# HiTarget / SatLab GNSS Receivers Configuration

(tcpgps_android_en_v20_hitarget_satlab_gnss_receivers_configuration)

## Update Date

2021 / 01 / 28

## Objective

Configure HiTarget and SatLab GNSS receivers to work in different modes, such as RTK and static.

## Requirements

Hardware:

**Android device** (tablet or smartphone)

**GNSS receiver**

| | Firmware version |
|---|---|
| SatLab SL700 | **1.8.8.8** |
| SatLab SL800 | **2.3.0** |
| SatLab SL900 | **5.8.8.8** |
| HiTarget iRTK5 | **1.8.8.8** |
| HiTarget V90+ | **5.8.8.8** |
| HiTarget V100 | **2.3.0** |
| HiTarget INNO1 | **1.1.0.2** |

Software:

**TcpGPS v2.0+**

Operating System:

**Android**

## Details

TcpGPS v2.0 allows one to configure SatLab SL700 / SL800 / SL900 and HiTarget iRTK5 / V90+ / V100 / INNO1 GNSS receivers in different modes, depending on integrated hardware.

The configuration of GNSS receivers can be done with the wizard, when starting the app, or using ***Receiver*** option, from main menu.

The following table shows the supported working modes:

| | SL700 | SL800 | SL900 | iRTK5 | V90+ | V100 | INNO1 |
|---|---|---|---|---|---|---|---|
| Static | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

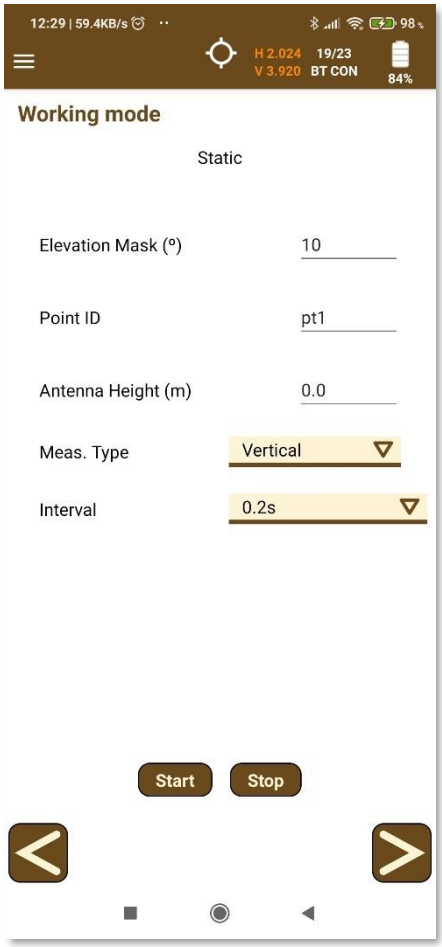
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Base Internal UHF | ✓ | | ✓ | ✓ | ✓ | | |
| Base External Datalink | ✓ | | ✓ | ✓ | ✓ | | |
| Base Internal GPRS (iRTK) | ✓ | | ✓ | ✓ | ✓ | | |
| Rover Internal UHF | ✓ | | ✓ | ✓ | ✓ | | |
| Rover External Datalink | ✓ | | ✓ | ✓ | ✓ | | |
| Rover Internal GPRS (iRTK) | ✓ | | ✓ | ✓ | ✓ | | |
| Rover Internal GPRS (NTRIP) | ✓ | | ✓ | ✓ | ✓ | | ✓ |
| Rover Data Collector Internet (iRTK) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Rover Data Collector Internet (NTRIP) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## Contents



# 1. Static

It allows one to record GNSS raw data on a fixed position for further processing. The data are recorded in the receiver internal memory.




The ***Point ID***, the ***Elevation Mask*** and the ***Antenna Height*** must be entered.

The point ID length must be 4 or less.

The antenna measuring type can be ***Vertical*** or ***Slant***.

