

# TRIUMPH-1 AS A BASE

## (CONFIGURED THROUGH TRIUMPH-VS)

This configuration example describes how to configure TRIUMPH-1 as a base station using TRIUMPH-VS as a controller connected to TRIUMPH-1 using Bluetooth.

**Note:** Please do not forget to attach the UHF/GSM antenna to TRIUMPH-1.

### Attaching Optional UHF/GSM Antenna to TRIUMPH-1

A broadband, rugged, in-building or outdoor antenna designed to service the whole 406-470 MHz UHF band and GSM quad band. With modest dimensions of 25 mm (OD) x 182 mm (height), this antenna radiates with a typical peak omnidirectional gain of +1 dBi. Internally, the radiating element is DC shunted to help protect the transceiver from nearby, but not direct ElectroStatic Discharge (ESD).

The TRIUMPH-1 modem antenna can be mounted on standard poles (5/8-11 inches thread). Attached to the TRIUMPH-1 receiver this antenna gets a part of survey pole, making handling with receiver easy and simple.



**Figure 1. TRIUMPH-1 External UHF/GSM Antenna**

## Triumph-1 as a Base (configured through Triumph-VS)


### TRIUMPH-1 Placement Recommendations

- TRIUMPH-1 should be placed on a stable surface, and antenna should be positioned horizontally.
- Ensure TRIUMPH-1 is placed on a place with maximum satellites visibility (open sky) and minimum multipath.
- Lift TRIUMPH-1 to the maximum height (to provide maximum transmission range of the corrections using UHF radio).

**Note:** If the radio range is insufficient, it is recommended to use an external radio HPT404BT or HPT435BT.

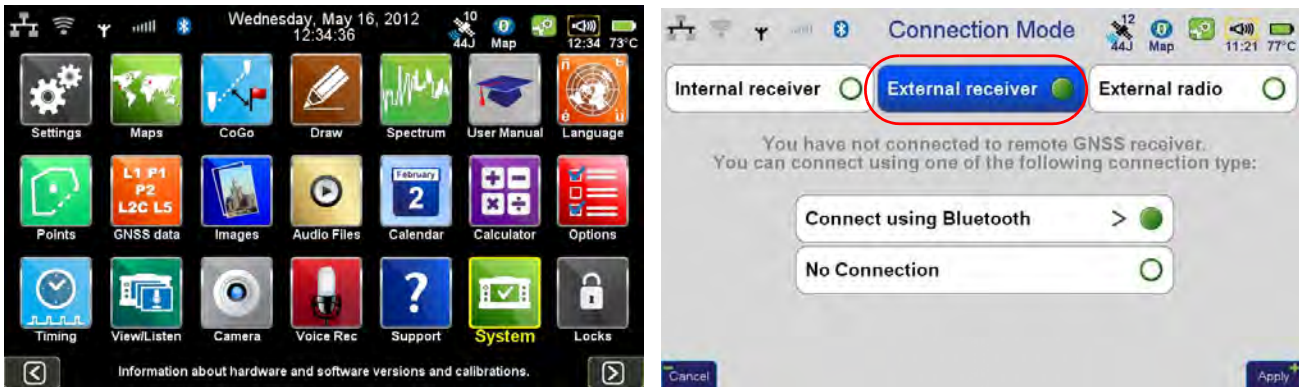
### TRIUMPH-1 as a Base Setup

1. To configure TRIUMPH-1 via TRIUMPH-VS, place TRIUMPH-VS at a distance of no more than 8 meters from the TRIUMPH-1 (to ensure a reliable connection between the Bluetooth devices).
2. Turn on both receivers.

