**Download Raspberry Pi Imager and inslall OS on Raspberry Pi**

**(Attention):**

**Install legacy Raspbian Bullseye 64-bit**

[**https://www.raspberrypi.com/software/**](https://www.raspberrypi.com/software/)

**# Connect to Raspberry Pi, open Terminal and type all commands**

**# Update Raspbian**

sudo apt update

sudo apt -y upgrade

sudo apt install -y python3-dev python3-opencv

**# Install apps**

#sudo rm /usr/lib/python3.11/EXTERNALLY-MANAGED

pip3 install pyserial

pip3 install dronekit

pip3 install MAVProxy

**# To work dronekit in python from 3.10 you need to**

#nano +2689 ~/.local/lib/python3.11/site-packages/dronekit/\_\_init\_\_.py

#change collections.MutableMapping on collections.abc.MuttableMapping

**# Create starter file**

touch ~/starter.sh

echo '#!/bin/bash' >> ~/starter.sh

echo >> ~/starter.sh

echo 'python ~/dronekit-python/[tracker\_ardu.py](https://github.com/EugeneTsymbaliuk/a-drone/blob/main/tracker_ardu.py)' >> ~/starter.sh

chmod 755 ~/starter.sh

**# Change window manager (mutter to openbox-lxde)**

sudo sed -i "s/mutter/openbox-lxde/g" /etc/xdg/lxsession/LXDE-pi/desktop.conf

cp -rf /etc/xdg/openbox/ ~/.config/

**# Autostart**

mkdir -p ~/.config/lxsession/LXDE-pi/

cp /etc/xdg/lxsession/LXDE-pi/\* ~/.config/lxsession/LXDE-pi/

echo "/home/`whoami`/starter.sh" >> ~/.config/lxsession/LXDE-pi/autostart

**# Screensaver**

sed -i /xscreensaver/d ~/.config/lxsession/LXDE-pi/autostart

echo 'xset s noblank' >> ~/.config/lxsession/LXDE-pi/autostart

echo 'xset -dpms' >> ~/.config/lxsession/LXDE-pi/autostart

echo 'xset -s off' >> ~/.config/lxsession/LXDE-pi/autostart

**# Enable UART1 on Raspberry pi (add to the end of the file)**

sudo nano /boot/config.txt

**# Enable UART1**

enable\_uart=1

dtoverlay=disable-bt

dtoverlay=uart0

dtoverlay=uart1

dtoverlay=uart2

**# Enable PAL on video**

sdtv\_mode = 2

**# Increase Swap to RAM size**

sudo dphys-swapfile swapoff

sudo nano /etc/dphys-swapfile

sudo dphys-swapfile setup

sudo dphys-swapfile swapon

**#Enable Composite Video**

sudo raspi-config

Display Options -> Composite

**# Enable SSH and Serial Port on Raspberry pi**

sudo raspi-config

* Select option 3 - Interface Options
* Select option P6 - Serial Port

**(Attention):**

At the prompt “**Would you like a login shell to be accessible over serial**?”, answer '**No**'

At the prompt “**Would you like the serial port hardware to be enabled**?”, answer '**Yes**'

Exit raspi-config and reboot the Raspberry Pi for changes to take effect

# Get dronekit scripts from GitHub

git clone https://github.com/dronekit/dronekit-python.git

# After installation we can check mavlink connection with FC

mavproxy.py --master=/dev/ttyAMA0 --baudrate 57600