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Cube-connector Field Software **User Manual**

Stonex Software Cube-connector – User Manual Vers. 3.0



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Brief

This is an Android App to connect Android devices to Stonex GNSS receivers.

In order to be connected to the GNSS receiver, the Android Smartphone / Tablet must be paired with the GNSS receiver by Bluetooth.

Once the Bluetooth connection has been established, Cube-connector will replace the GPS readings from the internal device with the ones coming from the Stonex GNSS receiver.

In this way the customer can use his preferred software for GIS / survey.



1. Communication connection

You have two way to connect. One way is Bluetooth, the other way is WIFI.

1.1 Bluetooth Connection

The main achievement of the Bluetooth connection is searching nearby devices, and searching Bluetooth pairing and communications;



(1) Click on the button  , the program will auto search the current the Bluetooth device nearby. When you have finish search, the Bluetooth device list will display in the main interface.



(2) Choose what you want to connect Bluetooth device, and click on the button  , so you have finish Bluetooth connection. When the button from “connect” turn to “disconnect”. The program will disconnect and display the Bluetooth device list.



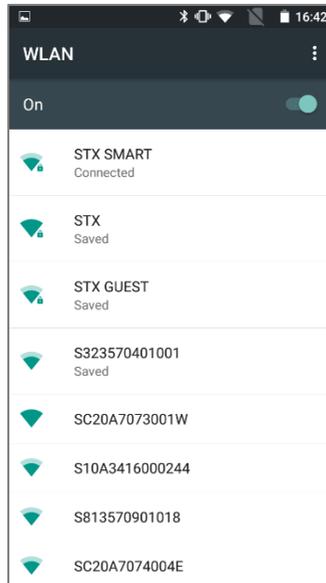
Note: The programm will change screen to “GPS data” when Bluetooth connection is successfully.

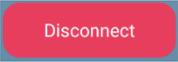
1.2 WIFI Connection

The WIFI connection has achieved connect the WIFI device, and display the IP address and communication port settings.



- (1) Click on the button , the interface will turn to the WIFI connection and finish WIFI connection.

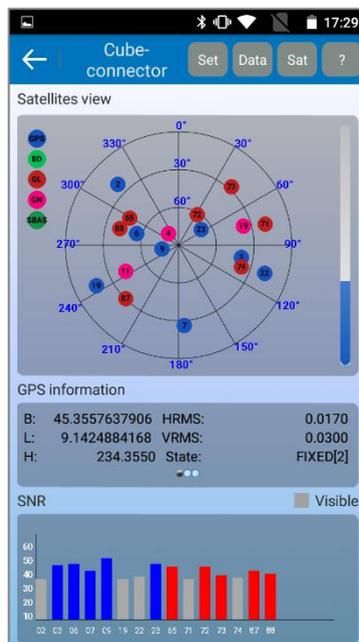


(2) After setting up the WIFI connected to the communication port, click on the button  to complete the WIFI communications. When the button from the "connection" to "disconnection", it means that Bluetooth connection has been successful. As shown in the below, click the button , the program will disconnect, it again shows the current setting of WIFI connection.

As the same as Bluetooth communication, when communication is established, it will enter directly to the "GPS Data" interface;

2. Satellite position

After finish the communication, the handset will analysis GPS real-time data on the M5 series devices. According to the data in real time to complete resolution satellite, and the analog data into GPS coordinates positioned under Android system for secondary development or use external programs, and so improve high-precision positioning.



- (1) In the figure, the satellite map (GPS visible satellites number + Glonass visible satellites number + BeiDou visible satellites number / the total satellites number)

(2) Click on the button , the program will return the communication interface.

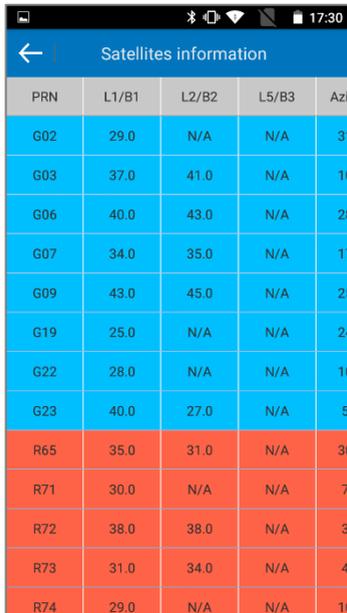


(3) Click on the button , the program will pop up differential settings dialog, and select corresponding difference model.



