LeCroy WaveAce EduPack

Lab 6 – **EasyScope Remote Control** (30 Minutes)

*Note:(*Screenshots below show a white background configuration of your WaveAce to save black ink in printing, this configuration is explained in Lab 2 – VIEW)

Overview

The **EasyScope** software utility includes with each WaveAce oscilloscope provides remote control of your oscilloscope. This exercise demonstrates the use of this tool.

A test at the end of the Lab allows you to check your knowledge.

Goal

Learn how to:

- Remotely save and recall waveform graphs
- Remotely save and recall waveform data
- Perform pass/fail testing
- Remotely save a picture (screen shot)

In this Lab you will learn how you can operate the scope using your PC.

System Requirements

- 1 x WaveAce passive probe.
- A PC with a free USB
- USB cable (included with WaveAce oscilloscope).

Setup

Connect the probe to Channel 2 and the probe top to the calibrator (CAL) output loop on the front panel. Use the sprung hook accessory of the probe to clip to the CAL output loop.

Connect the oscilloscope scope to your PC but do not turn it on at this stage.

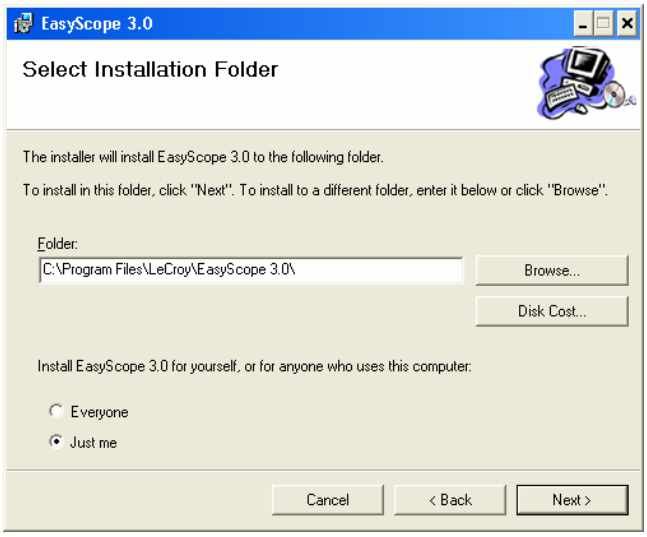
If EasyScope and USB driver are already installed proceed to step 9, if not start at step 1.

Step 1

Insert the installation disk into a suitable drive on the PC, open the LeCroy EasyScope_V… folder and the Setup folder and run Setup.exe.

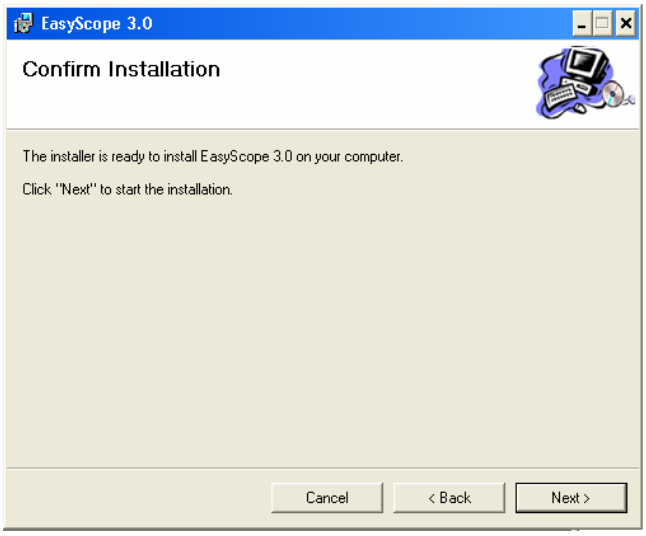
Click Next >.

