

The background of the cover is a composite image. The top half shows a city skyline at night with glowing blue light trails and network lines connecting various points. The bottom half shows a light-colored, possibly white or light blue, surface with similar light trails. In the center-right, there is a 3D rendering of the SXblue Premier GNSS Network RTK Receiver. The device is a small, rectangular box with a white top and a yellow bottom. The top surface has the 'SXblue PREMIER' logo. The front edge of the device has four small circular indicators or ports.

SXblue
PREMIER



**SXblue Premier GNSS Network RTK Receiver
User Manual**

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Chapter I Brief Introduction

1.1 Introduction

This manual takes SXBLUE new compact GNSS network RTK receiver –**SXBLUE PREMIER** for example, to explain what new features achieved on this compact and miniaturizing unit, and how to install, set up and uses the RTK system as well as the use of the accessories. We recommend that you read these instructions carefully before using the instrument.

This kind of receiver is the product we made a comprehensive upgraded for hardware and system on the basis of original model SXblue PREMIER, which according to long period time market research and user demand research, greatly improves the stability of product performance, as well as to the user experience.

1.2 Main Features

1.2.1 Smart platform

Embedded Linux operating system and SXBLUE intelligent cloud platform, SXBLUE PREMIER receiver is no more a simple and compact RTK receiver, now it is a complete intelligent operation system with web UI management platform.

The smart internal web UI management platform allows users to monitor working status of receiver and configure the equipment with the help of WIFI connection or USB connection to PC.

1.2.2 WiFi performance

According to current trend of RTK surveying, WiFi is the brand-new and useful technology to RTK measurement that makes effective use of GNSS receiver, which greatly improves the working efficiency and the flexibility.

The WiFi of SXBLUE PREMIER is not only able to be a wifi hotspot that allows users to connect it and access to the web UI management of SXBLUE PREMIER, but also can work as datalink that makes SXBLUE PREMIER have a quick connection to internet for corrections from CORS network.

1.2.3.Intelligent storage ability

SXBLUE SXBLUE PREMIER is equipped with 8GB Solid State Disk that make sure enough storage space for data collection, as well as to the stability of data recording speed.

With the smart storage technology, SXBLUE PREMIER is able to connect an external storage for data collection or downloading data to this external storage directly.

Base on the intelligent platform, SXBLUE PREMIER supports STH, Rinex2.x and Rinex3.x format data storage, and the sampling rate can be up to 20Hz.

The automatic circular storage performance can remove the primary data automatically once the memory is full, which makes sure instrument has enough space for next job.

1.2.4 Full satellite constellation support

Equipped with most advanced GNSS board, 220 channels and unmatched GNSS multi-constellation tracking performance, SXBLUE PREMIER is able to track most signals from all kinds of running satellite constellations. And this compact device owns the ability of enable or disable constellation tracking .

1.2.5 Outstanding protection capability

This compact unit is built with magnesium alloy material to make sure it can work in extremely tough conditions like heavy rain, and the rubber ring can protect the instrument from dropping onto concrete.

Chapter II Hardware Component

In this chapter, the appearance of SXBLUE PREMIER will be presented in detail, you can grasp detail information about each component as your expectation.

2.1 Main Structure

SXBLUE PREMIER receiver is similar to a flat structure box with concave-convex texture upper cover. Concentrate on the protective property, the main body of SXBLUE PREMIER is made by magnesium alloy material which is applied to aviation industry, it makes overall the SXBLUE PREMIER be more rugged and durable.



The upper cover is designed with concave-convex texture structure, perfect combination of fashionable design and industrial aesthetics.



2.2 Front Control Panel

The control panel of SXBLUE PREMIER adopts the LED design to indicate working status and charging state, which are intuitive to understand well. There is detail description for each indicator in following table.

lorem ipsum



Items	Description
	<ol style="list-style-type: none"> 1 Glows in green to indicate there is enough power supply for instrument after switching it on 2 Flashes in green to indicate that the battery is low in power. 3 Glows in red to indicate that the instrument is under charging after plugging on charger.
	<ol style="list-style-type: none"> 1 If this indicator glows in green, that means the Bluetooth connection has established between receiver and controller. 2 If it is glows in green in charging mode, that means the battery has been full charged.
	<ol style="list-style-type: none"> 1 If the indicator flashes in green, that means the receiver begins searching satellites, the number of times flashing indicates the quantity of satellites the receiver searches.
	<ol style="list-style-type: none"> 1 In Rover mode, if this indicator flashes in green, the meaning is that correction is coming from reference station. 2 In Static mode, the indicator flashes in green to indicate that the static observation data is being recorded. 3 In Base mode, this indicator flashes in green to indicate that correction is being transmitting by the WIFI connection to internet.

2.3 Bottom Component

At the bottom component, a lot of information is contained on the label attached to the receiver, including instrument model, L1/L2 information, serial number of the device and a QR code for GIGStar software downloading. The other components include power button, reset button and screw caves for fixing with holder.



2.4 User Interface

This part is mainly to introduce the communication port which is mainly used for data downloading and battery charging. However, except the function we mentioned, there is an additional function which allows users access its internal web UI server with the help of the micro USB cable.



Chapter III Hardware Operation

3.1 Switch_ON/OFF

3.1.1 Switch ON

To switch on the receiver, you only need to press the power button for short time until you can hear beeping from receiver once and all indicators light up, at this moment, release the power button and the receiver will switch on.

Then the receiver will complete initialization automatically around 8 seconds, and the power indicator would flash 5-7 times. After that, the unit starts to work in normal situation.



3.1.2 Switch OFF

To switch off the receiver, hold on power button for several seconds until you can hear 3 beeping sounds, then release the power button, the receiver will switch off after all of indicators flash together twice.



3.2 Reset

At the bottom of SXBLUE PREMIER receiver, there is a small key besides to Power button, that is the Reset key mainly used to force turning off receiver if there is something block with power button to switch off the receiver.

For example, if the receiver can't be switched off by power button, use this key to force switching off receiver, then restart the unit in normal way.



3.3 Self-check

Self-check is an important operation for SXblue receiver during its use on the field. If there is something abnormal on receiver or the receiver doesn't work properly, performing self-check operation for receiver will be helpful on judging roughly what happen to the receiver.

Self-check operation is easy to perform on SXBLUE PREMIER receiver, keep pressing power button for a while (about 8 seconds) until all of indicators light up together, at this moment, release power button and the receiver is performing self-check procedure, then the indicator will light up one by one from right to left, after that the self-check is completed and the receiver will get into normal state, starts to track satellites.



The meaning of all indicators during self-check

Items	Description
	Glows in green to indicate the enough power supply for receiver
	If this indicator glows in green during self-check procedure, it represents the Bluetooth module is checked and completed.
	If this indicator glows in green during self-check procedure, it represents the WIFI module is checked and completed.
	If this indicator glows in green during self-check procedure, it represents the OEM board is checked and completed.

3.4 Factory Reset

Factory reset is a new interactional operation on SXBLUE PREMIER receiver, it is mainly used to bring internal configuration of receiver back to factory default setting. Such as reset the function of micro USB port from normal USB to Ethernet function, and reset the WIFI function from client mode to AP mode (WiFi hotspot).

Factory reset is similar to the operation of self-check, keep pressing power button for a while (after self-check entrance) until the indicators flash one by one from left to right, at this moment, release power button and the receiver gets into factory reset procedure. This procedure would take about 10 seconds, after that the receiver will switch off automatically.



3.5 Charging

SXBLUE PREMIER GNSS Network RTK receiver adopts built-in 6800mAh huge capacity battery, typically can last 8 hours continuous work or more. Equipped with a specified charging socket and charger, ensure the safety of equipment during charging. This unit is also able to be charged with phone charger and micro USB cable, or recharge with a portable power source.

While the power indicator flashes in green, this status indicates that the battery is low in power, and the receiver really needs to charge within 10 minutes.

Before the use, please recharge the equipment first, and please take in mind that make sure the charging time reach 6-8 hours at the first several times, and fully discharged, so that to maximize the battery capacity and extend the battery life at the same time.

When plug charger to SXBLUE PREMIER, the power indicator lights up all the time during charging, after the Bluetooth indicator lights up, that means the battery is full charged.



Chapter IV Internal Web UI Operation

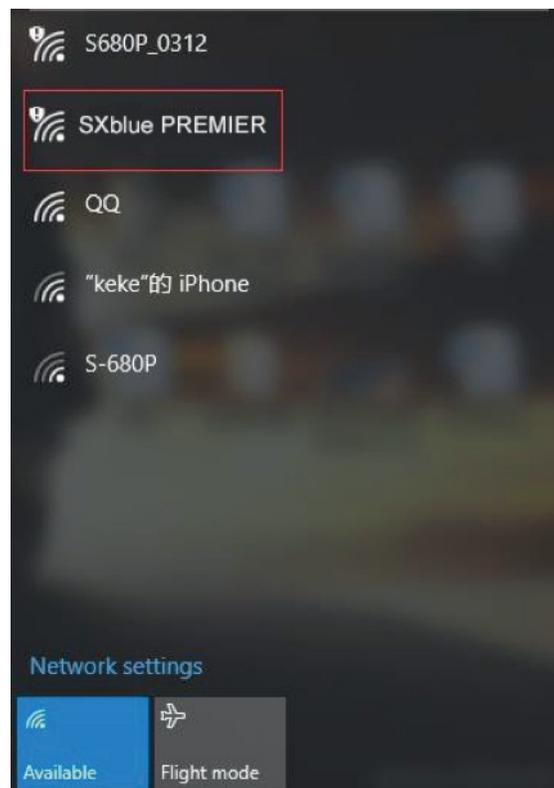
4.1 Overview

Because of using the smart embedded Linux operating system and SXBLUE intelligent cloud technology, SXBLUE PREMIER is allowed configuring and monitoring the status of itself in real-time on internal web UI. And the accessing way not only supports the WIFI connection, but also supports the USB connection to computer with the help of micro USB.

4.1.1 WIFI hotspot connection mode

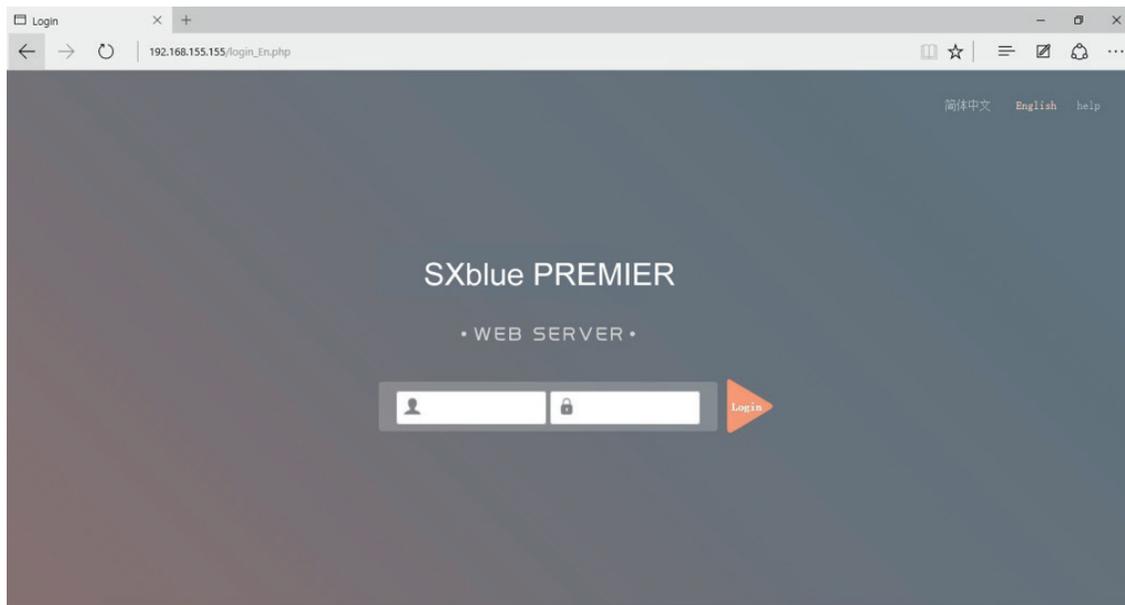
First of all, the WIFI hotspot is default broadcasted by SXBLUE PREMIER, search the WIFI hotspot with the name of SXBLUE_xxxx using smartphone, tablet or laptop, then establish the WIFI connection and input the default IP (10.1.1.1) into explorer, apply the default username and password for login.

For example, search the WIFI hotspot broadcasted by a SXBLUE PREMIER receiver using laptop PC,



choose the WIFI hotspot and click on connect button to establish the connection without password.

After that, run IE explorer on computer and input the default IP into address bar, after a while, the system login interface is refreshed, then apply the default username and password for login.

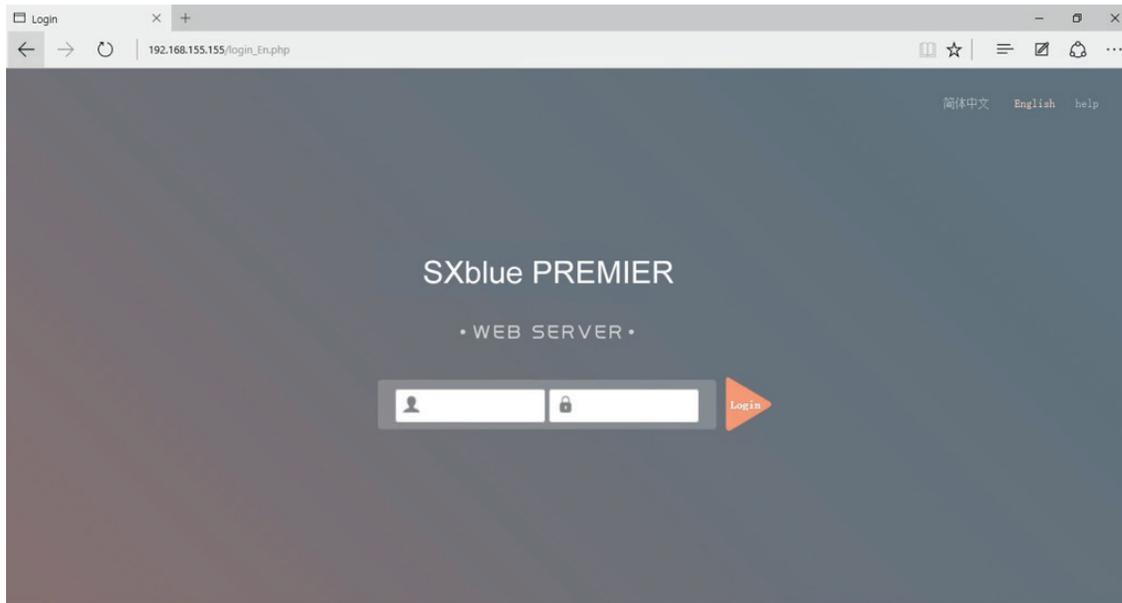


4.1.2 USB connection mode

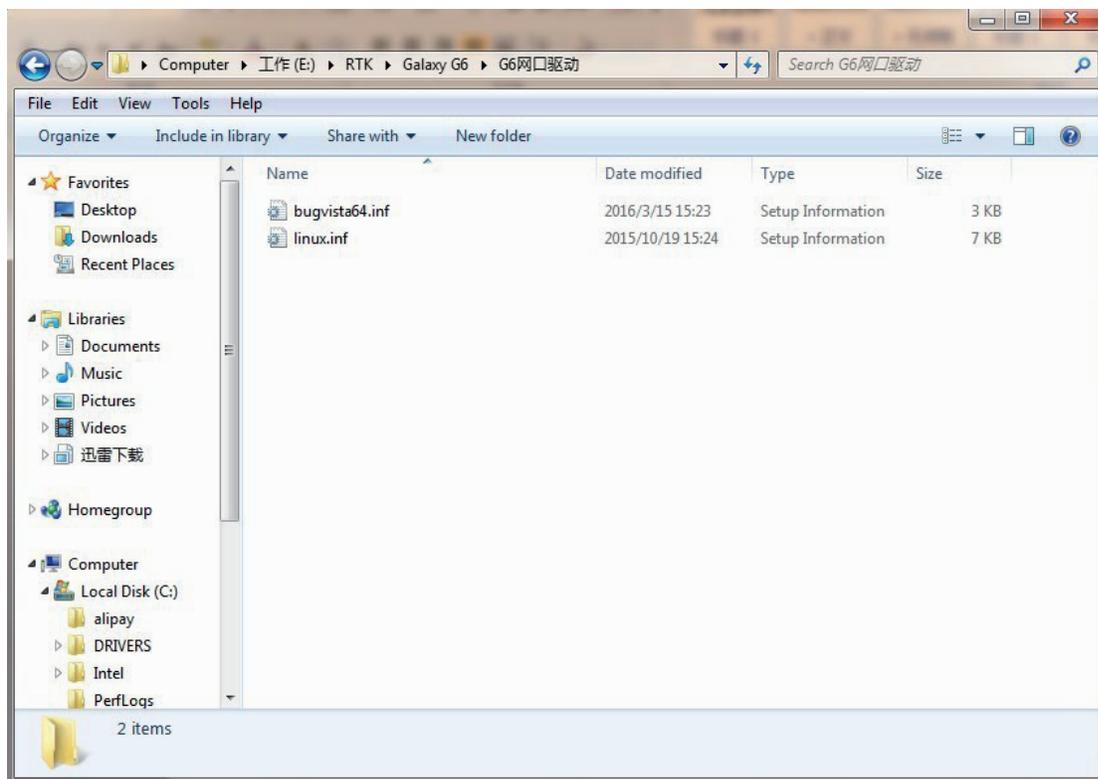
On this mode, the micro USB port of SXBLUE PREMIER must work as an Ethernet port, then internal web UI shall be accessed via micro USB cable connects to computer.



The micro USB port of SXBLUE PREMIER is default set as Ethernet function, then connect SXBLUE PREMIER receiver to computer via a micro USB cable. Run the IE explorer on computer and type IP 192.168.155.155 into IP address bar, then input the default username (admin) and password (admin) for login.



At the first time to connect to a computer, a corresponding driver is required to install to the computer, then this function could be activated.



Update Driver Software - Linux USB Ethernet/RNDIS Gadget

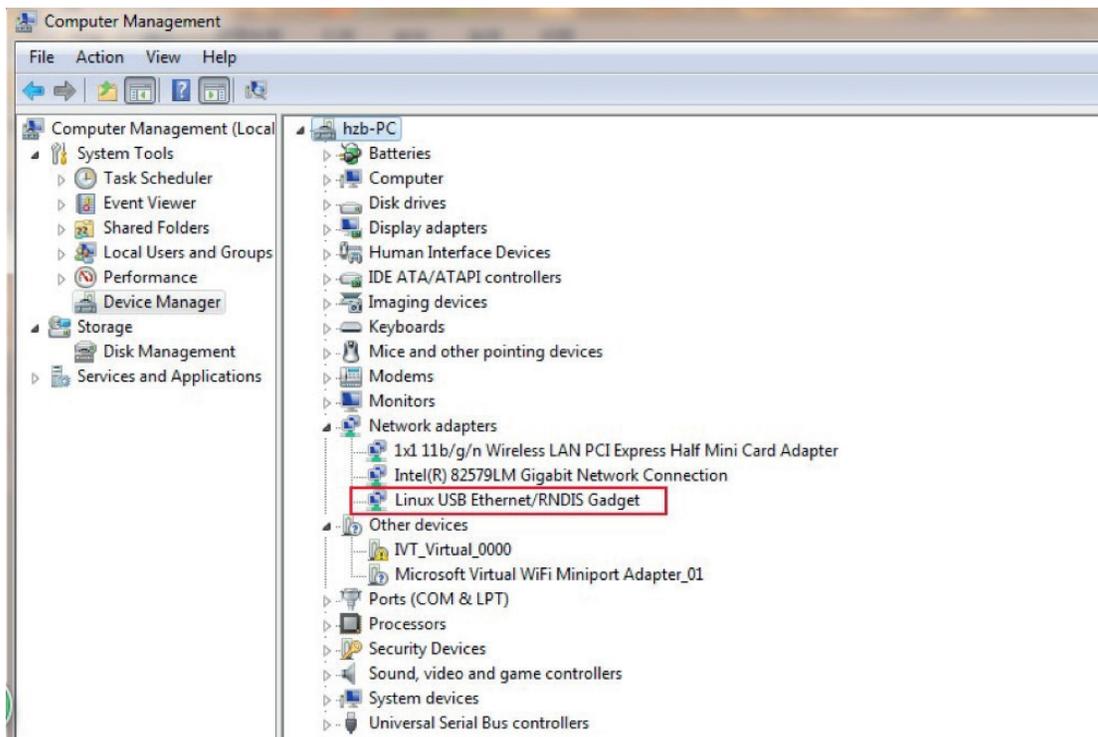
Browse for driver software on your computer

Search for driver software in this location:

E:\RTK\Galaxy G6\G6网卡驱动

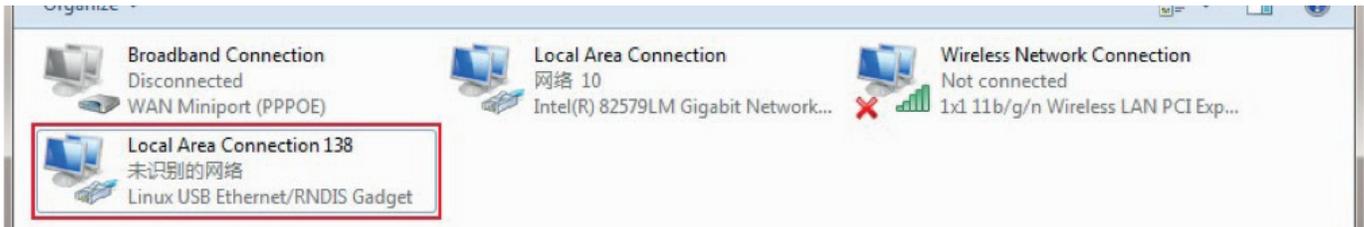
Include subfolders

- ➔ Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.

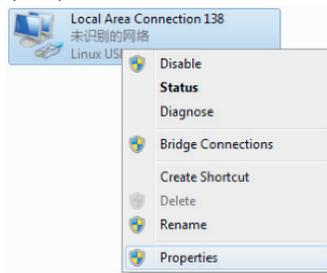


NOTE: The driver can be downloaded from official website automatically or please contact with us for more supports.

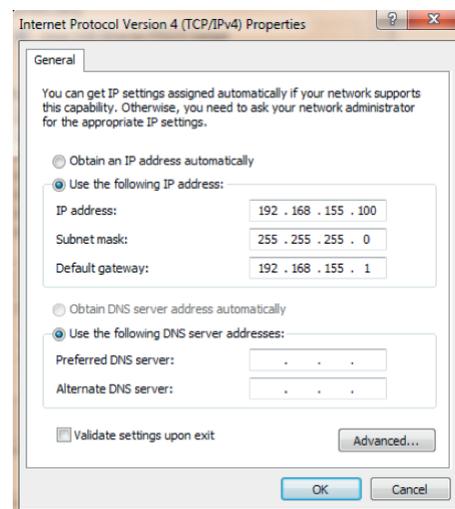
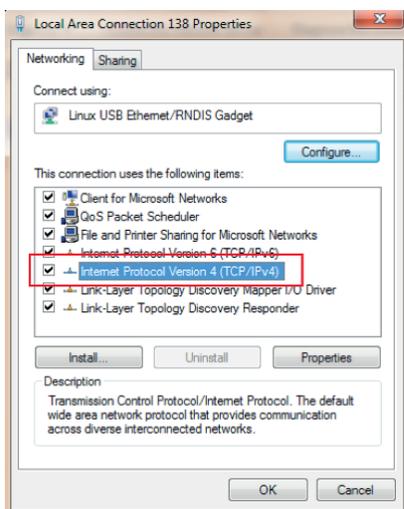
If the driver has been successfully installed, the micro USB port of SXBLUE PREMIER will be recognized as **Linux USB Ethernet/RNDIS Gadget**, and a local area connection will generate in **Network Connections** on the computer. For example, Local Area Connection 138 generates after connecting SXBLUE PREMIER receiver to computer via micro USB Ethernet port.



However, sometimes the computer cannot detect the receiver by micro USB Ethernet port because there is something wrong with acquiring IP automatically, therefore, we need to do something to avoid such problem, we can set a fixed LAN IP for the connection: right click on the local area connection which is new generated, choose properties to call out the local area connection properties window.



Then double click on Internet Protocol Version 4 (TCP/IPv4) option or click on properties button to call out Internet Protocol Version 4 (TCP/IPv4) properties window, set the fixed LAN IP address as shown in following, then click OK button and confirm the settings, return to the IE browser and use the IP address 192.168.155.155 to access the internal web UI.



4.2 Web UI Main Interface

As shown in the following screenshot, this is the main interface of web UI of SXblue PREMIER while login, it contains the common used operation menu and the information window including detail information and settings.

For example, the operation menu is listed at the left column that includes Status, Configuration, Satellite Information, Data Record, Data Transfer, Network Config, Firmware Update, User Management and Help. At the right information window, there is Position Information includes Location coordinates, RTK Status, Tracked Satellite, Used Satellites and so on.

Click on the menu, the corresponding information or settings will be displayed at the right information window, it is very intuitive and easy to understand, as well as to the operation.

SXblue Premier Version: K68167123188708 Welcome, admin | Logout

Position Information				
Location	Lat: 23° 7' 34.052094" N	Lon: 113° 22' 5.217402" E	Alt: 38.744141 m	Ellipsoid: WGS-84
	PDOP: 1.29	HDOP: 0.62	VDOP: 1.12	TDOP: 0.69
	E: -0.01[m/s]	N: 0.01[m/s]	Up: 0.02[m/s]	
RTK Status	Diff. format: NONE	Correction Delay: 99	HRMS: 1.043	VRMS: 1.420
	Autonomous	Base X: 6378137.000000	Base Y: 0.000000	Base Z: 0.000000 Base ID: NONE
Receiver Clock	GPS week: 1916	GPS second: 297686.0	Time: 2016-9-28 10:41:26.0	
RTX	SN: 无	TrackingTime: 0		Elevation: 0.00
	Azimuth: 0.00	Solution: NONE		
	SNR: 0.00			
Tracked Satellite	GPS (8): 2, 3, 6, 17, 19, 22, 28, 30	GLONASS (6): 5, 6, 9, 10, 20, 21		
	20	GALILEO (0): None		
	BDS (6): 1, 3, 8, 11, 14, 15	QZSS (0): None		
	SBAS (0): None			

The table below is the instruction for the menu listed at the left side of main interface, take a reference to this table, you will grasp the main points of each item.

Some associated sub-items are contained under each main menu, click on the icon or the main menu to unfold the sub-items.

Ref	Component	Description
	Status	Positioning information, satellite tracking and the others will be displayed in this page
	Configuration	It contains general operation on receiver, base configuration, antenna setting, satellite configuration, receiver control and system setting.
	Satellite Information	Display and control the satellites used or not
	Data Record	Configure the parameters for static mode and raw data download
	Data Transfer	Contains NTRIP configuration, TCP/IP configuration and data transferring with PC
	Network Config	Contains network parameters configuration, WIFI configuration and the other functions
	Firmware Update	It is used to upgrade the firmware for receiver
	User Management	Add and manage the Web UI users
	Help	Offer solutions

4.2.1 Status

System Information, Work Status and Position Information are listed under Status menu.

System Information

In this page, all the information of SXBLUE PREMIER is displayed such as serial number, hardware ID, MAC address, firmware version, registration information and so on.

SXblue Premier		Version: K68168123188731	WelCome, admin Login
Status	>	System Information	
System Information		Receiver Type:	
Work Status		Serial Number:	K68168123188731
Position Information		Hardware ID:	000000000000040051110
Configuration		Software ID:	1000000000000000
		Ethernet MAC:	00:81:23:18:87:31
Satellite Info		Ethernet IP:	192.168.1.1
		Wi-Fi IP:	10.1.1.1
Data Record		Bluetooth MAC:	00:80:25:4A:88:67
Data Transfer		Hardware Version:	HeZiA5002
Network Config		Firmware Version:	1.06.160826.R6S1GL
Update		OEM Version:	00511
		Web Version:	1.06.160826.RG60VEB
Track Manage		Expired Data:	2016-11-08
Coordinate Sys			
Online Service			
User Manage			

Work Status

The physical state of SXBLUE PREMIER is displayed at the right field including working mode, battery type, storage type, remaining power and the free memory.

The datalink, host temperature, OEM temperature are not supported displaying because of the hardware design and the OEM board performance.

The screenshot shows the SXblue Premier web interface. The top header includes the logo, version number (K68168123188731), and user information (Welcome, admin | Login). The left sidebar contains a navigation menu with items like Status, System Information, Work Status, Position Information, Configuration, Satellite Info, Data Record, Data Transfer, Network Config, Update, Track Manage, Coordinate Sys, Online Service, and User Manage. The main content area is titled 'Work Status' and displays the following information:

- Work Mode: Rover
- Datalink: None
- Host Temperature: N/A
- OEM Temperature: N/A
- Battery Type: Internal Battery
- Power Voltage: 0.00 V
- Storage Type: Internal Memory

Below the text, there are two visualizations:

- Power Remaining:** A battery icon with an orange bar indicating 30% power remaining.
- Disk Capacity:** A circular progress indicator showing 7M used (blue) and 7434.00M free (grey).

