Technical Note
(tcpgps_android_en_v21_001_emlid_configuration)

Configuration of EMLID receivers with collector data

Update Date

22/06/2021

Requirements

Hardware:
> **Android device**
> **EMLID GNSS Reach RS, RS+ or RS2 with firmware v2.26**

Software:
> **Android OS**
> **ReachView 2**
> **TcpGPS for Android 2.0+**

Objective

Configure EMLID receivers using *Reach View* and start working with *TcpGPS Android*.

Video

https://youtu.be/KedSCa45CpA

Details

In TcpGPS Android are supported the models REACH RS, REACH RS+ and REACH RS2. These models can be used as they are configured by EMLID software activating NMEA.
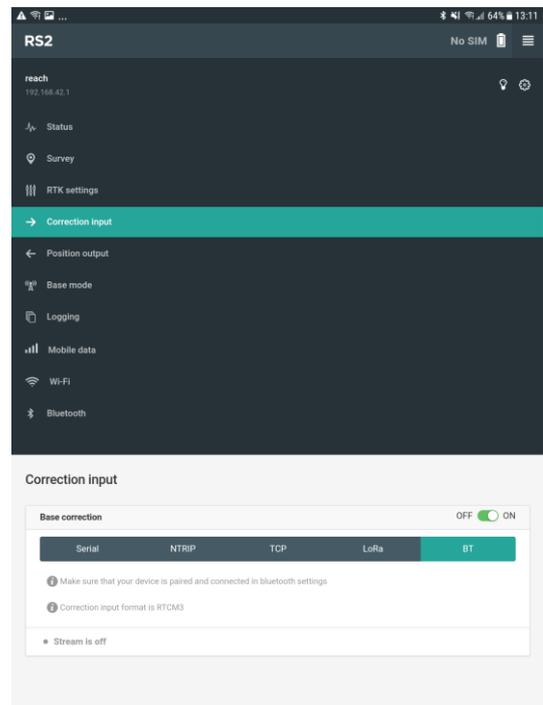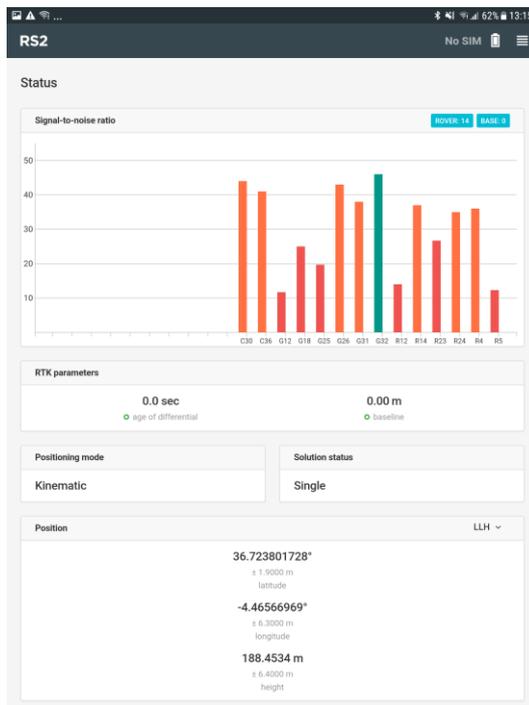
EMLID Reach View configuration