Step 2



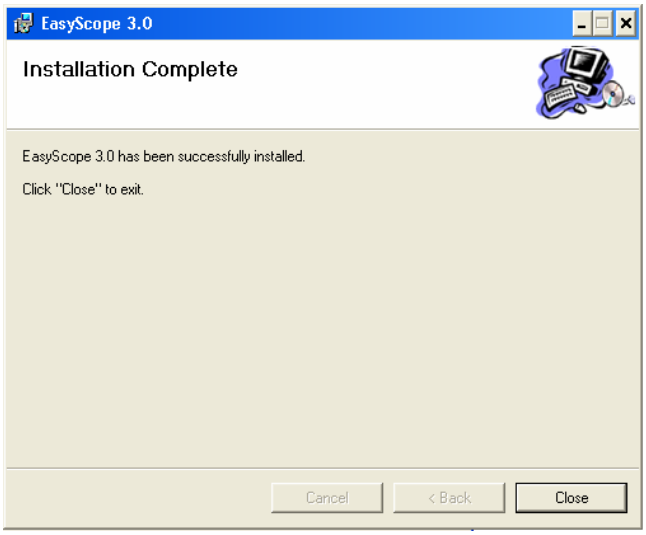
Click Next >.

Step 3



Click Next > and the installation will proceed.

Step 4



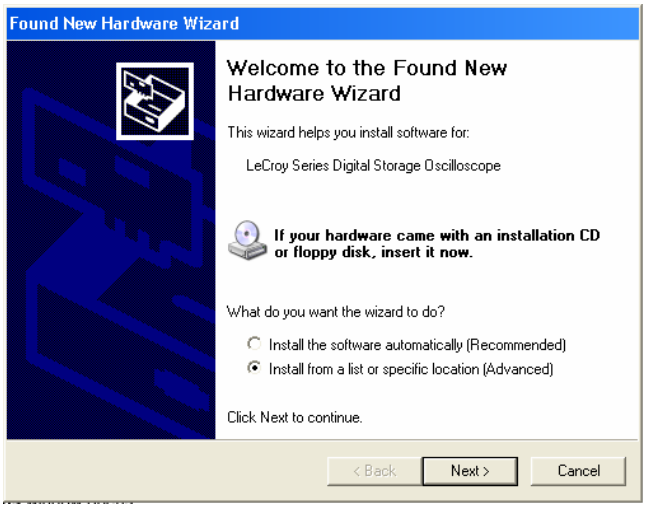
After installation has completed click Close.

Step 5

If only the the USB driver is already installed proceed to step 9.

Step 6

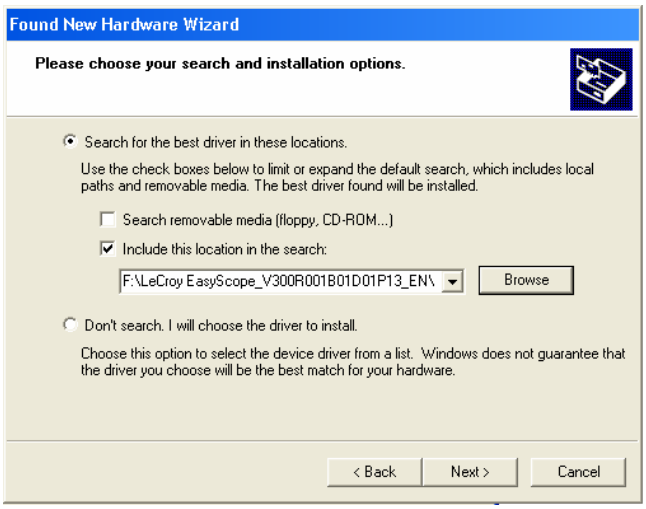
Turn on the oscilloscope and connect it to your PC using the USB serial cable. Microsoft Windows automatically detects the oscilloscope and displays the Found New Hardware Wizard. Select Install from a list or specific location (Advanced).



Click Next >.

