LOGRUNNER · QUICK GUIDE

ADALM Pluto and Pluto Plus in a LiveLocal window

LogRunner 0.9.5b80 (Beta) · as of 31 October 2026

What this is about

A LiveLocal window with the mask **TRX** can control a transceiver of its own. This way the Pluto runs for QO-100 in a window of its own, with the control bar and waterfall, next to the rig of the main window and without a second program. This guide lists only what has to be set up for it.

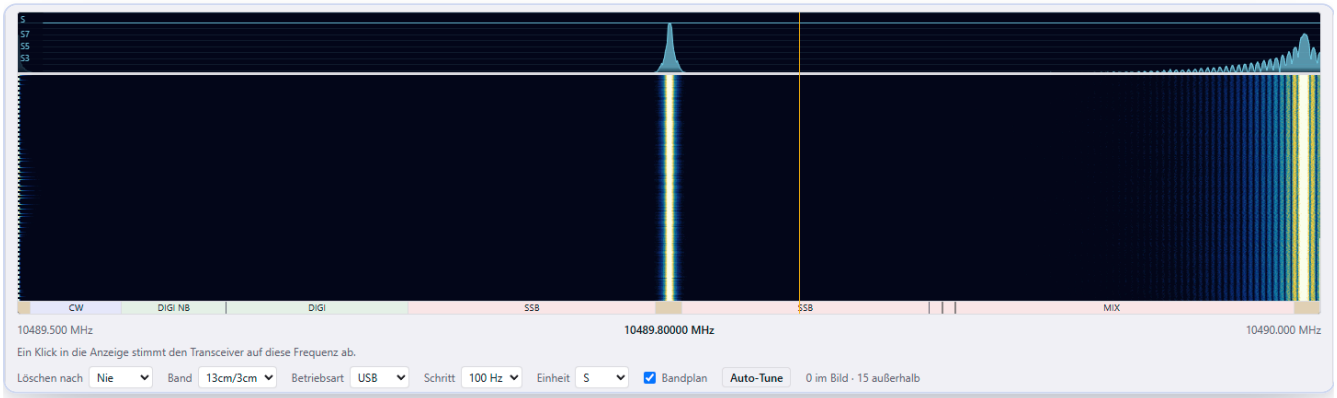


Fig. 1 The finished Pluto window: waterfall of the narrowband transponder with the middle beacon, below it band 13cm/3cm and mode USB.

The pictures in this guide come from a test run with the synthetic transponder (`fake:`) instead of a real device, and show the German user interface. The English labels are given in the text.

What you need first

- **The Pluto on the network.** A Pluto on the USB cable answers at `192.168.2.1`. A Pluto Plus on the LAN has the address it gets on your network.
- **For satellite operation:** an LNB on the receive input and a power amplifier on the transmit output. Transmitting also needs the external 40 MHz reference clock; without a detected clock, transmitting stays blocked.
- **The libiio library:**
  - Windows and Mac: built into the program, nothing to do.
  - Raspberry Pi: when running `bash LogRunner/install.sh`, answer the question *Einen ADALM-Pluto (QO-100) ansteuern (libiio0)?* (control an ADALM Pluto) with **y**.

STEP 01

Add the window

In the main window under *Tools* ▸ *LiveLocal*:

1. Under *Add a window*, enter a **Name**, for example *Pluto*.
2. Next to it, under **Shows**, choose the mask **TRX**.
3. Click **Add**, then **Open** in the list.

