

Table des matières

Hardware used	1
Prepare SD	2
connect to wifi « openplotter »	2
connect with VNC	2
modify pi password	3
modify wifi hotspot	3
Internet access	4
install updates	5
configure raspberry	5
settime zone	5
interfaces	5
Update applications	6
activate uart2	6
signalk	7
Update opencpn	7
Check system is ok	7
GPS install	8
Pypilot install	11
Pypilot config	11
Verification	14
Errors	15

Mince je ne l'ai pas fait du tout dans un ordre logique, il faut

Hardware used

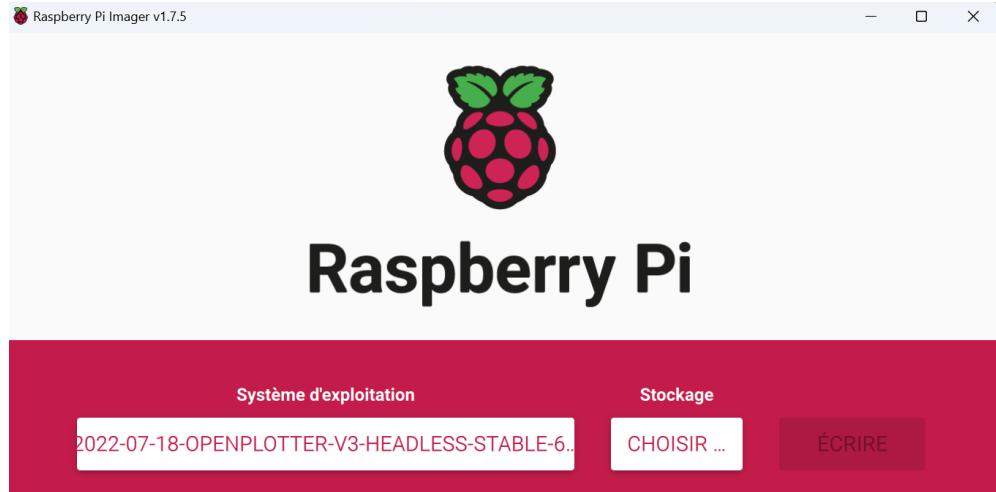
- Raspberry pi 4 4Gb
- Pypilot hat
- GPS hat <https://www.waveshare.com/l76x-gps-hat.htm>

GPS hat is connected as a USB device , with yellow jumpers on connexion « A » , I was not able to make to work with pypilot hat has they share the same pins on GPIO (as far as I understand).

GPS is connected as USB, pypilot hat is connected on GPIO.

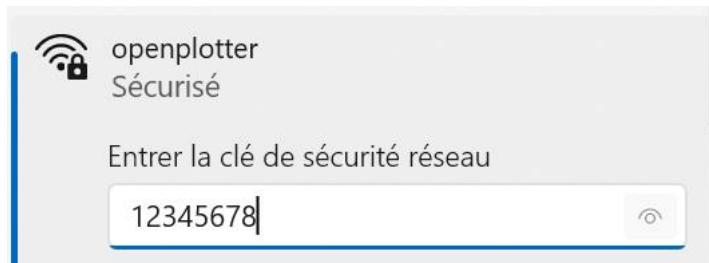
Prepare SD

with raspberry pi imager and last « openplotter headless » image.

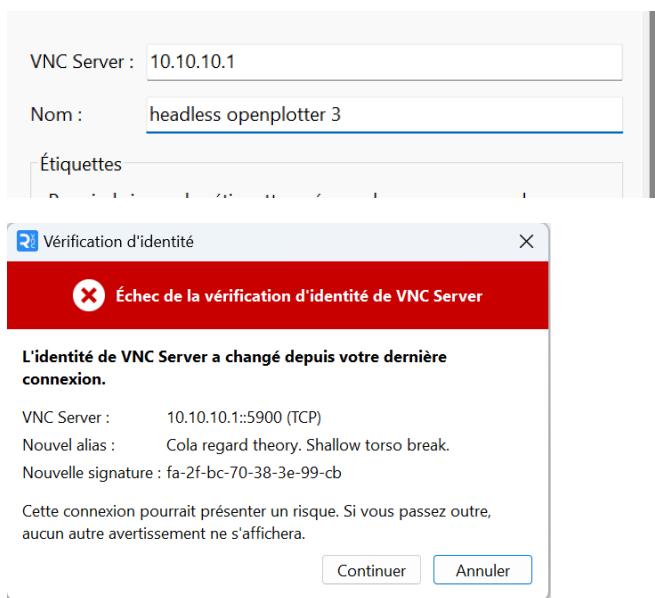


- boot

connect to wifi « openplotter »



connect with VNC



Authentification auprès de VNC Server
10.10.10.1::5900 (TCP)