Step 7

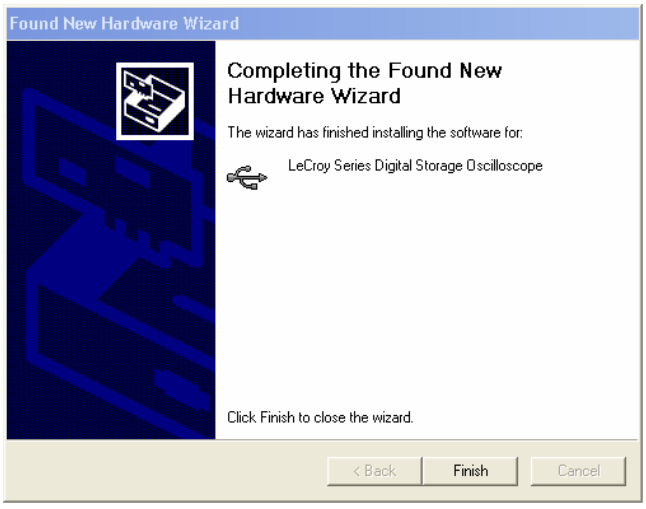
Choose Include this location in the search and click Browse to locate the USB Driver folder and then click Next. The USB Driver will be installed.



Click Next >.

Step 8

With some versions of Windows you may see a warning message at this point. If so click on Continue Anyway. When installation has completed click Finish to exit. Turn off the oscilloscope.



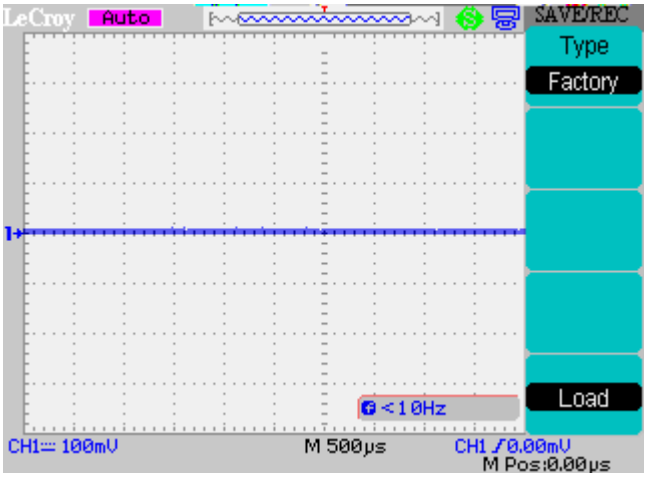
Step 9

For convenience the installer places an icon on the Windows desktop. 

Run the EasyScope application either directly or by double clicking this icon. Two red circles  will be displayed in the top right corner of the application window. Turn on the scope and the left circle  will change to green. Click the Connect icon at the top left and the two green circles  are displayed.

Step 10

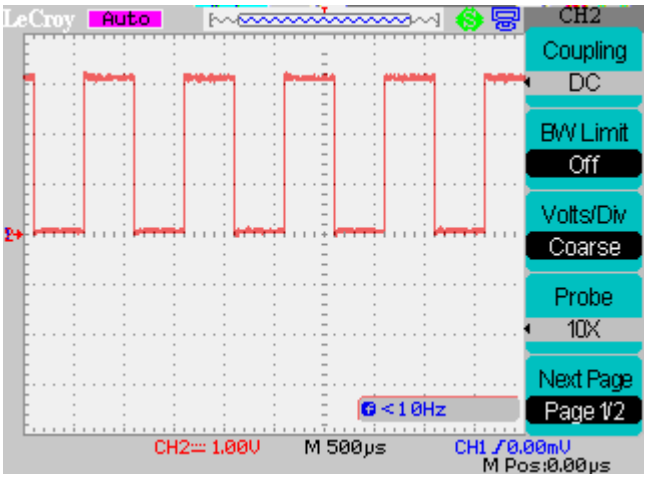
Reset the scope configuration to the default factory settings using the front panel DEFAULT SETUP button. An alternative method is to use the front panel SAVE/RECALL button, then press the Type button until Factory is displayed and finally press the Load button.



