

Installation and Configuration of the FT8--Box

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Overview

If we like to make the modern communication modes portable the versatile Raspberry Pi (“Raspi”) is a good option. It runs as quasi full featured Linux-system and is able to handle WSJT-X communications. Here we go through the installation process without dying too deep. It is meant for OMs which seek for a mostly ready configured Raspi. Who like to connect their transceivers and see the communication on their mobile without (too many) obstacles.

Unfortunately a Raspi has no built-in clock. There we have to use a mobile phone (Android), which transfers time and location to the Raspi. With the screen of the mobile we will control the Raspi.



What you need

Hardware

- A Raspi 3B or better (optional with a case).
- An (Android) smartphone
- A 16 GB SD card
- A PC with internet connection for the downloads and with an SD-card slot to copy the downloaded image to the SD-card.
- A accu pack (USB 5V) to support the Raspi

Software

- [Raspi-Imager](#)
- [Image of my FT8--Box](#)
- [VNC-Viewer](#) (Android)
- [TimeServer](#) (Android)
- [GPS_Time](#) (Android)

Manuals

- [This installation guide](#)
- [Manual of the FT8--Box](#)
skip the chapter belonging to the GPS-Unit (assembly and configuration)

Downloads

Download to PC:

- [Raspi-Imager](#). Install it. With this tool you copy the my Raspi image onto a SD-card (16GB)
- [Image of my FT8--Box](#) (zip 6GB). It contains all the necessary software to run WSJT-X on the Raspi and to control the Raspi with your smartphone

Download and install on your (Android) smartphone:

- [VNC-Viewer](#)
- [TimeServer](#)
- [GPS Time](#)

Installation

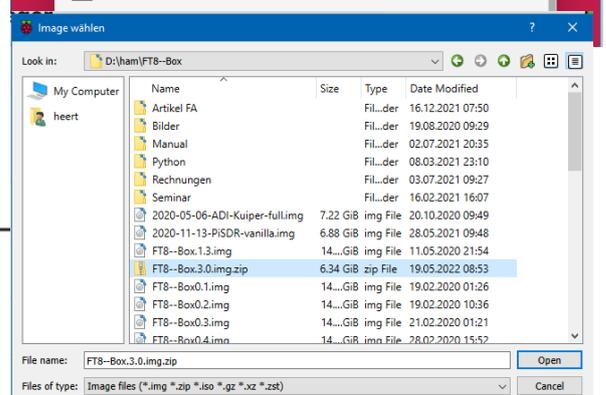
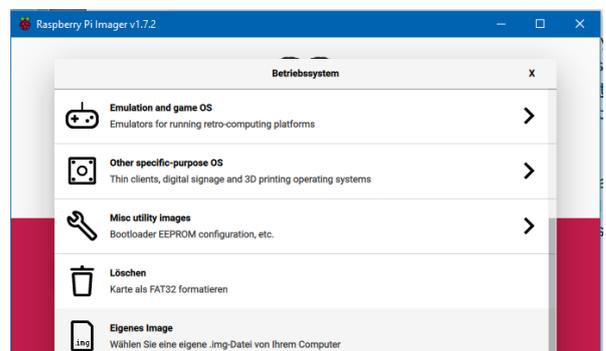
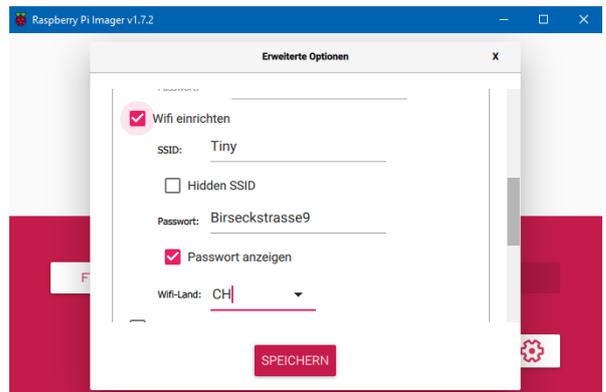
We start with the download of the [Raspi-image](#). (6 GB) it will take some minutes. It is a zip-file. You must de-zip (decompress) it. Then you get a .img file.

