



# Base Setup via Rover

## HOW TO SET UP A BASE VIA TRIUMPH-LS

### Quick Start Guide



VERSION 1.0

LAST REVISED AUGUST 26, 2021

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# Base Setup via Rover

This quick guide will show how to set up a JAVAD GNSS receiver as a base with a correction link over UHF (internal or external). The settings will be performed using TRIUMPH-LS as a rover and TRIUMPH-1M or TRIUMPH-3 as a base.

## 1. Choose type of Radio

First of all, it is need to decide on the type of modem on the Base station receiver (internal or external). To choose the modem type in the Main menu go to Base/Rover / Default Setup / Base Radio (Figure 1).

- Internal – is for activating internal radio on Base
- External – is for pairing with External radio on Base.

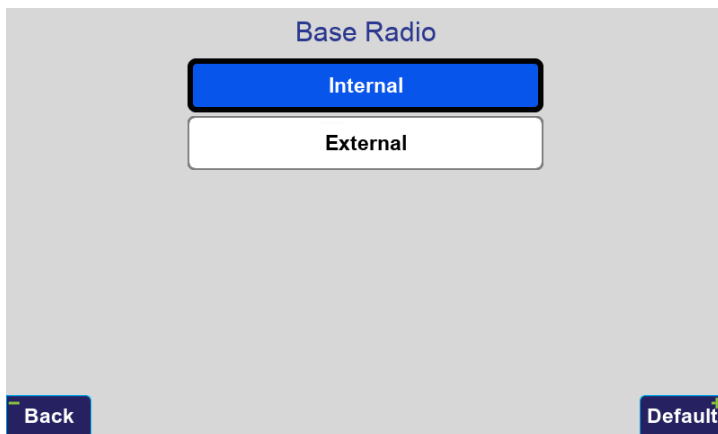


Figure 1. Base radio type

## 2. Base Connection

For connection to Base tap Connect (Figure 2),

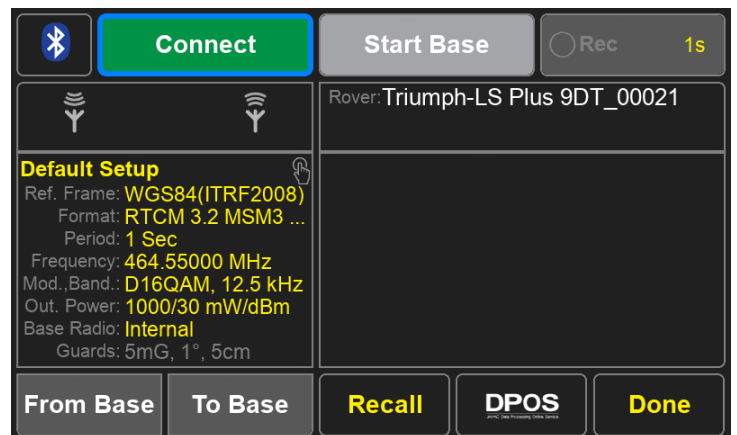


Figure 2. Connect to Base

find and select<sup>1</sup> your base receiver in the list (Figure 3):

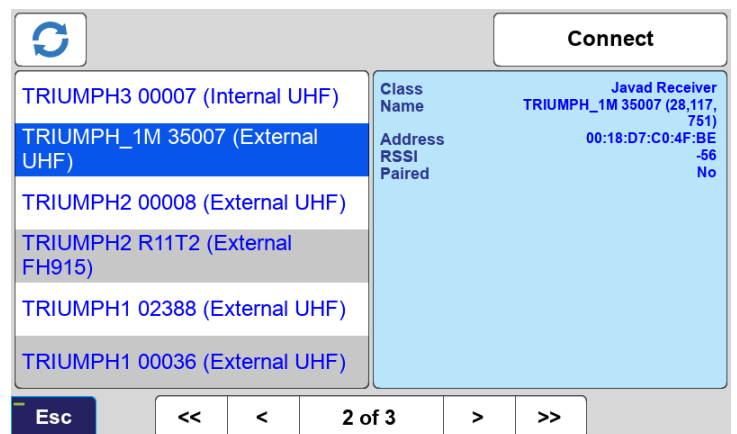


Figure 3. Select the base receiver

<sup>1</sup> The receivers will be connected by Bluetooth. By default, the Bluetooth module on the base receiver is switched on if the appropriate option is activated (check your OAF). Tap Refresh to update the list if there is no needed receiver.