At any time the menu on the right-hand side of the screen can be removed/restored by pressing the front panel MENU ON/OFF button.

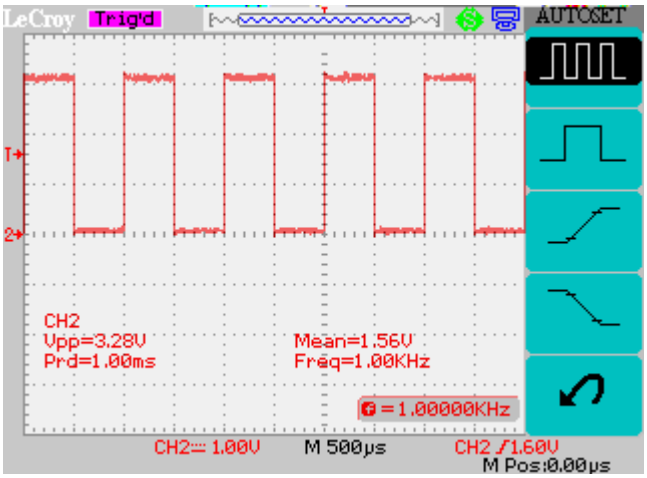
Step 11

Turn CH1 off and CH2 on by pressing the front panel CH1 and CH2 buttons. Pressing a channel button also displays the corresponding vertical settings. DC coupling on CH2 is selected by default. Check the slider switch on the probe is set to X10 and using the Probe button set 10X on the screen.



Step 12

Press the [blue] AUTO button on the front panel. In a few seconds you should have a triggered signal with a number of cycles shown on the screen.

