

## Usage of USB GPS On Linux

- Operation confirmed with testing in our ODROID XU4 on
  - ubuntu-18.04-4.14-mate-odroid-xu4-20180501.img (Kernel Version 4.14.37-135).
  - ubuntu-16.04-mate-odroid-xu3-20170731.img (Kernel Version 3.10.105-141).

- You should have been done **apt update && apt full-upgrade**.
- You have to install **gpsd, gpsd-clients** packages to proceed.

## Configure gpsd

- Put an actual GPS device node as the **DEVICES** option.
- Although you don't enter any value for **DEVICES** option, you can use GPS utilities by putting actual GPS device node as the executable's parameter when you execute them.
  - Example)

```
odroid@odroid:~$ gpsmon /dev/ttyACM0
```

Edit **/etc/default/gpsd** file as the below.

```
odroid@odroid:~$ sudo vi /etc/default/gpsd
```

```
# Default settings for the gpsd init script and the hotplug wrapper.  
  
# Start the gpsd daemon automatically at boot time  
START_DAEMON="true"  
# Use USB hotplugging to add new USB devices automatically to the daemon  
USB AUTO="true"  
# Devices gpsd should collect to at boot time.  
# They need to be read/writeable, either by user gpsd or the group dialout.  
DEVICES="/dev/ttyACM0"  
# Other options you want to pass to gpsd  
GPSD_OPTIONS=""
```

Restart GPS daemon to apply edited GPS daemon configuration.

```
/* GPS daemon stop/disable */  
odroid@odroid:~$ sudo systemctl stop gpsd.socket  
odroid@odroid:~$ sudo systemctl disable gpsd.socket  
/* GPS daemon enable/start */  
odroid@odroid:~$ sudo systemctl enable gpsd.socket
```

```
odroid@odroid:~$ sudo systemctl start gpsd.socket
```

## Using the GPS

- If timeout caused due to the disconnection of GPS daemon, kill GPS daemon processes and re-enable GPS daemon, then try again.
  - Example)

```
odroid@odroid:~$ sudo killall gpsd
/* GPS daemon stop/disable */
odroid@odroid:~$ sudo systemctl stop gpsd.socket
odroid@odroid:~$ sudo systemctl disable gpsd.socket
/* GPS daemon enable/start */
odroid@odroid:~$ sudo systemctl enable gpsd.socket
odroid@odroid:~$ sudo systemctl start gpsd.socket
```

### Method 1: Console Graphical

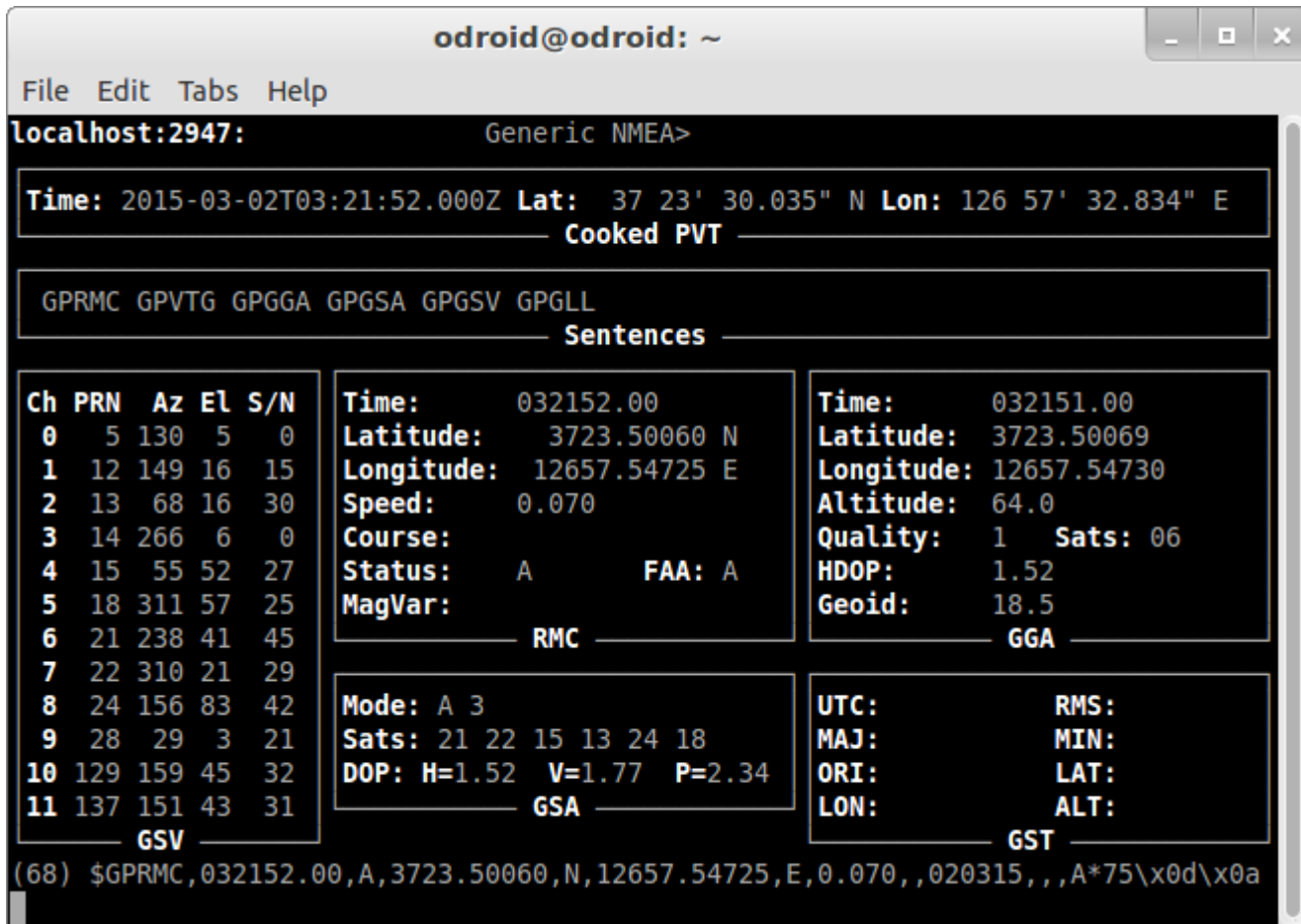
- You can use

```
odroid@odroid:~$ cgps -s
```

It will show a nice interface with all of the related GPS data.