After the connection is established, all statuses of current base settings can be seen and checked (Figure 4). The left side is for Radio settings. The right side is for position and control of the receiver. Red statuses indicate that the current base settings do not match with the current rover settings. For the correct work, all of them should be the same. To export the UHF settings to Base, click "To Base" or "From Base" import to Rover.

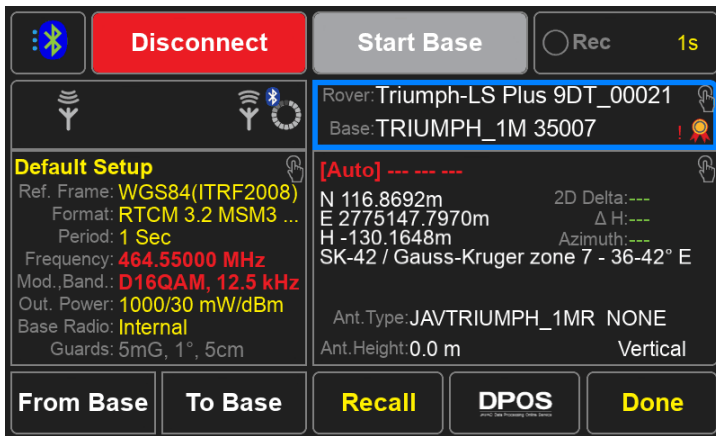


Figure 4. Settings

### 3. UHF Configuration

Tap to Default Setup / UHF configuration (Figure 5):

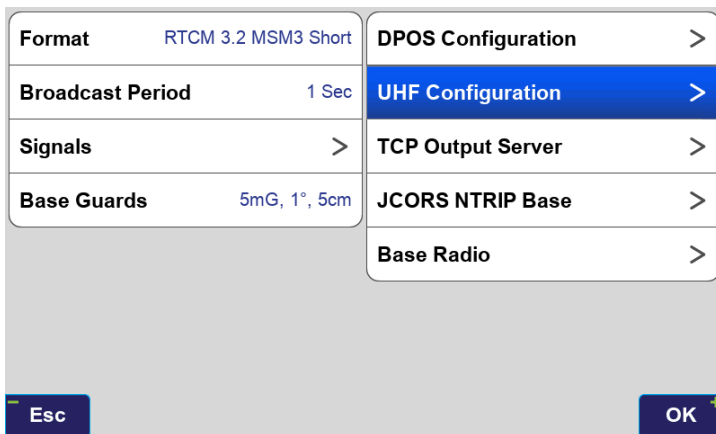


Figure 5. UHF Configuration

Set up all UHF parameters (Figure 6):

- Frequency - set the frequency in MHz you will use during the operation;
- Modulation - set the modulation type selecting from the list;
- Output Power - set the right output power;
- Channel Bandwidth - set the channel bandwidth;
- Call Sign - set if needed (depends on license).

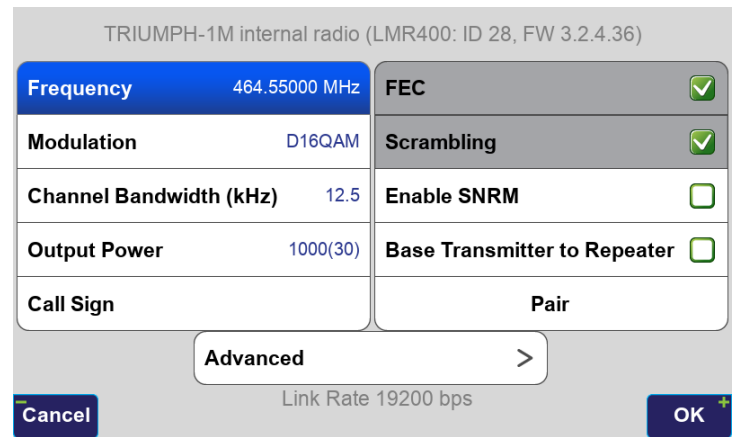


Figure 6. Parameters of the base receiver internal radio

For connection to an external radio, tap on Pair and choose the pairing method: Bluetooth or USB (Figure 7).