Position Information

As mentioned at the beginning of this chapter, the positioning information is displayed on this page, including locating coordinates, RTK status, tracked satellites, as well as to used satellites, users can be clear at a glance on this page to grasp the main information.

SXblue Premier		Version: K68168123188731		Welcome, admin Login	
Status	> Position Information				
System Information	Location	Lat: 0° 0' 0.000000" S	Lon: 0° 0' 0.000000" W	Alt: 0.000000 m	Ellipsoid: WGS-84
Work Status		PDOP: 0.00	HDOP: 0.00	VDOP: 0.00	TDOP: 0.00
Position Information		E: 0.00[m/s]	N: 0.00[m/s]	Up: 0.00[m/s]	
Configuration	RTK Status	Diff. format: NONE	Correction Delay: 0	HRMS: 0.000	VRMS: 0.000
Satellite Info	Autonomous	Base X: 0.000000	Base Y: 0.000000	Base Z: 0.000000	Base ID: NONE
Data Record	Receiver Clock	GPS week: 0	GPS second: 0.0	Time: 0-0-0 0:0:0.0	
Data Transfer	RTX	SN: 无	TrackingTime: 0		
Network Config		Azimuth: 0.00	Elevation: 0.00		
Update		SNR: 0.00	Solution: NONE		
Track Manage	Tracked Satellite	GPS(0): None	GLONASS(0): None		
Coordinate Sys	0	BDS(0): None	GALILEO(0): None		
Online Service		SBAS(0): None	QZSS(0): None		
User Manage	Used Satellite	GPS(0): None	GLONASS(0): None		

4.2.2 Configuration

General Config, Base Setup, Antenna Setup, Satellite Tracking, Receiver Operate and System Setup are contained under Configuration menu. Users are able to configure all kinds of parameters for SXBLUE PREMIER under Configuration menu, and all the settings are immediate effect after saving.

General Config

The registration for receiver and working mode setting can be completed in this general configuration page.

SXblue Premier Version: K68168123188731 WelCome, admin

Configuration > General Config

Registration 【Operation Tips】 Use Online Reig Function, please Make Sure Network is Work

Serial Number: K68168123188731

Code: [Register](#)

Expired Data: 20161108

Online Registration: [OnlineReg](#)

Mode setting

Work Mode:

Datalink:

RTK Record:

1PPS:

EVENT:

EVENT Polarity:

If the code of SXBLUE PREMIER has expired or is going to be run out, please provide the serial number of your SXBLUE PREMIER receiver for us, then we will supply another available code, then apply the code to receiver by inputting the code into the blank or register the receiver online.

Registration 【Operation Tips】 Use Online Reig Function, please Make Sure Network is Work Well!

Serial Number: K68159123147542

Code: [Register](#)

Expired Data: 20170108

Online Registration: [OnlineReg](#)

SXBLUE PREMIER is allowed setup the working mode and datalink from Web UI that only need the mobile phone or tablet PC which is able to connect the wifi hotspot of SXBLUE PREMIER.

Mode setting

Work Mode:

Datalink:

Radio Route:

RTK Record:

1PPS:

EVENT:

EVENT Polarity:

Enter

Cancel

Work Mode: There are Rover, Base and Static options contained in this dropdown list, SXBLUE PREMIER now owns the ability to work as Base because of the WIFI module integrated on receiver.

Datalink: Pull down the list, there are only two options for datalink, Bluetooth and WIFI, because unlike traditional RTK receiver, SXBLUE PREMIER is without any other datalink module inside except Bluetooth and WIFI module.



Tips: Under Base mode, there is only WIFI available in datalink, because it is the only way for data transmission from base.

RTK Record: This is used to enable raw data recording in base mode or rover mode for post-processing

1 PPS: This option is for the 1 pulse per second output

EVENT: This option is for the EVENT marker input

EVENT Polarity: EVENT input method.

Base Setup

Due to the WIFI module is equipped on SXBLUE PREMIER receiver, this unit is able to work as Base, then transmits corrections via WIFI connection. Therefore, the basic configuration for base can be setup in this page. Users can input the correct coordinates or capture a current position for the base. Also users can define what kind of correction format is transmitted.

CMR ID/RTCM2.X ID/RTCM3.X ID: Users can specify the ID for transmitting correction.

Position: Click this button to capture the coordinates for current position

Spare: This is used to the repeat station

Base Start Mode: Here contains 3 methods to start the Base, manually start base, automatically start base by fixed point, automatically start base by current point, they are easy to understand from the literal meaning.

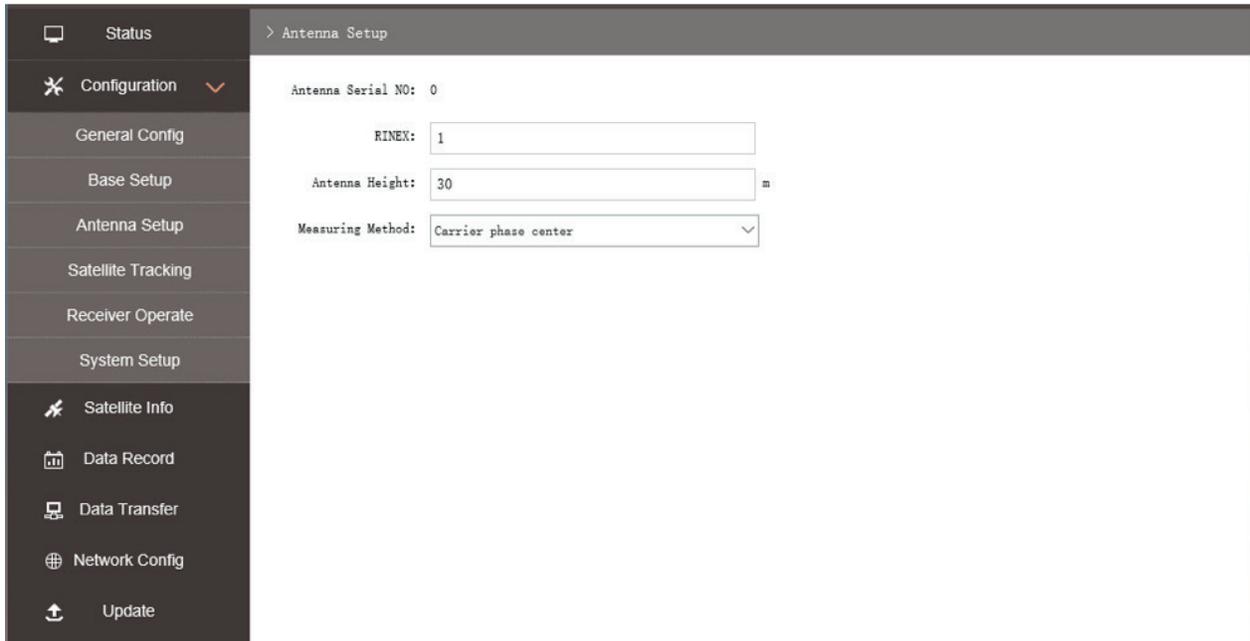
Correction: Here contains the global general used correction formats including RTD,RTCM23, RTCM30, RTCM32, CMR and SCMRx

POP Value: This value is setup for the PDOP limitation.

Status: Here will display the status for base in real-time.

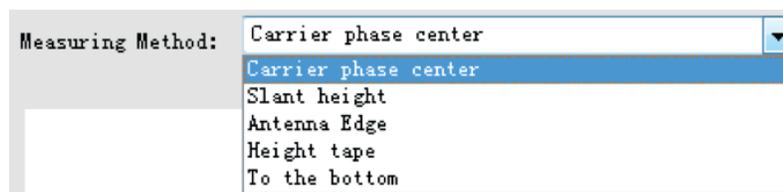
Antenna Setup

The antenna parameters are configured in this page including the antenna height, measuring method.



Antenna Height: This is the value for height of antenna while surveying.

Measuring Method: Here provides several methods for measuring the antenna height such as carrier phase center, slant height, antenna edge, height plate and to the bottom.



Satellite Tracking

In this page, users can define the mask angle for satellite tracking, and check on the box of corresponding band from the constellation that to use this band or not

> Satellite Tracking

Setting

Mask Angel: degree

Tracking Setting

Enable option : GPS GLONASS BDS SBAS GALILEO QZSS RTX

[Advanced setup](#)

[Enter](#) [Cancel](#)

Receiver Operate

The page provides all kinds of operations to control the receiver such as self-check operation, clean epochs, factory reset and power off.

> Receiver Operate

Module SelfCheck

Item	Module	Operation	Status
1	OEM	Check	No Action
4	WiFi	Check	No Action
5	Bluetooth	Check	No Action

[Check all](#)

[Default Settings](#) **[Tip]** This action will reset all parameters to the factory default setting!

Default Settings
【Tip】 This action will reset all parameters to the factory default setting!

Clean EPH
FactoryDefault

Ethernet IP: 192.168.1.1	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.1.1
WIFI mode: AP	WIFI IP: 10.1.1.1	Web port: 80
WIFI SSID: galaxy	WIFI Code: None	User and password of webserver: admin

Other Settings

Reboot
Power Off

Self-check: Users can also do the self-check from this configuration page, click on the Check all button to check all the modems or click on the check button corresponding to the modem to check one by one.

Clean EPH: Click this button to clear the remaining epochs to let receiver track the satellites better.

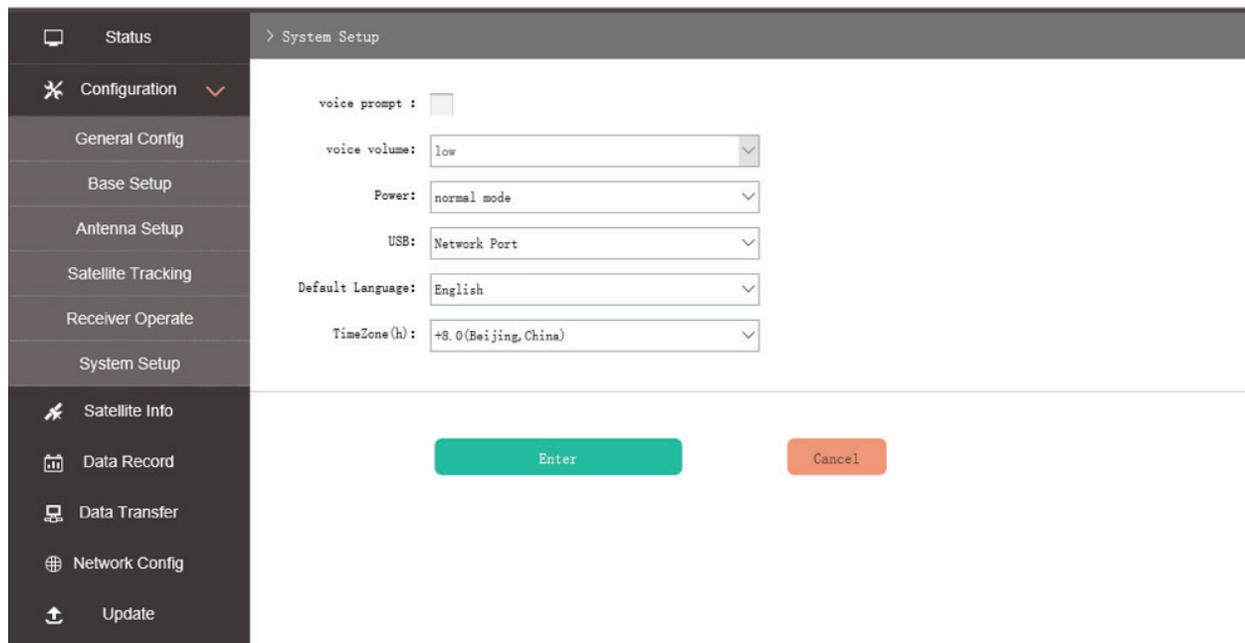
Factory Default: Click this button to bring the receiver back to factory default setting.

Power Off: Click this button to power off the receiver.

Reboot: This is not supported on SXBLUE PREMIER receiver, that is why this button is not activated (grey).

System Setup

This page is used to control power saving, USB mode, default language for internal web UI and timezone.



Power: Configure the receiver to use the power saving mode or not.

USB: This is used to configure SXBLUE PREMIER receiver what kind of mode output from Micro USB port when connect the receiver with computer via USB cable. USB and network port for optional.

Default Language: Configure the default language for SXBLUE PREMIER internal web UI.

TimeZone: This is mainly to setup the timezone for receiver.

Tips: because SXBLUE PREMIER receiver doesn't support the voice prompt, the option Voice Prompt and Voice Volume are displayed in grey.

4.2.3 Satellite Information

The —Satellite Information provides all kinds of tables, graph and the skyplot to view the information of tracking satellites. And it is allowed to configure to use which satellite in constellation on/off page by checking on the corresponding box.

Tacking Table

Here is the table to list all current used satellites and the other information for these satellites.

NO.	Type	Elevation	Azimuth	L1SNR	Code	L2SNR	Code	L3SNR	Code	Status
6	GPS	0.00	0.00	0.00	-	0.00	-	0.00	-	●
17	GPS	0.00	0.00	0.00	-	0.00	-	0.00	-	●
19	GPS	0.00	0.00	0.00	-	0.00	-	0.00	-	●
28	GPS	65.00	162.00	26.80	CA	0.00	-	0.00	-	●
2	GLONASS	42.00	138.00	34.20	CA	31.80	P	0.00	-	●
15	GLONASS	36.00	288.00	33.10	CA	30.60	P	0.00	-	●
15	BDS	48.00	328.00	34.80	I	27.30	I	0.00	-	●

Tracking Chart

In this page, the histogram will indicate the signals from those used satellites, and allow to check each constellation separately.



Skyplot

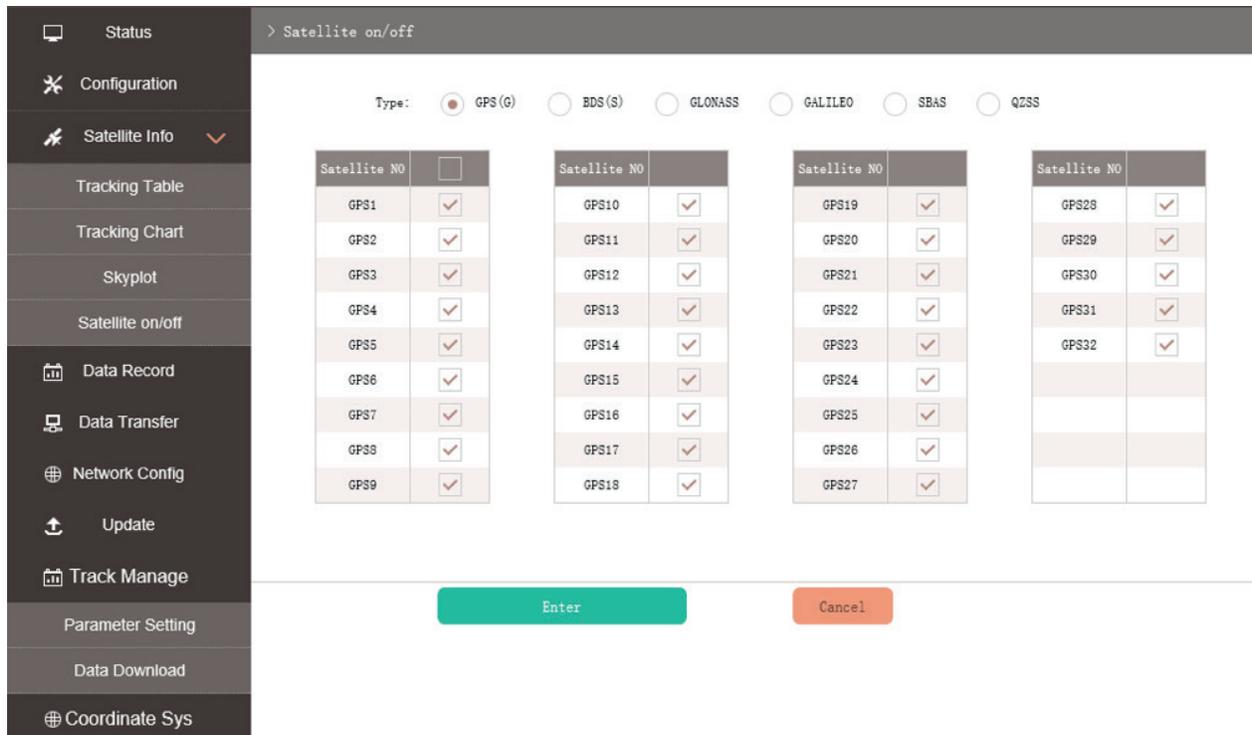
In this page, all the tracking satellites are shown on the skyplot, this let users intuitively view and know where the current position of satellite is.



Satellite on/off

For all the running GNSS constellations or the augmentation system, SXBLUE PREMIER allows to configure to use which satellite or not.

In gnss on/off page, all the running satellites are listed, and unselect the box corresponding to the satellite to not use it.



4.2.4 Data Record

The —Data Record performance is mainly used to configure all the parameters for receiver in static mode. Much more operations can be done on SXBLUE PREMIER receiver such as storage path, interval, data format and data files download.

Recording Config

The page provides more practical operations for raw data storage.

Storage Option: Here are the options to be selected for where the raw data will be stored, internal memory or external memory (OTG function).

Interval: This is the sampling interval for data storage, 20Hz(0.05s) sampling interval now is supported on SXBLUE PREMIER.

File Interval: This is used to define the data storage time for the static file.

Data Format: Here are 3 options to select for SXBLUE PREMIER to store what kind of format data, STH, Rinex2.0 and Rinex3.0.

Point Name: A point name is required, the last 4 digits of SN is default setting for the point name.

Auto Delete: This is used to configure SXBLUE PREMIER to delete the previous data files automatically if the memory is full.

Format: Click this button to format the internal memory for SXBLUE PREMIER receiver.

Recording Mode: Here are 2 options to configure SXBLUE PREMIER to record raw data automatically or not if it achieves the sampling conditions.

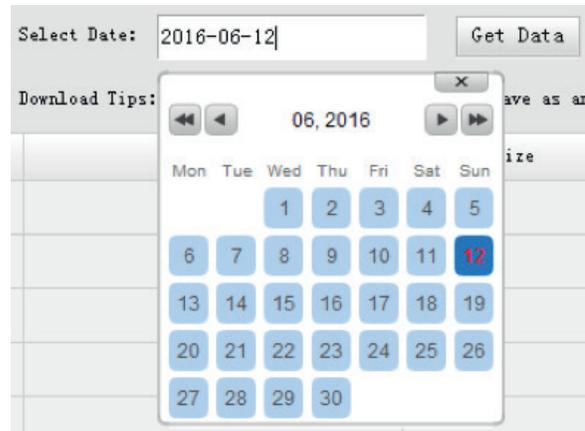
Start/Stop: Click these buttons to start recording or stop recording the raw data.

Recording Status: Here shows the status of static data storage.

Data Download

This page provides the data files to download

Choose the storage where the static data recorded, and file type, then click on the blank of —Select Date to choose what date the data was recorded and click —Get Data button, all the files recorded in that date you choose will show in the table, tap download button to download the data files.



Item	File Name	Size	Data
1			[Download] [Delete]
2			[Download] [Delete]
3			[Download] [Delete]
4			[Download] [Delete]
5			[Download] [Delete]
6			[Download] [Delete]
7			[Download] [Delete]
8			[Download] [Delete]
9			[Download] [Delete]
10			[Download] [Delete]
11			[Download] [Delete]
12			[Download] [Delete]
13			[Download] [Delete]
14			[Download] [Delete]

4.2.5 Data Transfer

This performance contains General, Serial Port Config, TCP/IP Config, NTRIP Config and Data Flow Config. The —Data Transfer— allows to configure the output mode for raw observation data and differential data, as well as to the NTRIP performance configuration.

General

This page shows the service condition and the output contents of the ports, if the port items display in green, that means the port is available for use, and on the contrary, if the port is not used while the items display in red.

The screenshot shows the SXblue Premier web interface. The top header includes the logo, version number (K68168123188731), and user information (Welcome, admin | Logout). The left sidebar contains a navigation menu with the following items: Status, Configuration, Satellite Info, Data Record, Data Transfer (expanded), General, Serial port Config, TCP/IP Config, NTRIP Config, Data Flow Config, Network Config, Update, Track Manage, and Coordinate Sys. The main content area is titled '> General' and contains a table with the following data:

Type	Port	Input	Output
Serial	LEMO (115200)	none	Navigation data
Serial	BLUETOOTH (115200)	none	Navigation data

Serial port Config

This page is allowed to configure the baud rate, odd-even check and the data flow for micro USB port and Bluetooth.

Item	Serial Port	Baud Rate	Odd/Even	Data Flow	Enable
1	LEMO	115200	None	Navigation Data	<input checked="" type="checkbox"/>
3	BLUETOOTH	115200	None	Navigation Data	<input checked="" type="checkbox"/>

Buttons: Enter, Cancel

CAUTION: do not change the default value in this page for each item, if you want to change the settings, please contact with SXBLUE technician for further support.

In the dropdown list of data flow, there shows 4 items for selection.

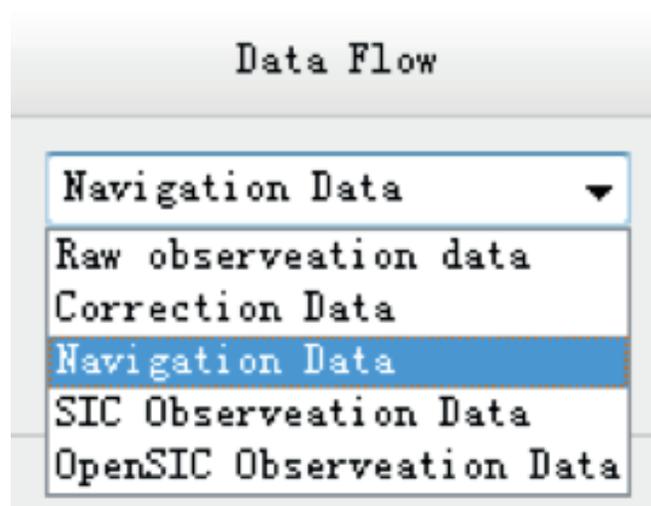
Raw observation data: This is the raw observation data straight from OEM board.

Correction Data: This is the correction data straight from OEM board.

Navigation Data: This is the navigation data output from receiver such as NMEA-0183, GSV, AVR, RMC and so on. It is configured in Data Flow Config page.

SIC Observation Data: This is the user-defined format observation data from SXBLUE.

OpenSIC Observation Data: This is the open version of SXBLUE user-defined format observation data for secondary development.



TCP/IP Config

Item	Work mode	Local port	Server IP	Port	Data flow	Status	on/off
1	Caster	1111	58.248.35.130	2010	SIC Observation I	Disconnect	<input type="checkbox"/>
2	Caster	2222	58.248.35.130	2010	Navigation Data	Disconnect	<input type="checkbox"/>
3	Caster	3333	58.248.35.130	2010	Navigation Data	Disconnect	<input type="checkbox"/>
4	Caster	4444	58.248.35.130	2010	Navigation Data	Disconnect	<input type="checkbox"/>
5	Caster	5555	58.248.35.130	2010	Navigation Data	Disconnect	<input type="checkbox"/>

This is used to configured the raw data or navigation data to be uploaded or transferred to a server. And there are Caster and Server working mode for this performance.

Caster: If this working mode is selected, SXBLUE PREMIER will be a client to upload the data to a specify server if it connects to the internet by WIFI connection. Input the specified IP and port for server, and the data format what is uploaded. Then users are able to see the uploaded data on server.

Server: SXBLUE PREMIER receiver will upload the data onto internet by the static WIFI if server is selected, then users are able to obtain its dynamic data by accessing to SXBLUE PREMIER through the IP from receiver.

NTRIP Config

This is used to configure the NTRIP performance while receiver is going to connect to internet. SXBLUE PREMIER supports complete NTRIP performance including NTRIP Client, NTRIP Server and NTRIP Caster.

The screenshot displays the NTRIP configuration interface. On the left is a dark sidebar menu with options: Configuration, Satellite Info, Data Record, Data Transfer (with a dropdown arrow), General, Serial port Config, TCP/IP Config, NTRIP Config, Data Flow Config, Network Config, Update, Track Manage, Coordinate Sys, and Online Service. The main content area is divided into two sections: NtripClient and NtripServer.

NtripClient Section:

- Status: Disconnect
- Active:
- Authentication Mode: Eagle Mode TCP/IP Mode LARK Mode
- NtripClient Address:
- NtripClient Port:
- User:
- Password:
- Mountpoint:
- Get Point:
- GetPoint Status: No Action

NtripServer Section:

- Status: Disconnect
- Active:
- Ntrip Version:

NtripClient

This is the general used function for rover set in WIFI mode. At the field of NtripClient, the specify IP address, access port of reference station, as well as the assigned username and password shall be input for the NTRIP connection.

Status: This field will display the status of NTRIP connection, connect or disconnect.

Active: Check on this circle to activate this function.

Authentication Mode: These three modes use different protocol standard for the connection, **Eagle Mode** is SXBLUE standard mode, and **TCP/IP Mode** is for private network use, usually, choose the Eagle mode for the default setting. **LARK Mode** is a totally new communication mode for network connection, it is similar to the CSD function that establishes connection between Base and Rover via GPRS network type, rather than GSM. However, SXBLUE PREMIER is without the GPRS module inside, this function is not supported on SXBLUE PREMIER receiver.

The next fields are the standard configuration for NTRIP connection, IP, port, username and password, after these information is input into the corresponding field, click on Get Point button to download the source table from server, then choose a proper mountpoint to access.

Client

Status: Disconnect

Active:

Eagle Mode
 TCP/IP Mode
 LARK Mode

Client Address:

Client Port:

User:

Password:

Mountpoint:

Mountpoint Status: No Action

NtripServer

This configuration is used in Base+WIFI mode that Base station will transfer its correction onto the server as long as it connects to internet, then Rover can download the base's correction from server for use.

Ntrip Version: This field provides NTRIPv1.0 and NTRIPv2.0 for optional.

Access Point: This field is allowed to user-defined the correction format which base will transfer to the server, such as HHHH_RTCM30

NtripServer

Status: Disconnect

Active:

Ntrip Version: NTRIPv1.0

Authentication Mode: Eagle Mode LARK Mode

NtripCaster Address: 58.248.35.130

NtripCaster Port: 2010

User: user

Password: password

Access Point: galaxy

NtripCaster

This feature is realized on SXBLUE PREMIER as well, the receiver is equivalent to a CORS system that it generates and broadcasts the user-defined correction for rover if SXBLUE PREMIER connects a static IP address.

Port: This is the specify port for the access.

Access Point: This is mountpoint which can be user-defined.

NtripCaster

Status: Disconnect

Active:

Port: 6666

Access Point: galaxy

Enter

Cancel

Data Flow Config

In this page, users can freely to configure the content and the update rate of data flow that to output or not to output what kind of data format.

Click on the dropdown list for each data format to define the update rate.

The screenshot displays the 'Data Flow Config' web interface. On the left is a dark sidebar menu with options: Status, Configuration, Satellite Info, Data Record, Data Transfer (selected), General, Serial port Config, TCP/IP Config, NTRIP Config, Data Flow Config, Network Config, Update, Track Manage, and Coordinate Sys. The main content area is titled '> Data Flow Config' and is divided into three sections:

- Navigation Data:** Contains dropdown menus for GGA (1), GSA (1), GSV (1), GST (1), ZDA (1), BPQ (1), PJK (OFF), GLL (OFF), RMC (OFF), VTG (OFF), HDT (OFF), and GRS (OFF).
- SIC Navigation Data:** Contains dropdown menus for PST (1), GSI (1), BSI (10), TPI (OFF), VCV (OFF), STA (2), DEV (OFF), AAT (OFF), REC (OFF), DAL (1), EDP (OFF), SLB (OFF), TRA (OFF), and PJK (OFF).
- Raw Observation Data:** Contains an 'Output Interval' dropdown set to '1' with a '秒' (seconds) unit, and three 'WhenChanged' dropdown menus for GPS Ephemeris, GLONASS Ephemeris, and BDS Ephemeris.

4.2.6 Network Config

The —Network Config is able to configure the ways and the contents for internet access of SXBLUE PREMIER. WIFI Config, Bluetooth Config, Port Forwarding, Router and Network Testing are included under the list of Network Config.

WIFI Config

This is mainly used on the WIFI configuration for SXBLUE PREMIER, there are AP mode and Client mode for optional.

AP:

This is used to enable the WIFI hotspot for SXBLUE PREMIER receiver to broadcast for mobile terminals such as smartphone or tablet to connect and access the Web UI.