The record interval range is from 5Hz to 60 seconds for SL700, SL900 and iRTK5, and from 1 to 60 seconds for SL800, V90+, V100 and INNO1.

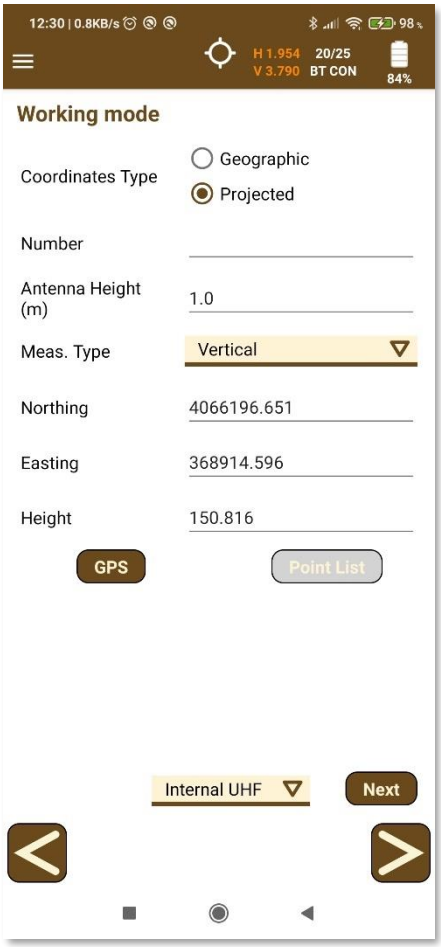
After clicking ***Start*** button the receiver starts to record data and the recording status (internal filename, start time, current recording time, etc) is shown at the bottom of the screen. If the file already exists, an error message is shown.

Click **Stop** button to finish the recording.

Note that, for SL800 and V100 receivers, the recording of the file starts, more or less, 1 minute later clicking ***Start*** button.

## 2. Base RTK

Base working modes are only available for SL700, SL900, iRTK5 and V90+ receivers.

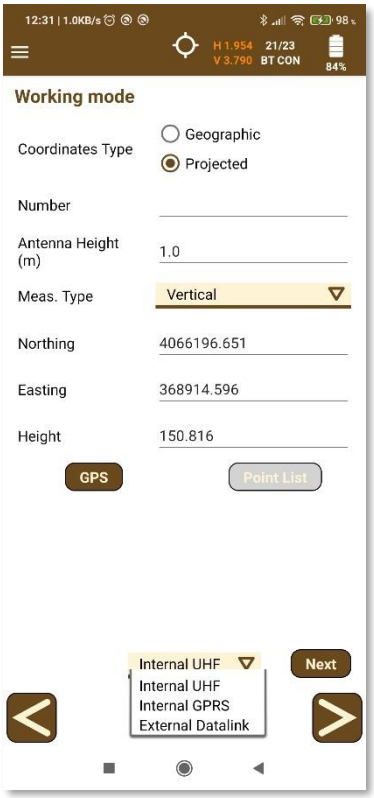



The ***Number*** or point ID, the ***Antenna Height*** and the base coordinates must be entered in the first configuration screen.

The base coordinates can be entered in WGS84 geographic coordinates or projected coordinates. They can be entered manually, measured from ***GPS*** or selected from project ***Point List***.

The antenna measuring type can be ***Vertical*** or ***Slant***.