**Note:** To return to TRIUMPH-VS's *Main* screen, press the *Home* button  on the front panel of TRIUMPH-VS.

**Note:** Always tap *Apply* or press the *Apply* button , to save the settings and parameters into receiver's memory.

3. On the TRIUMPH-VS *Main* screen tap *System* ▶ *Connection Mode* and then *External Receiver*:



**Figure 2. System ▶ Connection Mode ▶ External Receiver**

4. Tap *Connect using Bluetooth*, the Bluetooth connection window will appear:



Figure 3. Bluetooth connection window

**Note:** Red color of the satellites icon means TRIUMPH-1 is not connected yet and cannot track satellites

5. Tap *Discovery* and after the Bluetooth devices are discovered select your TRIUMPH-1 from the list and tap *Connect*. When the connection will be established the Bluetooth icon will become green and satellites icon will show the number of tracked satellites.



Figure 4. TRIUMPH-1 is connected to TRIUMPH-VS

6. To set up the Base station, tap *Settings* on the *Main* screen:



Figure 5. Settings

## Triumph-1 as a Base (configured through Triumph-VS)

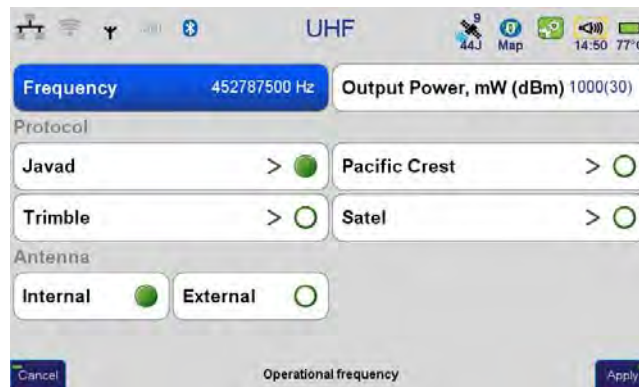
7. Then *Communication* ▶ *UHF*:



**Figure 6. Communications ▶ UHF**

8. Set the UHF modem parameters:

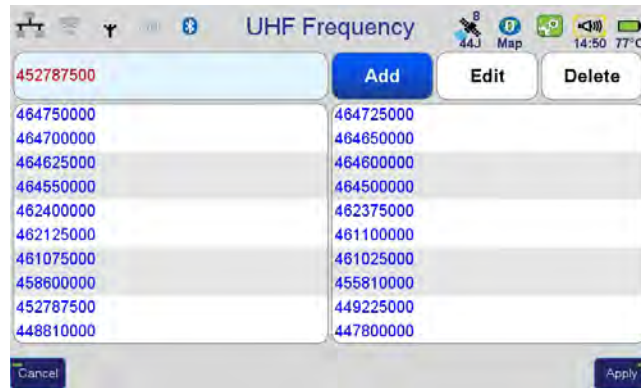
- Frequency
- Protocol and its parameters
- Output power
- Specify the antenna (external or internal)



**Figure 7. UHF parameters**

## Triumph-1 as a Base (configured through Triumph-VS)

- To setup the frequency, select the value from the list, by tapping on the *Frequency*. If there is no needed frequency value, tap *Add* or *Edit* and insert/edit the frequency:



**Figure 8. UHF Frequency**

- The protocol parameters can be reviewed/ changed by tapping on the *Protocol* button. Use JAVAD protocol type if base and rover are the JAVAD GNSS receivers .



**Figure 9. Protocol parameters**

- Modem is configured now. Return to *Main* screen and tap *Settings* ▶ *GNSS*.



**Figure 10. GNSS**

- Tap *Receive Data (Rover)* and ensure the reception from all channels is turned off.