Check the box of AP in Work Mode to enable the WIFI hotspot for SXBLUE PREMIER, and define the SSID, password, encryption method and broadcasting channel for WIFI connection.

DHCP IP Range: This is allowed to user-defined the IP for Web UI login.

Client: This option enables SXBLUE PREMIER to search and connect the other WIFI hotspot which connects to the internet, the receiver is able to download and use the mountpoint from reference station.

Client_SSID: This is the WIFI hotspot which SXBLUE PREMIER is going to connect **Scan:** Click this button to search the surrounding available WIFI hotspot. **Password:** This is the password which the WIFI hotspot requires.

IP fields: If SXBLUE PREMIER successfully connects to the WIFI, there will be an LAN IP address generated by SXBLUE PREMIER itself.

ClearSSID: Click this button to clear the SSID list.

The screenshot shows the 'WIFI Config' page in the SXblue interface. The left sidebar is expanded to show 'WIFI Config' as the selected option. The main configuration area includes the following fields and controls:

- Active:**
- Work Mode:** AP Client
- AP_SSID:** S680P_S731
- AP_Password:** southgnss.com.cn
- AP Encode:** OPEN
- AP Channel:** 1
- DHCP IP Range:** Three radio buttons are present:
 - 192.168. [] .0/255.255.255.0
 - 172.16. [] .0/255.255.255.0
 - 10. 1 [] . 1 [] .0/255.255.255.0

At the bottom of the configuration area, there are two buttons: a green 'Enter' button and an orange 'Cancel' button.

Bluetooth Config

In this page, users can view the information and connection status of Bluetooth, such as MAC of Bluetooth, discoverable or not, the PIN code, and the connection devices in following table.

The screenshot shows the 'Blue Tooth Config' page in the SXblue interface. The left sidebar is expanded to show 'Blue Tooth Config' as the selected option. The main configuration area includes the following fields and controls:

- Active:**
- Blue Tooth MAC:** 00:80:25:4A:88:67
- Discoverable:**
- PIN Code:** 0

Below the configuration fields is a table titled 'Connection Device':

Item	Device Mac	RPSCOMM Channel	Device Name	Disconnect Action
1				<input type="button" value="Disconnect"/>
2				<input type="button" value="Disconnect"/>

At the bottom of the configuration area, there are two buttons: a green 'Enter' button and an orange 'Cancel' button.

Port Forwarding

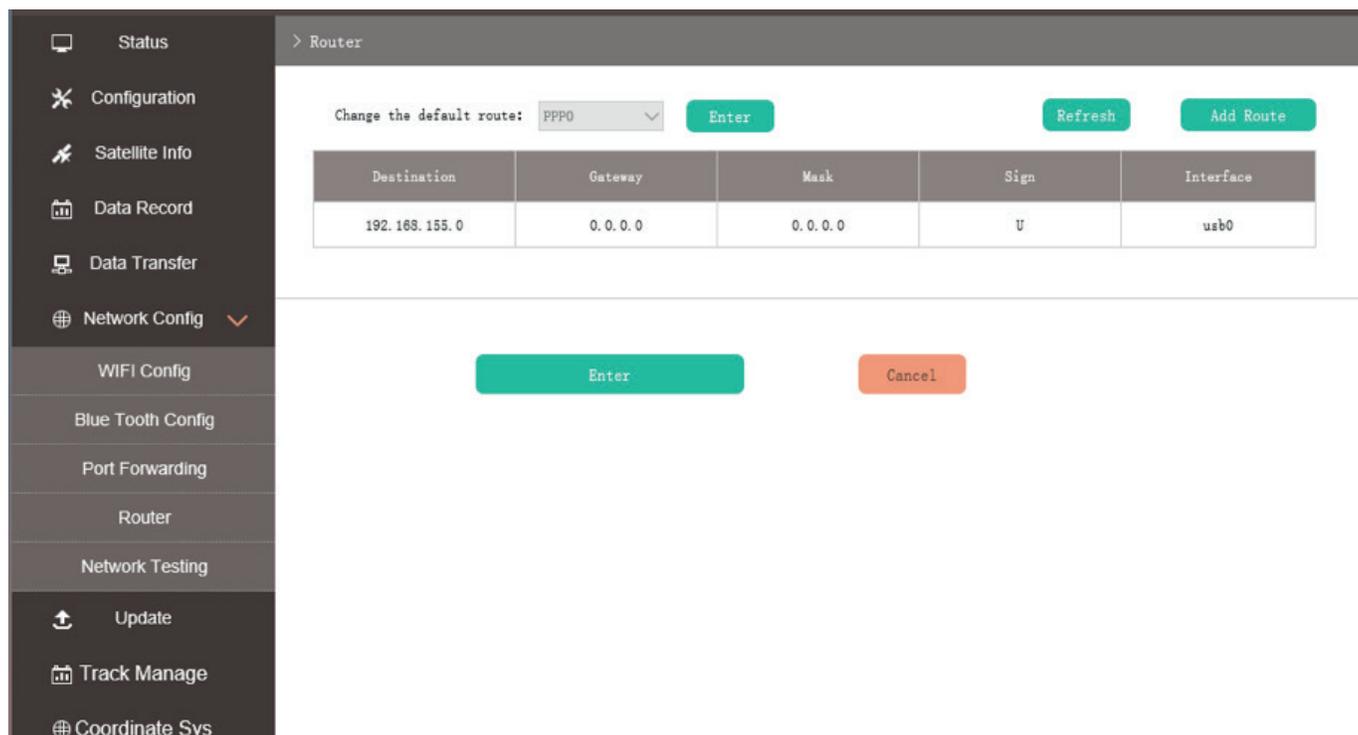
This page is mainly used to view and configure the internet transmission port for SXBLUE PREMIER, customize and debug receiver.

The screenshot shows the 'Port Forwarding' configuration page. On the left is a dark sidebar with a menu. The 'Network Config' option is highlighted with a downward arrow. Below it are 'WIFI Config', 'Blue Tooth Config', 'Port Forwarding', 'Router', 'Network Testing', 'Update', 'Track Manage', and 'Coordinate Sys'. The main content area has a title bar '> Port Forwarding'. Below it are three input fields: 'HTTP Port: 80', 'FTP Port: 21', and 'TELNET Port: 23'. At the bottom of the main area are two buttons: a green 'Enter' button and an orange 'Cancel' button. A yellow warning triangle is positioned in the top left corner of the interface.

NOTE: Usually we will keep the default setting in this page, if you would like to modify it, please contact with SXBLUE technician for more supports.

Router

This is mainly used to view and configure the parameters for router, only under the condition of customize and debug receiver.



The screenshot shows the Router configuration page. On the left is a navigation menu with options: Status, Configuration, Satellite Info, Data Record, Data Transfer, Network Config (selected), WIFI Config, Blue Tooth Config, Port Forwarding, Router, Network Testing, Update, Track Manage, and Coordinate Sys. The main content area is titled '> Router' and features a 'Change the default route:' section with a dropdown menu set to 'PPPO', an 'Enter' button, a 'Refresh' button, and an 'Add Route' button. Below this is a table with the following data:

Destination	Gateway	Mask	Sign	Interface
192.168.155.0	0.0.0.0	0.0.0.0	U	usb0

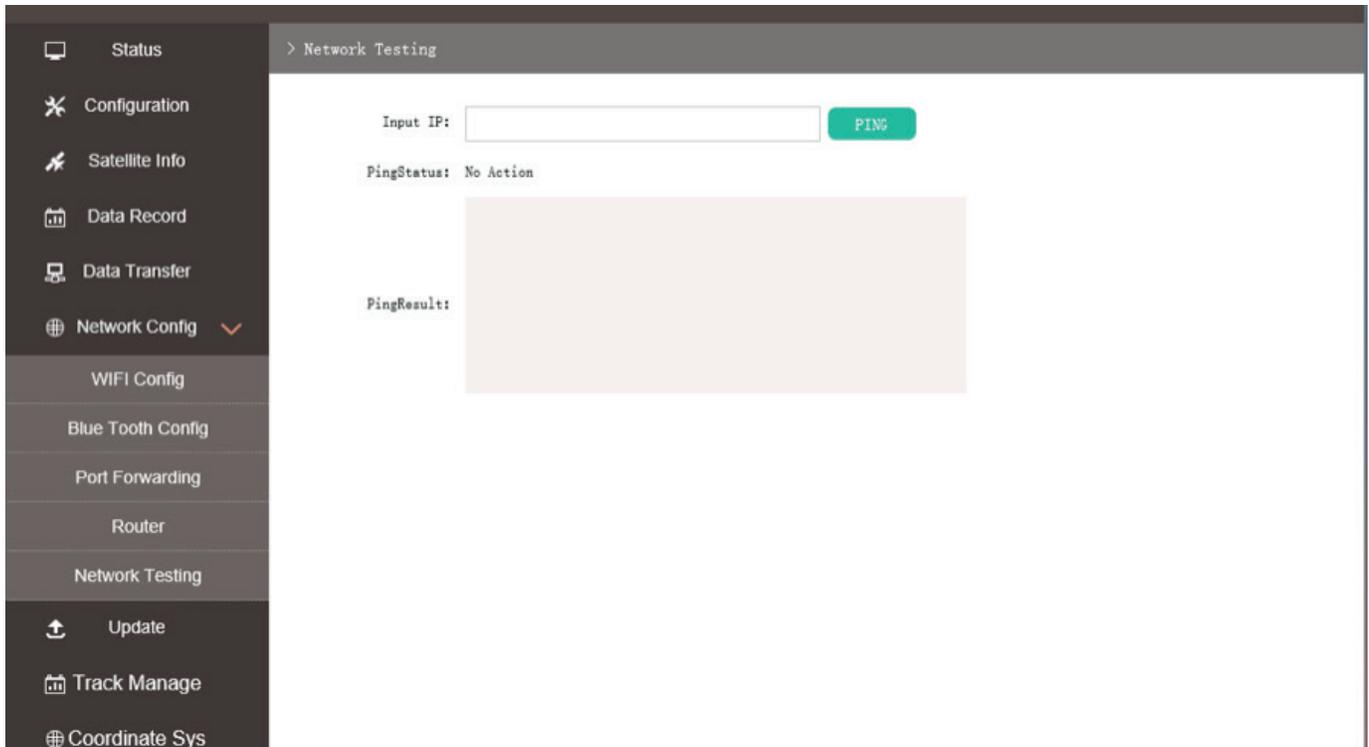
At the bottom of the configuration area, there are two buttons: 'Enter' (green) and 'Cancel' (orange).



NOTE: Usually we will keep the default setting in this page, if you would like to modify it, please contact with SXBLUE technician for more supports.

Network Testing

This function is mainly used to test network status for SXBLUE PREMIER after logging on the internet via WIFI connection. How to do: Input an IP address into, then click PING button, the testing information will be displayed in the PingResult window.



4.2.7 Firmware Update

Update the latest firmware for receiver or for corresponding modems can be done in —**Firmware Update**.

Firmware Update

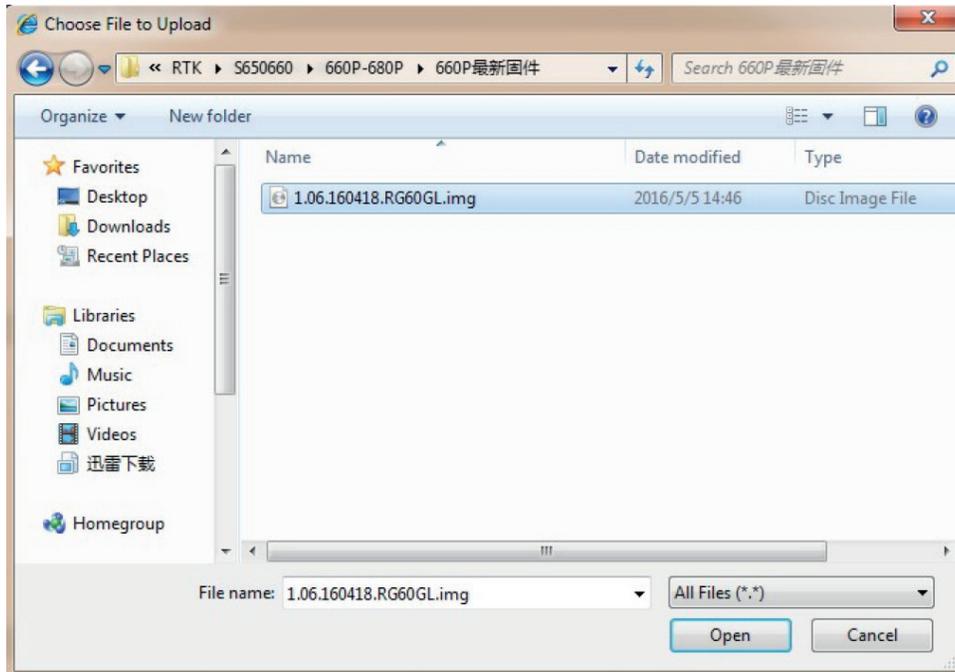
This page displays all the information of the firmware which current installed on SXBLUE PREMIER, and allows to update the latest version firmware for receiver. To get latest version firmware please contact with SXBLUE technician.

Online Update: SXBLUE PREMIER supports to update the firmware online anytime if there is something update or optimized.

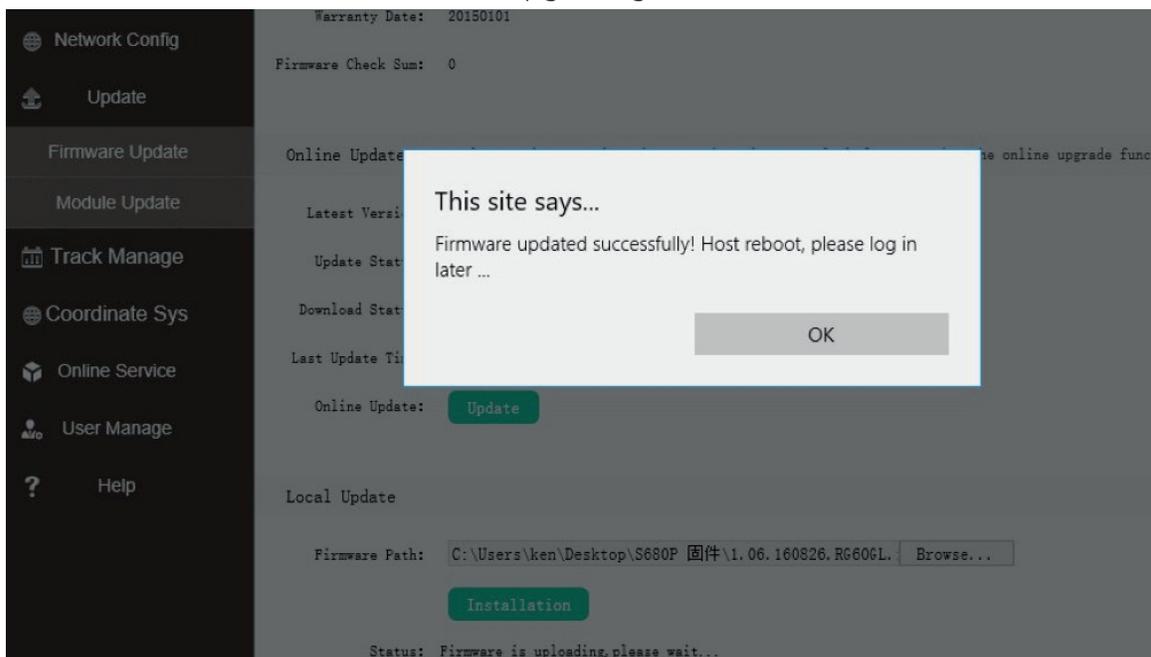
Local Update: Update the latest firmware by using a firmware file.

How to upgrade the firmware with Local Update

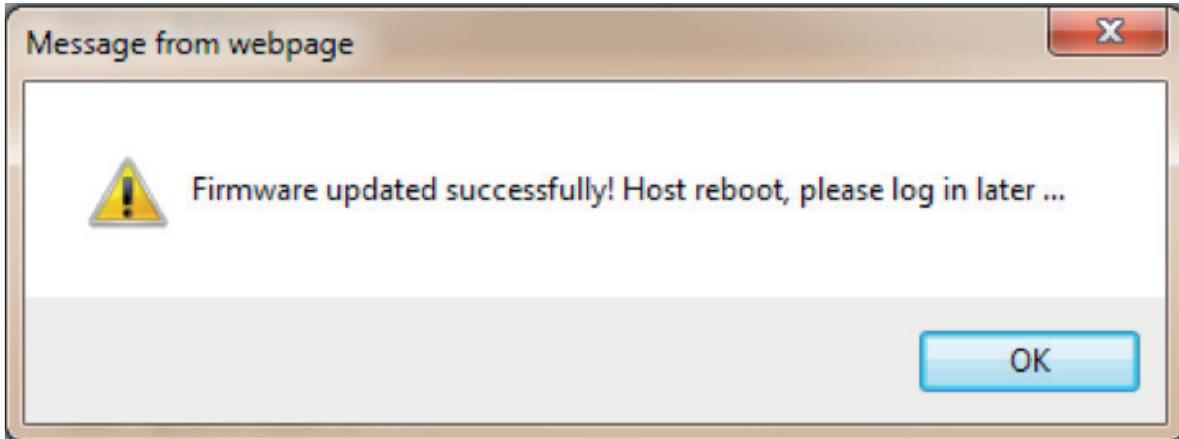
Click on —**Browse** button to load firmware file (Please take in mind that the firmware is ended with .img as the extension name).



And then click —**Installation** button to start upgrading.



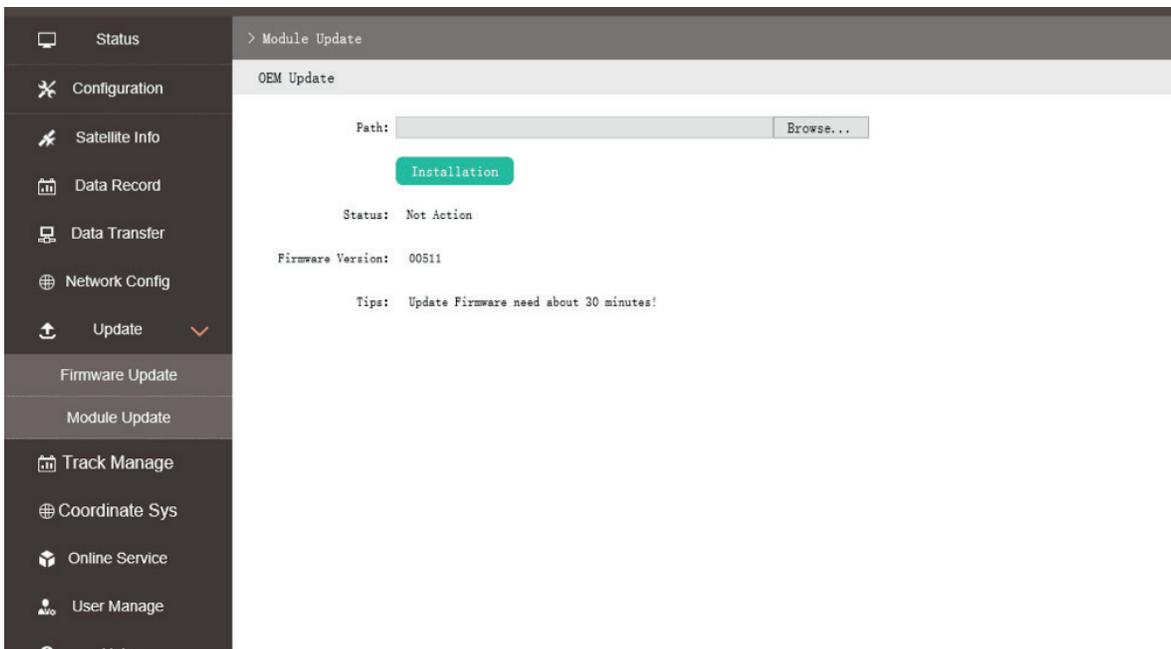
After the firmware is upgraded, a dialog will appear with saying —**Firmware updated successfully! Host reboot, please log in later...**, then the receiver will restart automatically.



SPECIAL REMIND: Galaxy G6 doesn't support to update the firmware with the help of INstar program any more, in the future, update the firmware for Galaxy G6 shall be done through the Web UI.

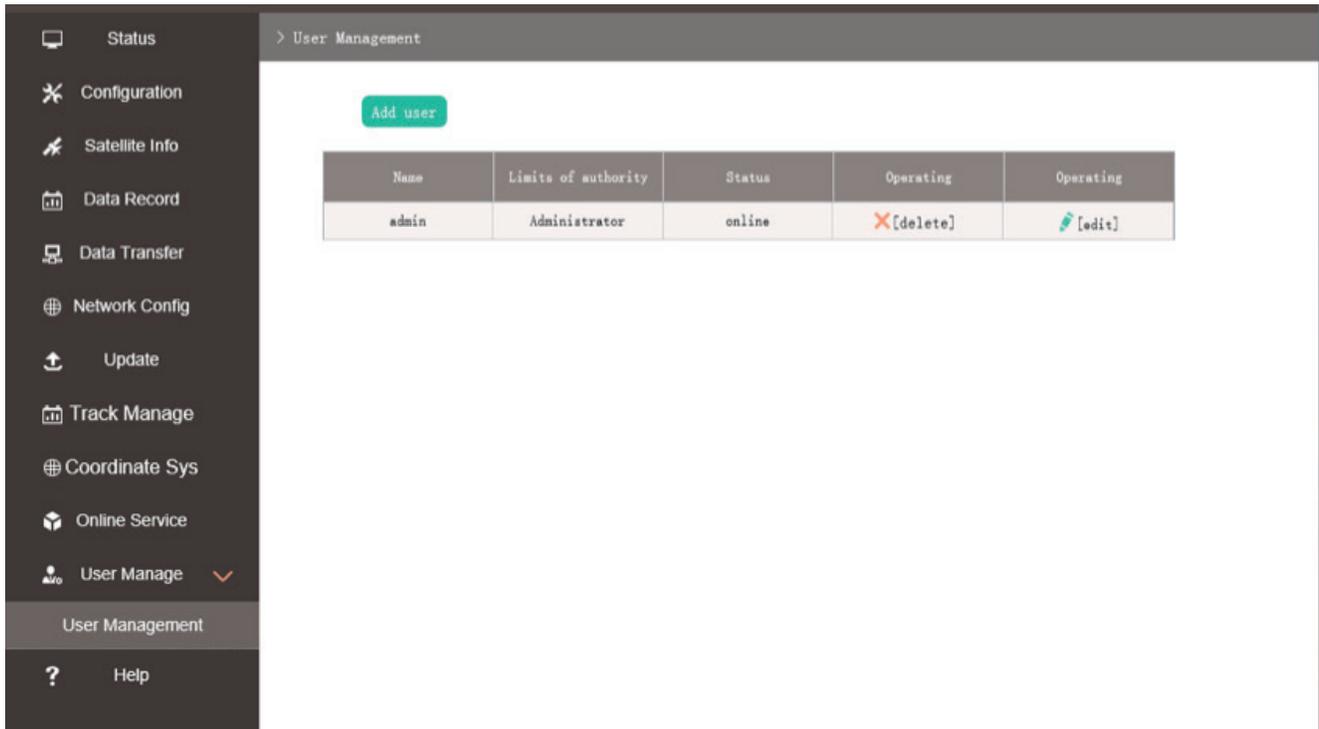
Module Update

This page is used to update the firmware for corresponding modem such as OEM board, for SXBLUE PREMIER, there is only the OEM board firmware can be updated on Module Update page, the others module are not available for SXBLUE PREMIER.



4.2.8 User Management

This page is used to manage the authority of login Web UI for users, including the username, password and add users.



Name	Limits of authority	Status	Operating	Operating
admin	Administrator	online	X[delete]	[edit]

4.2.9 Help

In this page, users can get help and check the log book of receiver (the log book can help to backtrack the working status of receiver).

NOTE: Only the administrator can modify any parameters for receiver and manage users, and the ordinary users only have the right to view the relative parameters.

The screenshot displays the SXblue web interface. On the left is a dark sidebar navigation menu with the following items: Status, Configuration, Satellite Info, Data Record, Data Transfer, Network Config, Update, Track Manage, Coordinate Sys, Coordinate System, Online Service, User Manage, and Help. The main content area has a breadcrumb '> System Log' and three buttons: Show Log, Delete, and Download.

Chapter V How to achieve the WIFI functions

Equipped with the most advanced WIFI module, this technology help SXBLUE PREMIER receiver not only can work as a WIFI broadcaster that allows users to connect it and access to the web UI management of SXBLUE PREMIER, but also can work as a datalink that makes SXBLUE PREMIER have a quick and stable connection to internet for corrections from CORS network.

In this chapter, you will learn more about how to achieve these both WIFI function on SXBLUE PREMIER.

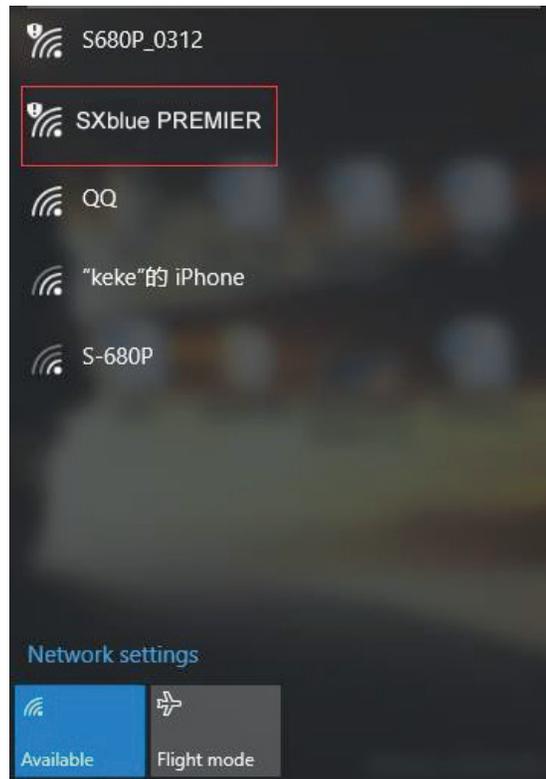
5.1 WIFI Hotspot (AP)

The WIFI hotspot means SXBLUE PREMIER receiver is able to broadcast its own WIFI hotspot with the integrated WIFI module, therefore, most of the mobile terminal can connect with this hotspot and access to the internal web UI page of SXBLUE PREMIER, then users are able to do a lot of operation on this web UI page, such as configure working mode, register, upgrade firmware, download raw data and the other additional functions.

Switch on SXBLUE PREMIER receiver in normal way, the WIFI hotspot is default to be broadcasted, and the SSID of the WIFI hotspot displays as SXBLUE_xxxx (xxxx is the last 4 characters number of SN), then use tablet PC, smartphone or laptop to search this WIFI SSID.

1 Using laptop

Search the WIFI SSID with a laptop, then click on **—Connect** button to establish connection between laptop and SXBLUE PREMIER receiver, the password is not necessary on establishing the WIFI connection. But if there is necessary, define a password for this connection after login to the web UI page, then it will ask you to input the password you defined before every time you connect the WIFI hotspot.

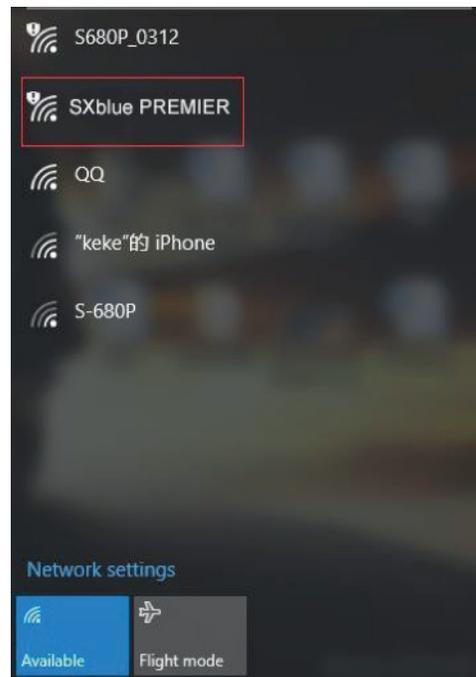
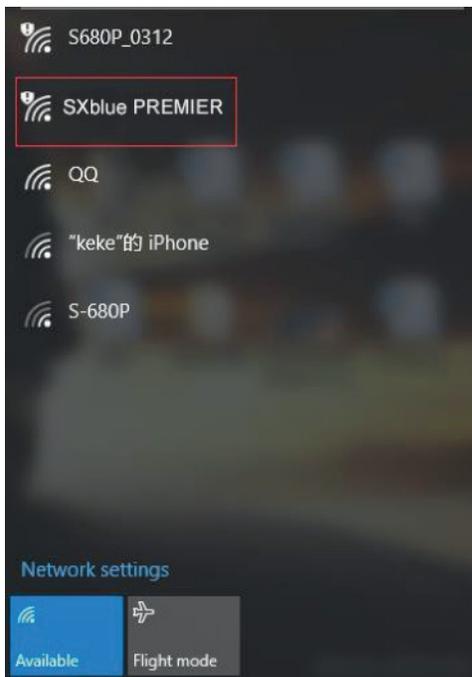


After the connection is established, then run IE browser on laptop and type the IP address 10.1.1.1 into address bar, the login dialog will appear and requires the login info.

