# Quick Way to get data off the Rigol Scope

The simplest way to save data from one scope waveform is to save it to a USB stick. If you save it as a CSV file, you can easily import it into Mathematica, or Excel for analysis.

1. Once you have a waveform you like, stop the acquisition with the run/stop button.
2. Insert a USB stick in to the slot on the front of the scope.
3. Push the Storage button on the front of the scope (as shown below).
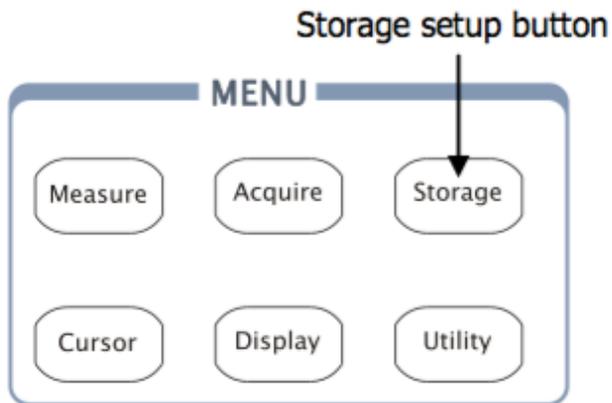
4. A menu will pop on the screen. If you push the button to the right of the "Storage setups" you can configure what type of file to save, like CSV, waveform, bitmap, etc. CSV might be the most convenient to open in Mathematica or Excel.

5. If you push the button to the right of "external", then you will get a menu that lets you select "New File" where you can configure the location and name of the output file your USB stick.
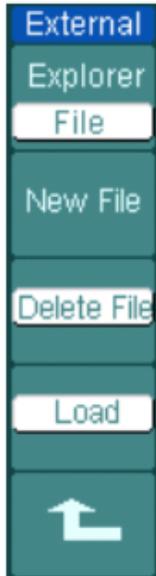
6. Once you are happy with the setup, click Save to output the waveform to your USB memory stick.

Interfacing Rigol DS1052 scopes with a computer

You can also connect directly to the scope with a computer.

1. **Install National Instruments VISA** (Virtual Instrument Software Architecture). Quoting from the NI-VISA website " The Virtual Instrument Software Architecture (VISA) is a standard for configuring, programming, and troubleshooting instrumentation systems comprising GPIB, VXI, PXI, Serial, Ethernet, and/or USB interfaces. VISA provides the programming interface between the hardware and development environments such as LabVIEW, LabWindows/CVI, and Measurement Studio for Microsoft Visual Studio." Many scientific instruments use this interface, not just Rigol. You can get it from two places
    i. Online at http://www.ni.com/visa/ (free download)
    ii. As part of a Labview installation it is contained on the "NI Device Drivers" DVD.

2. **Install the Rigol Ultrascope Software.** It is linked to on the product website http://www.rigolna.com/products/digital-oscilloscopes/ds1000e/ds1052e/ or can be directly downloaded from http://www.rigolna.com/download/118/
3. Connect oscilloscope to computer via USB
4. Run the Ultrascope software
5. Under the Tools menu, select "Connect to oscilloscope"
   a. You will see a list of devices recognized by the NI-VISA, and you need to select one of them which is the oscilloscope.
   b. Since you connected via USB you can probably select whichever one starts with USB
      i. A second hint: Part of the long string of characters should be DS1ED, which probably refers to the Rigol model number DS1052E
6. After selecting the appropriate resource the oscilloscope should now be under computer control. Check the Ultrascope help menu for basic instructions on running the program.

Comments

- I didn't figure out how to change the number of points which were acquired. For instance the scope has a 1 MS deep memory, but I only capture 600 data points.