

## Technical Note

(tcpgps\_en\_v41\_001\_setting\_up\_chc\_i80\_x91\_for\_working\_in\_nmea\_mode)

# Setting up i80 and X91 CHC receivers for working with TcpGPS in NMEA mode

### Update Date:

03/05/2016

### Requirements:

#### Hardware:

CHC LT30 data collector  
CHC X91 or i80 GNSS receiver

#### Software:

CHC HConfig  
Aplitop TcpGPS v4.1.4 or later

### Objetive

Connect TcpGPS, installed on CHC LT30 data collector, with CHC X91 or i80 GNSS receivers that have been set up with HConfig software.

### Details

[Working in UHF mode with CHC i80 receivers](#)

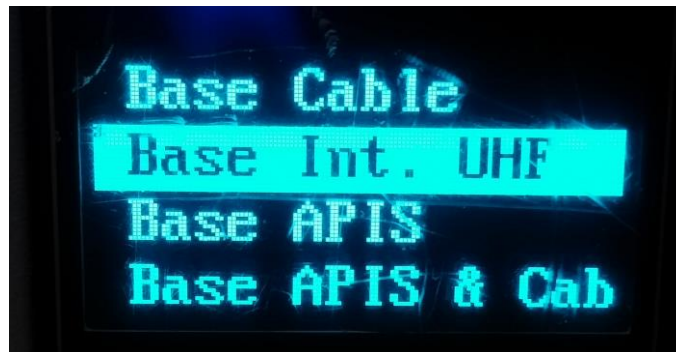
[Working in NTRIP mode with CHC i80 receivers](#)

[Working in NTRIP mode with CHC X91 receivers](#)

[Connect TcpGPS using Bluetooth](#)

## Working in UHF mode with CHC i80 receivers

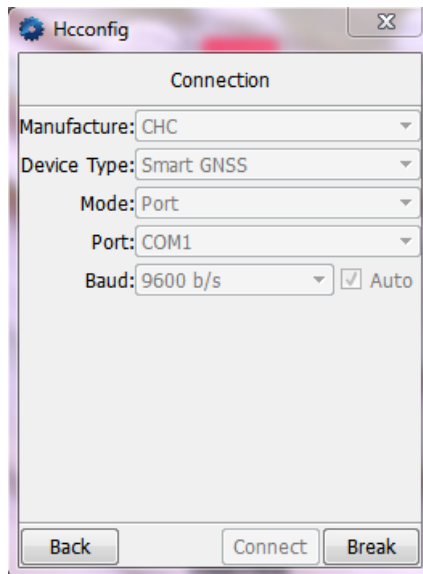
- Turn i80 base receiver on.
- Press on **FN** button and select **Mode** option from main menu.
- Select **Base Int. UHF** from **Mode** menu.



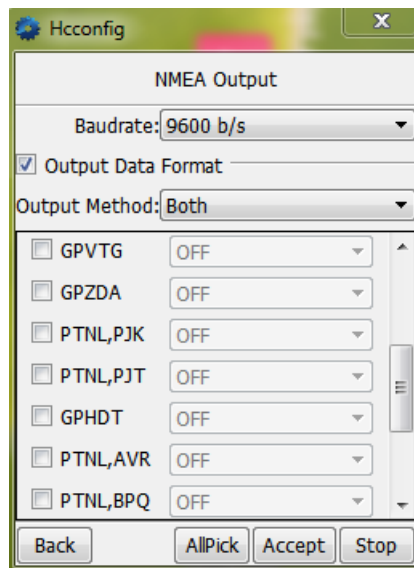
- Turn i80 rover receiver on.
- Press on **FN** button and select Mode option form main menu.
- Select **Rover UHF** from **Mode** menu.



- Run HCConfig on data collector or PC and connect with i80 rover receiver. **Smart GNSS** must be selected from **Device Type** list.



- Click on **Connect** button. A successfully connection message must be shown on the screen.
- Click on **Back** button.
- Click on **NMEA Output** button.



