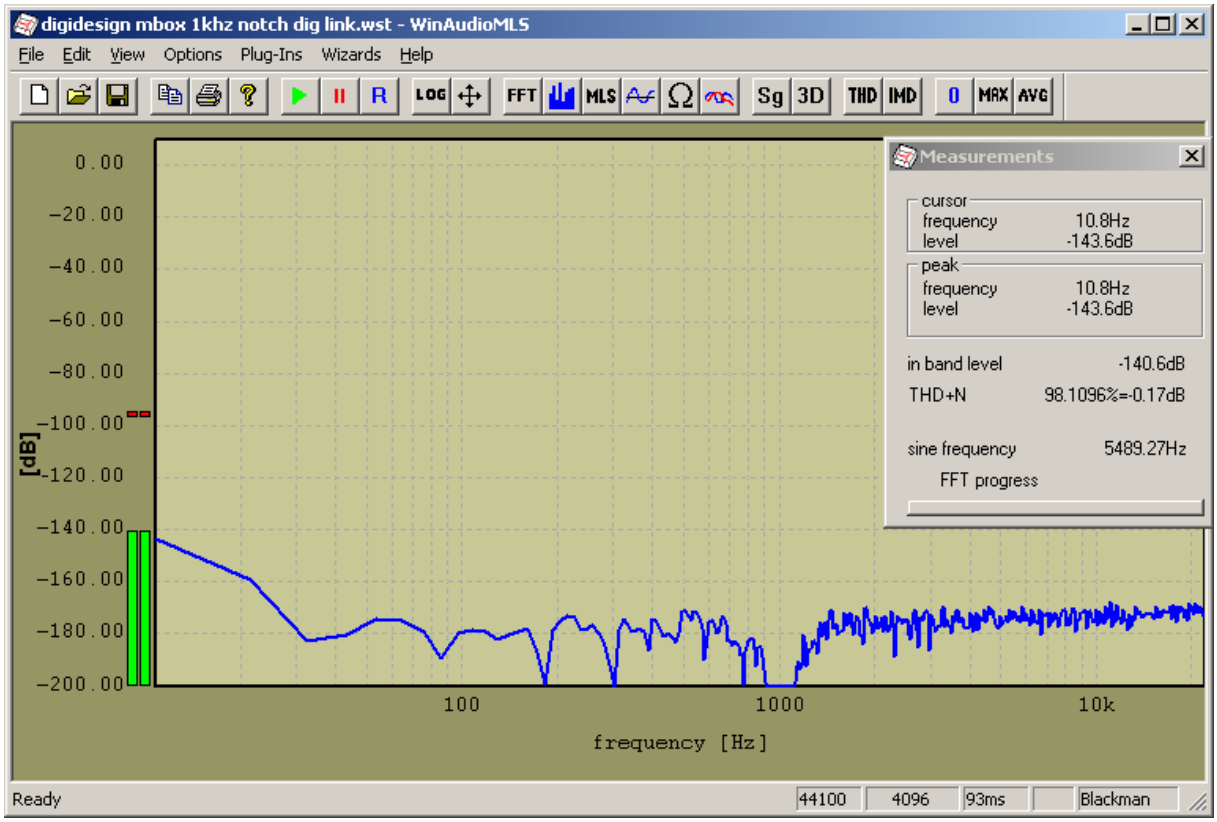
1.4 Digital link test 24 Bit

- Output is 1kHz full scale
- Input and output connected via optical link
- Sample rate is 44.1kHz.
- 24 bit ASIO mode
- We use a 1kHz notch filter to remove the main frequency to analyze the residual noise.

This test proofs that the card performs real 24bit transfers. This measurement is a good example to demonstrate the high dynamic of WinAudioMLS.

1.4.1 Analysis with 1kHz digital notch filter

This filter removes the main frequency and allows to precisely analyse the residual signal for high-precision THD+N analysis. Please note that in this special measurement case we have to take the in band level which is the level of the remaining signal. In this case we reach 140dB.



1.4.2 Measurement with 1378 Hz

In this case we use a special frequency of 1378.125Hz. At a sample rate of 44.1kHz no leakage effect occurs from FFT calculation.