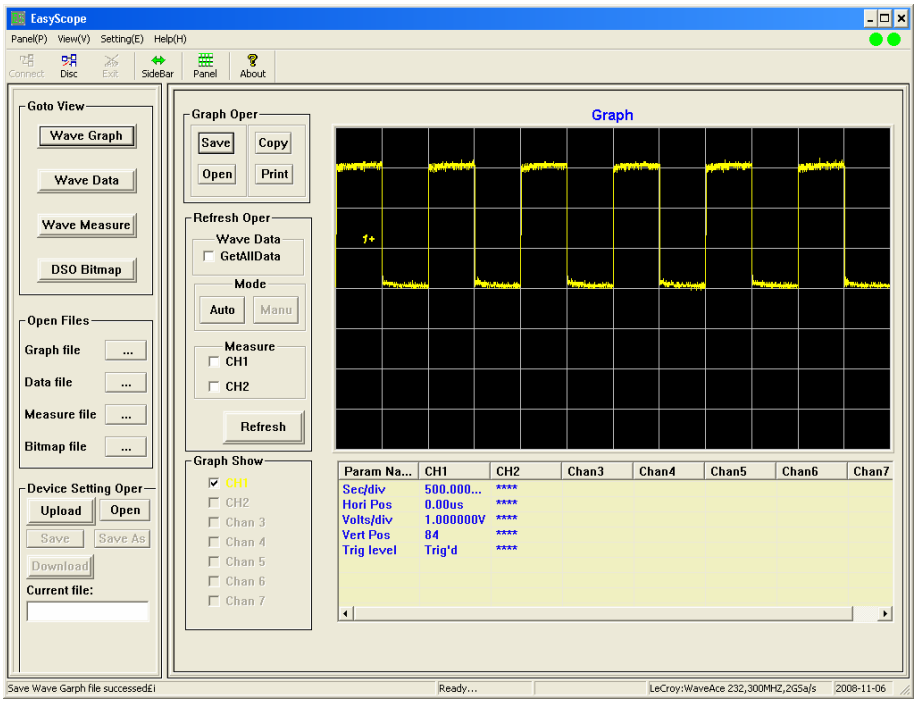


Step 13

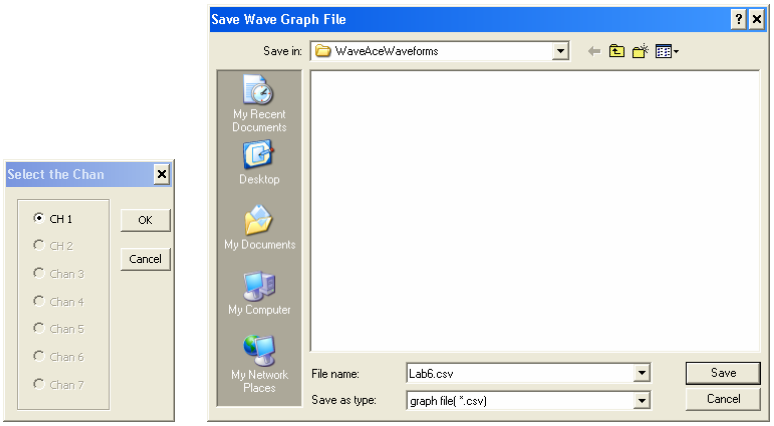
Notes: As an alternative to manually refreshing the graph using the Refresh button the Mode can be set to Auto. In this mode the graph is updated automatically every few seconds.

Waveforms can be saved in either binary (.wdf) or ASCII (*.csv). Binary files are more compact but ASCII files are more convenient when used with an external application such as Excel etc.*

In the Goto View section of the EasyScope screen click on Wave Graph and then click on Refresh in the Graph windows. A graph of the waveforms is displayed and the current settings are shown below.

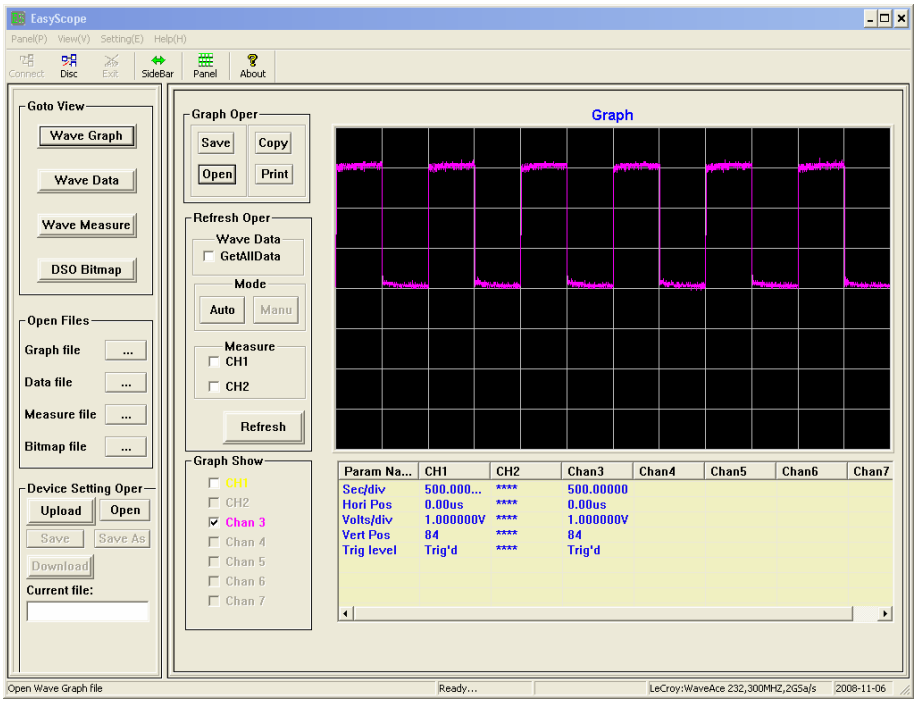


Click on Save and on the pop-up screen choose the channel (CH1) and clock OK. The next screen allows you to select the destination and save format. Set type as graph file (*.csv), name it Lab6.csv and click Save.