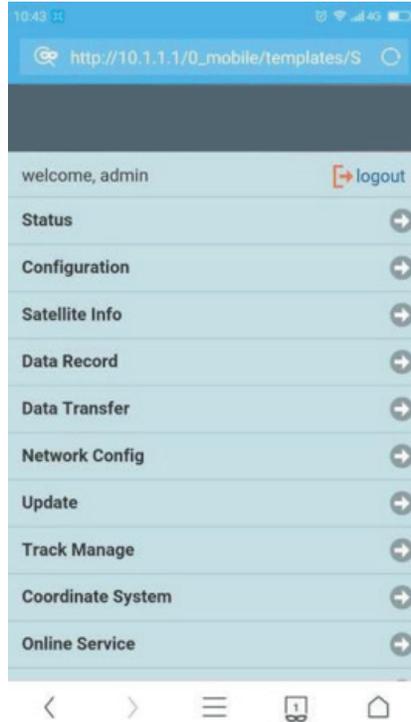
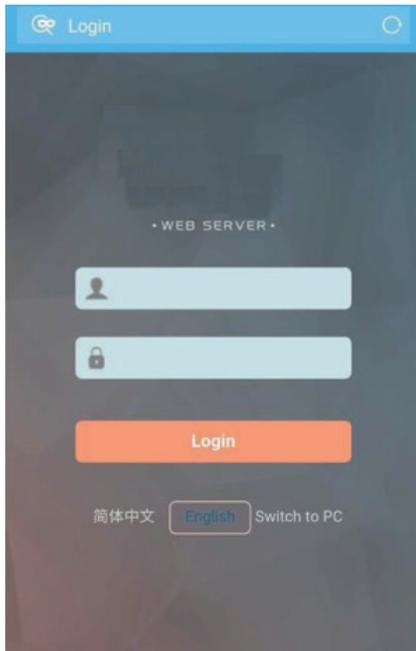


2. Using tablet PC

Search the WIFI SSID with a tablet PC, then click on the correct WIFI SSID, after the connection is established, run a browser on tablet PC and input the accessing IP address into the address bar.



Input the username and password into corresponding field after the login interface appears, the menu is listed on the tablet screen, tap on the menu and start to operate on this web UI.



5.2 WIFI Client (Datalink)

WIFI client means the WIFI function will work as a datalink for receiver that it is able to connect to the other hotspot and access to the internet, captures corrections from CORS station. Here we will introduce how to setup the WIFI client on SXBLUE PREMIER in two methods.

5.2.1 Configure on Web UI

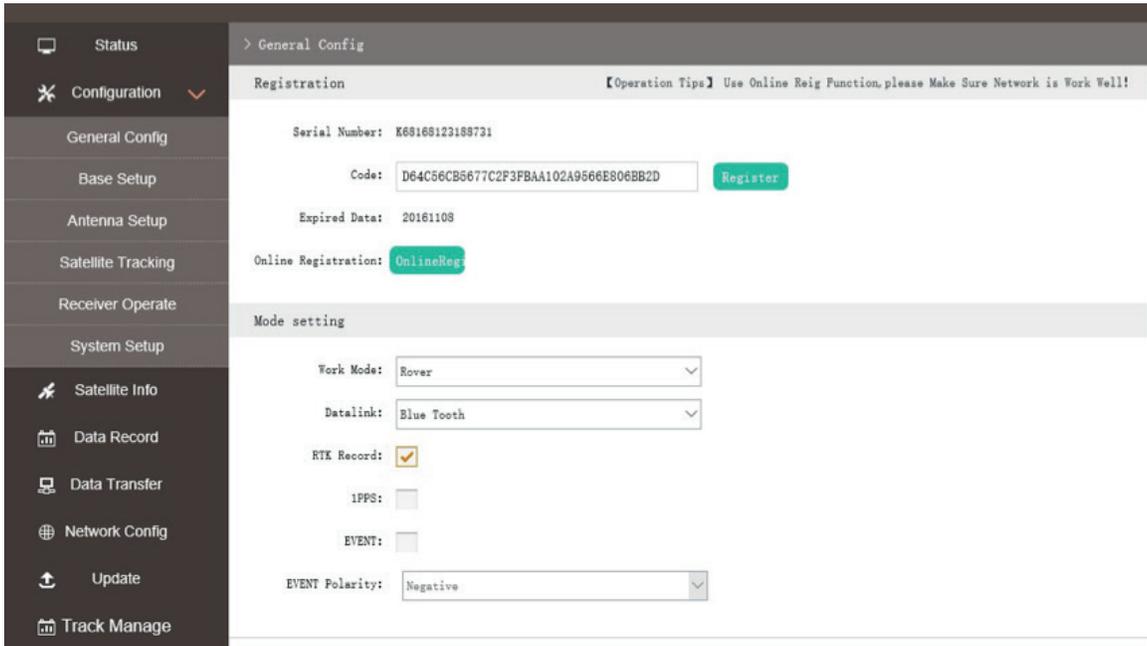
Due to the WIFI hotspot (AP) is the default WIFI mode on SXBLUE PREMIER receiver, and the WIFI AP mode and WIFI client mode can't exist at the same time, therefore, WIFI client mode must be switched into from WIFI AP mode, and switch the datalink into WIFI for SXBLUE PREMIER receiver.

Login the web UI of SXBLUE PREMIER via micro USB cable, input IP 192.168.155.155 into address bar of IE browser, then input username and password for login to the server.

Go to Configuration—**General Config**, switch the working mode into Rover or Base, and datalink as WIFI, click on

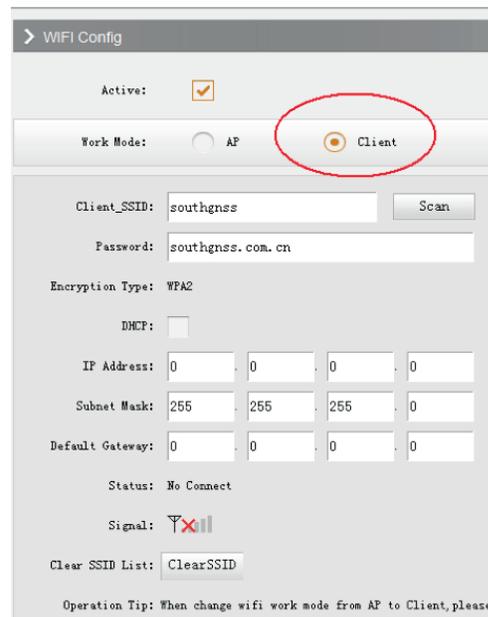
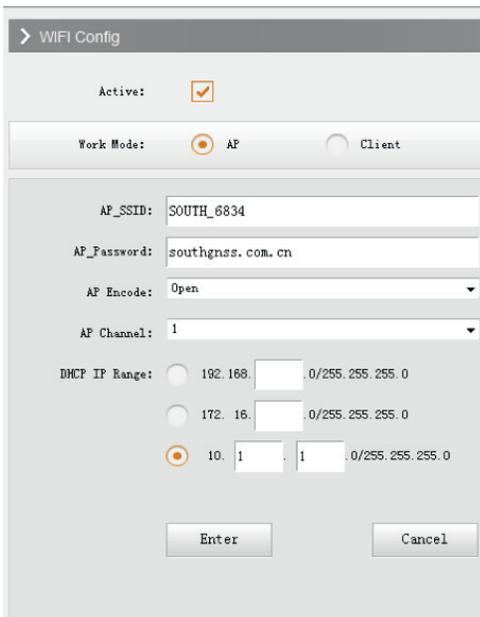
button to confirm the settings. In this section, Rover + WIFI mode and Base + WIFI mode

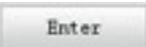
are respectively introduced.

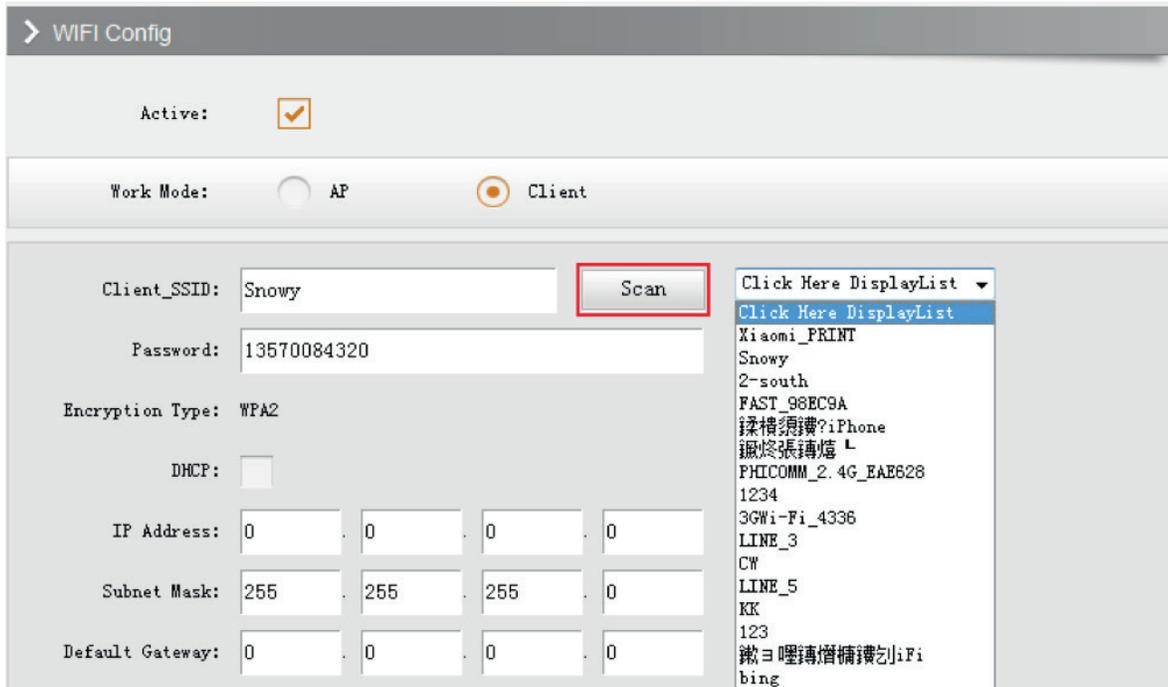


Rover + WIFI mode

Unfold the sub-menus under Network Config, and go to WIFI Config, switch the WIFI working mode from AP into Client, then click on  button to make sure the WIFI working mode is successfully switched.



At this moment, click on  button to search the surrounding WIFI hotspot, once finish searching the hotspots, choose one of the proper access point and enter the access password if required, then click on  button to confirm the settings on this page.



WIFI Config

Active:

Work Mode: AP Client

Client_SSID: Snowy Scan

Password: 13570084320

Encryption Type: WPA2

DHCP:

IP Address: 0 . 0 . 0 . 0

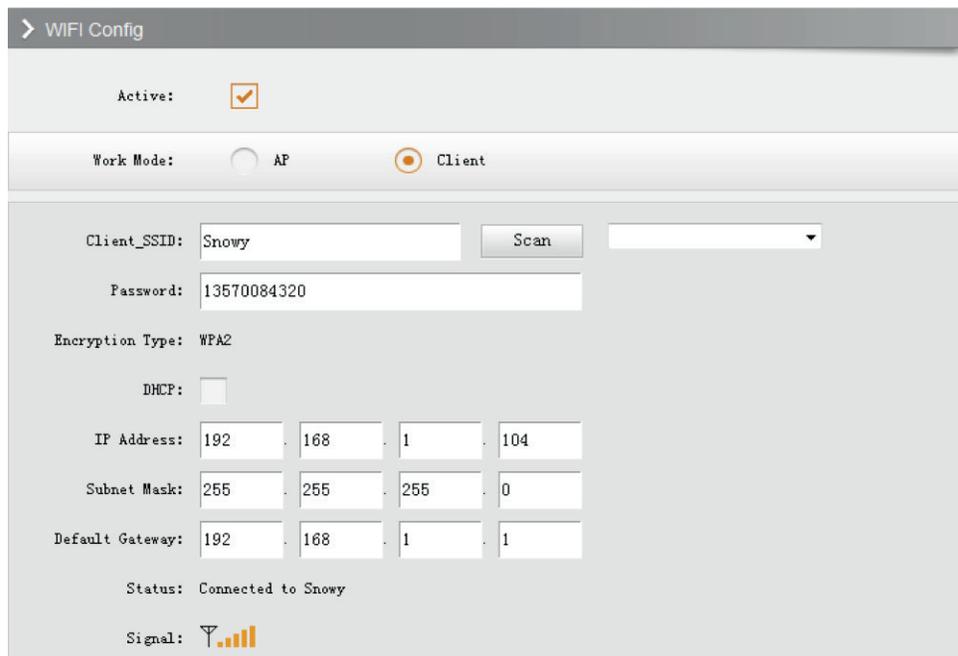
Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 0 . 0 . 0 . 0

Click Here DisplayList

- Click Here DisplayList
- Xiaomi_PRINT
- Snowy
- 2-south
- FAST_98EC9A
- 梁楷須講?iPhone
- 銀終張講爐
- PHICOMM_2.4G_EAE628
- 1234
- 3GWi-Fi_4336
- LINE_3
- CW
- LINE_5
- KK
- 123
- 銀日哩講增講講吃iFi
- bing

After a while, the WIFI signal bar appears and a LAN IP address is obtained, that indicates that SXBLUE PREMIER has connected to the WIFI and had an access to internet already.



WIFI Config

Active:

Work Mode: AP Client

Client_SSID: Snowy Scan

Password: 13570084320

Encryption Type: WPA2

DHCP:

IP Address: 192 . 168 . 1 . 104

Subnet Mask: 255 . 255 . 255 . 0

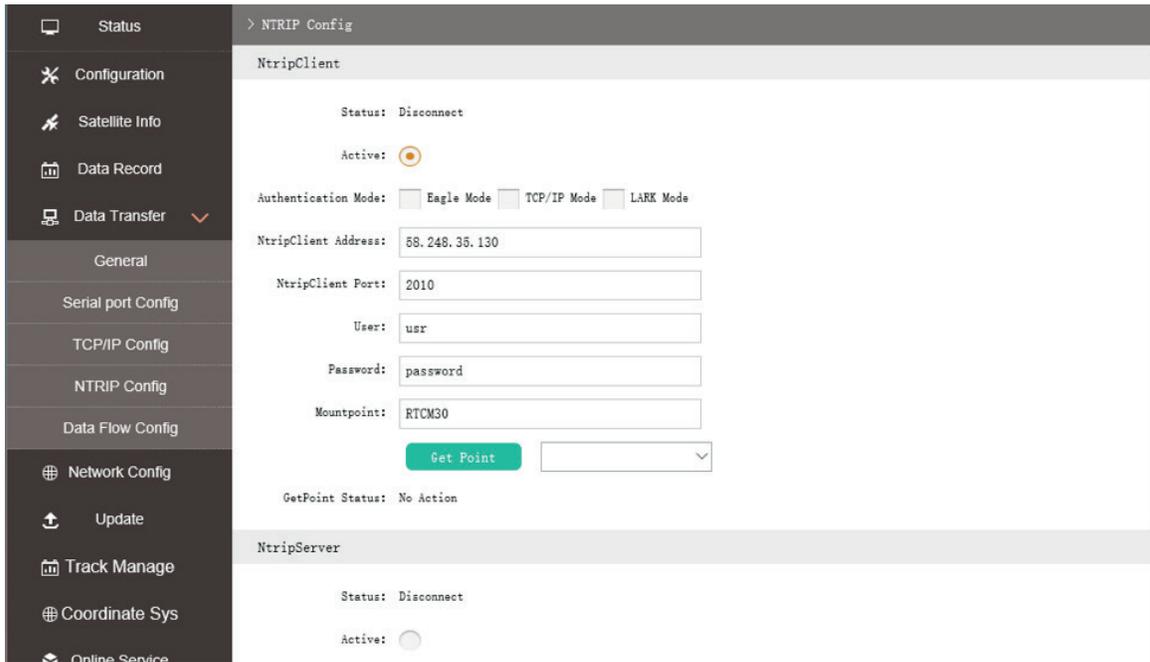
Default Gateway: 192 . 168 . 1 . 1

Status: Connected to Snowy

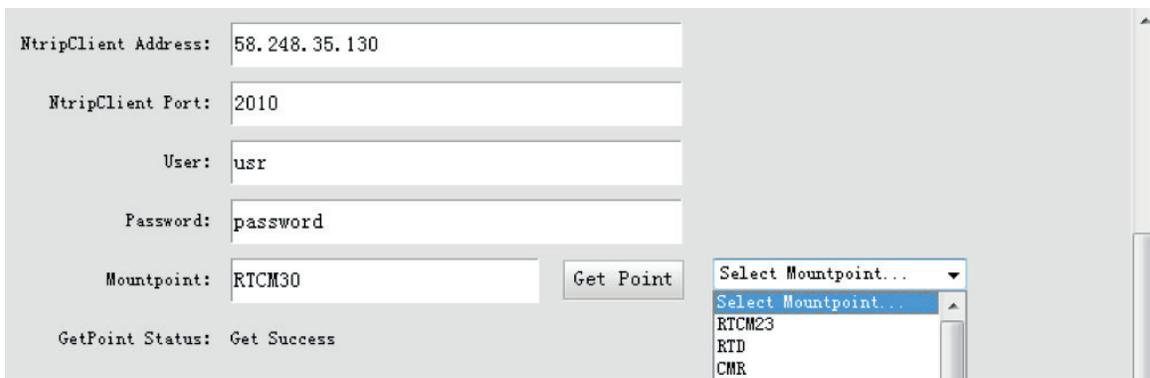
Signal: 

After that, move steps to Data Transfer—**NTRIP** Config, on this page, make sure if NtripClient is activated, then

input the CORS accessing information into corresponding fields, click on **Get Point** button to download the mount points from CORS server.



List out the mount points and choose a proper one, then click on **Enter** button to confirm all settings, and the receiver begins to connect and logon server, receive correction from CORS station.



Return to Status—Position Information page, on this page, all the information will be displayed, including coordinates, solution, correction format, as well as to the correction delay. if the receiver has connected to internet and obtained correction from CORS server, there will be Fixed displays for the solution.

At this time, connect receiver to controller software, you don't need to do anything for configuration, then use the combination to work directly.

Status		> Position Information			
System Information	Location	Lat: 0° 0' 0.000000" S	Lon: 0° 0' 0.000000" W	Alt: 0.000000 m	Ellipsoid: WGS-84
Work Status	PDOP: 0.00	HDOP: 0.00	VDOP: 0.00	TDOP: 0.00	
Position Information	E: 0.00[m/s]	N: 0.00[m/s]	Up: 0.00[m/s]		
Configuration	RTK Status	Diff.format: NONE	Correction Delay: 0	HRMS: 0.000	VRMS: 0.000
	Autonomous	Base X: 0.000000	Base Y: 0.000000	Base Z: 0.000000	Base ID: NONE
	Receiver Clock	GPS week: 0	GPS second: 0.0	Time: 0-0-0 0:0:0.0	
	RTX	SN: 无		TrackingTime: 0	
		Azimuth: 0.00		Elevation: 0.00	
		SNR: 0.00		Solution: NONE	
	Tracked Satellite	GPS (0): None		GLONASS (0): None	
	0	BDS (0): None		GALILEO (0): None	
		SBAS (0): None		QZSS (0): None	
	Used Satellite	GPS (0): None		GLONASS (0): None	

Base + WIFI mode

The operation on this mode is similar to Rover, go to Go to Configuration—General Config, switch the working mode into Rover or Base, and datalink as WIFI, click on button to confirm the settings.

Mode setting

Work Mode:

Datalink:

RadioTransfer:

RTK Record:

Unfold the sub-menus under Network Config, and go to WIFI Config, switch the WIFI working mode from AP into Client, then click on button to make sure the WIFI working mode is successfully switched.

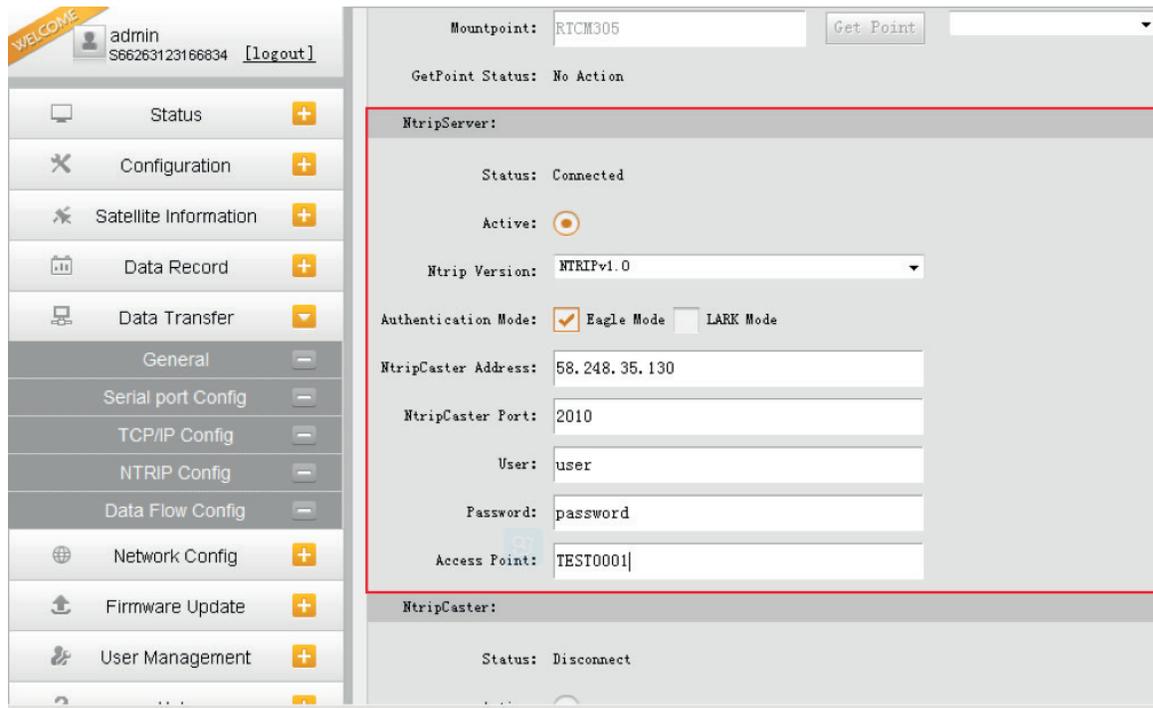
At this moment, click on button to search the surrounding WIFI hotspot, once finish searching the hotspots, choose one of the proper access point and enter the access password if required, then click on button to confirm the settings on this page.

After a while, the WIFI signal bar appears and a LAN IP address is obtained, that indicates that SXBLUE PREMIER has connected to the WIFI and had an access to internet already.

The screenshot shows the 'WIFI Config' interface. At the top, there is a 'WIFI Config' header. Below it, the 'Active' checkbox is checked. The 'Work Mode' is set to 'Client'. The 'Client_SSID' field contains 'Snowy' and the 'Password' field contains '13570084320'. The 'Encryption Type' is set to 'WPA2'. The 'DHCP' checkbox is unchecked. The 'IP Address' field is set to '0.0.0.0', the 'Subnet Mask' is '255.255.255.0', and the 'Default Gateway' is '0.0.0.0'. A 'Scan' button is highlighted with a red box. To the right of the 'Scan' button, a dropdown menu is open, showing a list of detected WiFi networks: 'Click Here DisplayList', 'Xiaomi_PRINT', 'Snowy', '2-south', 'FAST_98EC9A', '綠梅須彌?iPhone', '鍬燦張縛爐 L', 'PHICOMM_2_4G_EAE628', '1234', '3GWi-Fi_4336', 'LINE_3', 'C#', 'LINE_5', 'KK', '123', '鍬=哩簿增補鑽划iFi', and 'bing'.

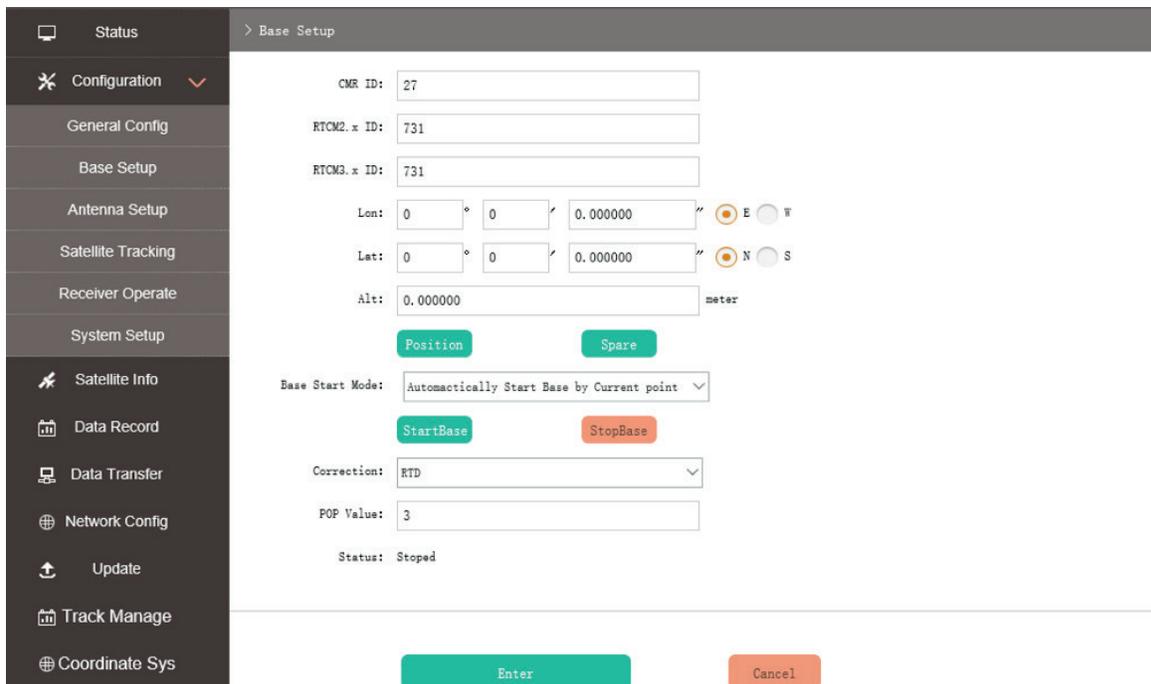
After that, move steps to Data Transfer—NTRIP Config, on this page, make sure if **NtripServer** is activated, then check the option of **Eagle Mode** and input the CORS accessing information into corresponding fields, and

predefine a mount point for Access Point, such as TEST0001, click on button to confirm all the settings.

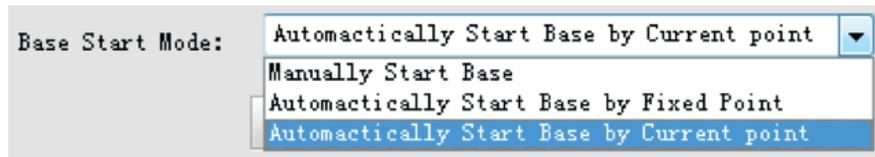


And the next step is to configure parameters for Base, move to Configuration—Base Setup page, input the

coordinates for base with known point or capture the current position for base by clicking on Position button, as shown at the red frame circle in below screenshot.



And move to Base Start Mode, choose the starting mode for base station. In dropdown list, there are 3 options for starting mode, **Manually Start Base**, **Automatically Start Base by Fixed Point**, and **Automatically Start Base by Current Point**.



Manually Start Base: If this mode is chosen, the base will not start even though the transmitting condition

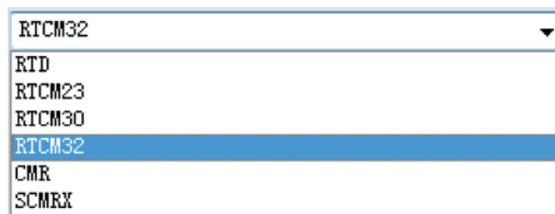
achieves, it needs to click on button or button to start the base or stop the base whenever you want if the base is ready.

Automatically Start Base by Fixed Point: Choose this mode to make the base start automatically with a fixed

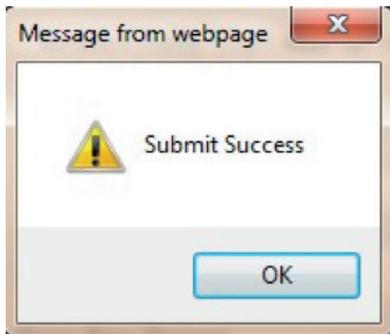
point once the transmitting condition achieves, pressing button is not needed.