Then download and install the [Raspi-Imager](#). Insert a 16GB SD-card in your PC-slot and start the Raspi-imager. Select your SD-Card (Be careful: **don't use your HD!!** It would be overriten.)

(Optional) If you like to get connected also with your local WiFi (or with the hotspot of your smartphone) enter the SSID (name) of your WiFi network and the corresponding password

In the next step tip Select OS and then select the last option (Own image)

Choose your downloaded (and dezipped) image on your drive and hit "Write"



This will take about 15 min.

Optional:

If you like you can verify the image on the SD-card.

Insert the SD-Card into the Raspi and connect it with USB 5V (outdoor with a powerpack 5V)

Optional;

You can connect the Raspi with your local Ethernet. But then you have to guess your IP-address. Use [NMap](#) with ping on your local network-IP addresses. Then you can access the Raspi via VNC on your PC (instead of smartphone)



Now download and install from Google Play:

- [VNC-Viewer](#)
It displays the screen of the Raspi on your smartphone.
- [TimeServer](#)
It implements an NTP-server on your smartphone. The Raspi clock is synchronized with the smartphone clock.
- [GPS Time](#) This app sends Time and GPS-Lat and -Lon to the Raspi. If the time sync is not sufficient use TimeServer

Using FT8--Box

Details see [Manual of the FT8--Box](#)

Login: User: **WSJTX**

All passwords are **FT8--Box**



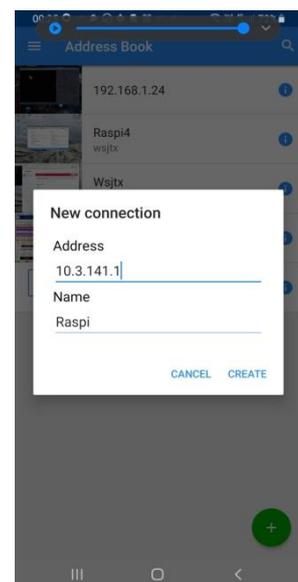
With your Smartphone select WiFi with SSID: **FT8--Box**

