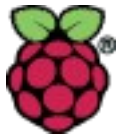

A Tour of the Apps

(Programs make it real!)

Tim Wenzig, N5TEI
Rick Commo, K7LOG

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Tour of Apps

- There are many ham radio related apps available for the Raspberry Pi.
  - Programs across 27 Categories.
  - Most are contained on your micro-sdhc card.
- The problem for many new to the Pi is which ones are easy to install, configure and run!
  - Many are preinstalled on the SeaPac version of Compass Linux.
- In this presentation we hope to expose you to some of areas covered by these Apps.
  - And yes, some are a lot easier to install and set up than others.

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Tour of Apps

- Categories
  - See handout for more information on each category.

Antennas	APRS	AX.25
BBS client	digital mode	digital receive
fax	file management	file sharing
forms	libraries	license study
IRLP	logging	logging, contests
logging, net control	morse	path analysis
remote access	rig control	rig programming
satellite	sdr	telnet
TNC	web server	Winlink

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Tour of Apps

- This session will give a quick look at:
  - d-rats
  - cqrlog
  - trustedqsl
  - chirp
  - lighttpd
- There will be a demonstration of lighttpd.
- Following sessions will cover these in more detail:
  - xastir, direwolf
  - fldigi (suite)
  - wsjt-x
  - paclink-unix, linux-rms-gateway

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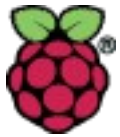

Tour of Apps

- Some general comments on Linux apps:
  - Most are developed on the Intel and AMD architectures.
  - Daily builds focus on these architectures.
  - Versions for ARM can lag versions for Intel/AMD.
    - ARM version may even be built by different developers.
    - Often determined by OS distro packaging.
  - Some examples:
    - trustedqsl: 2.2-2 for Intel / 2.0.3-2 for ARM
    - d-rats: 0.3.3-4 for Intel / 0.3.3-3 for ARM
    - chirp: “chirp-daily” for Intel / 0.4.0-1 for ARM
    - cqrlog: 1.9.0-5 for Intel / 1.8.2.1-1 for ARM / 2.0.5 is latest
    - lighttpd: 1.4.35-4 for both Intel & ARM

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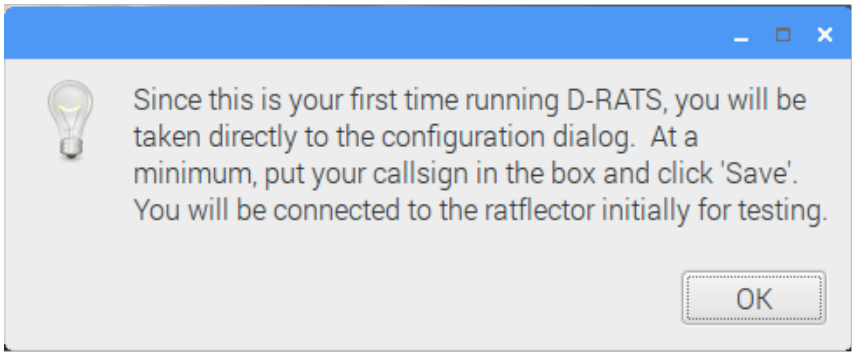
d-rats

- http://www.d-rats.com/download/
- A program that let's you interface to the D-Star network via the Internet.
- Does not require a D-Star capable radio for full digital access via internet connection.
- Does require a D-Star capable radio to merge a phone conversation with data transfer.

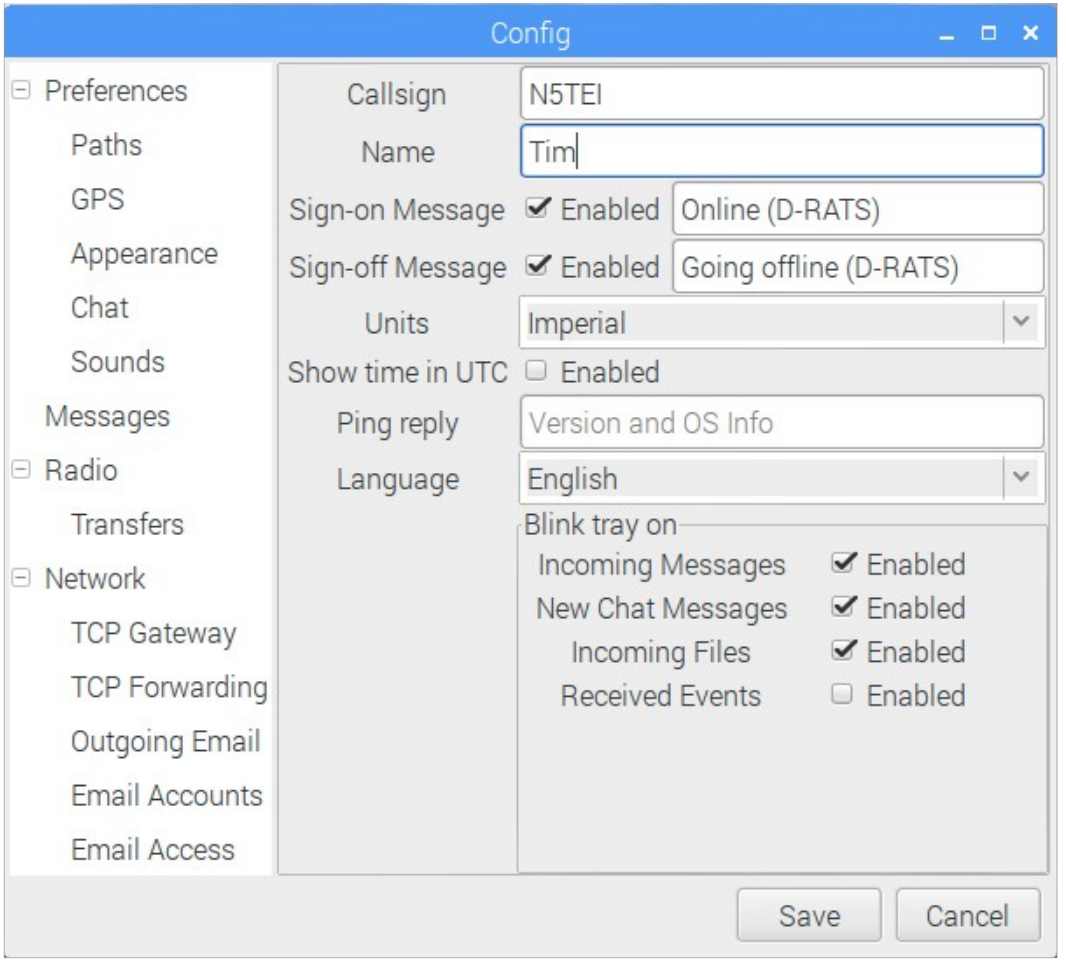
Tour of Apps / d-rats (2)

- Configuration 1
  - The first time you will be prompted, and taken, to a dialog to enter the information needed.



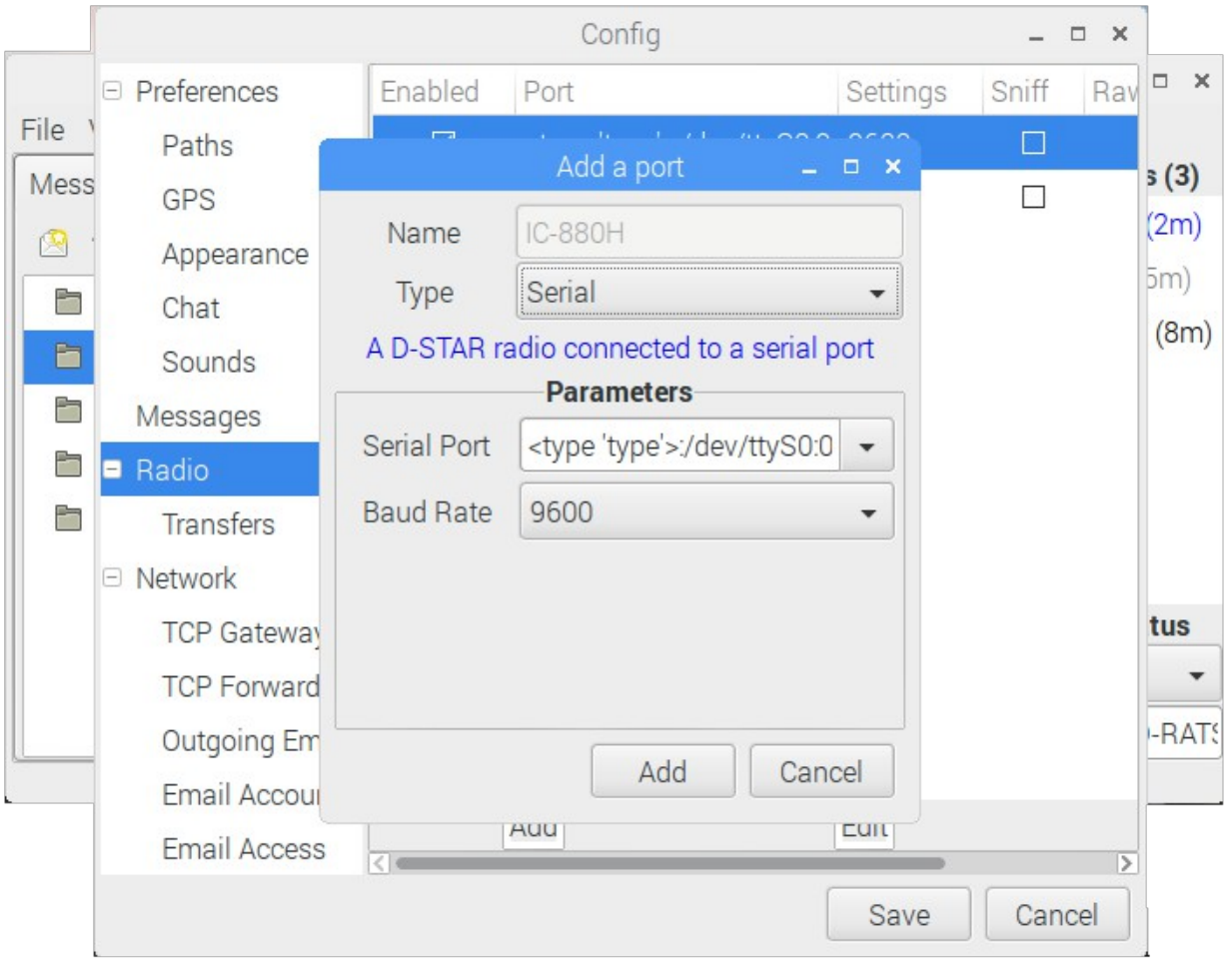
Tour of Apps / d-rats (3)

- A minimum of your callsign is needed.



