

## Technical Note

(tcpgps\_en\_v41\_002\_setting\_up\_chc\_i80\_in\_RTK\_mode)

# Setting up i80 CHC receiver in RTK mode using TcpGPS

### Update Date:

01/06/2016

### Requirements:

#### Hardware:

CHC LT30 data collector

CHC i80 GNSS receiver

#### Software:

Aplitop TcpGPS v4.1.5 or later

### Objective

Setting up i80 CHC GNSS receivers in RTK mode using TcpGPS. Two configurations are available: base and rover through UHF radio link and rover NTRIP client through GPRS modem link.

### Details

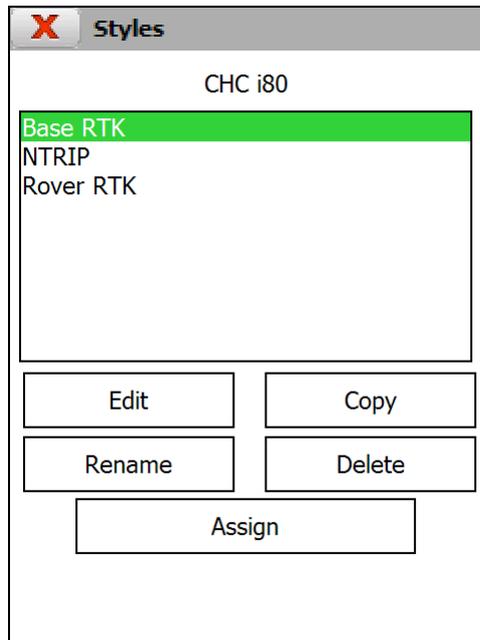
[Setting up base receiver for working in UHF radio mode](#)

[Setting up rover receiver for working in UHF radio mode](#)

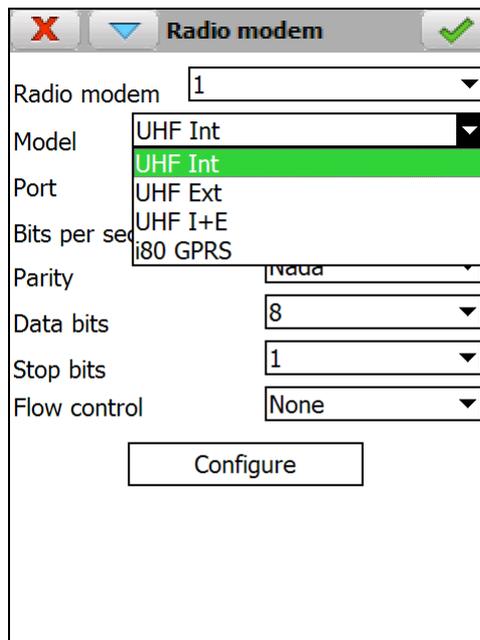
[Setting up rover receiver for working in NTRIP mode](#)

## Setting up base receiver for working in UHF radio mode

1. Turn base receiver on.
2. Run TcpGPS and [connect](#) to receiver.
3. If is necessary to change radio model or RTK format, follow the next steps, otherwise go to step number **10**.
4. Go to **GPS > Styles**, select **Base RTK** from style list and tap on **Edit** button.



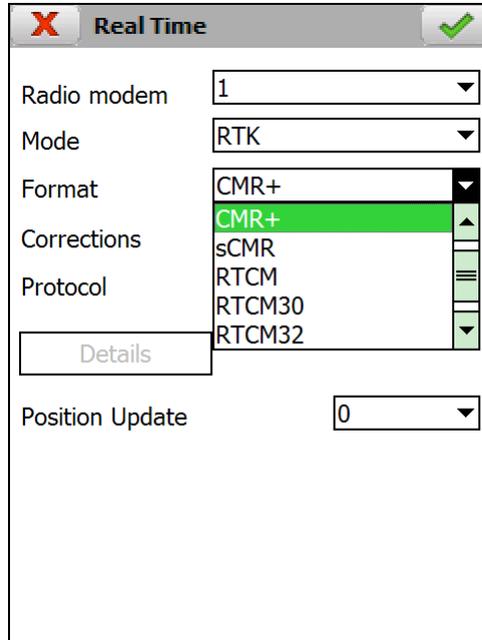
5. Tap on **Radio Modem** button and select the radio **Model**.