Saisissez vos identifiants VNC Server
(Indice : Il ne s'agit PAS de vos informations de compte RealVNC)

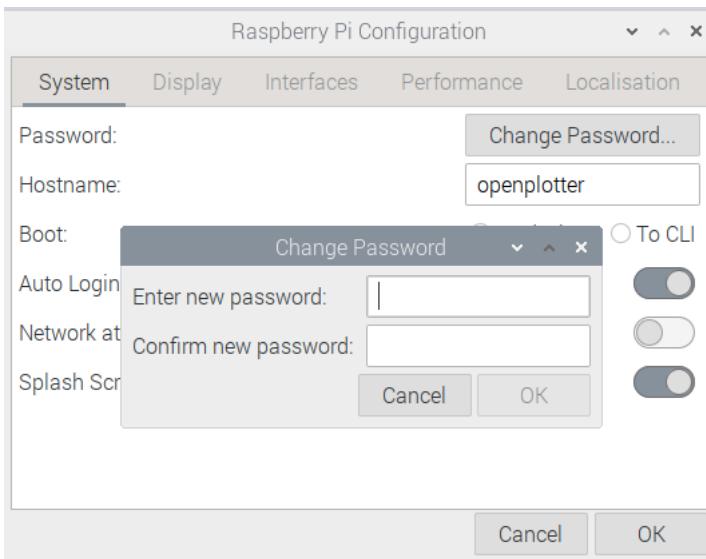
Nom d'utilisateur :

Mot de passe : 

Mémoriser le mot de passe [Mot de passe oublié ?](#)

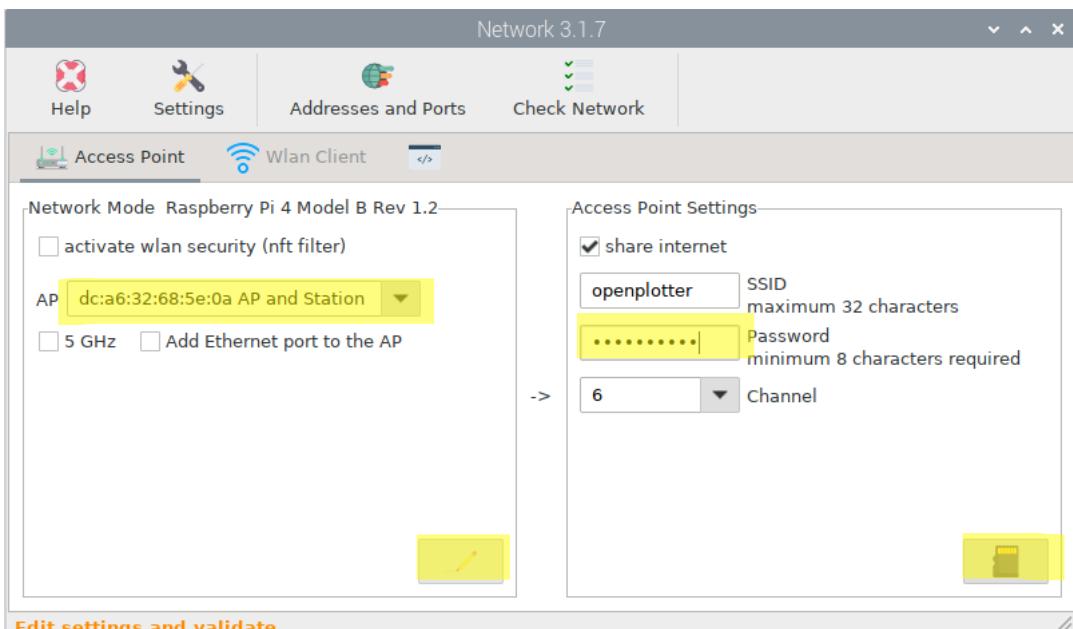
Alias : Cola regard theory. Shallow torso break.