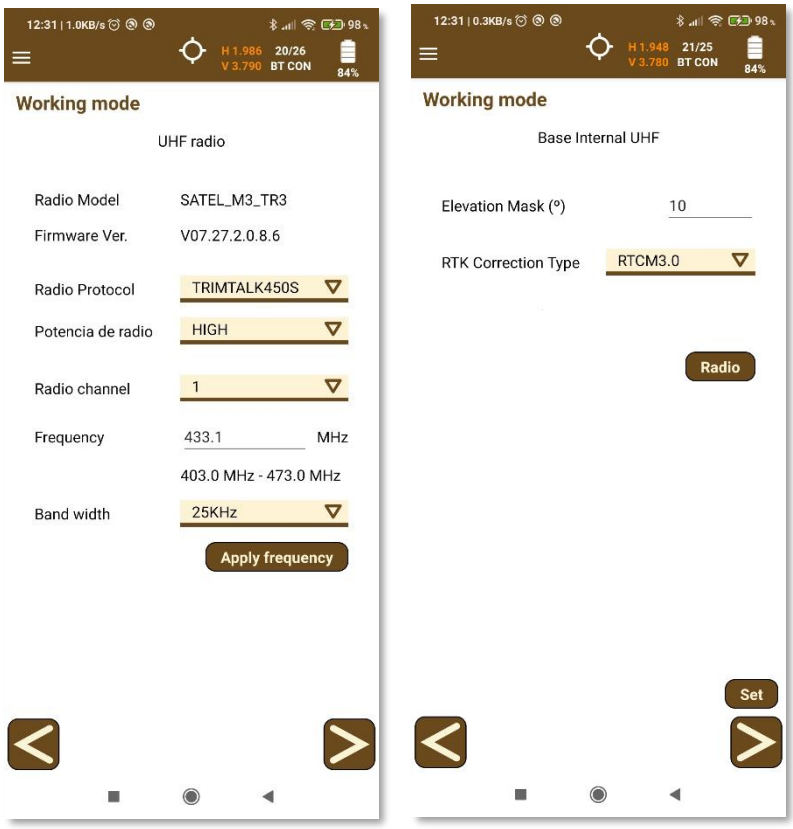
There are 3 different data links available, ***Internal UHF***, ***Internal GPRS*** and ***External Datalink***, which can be selected at the bottom of the screen.



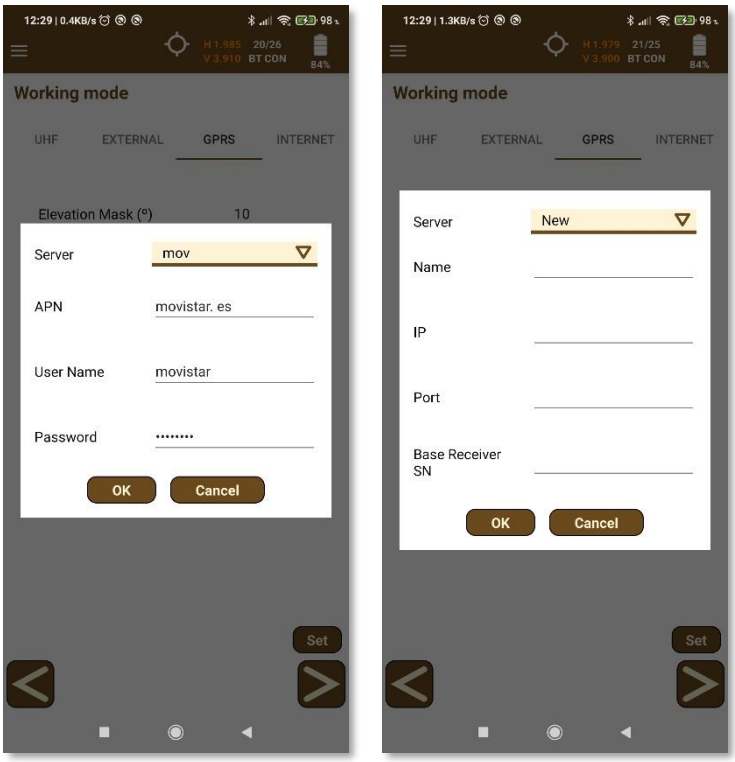

After clicking ***Next*** button, a second screen configuration is shown. Some parameters of this screen are common to all data link modes, such as ***Elevation Mask*** and ***RTK Correction Type***, and other parameters depend on the data link selected.

