

CHCNAV i76 GNSS

User Guide



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Preface

Copyright

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Trademarks

All product and brand names mentioned in this publication are trademarks of their respective holders.

Safety Warnings

GNSS (Global Navigation Satellite System) receivers are electronic devices that use signals from satellites to determine location, speed, and time. While GNSS receivers are generally safe to use, there are some safety considerations that users should keep in mind:

Do not rely solely on GNSS for navigation: GNSS signals can be disrupted by various factors such as tall buildings, trees, and bad weather. It is important to use other navigation aids such as maps, compasses, and visual landmarks.

Keep GNSS receivers away from other electronic devices: Electronic devices such as mobile phones, radios, and computers can emit electromagnetic interference (EMI) that can disrupt GNSS signals. Keep GNSS receivers away from such devices to avoid EMI.

Do not tamper with GNSS receivers: Tampering with GNSS receivers or modifying their software can cause them to malfunction or produce inaccurate readings. Only use GNSS receivers that are certified and authorized for use.

Follow manufacturer instructions: Follow the manufacturer's instructions regarding the safe use and handling of GNSS receivers. This includes instructions for charging, cleaning, and storing the device.

Dispose of GNSS receivers properly: When disposing of GNSS receivers, follow local regulations for electronic waste disposal to avoid harming the environment.

It is important to use GNSS receivers safely to avoid accidents or injury. If you experience any issues or concerns with your GNSS receiver, contact the manufacturer or a qualified technician for assistance.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Interference Statement

Declaration of Conformity: Hereby, CHC Navigation declares that this i76 is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. A copy of the Declaration of conformity can be found at CHC Navigation Technology Ltd.

CE F©

Brazil

Este equipamento nÃao tem direito à protecao contra interferência prejudicial e nao pode causar interferência em sistemas devidamente autorizados. Para maiores informacöes, consulte o site da ANATEL-www.anatel.gov.br.

Conformity to Japanese regulations

Japanese Radio Law and Japanese Telecommunications Business Law Compliance.

This device is granted pursuant to the Japanese Radio Law and the Japanese Telecommunications Business Law.

This device should not be modified (otherwise the granted designation number will become invalid).

1. Introduction

The i76 GNSS Receiver User Guide describes how to set up and use the CHCNAV i76 GNSS receiver. In this manual, "the receiver" refers to the i76 GNSS receiver unless otherwise stated. Even if you have used other Global Navigation Satellite Systems (GNSS) products before, CHCNAV recommends that you spend some time reading this manual to learn about the special features of this product. If you are not familiar with GNSS, go to www.chcnav.com for an interactive look at CHCNAV and GNSS.

1.1 Safety Information

An absence of specific alerts does not mean that there are no safety risks involved.

A Warning or Caution information is intended to minimize the risk of personal injury and/or damage to the equipment.

WARNING - A Warning alerts you to a potential misused or wrong setting of the equipment.

CAUTION - A Caution alerts you to a possible risk of serious injury to your person and/or damage to the equipment.

1.2 Regulations and Safety

The receivers contain a built-in wireless modem for signal communication through Bluetooth wireless technology or through external communication data link. Regulations regarding the use of the wireless modem vary greatly from country to country. In some countries, the unit can be used without obtaining an end-user license. However, in some countries, the administrative permissions are required. For license information, consult your local dealer. Bluetooth® operates in licensefree bands.

Before operating a i76 GNSS receiver, determine if authorization or a license to operate the unit is required in your country. It is the responsibility of the end-user to obtain an operator's permit or license for the receiver for the location or country of use.

1.2.1 Use and Care

This receiver is designed to withstand the rough environment that typically occurs in the field. However, the receiver is high-precision electronic equipment and should be treated with reasonable care.

CAUTION - Operating or storing the receiver outside the specified temperature range will cause irreversible damage.

1.3 Technical Support

If you have a problem and cannot find the information you need in this manual or CHCNAV website (www.chcnav.com), contact your local CHCNAV dealer from which you purchased the receiver(s).

If you need to contact CHCNAV technical support, please contact us by email (support@chcnav.com) or Skype (chc_support).

1.4 Disclaimer

Before using the receiver, please make sure that you have read and understood this User Guide, as well as the safety information. CHCNAV holds no responsibility for the wrong operation by users and for the losses incurred by the wrong understanding about this User Guide. However, CHCNAV reserves the rights to update and optimize the contents in this guide regularly. Please contact your local CHCNAV dealer for new information.

1.5 Your Comments

Your feedback about this user guide will help us to improve it in future revision. Please email your comments to support@chcnav.com.

2. Getting Started with I76

2.1 About the Receiver

The new CHCNAV i76 GNSS receiver offers integrated IMU-RTK technology to provide a robust and accurate GNSS positioning in any circumstances. Unlike the standard MEMS based GNSS receivers, the i76 GNSS IMU-RTK combines state-of-theart GNSS RTK engine, calibration-free professional IMU sensor and advanced GNSS tracking capabilities. Survey projects are achieved with high productivity and reliability pushing the boundaries of conventional GNSS RTK survey.