## Triumph-1 as a Base (configured through Triumph-VS)

13. Then tap *Transmit Data (Base)* and set up the parameters of the transmit data: RTK-JPS full and period 1 Hz.



**Figure 11. Transmit data parameters**

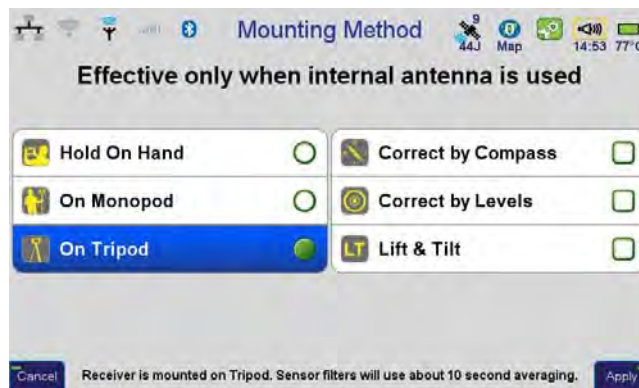
14. Specify antenna parameters and antenna height. Tap *Settings* ▶ *Antenna*:



**Figure 12. Antenna parameters**

Select antenna type (internal/external) and enter the antenna height.

15. Specify the mounting method (*Settings* ▶ *Mounting Method*) - on tripod. Disable *Correct by Compass*, *Correct by Level*, and *Lift&Tilt*.



**Figure 13. Mounting Method**

16. Ensure the receipt of the satellite signals is turned on, tap *Settings* ▶ *GNSS*:



Figure 14. GNSS

17. If the data recording for base station is needed, activate the data recording in *Record Data*, specify what data will be recorded to internal memory and/or SD card:

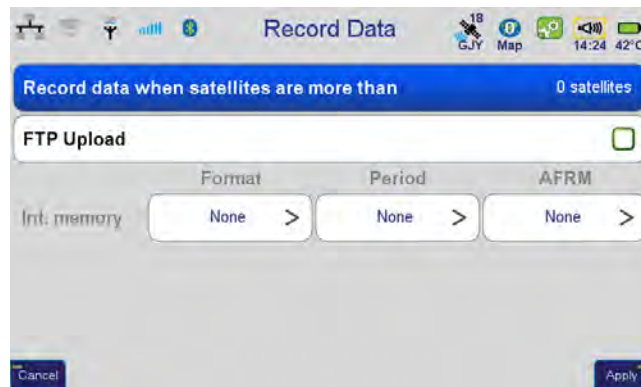


Figure 15. Record data

18. Set up the duration: stop record manually or specify the time. Disable *Delay* and *Auto repeat*:

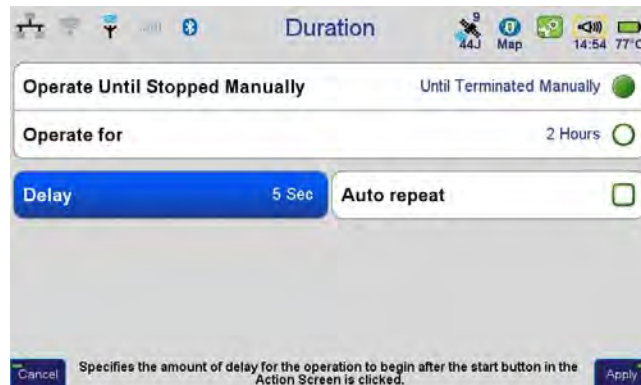
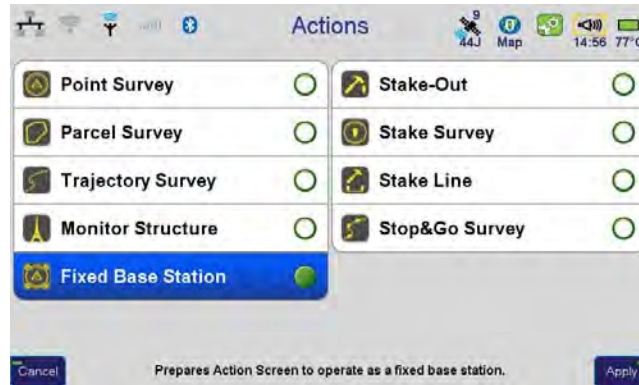