RTK correction format can be **CMR**, **RTCM 2.x**, **RTCM 3.0** or **RTCM 3.2** (MSM).

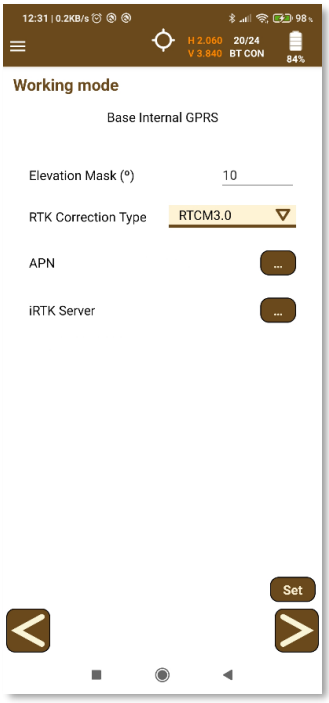
When selecting ***Internal UHF*** mode, only common parameters must be entered and, optionally, UHF radio parameters, such as channel, protocol, frequency, etc, can be configurated clicking ***Radio*** button.



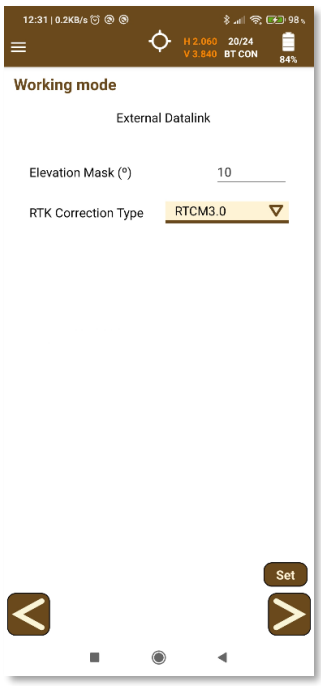

When selecting ***Internal GPRS*** mode, the link between base and rover is done connecting to a server through Internet, so, apart from common parameters, ***APN*** and ***iRTK*** server data must be entered.



For APN, the app asks for the domain name, ***User Name*** and ***Password*** and, for iRTK server, it asks for ***Name***, ***IP***, ***Port*** and ***Base Receiver*** serial number.




The last available mode is ***External Datalink*** where only common parameters must be configured.



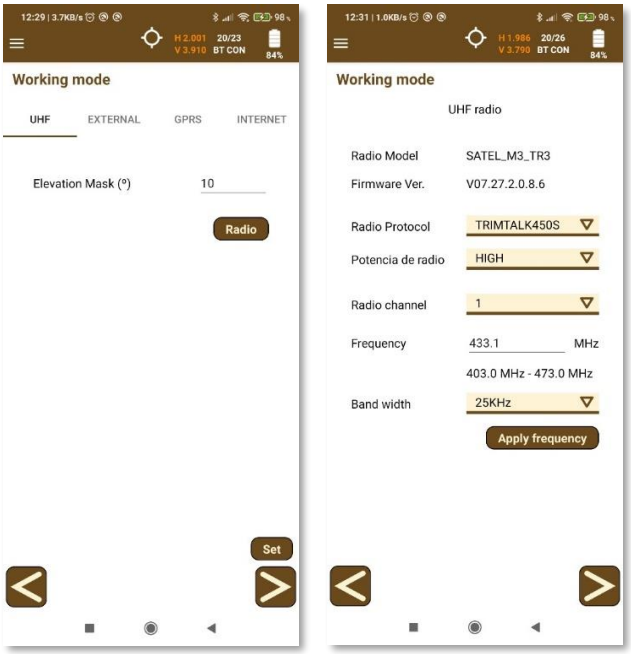

After clicking ***Set*** button, the app starts configuring the receiver as base.

# 3. Rover RTK

Rover configuration modes are the same as base ones and also include NTRIP modes.