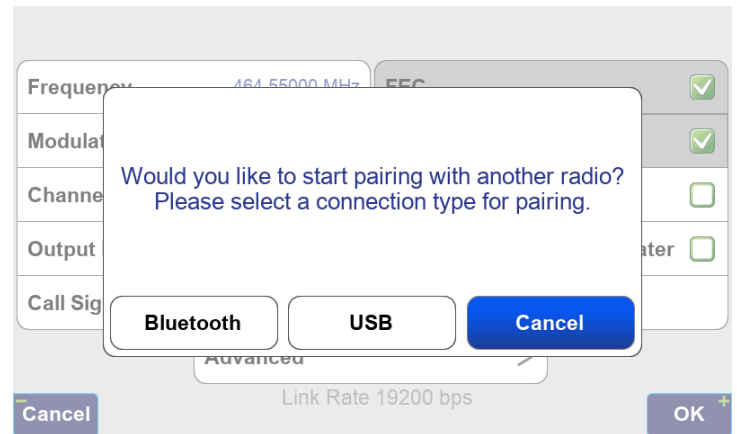
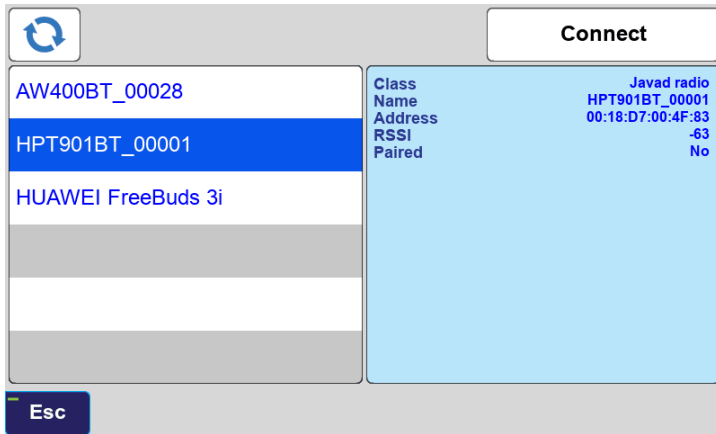


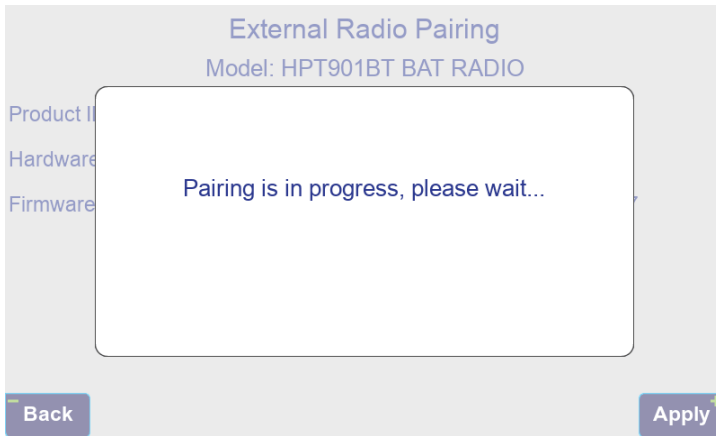
Figure 7. Pairing

For Bluetooth connection, tap on Bluetooth, select the radio from the list and connect to it (Figure 8).



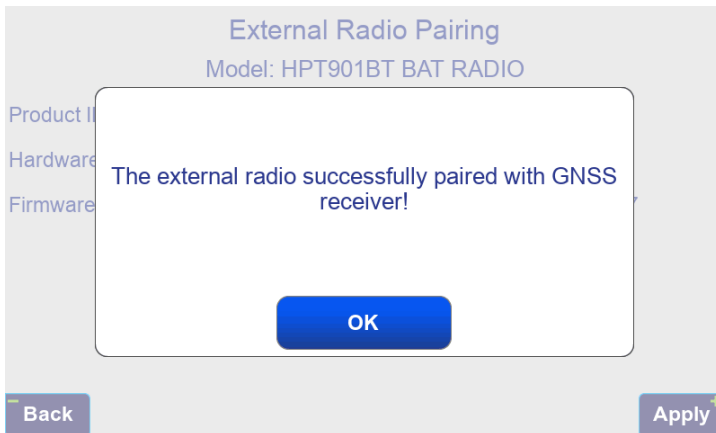
**Figure 8. Connect to an external radio**

For a USB connection, connect an external radio modem cable to the receiver's USB port. After choosing the connection type, wait for the pairing procedure (Figure 9).



**Figure 9. Pairing in progress**

When pairing is done, you will see the confirmation (Figure 10).