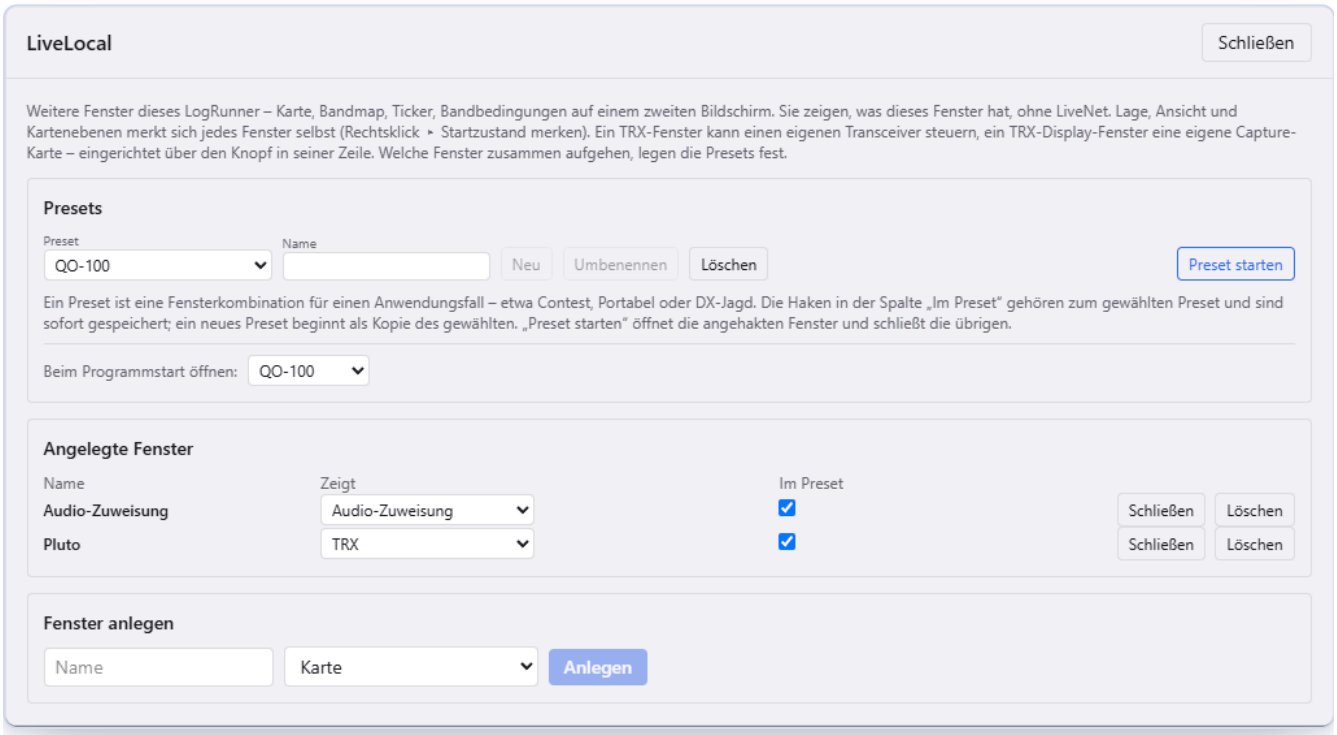


Fig. 2 Tools ▸ LiveLocal: at the top the preset QO-100, in the list the window Pluto with the mask TRX, at the bottom the box Add a window.

STEP 02

Give the window the Pluto

In the new window under *Tools* ▸ *TRX control*. These settings apply only to this window.

1. At the top, under *Which transceiver this window controls*: **A transceiver of its own for this window**.
2. Tick **Enable TRX control** and under **Link** choose **ADALM Pluto (QO-100)**.
3. Enter the **Device address**: `192.168.2.1` or the address of the Pluto Plus. LogRunner adds the `ip:` in front by itself.
4. **Configuration file (optional)**:
   - **Pluto:** leave it empty. Then `LogRunner/plutotrx/AdalmPluto.json` is used.
   - **Pluto Plus:** a file of its own, for example `~/LogRunner/plutotrx/plutoplus.json` (see step 7).
5. In the table **Bands and converters**, row *13cm/3cm (QO-100)*, enter the LNB's oscillator under **RX converter (MHz)** as printed on it: usually **9750**, on some 10000 or 10600. The beacon search only corrects ±600 kHz, so a wrong LNB value never lets it lock.