2 Premium cameras enable Visual Stakeout. Bluetooth and Wi-Fi technology provides cable-free communication between the receiver and controller.

The receiver can be used as the part of an RTK GNSS system with CHCNAV LandStar software. Moreover, user can download the GNSS data that recorded in the internal memory of receiver to a computer.

To configure the receiver for performing a wide variety of functions, you can use the web interface by connecting the receiver with PC or smartphone through Wi-Fi.

2.2 Parts of the Receiver

Power Button is located on the front panel. SMA port and USB Type-C port are located on the bottom of the unit.

2.2.1 Front Panel

The following figure shows a front view of the receiver.



The front panel contains two indicator LEDs and one buttons.



Name	Description
Indicator light	 Indicates whether the receiver is transmitting/receiving differential data. As a Base station: successfully transmitting differential data, flash yellow light. As a Rover station: tracking satellites will flash red light, successfully receiving differential data from Base station will flash yellow light when it is single or float, flash green light when it is fixed. Shows the number of satellites that the receiver has tracked. When the receiver is searching for satellites, the red LED flashes once every 5 seconds. When the receiver tracks N satellites, the red LED blinks N times per second, pauses for 5 seconds, and then blinks N times again. Indicated charging status The power light shows yellow when charging The power light shows green when fully charged
Power Button (Yellow/Green)	 Press and hold 3s to turn on or off;

2.2.2 Lower Housing

The lower housing contains one SMA port, one USB Type-C communication.



2.2.3 Receiver Ports

Port	Name	Description
	USB Type-C port	 This port is a type-C USB connector that supports USB communications. Users can use USB Cable supplied with the system to download the logged data to a computer but can't upload the data. USB port can used to charge the i76 GNSS receiver.
	SMA port	•Connect a radio antenna to internal radio of the receiver. And this connector is not used if you are using an external radio.

2.3 Batteries and Power

2.3.1 Batteries

The receiver has a built-in non-removable Lithium-ion battery.

2.3.2 The Internal Battery

The rechargeable Lithium-ion battery is supplied partially charged.

WARNING – Charge and use the rechargeable Lithium-ion battery only in strict accordance with the instructions. Charging or using the battery in unauthorized equipment can cause an explosion or fire and can result in personal injury and/or equipment damage.

To prevent injury or damage:

• Do not charge or use the battery if it appears to be damaged or leaking.

•Charge the Lithium-ion battery only in a CHCNAV product that is specified to charge it. Be sure to follow all instructions that are provided with the battery charger.

• Discontinue charging a battery that gives off extreme heat or a burning odor.

•Use the battery only in CHCNAV equipment that is specified to use it.

•Use the battery only for its intended use and according to the instructions in the product documentation.

2.3.3 Battery Safe

WARNING – Do not damage the rechargeable Lithium-ion battery. A damaged battery can cause an explosion or fire and can result in personal injury and/or property damage.

To prevent injury or damage:

•Do not use or charge the battery if it appears to be damaged. Signs of damage include, but are not limited to discoloration, warping, and leaking battery fluid.

- Do not expose the battery to fire, high temperature, or direct sunlight.
- •Do not immerse the battery in water.
- Do not use or store the battery inside a vehicle under hot weather condition.
- •Do not drop or puncture the battery.
- •Do not open the battery or short-circuit its contacts.

WARNING – Avoid contact with the rechargeable Lithium-ion battery if it appears to be leaking. Battery fluid is corrosive and contact with it can result in personal injury and/or property damage.

To prevent injury or damage:

• If the battery leaks, avoid with the battery fluid.

•If battery fluid gets into your eyes, immediately rinses your eyes with clean water and seek medical attention. Please do not rub your eyes!

• If battery fluid gets onto your skin or clothing, immediately use clean water to wash off the battery fluid.

2.4 Product Basic Supply Accessories

2.4.1 Base Kit Basic Supply

Item	Picture
I76 GNSS Receiver	
SMA Whip Antenna(410-470MHz)	
Power Adapter	
USB Type-C	
H.I. Tape	
Extension pole(30cm)	
Tribrach with optical plummet	
Auxiliary H.I. Tool	
Transport Hard Case	



Tribrach Adaptor

2.4.2 Rover Kit Basic Supply

Item	Picture
I76 GNSS Receiver	
SMA Whip Antenna(410-470MHz)	
Power Adapter	
USB Type-C	
Range Pole (AR)	
Auxiliary H.I. Tool	
Transport Hard Case	

2.5 Connecting to an Office Computer

The receiver can be connected to an office computer via a USB Type-C port for serial data transfer. Make sure the receiver is turned on before connecting to your office computer.

The following figure shows how to connect to the computer for serial data transfer or settings:



2.6 Connecting to a Controller

2.6.1 Connecting via Bluetooth with LandStar Software

Turn on the controller \rightarrow run LandStar \rightarrow go to Config main menu \rightarrow tap Connect.

In the Connect screen, select CHC for the Manufacture field, i76 for Device Type field, Bluetooth for Connection Type field.