(4) Click on the button , and the program will turn into the debugging interface. It will display GPS real time data and also send the debugging message to the connected device. So you can achieve to M5 receiver settings

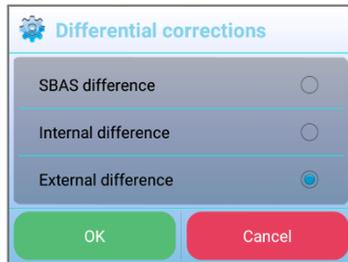
(5) Click on the button , the program will turn the satellite information interface and receive the device resolution satellite data information in real time. Those will display in the list.(contains: satellite number、 SNRL1、 SNRL2、 SNRL5、 Azimuth degree、 cutoff angle).



PRN	L1/B1	L2/B2	L5/B3	Azi
G02	29.0	N/A	N/A	31
G03	37.0	41.0	N/A	10
G06	40.0	43.0	N/A	26
G07	34.0	35.0	N/A	17
G09	43.0	45.0	N/A	25
G19	25.0	N/A	N/A	24
G22	28.0	N/A	N/A	10
G23	40.0	27.0	N/A	5
R65	35.0	31.0	N/A	30
R71	30.0	N/A	N/A	7
R72	38.0	38.0	N/A	3
R73	31.0	34.0	N/A	4
R74	29.0	N/A	N/A	10

3. Differential settings

The difference model contain SBAS data link, internal data link and external data link. We will give detail introduction in the below.



3.1 SBAS data link

When you select SBAS data link. Click the button OK and you need to send the command to the device. When the program prompts set SBAS data link successfully, the device in the SBAS difference model.

3.2 Internal data link

When select internal data link. Click the button OK, and the program will turn the internal data link interface. When the program prompts set internal data link successfully, the device in the internal difference model.

Note: The internal datalink settings are APN settings, CORS settings, GGA upload interval, CORS account and access point settings.

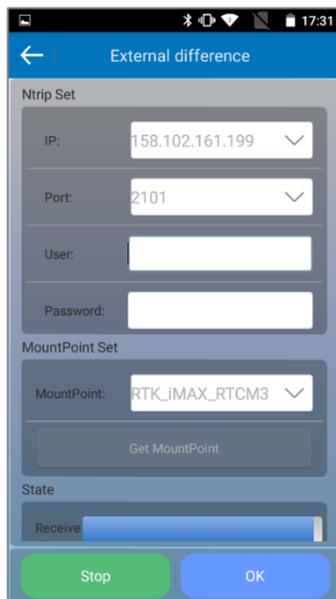


When you finish setting all internal differential parameter. Click on the "OK", and close the internal data link interface. You send the related command to set internal data link until prompts successfully. When click the button "cancel"

and , and close the internal the internal data link interface, back the GPS data interface.

3.3 External data link

When select internal data link, click the button OK, the program will turn to external data link interface, then finish the external data link settings. Click the button "update mount point", and connect CORS server, receive the differential data and upload GGA data. When the device prompts set external data link successfully, the device in the external difference model.

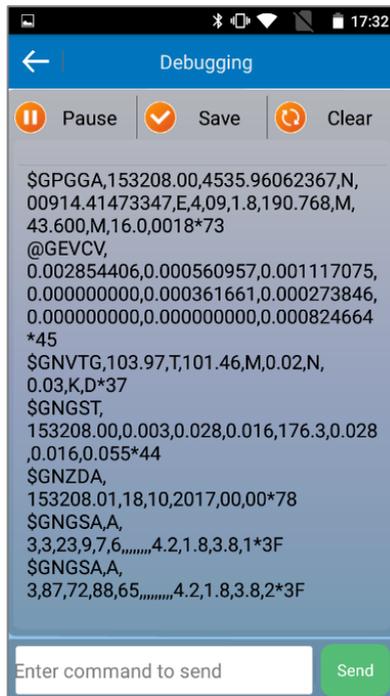


The screenshot displays the 'External difference' configuration interface. It includes the following elements:

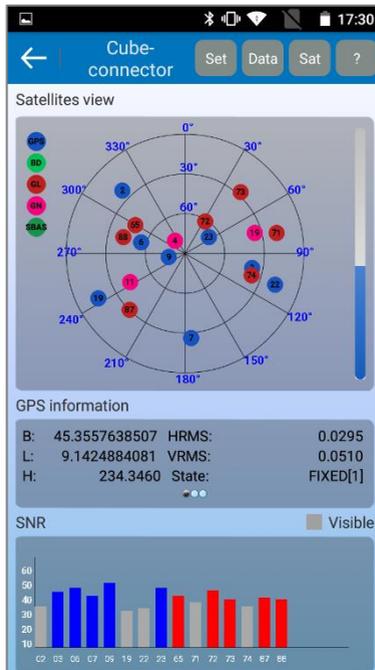
- Ntrip Set:** IP (158.102.161.199), Port (2101), User, and Password fields.
- MountPoint Set:** MountPoint (RTK_iMAX_RTCM3) and a 'Get MountPoint' button.
- State:** A 'Receive' indicator.
- Buttons:** 'Stop' and 'OK' buttons at the bottom.

4. Debugging

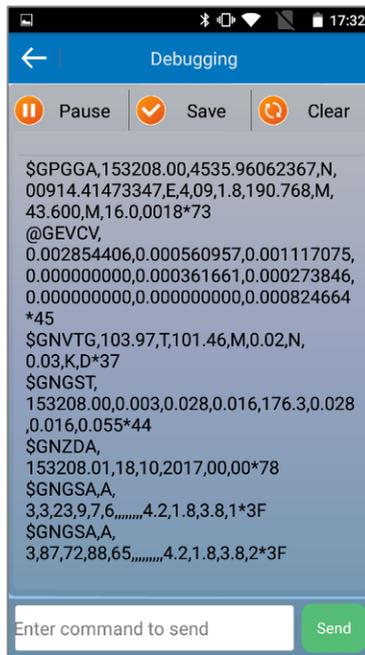
Click the button  in the “GPS data” interface, the program will go to the debugging interface.



- (1) Click the button , the program will turn to the GPS data interface.

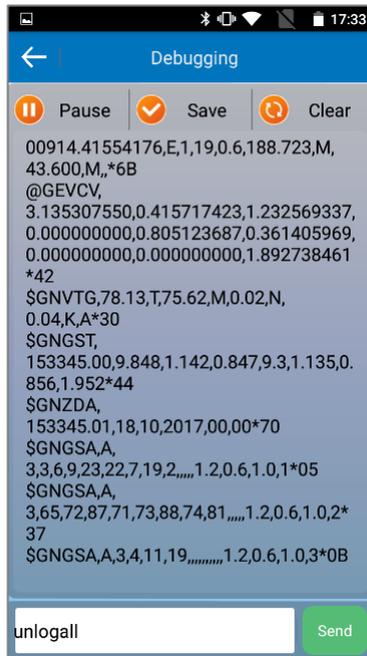


- (2) Click the button  **Pause**, the device will not output GPS data in real time, and the button will become  **Start**. If you click the button  **Start**, the GPS data will again update in real time. The figure is as shown in the below.



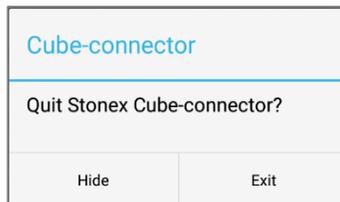
- (3) Enter the send command in the box. Example: unlogall and logall.

Click the button , then complete the instrument is not output and output all the information setting.



5. Exit software

Click on the  button in the communication settings interface. The program will prompt the dialog whether you will exit the program or not. If you select “exit”, the program will turn off. If you select “cancel”, the dialog will close.





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