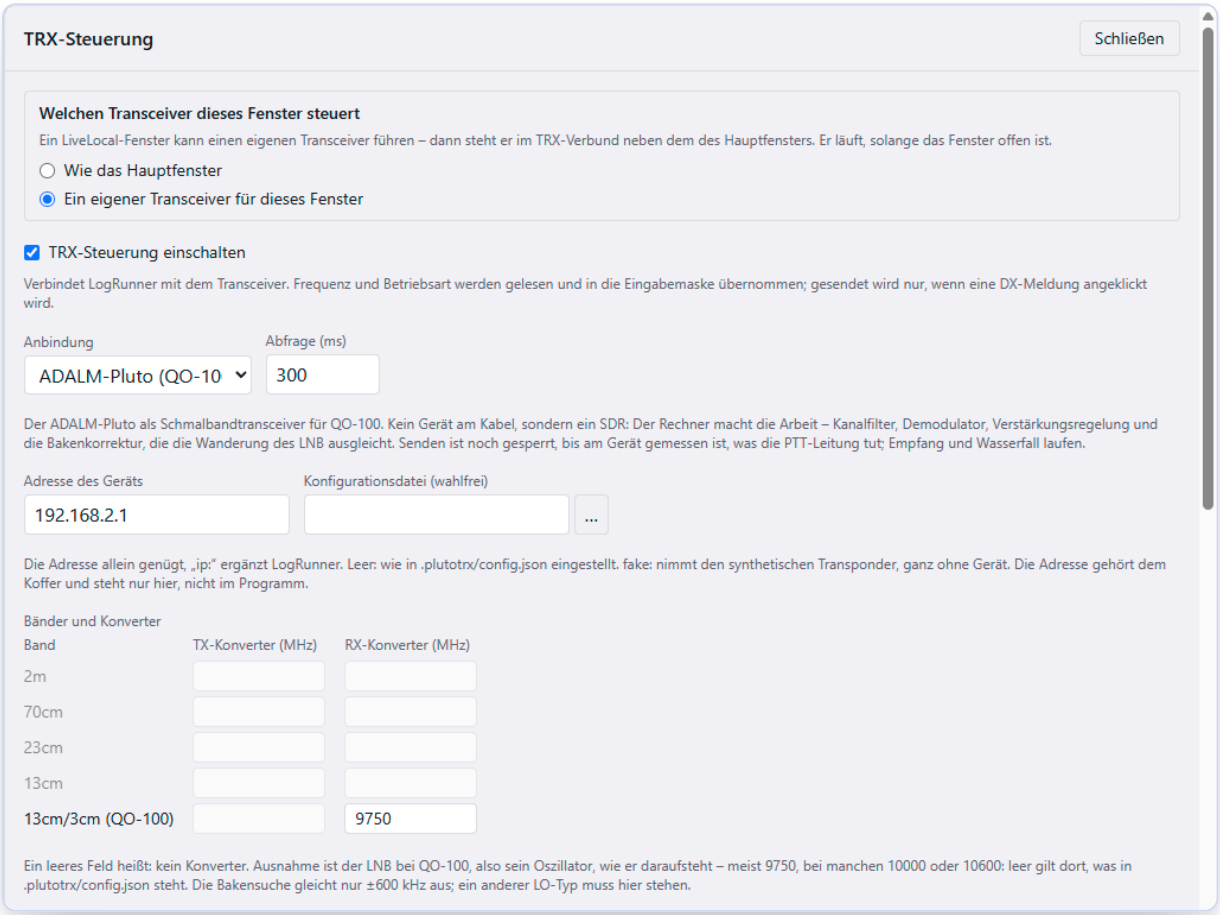


Fig. 3 TRX control in the Pluto window: own transceiver chosen, link ADALM Pluto (QO-100), address 192.168.2.1, in the table Bands and converters the RX converter 9750 for 13cm/3cm (QO-100).

6. Further down in the same dialog, in the box *Audio via sound card*: tick **Audio via Audio Assignment**. The audio is then routed by the mixer from step 5.
7. At the very bottom, **Save**. The device connects and runs as long as the window is open.

