

# First Time Software Setup

## 1 Install bare python2.7 for windows

Do this even if you already have a python distribution installed like Anaconda. [Use the windows installer here](#), and leave all of the options at their defaults. *(Note from Dan - don't do what I did. Changing the installation directory breaks this!)*

## 2 Install PothosSDR

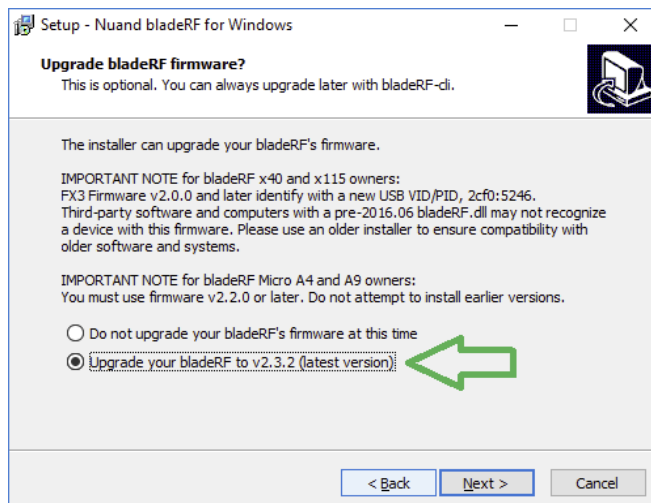
Run [the version 2020.01.26 installer](#). Leave all the settings at default: most importantly, (1) do not add PothosSDR to the system path, (2) install to C:\Program Files\PothosSDR.

## 3 Connect BladeRF SDR <-> USB <-> your computer

Make sure to connect on a USB 3 port on the computer side. It may be marked "SuperSpeed" or "SS." USB 1 or 2 ports may not be able to supply enough power to run the BladeRF.

## 4 Install BladeRF drivers

Run [the version 2019.07 installer](#). Leave all the settings as default, except do select "Upgrade your bladeRF..." on the following step:



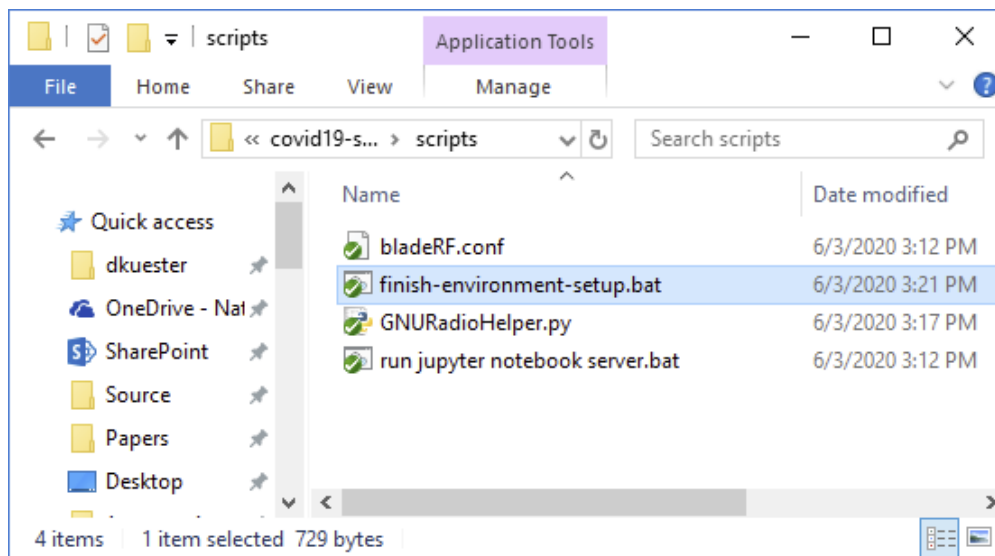
Continue clicking next through the installer. When the command prompt window pops up, press enter each time when prompted until the firmware update is complete.

## 6 The spectrum monitoring software

There are two options for downloading the monitoring software:

1. download the [handy packaged zip file](#), and extract covid19-spectrum-monitoring folder from inside into a convenient place like Documents; or,
2. if you are a power user who uses git, clone [the spectrum monitoring repository](#).