Figure 16. Duration parameters

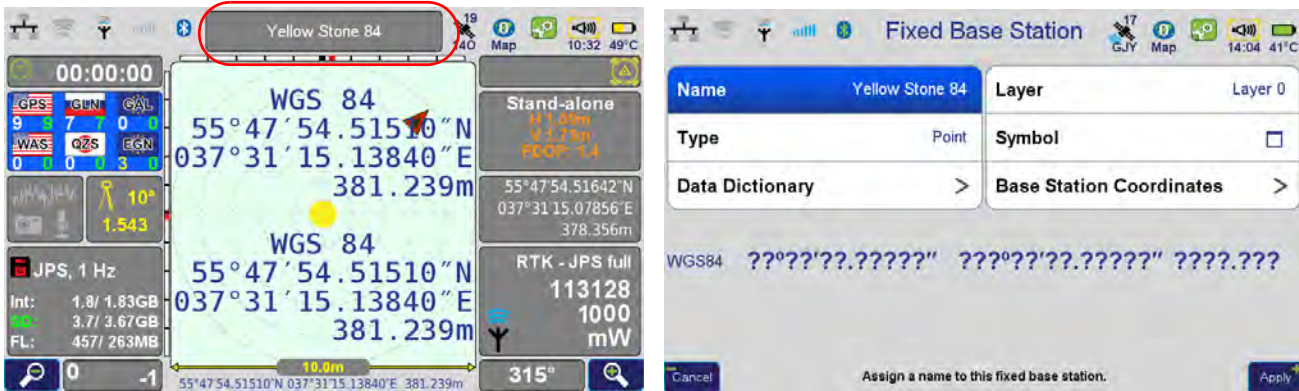
## Triumph-1 as a Base (configured through Triumph-VS)

19. Tap *Settings* ▶ *Actions*, and select *Fixed Base Station*



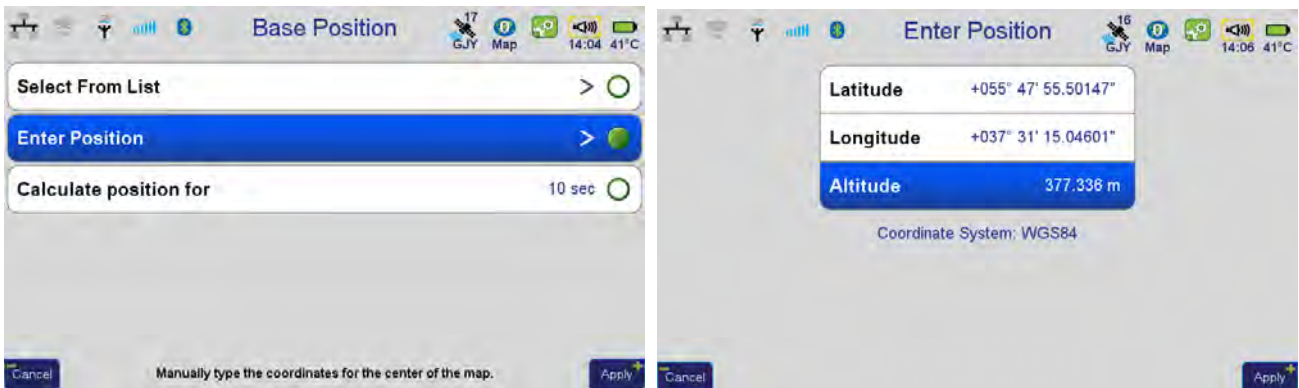
**Figure 17. Actions ▶ Fixed Base Station**

20. Press *Action* button on the front of TRIUMPH-VS to switch to *Action* screen. Tap on the Fixed Base Station name and set the base parameters :