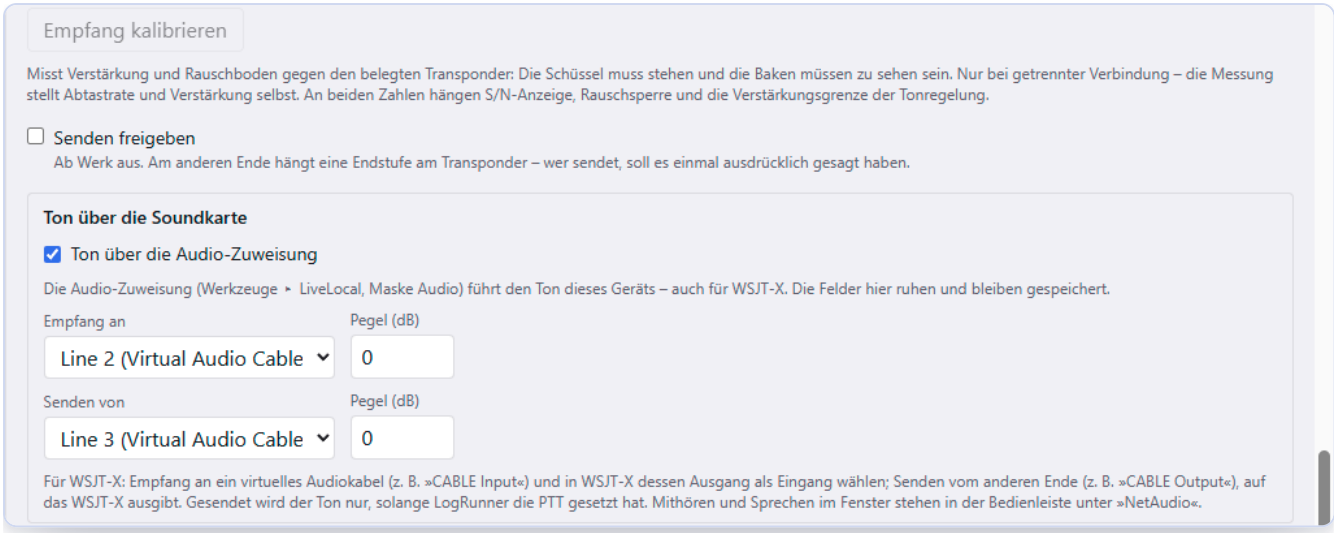


Fig. 4 Further down in the dialog: Calibrate receive, the checkbox Allow transmitting (still off) and Audio via Audio Assignment (on).

STEP 03

Calibrate receive

Also in the window's TRX control, **while disconnected** (button **Disconnect** next to *Save*):

1. Click **Calibrate receive**. The dish must be pointed and the beacons must be visible. The measurement takes about half a minute.
2. **Write to the configuration.** If the file does not exist yet, it is created.

Receiving, the waterfall, beacon correction and the S-meter also work without calibration. Without it, the S/N display and the squelch are missing.

STEP 04

Check the beacon

After connecting, the beacon correction locks after about six seconds. In the window under *Rig controls* ▸ *Beacon sync*, the dashed line shows where it expects the middle beacon.

- If the beacon sits on the line and *State: locked* is shown next to it, everything is right.
- If it sits beside the line, **click the beacon**, the narrow, steady line. The choice is kept across restarts.