6. The following models are available:

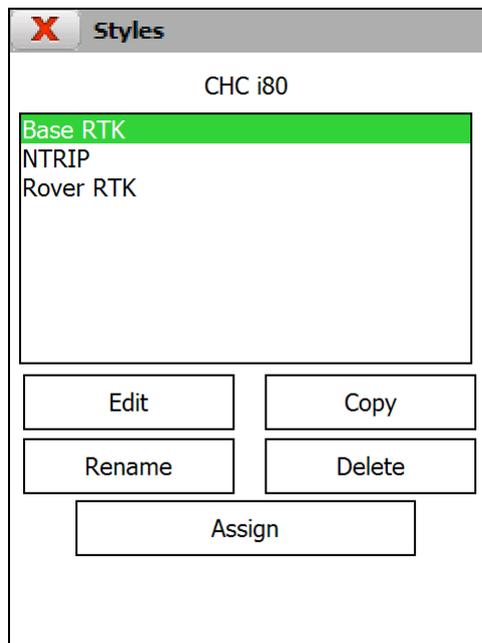
**UHF Int:** Internal UHF radio  
**UHF Ext:** External UHF radio  
**UHF I+E:** Internal and External UHF radios.

7. Click on OK button and then, tap on **Real Time** button.

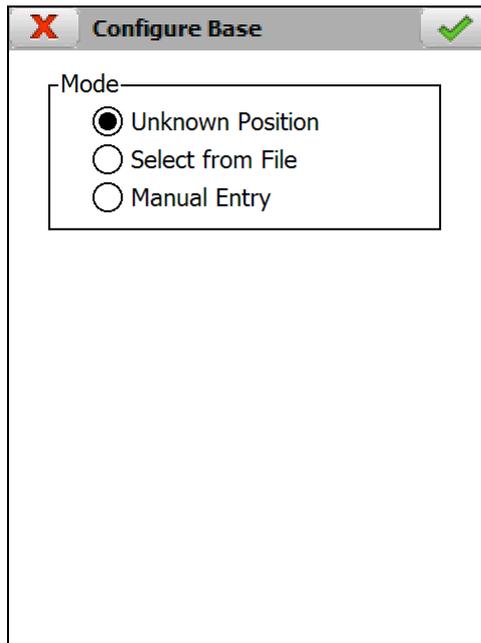


8. Select the **RTK Format**.

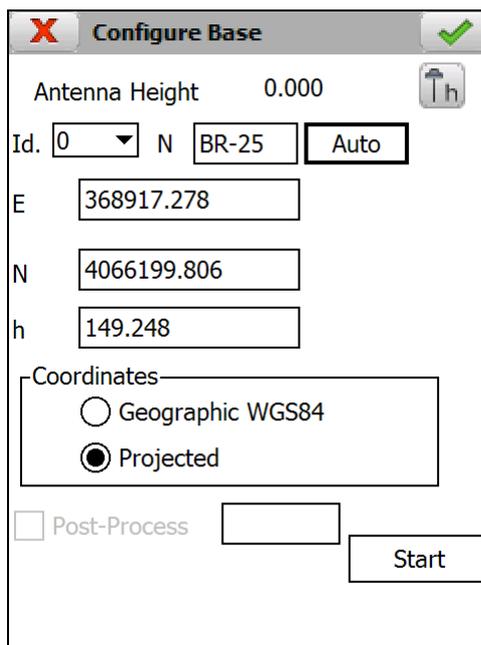
9. Tap on OK button twice and then, click on Cancel button, in styles screen, to return to main menu.



10. Go to **GPS > Configure Base**.



11. Select the coordinate entry mode and click on OK button.



12. Enter the base name in N edit box.

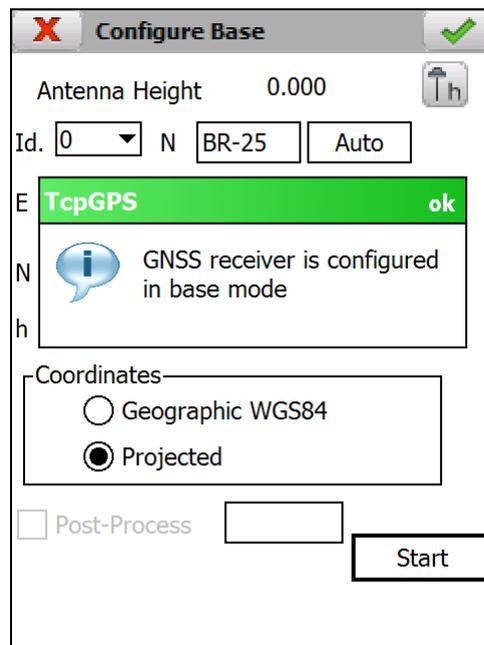
13. Enter the base coordinates. Depending on the selected mode, the entry will be in the following way:

**Unknown Position:** Tap on **Auto** button for getting current position.

**Select from File:** The program will show the coordinates of the selected point. Antenna height must be set up.

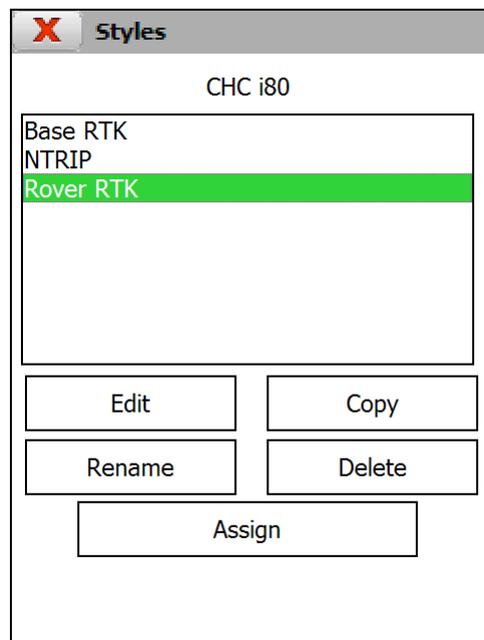
**Manual Entry:** Enter the coordinates manually. Antenna height must be set up.

14. Tap on **Start** button. A success message will appear on the screen.



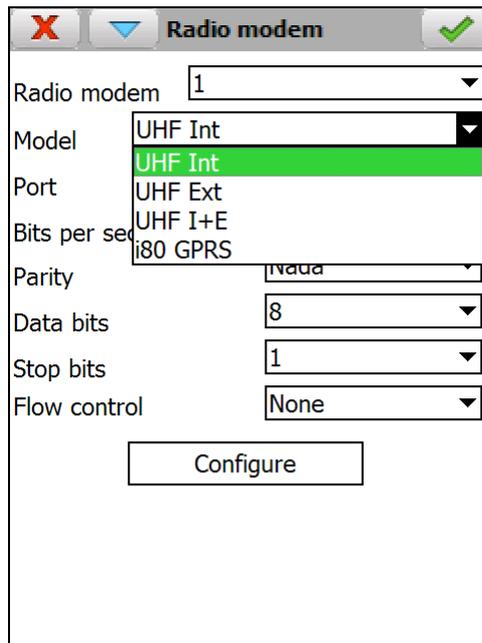
## Setting up rover receiver for working in UHF radio mode

1. Turn rover receiver on.
2. Run TcpGPS and [connect](#) to receiver.
3. Go to **GPS > Styles**.

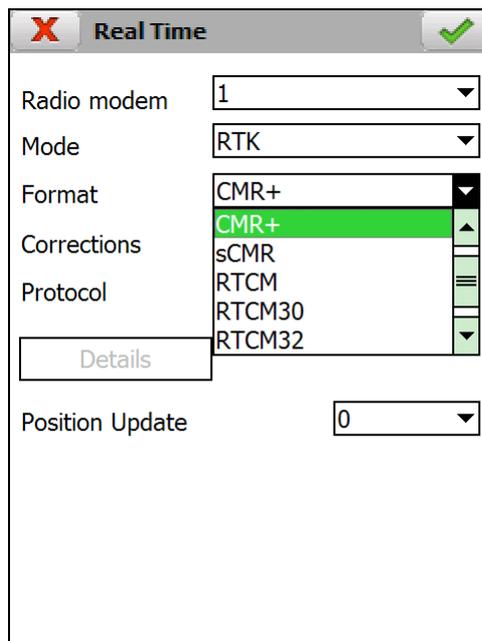


4. If is necessary to change radio model, RTK format, elevation mask or maximum PDOP, follow the next steps, otherwise go to step number **11**.
5. Select **Rover RTK** from style list and tap on **Edit** button.

