

HiTarget / SatLab GNSS Receivers Configuration

(tcpgps_android_en_v20_hitarget_satlab_gnss_receivers_configuration)

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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	\checkmark						

Base Internal UHF	\checkmark		\checkmark	\checkmark	\checkmark		
Base External Datalink	\checkmark		\checkmark	\checkmark	\checkmark		
Base Internal GPRS (iRTK)	\checkmark		\checkmark	\checkmark	\checkmark		
Rover Internal UHF	\checkmark		\checkmark	\checkmark	\checkmark		
Rover External Datalink	\checkmark		\checkmark	\checkmark	\checkmark		
Rover Internal GPRS (iRTK)	\checkmark		\checkmark	\checkmark	\checkmark		
Rover Internal GPRS (NTRIP)	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark
Rover Data Collector Internet (iRTK)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
Rover Data Collector Internet (NTRIP)	\checkmark						

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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.

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Working mode	
Coordinates Type	GeographicProjected
Number	
Antenna Height (m)	1.0
Meas. Type	Vertical 🗸
Northing	4066196.651
Easting	368914.596
Height	150.816
GPS	Point List
	ternal UHF 🗸 Next
	•

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.

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Working mode	
Coordinates Type	 Geographic Projected
Number	
Antenna Height (m)	1.0
Meas. Type	Vertical 🗸
Northing	4066196.651
Easting	368914.596
Height	150.816
GPS	Point List
	ternal UHF V Next ternal UHF ternal GPRS kternal Datalink
-	•

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.

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Working mode		Working mode	
U	HF radio	Base Inte	ernal UHF
Radio Model	SATEL_M3_TR3	Elevation Mask (°)	10
Firmware Ver.	V07.27.2.0.8.6		
Radio Protocol	TRIMTALK450S	RTK Correction Type	RTCIVIS.U V
Potencia de radio	HIGH V		
Radio channel	1 🗸		Radio
Frequency	433.1 MHz		
Band width	403.0 MHz - 473.0 MHz 25KHz Apply frequency		
<	 Image: Second sec		Set

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.

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Working mode	Working mode
UHF EXTERNAL GPRS INTERNET	UHF EXTERNAL GPRS INTERNET
Elevation Mask (°) 10	Server New 🗸
Server mov 🔽	Name
APN <u>movistar. es</u>	IP
User Name movistar	Port
Password OK Cancel	Base ReceiverSN
	OK Cancel
Set	Set 🗲
	■ ● ◀



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*.

12:29∣0.4KB/s © ® ® ≡	\$.atl 중 @2 98 . ↔ H1.985 20/26 V3.910 BT CON 845.
Working mode	
UHF EXTERN	AL GPRS INTERNET
Elevation Mask (°) 10
Server	mov 🔽
APN	movistar. es
User Name	movistar
Password	<u></u>
ок	Cancel
	Set

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.

12:29 1.3КВ/s ७ இ இ ≡ Ф № 11.3	\$	12:29 0.3КВ/	•*** (*. + 1.985 2 V 3.910 BT	ull 😤 ⊡ 98 s D/25 📋 CON 84%
Working mode		Working n	node		
UHF EXTERNAL GPR	S INTERNET	UHF	EXTERNAL	GPRS	INTERNET
Server New	▽	Elevation	n Mask (°)	10	
Name		APN	movista	ar. es	
IP		Server	Intern	et RTK	
Port	_1				
Base Receiver	-1				
OK Canc	el				
					_
	Set	<			Set >
• •	4				



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

orking mode	6.0 V 2.750 BT CON 1	Working	mode	V3.910 BT	CON 849
		UHF	EXTERNAL	GPRS	INTERNE
Server	rap 🗸 🗸		-		•
IP	217.12.26.252	Elevatio	on Mask (°)	10	
Port	2101	APN	movista	r. es	
Jser Name	user	Server			
Password			NTRIP		
Mountpoint					
CERCANA3_	MSM5				
_	_				
OH	Cancel				
	s	et			Se

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.

12:29 1.3KØ/5 © ● ●	12:30 1.6KB/s ℃ ⑧ ⑧
Working mode	Working mode
UHF EXTERNAL GPRS INTERNET	UHF EXTERNAL GPRS INTERNET
Server New 🗸	Elevation Mask (°) 10
Name	Server
IP	Internet RTK V
Port	Disconnected
Base Receiver SN	U B Sent - U B recv
OK Cancel	
Set	Disconnect
	\leq \geq
■ ● ◄	■ () ◄



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.