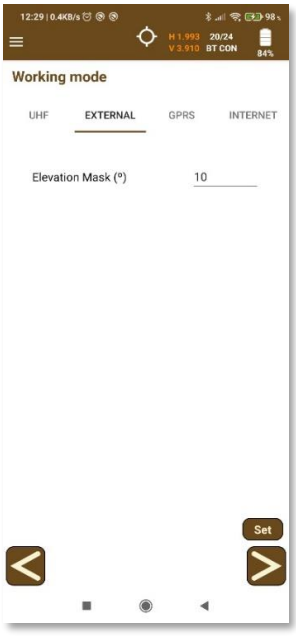
**Internal UHF**

The app only asks for ***Elevation Mask*** and, optionally, UHF radio parameters can be configurated.




**External Datalink**

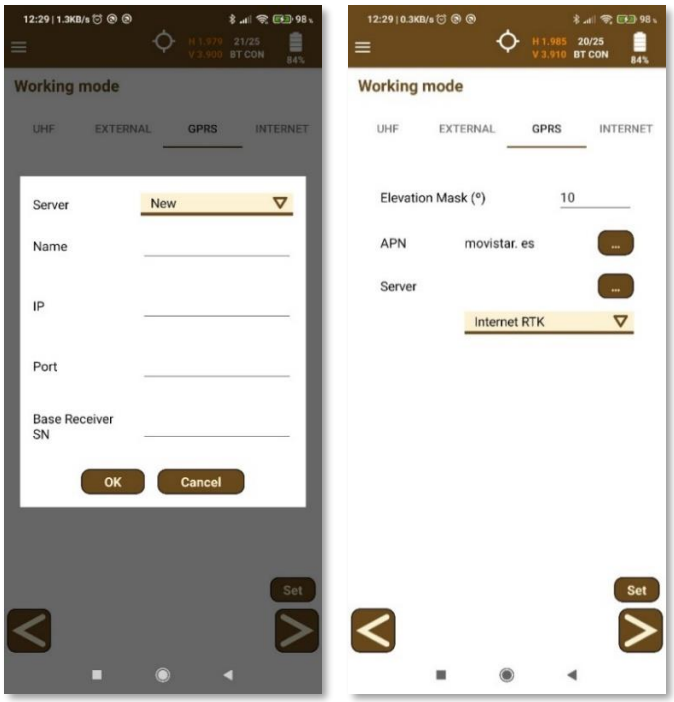
The rover uses an external device to receive the RTK corrections. Only ***Elevation Mask*** must be configured.



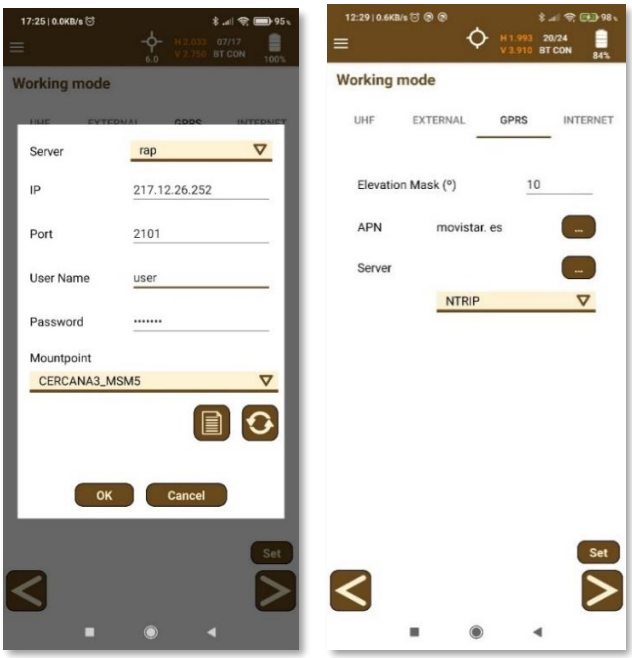
**Internal GPRS**

In this mode, the receiver can work using NTRIP or iRTK protocol. In both cases, ***Elevation Mask*** and APN parameters must be configured. For APN, the app asks for domain name, ***User Name*** and ***Password***.