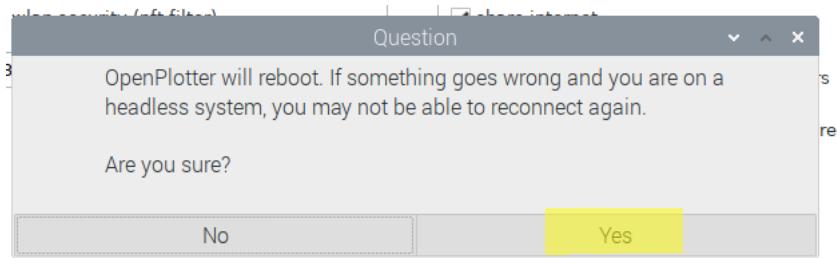
modify pi password



modify wifi hotspot

- wifi access modify to « AP and station » and modify password





Internet access

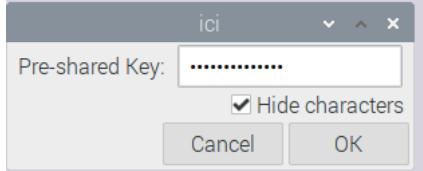
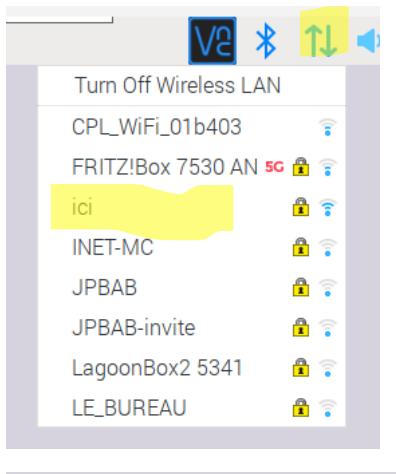
Connect to wifi « openplotter » with new password

Connect with VNC to 10.10.10.1 (you may use the name « openplotter » or « openplotter.local ») with the new « pi » password.

Set wireless LAN country



Select your wifi to access internet



Reboot to verify all is ok and this will force the update check.

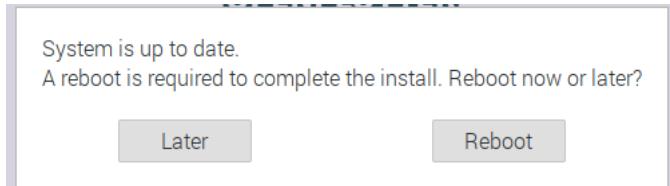
Nota , at this point the « openplotter » is still active , AND the pi is connect to your home network so you may access it with both networks.

install updates

at reboot updates can be installed

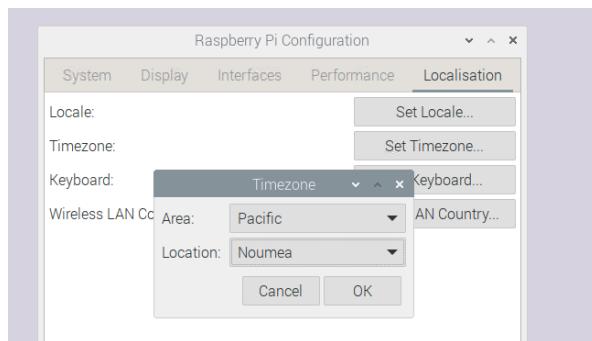


This may take some times.



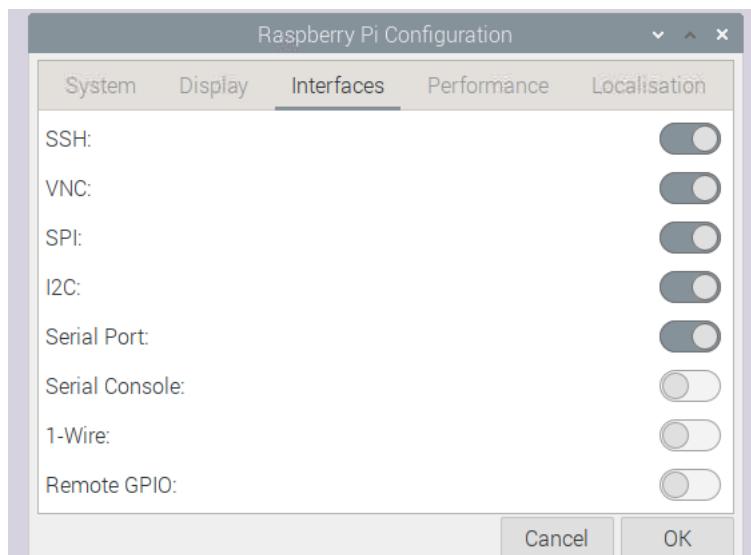
configure raspberry

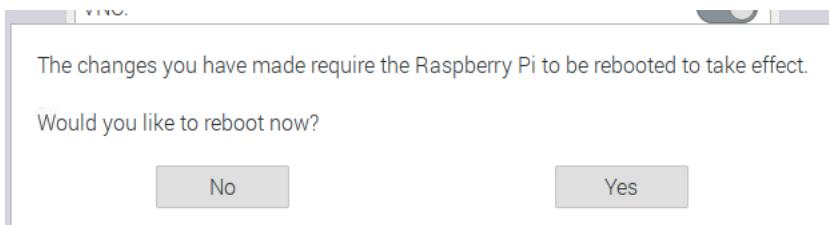
settime zone



interfaces.

