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AMRUPT, SP18

**Goals**

The goal of this week was to get the GNU Radio and Ettus Blocks for direction finding routines installed and running on the provided hardware.

**Problem**

We had substantial trouble getting all the dependencies installed on a consistent platform.

**General Approach**

We installed rtl-sdr, GNU radio, and Ettus Blocks on Ubuntu.

**Code-level problems and solutions, and empirical testing**

We installed Ubuntu 16.04 (the most recently tested OS from the Ettus Blocks) and then followed the instructions below:

1. Install rtl-sdr
   1. <https://ranous.files.wordpress.com/2018/02/rtl-sdr4linux_quickstartv2-18.pdf>
2. Install GNU radio and GNU radio-dev
   1. sudo apt-get install gnuradio
   2. sudo apt-get install gnuradio-dev libboost-all-dev cmake libfftw3-dev libusb-1.0.0-dev swig libuhd-dev libarmadillo-dev
3. Install Armadillo via cmake
   1. <https://github.com/conradsnicta/armadillo-code>
4. Install Ettus Blocks via cmake
5. https://github.com/EttusResearch/gr-doa
6. Run gnuradio-companion
7. Open code

I created a VirtualBox VM and exported it so anyone can load Ubuntu with all the installations done onto their computer

**Planned Course of Action**

The next step is to complete the switching I2C code. We should be able to do this before the end of the semester.

**Resources and Relevant Forums**

Broad Instructions: <https://coherent-receiver.com/getting-started>

Ubuntu 16.04 Images: <http://releases.ubuntu.com/16.04/>

RTL-SDR Linux Installation Guide: <https://ranous.files.wordpress.com/2018/02/rtl-sdr4linux_quickstartv2-18.pdf>

GNU Radio Installation Guide: <https://www.howtoinstall.co/en/ubuntu/trusty/gnuradio-dev>

Cmake Instructions (to be used to build Armadillo and gr-doa): <https://cmake.org/install/>

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