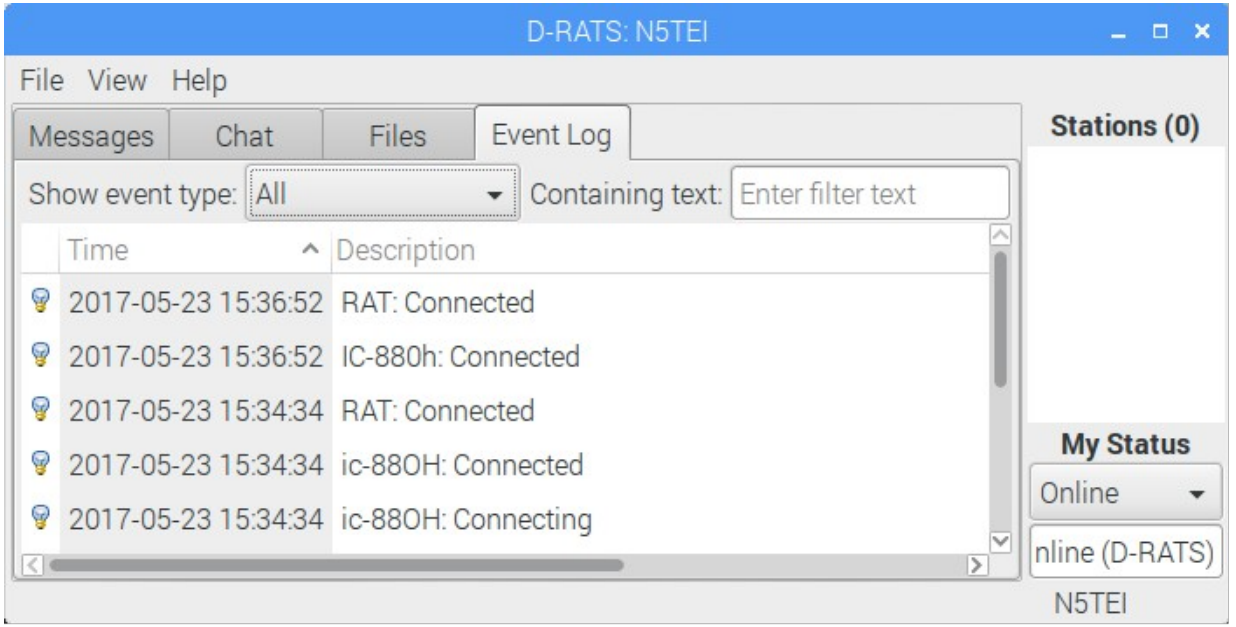
Tour of Apps / d-rats (4)

- You need to add the port that talks to the radio.



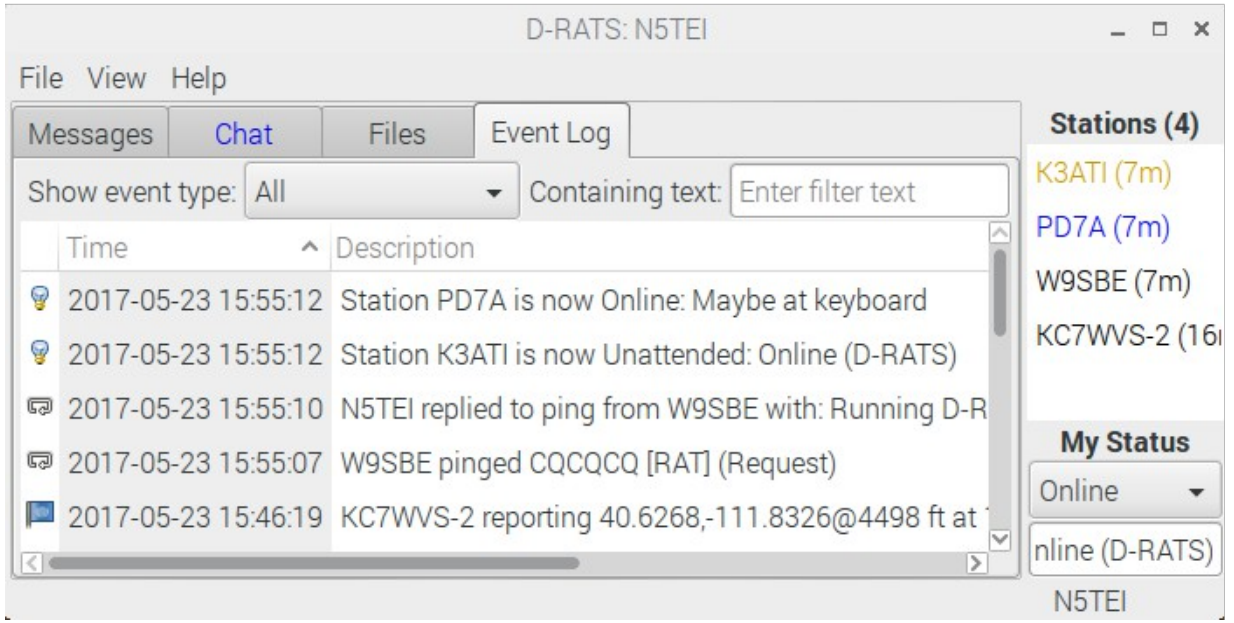
Tour of Apps / d-rats (5)

- After configuration: Event log shows both radio (IC-880h) and RAT (pi) connected to the d-rats D-Star system.



Tour of Apps / d-rats (6)

- After a couple of minutes the event log begins displaying your, and other stations, activity.
- From here you can chat with, or send messages or files to other stations on the d-rats system.

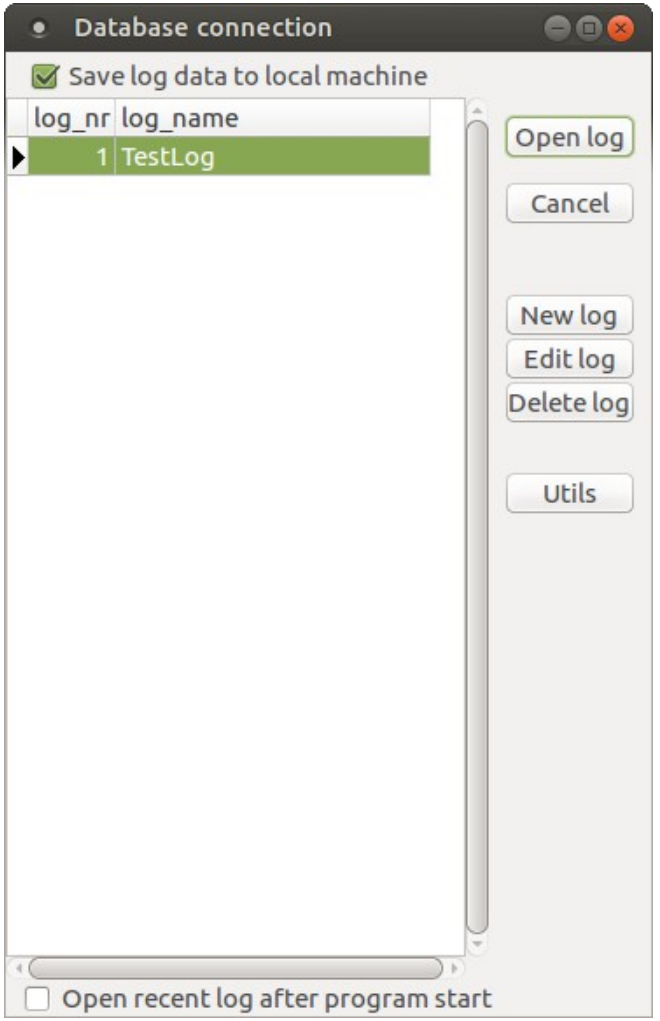


cqrlog

- http://www.cqrlog.com
- A full featured logging program that can
  - Read data from a number of radios.
  - Track your awards.
  - And much more.
- The cqrlog screenshots were done on Ubuntu Linux running on a PC.
  - Need to show the capabilities of the app.
  - Problems were encountered installing it on Compass.

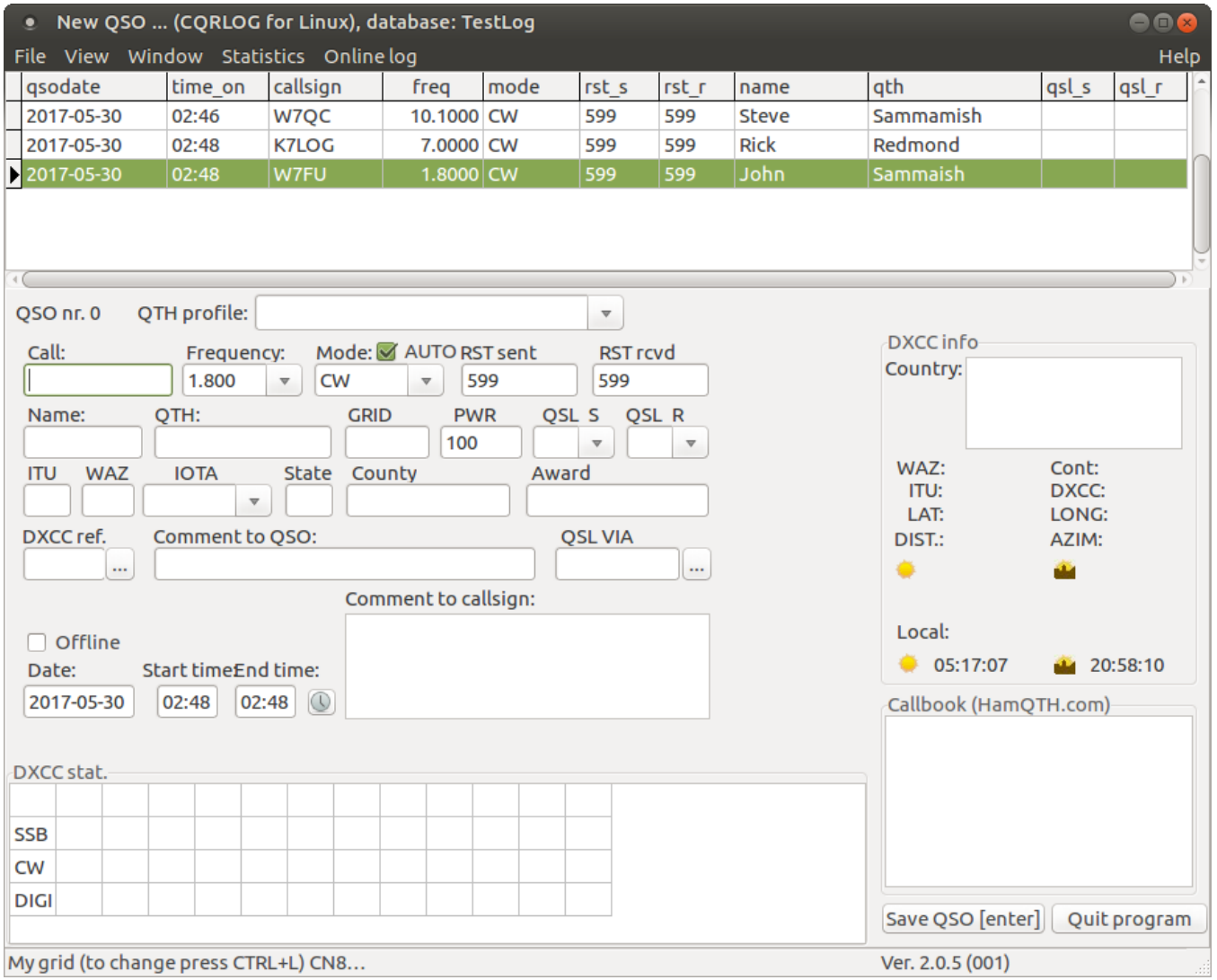
Tour of Apps / cqrlog (2)

- When opening select a log to use.



