

Instructions for Running the ESC_Test Harness

Required equipment

- PXI
- Ni VST 5646
- Ni VSA 5668

Required Software

- Windows 7 or higher
- LabVIEW 2017

Download the ESC_Test_Harness-master

Copy the up-zipped file to a computer hosting LabVIEW and PXI.

Three steps: Start Python Server, start LabVIEW Web server and run web browser (Fire fox)

1) To initiate the Python server, navigate to:

C:\ESC_Test_Harness-master\LV2017\ESC_Test_Harness-master\ESC_Test_Harness\ESC_Server\ESC_TestHarness_WS.py as in figure 1.

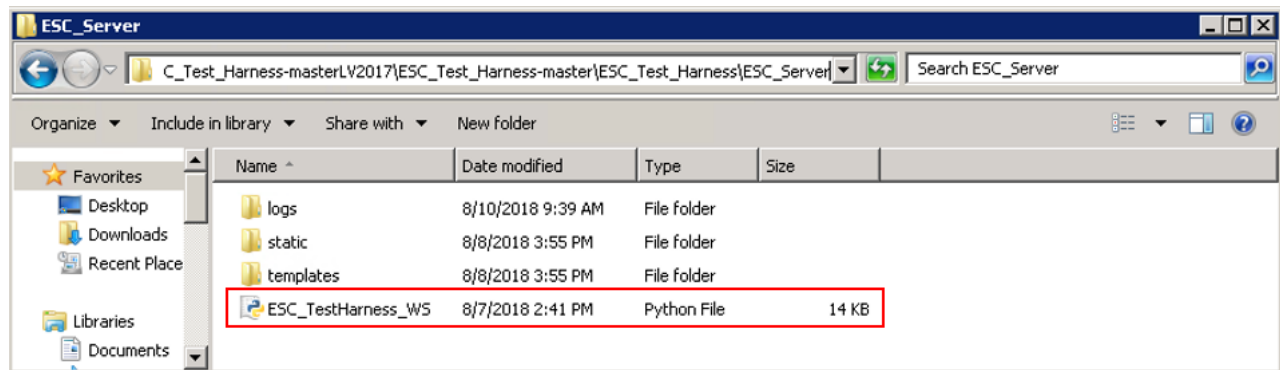


Fig.1

Double click on “ESC_TestHarness_WS.py” you will see the Python status window appear as in figure 2.

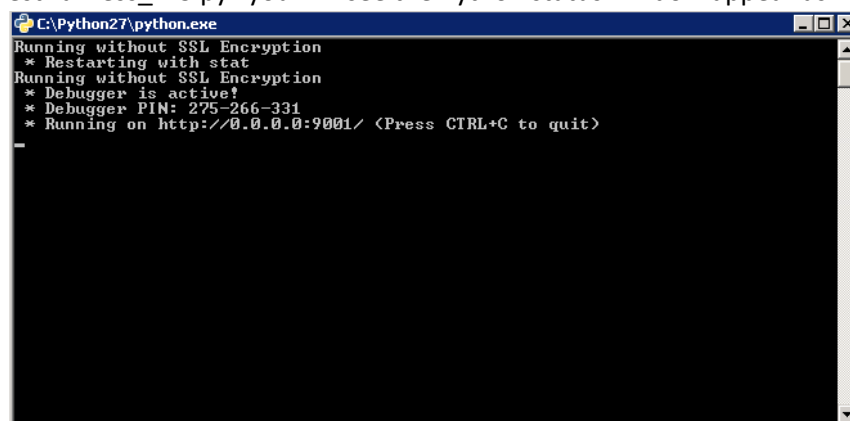


Fig.2

Note: To stop the web server select the running command screen. Select “Cntrl + C”

- 1) To initiate the LabVIEW web server, navigate to: **C:\ESC_Test_Harness-masterLV2017\ESC_Test_Harness-master\ESC_Test_Harness\ESC_Waveform_Player\ESC_Waveform_Player.proj** as in figure 3.

