A quick start list for Bullseye (13-March-2022)

1. INSTALL packages we'll need later

```
sudo apt-get install libncurses5-dev libgpiod-dev libx11-dev gnuradio quisk audacity
```

2. Clone the repository

```
cd
git clone https://github.com/mpvano/radiohat.git
```

3. BUILD library and applications

```
cd ~/radiohat/libradiohat
make clean
make
```

4. BUILD and install the device overlay

```
cd ~/radiohat/libradiohat/radiohatcodec
#Compile it:
dtc -@ -H epapr -O dtb -o radiohatcodec.dtbo -Wno-unit_address_vs_reg radiohatcodec.dts
#Copy radiohatcodec.dtbo to /boot/overlays
sudo cp radiohatcodec.dtbo /boot/overlays
```

5. APPEND this stuff to /boot/config.txt

```
# *RadioHat* 1.0
#for the optional rtc
#dtoverlay=i2c-rtc,ds3231,addr=0x68
dtparam=i2c=on
dtparam=i2s=on
dtoverlay=RadioHatCodec
# initialize the *RadioHat* GPIO
gpio=22,23=op,dh
gpio=17=a3
```

6. Power Down, Install card (PI power is OK for now), POWER UP

7. Fixup GRC files

```
#Delete caches
#open all module files and top level files
#Build flow graph for each
```

8. Do a minimal Quisk install

```
#       start quisk
#       make a new radio called radiohat (or whatever) of type Softrock Fixed
#       point the configuration file to
```

```
#               /home/pi/radiohat/libradiohat/QUISK/quisk-hardware.py
#       configure the console outand in as pulse default
#       configure the radio IQ in and out as RadioHatCodec
#       swap I and Q on the RadioHatCodec inputs and outputs
#       be aware of problems with Pulse Audio in Quisk
```

9. MISC Fixups

```
#       link /usr/lxterminal /usr/xterm
```