Navigate into this newly created covid19-spectrum-monitoring directory, and then into its “scripts” subdirectory. Double click on finish-environment-setup.bat to finish setting up your software radio environment:



This is done when you see “Press any key to continue. . .”:

```
C:\WINDOWS\system32\cmd.exe

n't be maintained after that date. A future version of pip will drop support for Python 2.7. More details about Python 2
support in pip, can be found at https://pip.pypa.io/en/latest/development/release-process/#python-2-support
Collecting PyOpenGL-accelerate==3.1.1 from http://downloads.myriadrf.org/binaries/python27_amd64/PyOpenGL_accelerate-3.1
.1-cp27-cp27m-win_amd64.whl
Using cached http://downloads.myriadrf.org/binaries/python27_amd64/PyOpenGL_accelerate-3.1.1-cp27-cp27m-win_amd64.whl
Installing collected packages: PyOpenGL-accelerate
Successfully installed PyOpenGL-accelerate-3.1.1
WARNING: You are using pip version 19.2.3, however version 20.1.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.
Done!

Changes made! Please re-run this script in a new terminal.

C:\Program Files\PothosSDR\bin>rem build the hierarchical source blocks

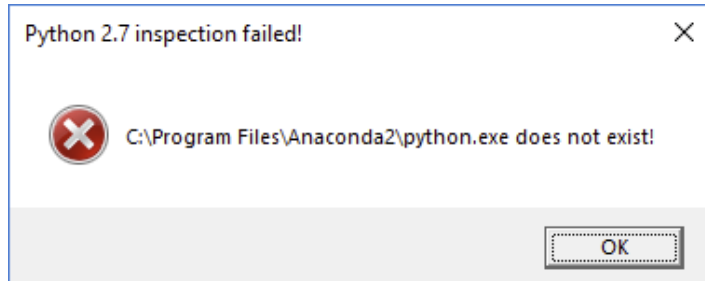
C:\Program Files\PothosSDR\bin>grcc.py "C:\Users\dkuester\Documents\Source\covid19-spectrum monitoring"\grc\blocks\blade
rf_source.grc
set_min_output_buffer on block 1 to 10000

C:\Program Files\PothosSDR\bin>grcc.py "C:\Users\dkuester\Documents\Source\covid19-spectrum monitoring"\grc\blocks\energ
y_detection.grc
Exception in thread Thread-1 (most likely raised during interpreter shutdown):

C:\Program Files\PothosSDR\bin>grcc.py "C:\Users\dkuester\Documents\Source\covid19-spectrum monitoring"\grc\blocks\energ
y_detection_file_sink.grc
set_min_output_buffer on block 1 to 100
set_min_output_buffer on block 2 to 100
Exception in thread Thread-1 (most likely raised during interpreter shutdown):
C:\Program Files\PothosSDR\bin>pause
Press any key to continue . . .
```

## Troubleshooting

### GNURadio companion: "...python.exe does not exist"



These are mostly the result of system path variables clashes between older python and the new Pothos installs.

- Uninstall this other python distribution (Anaconda2, in the above example) if you can.
  - Otherwise, open regedit and delete the following key:  
Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Python\PythonCore\2.7
- Uninstall Python2.7 and PothosSDR
- Install Python2.7 then PothosSDR again

### Other GNURadio companion startup failures

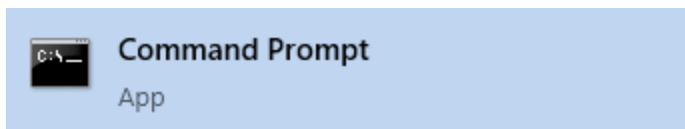
If you have run gnuradio or PothosSDR in the past, try deleting old configuration directories:

- Navigate to C:\users\<insert your login name here> and delete the directory ".gnuradio"
- Navigate to C:\Users\<insert your login name here>\AppData\Roaming and delete the directory "Pothos"

### GNURadio companion still doesn't start

This one is more involved and may need some support. To get started, collect some information to send to Dan:

1. Open the command prompt:



2. Type the following:

```
cd "C:\Program Files\PothosSDR\bin"
```

GNURadioHelper.py

3. Click on the command prompt window, and press Alt+Print Screen to copy a screenshot image of the output from this command. Start a new email, hit “paste” to include the screenshot, and send to Dan ([daniel.kuester@nist.gov](mailto:daniel.kuester@nist.gov)). We can troubleshoot that together.