Physics 4700

Using MatLab for data:

Instructions for capturing the scope data with MatLab are as follows:

1) Look at your scope to see what model it is. The possible models are TDS210, TDS1002b, TDS1012b, and TBS1062.

2) Run Matlab.

3) Using the desktop toolbar in MatLab, change the "current folder" to the folder corresponding to your model of oscilloscope.



4) At the Matlab command prompt type: ScopeGui

5) Capture Ch1, Ch2, or both.

6) The data can be exported to an Exel file (export excel), or one can plot the scope data, and perform various fits/transforms on the data (commands). Using the same interface, you can also create Fast Fourier Transforms (FFT) of your data. Also, with the FreqSweep command you can measure voltages and frequencies simultaneously and write them to a file.

Troubleshooting:

If the Gui fails to connect to the scope, first check the USB cable (or RS232 connector) is connected to the computer and to the appropriate back connector of the scope. If the cable is present but there is still a problem, start the TEKVISA instrument manager and see that the scope is recognized. Check to see that Serial discovery and USB discovery are both turned on in "Search Criteria".

For USB scopes, make sure the USB port listed in the instrument manager matches that in openscope.m in the C:\Matlab_your_model_here directory.

Using OpenChoice Desktop for screen shots or data:

1) Tektronix OpenChoice desktop can be found in the start menu under the letter "O". Start the application, and use the Select Instrument button to choose the scope address. For the USB scopes, the address will probably be the only choice that starts with "USB". For the TDS 210, the address will be ASRL1::INSTR.

2) For a screen shot: Make sure the "Screen Capture" tab is the active one. Click "Get Screen". After the screen appears, click "Save As". Various graphic formats are available. This works on all scope models in 4700, but is very slow on the TDS210.

3) **To save data:** Make sure the "Waveform Data Capture" tab is the active one. Then pick which channels you want, and click "Get Data". You can then write the data to a file, using "Save As". Note: this procedure doesn't work with the model TDS210 scopes, only the USB scopes.