6. Tap on **Radio Modem** button and select **UHF Int** radio model.

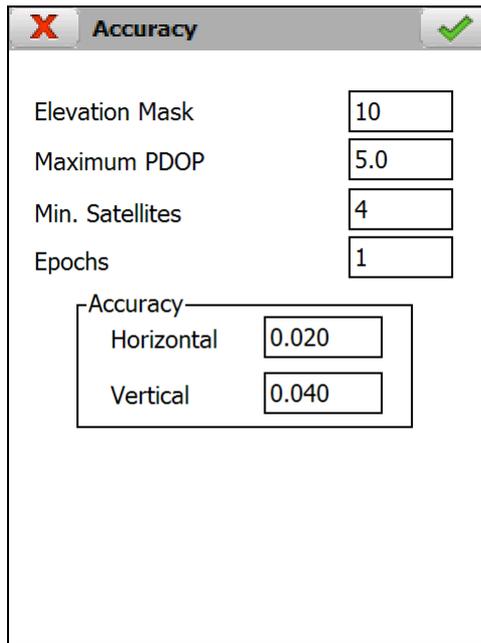


7. Click on OK button and then, tap on **Real Time** button.



8. Select the same RTK **Format** as base receiver and tap on OK button.

9. Click on **Accuracy** button.



**Accuracy**

Elevation Mask

Maximum PDOP

Min. Satellites

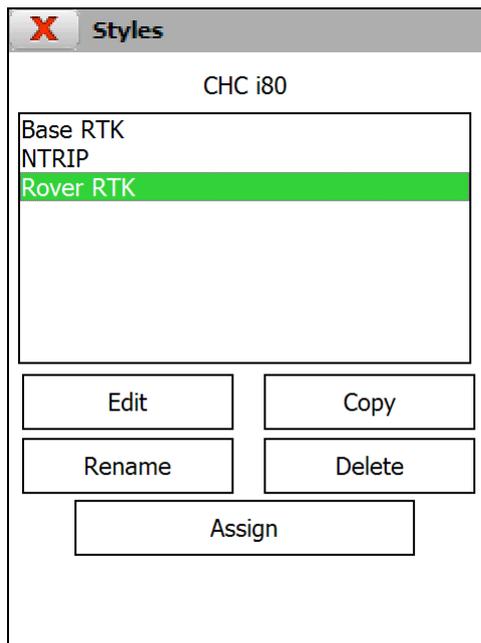
Epochs

Accuracy

Horizontal

Vertical

10. Enter a value for **Elevation Mask** and **Maximum PDOP** and click on OK button twice.



**Styles**

CHC i80

Base RTK

NTRIP

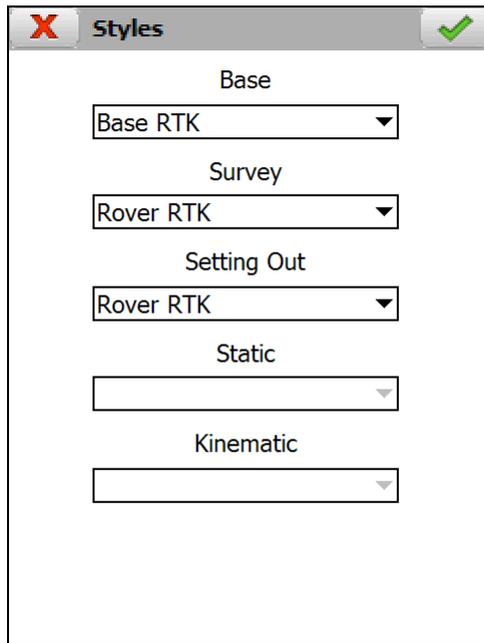
Rover RTK

Edit Copy

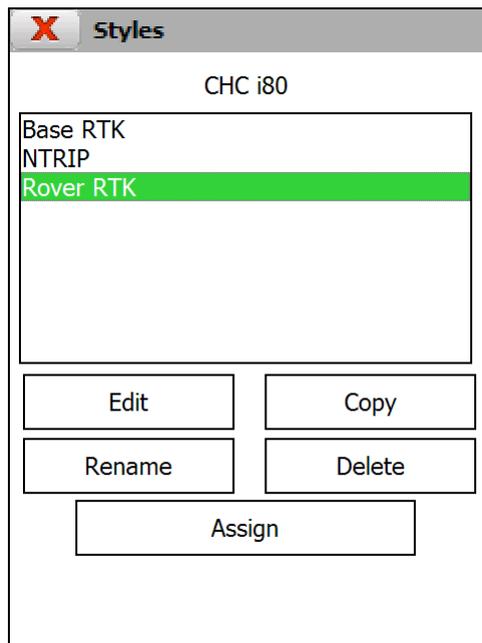
Rename Delete

Assign

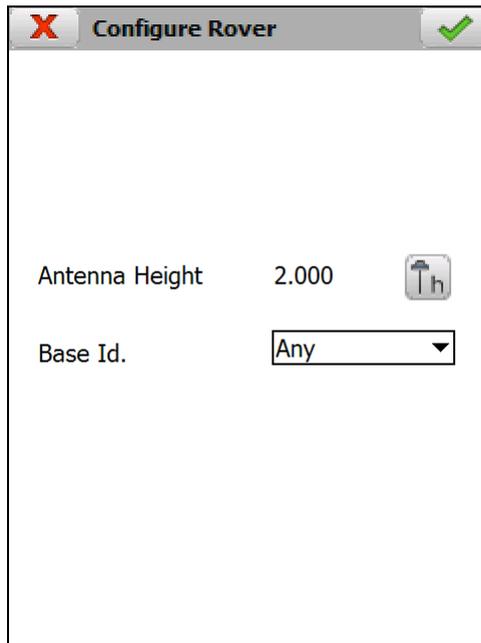
11. Tap on **Assign** button and select **Rover RTK** style within **Survey** and **Setting Out** lists.



12. Click on OK button and tap on Cancel button, in styles screen, to return to main menu.



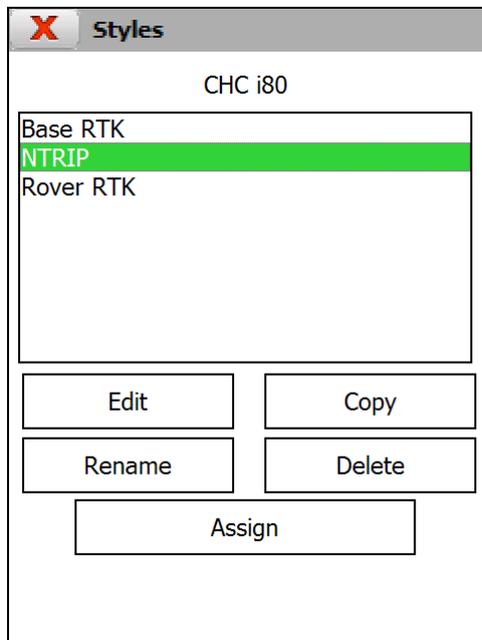
13. Go to **GPS > Configure Rover**, set up the **Antenna Height** and click on OK button.