Activate at least like below, deactivate « serial console »





Reboot

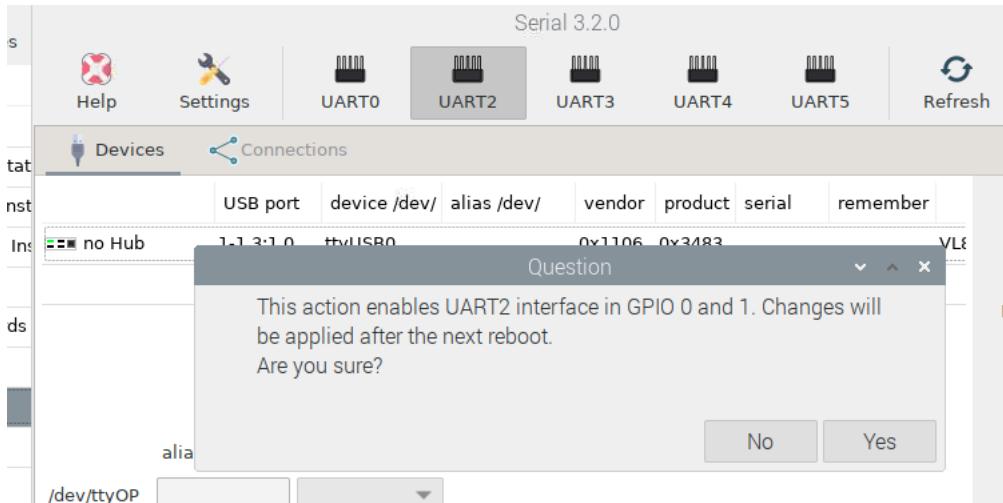
Update applications

Open all applications if asked and follow instructions for post-installation.

Name	Installed	Candidate	Pending tasks
Settings	3.6.2-stable	3.6.2-stable	
Documentation	3.8.0-stable	3.8.0-stable	
Signal K Installer	3.1.16-stable	3.1.16-stable	Open to apply and refresh
OpenCPN Installer	3.2.20-stable	3.2.20-stable	
XyGrib	1.2.6-3bullsey...	1.2.6-3bullsey...	
Dashboards	3.0.12-stable	3.0.12-stable	
Serial	3.2.0-stable	3.2.0-stable	Open to apply and refresh
CAN Bus	3.2.21-stable	3.2.21-stable	Open to apply and refresh
Network	3.2.0-stable	3.2.0-stable	Open to apply and refresh
Pypilot		3.2.13-stable	
I2C Sensors		3.3.12-stable	
GPIO		3.2.32-stable	
IoB			

activate uart2

keep uart0 for bluetooth



signalK

login to set admin account at first connexion

Enable Security

Create an admin account

Username

Password

Modification mot de passe pi/ mareva

Modification mot de passe wifi avec l'application « network » Mareva2023

Update opencpn

run the opencpn installer, once for the update to finalize, and a second time to access the installer itself

« from backports » version is already installed click on install to have the shortcut rebuilt