Automatically Start Base by Current Point: Choose this mode to make the base start automatically with the current position once the transmitting condition achieves, pressing button is not needed. Click on button to capture the coordinates for current position.

After the starting mode is chosen, then choose the correction type for transmitting such as RTD, RTCM30, RTCM32, CMR and SCMRX. Open the dropdown list belongs to the correction field, then choose one of the proper one correction type for the Base.



If all the parameters are completed, click on button to confirm the settings, after a dialog pop-up to prompt —**Submit Success message**, click on OK button, the Base is ready to start. If the automatically start mode is selected, then the Base starts transmitting correction if appears the message —Start Base Success at **Status** field.



At this moment, observe the fourth indicator on receiver, check if it is flashing at this time, and input server's IP address onto the browser to check if there is the predefined mount point locates among the mount points.

```
SOURCETABLE 200 OK Server: EagleGnss-basic/160613 Date: 2016/06/14 17:15:53 Content-Type: text/plain Content-Length: 4052 STR:
(1);2;GNSS;EagleGnss;CHN;0.00;0.00;1;1;NRS1.160613;none;N,N;19200; STR;RTD;RTD;RTCM 2.3;1(1),3(5),31(1),59
(1);2;GNSS;EagleGnss;CHN;0.00;0.00;1;1;NRS1.160613;none;N,N;19200; STR;CMR;CMR;CMR +;CMR0(1),CMR1(10);2;GNSS;EagleGnss;CHN;0.00;0.00;1;1;NRS1.160613;none;N,N;9600;
STR;RTCM30;RTCM30;RTCM 3.2;1004(1),1012(1),1005(5),1007(5),1033(5);2;GNSS;EagleGnss;CHN;0.00;0.00;1;1;NRS1.160613;none;N,N;19200; STR;RTCM32-MSM;RTCM32-MSM;RTCM
3.2;1021(7),1023(7),1025(7),1074(1),1084(1),1124(1),1005(5),1007(5),1033(5);2;GNSS;EagleGnss;CHN;0.00;0.00;1;1;NRS1.160613;none;N,N;19200; STR;[RTCM30];[RTCM30];RTCM
3.0;1004(1),1005(10);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS;none;N,N;9600; STR;[RTD];[RTD];RTD;1(1),3(1);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS;none;N,N;9600; STR;
[RTCM32-MSM];[RTCM32-MSM];RTCM 3.2;1074(1),1084(1),1124(1),1005(10),1033(10);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS;none;N,N;9600; STR;[sCMRx];[sCMRx];CMR;CMR(0),CMR
(1);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS;none;N,N;9600; STR;2000_RTCM30;2000_RTCM30;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;22.96;113.43;1;0;NRS00000106;none;N,N;9600; STR;S48F38107083364;S48F38107083364;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;33.97;116.87;1;0;NRS8B141208;none;N,N;9600; STR;0000_RTCM30;0000_RTCM30;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;23.13;113.37;1;0;NRS00000106;none;N,N;9600; STR;S48F38107083367;S48F38107083367;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;33.53;117.03;1;0;NRS8B141208;none;N,N;9600; STR;0800_RTCM30;0800_RTCM30;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;23.11;113.44;1;0;NRS00000106;none;N,N;9600; STR;galaxy;galaxy;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;24.59;100.47;1;0;NRS17110240;none;N,N;9600; STR;YSFX_RTCM30;YSFX_RTCM30;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;44.54;125.70;1;0;NRS1.150701;none;N,N;9600; STR;w1286755680;w1286755680;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS86755680;none;N,N;9600; STR;0800SCMRX;0800SCMRX;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;23.11;113.44;1;0;NRS17113655;none;N,N;9600; STR;S48F4B117125871;S48F4B117125871;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;44.54;125.70;1;0;NRS8B141208;none;N,N;9600; STR;0800_RTD;0800_RTD;RTD;1(1),3
(1);2;GNSS;EagleGnss;CHN;23.11;113.44;1;0;NRS00000106;none;N,N;9600; STR;0000_RTD;0000_RTD;RTD;1(1),3
(1);2;GNSS;EagleGnss;CHN;23.13;113.37;1;0;NRS00000106;none;N,N;9600; STR;NET_S9_BD970;NET_S9_BD970;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;23.13;113.37;1;0;NRS17106124;none;N,N;9600; STR;2000_RTD;2000_RTD;RTD;1(1),3
(1);2;GNSS;EagleGnss;CHN;22.96;113.43;1;0;NRS00000106;none;N,N;9600; STR;2000_MSM4;2000_MSM4;RTCM 3.2;1074(1),1084(1),1124(1),1005
(10);2;GNSS;EagleGnss;CHN;22.96;113.43;1;0;NRS00000106;none;N,N;9600; STR;s82354117138074;s82354117138074;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;33.23;117.99;1;0;NRS11.□.0;none;N,N;9600; STR;0000_MSM4;0000_MSM4;RTCM 3.2;1074(1),1084(1),1124(1),1005
(10);2;GNSS;EagleGnss;CHN;23.13;113.37;1;0;NRS00000106;none;N,N;9600; STR;S48153121119911;S48153121119911;RTCM 3.2;1074(1),1084(1),1124(1),1005
(10);2;GNSS;EagleGnss;CHN;23.11;113.44;1;0;NRS8B150826;none;N,N;9600; STR;0800_MSM4;0800_MSM4;RTCM 3.2;1074(1),1084(1),1124(1),1005
(10);2;GNSS;EagleGnss;CHN;23.11;113.44;1;0;NRS00000106;none;N,N;9600; STR;user;user;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;25.68;104.24;1;0;NRS17145910;none;N,N;9600; STR;0000SCMRX;0000SCMRX;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS17077131;none;N,N;9600; STR;S48139107085095;S48139107085095;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;32.73;112.17;1;0;NRS8B141208;none;N,N;9600; STR;2000SCMRX;2000SCMRX;sCMRx;CMR1(1),CMR
(0);2;GNSS;EagleGnss;CHN;0.00;0.00;1;0;NRS17113672;none;N,N;9600; STR;1234;1234;RTCM 3.0;1004(1),1012(1),1005
(10);2;GNSS;EagleGnss;CHN;12.72;108.36;1;0;NRS0001312;none;N,N;9600; STR;TEST00001;TEST00001;RTCM 3.2;1074(1),1084(1),1124(1),1005
(10);2;GNSS;EagleGnss;CHN;23.13;113.37;1;0;NRS23166834;none;N,N;9600; ENDSOURCETABLE
```

5.2.2 Configure on Controller Software

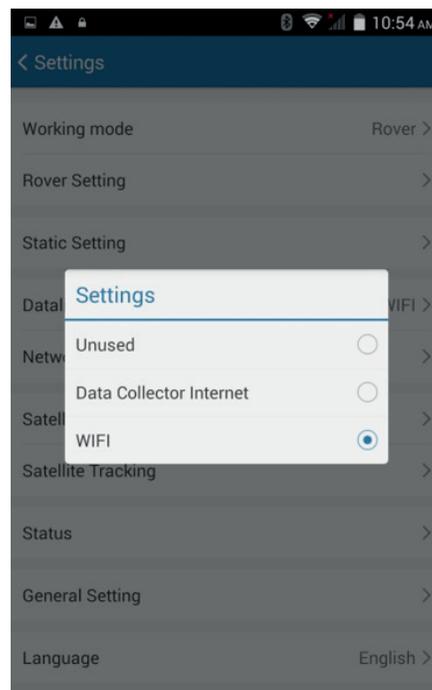
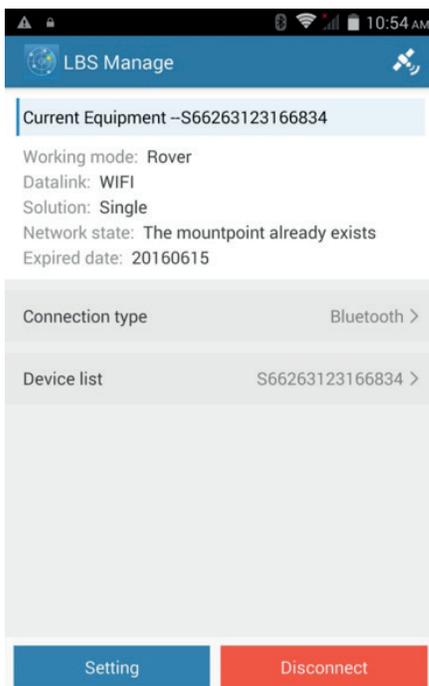
The other way is to use our own software (LBS Manage) works on Android system, all the configurations can be done on the software after establishing Bluetooth connection between receiver and Android devices.



The first step is to establish the Bluetooth connection between receiver and Android device, then click on Setting button to get into setting interface, set the working mode for receiver as Base or Rover. Next we are going to introduce Rover+WIFI mode and Base+WIFI mode respectively.

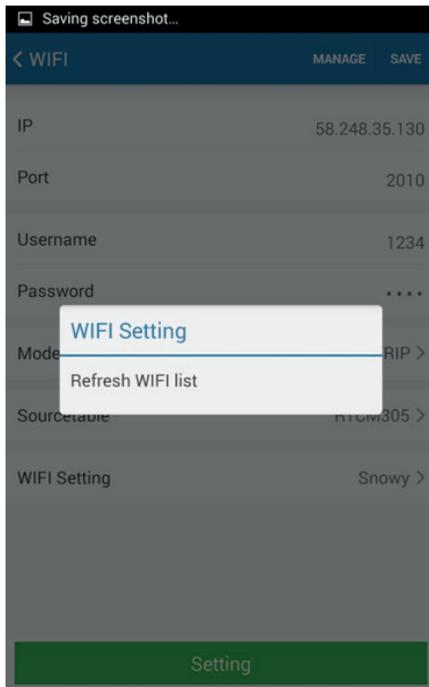
Rover+WIFI mode

After establishing the Bluetooth connection, switch the working mode into Rover on setting interface, then go to Datalink option and set the datalink as WIFI.

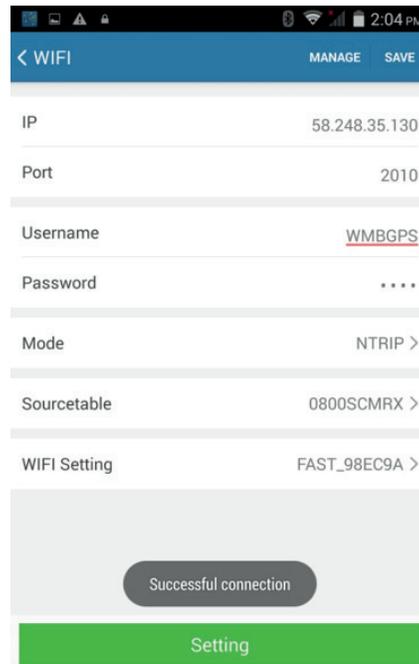
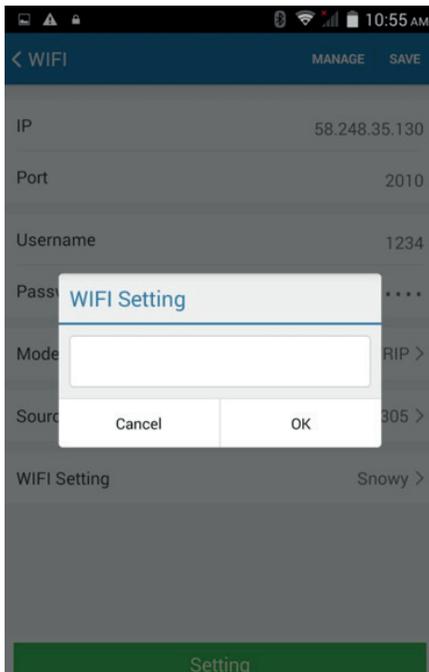


Tap on Network Setting option to configure receiver to internet and access to CORS server. The first step is to make receiver successfully connect to WIFI. The WIFI Setting option locates at last option, tap on this option and a dialog pop-up, tap on **Refresh WIFI list** to search the surrounding WIFI hotspot, after the message of **Refresh WIFI list successfully** appears, tap on **WIFI Setting** again to pick up one of the proper hotspot from the list to connect.

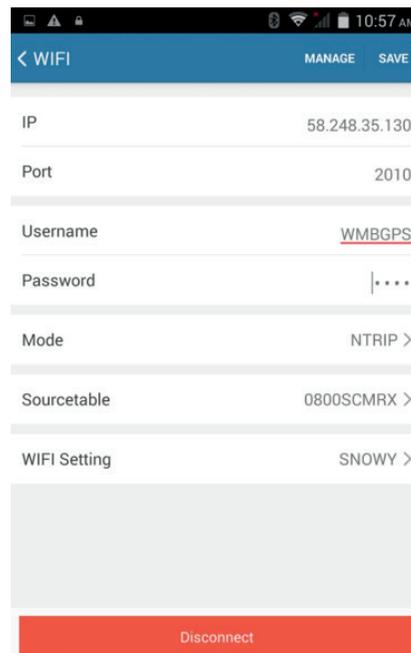
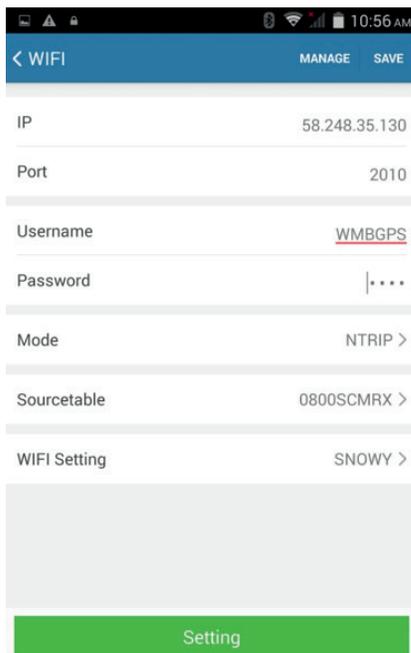
Input the access password for WIFI connecting if it is required, then click on ok, after the —**Successful connection**



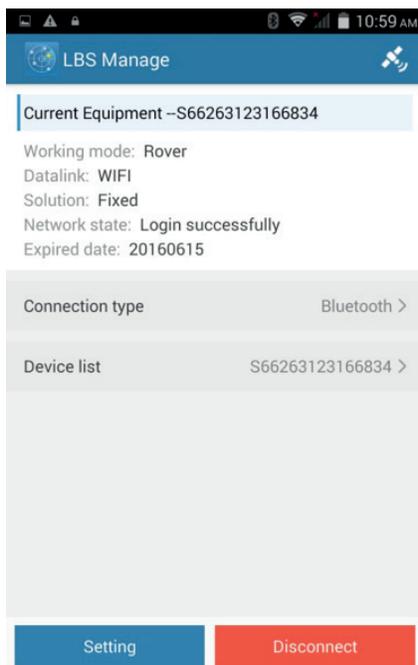
message appears, that means SXBLUE PREMIER has successfully connected to WIFI and access to internet.



After that, input the information of accessing local CORS station, and tap on Sourcetable option to obtain the mount point list from CORS server, choose one of them and return to network setting interface, then tap on the setting button at the bottom of this interface, once appears the message — **Successful Setting**, and the button turns to red and shows disconnect, it means SXBLUE PREMIER successfully logs CORS server and begins to obtain correction.

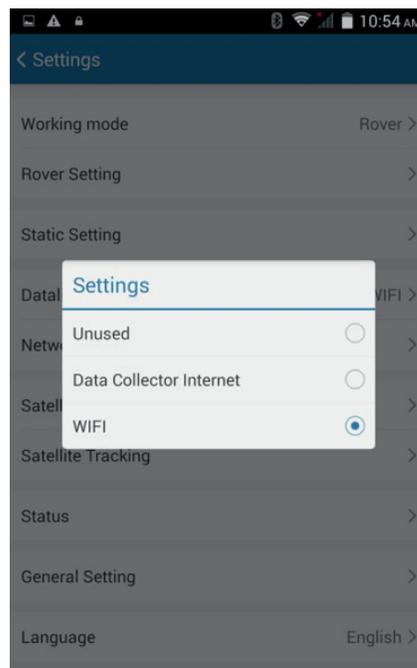
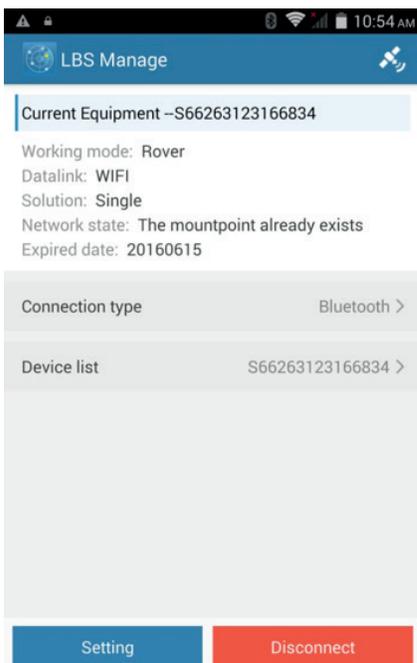


At this time, return to the main interface of LBS Manage program, there will be fixed display for solution type.

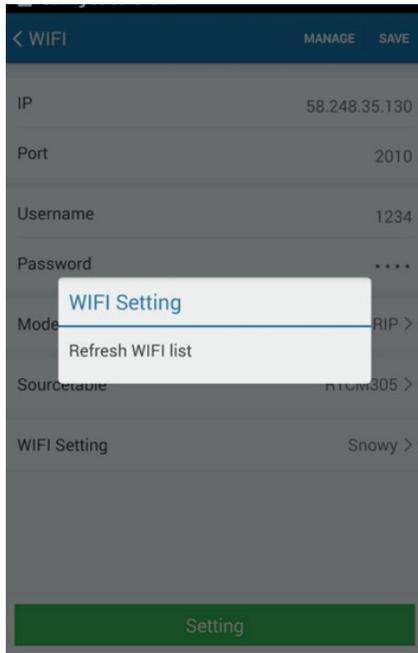


Base+WIFI mode

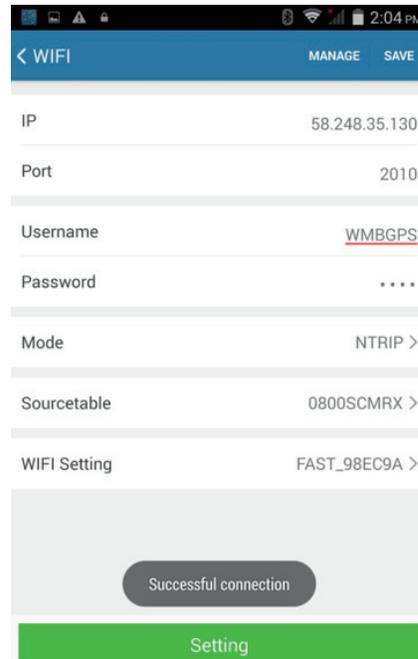
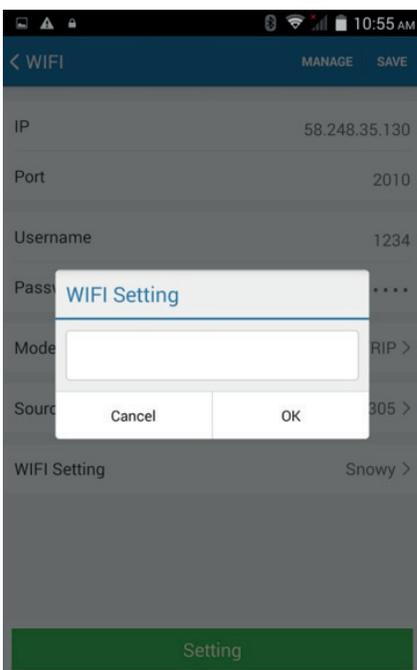
As same to Rover setting, after establishing the Bluetooth connection, switch the working mode into **Base** on setting interface, then go to Datalink option and set the datalink as WIFI.



Tap on **Network Setting** option to configure receiver to internet and access to CORS server. The first step is to make receiver successfully connect to WIFI. The **WIFI Setting** option locates at last option, tap on this option and a dialog pop-up, then tap on **Refresh WIFI list** to search the surrounding WIFI hotspot, after the message of **Refresh WIFI list successfully** appears, tap the **WIFI Setting** again to pick up one of the proper hotspot from the list to connect.

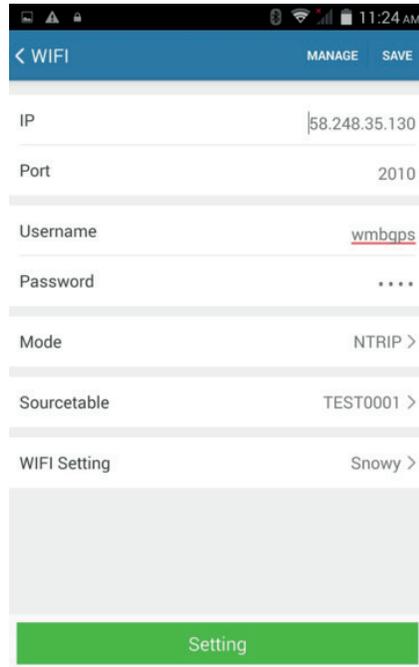
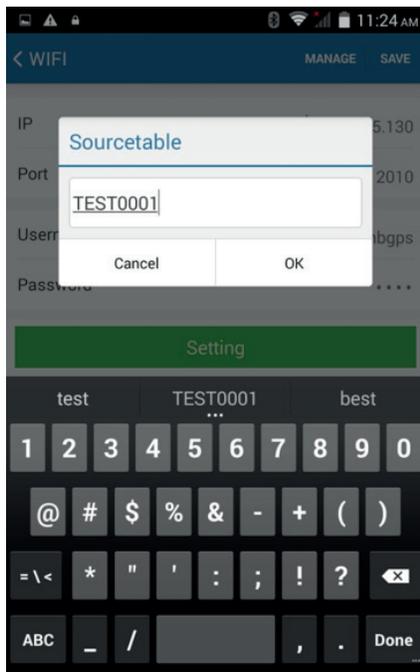


Input the access password for WIFI connecting if it is required, then click on ok, after the —**Successful connection** message appears, that means SXBLUE PREMIER has successfully connected to WIFI

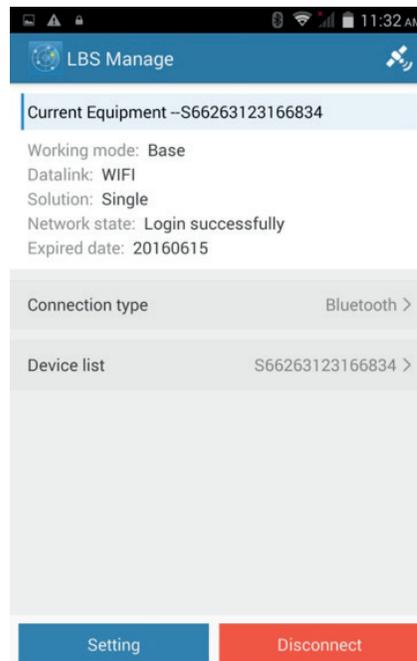
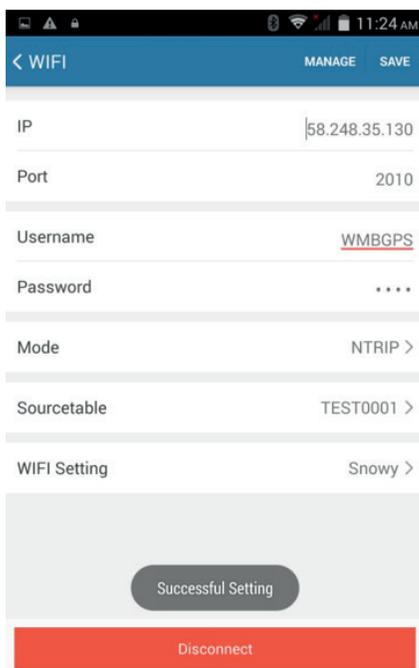


and access to internet.

After that, input the information of accessing local CORS station, and go to Sourcetable option to predefine a mount point, then tap on the Setting button locates at the bottom of this interface.



When appears the message —**Successful Setting**, and the button turns into red and shows disconnect, it means SXBLUE PREMIER successfully logs in CORS server and begins to transmit correction through the internet. At this time, return to the main interface of LBS Manage program, and observe the status of last indicator.



Chapter VI RTK Measurement

RTK is the abbreviation of Real-Time Kinematic measurements.

RTK technology is the real-time dynamic differential carrier phase positioning technology, combining global satellite navigation and positioning technology with data communication technology which includes base station and rover station. Base station transmits the data by radio or network to the rover station, which will perform differential analysis, thus providing real-time coordinates of the measurement point in the specified coordinate system.

Depending on the design of SXBLUE PREMIER, the receiver only can obtain correction through the internet. According to such performance, SXBLUE PREMIER is able to work in Bluetooth mode and WIFI mode. In this chapter, we will emphatically introduce how to do RTK measurement with SXBLUE PREMIER receiver in Bluetooth mode.

Tips: To get more information about how to do RTK measurement in WIFI mode, please refer to chapter .

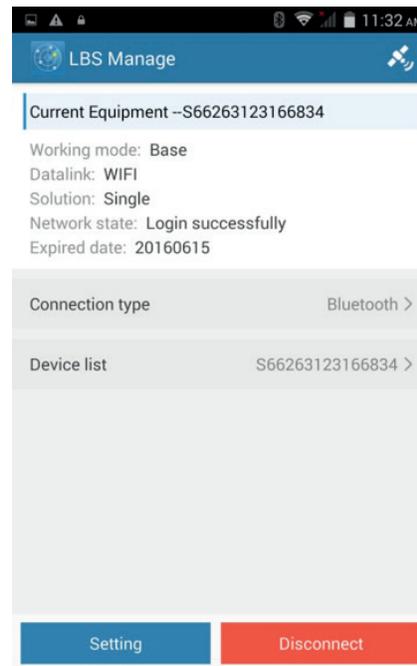
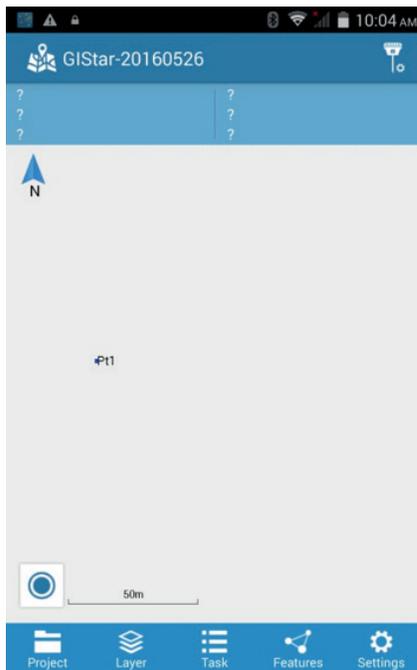
Rover + Bluetooth (Data Collector Internet)

6.1 How to connect with GIStar for Android

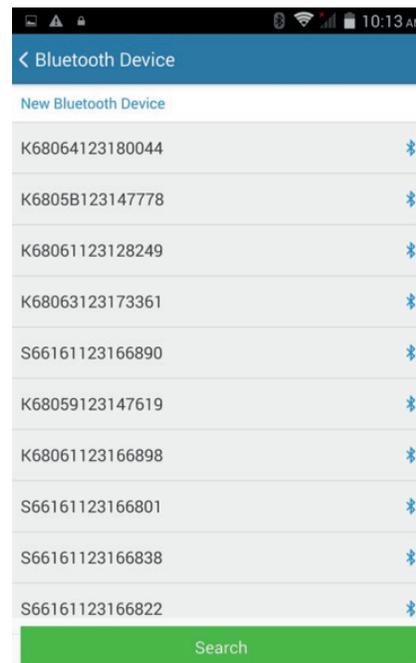
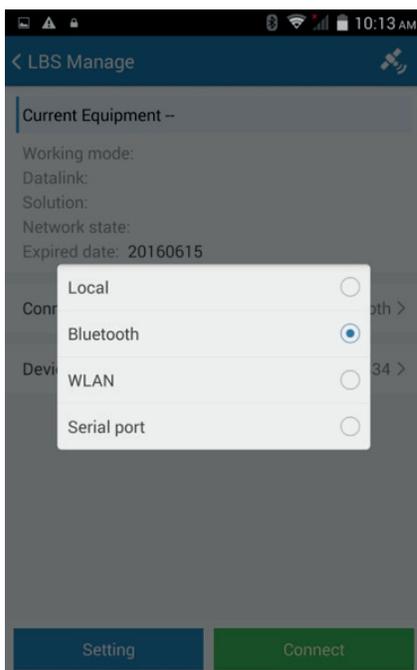
This chapter will introduce you how to connect SXBLUE PREMIER receiver with SXblue GIStar program works on Android devices. Before connecting the receiver, please make sure that the GIStar program has been installed on your Android device.

Run GIStar program on your Android device, and power on SXBLUE PREMIER receiver.