14. Survey and setting out options will be available for working in RTK mode.

## Setting up rover receiver for working in NTRIP mode

1. Insert SIM card and turn receiver on.
2. Run TcpGPS and [connect](#) to receiver.
3. Go to **GPS > Styles**.



4. If is necessary to change carrier or NTRIP params, follow the next steps, otherwise go to step number 11.
5. Select **NTRIP** from style list and tap on **Edit** button
6. Tap on **Radio Modem** button and select **i80 GPRS** modem model.

Radio modem 1

Model i80 GPRS

Port 1

Bits per second 115200

Parity Nada

Data bits 8

Stop bits 1

Flow control None

Configure

7. Click on OK button and then, tap on **Real Time** button.

Radio modem 1

Mode RTK

Format Auto

Corrections -

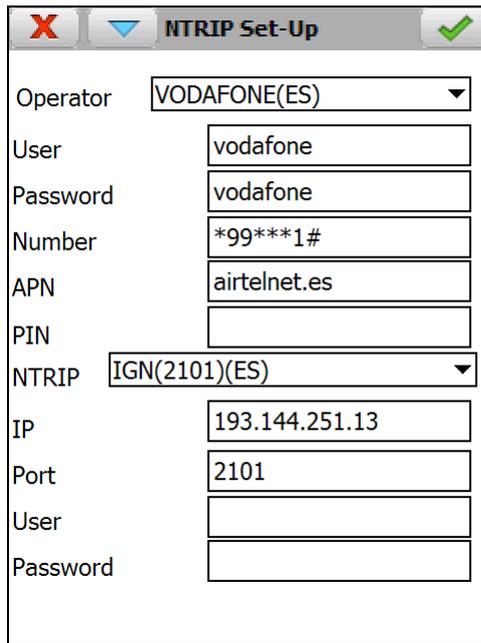
Protocol NTRIP

Details

Position Update 0

8. Select **Auto** as RTK **Format** and **NTRIP** as **Protocol**.

9. Click on **Details** button.



**NTRIP Set-Up**

Operator: VODAFONE(ES)

User: vodafone

Password: vodafone

Number: \*99\*\*\*1#

APN: airtelnet.es

PIN:

NTRIP: IGN(2101)(ES)

