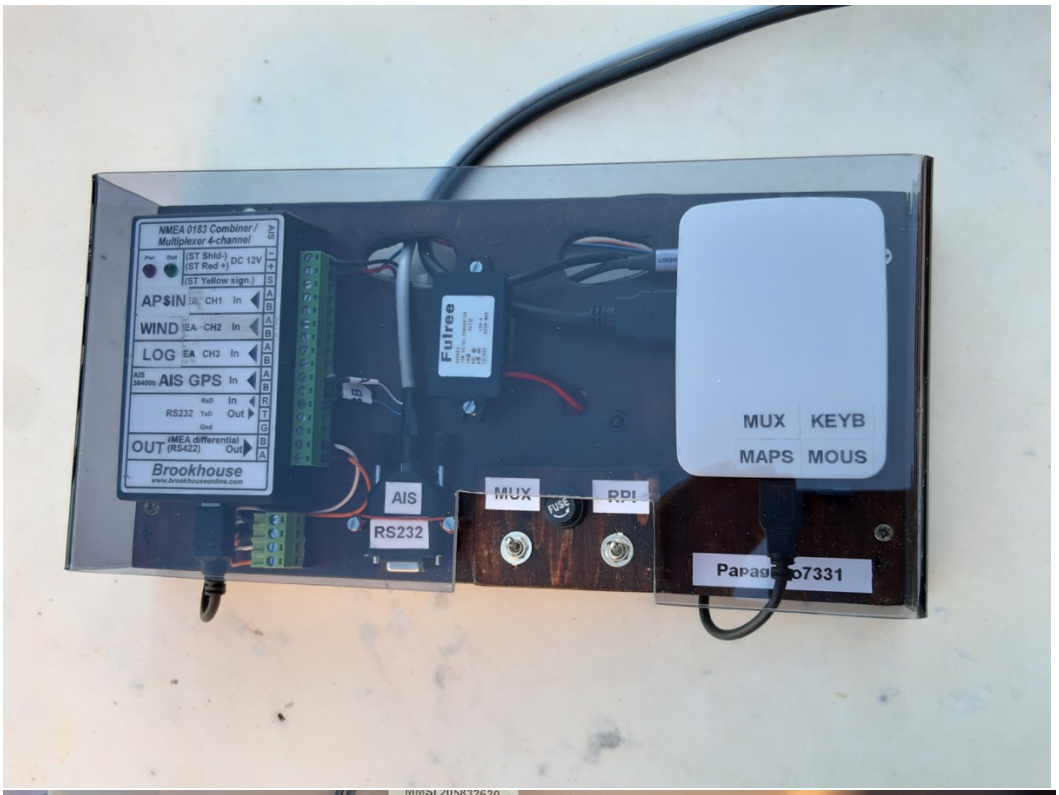
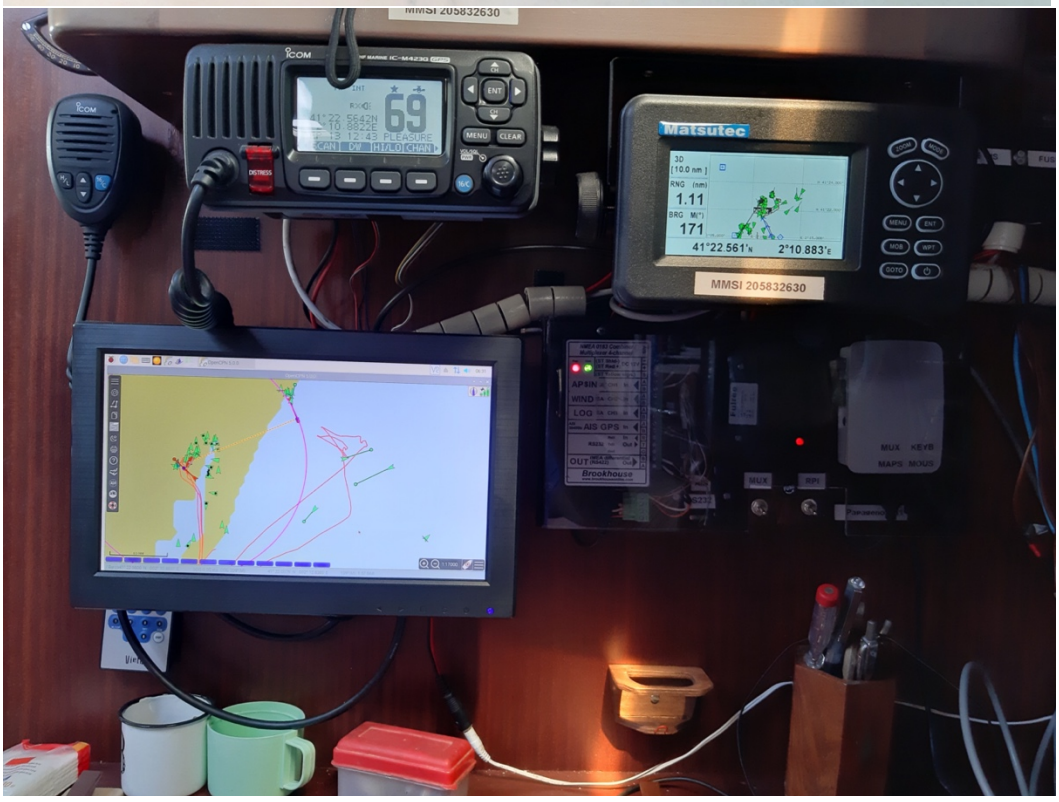
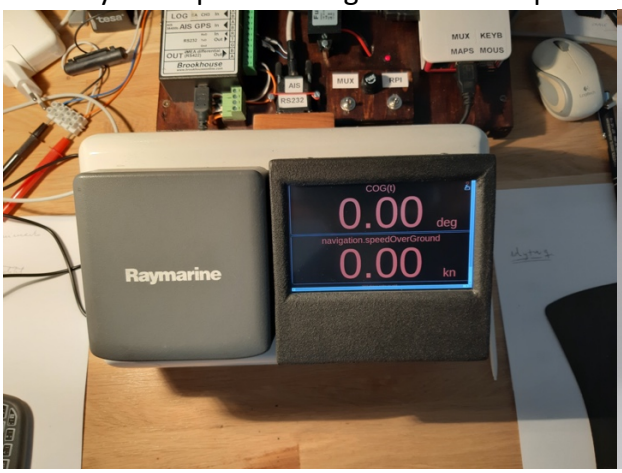
7” WIRELESS WATERPROOF REMOTE DISPLAY FOR OPENPLOTTER
(PART#1)
WHY A WIRELESS DISPLAY?
Having a complete OP project over a RPI4 in the cabin, including Wi-Fi network to broadcast all navigation data, my aim was to install a sort of repeater in the navpod in the cockpit.





