

333D01 and 485B39 Matlab Examples

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Decoding Script Examples

The 333D01 has the serial number, calibrated sensitivity, and calibration date programmed into the sensor. This information is provided as part of the model name. The following scripts will decode the information and return stored information.

`DigiDecoder.m` – This is a re-usable function that returns the calibration information programmed into a 333D01. It can be used by your own scripts to simplify the process of obtaining calibrated data in engineering units.

`DigiDecoderDemo.m` – This example script call the `DigiDecoder` function and pops up a Message Box containing the calibration information programmed into the 333D01.

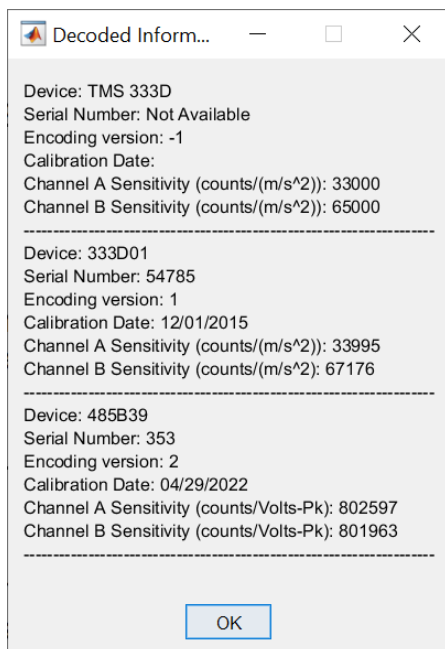


Figure 1- `DigiDecoderDemo.m` Message Box showing 3 devices connected to the computer

MATLAB Digiducer Data Analyzer:

`Digiducer_Data_Analyzer.m` is a graphical user interface that extracts the calibration information from the 333D01 sensor and plots the acquired data. The GUI is able to analyze both WAV files and live data. The WAV analysis portion can extract the embedded calibration information from the WAV file format and display the data scaled to engineering units.

The live data analysis can also extract the embedded calibration information from the 333D01 sensor and display the data scaled to engineering units as well.

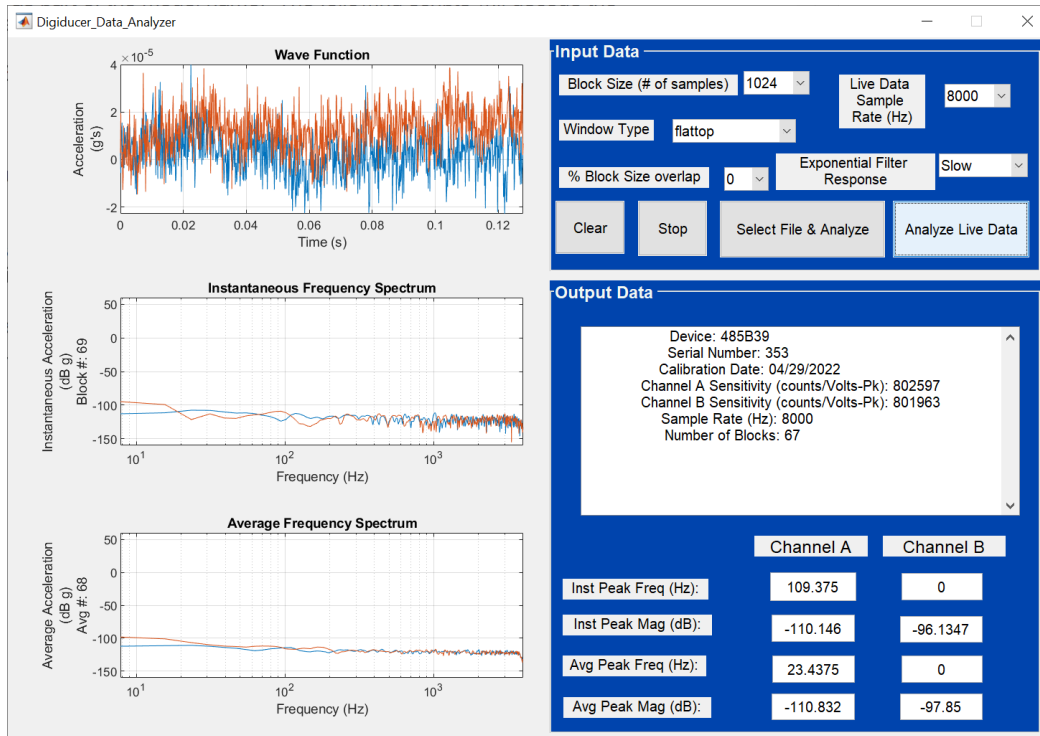


Figure 2- Digiducer Data Analyzer GUI

The Digiducer_Data_Analyzer.m script provides a Matlab GUI application for the 333D01 Digiducer and the 485B39 Digital ICP® Signal Conditioner.

Also included is the support figure Digiducer_Data_Analyzer.fig and support functions DigiDecoder.m, spectralcalc.m and waveFileDecoder.m.

General Notes:

Each capture mode contains a setting, “plotAllTime”, which when toggled accumulates all of the captured time history into a variable. This setting is disabled by default, but you can change the value in the script. The setting will cause a plot of Channel A and a plot of Channel B for all time to be generated. If using the multi-device script, the channel A’s of all devices and channel B’s of all devices will be grouped together in separate plots.