Check system is ok

Checking OpenPlotter

```

Checking touchscreen optimization... | disabled
Checking backlight... | disabled
Checking Power off management... | disabled
Checking Shutdown management... | disabled
Checking OpenPlotter autostart... | enabled
Checking rescue mode... | disabled
Checking debugging mode... | disabled
Checking system log file size... | System log file size: 0.93 MB
Checking OpenPlotter packages source... | added
Checking Network... | correct access point password | NTP server not running
Checking serial connections alias... | All your serial connections have an assigned alias
Checking OpenCPN... | not running | autostart disabled
Checking Signal K server... | running
Checking serial connections conflicts... | no conflicts
Checking network connections conflicts... | no conflicts
Checking GPIO conflicts... | no conflicts
CHECK SYSTEM FINISHED

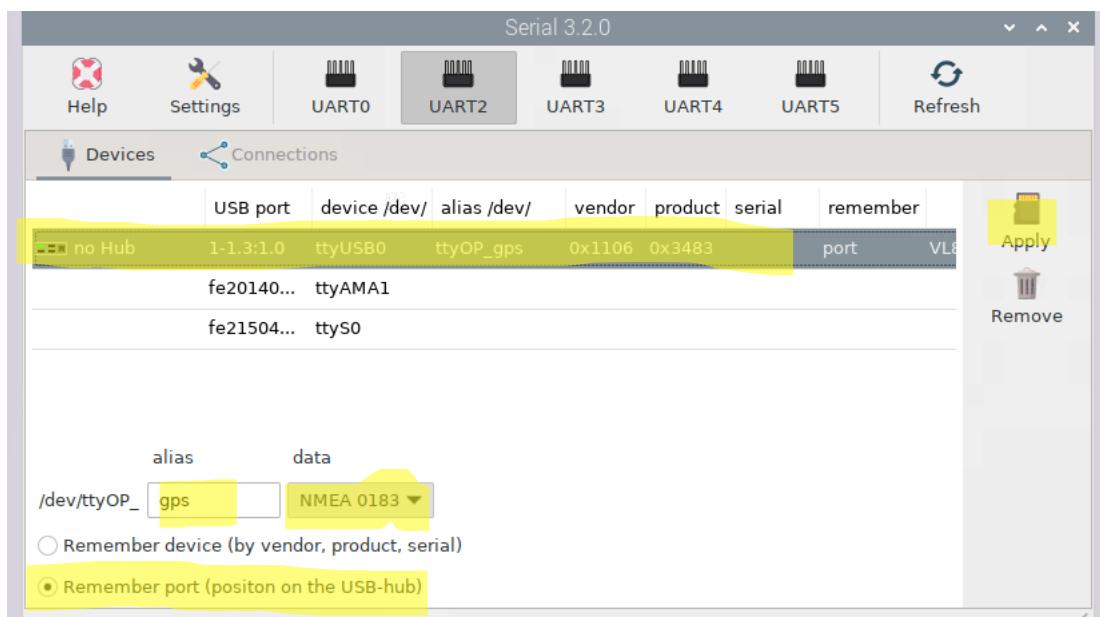
```

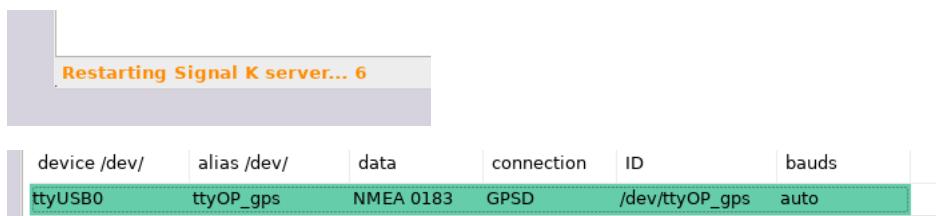
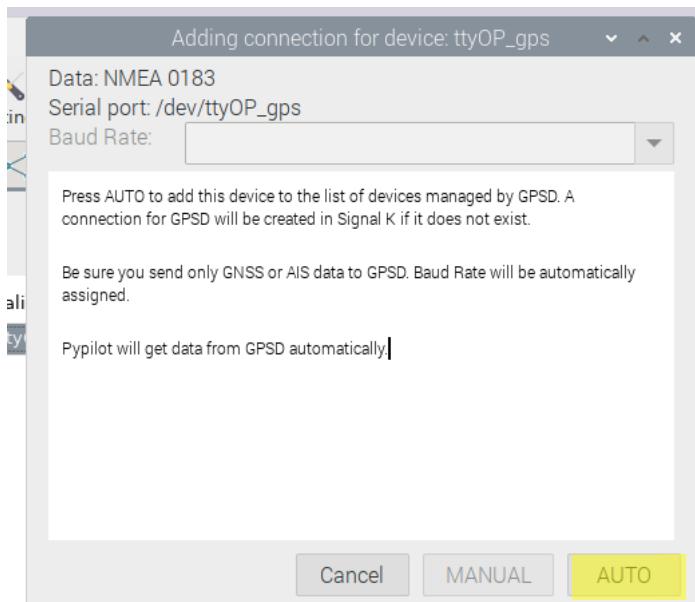
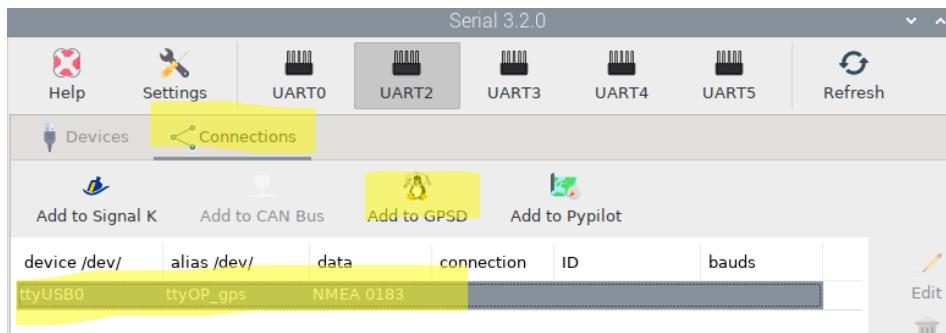
There are no warnings. Closing in 52 seconds