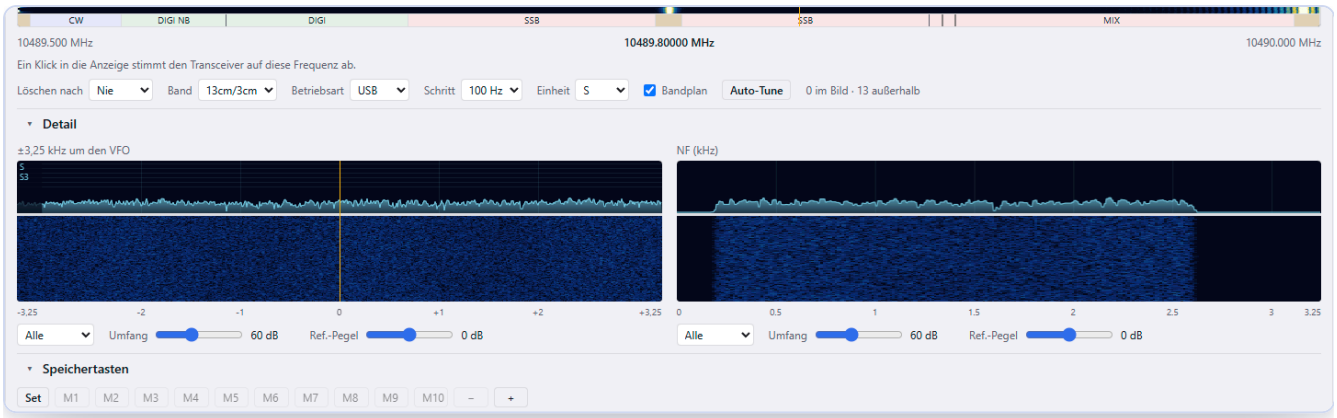


Fig. 5 Rig controls ▸ Beacon sync: on the left the beacon waterfall with the beacon on the dashed centre line, in the middle the offset over time, on the right State locked and Quality 1.00 (confirmed).

STEP 05

Audio and band assignment (in the main window)

Audio: *Tools* ▸ *Audio Assignment*.

- Set the microphone as **Input** to **Pluto · Transmit**.
- Set an **Output** (headphones, speakers) left and right to **Pluto · Receive**.
- If you run several rigs, better choose **Band assignment · Transmit** and **Band assignment · Receive**. The audio then follows the rig that owns the band.
- Without transmit audio assigned, a silent transmission goes up to the transponder.