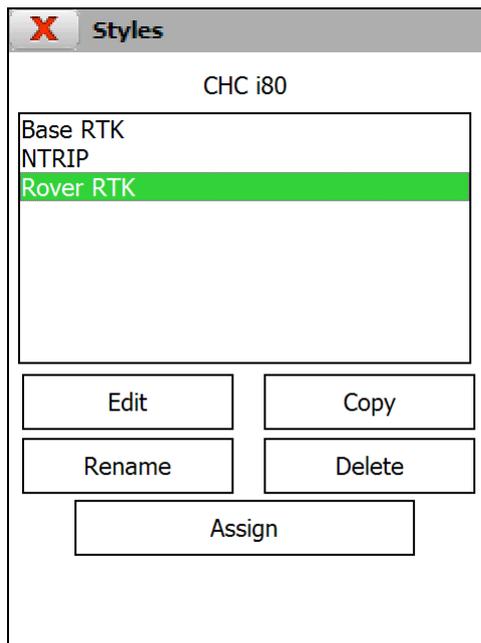
IP: 193.144.251.13

Port: 2101

User:

Password:

10. Enter the carrier data and the NTRIP caster data and click on OK button three times, until style screen appears.



**Styles**

CHC i80

Base RTK

NTRIP

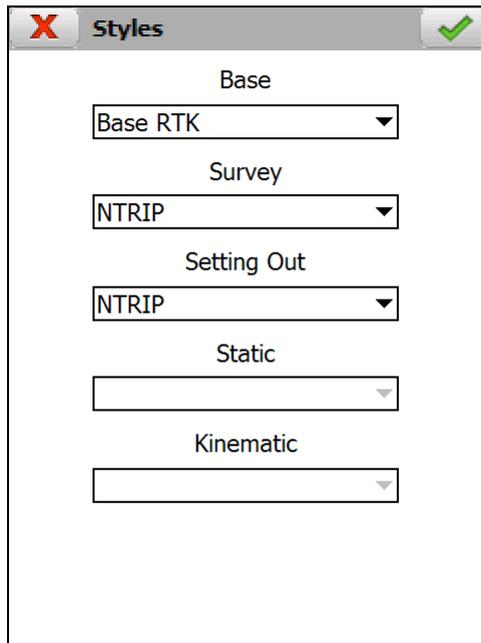
Rover RTK

Edit Copy

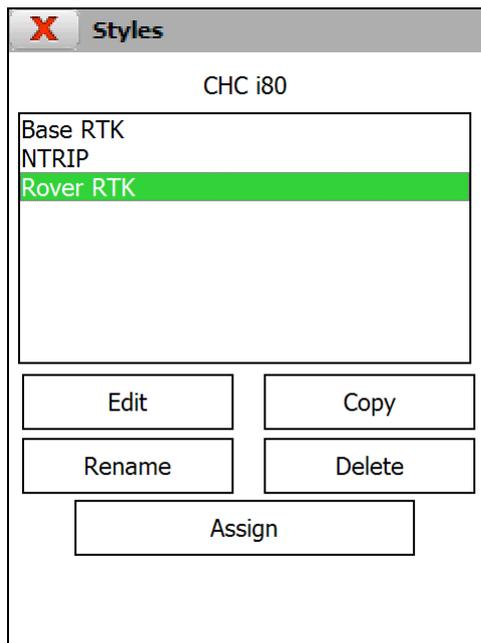
Rename Delete

Assign

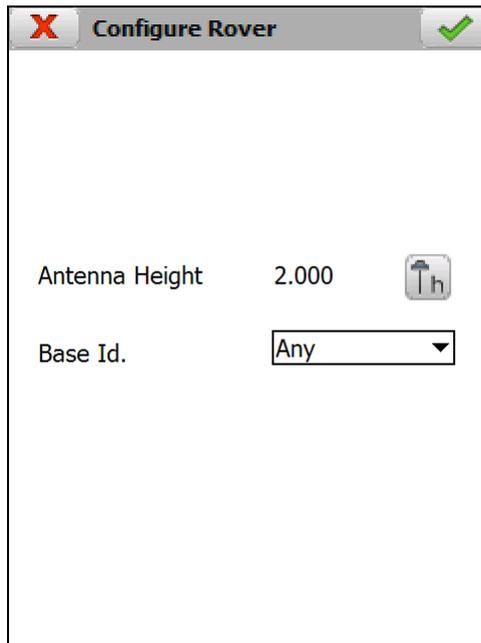
11. Tap on **Assign** button and select **NTRIP** style within **Survey** and **Setting Out** lists.



