

How to setup the [RaspberryPi](#) with [TNC-Pi](#), and a [Pi-TFT](#)

[TNC-Pi](#) is from Coastal Chips and Pi-TFT is from [Adafruit](#).

1. Download and install the latest version of [NOOBS](#) from RaspberryPi.org
 - a. Install and setup the Raspbian build
 - b. I won't be covering this part of the process as it has been covered many times over.
2. Physically build the TNC-Pi but don't install
 - a. Installation/Configuration of TNC-Pi

```
sudo apt-get -y update && sudo apt-get -y upgrade
sudo cp /boot/cmdline.txt /boot/cmdline.org
sudo nano /boot/cmdline.txt
```

- b. Find and remove `console=ttyAMA0, 115200`
- c. Find and remove `kgdboc=ttyAMA0, 115200`
- d. Hold CTRL and type 'x', type 'y', hit enter to save the file

```
sudo nano /etc/inittab
```

- e. Find the line `T0:23:respawn:/sbin/getty -L ttyAMA0 115200 vt100`
(mine was at the bottom of the file)
- f. Place a # in front of it to comment it out
- g. Hold CTRL and type 'x' then type 'y' to save the file

```
sudo shutdown -h now
```

- h. Install the TNC-Pi on the header now.

3. Install Xastir, AX25, extra fonts, and configure

```
sudo apt-get -y install xastir ax25-tools ax35-apps
```

```
sudo apt-get -y install t1-xfree86-nonfree ttf-xfree86-nonfree ttf-xfree86-
nonfree-syriac xfonts-75dpi xfonts-100dpi xfs xfstt libXft-dev libXext-dev
python python-dev gcc g++ make binutils libx11-dev libxpm-dev libxft-dev
libxext-dev build-essential
```

```
sudo chmod 4755 /usr/bin/xastir
```

```
sudo chmod 4755 /dev/ttyAMA0
```

```
cd Desktop
```

```
ln -s /usr/bin/xastir/Xastir
```

4. Remove any desktop icon's not needed. Due to the size of the PiTFT I removed the following

```
sudo rm idle3.desktop idle.desktop ocr_resources.desktop pystore.desktop
wolfram-mathmatica.desktop wolfram-language.desktop scratch.desktop python-
games.desktop debian-reference-common.desktop
```

5. Configure AX25 ports (not necessary, but may as well complete this now)

```
sudo nano /etc/ax25/axports
```

- a. Remove the blank line as there can be no blank lines in this file
- b. Your file should look similar to the following

```
KC9RQI-1      19200 236   2     TNC 1
KC9RQI-2      19200 236   2     TNC 2
```

- c. Save the file and exit nano

6. Start Xastir from the desktop and configure your user settings. This is easier if you do it **prior** to installing the PiTFT.

- a. Only thing to note here is that for your interface choose

- [Serial KISS TNC](#)
- Pet the device to [/dev/ttyAMA0](#)
- Port setting is set to 19200bps

7. Reboot your Pi, start Xastir and ensure that when you click "Interfaces > Transmit now" the Red LED on the TNC lights up.

8. Install and configure the PiTFT per Adafruits instructions on their website and make sure you do :

If you have a version of Raspbian more recent than Sept. 2013, you'll need to turn off the accelerated X framebuffer here, run:

```
sudo mv /usr/share/X11/xorg.conf.d/99-fbturbo.conf ~
```

this will remove the accelerated X buffer and save it in your home directory

9. I made a couple of additional changes to set the geometry for the terminal on the desktop and to enable the touch screen to start “automatically” on boot.

```
nano /home/pi/Desktop/lxterminal.desktop
```

- a. Change `Exec=lxterminal` to `Exec=lxterminal --geometry=38x11`

```
sudo apt-get -y install xserver-xorg-video-fbdev
```

```
sudo nano /usr/share/X11/xorg.conf.d/99-fbdev.conf
```

- b. Your File should look like the following:

```
Section "Device"
    Identifier "myfb"
    Driver "fbdev"
    Option "fbdev" "/dev/fb1"
EndSection
```

In order to change the system back so that it boots to the previous output, just rename the file `/usr/share/X11/xorg.conf.d/99-fbdev.conf` to `/usr/share/X11/xorg.conf.d/99-fbdev.old`