QO-100 Linux SDR Transceiver
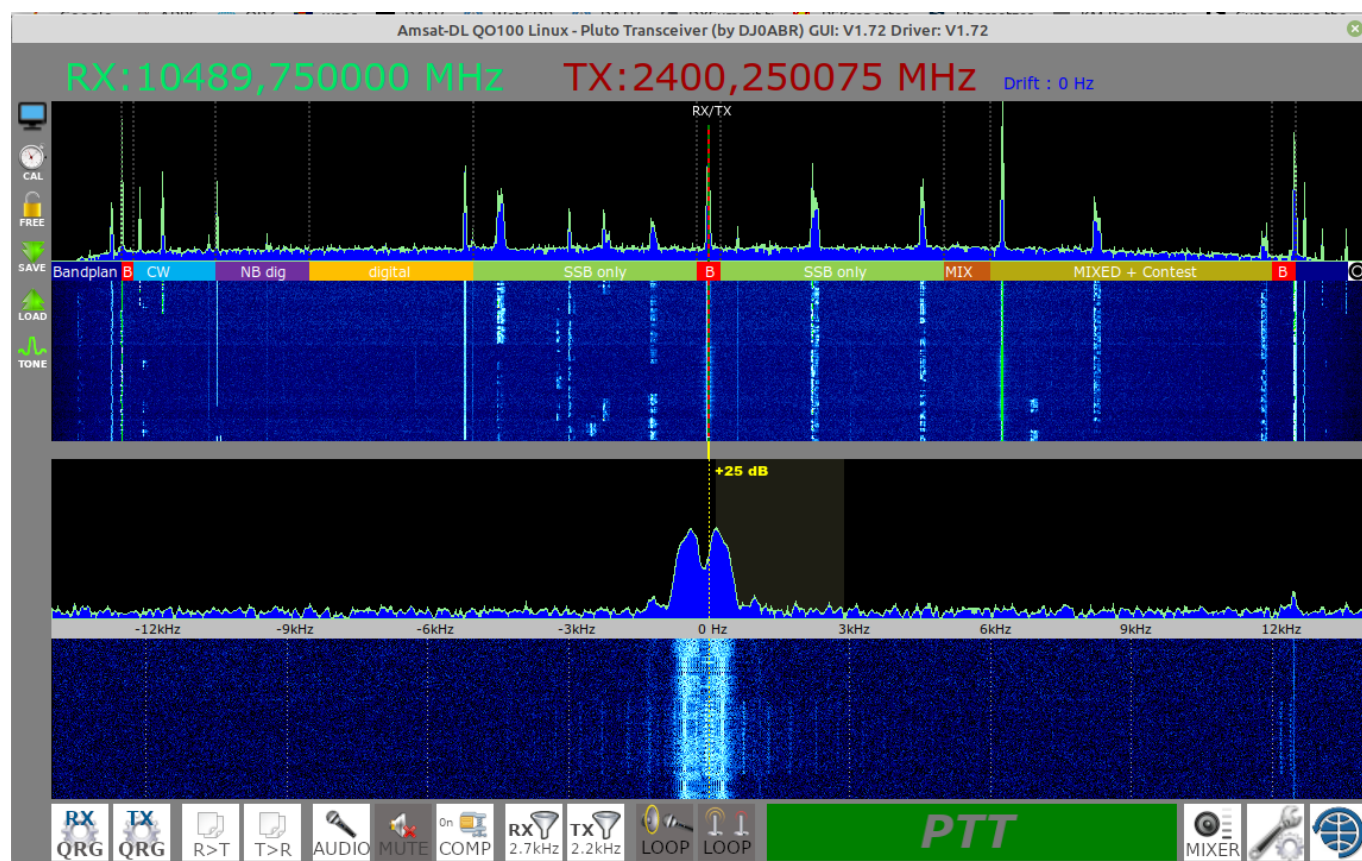
This documentation