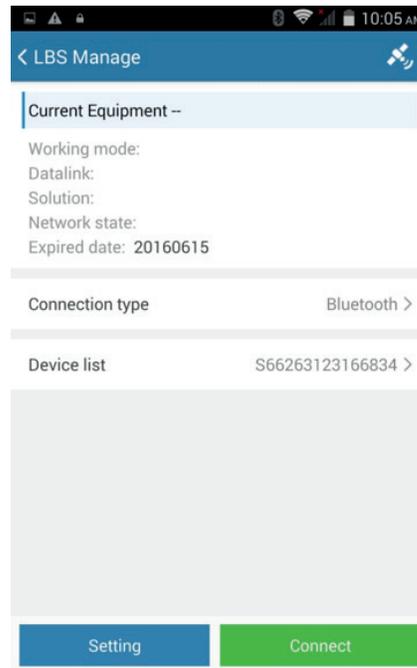
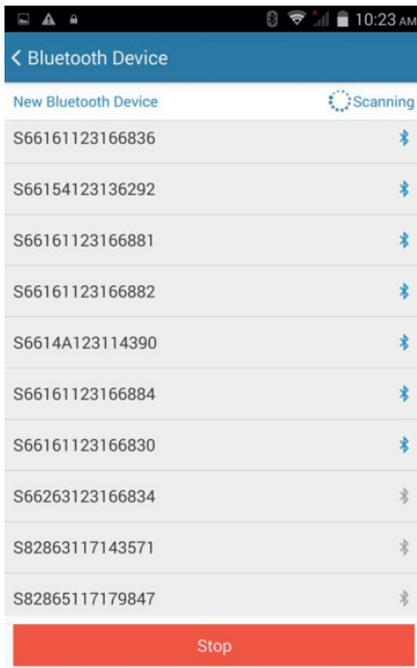
Tap the instrument symbol locates at the upper right corner of main interface and get into SXblueGnssServer (LBS Manage) main interface.



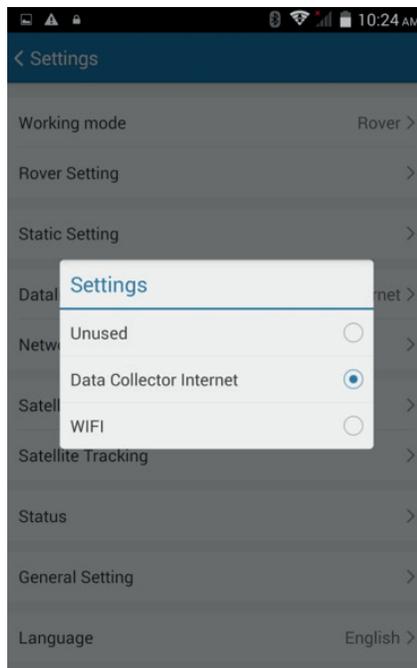
3) Tap on connection type and select the connection mode as Bluetooth, then next go to Device list, enter Bluetooth Device interface, tap on search button, the Android device will search the surrounding Bluetooth devices.



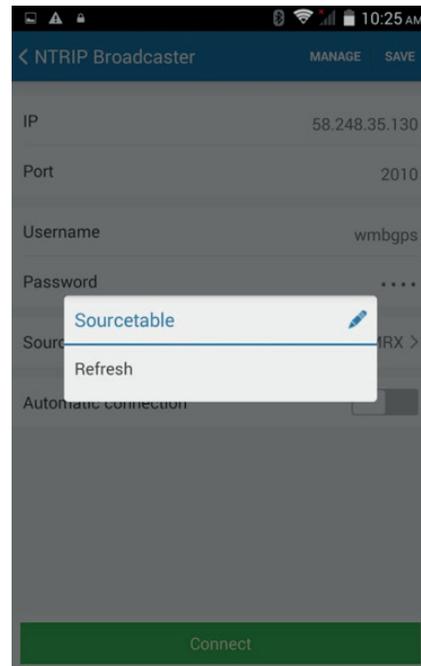
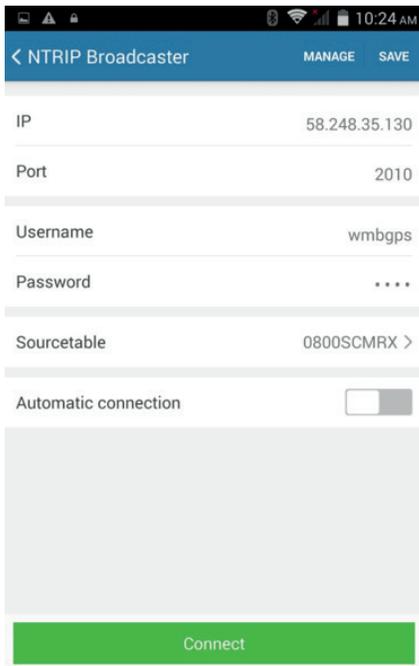
4) Choose the correct Bluetooth device SN and return to SXblueGnssServer (LBS Manage) main interface, tap on Connect button to establish Bluetooth connection between SXBLUE PREMIER receiver and controller, at this point, the Bluetooth indicator lights up on receiver.



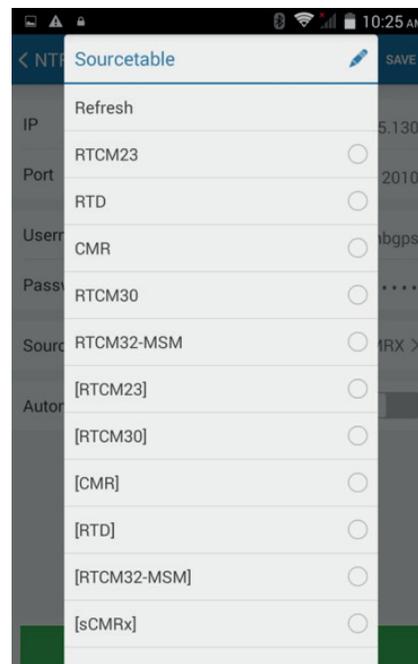
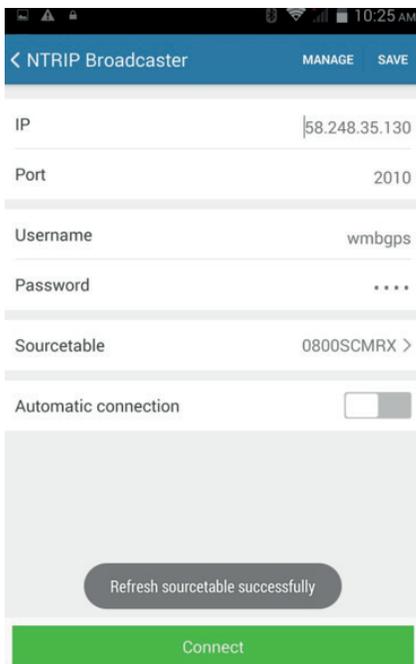
5) Enter setting interface to switch working mode of receiver into Rover and choose the datalink as Data Collector Internet.



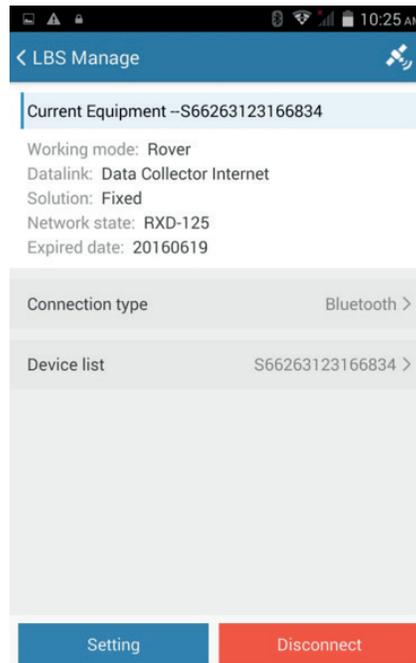
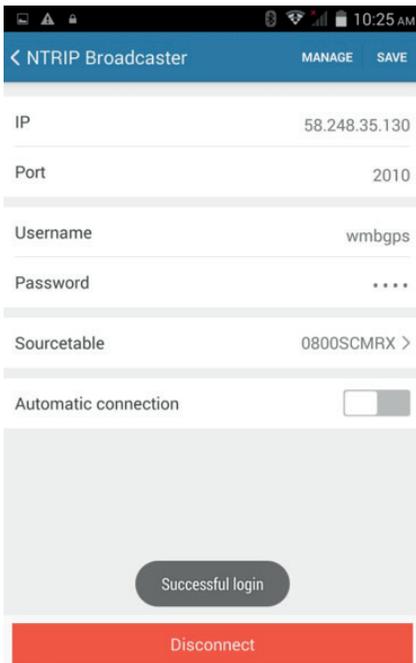
6) Get into NTRIP Broadcaster interface by tapping on Network option, then input the CORS network IP address and port, assigned username and password, then tap **Sourcetable** and **Refresh** to request the source table.



7) After **-Refresh sourcetable successfully** message appears, tap again on **Sourcetable** option to select a proper mount point and tap on connect button.



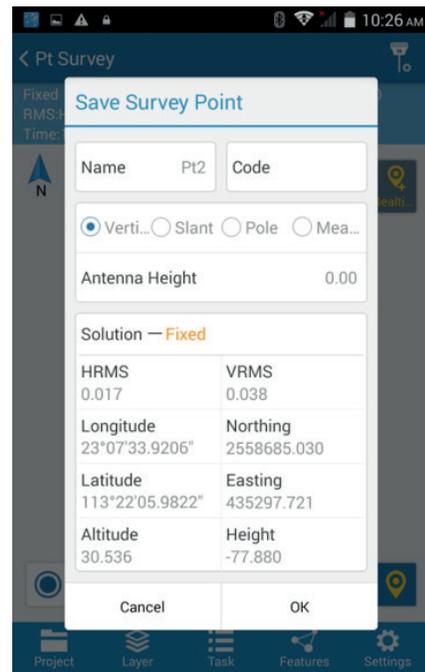
8) At this time, if there appears successful connection and successful login messages, that means the receiver has successfully connected to server and begins to get correction from CORS server. Return to LBS Manage main interface and observe the fourth indicator on SXBLUE PREMIER receiver if it is flashing.



9) Return to GIStar main interface and there you will have high accuracy coordinates with fixed solution, now start a new job. If all the configurations of new job are completed, that is to say, the Rover system is ready to do the RTK measurement. Click on **Task** menu and get into **Pt Survey** interface.



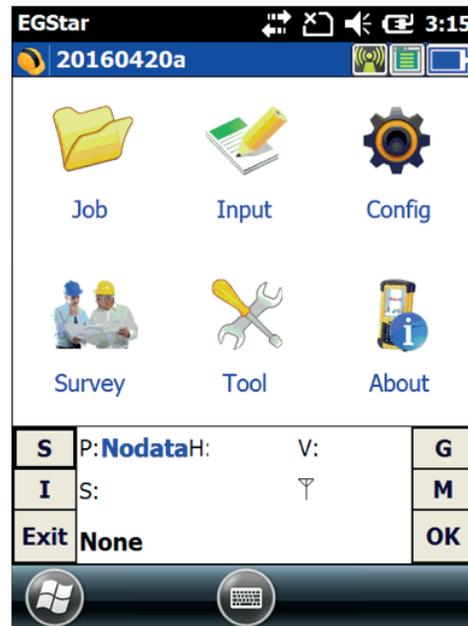
10) make sure that the instrument is leveling on a point, and the coordinates are stable at this position, tap on button to collect the coordinates for this position.



6.2 How to connect with EGSTAR

In this section we will teach you how to connect SXBLUE PREMIER with the latest version of EGStar. First of all, establish an ISP connection on controller and make sure that the controller is able to access to internet successfully.

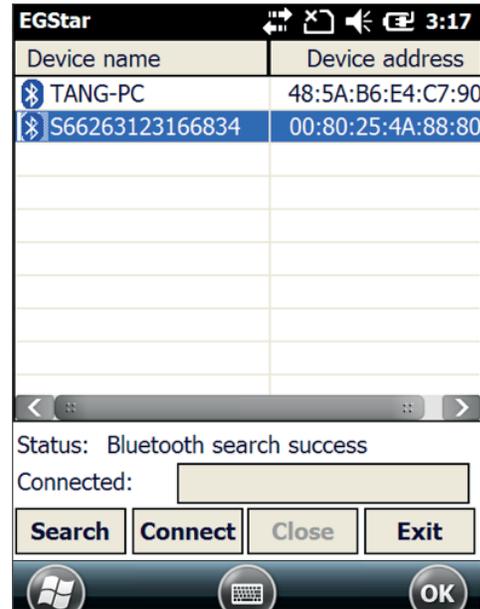
1) Run EGStar program on controller. The following screenshot is the main interface of latest version



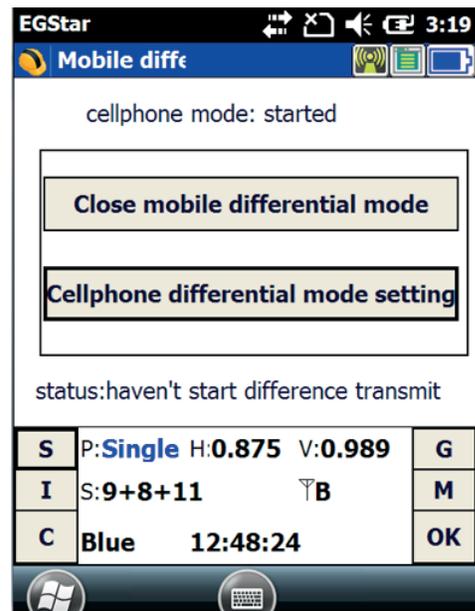
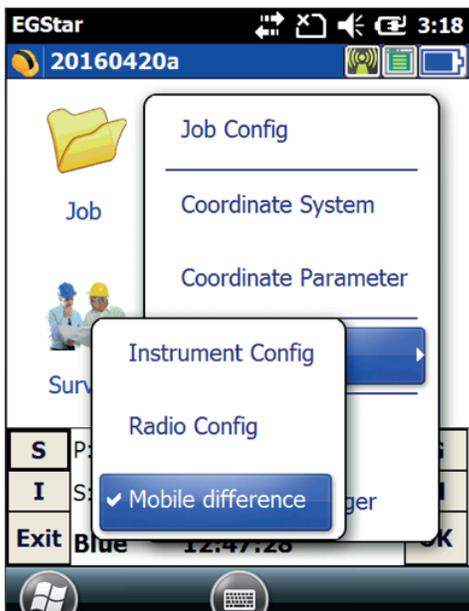
of EGstar.

2) Create a new job and setup local coordinate system for current project.

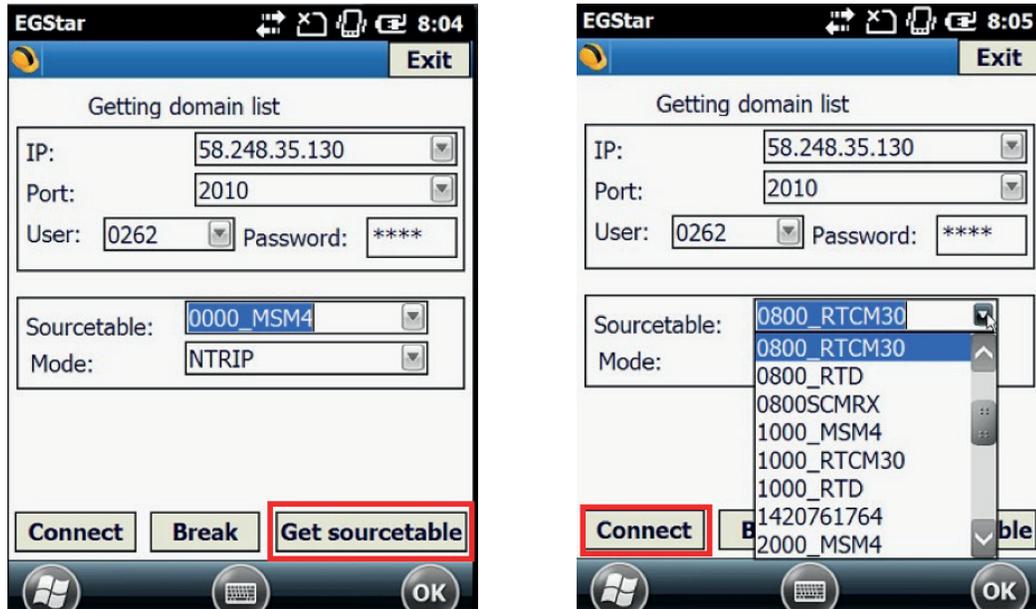
3) Enter **Config/ Bluetooth Manager** interface. Click on **—Search** button to search the surrounding Bluetooth devices and pick a correct serial number of SXBLUE PREMIER, then click on **—Connect** to establish the Bluetooth connection with SXBLUE PREMIER. As shown on following figures.



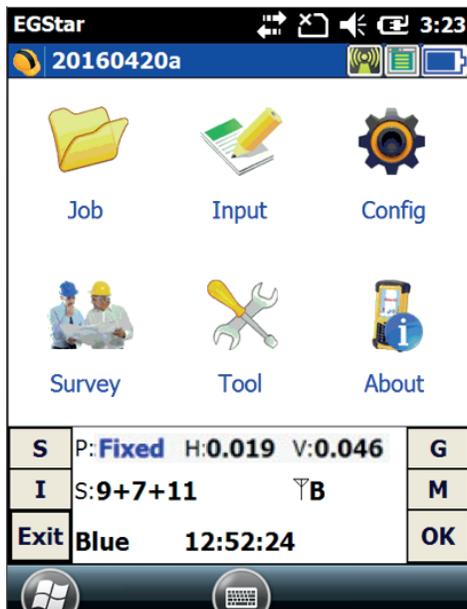
4) Go to **Config/Mobile difference** interface, then click on **Open mobile differential mode** to activate this function, move to **Cellphone** differential mode setting and go into parameter configuration interface.



5) Enter the IP address of network, the port, the assigned name and password, after that click on —**Get sourcetable** button to obtain mount point list from server, and select a proper one then click on —**Connect** button to access.



6) After getting the available *Fixed* solution, you can start your job.



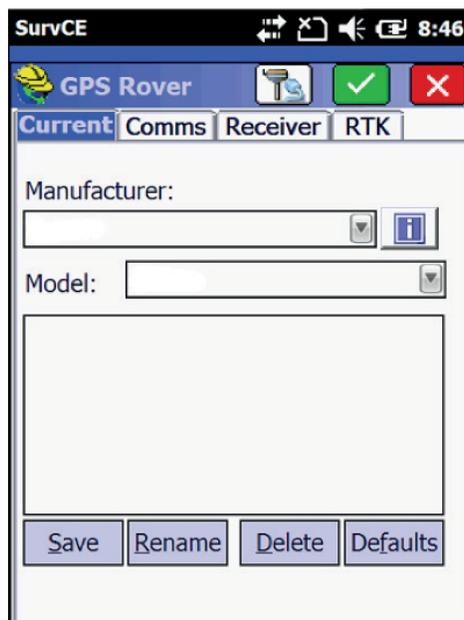
6.3 How to connect with SurvCE

In this section, you will get the method of how to use SurvCE to connect with SXBLUE PREMIER and configure parameters for it. First, install SurvCE software onto controller (Ver.4.04 or higher version is recommended). Then run Carlson SurvCE program on controller.

- 1) Create a new job and setup your local coordinate system for current project.

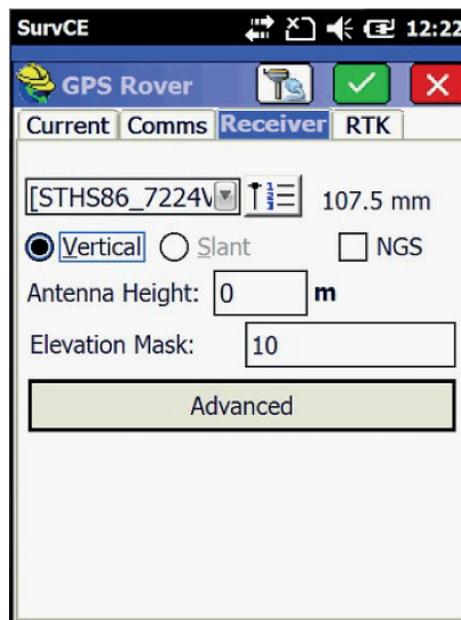
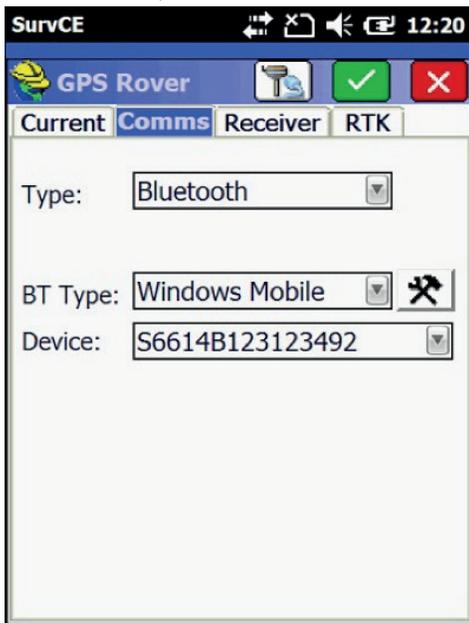


- 2) Tap on **-GPS Rover** in **Equip** sub-menu.



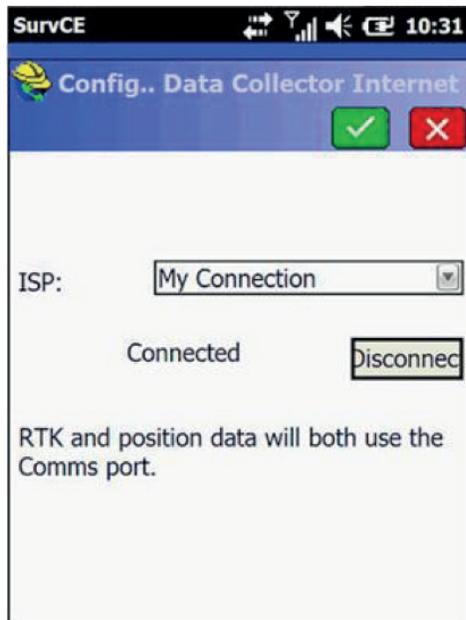
3) In **Current** tab, select SXblue in Manufacturer dropdown list and choose PREMIER driver to use on SXBLUE PREMIER receiver. The driver of PREMIER is suitable to SXBLUE PREMIER receiver as well.

4) Move to **Comms** tab and pick **Bluetooth** in **Type** box. Use **Windows Mobile** in **BT Type** then tap on icon  to enter Bluetooth device dialog, select the correct serial number of your device or tap on **Find Receiver** to search all nearby Bluetooth devices, pick up a correct one then tap on the icon  at the top of interface to bond with. When you are back in **GPS Rover** interface, tap on icon  to confirm the connection, after



—**Successful Connection** message appears and the second indicator is on, that indicates Bluetooth connection between receiver and controller has successfully established.

5) Configure more settings in **Receiver** tab, which involve Antenna Height, Elevation Mask, etc.



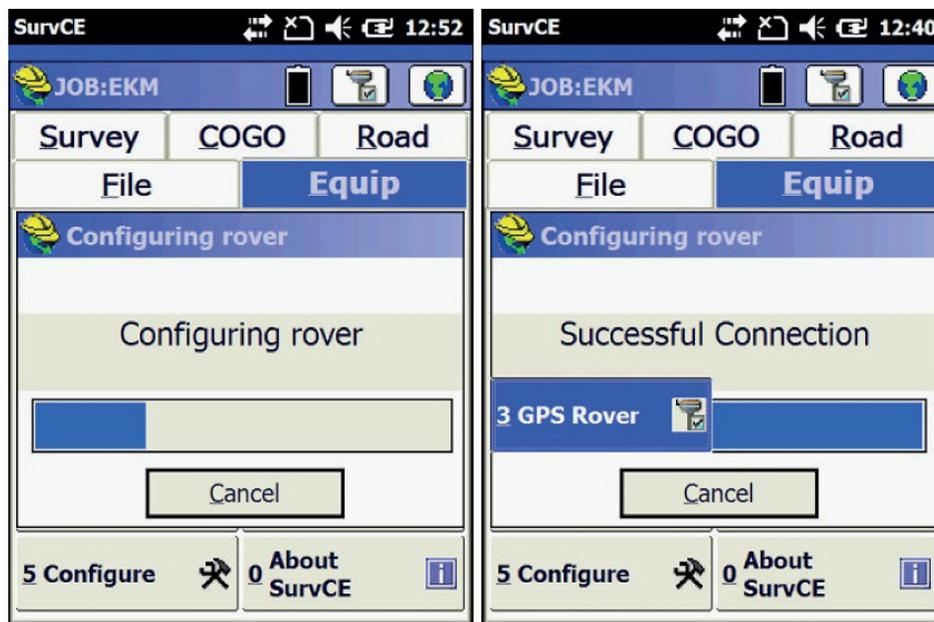
6) Move to **RTK** tab, select **Data Collector Internet** in Device box, then click on , in ISP box, select the connection previously defined in Windows menu (eg. **My connection**), check that if it



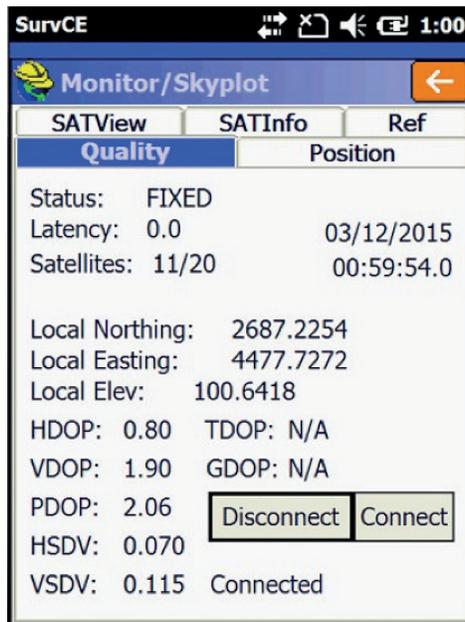
shows connected. On the contrary push Connect, then confirm with .

7) Select **NTRIP** in Network box. Click on icon  at the right. Create a name for the network,

enter the IP address of network, the port, the assigned name and password, after that confirm the configuration in the usual way.



8) Then the internet connection will start, and the available services/mount points for corrections will



be downloaded to your controller, select the suited service and confirm.

9) Choose a proper mount point you intend to access, click on icon  to confirm. Then there appears a series of prompt messages which indicates connecting procedure, that means the receiver will start the connection with CORS network, and obtain correction from CORS server, at this time, keep an eye on the fourth indicator on receiver if it is flashing at the same time.

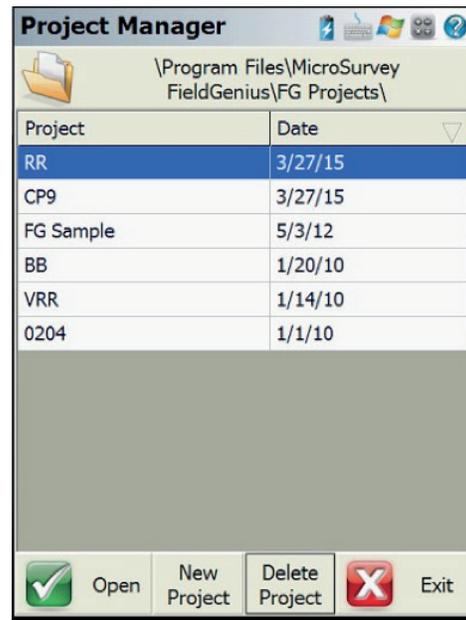
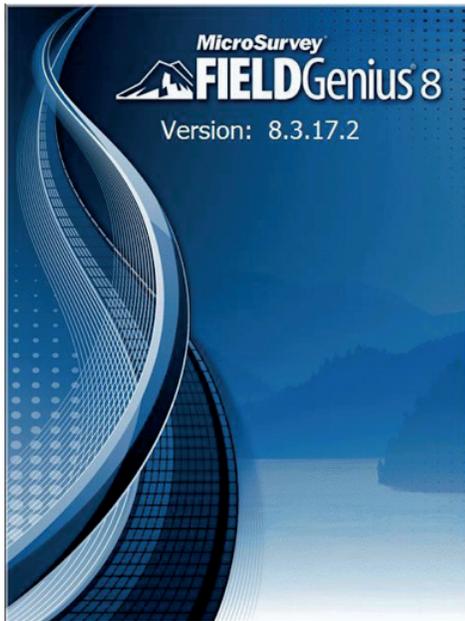
10) Tap on **Monitor/Skyplot** option to check data quality.

11) When you get the available FIXED solution, you can start your job.