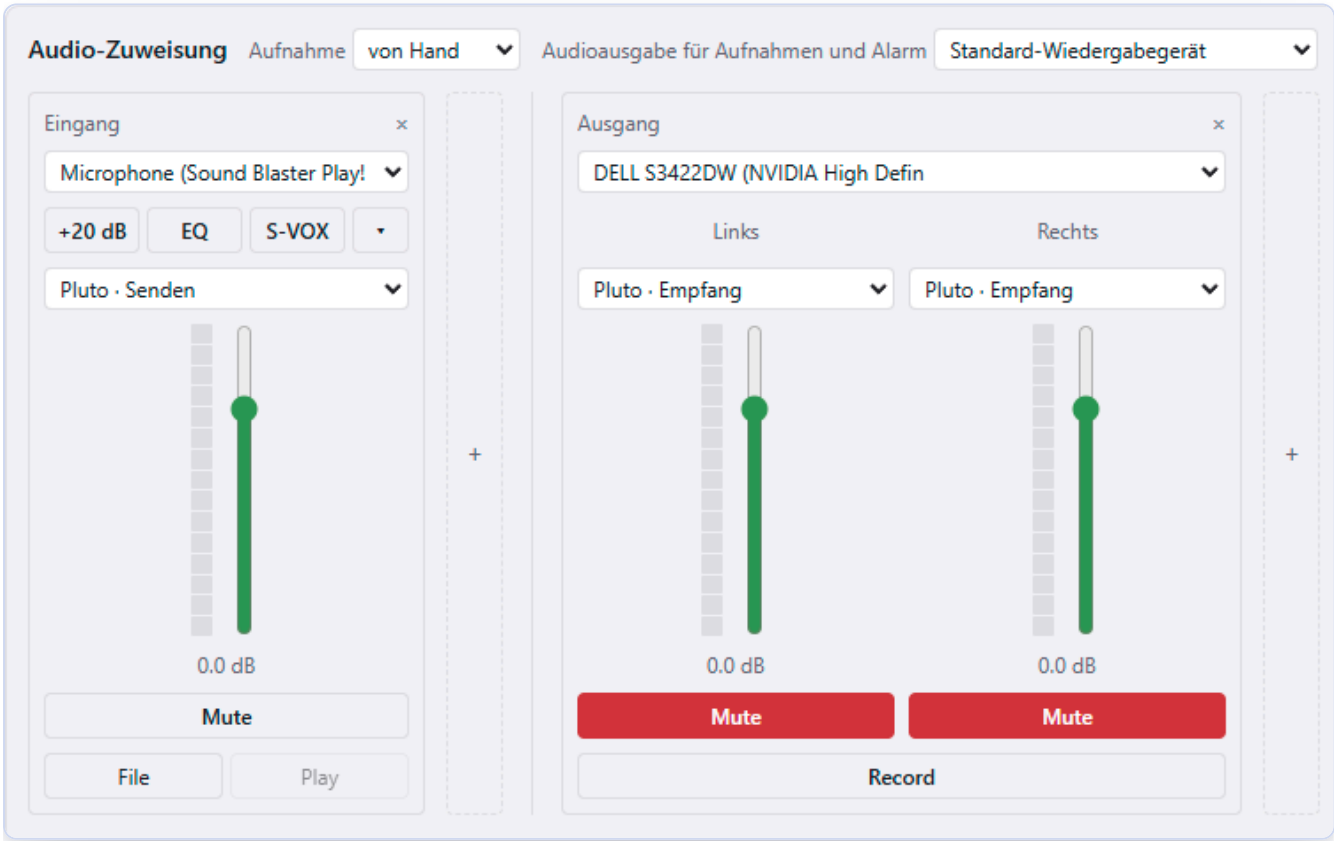


Fig. 6 Audio Assignment: input microphone to Pluto · Transmit, output left and right to Pluto · Receive (muted in the test run).

Band assignment: *Tools* ▸ *Rig group*. There, give the bands **13cm** (uplink) and **3cm** (downlink) to the Pluto window. With LiveNet switched on, the entry is called *PC · Pluto*; without LiveNet just *Pluto*. A clicked QO-100 spot then tunes the Pluto, and **^** keys it.