refers to the version 1.72
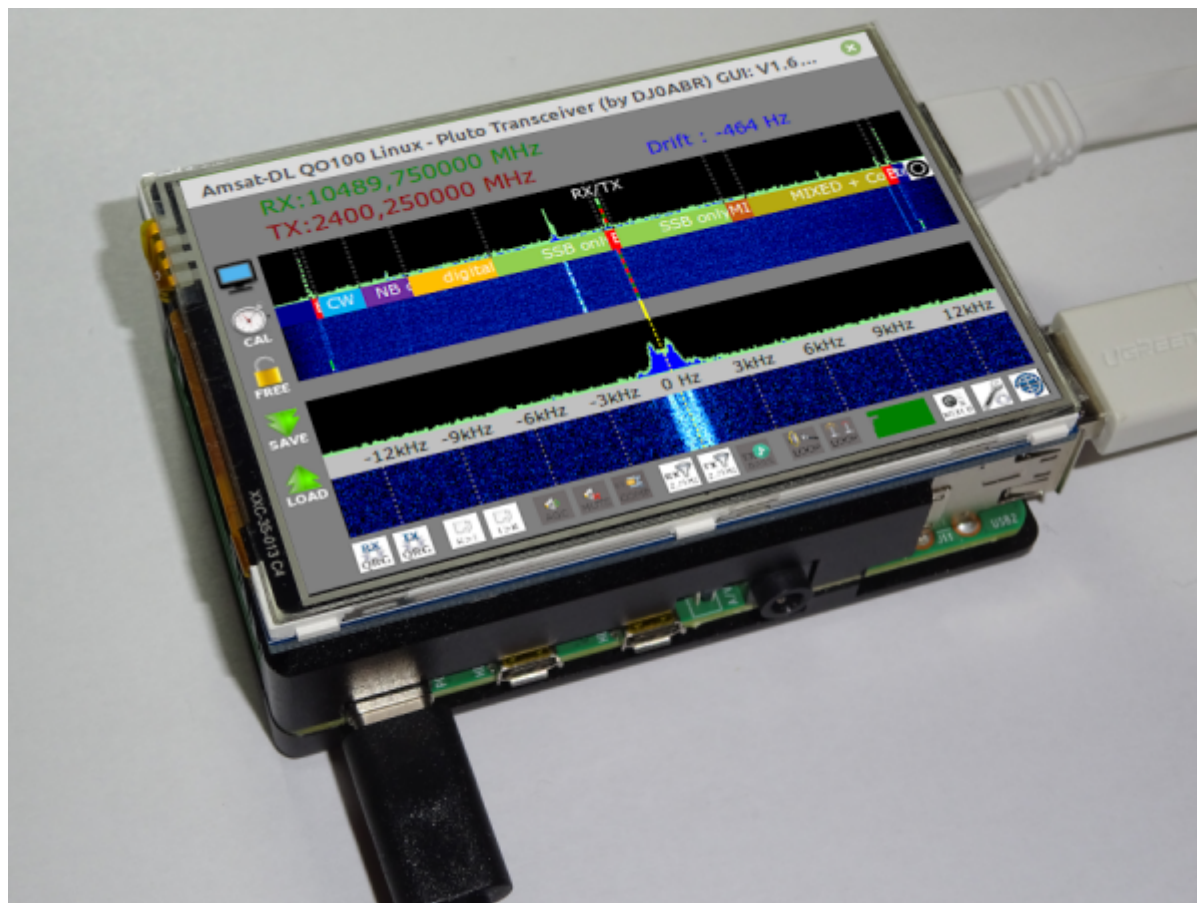
Overview