When selecting ***iRTK***, the connection between base and rover is done connecting to a server through Internet. In this case, iRTK server parameter must be configured.



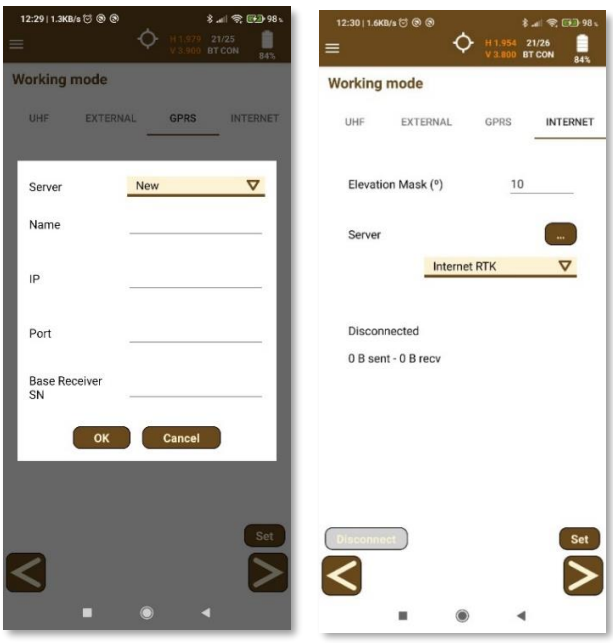
If the selected mode is NTRIP, the app asks for the caster parameters, such as ***IP***, ***Port***, ***User Name***, ***Password*** and ***Mountpoint***.



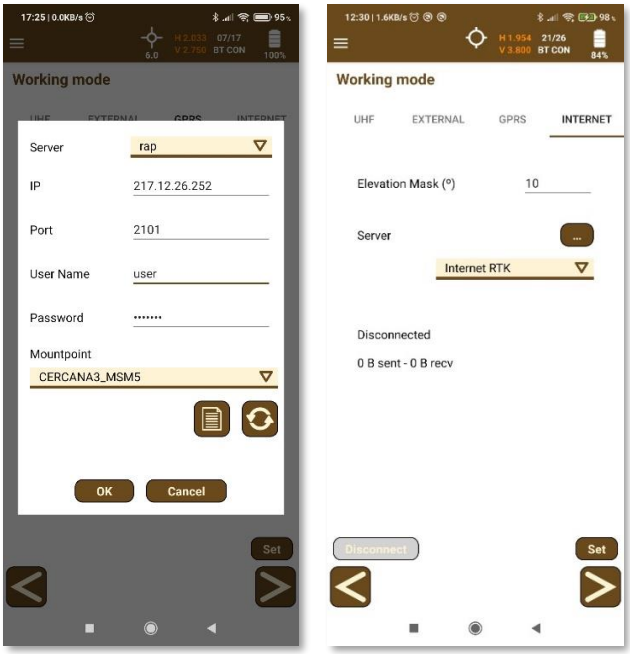

**Data Collector Internet**

When selecting this work mode, the RTK corrections are received in the smartphone or tablet and send to the GNSS receiver. In this case, the configuration screen has a button to connect to the server and disconnect from it. The connection status and the number of bytes sent and received are also shown on the screen.

For iRTK mode, the app asks for the ***Name***, ***IP***, ***Port*** and ***Base Receiver*** serial number.



If the selected mode is NTRIP, the app asks for the caster parameters, such as ***IP***, ***Port***, ***User Name***, ***Password*** and ***Mountpoint***.




After clicking ***Set*** button, the app starts configuring the receiver as rover.