Instruction for Saving Traces on LeCroy DSOs

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The following explanations show how to properly save a LeCroy TRC. TRC files are a fast and efficient way to exchange DSO data, by reloading them into DSO Memories. These files can then be used for DSO developments, or analysis or bug searches. There is no functional difference between a Channel and a Memory for the algorithms executing on the oscilloscope.

1 Acquisition Settings

The acquisition settings are important for further processing. The sampling rate should be sufficient to have at least 10 samples per bit on the serial stream. There is no upper limit; however a reasonable oversampling is usually between 20 and 100 samples per bit. The following image shows the 4 key settings necessary to drive the acquisition.

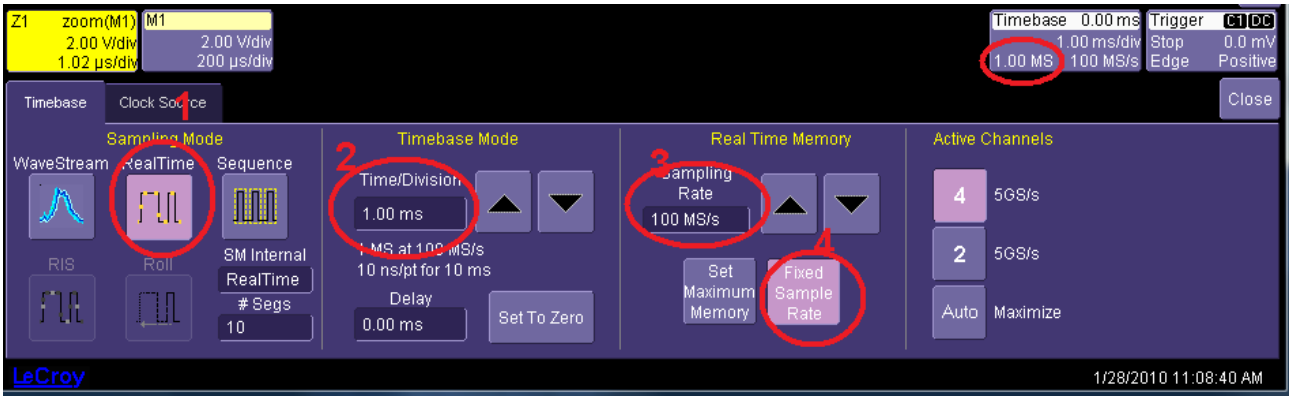

Figure 1:The Time base dialog of LeCroy DSOs

Settings 1 and 4 do not depend upon the signal.

Settings 2(Time/Division) and 3(Sampling Rate) are signal dependent. It is usually practical to set them in a way that the acquisition will span several messages (or packets).

Did I do the right thing?

You can easily verify that your signal is correctly sampled by zooming into it. When you zoom enough, you will see little square dots on the trace. **These are the samples.** The example below shows 20 samples per bit, there could be up to 100 samples per bit. When you zoom onto an individual bit you will actually see the number of samples per bit. Depending on the memory depth you might have to zoom heavily to get to the single bit viewing, but this is absolutely normal.

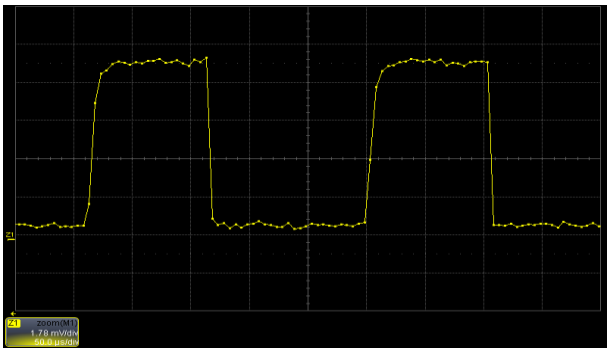

Figure 2: Samples on a Waveform

Note that you can change the Time base settings in real time while, while acquiring waveforms, watching the samples get sparser or denser.

2 Saving the Waveform

Once acquired according to the above indications, the waveform needs to be saved into a file. The following image shows the 4 key settings. The settings shown will save C1 into the file listed under “Trace Title”

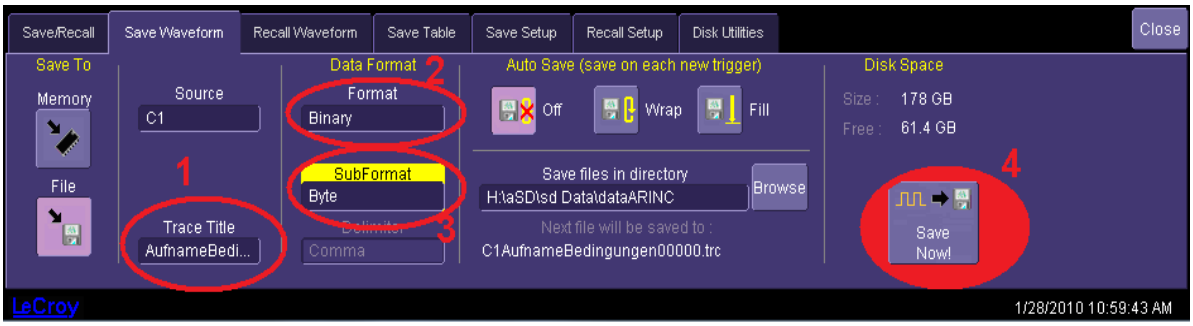

Figure 3: The Save Waveform dialog

When several waveforms are needed, select “All displayed” in the source dialog. This will create several files with names matching their sources. In order to select “All displayed”, open the Source Picker and go under Category “Other”. Here you will find the “All displayed” icon (or at the end of the “All” Category).

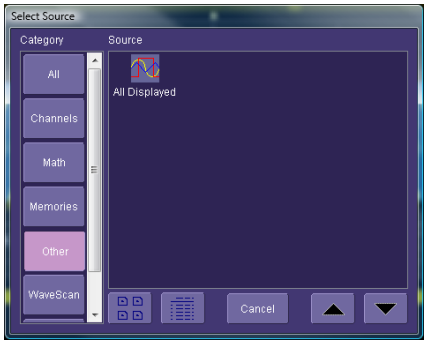

Figure 4: Selection of Source to save all necessary Waveforms at once

When returning to the “Save Waveform” tab, the source will be 

This method will warrant that you save all the waveforms displayed on screen. Before you save, make sure that only the necessary traces are on screen, usually a combination of 1 to 4 channels. . Usually zooms and computations are useless and must be turned off before saving.

Exporting the files

The files saved as per above instructions can then be retrieved from the oscilloscope (in the directory selected) using a USB key and moved to a PC for mailing or archiving.

Uploading the files

There are several ways to transfer the TRC files to other users using the Internet. When the files are not too large, e-mail can be used. When the file size exceeds the capabilities of normal e-mails accounts, both Lahniss and LeCroy provide FTP type solutions. Please refer to the corresponding documents in the FAQ section.