- Select **115200 b/s** from **Baudrate** list.
- Check the toggle **Output Data Format** and select **Both** from **Output Method** list.
- Check the following NMEA sentences and set the output frequencies:

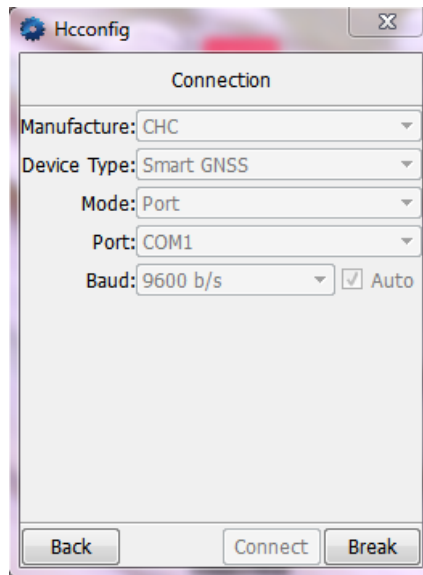
<b>GPGGA</b>	<b>2Hz</b>
<b>GPGSV</b>	<b>2s</b>
<b>GPGST</b>	<b>2Hz</b>
<b>GPGSA</b>	<b>2s</b>
<b>PNTL,BPQ</b>	<b>2s</b>

- Click on **Accept** button.

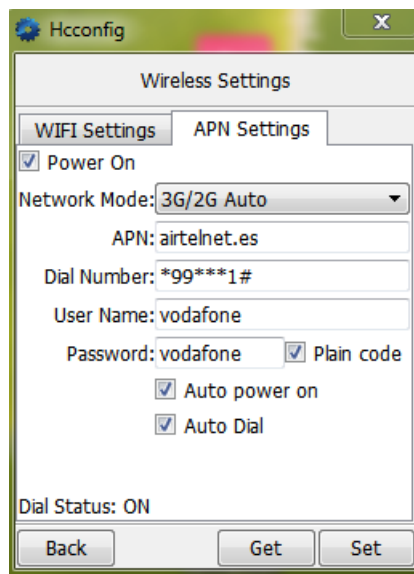
- Click on **Back** button and close HConfig program.
- [Connect TcpGPS using Bluetooth.](#)

## Working in NTRIP mode with CHC i80 receivers

- Insert SIM card on i80 receiver and turn receiver on.
- Run HConfig on data collector or PC and connect with X91 receiver. **Smart GNSS** must be selected from **Device Type** list.

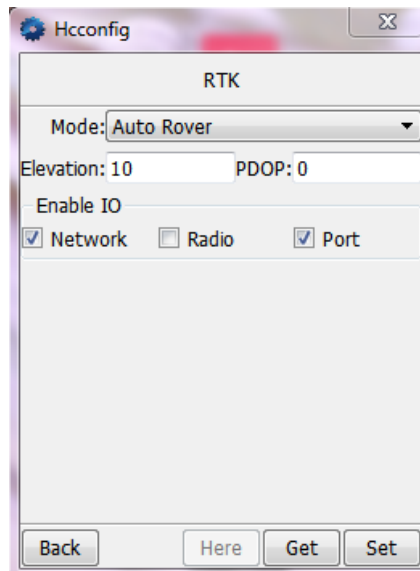


- Click on **Connect** button. A successfully connection message must be shown on the screen.
- Click on **Back** button.
- Click on **Wireless Settings** button and click on **APN Settings** tab.

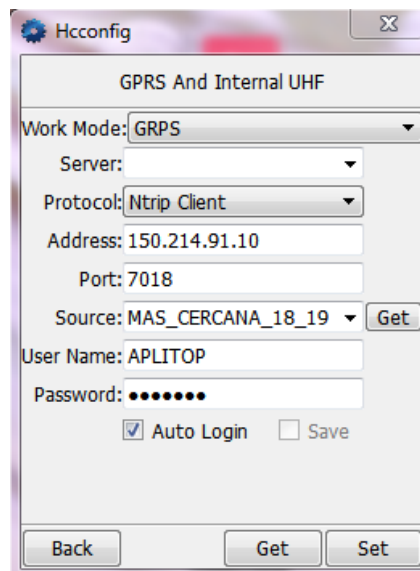


- Check **Power On** toggle and enter the carrier data.