In this section are described the steps for configuring EMLID devices using *Reach View* application.
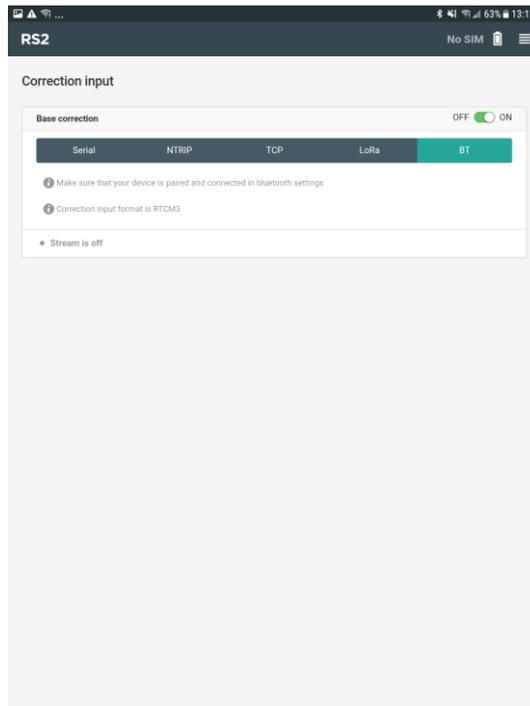
1. Open **ReachView** app and select the **EMLID** receiver.
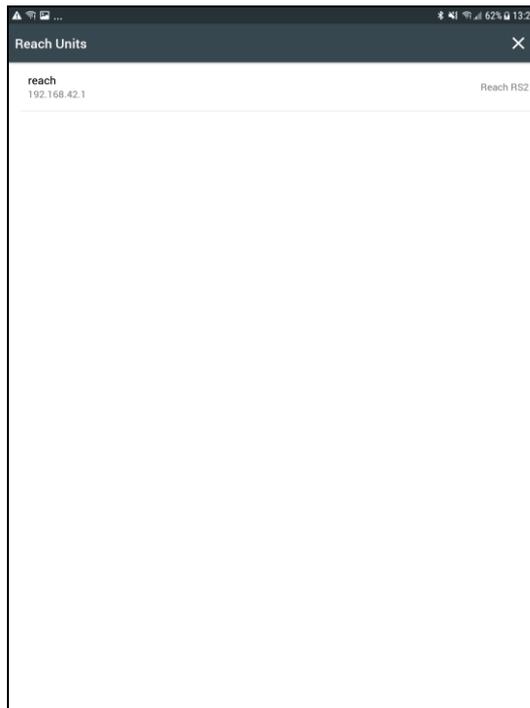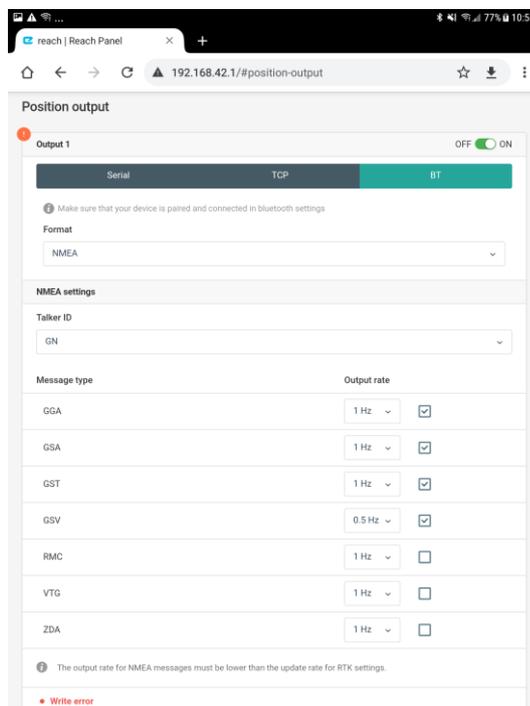
2. Open **ReachView** menu and select **Correction Input**

3. Select **BT** option, set the corrections **Format** of the mountpoint you are going to connect with and check **Send NMEA…,** if the mountpoint need it

4. Open **ReachView** menu and select **Position Output**

5. Select **BT**, switch on **Output 1** and set **NMEA** as **Format** output

6. To get **TcpGPS** working with any receiver it needs the following NMEA messages:
   a. GSA (1Hz)
   b. GGA (1Hz)
   c. GST (1Hz)

d. GSV (0.5Hz)

The remaining messages are not processed by TcpGPS, so it is better to disable them to avoid saturation and improve the performance of both the GNSS and the application.

The frequencies described here are those recommended for normal field work. A higher frequency in the GGA may be necessary if, for example, you are taking points in a vehicle at a high speed.

7. Close **ReachView** app and open **TcpGPS**

Connection to EMLID GNSS receiver in TcpGPS

From the *receiver assistant* at the start of the application clicking on the button

or the option *Menu > Receiver > Connection* at the main screen, the user accesses the section for connecting to the receiver via Bluetooth.

In this screen the user must select the brand (EMLID) and the model he wants to connect. Then, by clicking on *Device* button, the Bluetooth searching section will be displayed. In this screen, a list with the devices available via Bluetooth will be shown and it can be updated by clicking in *Search* button if the identifier of the receiver is not listed.
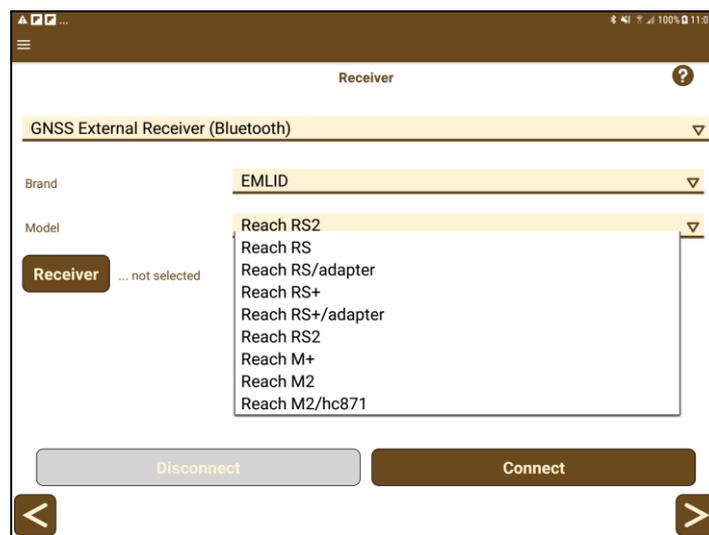