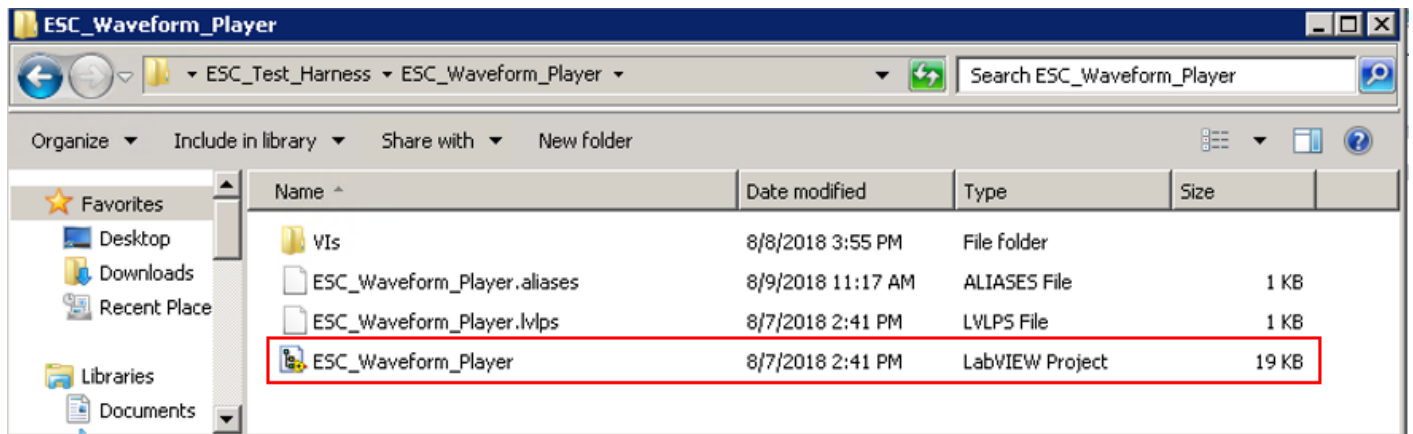


Fig. 3

Double click on “ESC_Waveform_Player.proj” you will see the LabVIEW project opens as in figure 4.

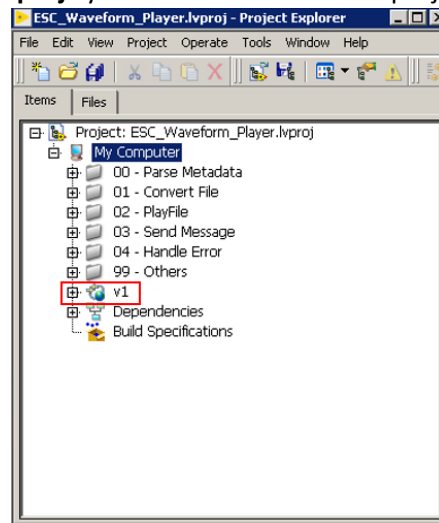


Fig. 4

Right click on “v1” as in figure 4. You will see Debug Web service windows appears as in figure 5. Click “OK”.