GPS install

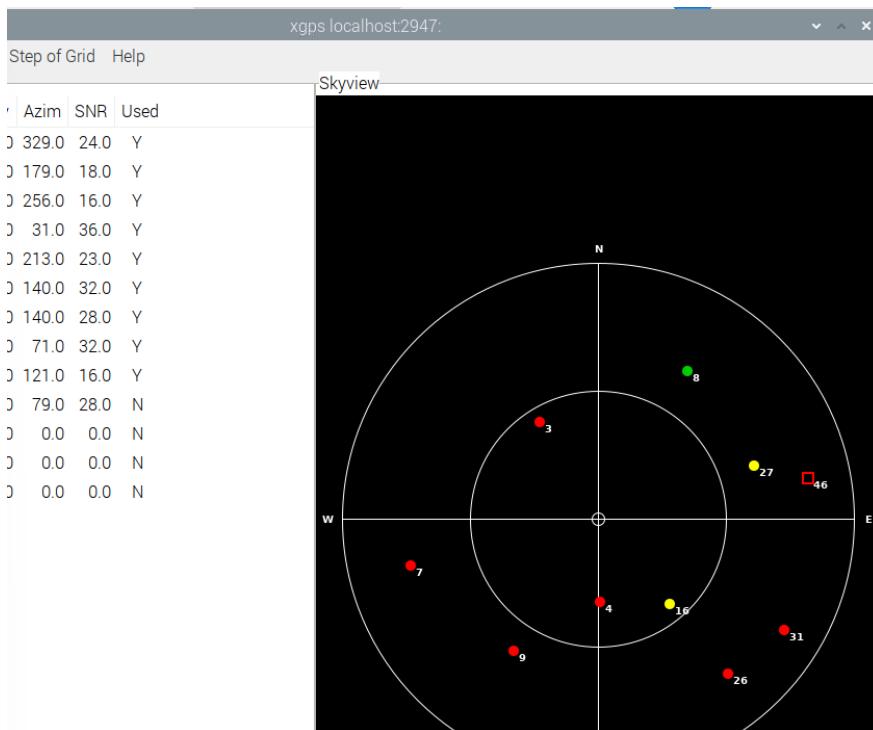
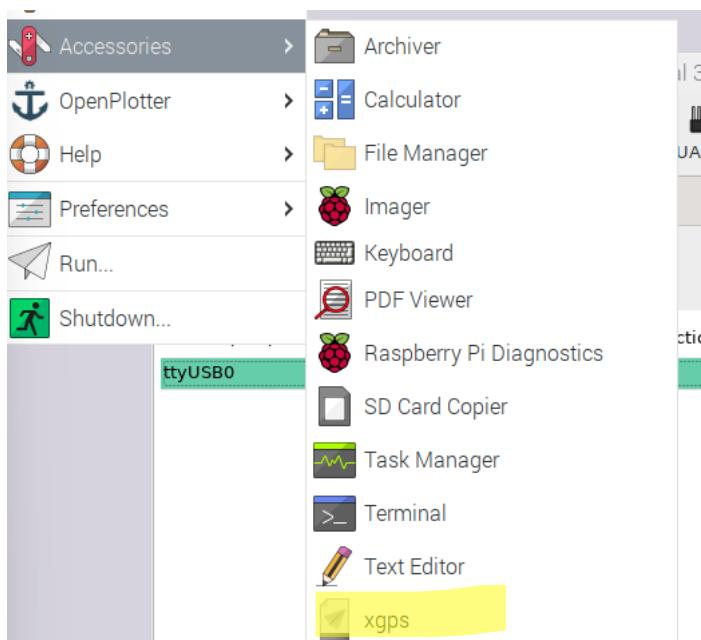
There is a bug with udev, see [Serial device not added correctly \(openmarine.net\)](#)

The gps has to be remembered by the port

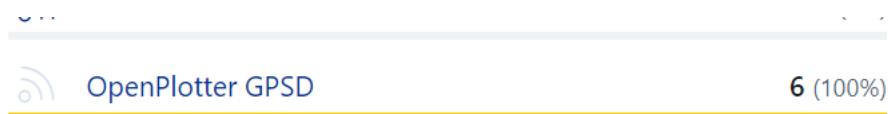




Verification with xgps



And signalK



The screenshot shows the Signal K dashboard interface. On the left is a dark sidebar with navigation links: Dashboard, Webapps, Data Browser, Appstore, Server, and Security. The main area displays a table of sensor data with columns: Path, Value, Units, Timestamp, and Source. The data includes navigation.courseOverGroundMagnetic, navigation.courseOverGroundTrue, navigation.datetime, navigation.gnss.antennaAltitude, and navigation.gnss.differentialAge.