Rover NTRIP with data collector

In this case, TcpGPS will connect to an NTRIP server and send the corrections received to the GNSS device using Bluetooth or WiFi.

In this mode, the available parameters are:

Parameter	Description
Send by	Select the connection to send the corrections: Bluetooth or WiFi.
IP/URL (WiFi)	IP or URL to connect to the GNSS using WiFi

| Port (WiFi)	Port to connect to the GNSS using WiFi
Server	NTRIP server as source of corrections
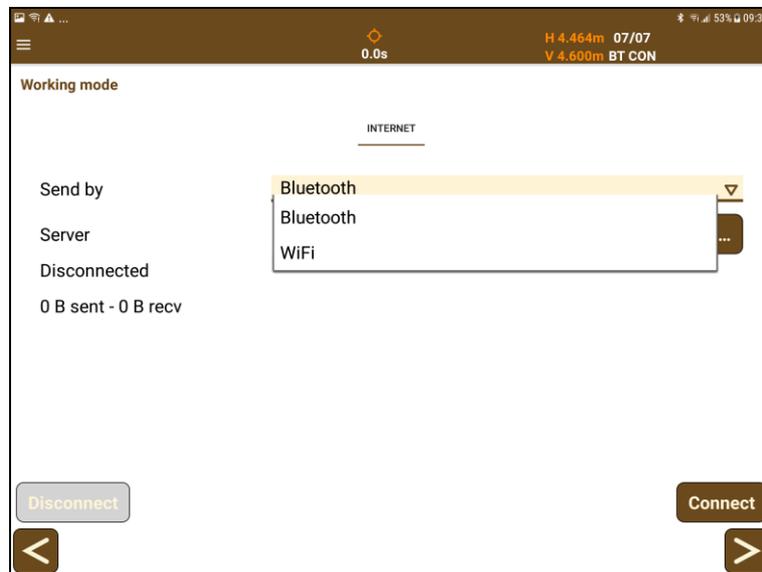
In case WiFi will be the correction input, it is recommendable to follow these instructions:

- Configure the RS2 to connect to your device **WiFi HotSpot** that can be set in the Android device.
- Insert the SIM card into the Android device.
- Enable the **WiFi shared hotspot**.
- Reset the RS2 and it should connect to the WiFi HotSpot. In the WiFi shared hotspot section of the Android device can be checked if the receiver is connected to the WiFi network and the IP it has been assigned.
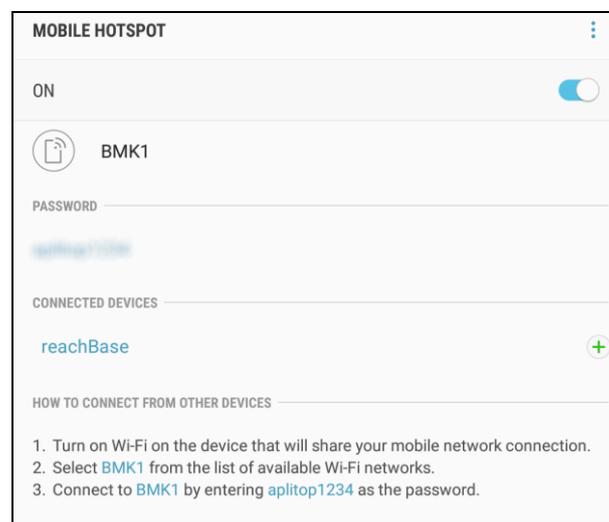
- Enter the Emlid configuration server from the **Web Service** option in TcpGPS **Working mode** section.
- Go to **correction input** and select **TCP**.
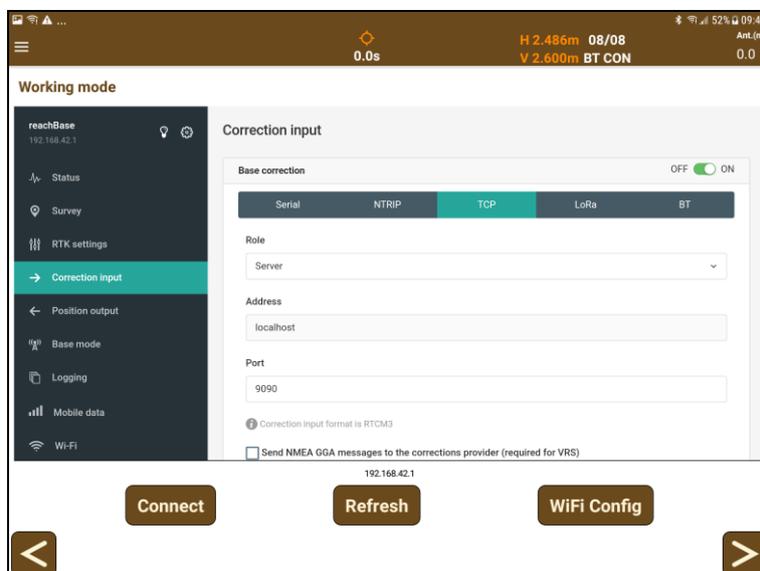
- Set **server** option and then choose a **port** to send the corrections.
- Then the NTRIP corrections can be send using WiFi in TcpGPS, setting the IP of the device and the port configured previously.
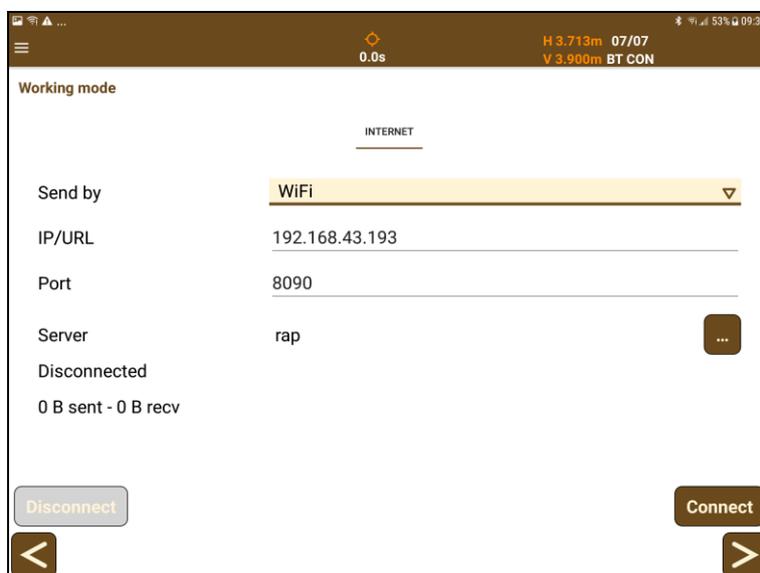
NTRIP server configuration

The **Networked Transport of RTCM via Internet Protocol** (**NTRIP**) is a protocol for streaming differential GPS (DGPS) data over the Internet in accordance with specification published by RTCM. NTRIP is a generic, stateless protocol based on the Hypertext Transfer Protocol HTTP/1.1 and is enhanced for GNSS data streams.

A dialogue allow the user to configure a NTRIP server, by adding a new one selecting the option **New** in the list or choosing a previously configured server in the same list.
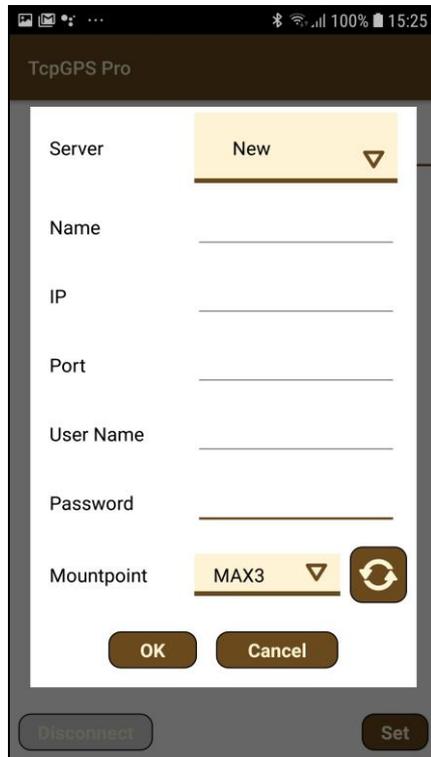
For adding a new NTRIP server the user must introduce a **name** for the server configuration, the **IP** and **port** of the server, and the **user** and **password** for making the identification. Once these parameters are filled, pressing the button will request the list of **mountpoints** which provide different types of corrections.