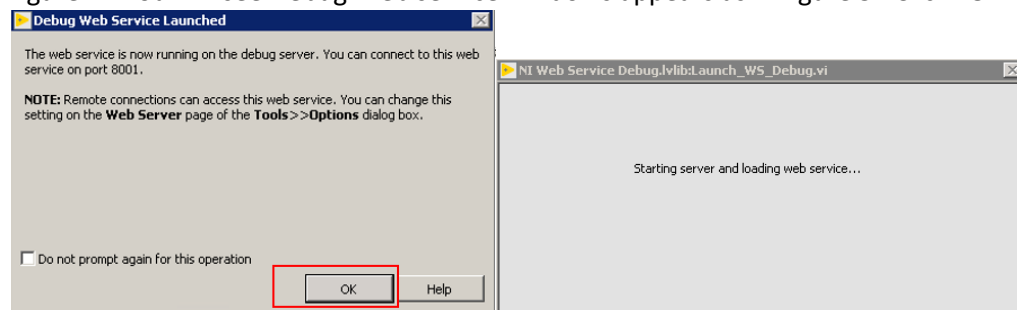
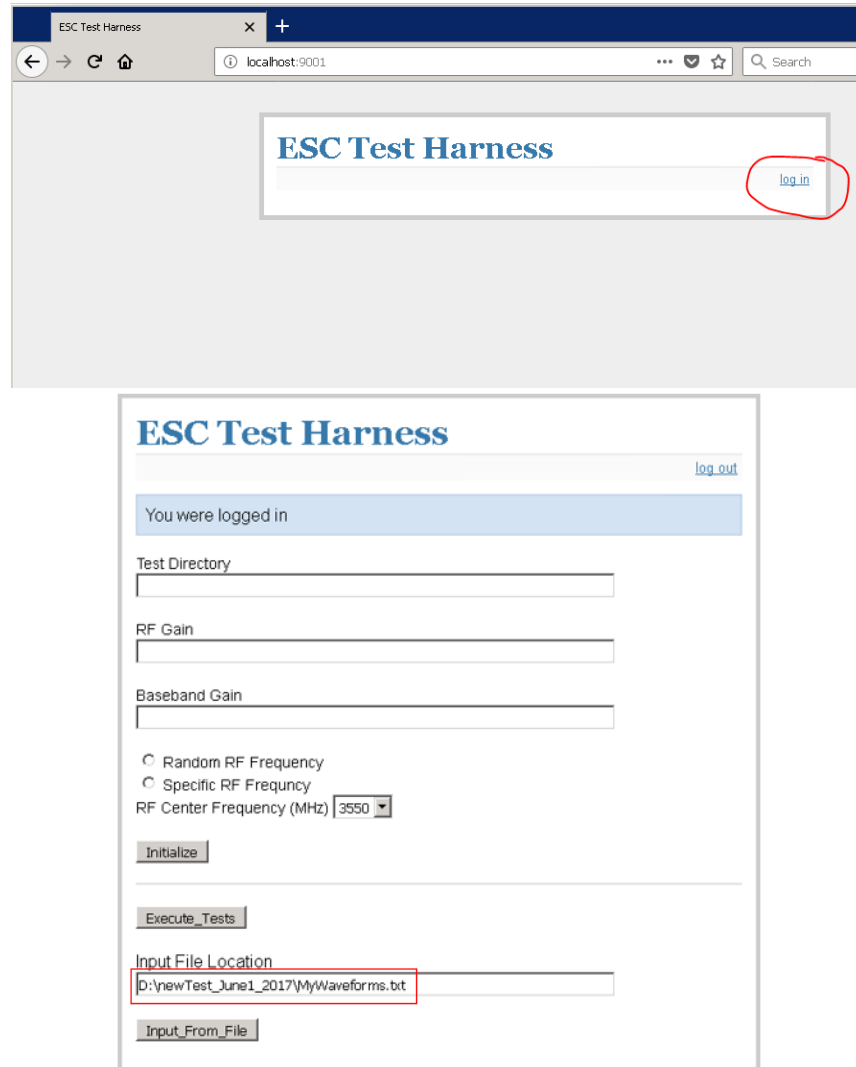


Fig.5

3) Launch Firefox web browser and enter “localhost:9001” in the URL textbox. The ESC Test Harness interface will appear as in figure 6. Press “log in”. the default user name and password is “admin” and “default”. Enter the full path of your custom file into the “Input File Location” and press “Input_From_File” to play the waveforms. See step 4 for creating a custom file.

Note: the waveforms can be viewed on your spectrum analyzer. See step 5 for configuring your spectrum analyzer.



The image shows two screenshots of the ESC Test Harness web interface. The top screenshot shows the login page with the title "ESC Test Harness" and a "log in" button circled in red. The bottom screenshot shows the main interface after login, with the title "ESC Test Harness" and a "log out" link. The interface includes fields for "Test Directory", "RF Gain", and "Baseband Gain". It also has radio buttons for "Random RF Frequency" and "Specific RF Frequency", and a dropdown menu for "RF Center Frequency (MHz)" set to "3550". There is an "Initialize" button. Below these are "Execute_Tests" and "Input_From_File" buttons. The "Input File Location" field contains the path "D:\newTest_June1_2017\MyWaveforms.txt", which is circled in red.

Fig.6

4) Creating a custom file.

You will need to supply your own waveforms in binary (.dat) format as in figure 7a. For example, figure 7a shows the directory of the waveforms that I want to play. The text file “MyWaveforms.txt” contains the paths of the waveforms.