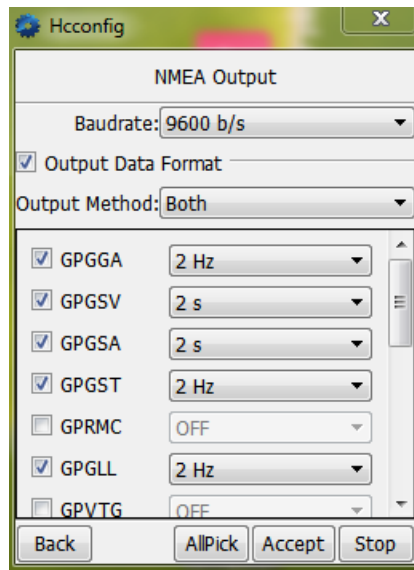
- Select **3G/2G Auto** from **Network Mode** list.
- Check **Auto power on** and **Auto Dial** options.
- Click on **Set** button and then, **Back** button.
- Click on **RTK** button, select **Auto Rover** from **Mode** list.
- Check **Network** and **Port** options from **Enable IO** section and click on **Set** button.



- Click on **Back** button.
- Click on **GPRS and Internal UHF** button and select **GPRS** from **Work Mode** list.



- Select **Ntrip Client** from **Protocol** list and enter the NTRIP caster data.
- Check **Auto Login** and click on **Set** button. The receiver will be logged in NTRIP caster
- Click on **Back** button.
- Click on **NMEA Output** button.



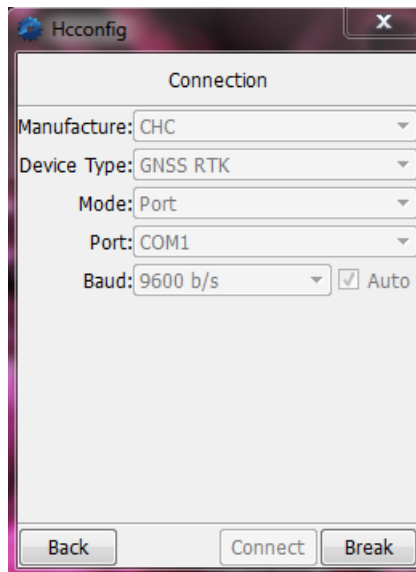
- Select **115200 b/s** from **Baudrate** list.
- Check the toggle **Output Data Format** and select **Both** from **Output Method** list.
- Check the following NMEA sentences and set the output frequencies:

<b>GPGGA</b>	<b>2Hz</b>
<b>GPGSV</b>	<b>2s</b>
<b>GPGST</b>	<b>2Hz</b>
<b>GPGSA</b>	<b>2s</b>
<b>PNTL,BPQ</b>	<b>2s</b>

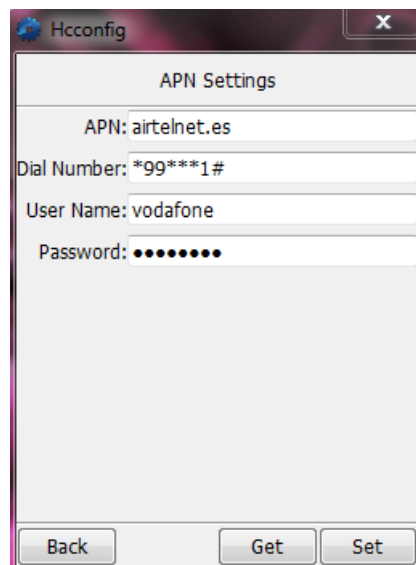
- Click on **Accept** button.
- Click on **Back** button and close HCConfig program.
- [Connect TcpGPS using Bluetooth.](#)