- Or You can use

```
odroid@odroid:~$ gpsmon
```



### Method 2: Console Text (Python)

- Run:

```
odroid@odroid:~$ sudo apt-get install python-gps
```

testgps.py

```
import gps

# Listen on port 2947 (gpsd) of localhost
session = gps.gps("localhost", "2947")
session.stream(gps.WATCH_ENABLE | gps.WATCH_NEWSTYLE)

while True:
    try:
        report = session.next()
        # Wait for a 'TPV' report and display the current time
        # To see all report data, uncomment the line below
        # print report
        if report['class'] == 'TPV':
            print report.time
    except KeyError:
        pass
```

```

except KeyboardInterrupt:
    quit()
except StopIteration:
    session = None
    print "GPSD has terminated"

```

### Method 3: X11 FoxtrotGPS

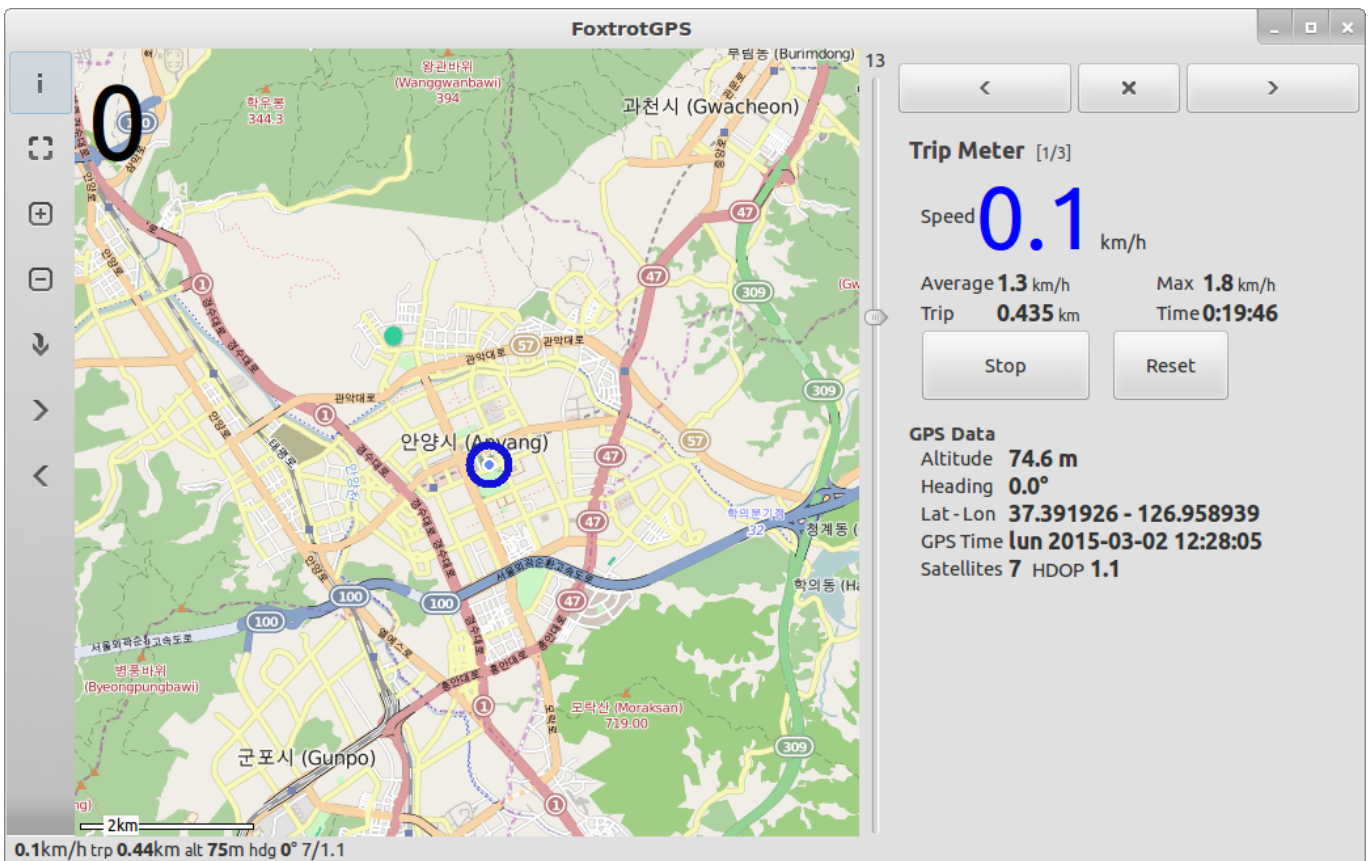
- Install **foxtrotgps** (X11 for a graphical view)

```
odroid@odroid:~$ sudo apt-get install foxtrotgps
```

- Just open a terminal and run:

```
odroid@odroid:~$ foxtrotgps
```

- Or click Menu → Accessories → [FoxtrotGPS](#)



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