

How to control the HP 8591EM spectrum analyser using LabVIEW™.

Not to be removed from the Telecomms Lab, D416 Version 1.0, D. Lauder, 4th Feb 2010

This guide lists the most important operations for basic laboratory use by controlling the HP8591EM spectrum analyser remotely via LabView

- Double click the icon HP8591EM_DMLv1_1 on the Windows desktop (please note that this may be updated to v1_2, v1_3, etc.). You should now see a Labview Virtual Instrument window with the title Telecomms Lab HP8691EM.vi
- In the LabView window, Set the start and stop frequencies that you need by typing the values into the boxes
- Set the Reference Level that you need in dBm (default is -20 dBm)
- Set Log or Linear scale by clicking on the 'switch' (Default is Log scale and this is suitable for most purposes unless you are told to use a linear scale)
- Click on the button "Send Settings to Spectrum Analyser"

To get a trace image from the HP8591EM spectrum analyser

- Click the button "Get Trace from Spectrum Analyser". The trace should appear in the window on the PC. The vertical axis is scaled automatically so it may look different from the display on the spectrum analyser. Note that the trace does not update automatically. You need to press "Get Trace from Spectrum Analyser" again if you need to update it.

To save a trace image to an image file on the PC

- Press "Get Trace from Spectrum Analyser" again to update the trace from the spectrum analyser
- Put the mouse cursor somewhere on the trace image, click the right hand mouse button and select "Export simplified image". Then select the image format that you need. Bitmap (.bmp) should be suitable for most purposes. Select "Save to File" then browse for the location to save the file and click "Save". Alternatively, you can select "Export to Clipboard", then click "Export". This puts it onto the Windows 'Clipboard' so that you can paste the image into another program (such as Microsoft Word) but you must do this **immediately** otherwise the image on the clipboard will be lost.

To save the trace data to a text file

- Press the button "Get trace and save to file". When you get the prompt to save the file, add the file extension .txt or .xls This saves 401 pairs of numeric values from the trace in a tab delimited text file that can be opened with Microsoft Excel. The first contains the frequencies in MHz. The second column contains the amplitude values. The amplitude units in the file are whatever you have set in LabView, e.g. dBm.