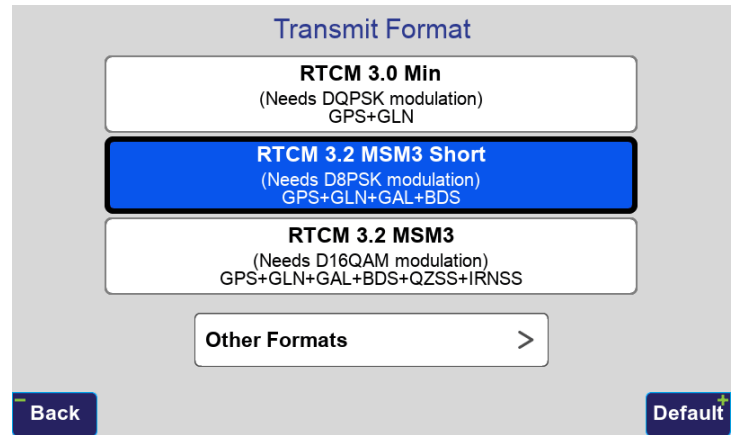


**Figure 10. The radio is paired successfully**

## 4. Transmitting corrections setup

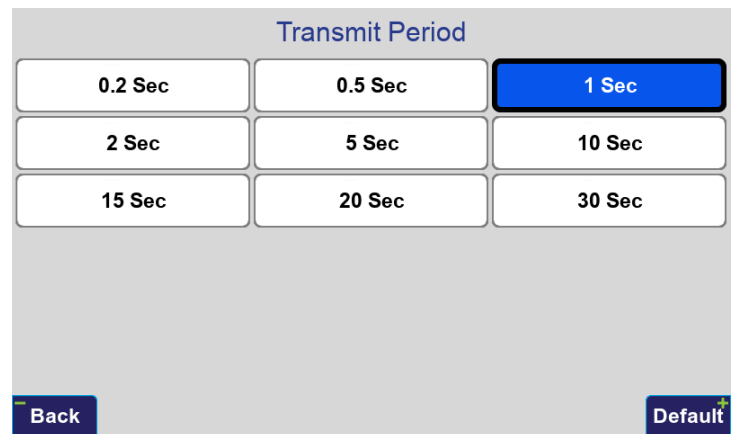
There are few parameters for corrections transmitting:

1. Format. Transmit Format like a RTCM 3.0 Min, 3.2 MSM3 and Other Formats (Figure 11).



**Figure 11. Format of the corrections**

2. Broadcast Period. Period of corrections transmitting from Base (Figure 12).



**Figure 12. Period of transmitting**

3. Signals. Turning on or off for satellites systems tracking on Base (Figure 13).

GPS	C/A	P1	P2	L2C	L5	L1C
GLONASS	CA/L1	P1	P2	CA/L2	L3	N/A
Galileo	E1	E5aBoc	E5B	E6	E5A	N/A
BeiDou	B1	B2aBoc	B2B	B3	B2A	B1C
IRNSS	N/A	N/A	N/A	N/A	L5	N/A
QZSS	C/A	L1S	L6	L2C	L5	L1C
SBAS	L1	N/A	N/A	N/A	L5	N/A

Esc OK

Figure 13. Signals

4. Base Guards. Activating parameters that allow you to track the movement of the receiver base station (Figure 14).

Base Displacement Guards

Acceleration Threshold	5mG
Tilt Threshold	1°
Displacement Threshold	5cm
Anti-Theft Guard	10m

Show Base Alerts

Esc OK

Figure 14. Base displacement

## 5. Base position setup

For the correct work of RTK, it is necessary to set up position coordinates of the base station.

Go to the Proposed Base Position screen and choose one of the types (Figure 15).

Proposed Base Position Auto Position (---)

Select Nearest From Auto

[Auto] --- --- ---  
 N 116.8692m  
 E 2775147.7970m  
 H -130.1648m  
 SK-42 / Gauss-Kruger zone 7 - 36-42° E

2D Delta: ---

Broadcasting Ref. Frame WGS84(ITRF2008)

Antenna Height:

Vertical Height 0.0 m Offset 0.0 m

Esc OK

Figure 15. Base position setup

- “From Auto” setup autonomous receiver position.
- “Nearest” takes closet position from points list.
- “Select” allows to choose position from other different ways – Survey, List, Manual (Figure 16)

Get from Save to

Survey Design

Manual Clipboard

List Settings

Map Screen

Clipboard

North, East, Up

116.8692m

2775147.7970m

-130.1648m

SK-42 / Gauss-Kruger zone 7 - 36-42° E

Cancel OK

Figure 16. Select position of the Base

## 6. Remote Base

You can do some actions and configurations with the Base station remotely (Figure 17). Just click on the right-up button with base and rover names for switching to the Remote Base screen.