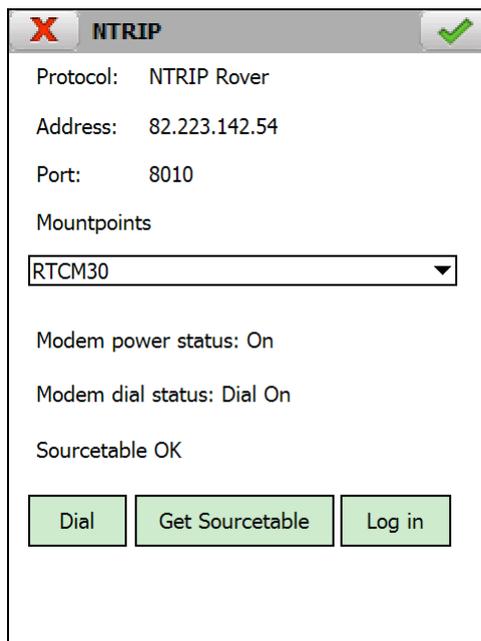
12. Click on OK button and tap on Cancel button, in styles screen, to return to main menu.



13. Go to **GPS > Configure Rover**, set up the **Antenna Height** and click on OK button.



14. NTRIP screen will be show with the caster data. Automatically, the program turns modem on and connects to Internet. Then, the mountpoint list of selected caster is downloaded.



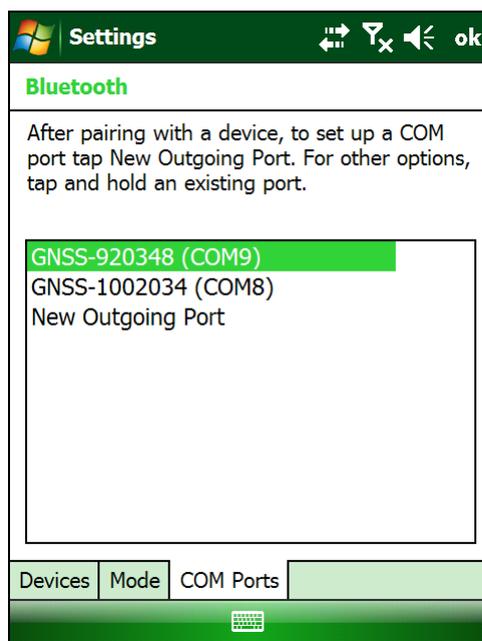
15. Select a mountpoint and click on **Log in** button. The message “**GPRS status: Log On**” will appear at the bottom of the screen.
16. Click on OK button to return to main menu.
17. Survey and setting out options will be available for working in RTK mode.

## Connect TcpGPS using Bluetooth

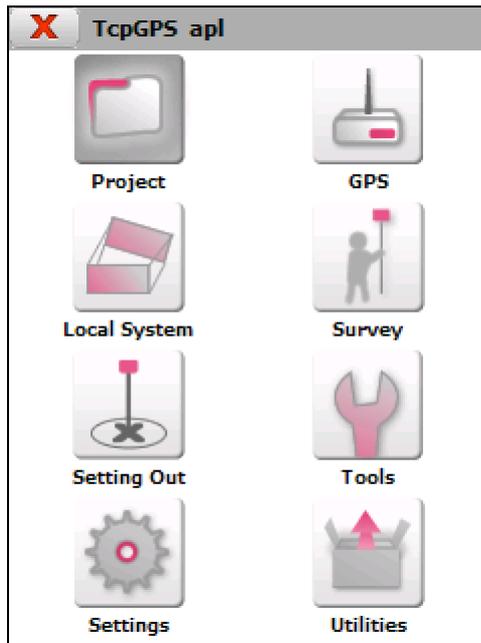
1. Turn CHC LT30 data collector on.
2. Tap on **Windows Start** button.
3. Select **Settings** option.
4. Tap on **Connections** tab.
5. Select **Bluetooth** option.
6. Tap on **Add new device...** if GNSS receiver is not in the list below.