## Working in NTRIP mode with CHC X91 receivers

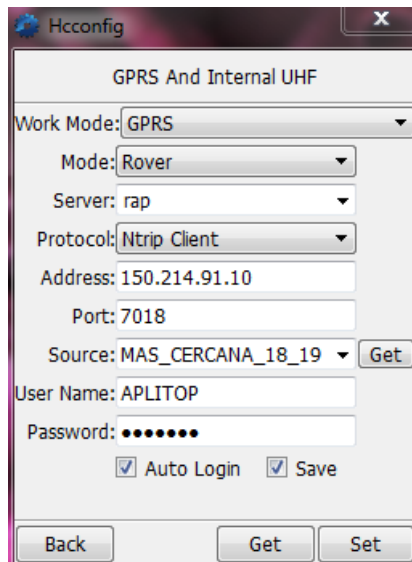
- Insert SIM card on X91 receiver and turn receiver on.
- Run HCConfig on data collector or PC and connect with X91 receiver. **GNSS RTK** must be selected from **Device Type** list.



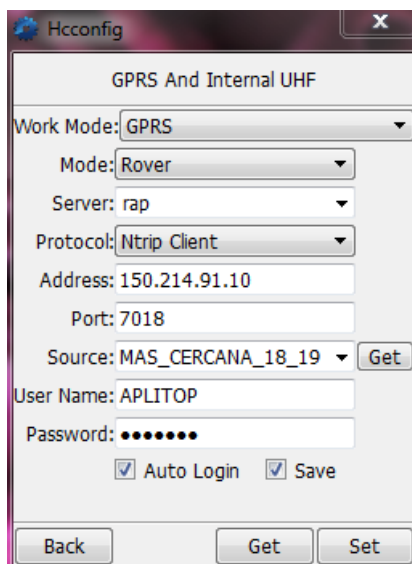
- Click on **Connect** button. A successfully connection message must be shown on the screen.
- Click on **Back** button.
- Click on **APN Settings** button, enter the carrier data and click on **Set** button.



- Click on **Back** button.
- Click on **RTK** button, select **Auto Rover** from **Receiver Mode** list and click on **Set** button.
- Click on **Back** button.
- Click on **GPRS and Internal UHF** button.

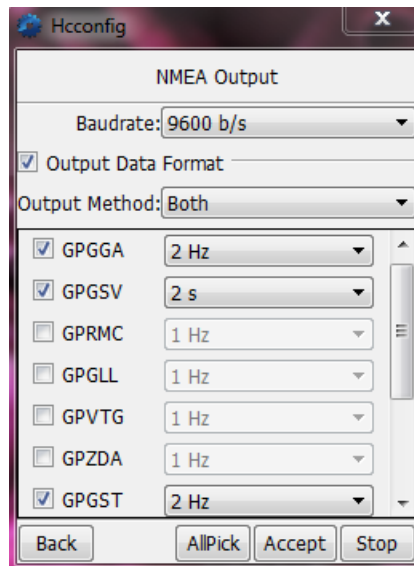


- Select **GPRS** from **Work Mode** list.
- Select **Rover**, from **Mode** list, **Ntrip Client**, from **Protocol** list, and enter the NTRIP caster data.



- Click on **Set** button, the receiver will be logged in NTRIP caster.
- Click on **Back** button.
- Click on **NMEA Output** button.





- Select **115200 b/s** from **Baudrate** list.
- Check the toggle **Output Data Format** and select **Both** from **Output Method** list.
- Check the following NMEA sentences and set the output frequencies:

<b>GPGGA</b>	<b>2Hz</b>
<b>GPGSV</b>	<b>2s</b>
<b>GPGST</b>	<b>2Hz</b>
<b>GPGSA</b>	<b>2s</b>

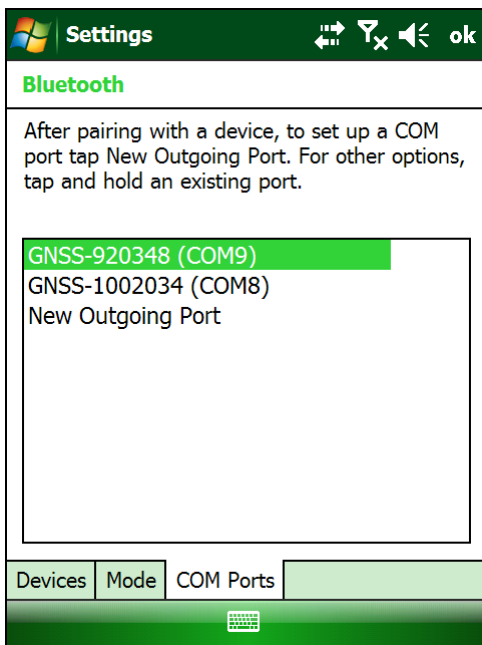
- Click on **Accept** button.
- Click on **Back** button and close HcConfig program.
- [Connect TcpGPS using Bluetooth.](#)