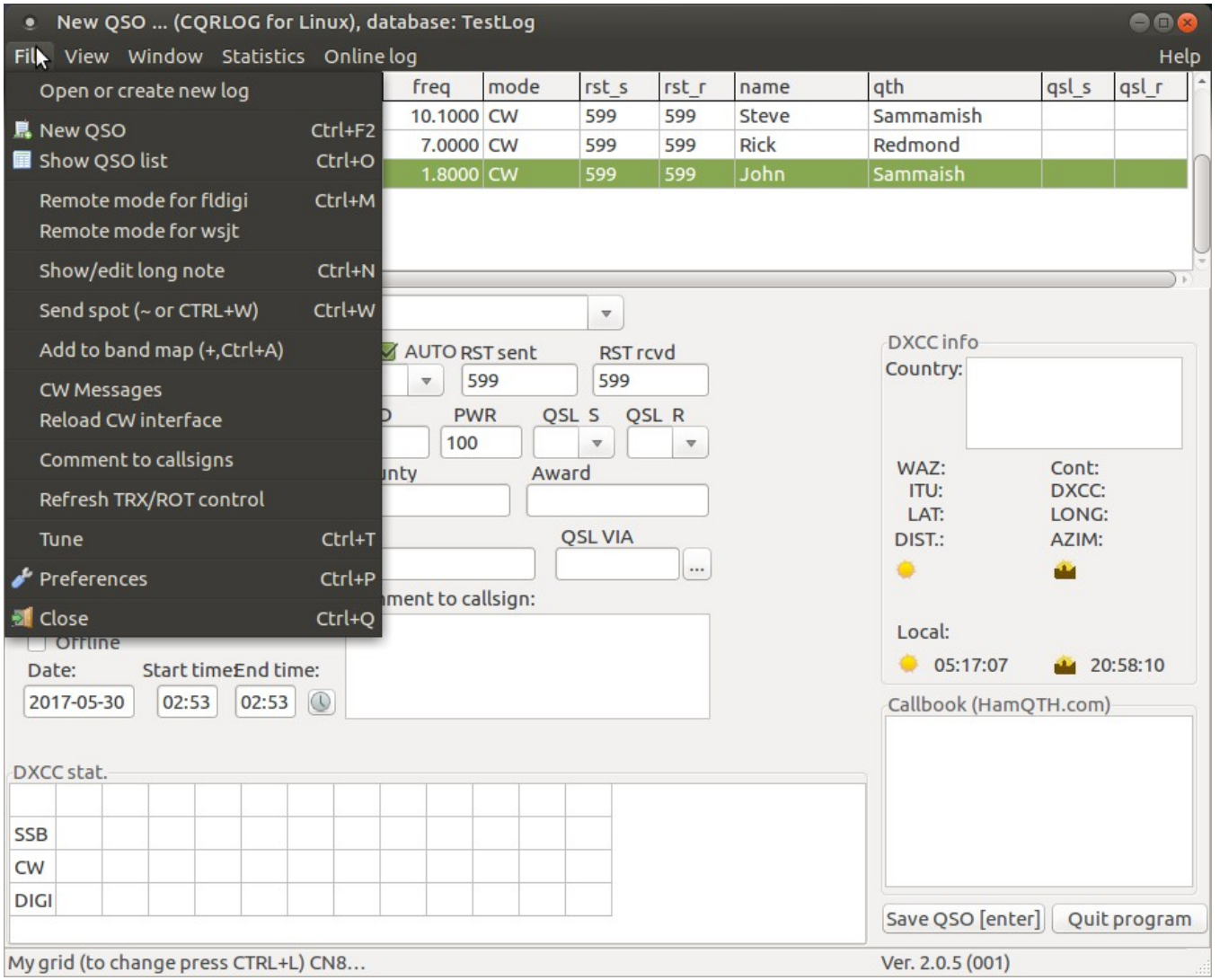
Tour of Apps / cqrlog (3)

- Top level window for QSO entry:



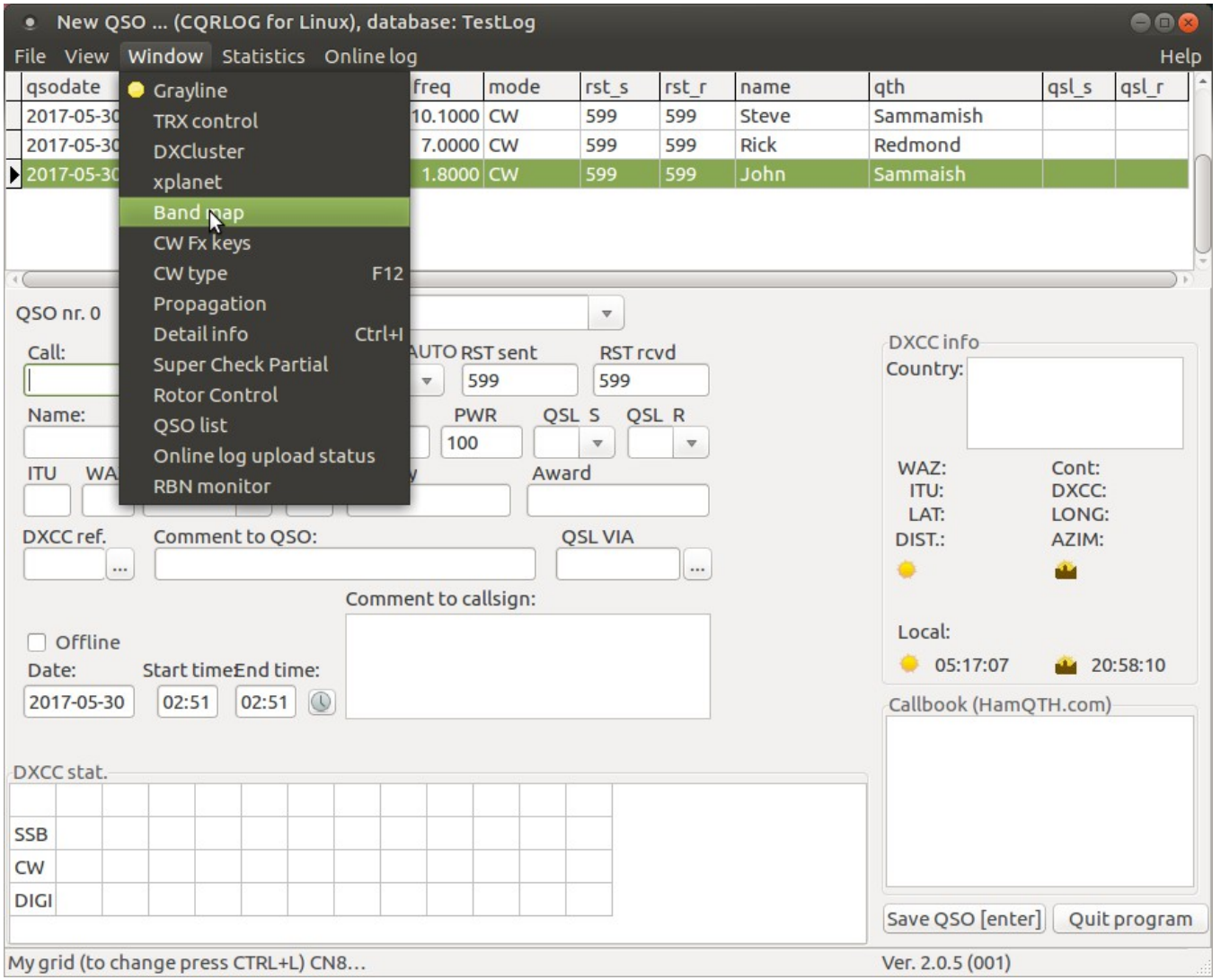
Tour of Apps / cqrlog (4)

- File Menu



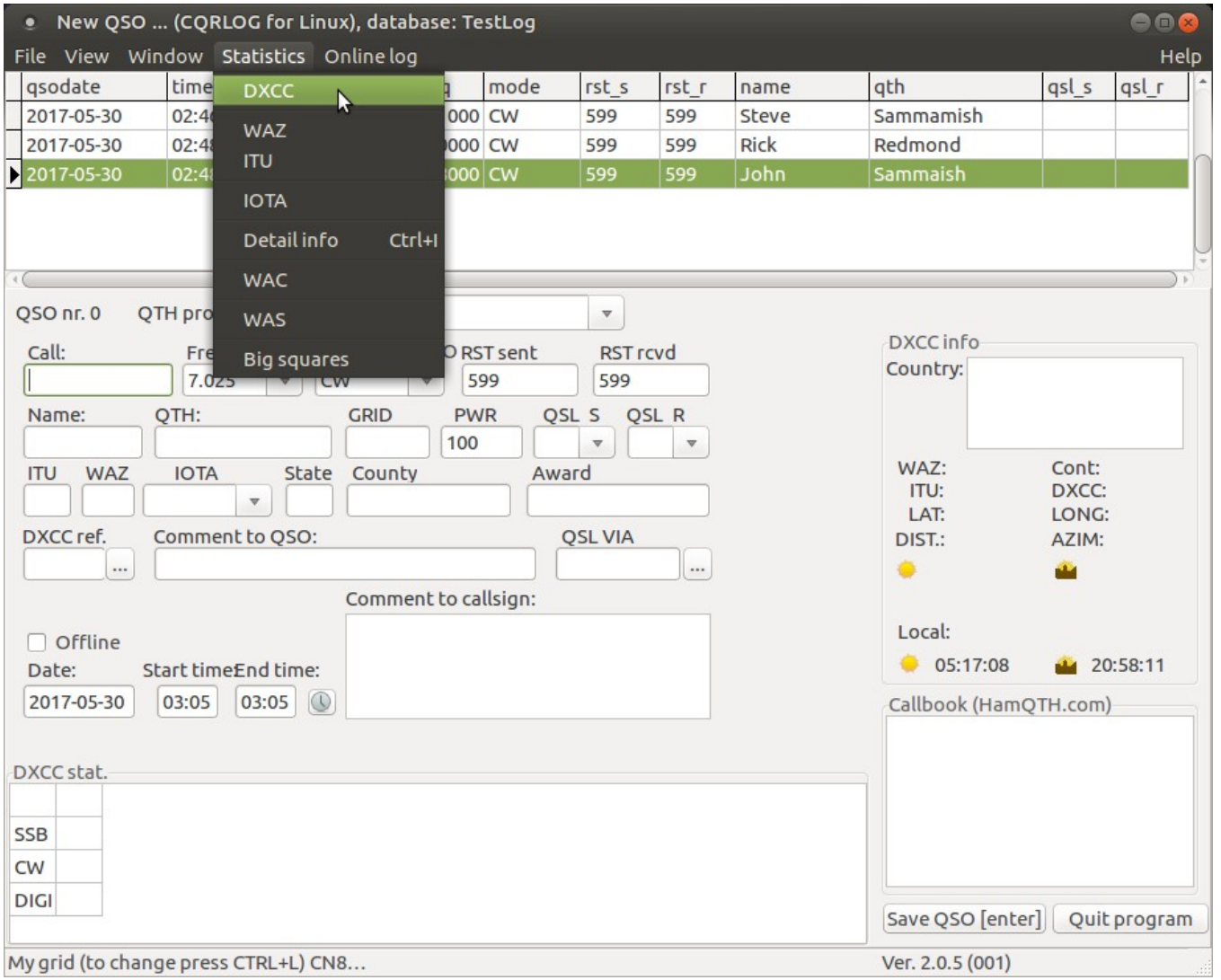
Tour of Apps / cqrlog (5)

