RF-Catcher Suite – Handle a GPS signal

HOW TO

RF-Catcher is the most compact & portable RF Capture & Playback device and spectrum analyzer. Covering a frequency range from 70 MHz to 6 GHz, RF-Catcher can record & play real-time RF bandwidth of up to 55 MHz.
RF-Catcher Application Suite extends RF-Catcher capacities with a wide range of software applications: IQ Converter, IQ Splitter, Event Trigger, RF TroubleMaker, Task Scheduler…

How to capture/playback a GPS signal with RF-Catcher

This setup has been validated with the Spring'17 release of *RF-Catcher Application Suite*.

STEP 1 – HW requirements

You will need:

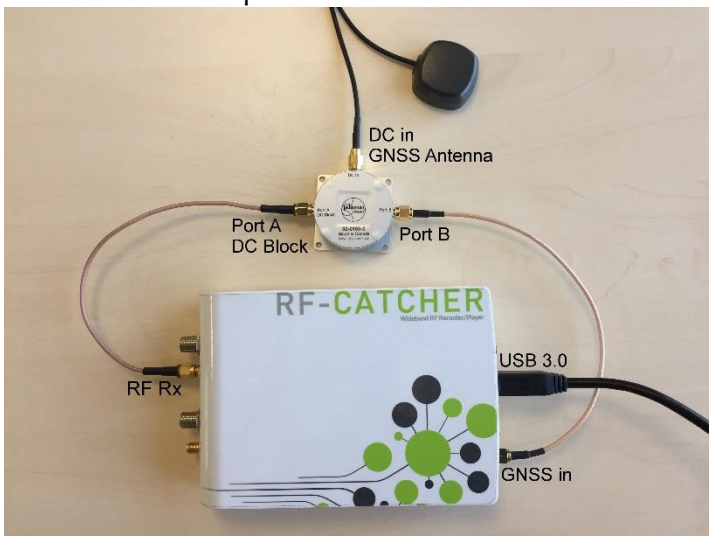
- *RF-Catcher* (+ PC)
- Active GNSS antenna
- GPS splitter
- SMA cables

Note that when playing back the GPS signal on *RF-Catcher*, it takes a few seconds to get the lock LED (next to the GNSS antenna on RF-Catcher) to light up.
The lock mechanism of the GPS receiver takes some time, which is normal.

STEP 2 – GPS CAPTURE

We will work with a GPS L1 signal (1575.42 MHz)

Here is how to setup *RF-Catcher*:



- Connect GNSS active antenna to the splitter's DC in port
- Connect *RF-Catcher*'s GNSS in to the splitter's port B
- Connect *RF-Catcher*'s RF Rx in to the splitter's port A (DC Block)

Then configure the following **Rx** parameters in *RF Capture & Playback* application:

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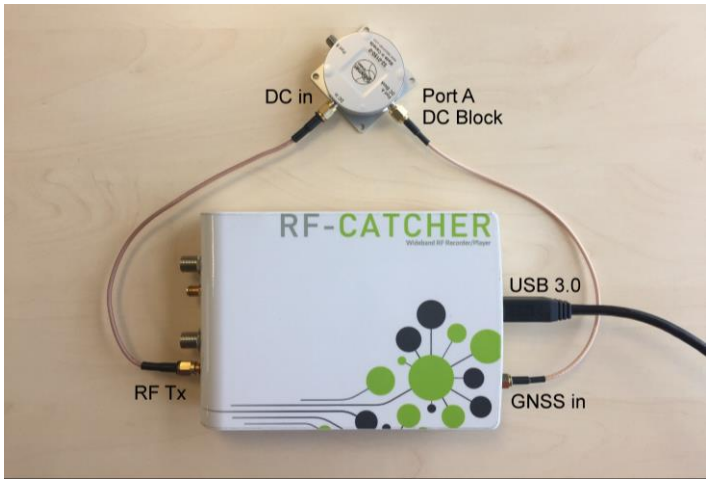
You can adjust gain to get an optimal carrier through the "Autoset Gain" button.

Important: Make at least a 45 seconds-long record (1 min 30 typ.) to have time to lock when playing back the signal.

STEP 3 – GPS PLAYBACK (test setup)

Here is how to setup *RF-Catcher* to test a GPS recording:



- Connect *RF-Catcher*'s RF Tx out to the splitter's DC in port
- Connect *RF-Catcher*'s GNSS in to the splitter's port A (DC Block)

Then configure the following **Tx** parameters in *RF Capture & Playback* application:

The GPS LED on *RF-Catcher* should light up after a few seconds.

If it does not, try changing the attenuation in GUI and/or using the attenuation value that compensates the gain used during the record.