6.4 How to use FieldGenius to configure SXBLUE PREMIER

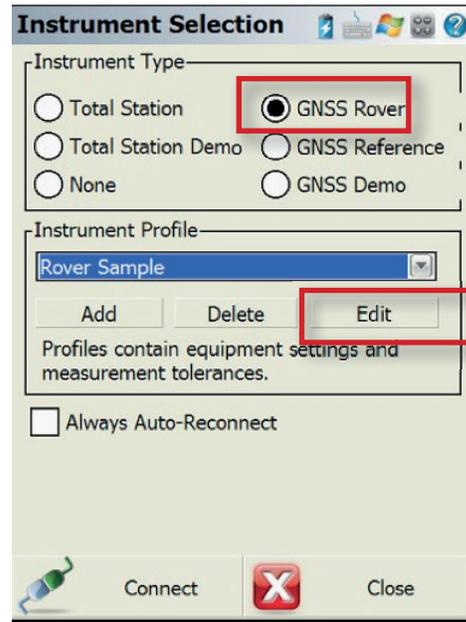
As FieldGenius version 7.2.12.14 released, the PREMIER driver was built and we are able to configure SXBLUE PREMIER with this driver as well in latest version of FieldGenius. In this section, we will take version 8.3.17.2 for example. Next you will get the method how to use FieldGenius on SXBLUE PREMIER receiver.

1) Run FieldGenius program on your controller, then open an existing project or create a new one for your job.

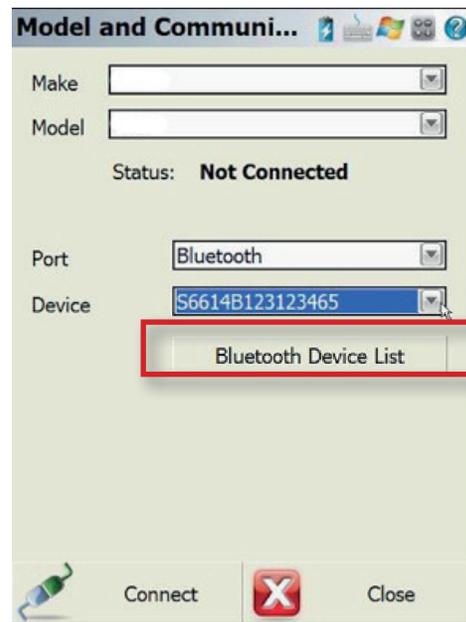
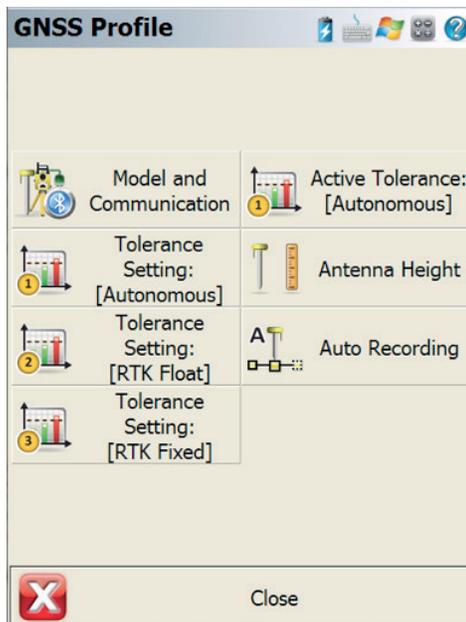


2) After completing your project configuration, then establish the Bluetooth connection between controller and PREMIER. Tap on **—Select** Instrument... button to go into Instrument Selection interface, mark on the checkbox of GNSS Rover option, then click on **—Edit** button to go on. If you ever connected the device before, please tap on

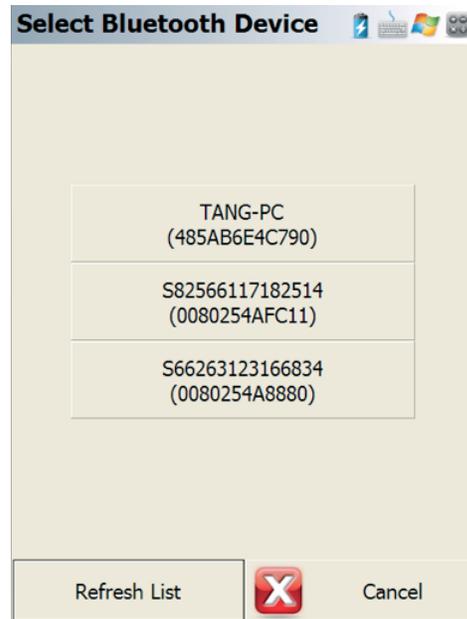
—Reconnect <GNSS Rover> directly to reconnect your device.



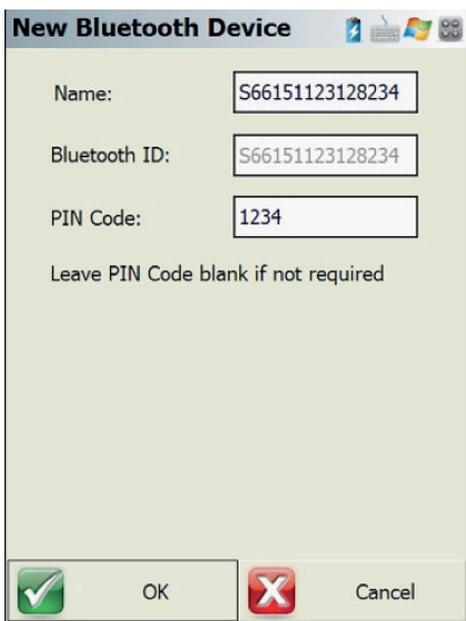
3) Select **-Model and Communication** option and get into this interface, select SXblue in **Make** dropdown list and choose PREMIER driver to use on SXBLUE PREMIER receiver.



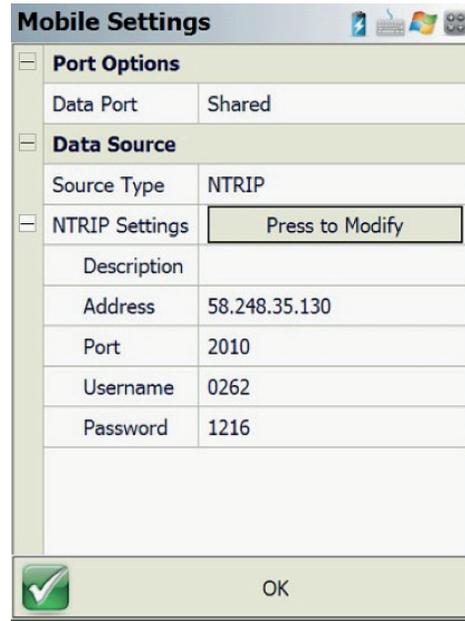
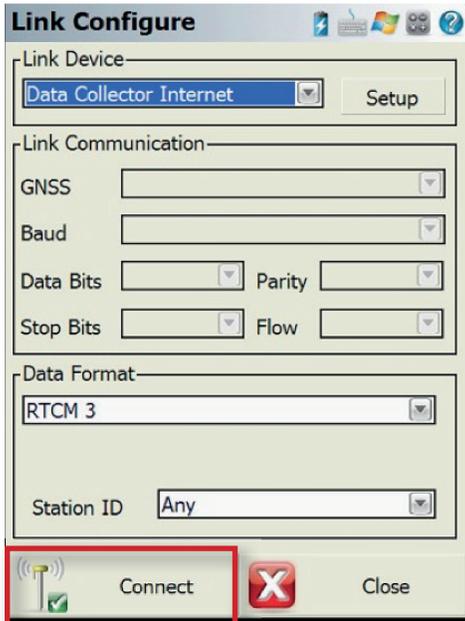
4) And select —**Bluetooth** in Port dropdown list, and choose the correct serial number of SXBLUE PREMIER has been stored in Device box, and then click on —**Connect** button to bond with the Bluetooth. If it is the first connection, click on “**Bluetooth Device List** and search all the nearby Bluetooth devices, select the correct serial number of SXBLUE PREMIER receiver, verify that and then start the connection.



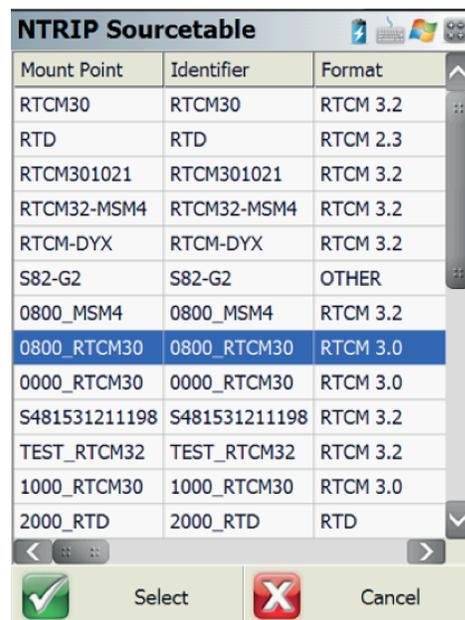
5) If the PIN code is required, please input 1234 or 0000, then back on **Model and Communication page**, click on —**Connect** button to complete the connection. Meanwhile, please check the second indicator on receiver if it is lit up.



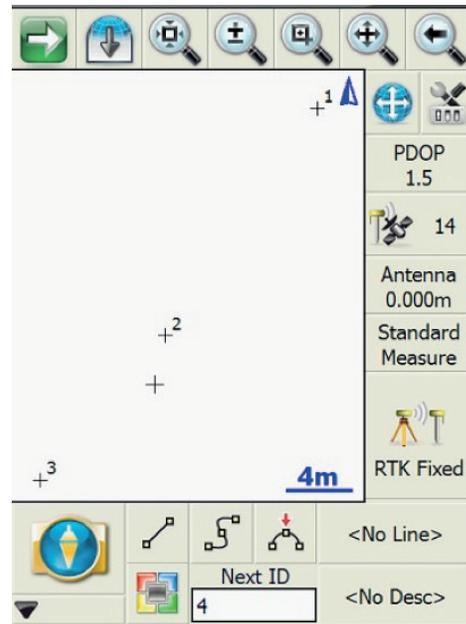
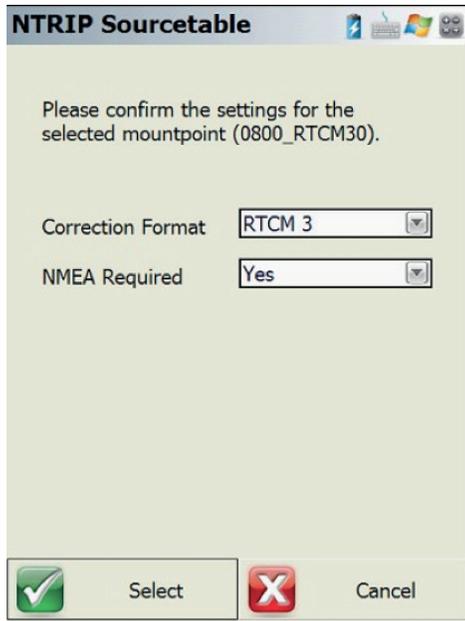
6) Choose —**Date Collector** Internet as your link device and click on —**Setup** to go on. Verify that the Data Port of Port Options is **Shared**, then enter the IP address, port, assigned name and password for NTRIP connection, after that, when you back on Link Configure page then click —**Connect** again to start the NTRIP connection.



7) If the receiver connected to a mount point before, reconnect directly this mount point which has been stored on handheld. Or request the whole sourcetable if you first time to connect the NTRIP broadcaster. Tap on —**Request Sourcetable** and the available mount points for corrections will be downloaded to your handheld.



8) Choose a proper correction format and click on **—Select** button to confirm, then return to Link Configure page and click on **—Connect** button to process the final step, and the receiver will start accessing to internet and obtain correction from CORS server, at this moment, pay your attention to the fourth indicator on receiver, check if it is flashing at the same time, then check the data quality on the right side of main interface.



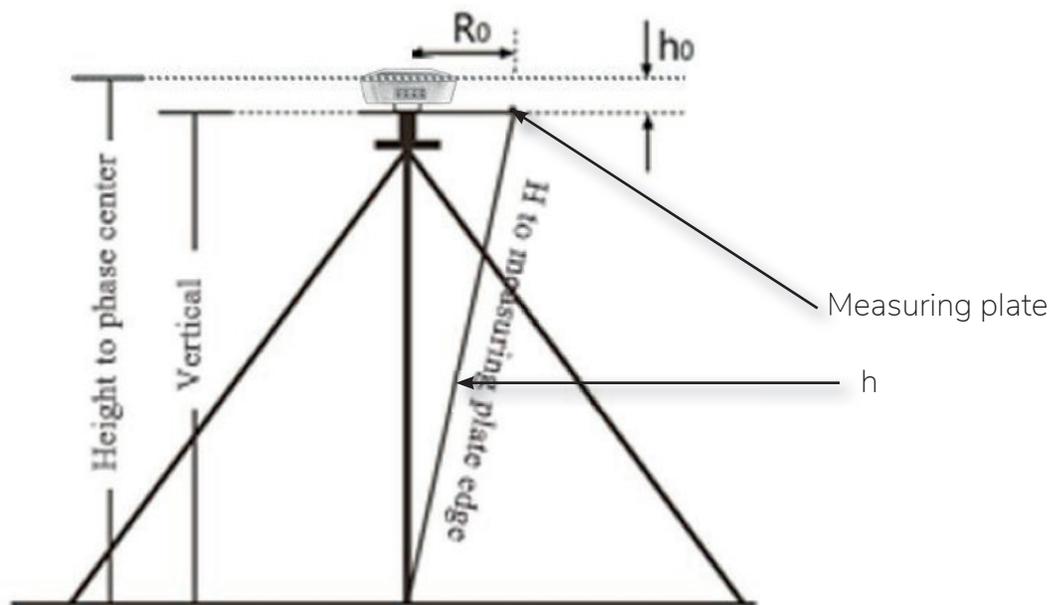
Chapter VII Static Measurement

GPS positioning measurement by installed three (or more) GNSS receivers to perform simultaneous observation and determine the relative position between the stations.

In this chapter, we are going to introduce how to do Static measurement with SXBLUE PREMIER receiver.

7.1 Antenna Height Measuring

After fixed the instrument, user should measure antenna height at the beginning and the end of every period of time to ensure the accuracy —mm level. We usually measure from the center point on the ground to the center waterproof loop of antenna. That is an inclined height. Please refer to the following figure.



We use a formula to calculate antenna height.

$$H = \sqrt{h^2 - R_0^2} + h_0$$

—**h** is the inclined height that measure from point on the ground to the measuring plate edge.

R₀ is the distance from middle of antenna to the edge of measuring plate.

h_0 is the distance from antenna phase center to the bottom of receiver (measuring plate). H is the calculation result. We usually measure antenna height twice and adopt the average.

Attention: We input the inclined height as the antenna height, which is the inclined distance from point on the ground to the waterproof loop of antenna.

7.2 Field operation procedure

- 1) Set up a tripod on the control point, leveling and centering strictly on the measuring point.
- 2) Measure the instrument height three times, the difference of the results shall not be more than 3mm, and average the results. The instrument height should be measured from the center of the control point to the mark line on the instrument.(Refer to 7.1.)
- 3) Record instrument number, point name, instrument height, and start time.
- 4) Power on receiver, confirm the static mode, the mainframe begins to search satellites and satellite lights begin to flash. Recording condition reached, the status light flashes in accordance with the set sampling interval, flashing once indicates the acquisition of an epoch.

7.3 Mode Configuration

Static mode of SXBLUE PREMIER receiver is able to be set on internal web UI or on controller software (eg.GIStar for Android). In this section, we will respectively introduce how to configure static mode on web UI and controller software (GIStar).

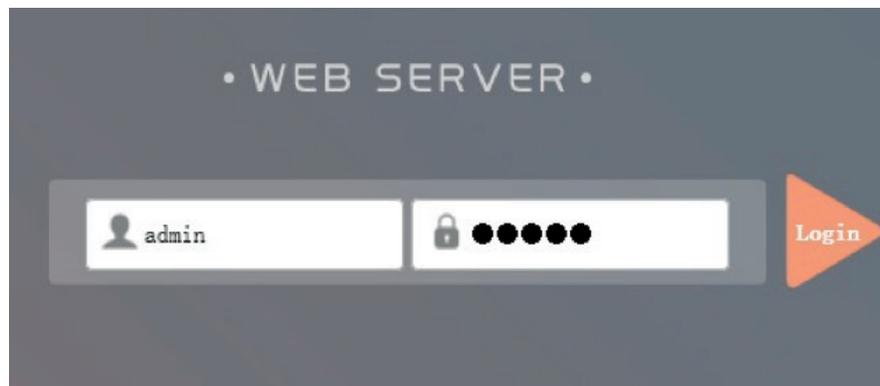
Configure on Web UI

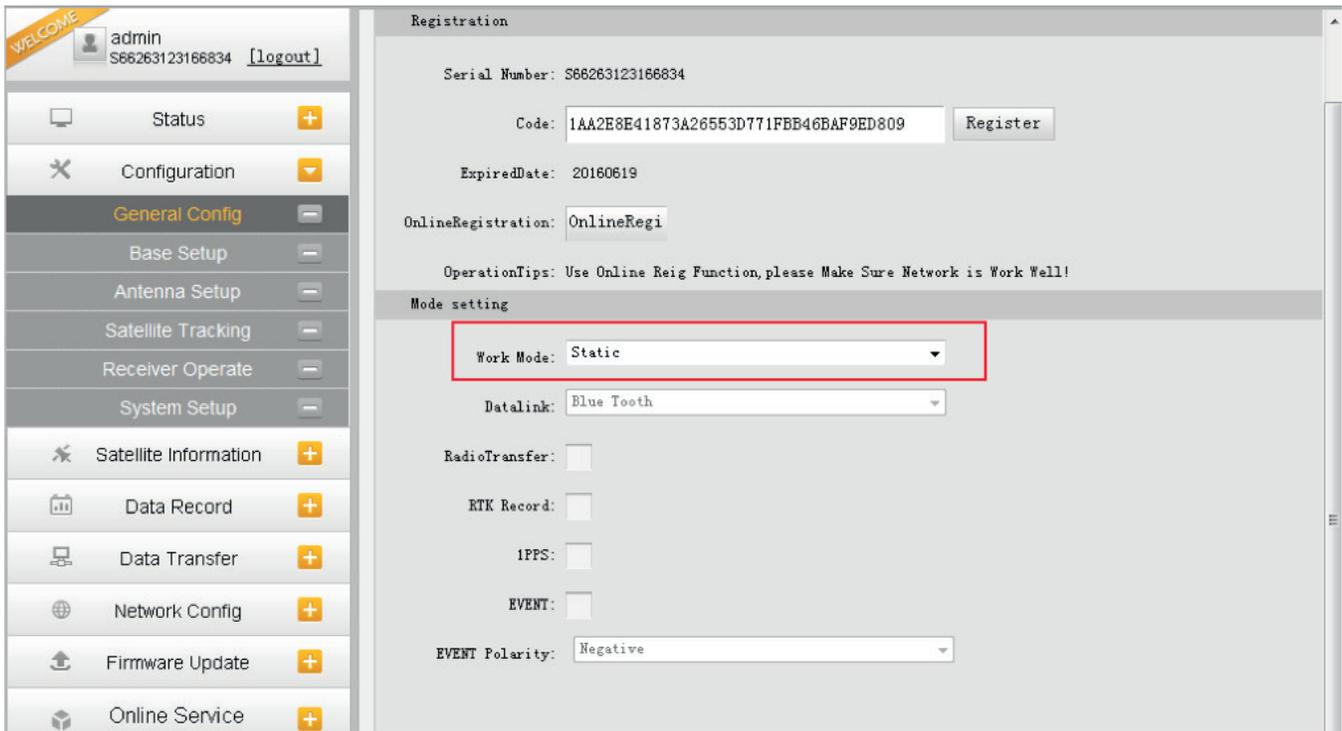
Switch on SXBLUE PREMIER receiver in normal way, then connect receiver to computer via micro USB Ethernet port, or connect receiver to tablet or smartphone via WIFI connection. Input admin for both username and password to login the web UI server.

Go to Configuration —**General** Config, switch the working mode into Static, click on

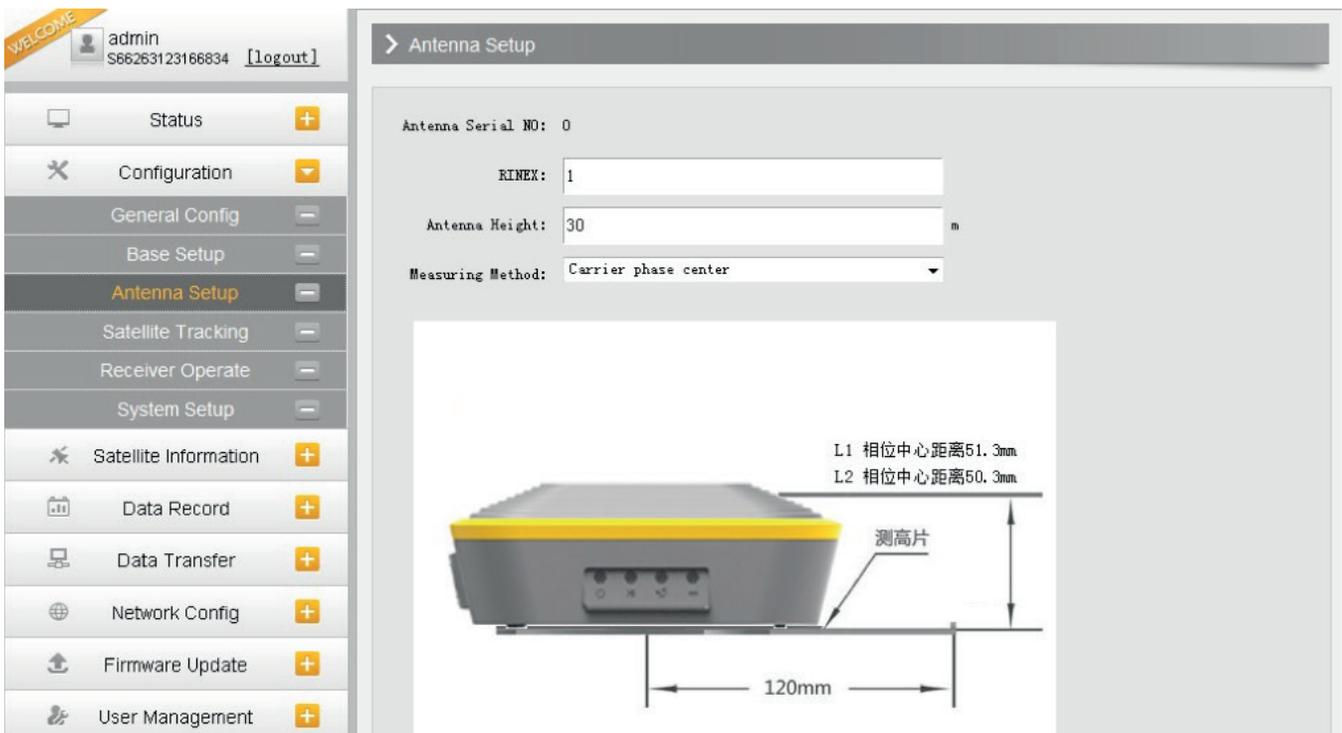


button to confirm the settings.



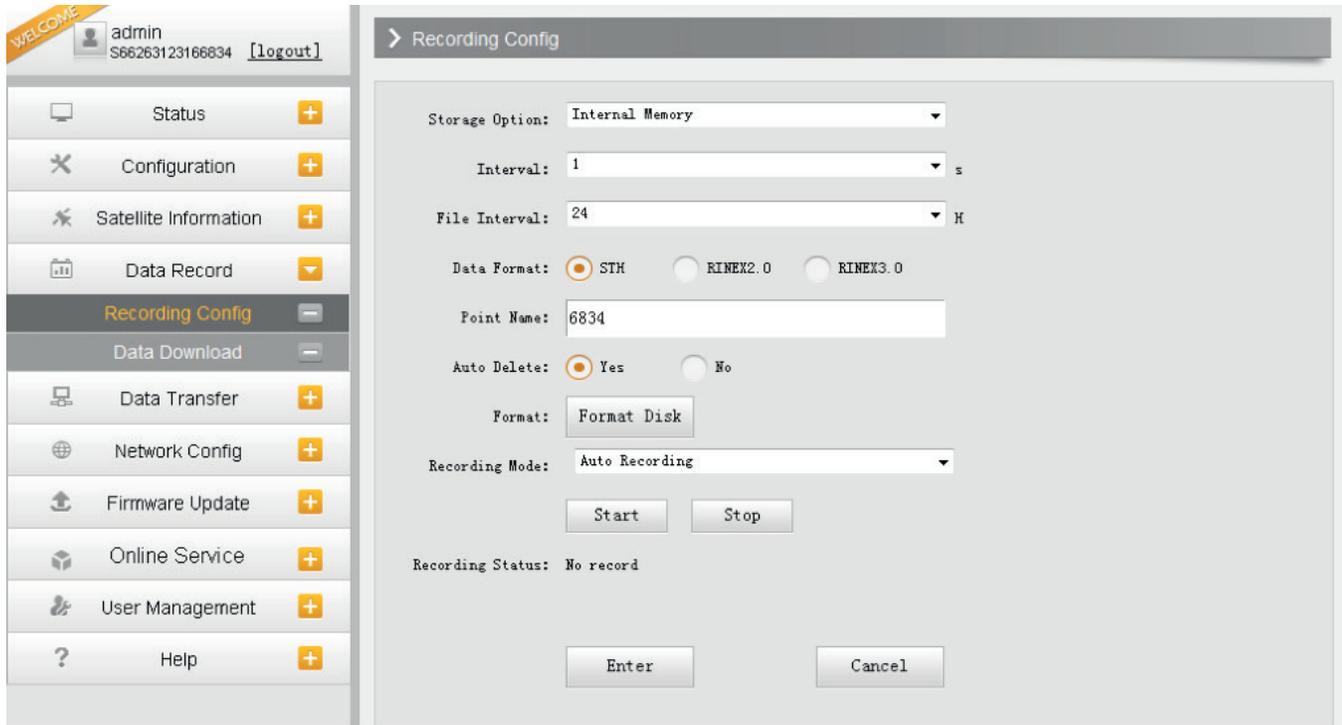


Input the measured antenna height on Antenna Setup interface.



Move to Data Record and get into Recording Config interface, choose the storage type, setup the sampling interval, file interval, static file format, then choose the recording mode automatic record or manual record. After all the

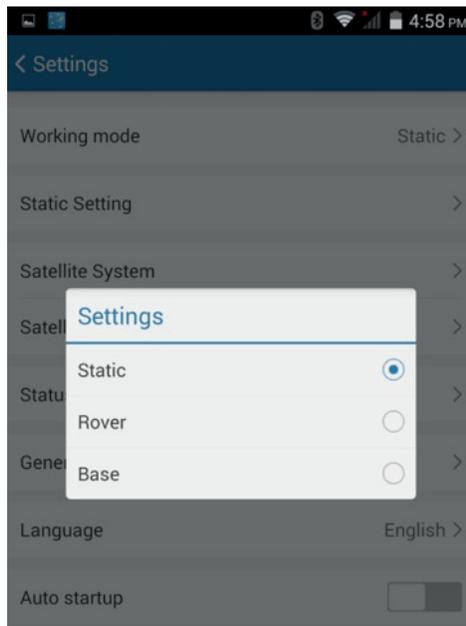
parameters are set, click on button to confirm and then click on button to start recording. At this time, observe the status of the indicators on receiver.



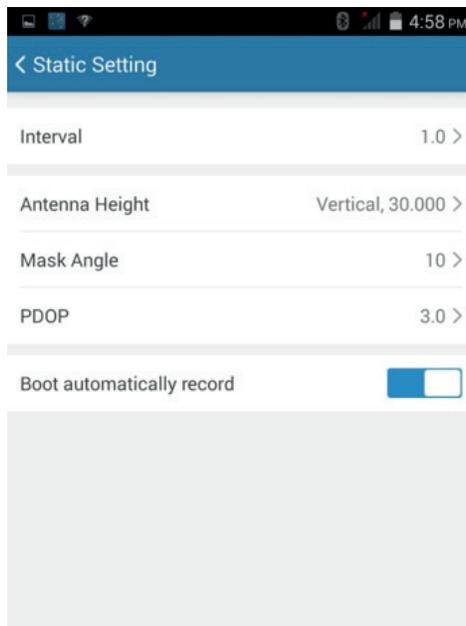
To stop static recording, switch off the receiver directly or click on button on web UI, the static data file will be recorded and saved in internal memory of SXBLUE PREMIER.