- Window Menu



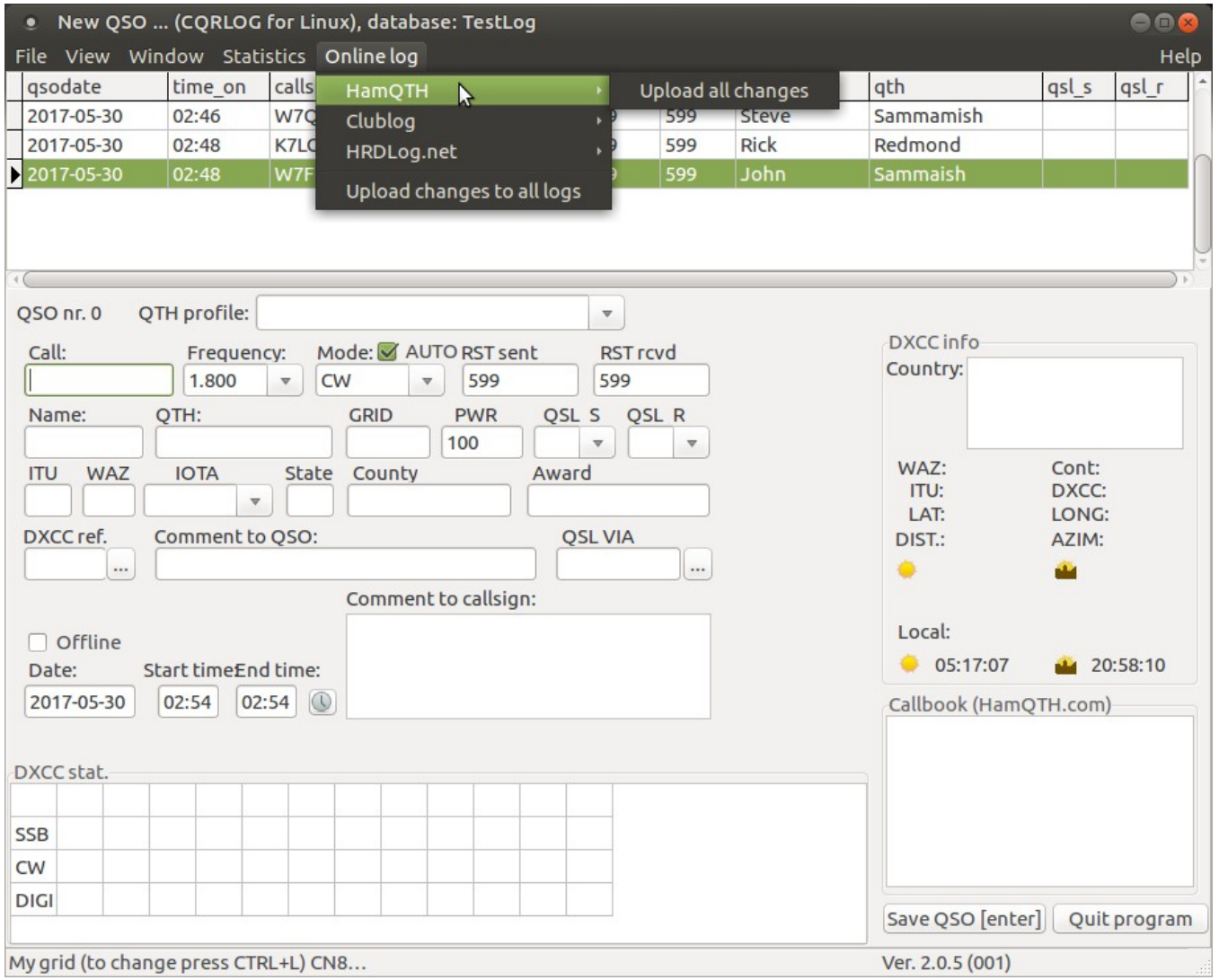
Tour of Apps / cqrlog (6)

- Statistics Menu



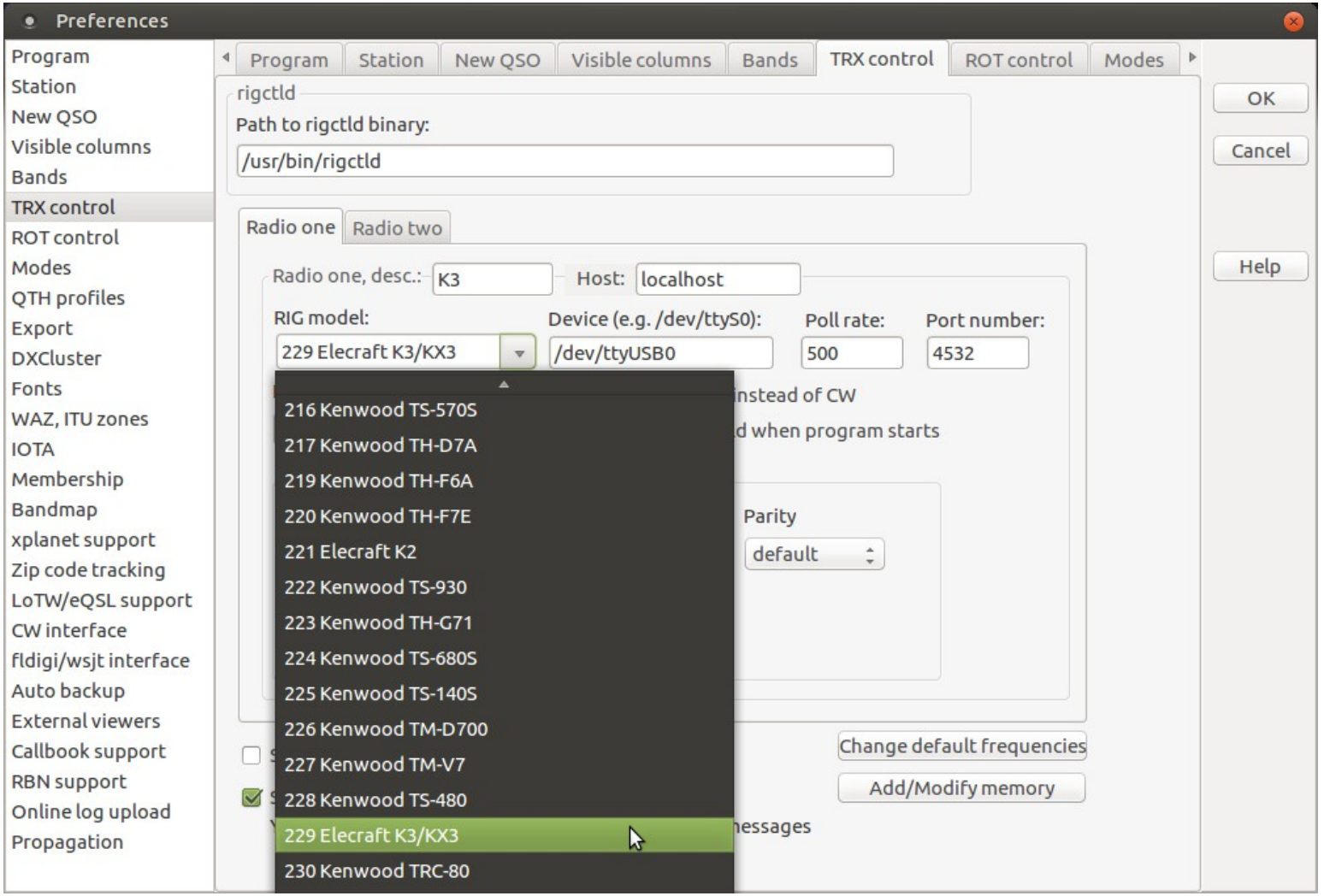
Tour of Apps / cqrlog (7)

- Online log Menu



Tour of Apps / cqrlog (8)

- Rig Control Dialog

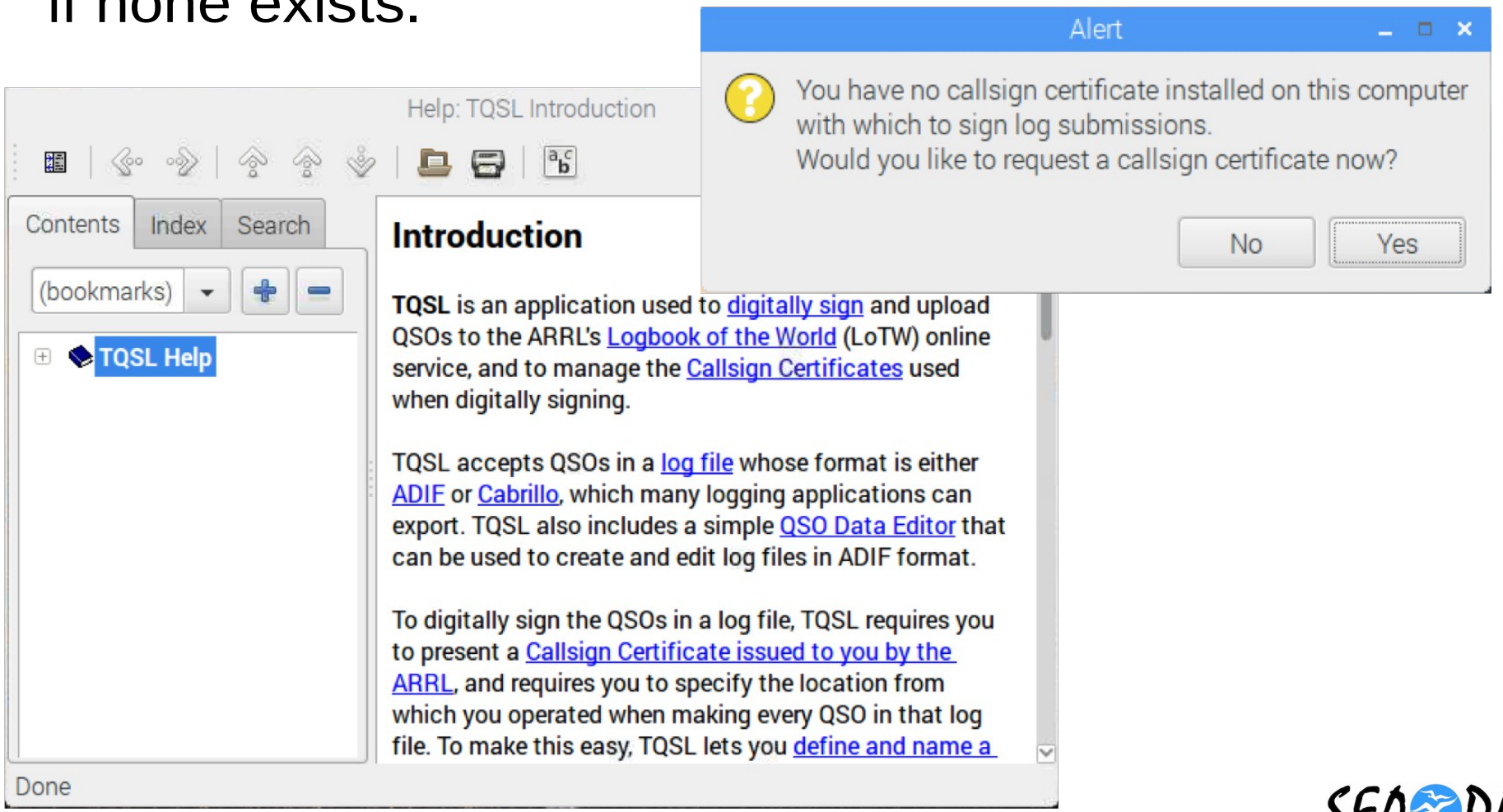


trustedqsl

- https:/sourceforge.net/projects/trustedqsl/files/TrustedQSL/
- Lets you upload your log to LOTW (Logbook of the World).
- Uses a public/private key system to insure that you are who you say you are.
- Logs are signed with your public key; uploaded to LOTW; and authenticated with your private key.
- The keys or certificates are generated by LOTW.