Step 14

In the Graph Show box click on CH1 to turn off the CH1 graph. Now in Graph Oper click on Open and select the Lab6.csv file. The previously saved data is displayed as Chan3.

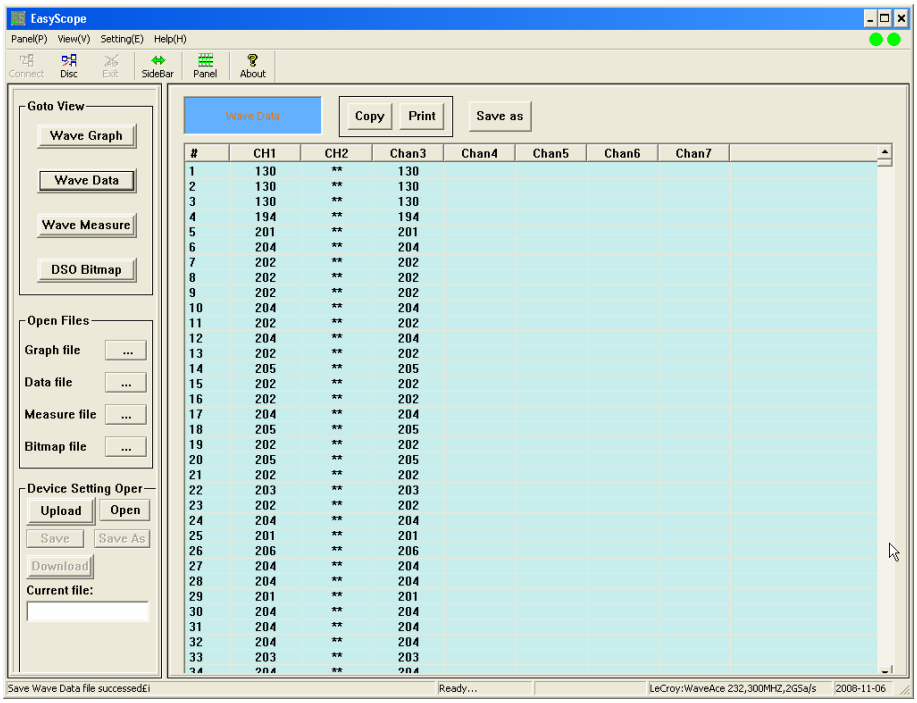


Step 15

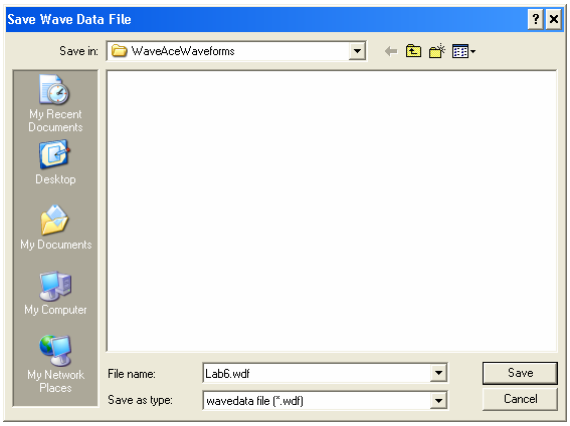
In Goto View click on Wave Data. The current data is listed.

Note: Data can also be printed by clicking on the Print button. A preview screen is first shown

and clicking on the printer icon will print to the default printer.

