

Operation together with Adalm PLUTO

the Pluto can be connected via USB or via USB-Ethernet adapter.

The following note is important when operating with USB-Ethernet adapters:

As described, the Pluto buffer sizes of the SDR console must be set to the maximum, that is 250 ms.

However, some USB Ethernet adapters have latency times of >500 ms, and the SDR console buffer can no longer cover this long time and dropouts occur.

How do you recognize a USB-Ethernet adapter with too high latency times:

You can hear the transmission signal back acoustically. If you run a BER test, you can hear the typical digital, noise-like modulation. If this interrupts briefly again and again, you have dropouts. These usually last 0.2 to 1 second, so they can be heard very clearly. The frequency of the dropouts is determined by the quality of the USB-Ethernet adapter and is often in the range of approx. 10 to 20 seconds.

Which USB Ethernet adapters work:

there are many adapters that are of course not available for testing here. The adapter with the lowest latency was the following:

UGREEN LAN Adapter USB 2.0 Network USB to RJ45 Ethernet Adapter 10 / 100Mbps

(note: no USB 3.0 and no gigabit!)

With this adapter, error-free operation can be carried out on our reference PC (Intel i7) over very long periods of time.

Which USB Ethernet adapters don't work:

Bad experiences in the interaction between the SDR console and Pluto were made with USB 3.0 gigabit adapters, such as:

Techrise high-speed USB 3.0 to RJ45 Gigabit Ethernet LAN network adapter, supports 10/100/1000 Mbit/s

possibly this is because the Pluto supports USB 2.0 and therefore the 3.0 adapters switch back to 2.0 mode where they do not work optimally. But that is only an unconfirmed assessment.

tip for operation:

* use USB interface

or

* use a USB2.0 max. 100Mbit / s adapter

the Pluto's sampling rate should be set to the minimum, which is 550kHz in der SDR Console start dialog.

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