

# GNSS

- [wonderful introduction on GNSS](#)
- [stations](#) that broadcast real time RTCM (protocol) Radio Technical Commission for Maritime
- [ubxtool examples](#)
- NEO-M9N
- ZED-F9P

## ntrip caster

- <https://gitlab.com/ihfazhillah/simple-ntrip-caster/-/tree/master>

test caster, must return source table

```
curl http://192.168.2.50:2101
```

## ntrip base station

configure ublox

```
systemctl stop gpsd
systemctl stop gpsd.socket

DEVICE=/dev/gps0
ubxtool -f $DEVICE -p RESET
ubxtool -f $DEVICE -e BINARY
# set automotive model
ubxtool -f $DEVICE -p MODEL,4
ubxtool -f $DEVICE -p SAVE
```

ntrip source

```
str2str -in serial://ttyACM0:115200:8:n:1:#stq -out
ntrips://:mev@localhost:2101/AB0#rtcm2 -p 45.4935250 011.1068889 421 -msg
"1004,1006,1019,1033,1012,1030"

str2str -in serial://ttyACM0:115200#ubx -out
ntrips://:PASSWORD@rtk2go.com:2101/MEV0#rtcm3 -p 45.4935250 011.1068889 421
```

GPS

```
gpsd -N -n -D3 /dev/gps0 # no -b option
```

```
# with DGPS
```

```
gpsd -N -n -D3 /dev/gps0 ntrip://NTRIP.itsware.net:2101/AB50_RTCM3  
psd -N -n -D1 /dev/gps0 ntrip://rtk2go.com:2101/MEV0
```

```
ubxtool -p MON-VER
```

```
UBX-MON-VER:  
swVersion EXT CORE 1.00 (61b2dd)  
hwVersion 00190000  
extension ROM BASE 0x118B2060  
extension FWVER=HPG 1.12  
extension PROTVR=27.11  
extension MOD=ZED-F9P  
extension GPS;GLO;GAL;BDS  
extension QZSS
```

```
export UBXOPTS="-P 27.11 -v 2"  
ubxtool -p RESET  
ubxtool -e BINARY  
ubxtool -d NMEA
```

get current dynamic mode

```
ubxtool -p CFG-NAV5  
  
...  
dynModel (Portable)  
...  
  
# or  
ubxtool -p CFG-NAV5 | grep dynModel
```

switch model to automotive

```
ubxtool -p MODEL,4
```

## udev

</etc/udev/rules.d/91-ubox.rules>

```
#SUBSYSTEMS=="usb", DRIVERS=="usb", ACTION=="add",  
ATTRS{idVendor}=="1546", ATTRS{idProduct}=="01a9", SYMLINK+="gps0",  
MODE="0666"  
ATTRS{idVendor}=="1546", ATTRS{idProduct}=="01a9", SYMLINK+="gps%n",  
TAG+="systemd", ENV{SYSTEMD_WANTS}="gpsdctl@%k.service"
```

[/etc/default/gpsd](#)

```
START_DAEMON="false"
# binary mode for ublox
GPSD_OPTIONS="-b"
DEVICES=""
USBAUTO="true"
```

## test

- <https://gpsd.gitlab.io/gpsd/ppp-howto.html>

```
gpsd -b -N /dev/ttyACM0
```

```
gpspipe -r | nc -l 29999
```

```
yay -S qt5-location
```

qml

```
import QtQuick 2.1
import QtQuick.Window 2.0
import QtPositioning 5.5
import QtLocation 5.6

Window {
    id:page
    width: 1024
    height: 1024
    visible: true

    Map {
        id:myMap
        anchors.fill: parent
        plugin: mapPlugin
        zoomLevel: 23

        property MapCircle circle

        function update(pos) {
            removeMapItem(circle);

            circle = Qt.createQmlObject('import QtLocation 5.3; MapCircle {}',
page);
            circle.radius = 2;
            circle.color = "transparent";
            circle.border.color = "red"
            circle.border.width = 3;
```

```
myMap.addMapItem(circle);

circle.center = pos.coordinate;
myMap.center = pos.coordinate;

//console.log("Coordinates: ", pos.coordinate.latitude,
pos.coordinate.longitude);
}
}

Plugin {
  id: mapPlugin
  name: "osm"
}

PositionSource {
  id: gpsPos
  updateInterval: 500
  active: true
  nmeaSource: "socket://localhost:29999"

  onPositionChanged: {
    myMap.update(position);
  }
}
}
```

From:  
<https://wiki.csgalileo.org/> - **Galileo Labs**

Permanent link:  
<https://wiki.csgalileo.org/tips/gnss?rev=1597302243>

Last update: **2020/08/13 09:04**