Configure on G1Star

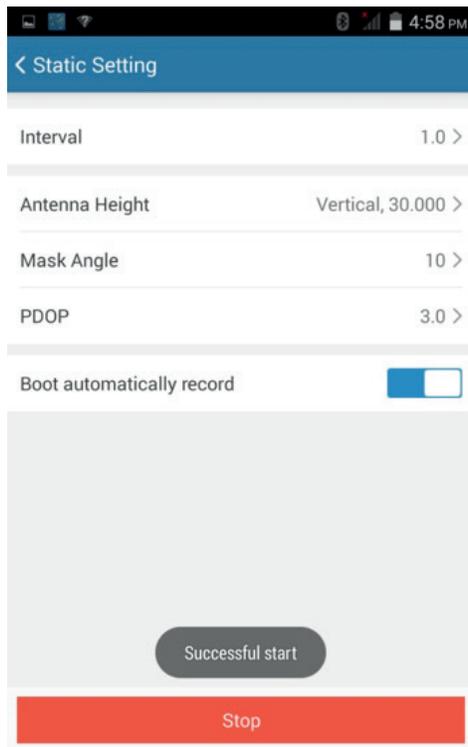
Switch on SXBLUE PREMIER receiver and establish Bluetooth connection between SXBLUE PREMIER and controller which has G1Star program installed, then get into Setting interface and switch working mode of receiver into Static.



After the working mode is set, move to Static Setting and set up all the parameters for SXBLUE PREMIER receiver, such as sampling interval, antenna height, mask angle, PDOP, as well as to set automatic record mode for receiver by tapping on the switch.



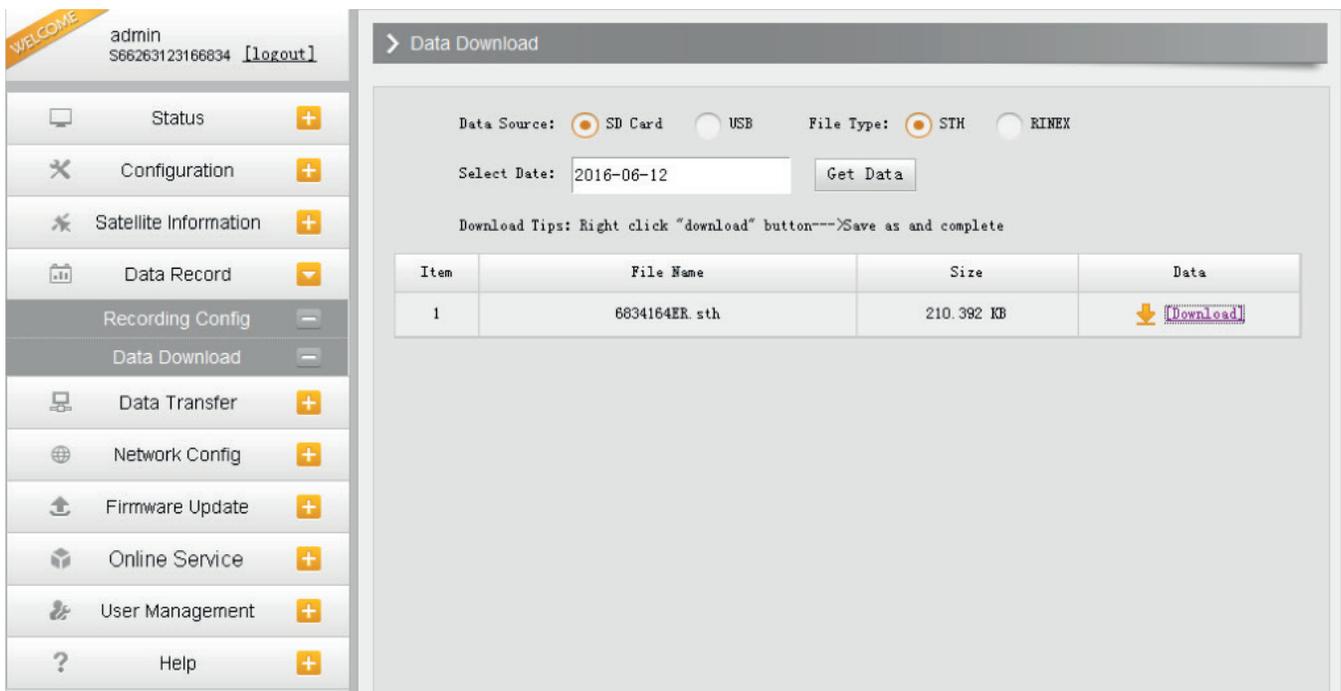
After all the parameters are completed, click on **Start** button at the bottom of interface to start recording raw data onto memory of receiver, at this moment, pay attention to the fourth indicator on receiver, check if it is flashing at the same time.



Tips: If the switch of “Boot automatically record” is on, the receiver will record raw data file automatically after starting up and achieving the recording condition.

7.4 Data Download

While the static job is done, go back to office and download the static data from web UI. Set the micro USB port of SXBLUE PREMIER receiver into Ethernet mode, then connect to computer via micro USB cable and login web UI on IE browser. Go to Data Record—**Data** Download, choose the correct file format and the date when the static data was recorded, tap on button to refresh the static data files, after few seconds, click on download button related to the static file, and download the files to computer.



WELCOME admin S66263123166834 [logout]

Status +

Configuration +

Satellite Information +

Data Record -

Recording Config -

Data Download -

Data Transfer +

Network Config +

Firmware Update +

Online Service +

User Management +

Help +

> Data Download

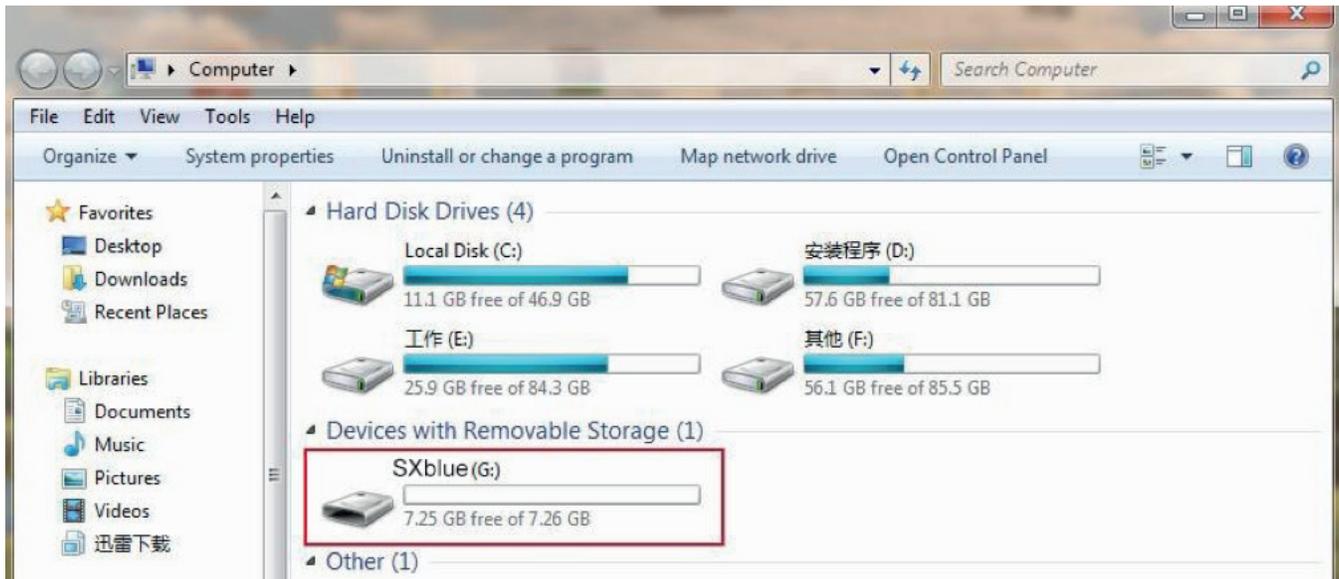
Data Source: SD Card USB File Type: STH RINEX

Select Date: 2016-06-12 Get Data

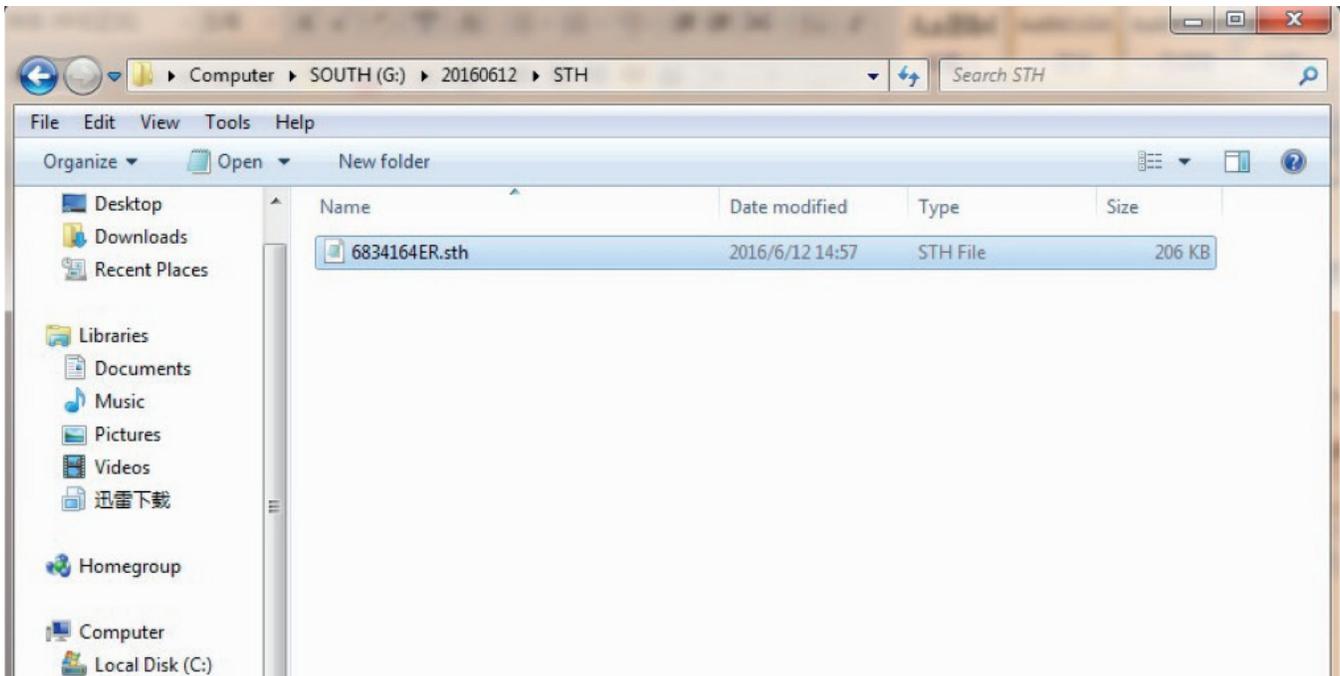
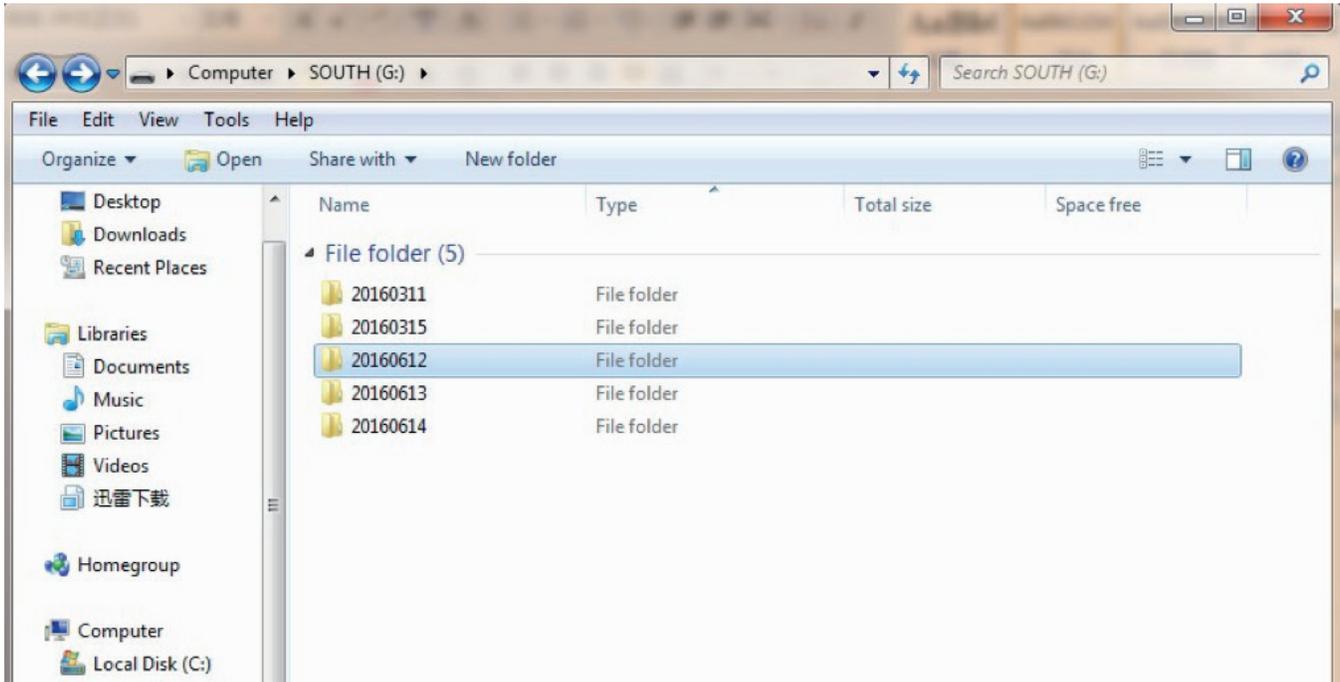
Download Tips: Right click "download" button--->Save as and complete

Item	File Name	Size	Data
1	6834164ER.sth	210.392 KB	 [Download]

The other way is to switch the micro USB port of SXBLUE PREMIER receiver into normal USB port, connect the receiver to computer, it will be recognized as a removable disk.



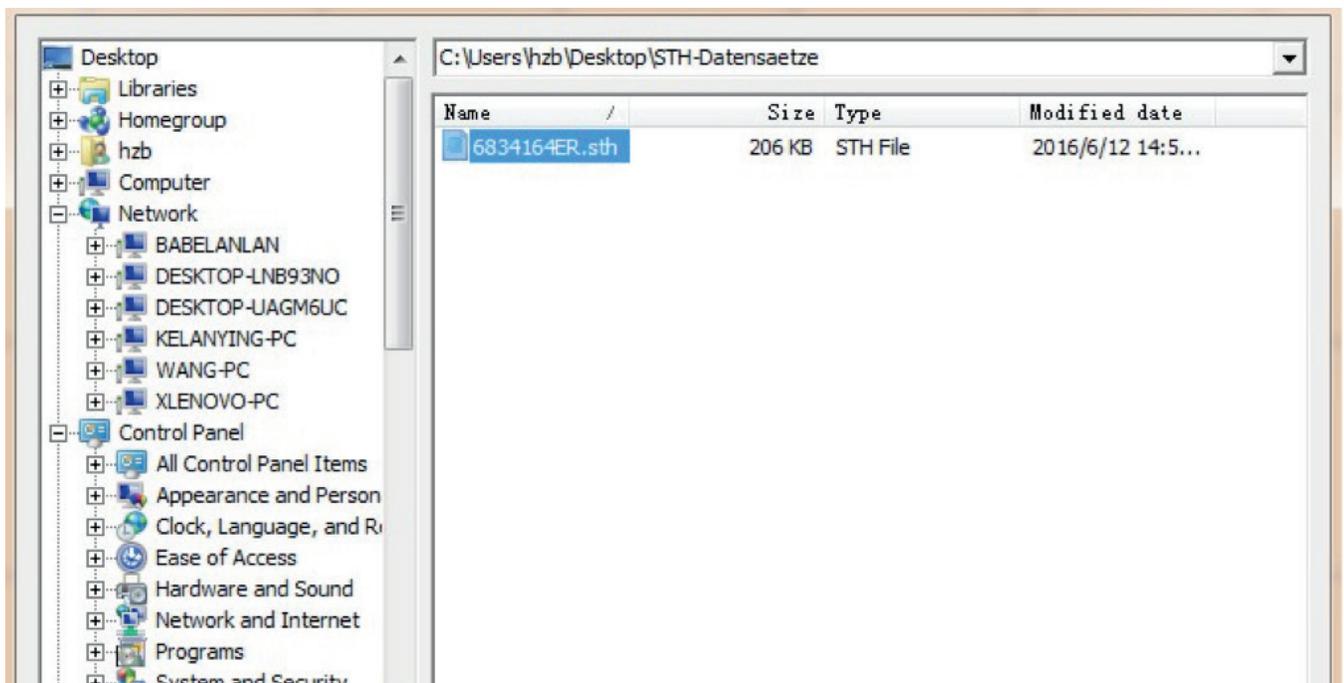
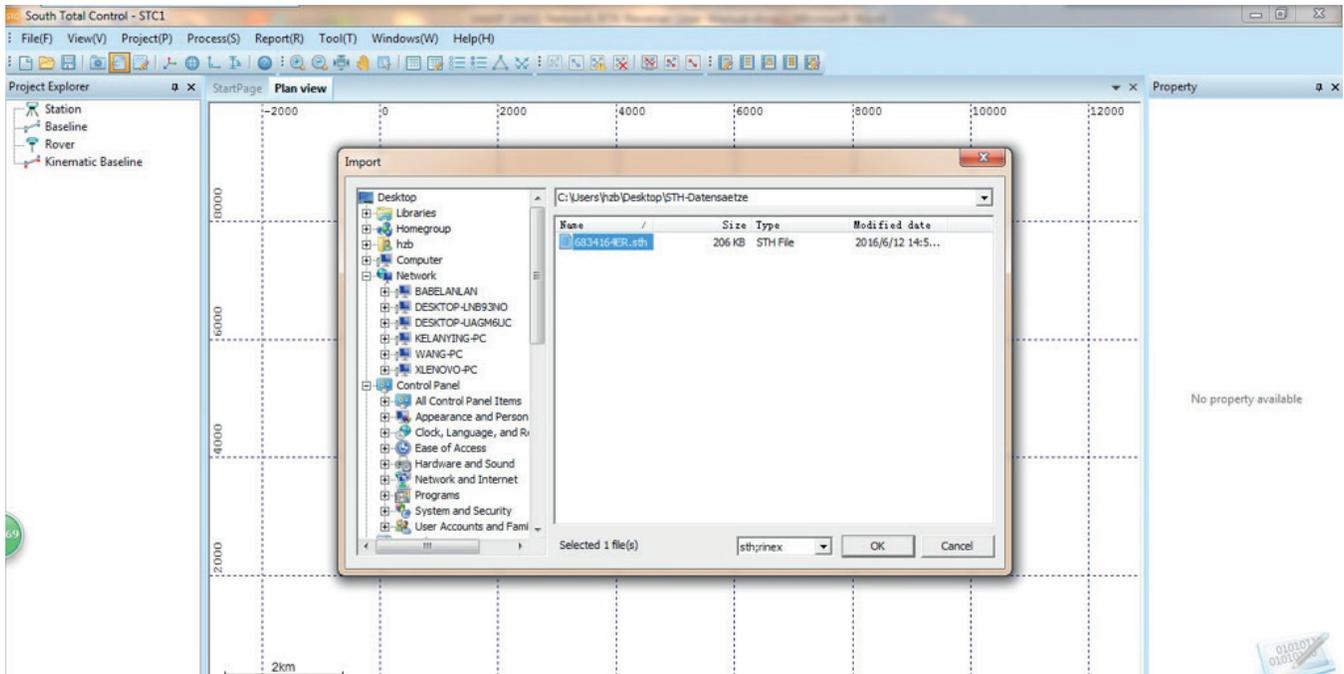
Open the disk and look for the folder of recording date, then copy the data file from folder to computer.



7.5 Data Processing

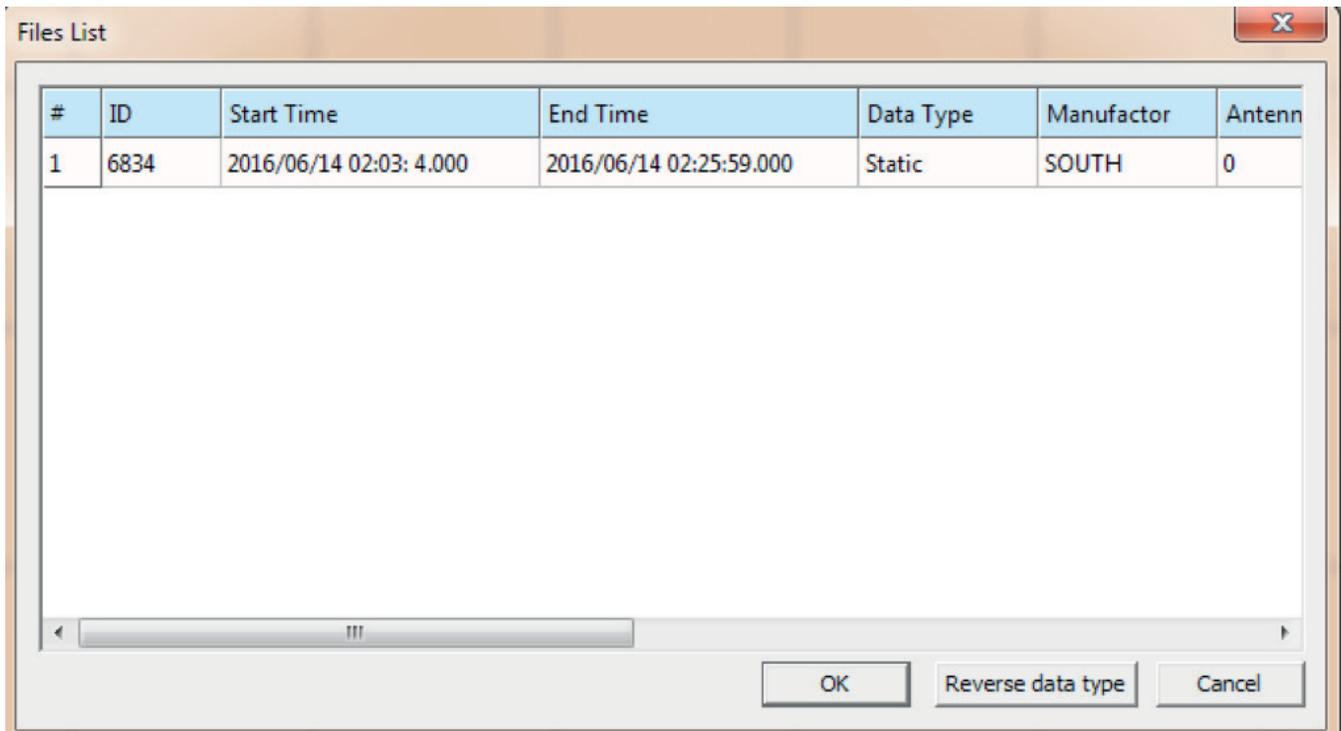
In this section, we will take SXblue Total Control (STC) program for example, to introduce how to simply process the static data from SXBLUE PREMIER receiver.

Processing static data from SXBLUE PREMIER is same to normal static data processing as usual, run STC program on computer, and set up the coordinate system parameters for processing, then click



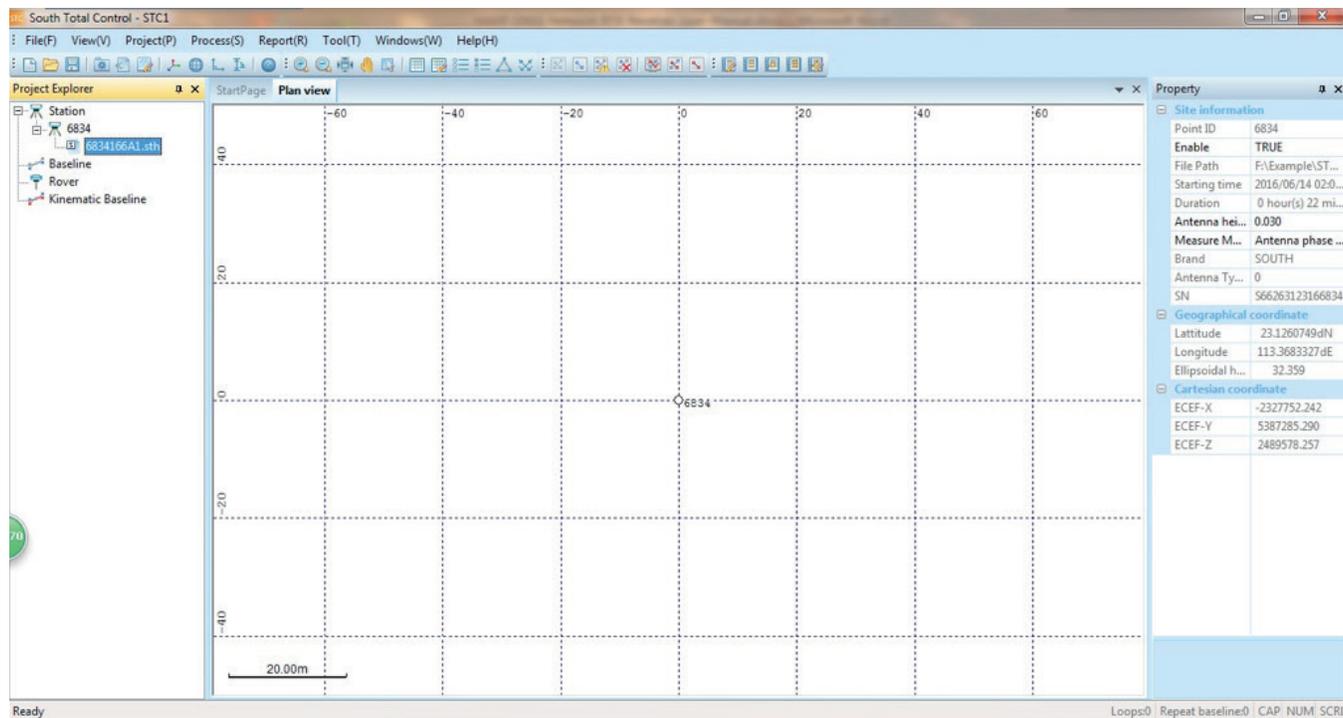
on  button to load observation raw data to the program.

Choose the files and click on OK button, a window pop-up along with the information of the static data, including point ID, start time, end time, data type (Static or Kinematic), manufacturer, antenna



height and the others. Verify if all the information is correct, then click on OK button to finish loading data.

If there are the other data files loaded at the same time, then click on  button to process baselines combined with the observation stations.



Tips: To get more information about static data processing, please refer to SXblue Total Control user manual.

Chapter VIII Standard Configuration

Item No	Name	model name	Quantity
1	Receiver host	SXBLUE PREMIER	1
2	MicroUSB Cable	USB-2	1
3	Holder	TP-S650	1
4	Adapter	PSAI10R-050Q	1
5	Packaging box		1



1) Receiver host



2) USB cable



3) Holder



4) Adapter



5) Packaging box

1) This receiver host is integrated with high precise GNSS antenna inside, market proved OEM board, battery and Bluetooth4.0 module.

2) This USB cable is used to charge the receiver, and access to internal web UI as well.

3) Holder, firmly fix receiver on carbon fiber pole, easy to unload.

4) Adapter, connect with USB cable to charge the receiver.

5) Packaging box is a very nice box which is used to pack all accessories including receiver host.

Chapter IX Technical Specification

GNSS	
Channels	220
GPS	L1 C/A, L2E, L2C, L5, with carrier phase smoothing
GLONASS	L1 C/A, L2 C/A
BDS	B1, B2
Galileo	E1, E5A, E5B, E5AltBOC
QZSS	L1 C/A, L1 SAIF, L2C, L5
SBAS	L1 C/A, L5
Data Output	NMEA-0183, TSIP
I/O Protocol	RTCM, RTCA, CMR
Update Rate	1Hz~20Hz
Reacquisition	<1s
Cold Start	<30s
ACCURACY	
Single point positioning	2m
SBAS	Horizontal: 0.5m Vertical: 0.85m
DGNSS	Horizontal: 0.25m+1ppm Vertical: 0.50m+1ppm
Single Baseline RTK(<30 km)	Horizontal: 0.008m+1ppm Vertical: 0.015m+1ppm
Static	Horizontal: 0.003m+0.5ppm Vertical: 0.005m+0.5ppm
COMMUNICATION	
Data Interface	Mini USB2.0 (Ethernet port and OTG)
Bluetooth	Bluetooth V2.1/ Bluetooth V4.0, support EDR
WIFI	802.11 b/g standard
DATA STORAGE	
Memory	8GB SSD (Solid State Disk) internal memory
Static data format	STH, Rinex2.x, Rinex3.x
Sampling rate	1Hz, 2Hz, 5Hz, 10Hz, 20Hz
ELECTRICAL	
Battery	6800mAh, Li-ion battery built in, 3.7V
Battery life	Typically 8 hrs or more
ENVIRONMENTAL	
Operating temperature	-20°C~+60°C~
Storage temperature	-30°C~+70°C~
Shockproof	Withstand drop from 1.5m to concrete
Waterproof/Dustproof	Test to IP67 standard
PHYSICAL	
Dimensions(mm)	115(L)×115(W)×4(h)
Weight	540 g



Sxblue
PREMIER