

## How to install an Agilent instrument on your computer for use in LabVIEW

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9 March 2019

Agilent has been taken over by Keysight. Here is the procedure that I follow to use Agilent devices on your Windows system and Labview.

1. Install the latest version of LabVIEW in your computer. In 2019, we use Labview 2014.
2. Install the latest version of NI VISA in your computer. This can be downloaded from the NI website. Do a google search.

If these steps are properly done, you should be able to open MAX (Measurement and Automation Explorer) whose icon generally exists on the Desktop. You should see no error there and all NI devices connected to the computer should be visible in Devices. All the following software has also been downloaded and Physlab users can access these softwares from the Network Drive (//10.111.74.19) in the folder **Lab softwares -> Agilent Oscilloscope Software**.

**Additional check:** In NI MAX, go to **Tools→NI VISA→VISA options**. A new tab will open up on the window. On the left side you will see **Passports**. Click on that and a list of all the Passports will come up in front of you. Only one of them **NIVisaTulip.dll** will be unchecked. Check the box and right next to it and click on **Save**.

1. Next you have to install the **Agilent IO Library Suite 2019** from the Keysight website. This will install the Keysight / **Agilent IO Connection Expert**. Once you run this application, it should automatically be able to scan all Agilent instruments that are connected to your PC. These instruments are connected through a USB cable or a LAN connection. We have two instruments that we've tested: a) an **Agilent digital oscilloscope DSO-X 2002A** and an **Agilent 3 GHz spectrum analyzer N9320B**. I have tested the IO Connection Expert with both of these instruments. It's useful to note down the VISA address for the instrument. Our oscilloscope has the address: **USB0::0x0957::0x179B::MY52104635:0::INSTR** .
2. From the Keysight website, download and install the **IVI and Matlab Infiniivision Driver Suite**.
3. Download and install the **Infiniivision X-Series Oscilloscope Labview Instrument Drivers** from the Keysight website. I am not giving the URL's here because you could do a simple Google Search for this purpose.
4. Install the latest version of the "Plug-and-Play" driver of your respective instruments. These are all available on the [www.ni.com](http://www.ni.com) website. You can also find them on the following webpage:

<http://www.ni.com/downloads/instrument-drivers/>. The drivers come in the form of a .zip file. You have to extract the contents of this folder to the **user.lib** and **instr.lib** folders. The latter two folders are present, may be present, in **Program Files (x86) -> National Instruments->LabVIEW2014** (or whatever your version of LabVIEW is).

5. Now go to **instr.lib** folder in **the National Instruments** folder. And open your instruments folder. This folder will contain another folder of **Examples**. Turn on your instrument and run one of the example Vis. If everything has been done correctly then your instrument should run with LabVIEW. For example, when I connect the oscilloscope to a function generator outputting a sine wave, I get the following result in Labview. Note that if everything is set up correctly, the example file should automatically detect the VISA address for your instrument.