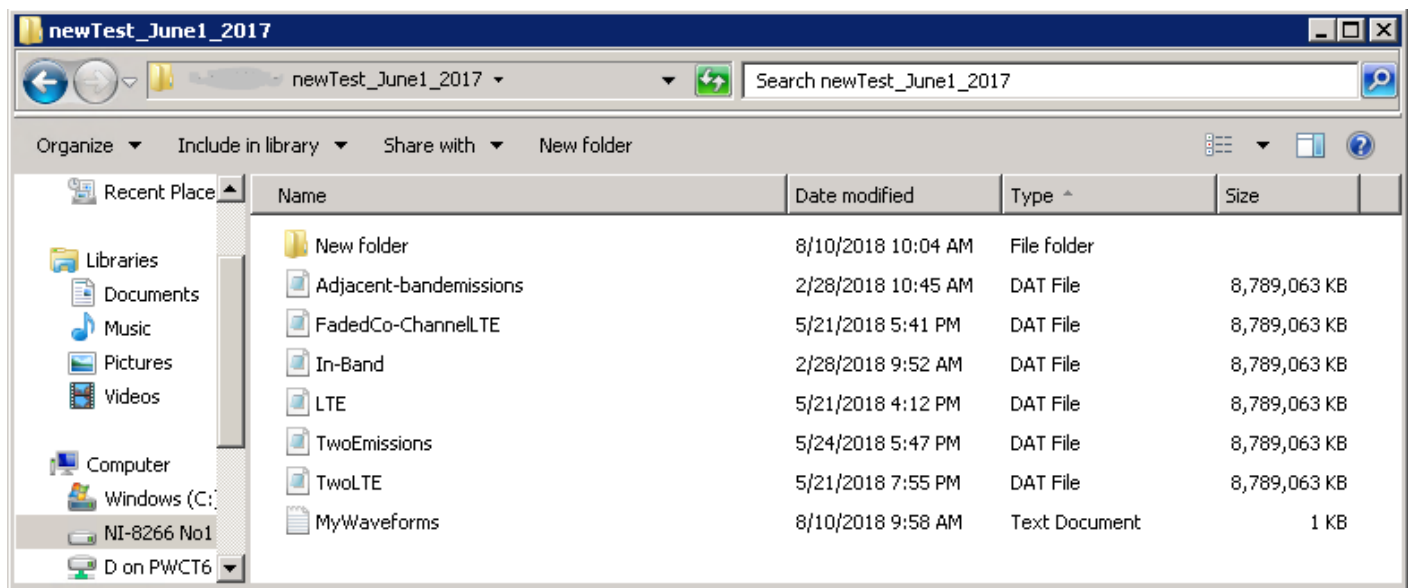


Fig. 7a

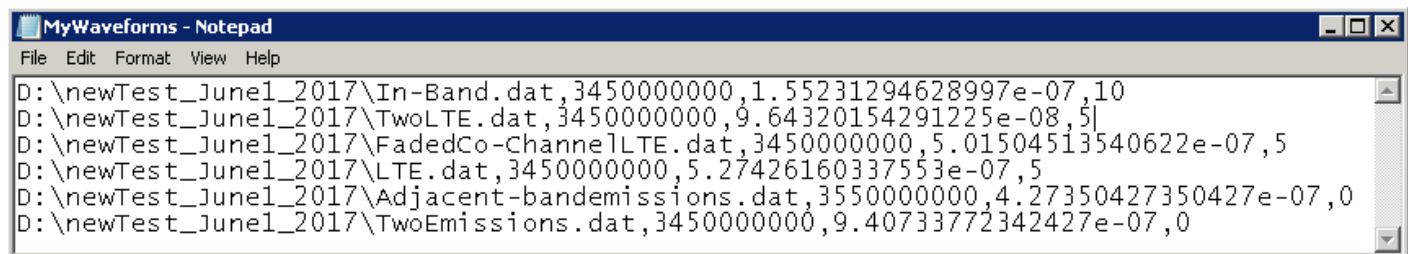


Fig. 7b

5) Configuring your spectrum analyzer

The spectrum analyzer settings are controlled with Standard Commands for Programmable Instruments (SCPI) commands. The address for the VISA connection will need to be changed. To change the VISA address, go to the LabVIEW Project Explorer, expand the Dependencies tab. Locate and open the "SpectrumAnn SCPI commands.vi". Enter the VISA string for your instrument in the LabVIEW graph.

If you prefer manual configurations, the "local" key on the spectrum analyzer will end the remote session.