**Figure 18. Base station parameters**

21. Enter Base station coordinates: *Base Station Coordinates* ▶ *Enter Position*:




**Figure 19. Base station position**

22. Tap *Apply* on all screens, then return to *Action* screen (by pressing *Action* button).



## Triumph-1 as a Base (configured through Triumph-VS)

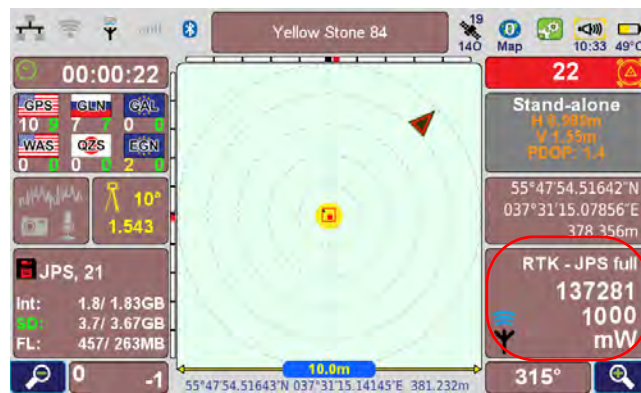
23. Press *Action* button  , to switch to *Command* screen and tap *Start*. To stop the base operation tap *Stop*.

	Yellow Stone 84	Start
0.746m 1.21m	0	Stop
	--	Clear

**Figure 20. Command screen**

24. Now base station is configured. Please do not move it!

25. In the *Action* screen ensure the base station is transmitting corrections:

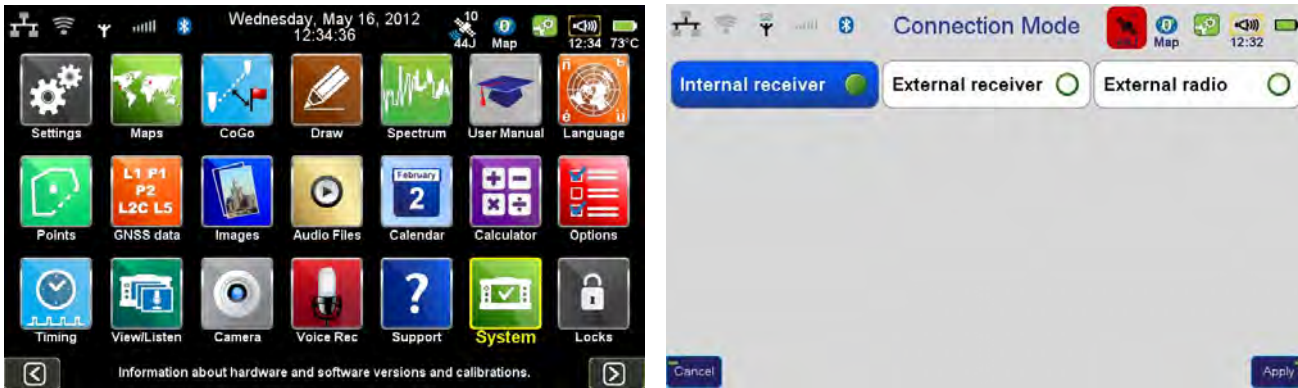


**Figure 21. Base station is transmitting corrections**

26. To disable Base station, after finishing the work, tap *Settings* ▶ *GNSS* ▶ *Transmit Data (Base)*, and set UHF modem format to None. Otherwise the base station operation will continue.

## Triumph-1 as a Base (configured through Triumph-VS)

27. On the Main screen tap *System* ▶ *Connection Mode*, then *Internal receiver*. Tap *Apply*. Satellites icon will show the number of tracked satellites.



**Figure 22. Disconnect from external receiver**

28. Tap *Settings* ▶ *Communication* ▶ *Bluetooth* and tap *Disconnect*, to disconnect TRIUMPH-VS from TRIUMPH-1. The Bluetooth icon will become white and the satellites icon red, this means TRIUMPH-VS is disconnected.



**Figure 23. TRIUMPH-VS is disconnected from TRIUMPH-1**