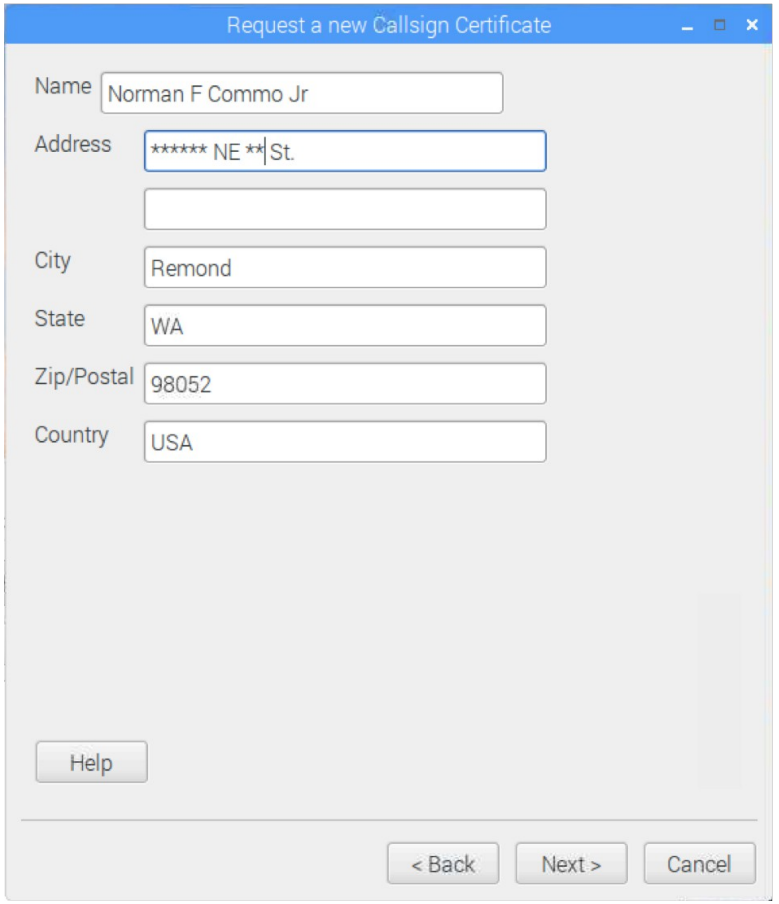
Tour of Apps / trustedqsl (2)

- On first run it will present the Help dialog and check to see if there is a certificate, prompting you acquire one if none exists.

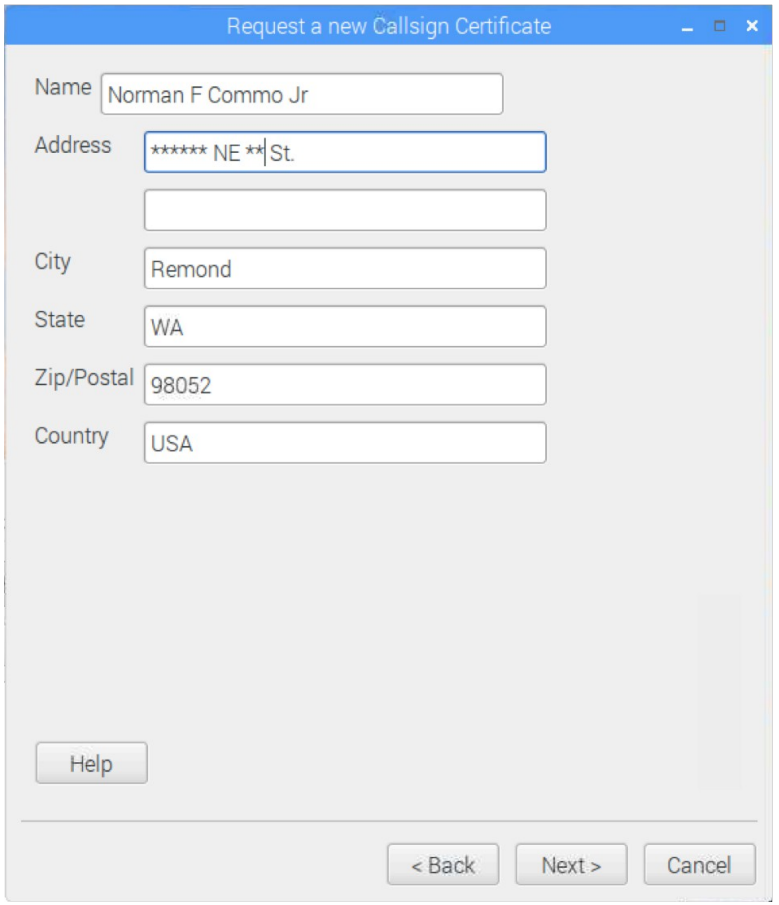


Tour of Apps / trustedqsl (3)

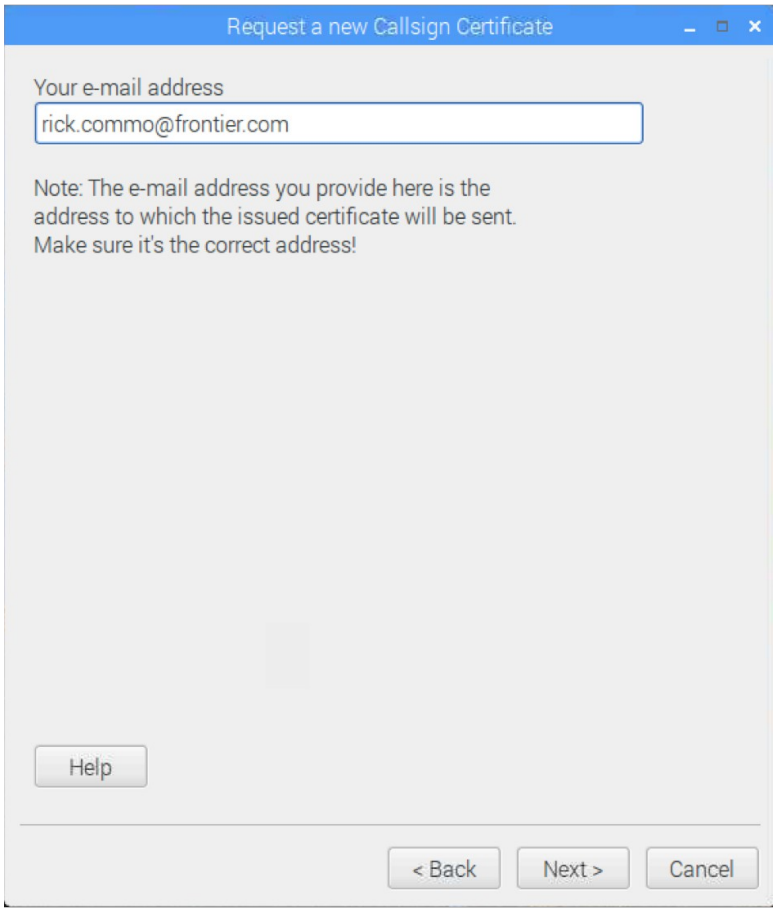
- If you click “No” you are led through a series of dialogs to gather your information.



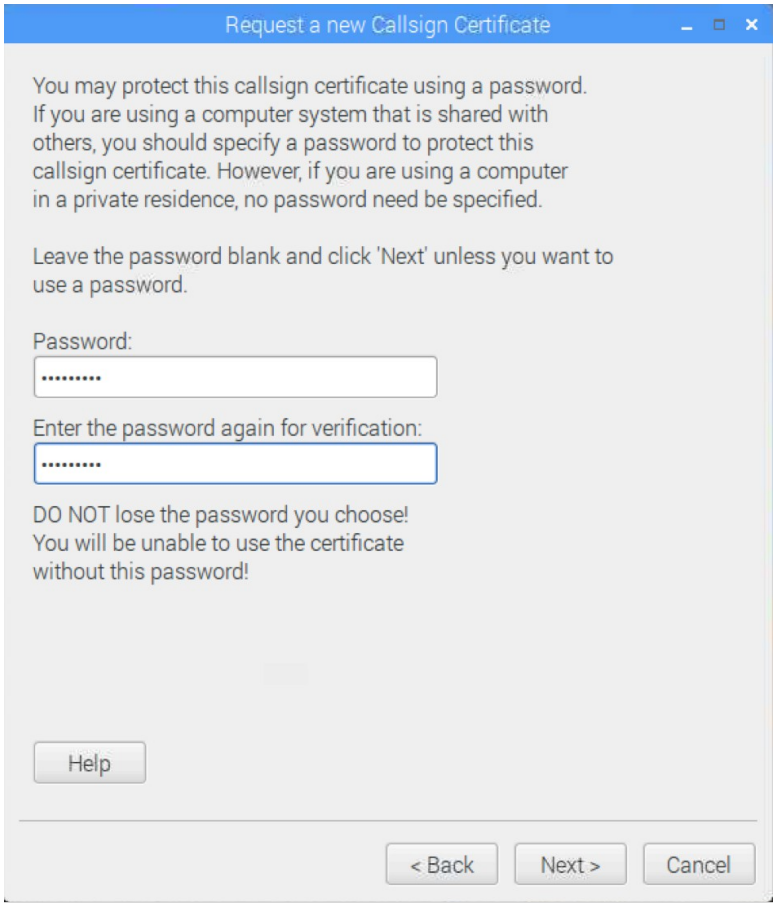
Tour of Apps / trustedqsl (4)