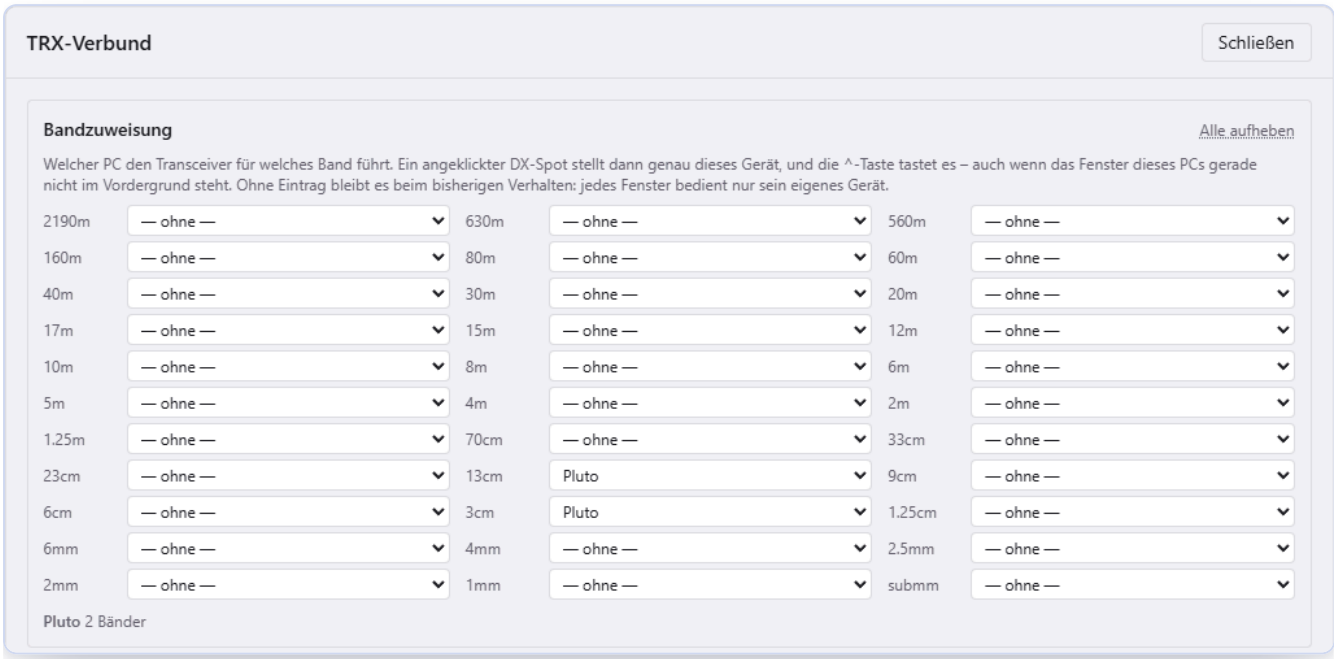


Fig. 7 Rig group, band assignment: 13cm and 3cm are on Pluto, all other bands without an entry.

STEP 06

Allow transmitting

Out of the box, transmitting is off. It is enabled in the window's TRX control with the checkbox **Allow transmitting** (picture in step 2, bottom).

> ⚠️ **Before the first transmission:**
>
> - Connect an antenna or a dummy load to the power amplifier.
> - Start with low power (*Drive* −6 dBFS out of the box). Your own signal must never be stronger on the transponder than the beacon.
> - Check in your own waterfall that the frequency is free.

You key with **Transmit** in the control bar, with **^** in the window or with the PTT key. While transmitting, your own carrier shows up in your own waterfall.

STEP 07

Pluto Plus only: PTT over SSH

The Pluto Plus with the original ADI firmware does not switch its PTT output by itself. PlutoTRX therefore sets it over SSH (pin MIO0). Without this step you get RF, but the power amplifier is not keyed.

1. **Create an ECDSA key**, without a passphrase. The Pluto does not know Ed25519.

```
ssh-keygen -t ecdsa -f ~/.ssh/pluto_ecdsa -N ""
```

2. **Add the public key on the Pluto:** append the contents of `~/.ssh/pluto_ecdsa.pub` to `/root/.ssh/authorized_keys` on the Pluto.
3. **Make the key permanent on the Pluto**, otherwise it is gone after the Pluto's next restart:

```
device_persistent_keys
```

4. **In your own configuration file** from step 2 (for example `plutoplus.json`), add this entry:

```
"ptt_output": "mio"
```

Pin 0, user `root` and the key `~/.ssh/pluto_ecdsa` are the defaults and need no entry.

What matters is a file **of its own**: if `ptt_output` is in the shared `AdalmPluto.json`, a normal Pluto reaches for MIO0 as well.

STEP 08

Open the window at startup

Under *Tools* ▸ *LiveLocal* (picture in step 1):

1. Create a preset: enter a name, for example *QO-100*, then **New**.
2. Tick the Pluto window in the column **In preset**.
3. Under **Open at program start:** choose this preset.

In short

Where	What
Tools ▸ ***LiveLocal***	Add a window with the mask **TRX**, later put it in the preset
Window ▸ ***Tools*** ▸ ***TRX control***	**Transceiver of its own**, link ADALM Pluto, address, LNB 9750, *Audio via Audio Assignment*, calibrate, *Allow transmitting*
Window ▸ ***Rig controls*** ▸ ***Beacon sync***	Beacon on the centre line, state *locked*
Tools ▸ ***Audio Assignment***	Microphone to *Pluto · Transmit*, output to *Pluto · Receive*
Tools ▸ ***Rig group***	13cm and 3cm to *Pluto*
Pluto Plus only	SSH key, own configuration file with `"ptt_output": "mio"`

On a client PC in LiveNet, the window and the Pluto are set up the same way in that PC's LogRunner (steps 1–4, 6 and 7). Band assignment and Audio Assignment, however, are set only in the hub's main window.