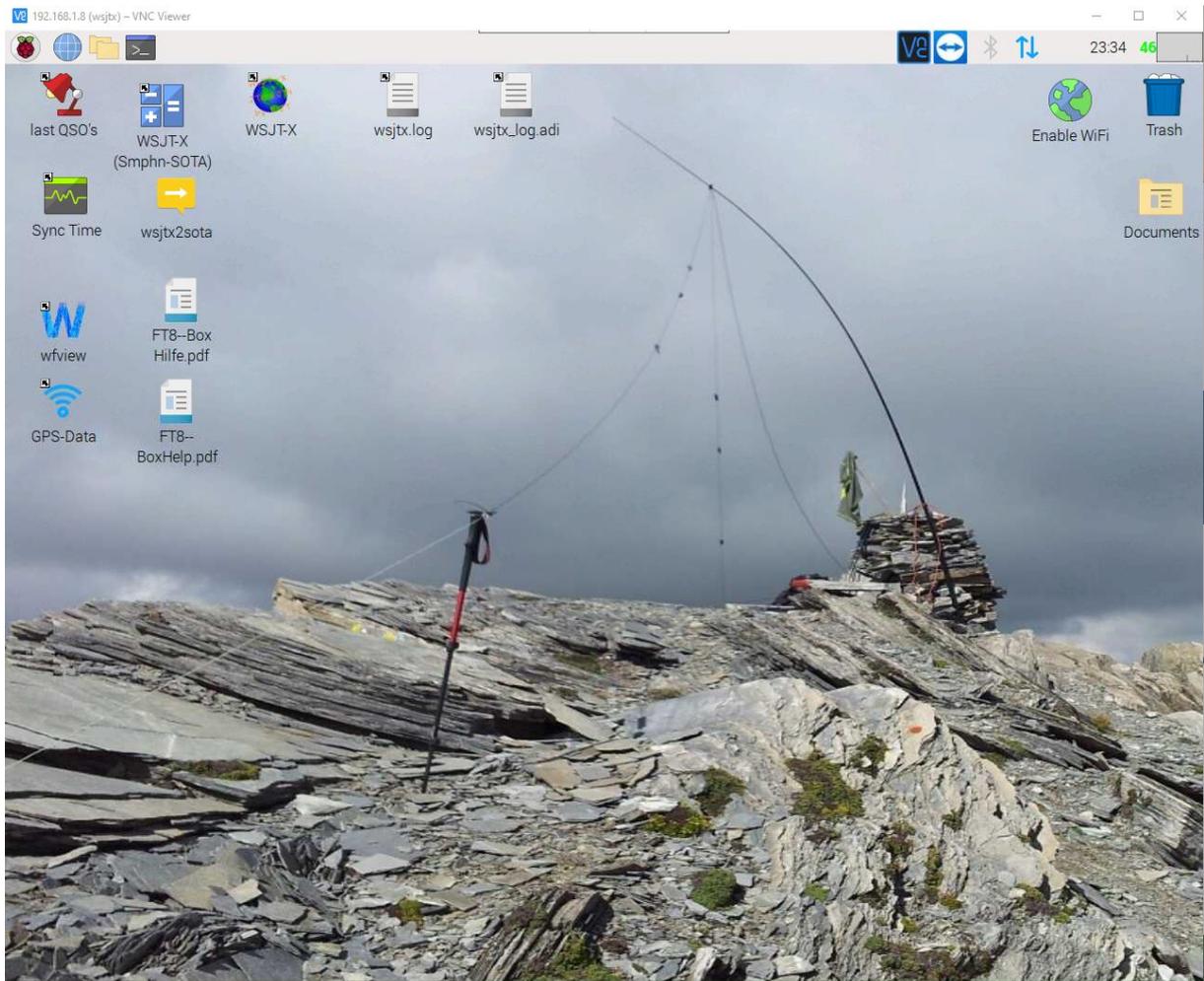
Open VNC-Viewer. Connect with IP-address: **10.3.141.1**

Login and PW: see above

If all went right you should see (the left part of) the Raspi screen.

If not see: [Manual of the FT8--Box](#)





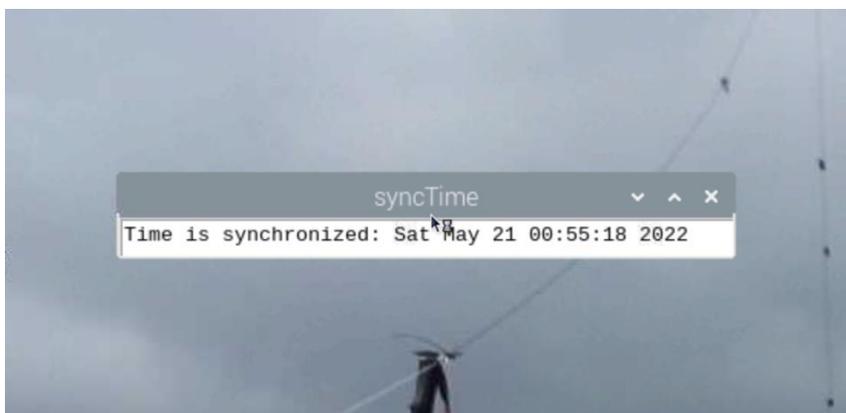
Now we start the clock synchronisation. There are two ways:

1st way:

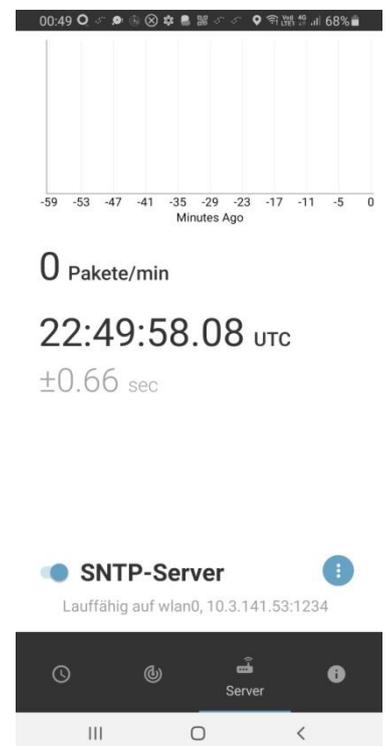
On the Smartphone start the **TimeServer App** and start the **SNTP-server** there.

Back to **VNC**-screen of the Raspi (on the Smartphone) start **Sync Time**. Now the clock will be synchronized.

(If not see: [Manual of the FT8--Box](#)) You can close both apps

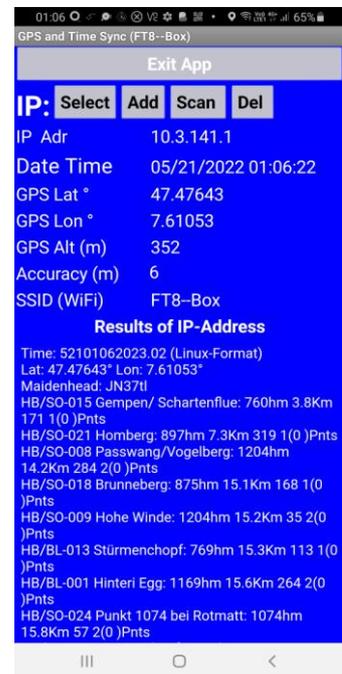
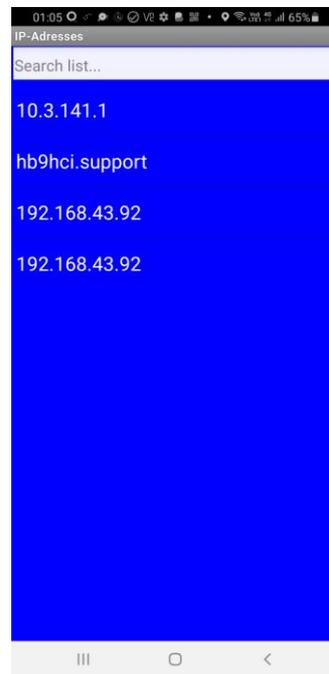


Now you can start **WSJT-X** via **VNC**-screen of the Raspi-desktop



2nd way:

On the Smartphone start the **GPS_Time** App. And select the Raspi IP **10.3.141.1**. (Due to a bug in the software do this selection 2 times) If all went right you see the SOTA Mountains in your neighborhood on your Smartphone.



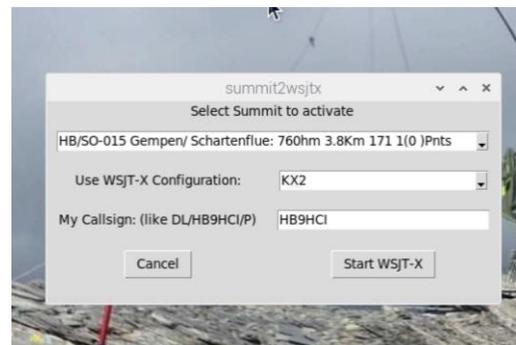
Back to the **VNC**-screen of the Raspi start the **WSJT-X (Smphn-SOTA)**

There you can select your WSJT-X-Profile (here KX2) and enter your callsign.

If your configuration is not displayed goto my WebSite: [FT8--Box](#). There are some settings for other configurations.

Then you can start WSJT-X. It opens the WSJT-X windows and last QSO's a summary of our last QSO's

The use of **WSJT-X** is described in more detail [here](#).



It is at first a little tricky, but then ... enjoy!

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