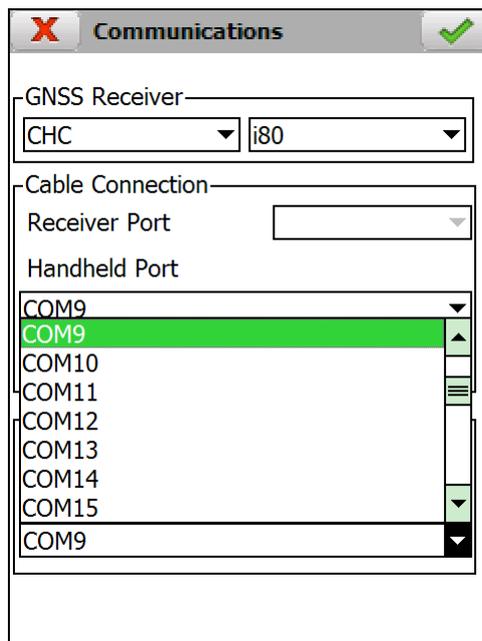
7. Tap on **COM Ports** tab and set up a COM port for the GNSS receiver.



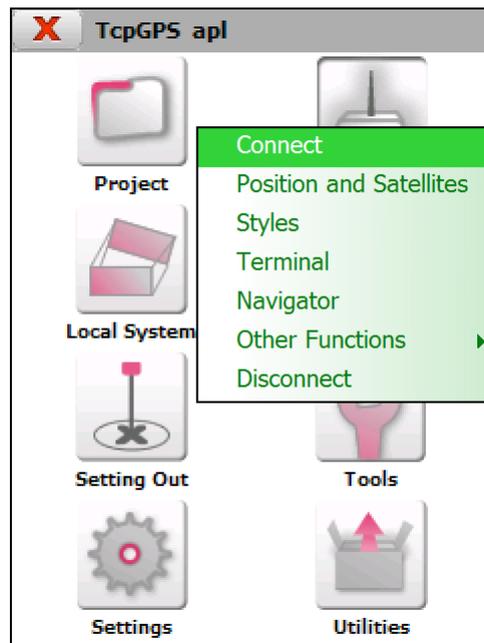
8. Close **Bluetooth** window and run TcpGPS.



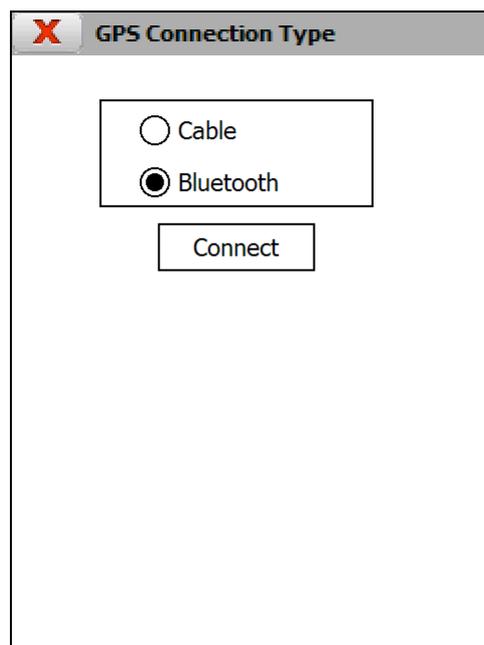
9. On main menu select **Settings** > **Communications**.
10. From **Handheld Port** list, within **Bluetooth Connection**, select the COM port that has been selected in Windows Bluetooth settings.



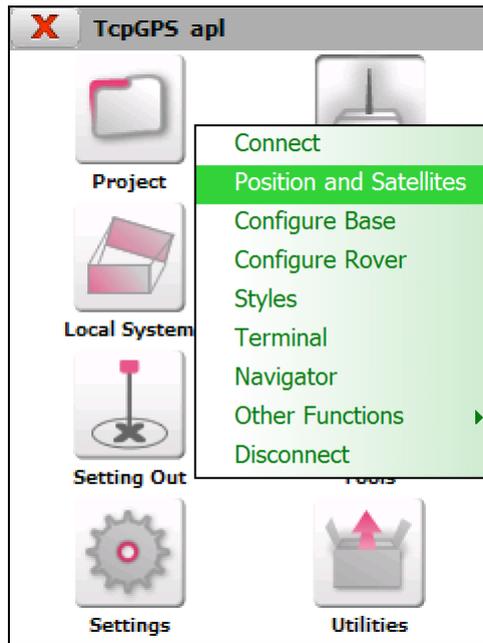
11. Tap on OK button (green button on the right).
12. Go to **GPS** menu and select **Connect**.



13. On **Connection** screen, select **Bluetooth** and tap on **Connect** button.



14. Go to **GPS** menu and select **Position and Satellites** option.



15. Coordinates, UTC Time, Position type, PDOP, etc, will show on the screen.