Path	Value	Units	Timestamp	Source
navigation.courseOverGroundMagnetic	null	rad	06/15 12:31:57	OpenPlotter GPSD.GN (VTG)
navigation.courseOverGroundTrue	1.5221016410117956	rad	06/15 12:31:57	OpenPlotter GPSD.GN (RMC)
navigation.datetime	"2023-06-15T01:31:57.000Z"		06/15 12:31:57	OpenPlotter GPSD.GN (RMC)
navigation.gnss.antennaAltitude	37.1	m	06/15 12:31:56	OpenPlotter GPSD.GN (GGA)
navigation.gnss.differentialAge	0	s	06/15 12:31:56	OpenPlotter GPSD.GN (GGA)

Pypilot install

From settings

The screenshot shows the OpenPlotter Apps settings screen. At the top are buttons for Help, Autostart, and Check System. Below is a navigation bar with tabs: OpenPlotter Apps (selected), General Settings, Raspberry Settings, and System log. The main area is a table of installed applications:

Name	Installed	Candidate	Pending tasks
Dashboards	3.0.12-stable	3.0.12-stable	
Serial	3.2.0-stable	3.2.0-stable	
CAN Bus	3.2.21-stable	3.2.21-stable	
Network	3.2.0-stable	3.2.0-stable	
Pypilot	3.2.13-stable		
I2C Sensors	3.3.12-stable		
GPIO	3.2.32-stable		
LoRa			
Done			

To the right of the table are four icons: Install (yellow folder with green checkmark), Uninstall (yellow folder with red minus), Open (play button), and Change Log (document icon).

Pypilot config

With serial, set an alias for ttyAMA1 (AMA1 instead of AMA0 because of UART2 activated instead of UART0)

Serial 3.2.0

Help Settings UART0 **UART2** UART3 UART4 UART5 Refresh

Devices Connections

USB port	device /dev/	alias /dev/	vendor	product	serial	remember
no Hub	1-1.3:1.0	ttyUSB0	ttyOP_gps	0x1106	0x3483	port
fe20140...	ttyAMA1	ttyOP_pilot...				port
fe21504...	ttyS0					

Applied changes

Help Settings UART0 **UART2** UART3 UART4 UART5 Refresh

Devices **Connections**

Add to Signal K Add to CAN Bus Add to GPSD Add to Pypilot

device /dev/	alias /dev/	data	connection	ID	bauds
ttyUSB0	ttyOP_gps	NMEA 0183	GPSD	/dev/ttyOP_gps	auto
ttyAMA1	ttyOP_pilotthat	NMEA 0183			

Adding connection for device: ttyOP_pilotthat

Data: NMEA 0183 (or motor controller data)

Serial port: /dev/ttyOP_pilotthat

Baud Rate:

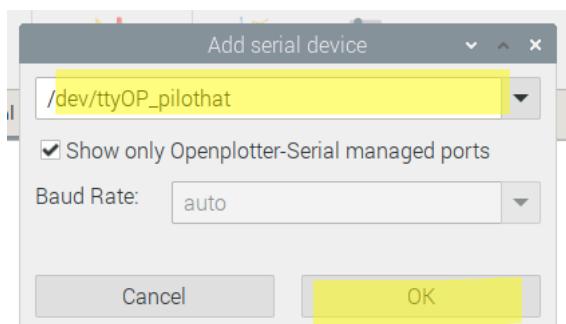
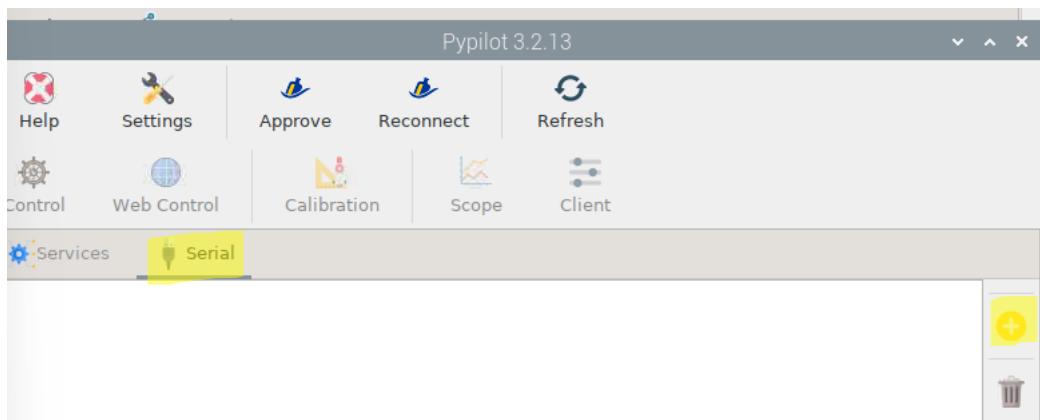
Press AUTO to use this device to send data to Pypilot. Baud Rate will be automatically assigned.