The main interest is to have sailing data screens info from KIP app, and also an AIS radar display; not really to replicate all the performances of inside equipment.
In the navpod we already have 12V supply from the main switch panel (switch “navigation instruments” that also serves wind, log, speed, AIS, etc.)
So, I found that wireless was the faster way to avoid the need of more cables from cabin station to navpod. (a hard work in our NORTHWIND 35”)
The solution was to use another RPI associated to the remote display. I use a simpler and cheaper RPI 3A+ model that is more than sufficient for the job (and I think that a Zero model also can work)

WHAT DISPLAY MODEL?
First proto was a very cheap 5” touchscreen (about 27 euros in Bangood) not waterproof, installed in rear of an PVC thin sheet and DIY bezel. The solution proved to be really waterproof during six-month exposition to outdoor.



The problem was that had not enough brightness to be legible under sunlight.
So, I look in internet and found a waterproof, 1.000 nits brightness display in SHIOVISION at a reasonable price of 195 USD. (Plus transport, Plus import duties and VAT, resulted in about 290 euros)
Finally I decided to acquire the 7” model, that was same price and had stock for immediate delivery (A very good decision, by the way)
This display has brightness control buttons in the bezel, very useful, to reduce backlight when sunlight decreases

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THE SETUP

Installing the display and the RPI is much easier, because the display is already waterproof. For local start and stop, I installed a waterproof pushbutton associated to a bi-stable relay module (both bought in Amazon)

The display is connected via HDI + USB for the touch control to the Pi. A enclosed 12V to 5V 3A buck convert battery supply to Pi. No other connections needed. I use a small Bluetooth keyboard + trackpad when I need to access for configuration changes.

Software loaded in the Pi is Raspian Buster with Chromium Browser and VNC. Actually, the unit starts directly in the KIP pages an fullscreen.

This, by adding:

```
@chromium-browser -noerrors -disable-session-crashed-bubble
-disable-infobars -start-fullscreen
```

To the `/etc/xfg/lxsession/LXDE-pi/autostart` file

And, in the setup of Chromium; in the “on startup” section:
Open a specific page: http://localhost:3000/@mxtommy/kip/#/page/1