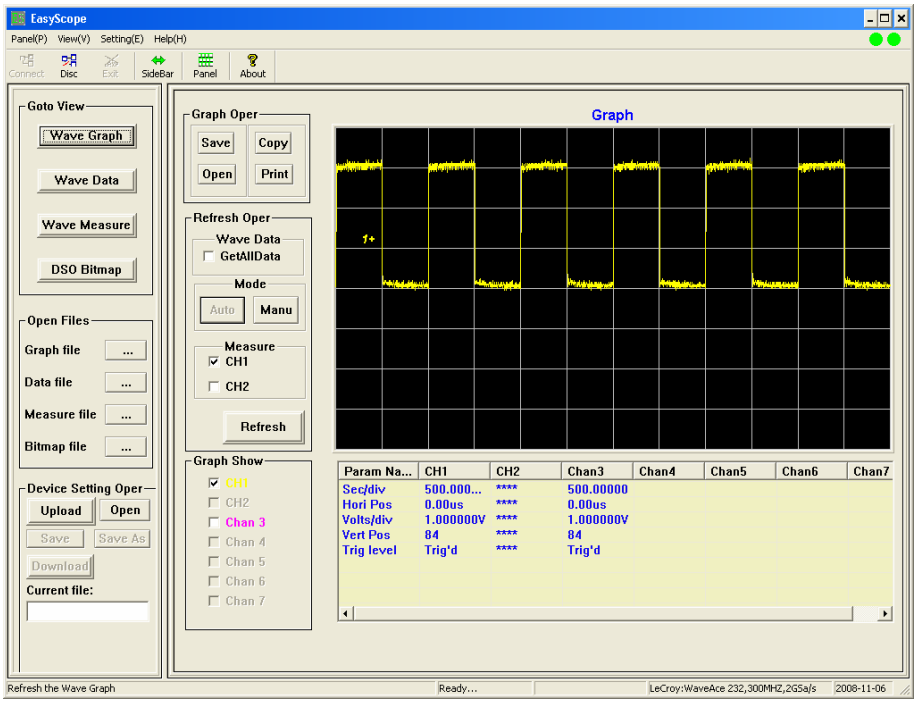


Click on Save as and select CH1 and OK. The type is now always wavedata file (*.wdf). Name the file Lab6.wdf and click Save.