## Connect TcpGPS using Bluetooth

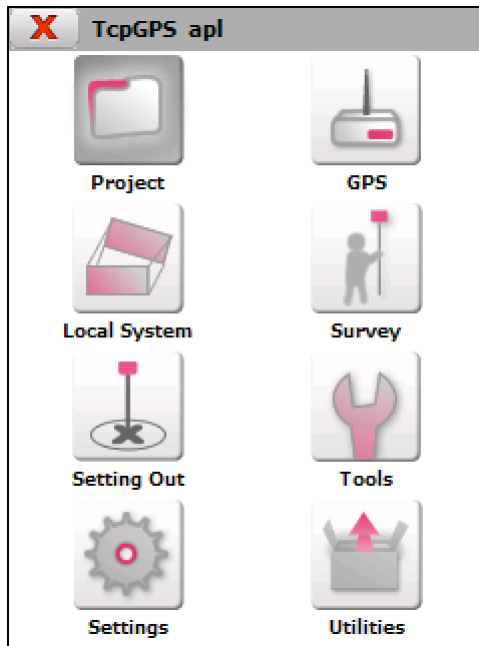
- Turn CHC LT30 data collector on.
- Tap on **Windows Start** button.
- Select **Settings** option.
- Tap on **Connections** tab.
- Select **Bluetooth** option.
- Tap on **Add new device...** if GNSS receiver is not in the list below.



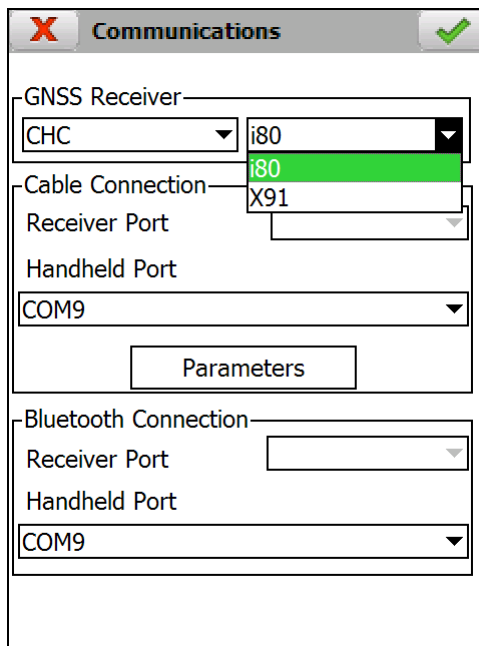
- Tap on **COM Ports** tab and set up a COM port for the GNSS receiver.



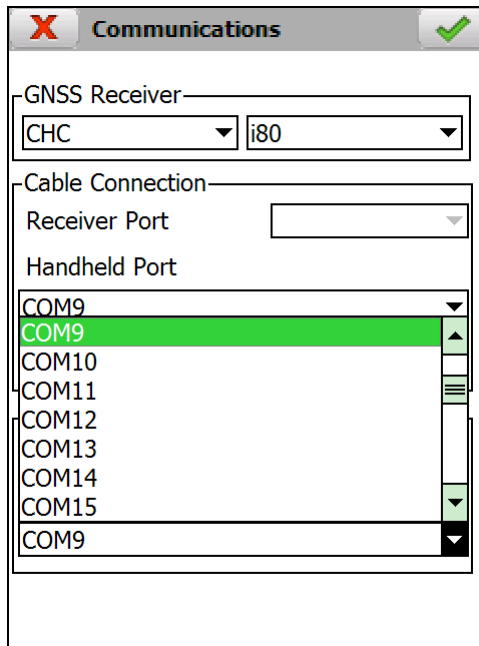
- Close **Bluetooth** window and run TcpGPS.