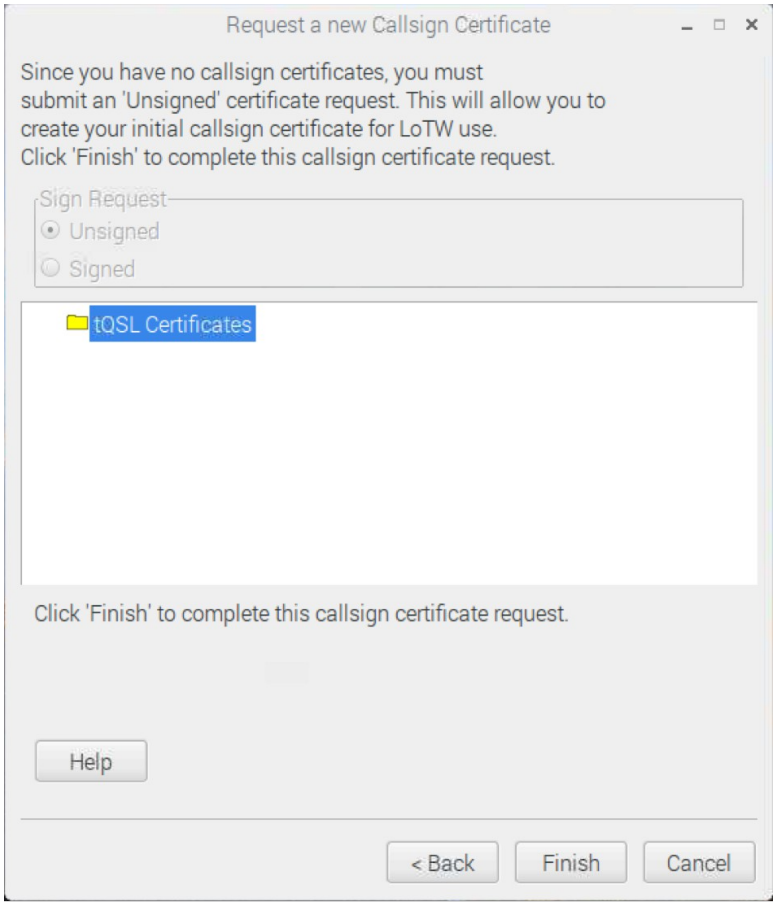
Tour of Apps / trustedqsl (5)



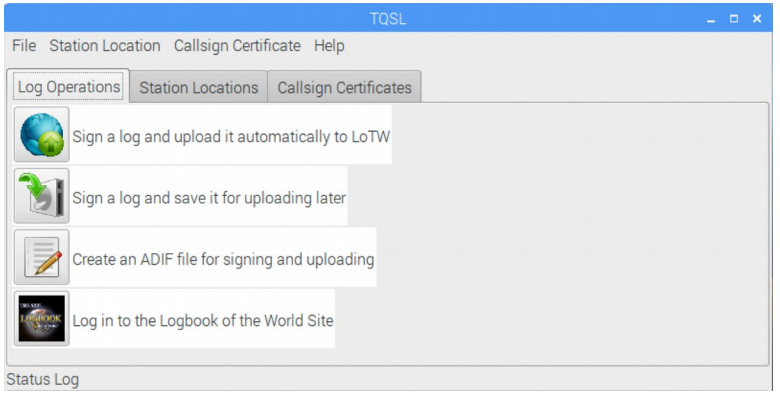
Tour of Apps / trustedqsl (6)

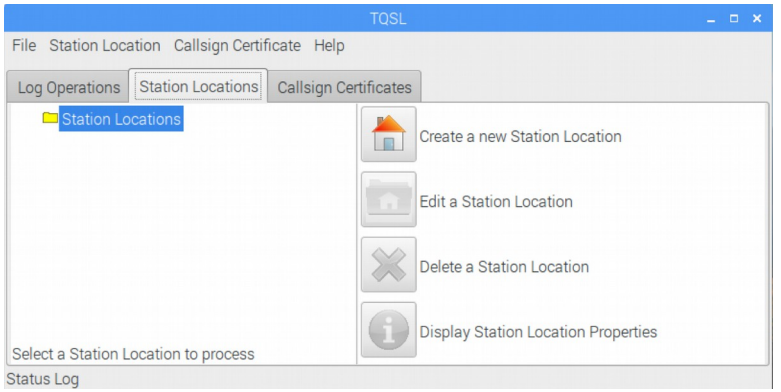


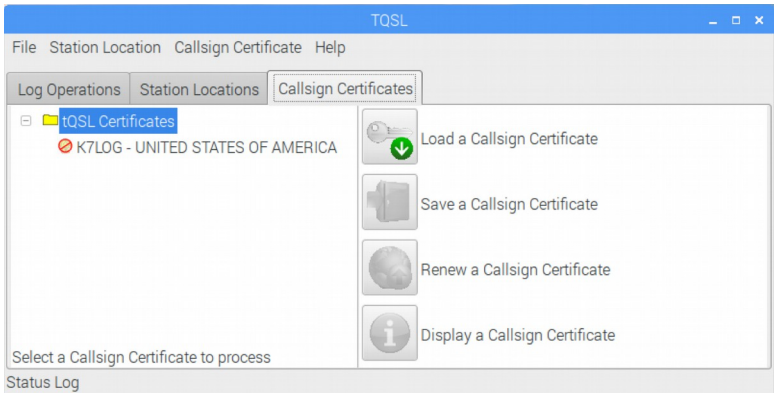
Tour of Apps / trustedqsl (7)



Tour of Apps / trustedqsl (8)





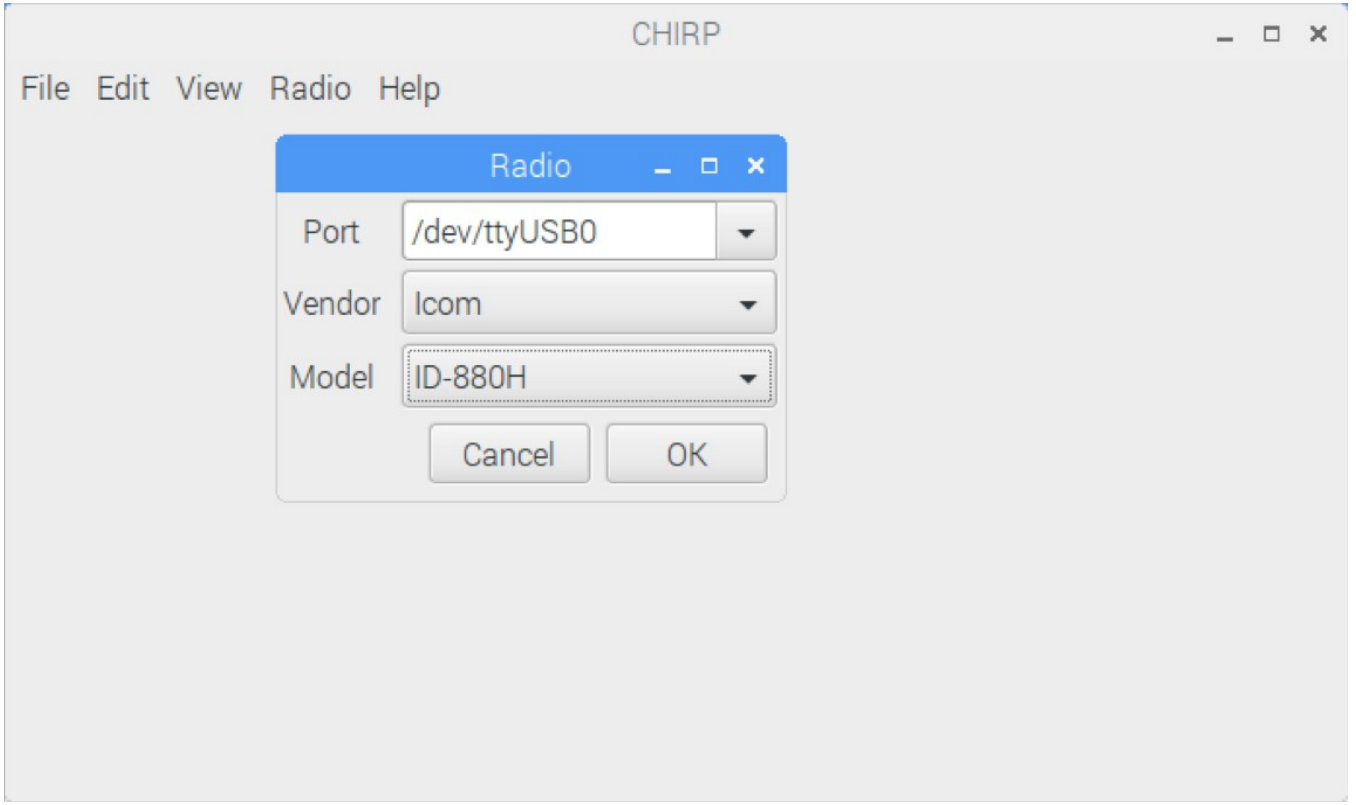


chirp

- http://chirp/danplanet.com/projects/chirp/wiki/Download
- A programmer for a number of different radios.
  - Frequency entry.
  - Configuration entry: offset, duplex, tone etc.
  - Global settings for the radio.

Tour of Apps / chirp (2)

- Top level screen comes up blank.
  - Data must be downloaded from the selected radio first, here, an IC-880H.



