Instructions for RTL Dongle and Beaglebone Black

1. Prepare Beaglebone Black: procedure is very similar to that for Raspberry Pi:
    1. http://www.satsignal.eu/raspberry-pi/dump1090.html

    You can access the Beaglebone Black either via the USB port server 192.168.7.2 or by accessing its Ethernet port using its IP address, either DHCP or statically determined, and ssh. If you are accessing it from a Windows machine, PuTTY makes a great ssh tool.

2. sudo apt-get update
3. sudo apt-get upgrade
4. sudo apt-get install git-core
5. sudo apt-get install git
6. sudo apt-get install cmake
7. sudo apt-get install libusb-1.0-0-dev
8. sudo apt-get install build-essential

9. git clone git://git.osmocom.org/rtl-sdr.git
10. cd rtl-sdr
11. mkdir build
12. cd build
13. cmake ../ -DINSTALL_UDEV_RULES=ON
14. make
15. sudo make install
16. sudo ldconfig

    Plug in the RTL-2832U dongle

17. cd ~
18. sudo cp ./rtl-sdr/rtl-sdr.rules /etc/udev/rules.d/
19. sudo reboot

20. rtl_test -t

    This may fail with error indicating that an E4000 tuner is not present, even if one is. If so, don't panic, just continue.

    If you get a different error that says that the RTL device is in use, then type the following at the command prompt: sudo printf 'blacklist dvb_usb_rtl28xxu\nblacklist rtl2832\nblacklist rtl2830' > /etc/modprobe.d/nortl.conf

    and then reboot before continuing.

    Prepare to download and install dump1090
21. cd ~
22. git clone git://github.com/MalcolmRobb/dump1090.git
23. cd dump1090
24. make
25. sudo apt-get install pkg-config

26. make
27. ./dump1090 –interactive –net –net-beast –mlat

     If you get an error that port 8080 is in use, then add –net-http-port 8081

     Next, set up Planeplotter.
28. Options >>IO Settings [Check} Mode S/ADS-B ---> RTL > Rpi + Dump1090
       [Checked] Allow Auto Mlats
       [Checked] Raw data for Mlats
29. Options >>Mode-S receiver > RTL dongle Rpi dump1090 >> Setup TCP Client >>
     xxx.xxx.xx.xxx:3005 (xxx's represent the IP address of the Beaglebone).

     If you are going to upload planes to one of the internet servers such as PlanePlotter, then you
     should run the ntp time service. To do this on the Beaglebone Black, you need to proceed as
     noted below.

30. Sudo apt-get install ntp
31. I believe that installing ntp will automatically set up a service so that you don't need to do more.
     If it turns out that you do need to do more to get it running, then visit this page for instructions:
     http://derekmolloy.ie/automatically-setting-the-beaglebone-black-time-using-ntp/

     If, when trying to upgrade or when installing ntp, you get an error that says something like,
"Starting led_aging.sh depends on rmnologin and therefore on system facility `$all' which can not be
true!" then you need to replace the existing /etc/init.d/led_aging.sh script with:

```
#!/bin/sh -e
### BEGIN INIT INFO
# Provides:         led_aging.sh
# Required-Start:   $local_fs
# Required-Stop:    $local_fs
# Default-Start:    2 3 4 5
# Default-Stop:     0 1 6
# Short-Description: Start LED aging
# Description:      Starts LED aging (whatever that is)
### END INIT INFO

x=$(/bin/ps -ef | /bin/grep "[l]ed_acc")
if [ ! -n "$x" -a -x /usr/bin/led_acc ]; then
   /usr/bin/led_acc &
fi
```

This is courtesy of: http://comments.gmane.org/gmane.comp.hardware.beagleboard.user/69174

--Roger Rehr W3SZ 2-22-2015