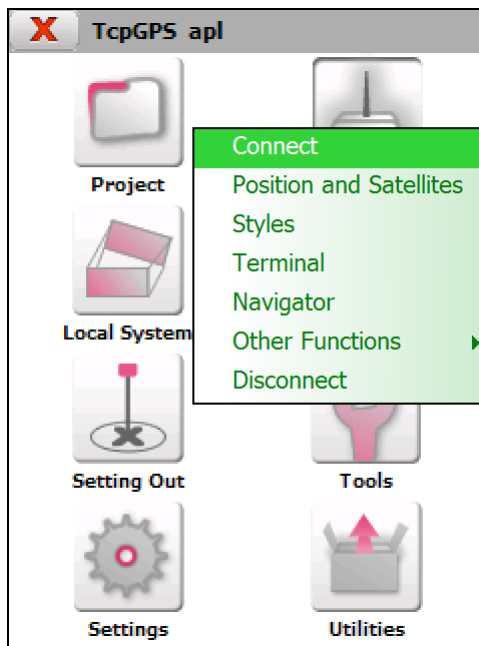
- On main menu select **Settings** > **Communications**.
- Select the GNSS receiver model.



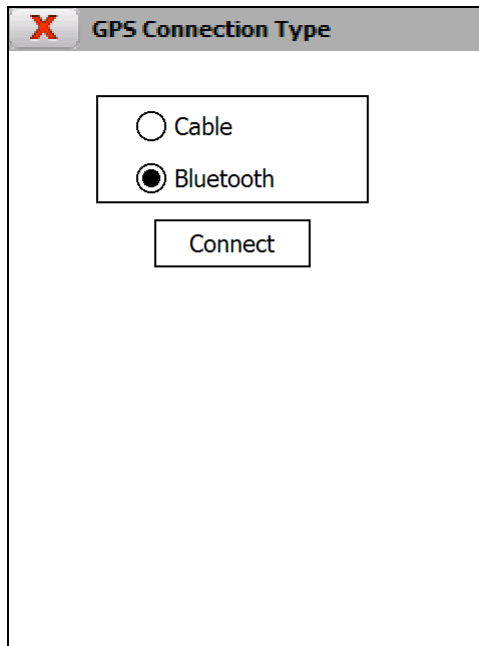
- From **Handheld Port** list, within **Bluetooth Connection**, select the COM port that has been selected in Windows Bluetooth settings.



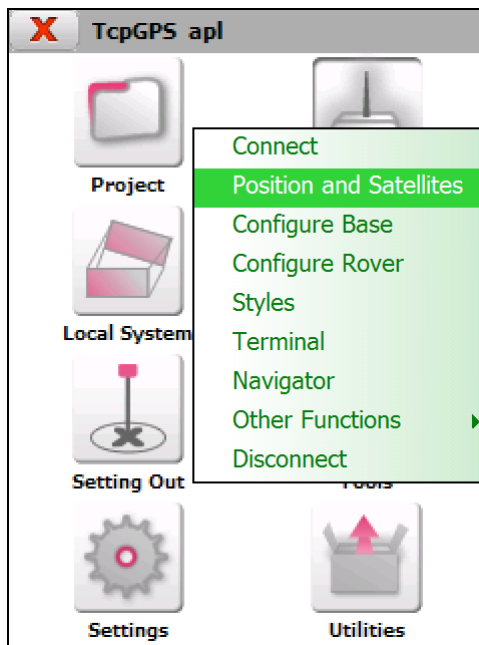
- Tap on OK button (green button on the right).
- Go to **GPS** menu and select **Connect**.



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



- Go to **GPS** menu and selecto **Position and Satellites** option.



- GPS quality indicator (**Position** label) must be **RTK Float** or **RTK Fixed**.

**X** Position and Satellites

Position Satellites RTK

Easting	368999.997
Northing	4066399.990
H	102.084

Projected ▼

UTC Time 02:32:48

PDOP 2.7 Position RTK Fixed

HP 0.018 VP 0.022

Used Sat. 10 (5GPS + 5GLO)

Detect. Sat. 13 (8GPS + 5GLO)