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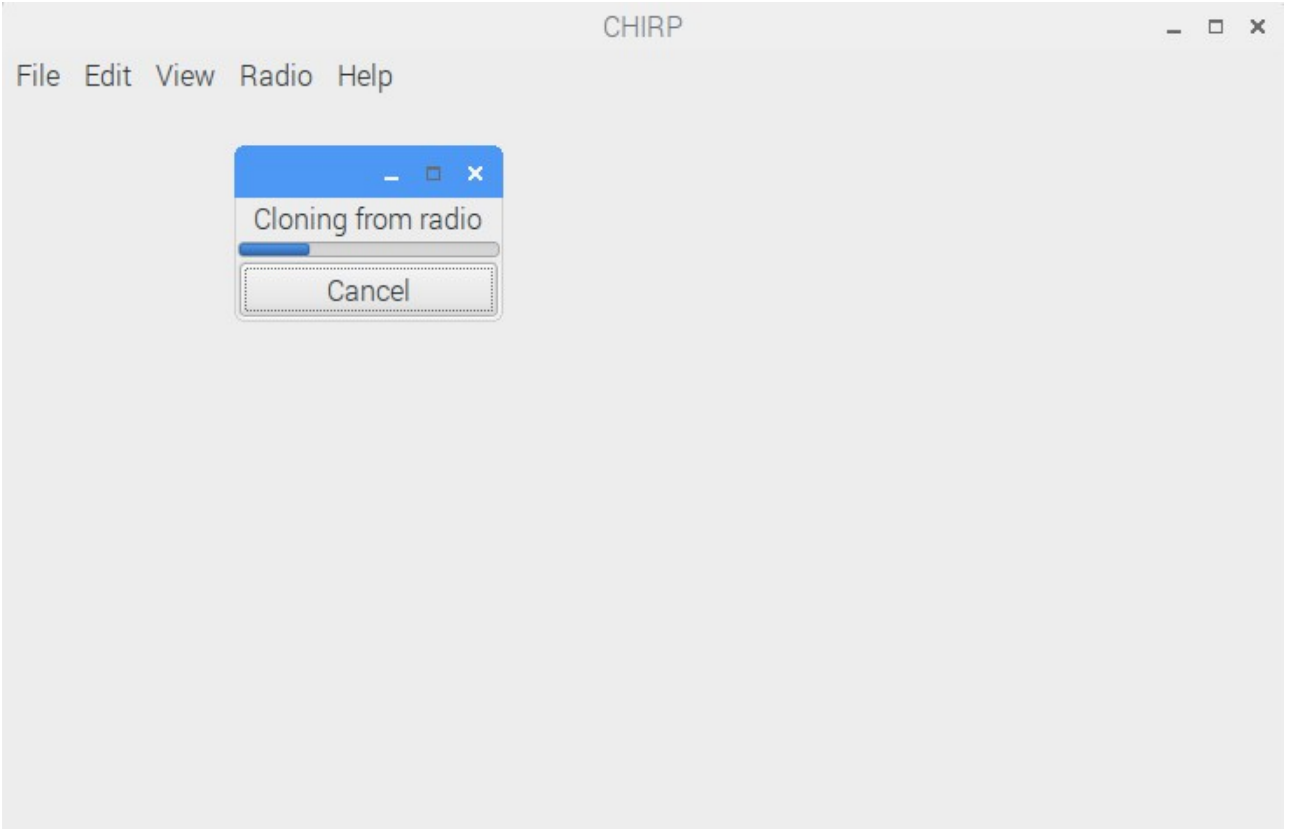
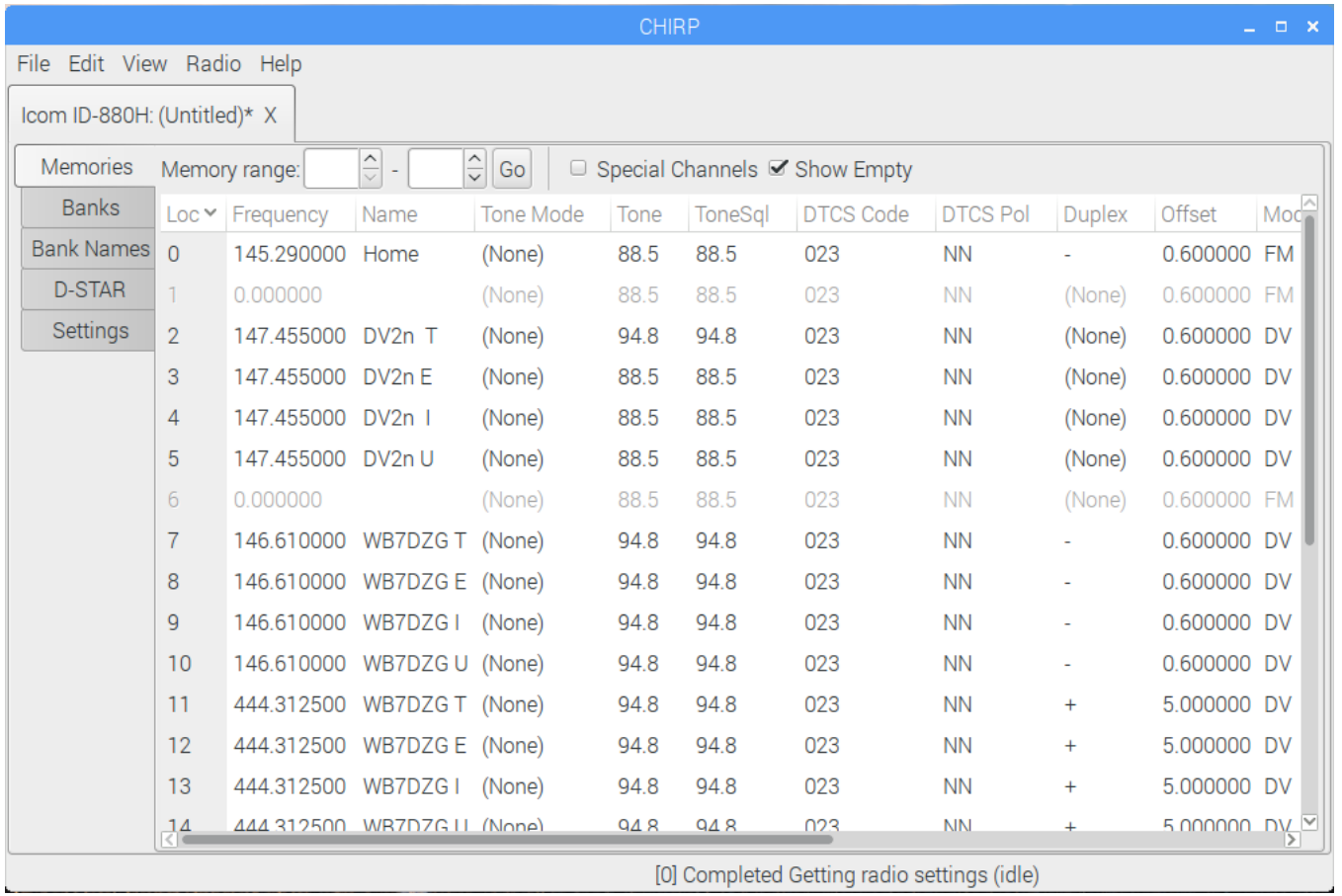
Tour of Apps / chirp (3)

- Here data is being downloaded (“cloned”) from the IC-880H.



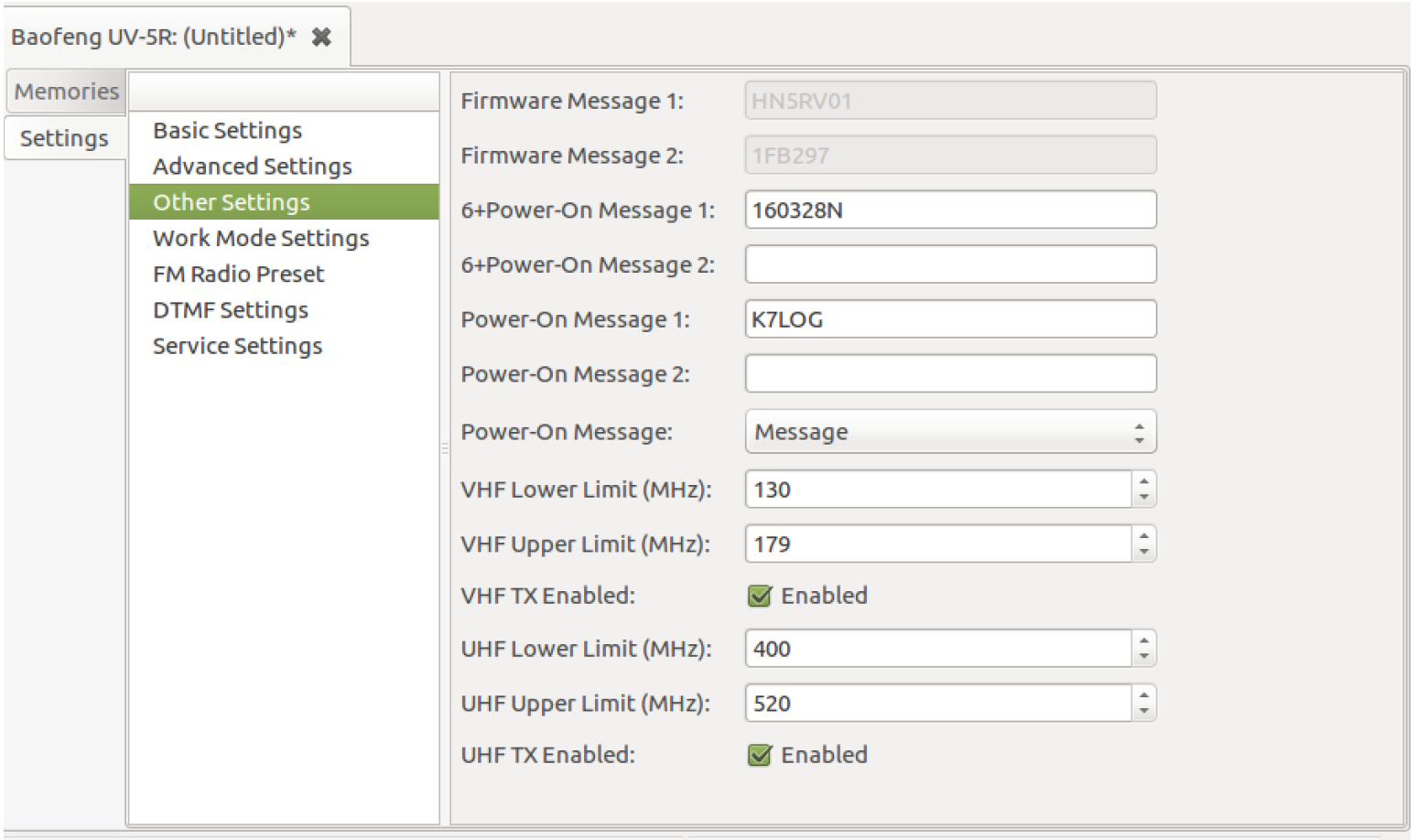
Tour of Apps / chirp (4)

- Here is the data from the IC-880H.



Tour of Apps / chirp (5)

- Here is an example of global data from a Baofeng UV-5R.



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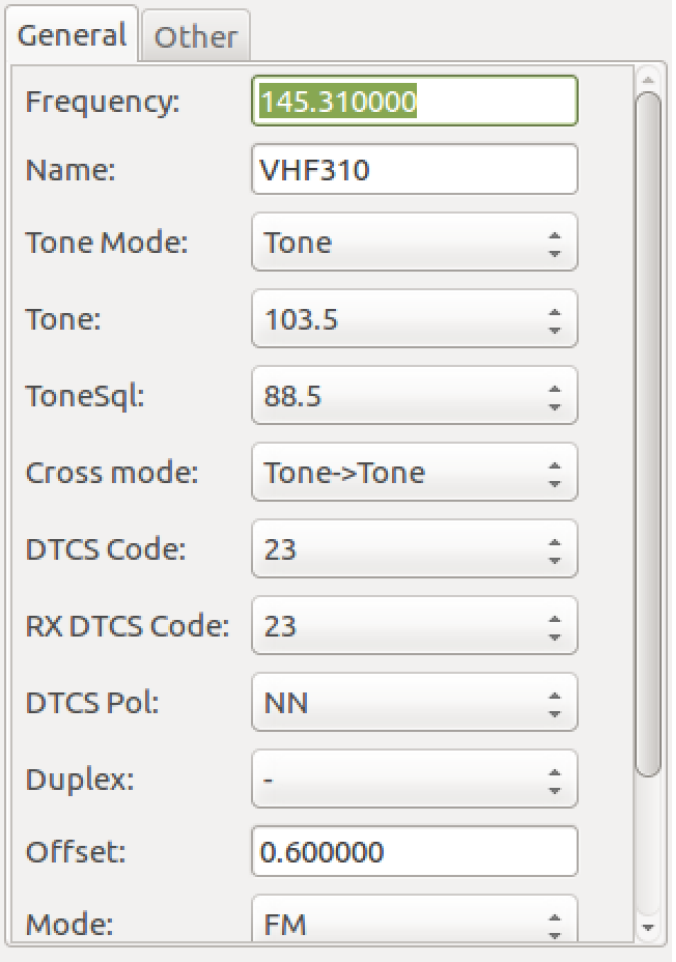
Tour of Apps / chirp (6)

- Properties of a selected memory channel can be edited.