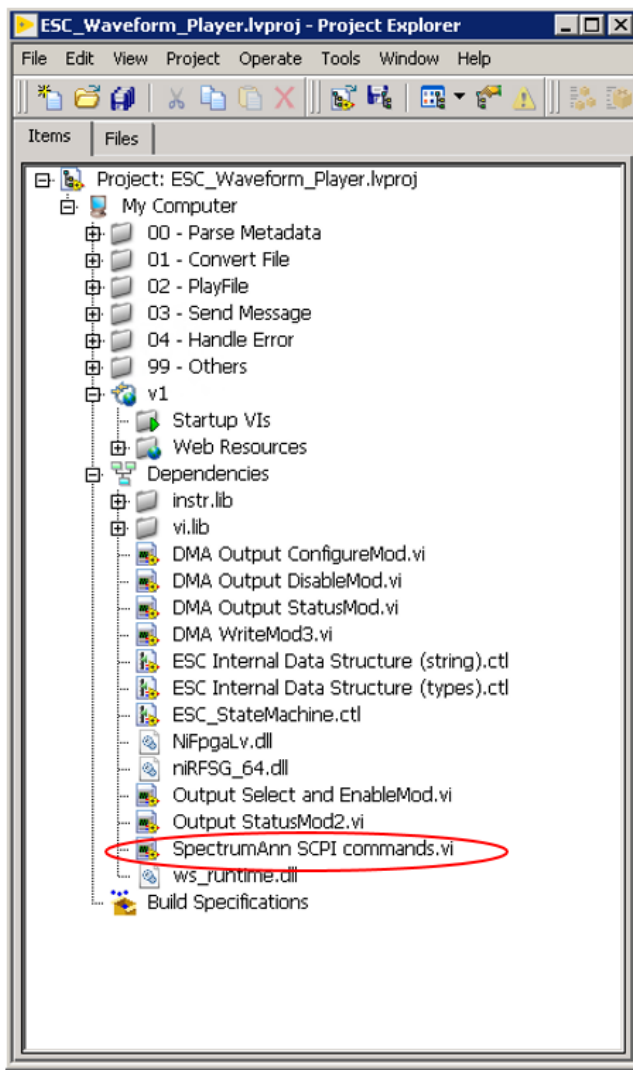


Fig. 8a

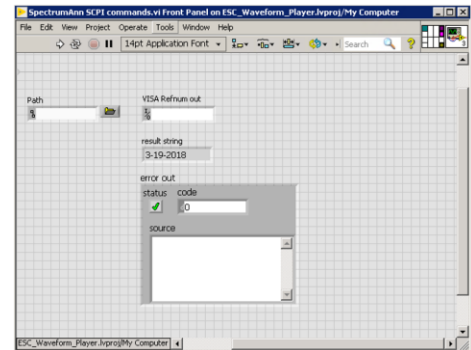


Fig. 8b

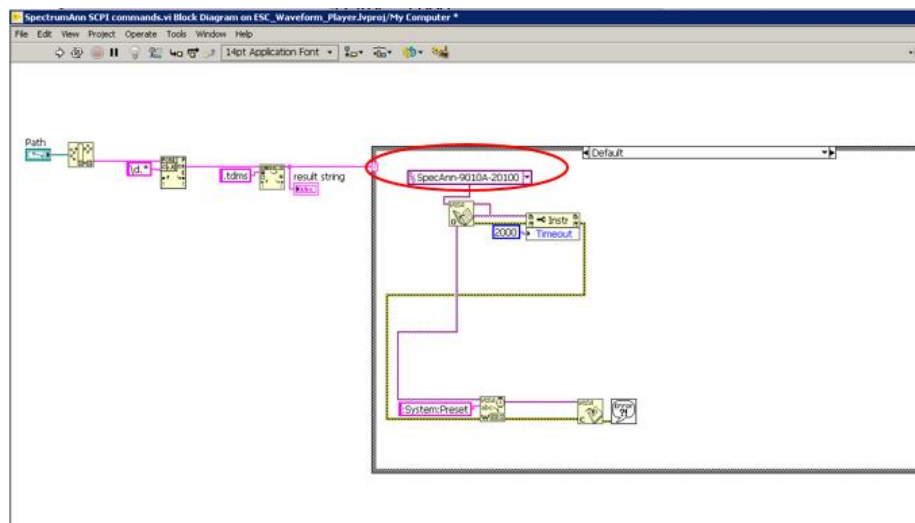


Fig. 8c