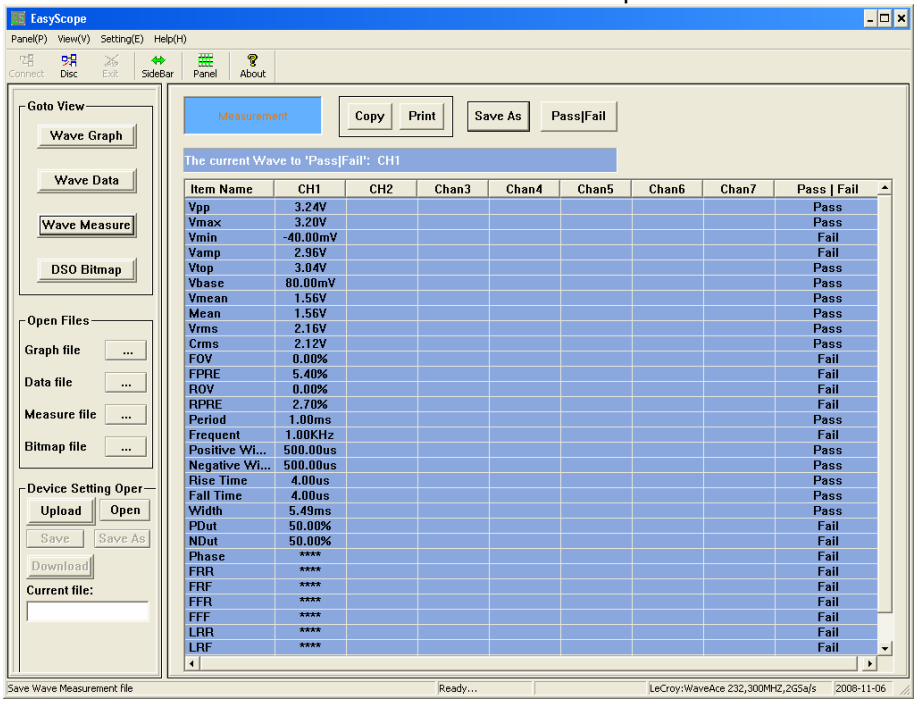


Step 16

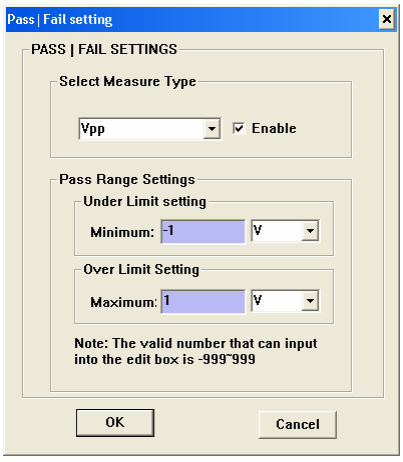
Select the Wave Graph view again and in Graph Show turn on CH1 and turn off Chan3. In the Measure section select CH1 and click Auto so the waveform is continually refreshed.



Now select the Wave Measure view and CH1 is compared to a set of Pass/Fail settings.



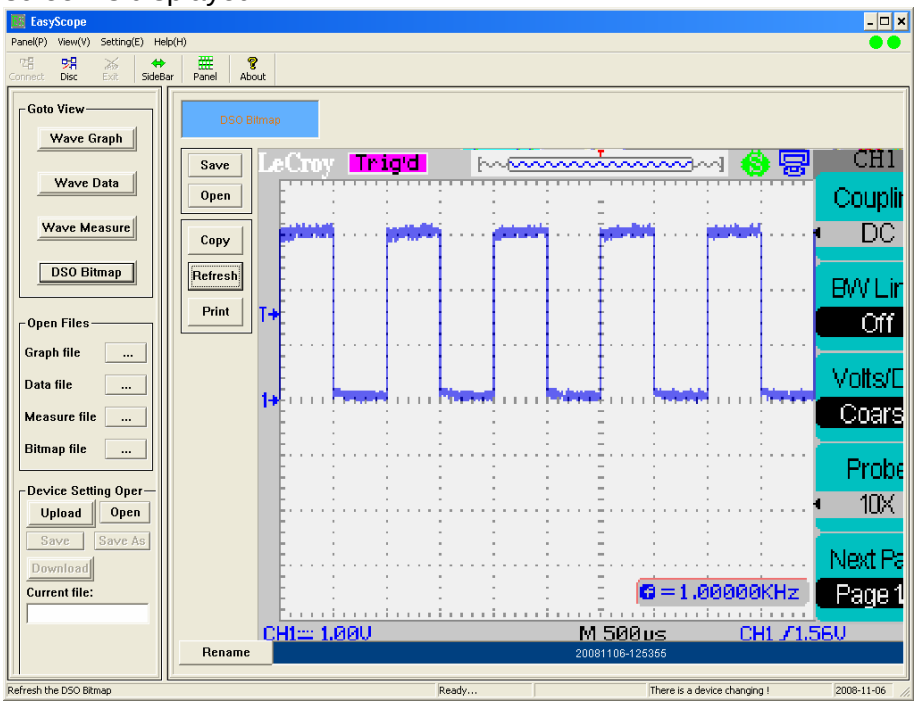
To change a setting click on Pass|Fail, select a measurement and set Enable to allow the limits to be changed.



Measurement data can also be saved used the Save As button and is saved as a (*.wmf) file. The Measure file button in the Open Files box can be used to recall these measurements.

Step 17

In Goto View click on DSO Bitmap. Click on the Refresh button and the current scope screen is displayed.



As for the other Views this view can be saved to disk (and recalled) by using the Save and Open buttons.

Step 18

As an exercise click on the Panel icon on the toolbar. See if you can use this to change the scope settings.

Test

Question 1

How would you load a channel's waveform data into Excel?

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Question 2

Is it possible to save and recall instrument Setups to and from the PC?

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Question 3

On the Wave Graph view there is a checkbox called GetAllData. Check this and click on the Refresh button. More cycles are now shown on the graph. Why is this?

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Summary

In this lab you have learned to control the WaveAce using the EasyScope application and to save and recall information.