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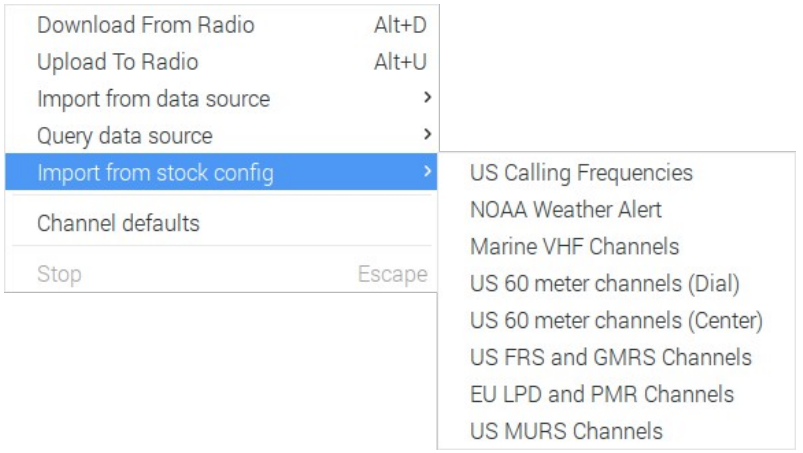
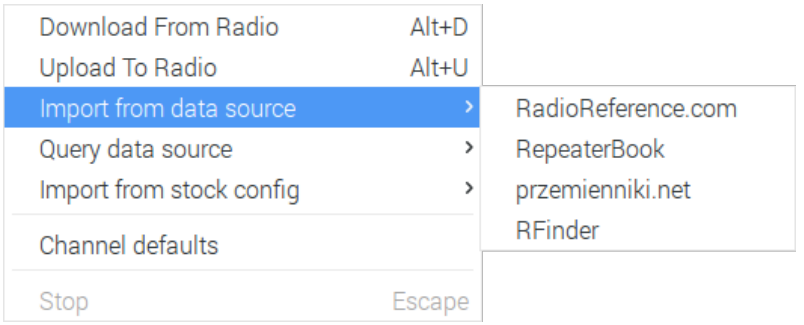
Tour of Apps / chirp (7)

- Settings can from other sources.





lighttpd

- https://www.lighttpd.net/download/
- A small footprint, fast web server.
  - Useful for a small home web server.
    - Let's your see your site from all your devices.
- Must be manually installed.
  - `sudo apt-get update`
  - `sudo apt-get install lighttpd`

Tour of Apps / lighttpd (2)

- Add your http files.
  - Perhaps most easily managed if top level page goes in /var/www/ and the rest in their own directory/folder under that directory.
- Some changes will require editing the configuration file.
  - `sudo nano /etc/lighttpd.conf`
  - For example, if you want your web to be the default.

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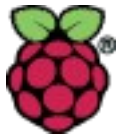

Tour of Apps / lighttpd (3)

- Example from my web server.
  - The default on my server is an HTML file called RicksWeb
    - Its other files are in /var/www/HTML_Files/
- A quick and dirty SeaPac web site for this workshop will be created.
  - Its URL will be *http://webpi/seapac.html*
  - The top level file will go /var/www/
    - Its other files will be located in /var/www/SeaPac_files/

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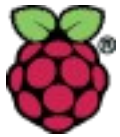

Tour of Apps / Finding the port (1)

- Luke, “use the CLI!” (the “Force” of Linux)
- First, need to find if your USB device is seen by the OS.
  - `$ lsusb`
- Then find which USB device it is.
  - `$ ls -l /dev/ttyUSB*`
- Usually easiest if both commands are done before, and then after, plugging in the device. Look for what changed.

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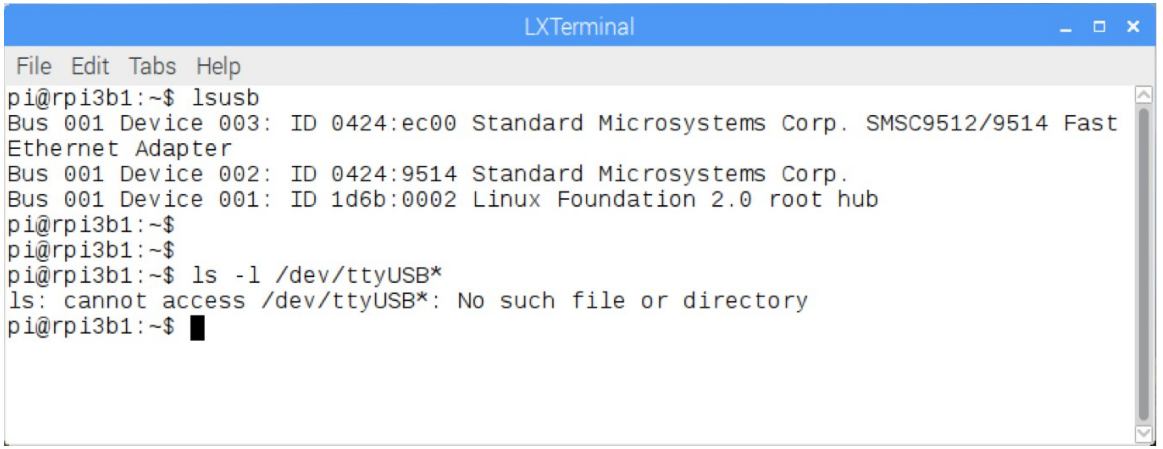
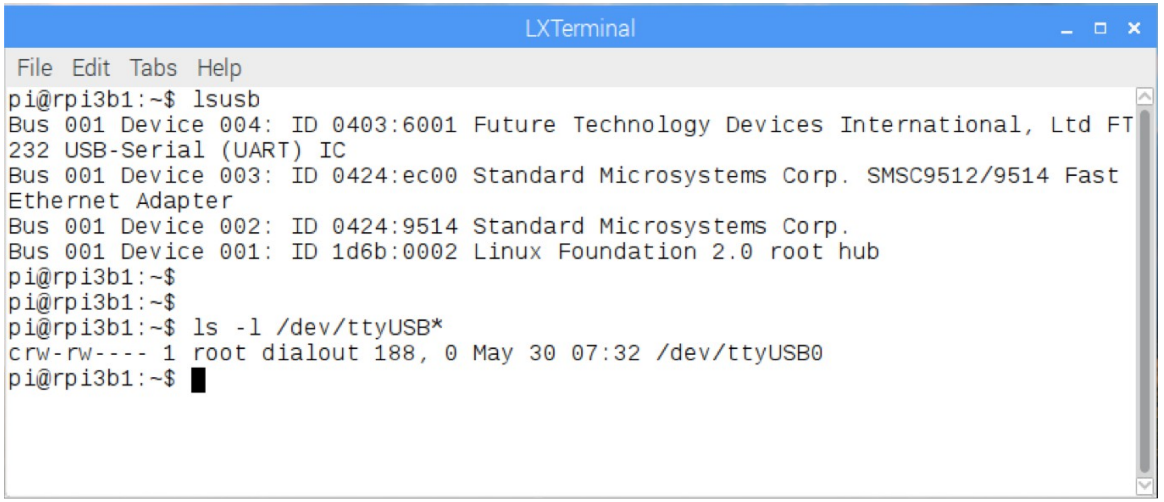
Tour of Apps / Finding the port (2)

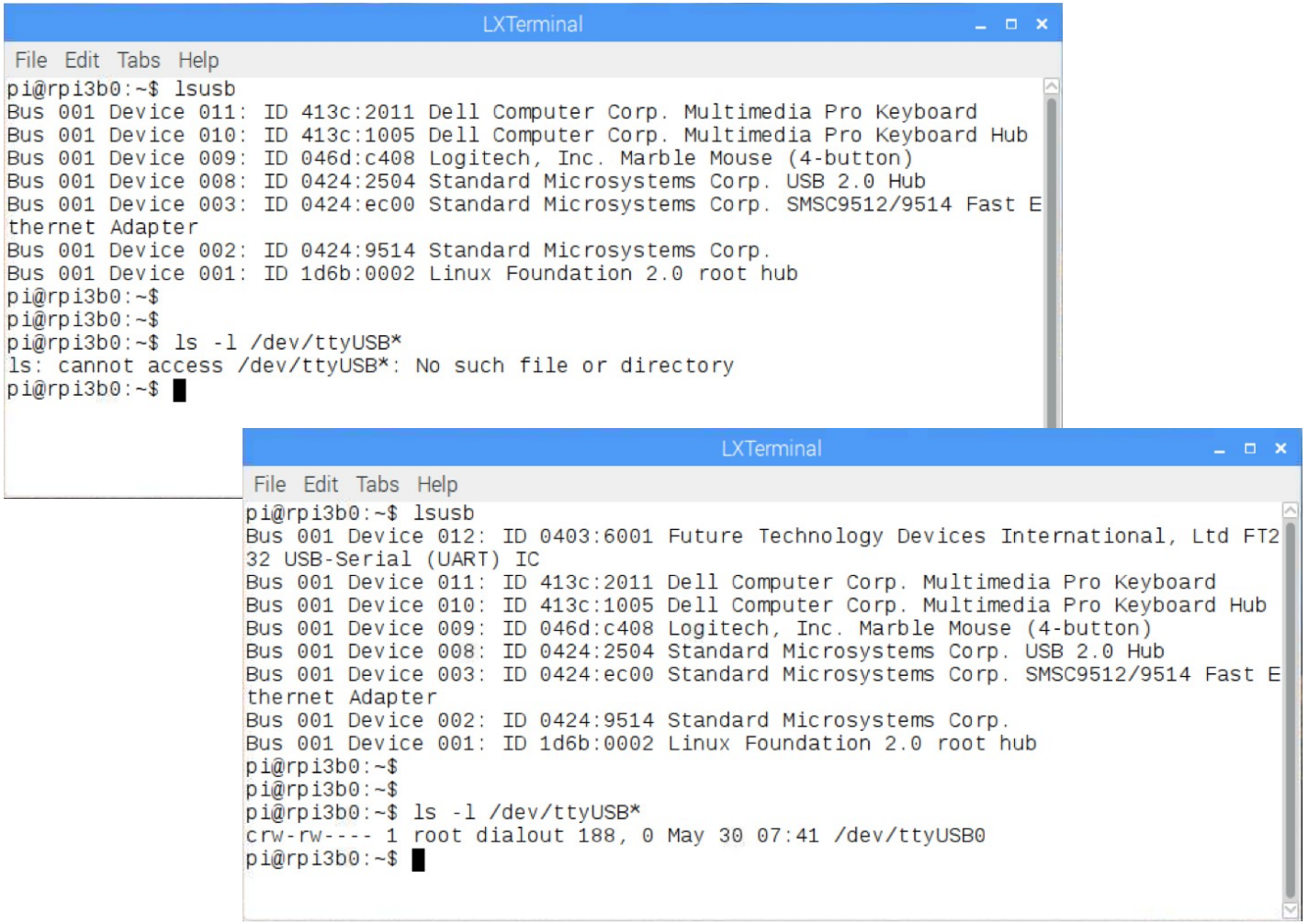
- The commands and their results before and after adding an FTDI based USB cable on a Pi with no console.





Tour of Apps / Finding the port (3)

- The commands and their results before and after adding an FTDI based USB cable on a Pi with a console.



Demonstration

lighttpd

Questions ?