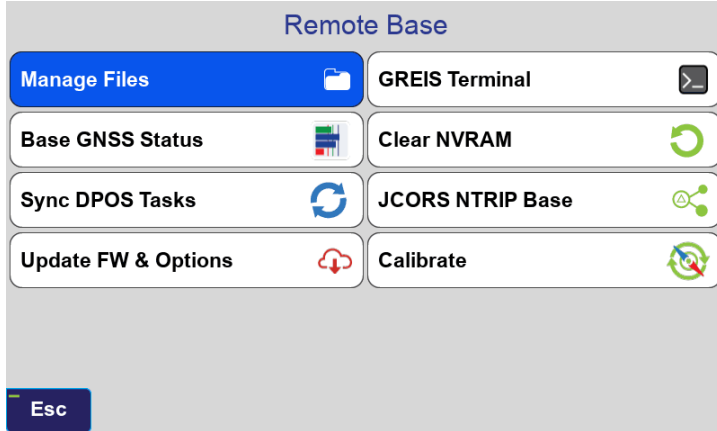


Figure 17. Remote base

- Manage files. Shows Base Receivers GNSS Files list;
- Base GNSS Status. Shows Satellites signals statuses;
- Sync DPOS Tasks. Synchronize Base GNSS files with last DPOS Session;
- Update FW & Options. Checking and updating options and last version of GNSS and Radio firmware.;
- GREIS Terminal. Screen for sending of commands;
- Clear NVRAM. Clearing of all base setting to default;
- JCORS NTRIP Base. Setup Base station as CORS station;
- Calibrate. Calibrations of compass and levels on base.

## 7. Starting Base

When the base is ready for starting (configured by UHF, position, e.t.c), and all base and rover settings match the “Start Base” button will be green. Just click on the button, enter name and start the base (Figure 18).

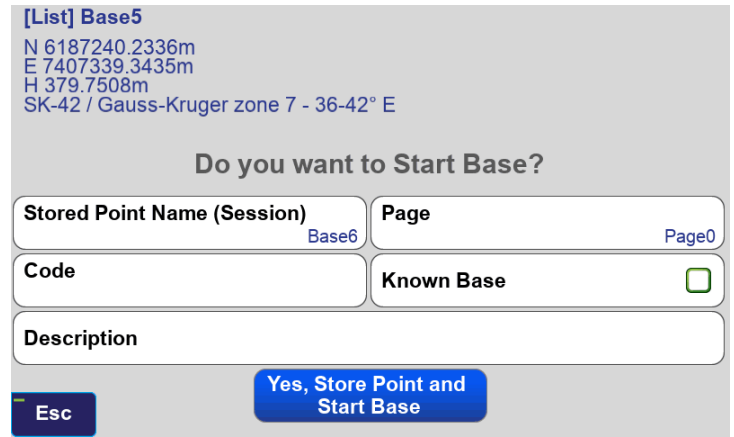


Figure 18. Start Base

## 8. Checking link and corrections statuses

When base started click on transmitting/receiving button and check statuses (Figure 19):

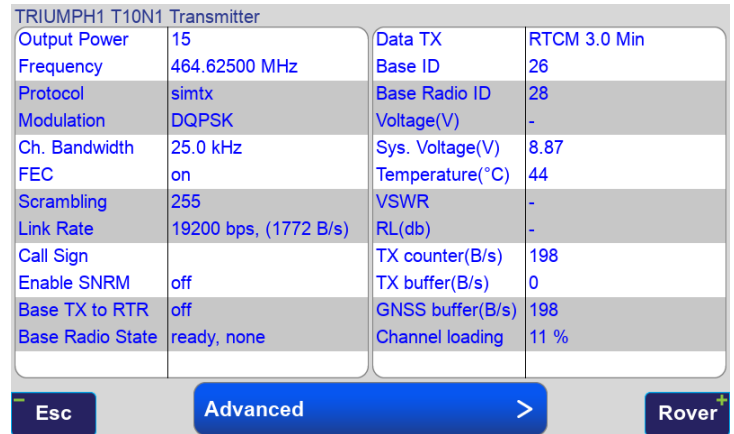


Figure 19. Link and corrections statuses



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