Press MANUAL if you prefer to set this device in openplotter-pypilot app.

Cancel MANUAL **AUTO**

Run pypilot

Add connexion



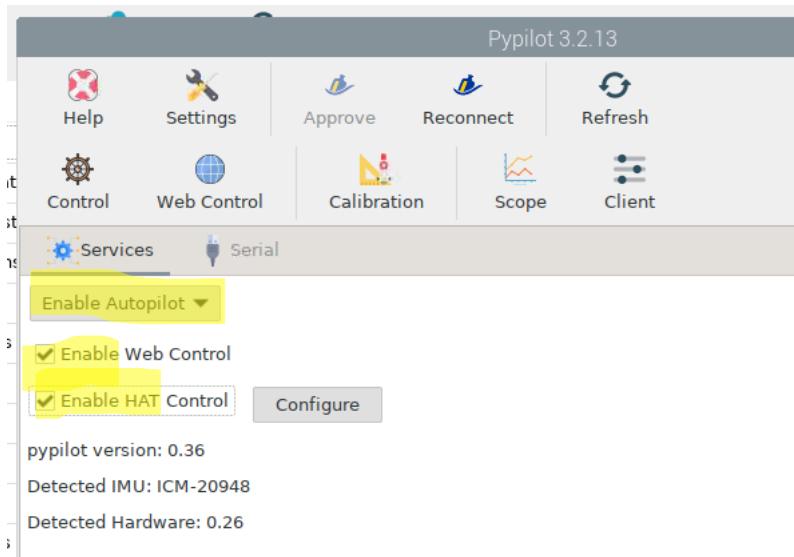
run signalk to authorize pypilot

The screenshot shows the Signal K web interface. The left sidebar has a dark theme with navigation items: Dashboard, Webapps, Data Browser, Appstore, Server, Security, Settings, Users, Devices, and Access Requests (which has a red notification badge with the number 1). The main content area is titled "Request" and displays the following information:

Identifier	03a3fdde-6792-4059-bd95-9ab358c429e3
Description	OpenPlotter PYPILOT
Authentication Timeout	Exmaples: 60s, 1m, 1h, 1d, NEVER
Permissions	Read/Write

At the bottom, there are two buttons: "Approve" (orange) and "Deny" (blue).

Enable all the services



Reboot, to check that all is running at boot

Verification

With signalk instrumental panel I see

Data from pypilot

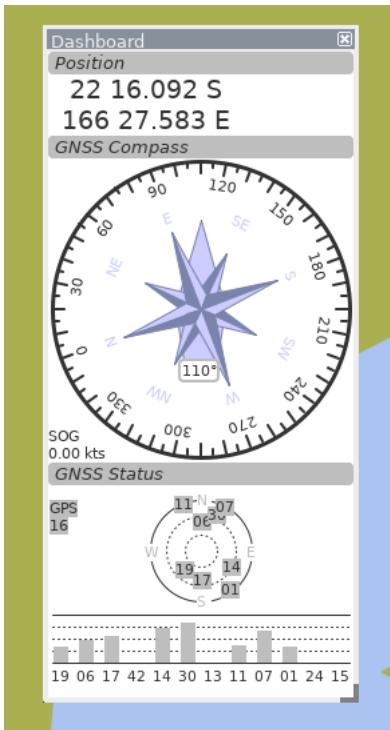
```
navigation.attitude
yaw: 127.5530°
pitch: -4.2550°
roll: 10.2870°
```

Data from GPS

```
navigation.position
S 22.26821°
E 166.45974°
```

With openCPN

I have the GPS Data



And the LCD screen shows the COG

Errors

```

Checking serial connections conflicts... | no conflicts
Checking network connections conflicts... | no conflicts
Checking GPIO conflicts...
↳ There are GPIO conflicts between the following apps:
    pypilot - pypilot hat, Serial - UART2 TX
    pypilot - pypilot hat, Serial - UART2 RX
STARTUP FINISHED

```

There are some warnings. Check your system. Closing in 15 seconds