QO100 Linux SDR Transceiver is a fully software based transceiver for small computer boards together with the Adalm Pluto.

Convenient SDR solutions have been available mainly for Windows users with the SDR console. Users of small Linux boards were limited to simple or hard to use solutions.
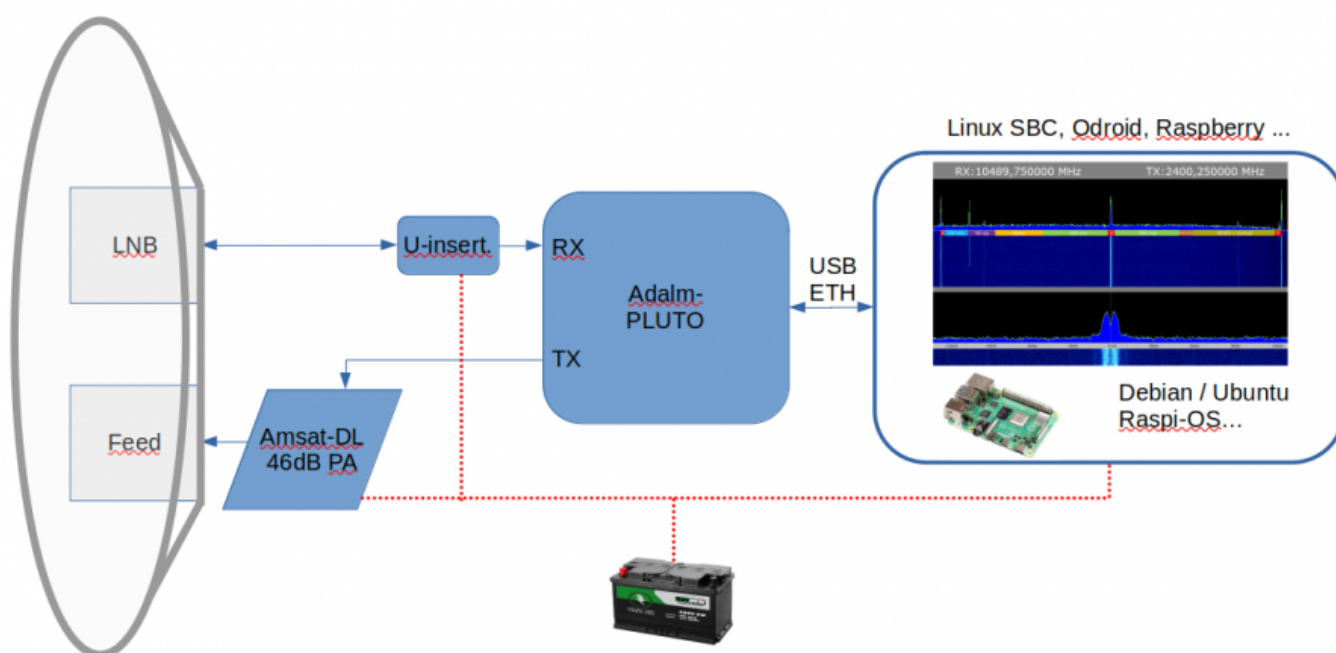
On a big PC-Monitor:

and running on a 3,5'' Raspberry PI Touch-Display:

With this SDR transceiver, especially for QO-100, finally also users of Raspberry PI and Co. are equipped with a professional software, which makes satellite operation easy and clear.

This picture shows the hardware for portable or home stations:

A speaker and microphone, or a headset is connected to the SBC (single board computer). There are headsets with integrated USB sound card, which makes the connection particularly easy.

If you're still looking for info on feeding the LNB supply or the LNB clock, here's a recent project on the

subject: LNB Feed

The operation can only be done with the mouse. In the spectrum/waterfall one selects the transmit and receive frequency and operates the PTT.

SBC (Single Board Computer)

practically all modern SBCs are suitable.

Tested were: Raspberry PI-3B+, PI-4, Odroid C4, Odroid N2, Rocket-PI-4.
Also suitable is the Orange-PC+, which is however hard at the utilization limit, with the before mentioned SBCs the utilization lies with approx. 30%.

Of course normal Intel/AMD desktop PCs with Debian/Ubuntu/Mint etc. can be used, at least 4-core processors should be installed.

For use in portable stations especially SBCs are recommended which can be powered with 12 (13.8) volts, which applies to Odroid C4, Odroid N2 and Rocket-PI-4. With these computers the power supply works very simple.

When using the Raspberry PI-4 you have to take care of a 5V supply with a lot of reserve and good cables so that the USB interface to Pluto works stable.

USB or Ethernet

the Adalm-Pluto can be connected via USB but also via Ethernet and USB/ETH adapter.

If you operate the transceiver locally at one place, USB is the easiest connection, because the Pluto is also supplied with power via USB.

On e.g. fielddays, where the dish may be operated remotely, the Ethernet connection is excellent because the cable lengths can be very long. QO100 transceiver supports both connection options.

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