← Conned	ct instrument	ł
GNSS	TS	Peripheral
Brand	CHC	~
Туре	RTK	~
Model	i76	~
Contact type	Bluetooth	~
Antenna type	CHCI76 NON	E
Target		O Search
(R) GNSS-37197	40	0
(R) GNSS-36891	91	0
(*) GNSS-351384	41	0
-		~
	Connect	

Tap the Bluetooth Manager and turn on the Bluetooth function to search Bluetooth device around \rightarrow select the target device in the list \rightarrow Tap back button \rightarrow select the target device in the Bluetooth manager list.



← Conned	ct instrument	
GNSS	TS	Peripheral
Brand	CHC	~
Туре	RTK	~
Model	i76	V
Contact type	Bluetooth	~
Antenna type	CHCI76 NONE	
Target		O Search
🛞 GNSS-3719740 🥝		
(8) GNSS-3689191		
(*) GNSS-3513841		0
-		~

Tap the Connect button to build the connection.



2.7 Downloading Logged Data

Data logging involves the collection of GNSS measurement data over a period at a static point or points, and subsequent post-processing of the information to accurately compute baseline information. Data logging using receivers requires access to suitable GNSS post-processing software such as the CHC Geomatics Office (CGO) Software.

2.7.1 USB Download

The procedures of downloading logged data in the receiver are as follows:

(1)Switch on the receiver and connect it with a computer by HCE600 Type-C. After the successful connection, a removable disk named as the Serial Number (SN)



of the receiver will appear on the computer.



(2)Double click the removable disk and you will see the folder named as "repo".



(3)Double click this folder, you will see 2 folders. The "push_log" folder is used to save the log files, and the "record_1" folders are used for store static data.



(4)Double click the folder that you have configured to store the static data, you will see the folder(s) created by the i76 system automatically and named by the date which is decide by GPS time when you start to log data.



(5)Select the destination folder and double click it, and then two folders named as different data format (hcn and rinex) will be displayed.



(6)Select the data format that you have configured to save the static data, you will find the static raw data.



Tip - For HCN files, the name of the file is represented as XXXXXXD DD NN, where XXXXXXX is the SN of the receiver, D DD is day of year, and NN is the recording session.

MARNING – The static data will be saved in the "record_1" folder, by default. Old files will be deleted if the storage space is full. If you configure not to auto delete old files when the memory is low, the receiver will stop data logging.

3. Equipment Setup and Operation

3.1 Base Station Setup

Note:

The receiver with PN number A11356980007070507 is equipped with a TX/RX radio.

The receiver with PN number A11356980005070507 is only equipped with a RX radio.

For good rover operation, the following base station setup guidelines are recommended:

Components:



No.	Name
а	I76 GNSS receiver
b	SMA Whip Antenna
С	Extension pole (30 cm)
d	Tribrach adaptor
е	Tribrach w/ Opti
f	Aluminum tripod

Steps:

- (1) Put tripod in the target position, center and level it roughly.
- (2) Place and lock the tribrach in the tripod.

If work as a UHF base station, the SMA Whip Antenna need to be connected to the receiver.

- (3) Connect the receiver to external battery by using external power cable if necessary.
- (4) Connect the receiver to external storage disk by using USB cable if necessary.
- (5) Turn on the receiver by pressing the power button for 3 s.
- (6) Measure the antenna height by using H.I. tape and auxiliary H.I. tool.
- (7) Switch on the data controller and connect it to the receiver.
- (8) Use software to configure the receiver as UHF base mode.

3.2 Rover Station Setup

For good performance, the following rover station setup guidelines are recommended:

Components:



No.	Name
а	i76 GNSS receiver
b	2M range pole w/bag

Note –Keep the receiver fully charged.

If work as a UHF rover station, the SMA Whip Antenna need to be connected to the receiver.

- (1) Turn on the receiver by pressing the power button for 3 s.
- (2) Switch on the data controller and connect it to the receiver.
- (3) Use software to configure the receiver as cellular rover or UHF rover mode.

(4) Use software to start survey.

3.3 Working with the Tilt Compensation

The Auto-IMU need to be calibrated at the first time when users get a new i76 GNSS receiver. After initializing the sensor successfully, the i76 GNSS receiver will record the calibration parameters, and the user do not need to calibrate it manually any more.

After enable the tilt survey, the i76 IMU can be ready after a few steps walk or a bit movement automatically.

3.3.1 Operation Steps for first IMU initialization

(1) Open LandStar-> Tap Survey-> Tap to activate tilt measurement.



(2) Hold the pole vertical for a while and shake according to the procedures in the interface to do initialization.



(3) This icon \checkmark will appear when the initialization is successful.



- (4) Enter the Name and Antenna, then tap , point will be collected and store to Points automatically.
- (5) When this icon appears, the text will show "Tilt is not available, please measure in alignment" at the bottom of interface.



(6) Tap *e* to close tilt compensation.

3.3.2 Notes of using tilt measurement

(1) At the beginning of initialization, the pole height of the instrument should be the same as that antenna height in the software.

(2) In the process of tilt measurement, if the controller shows that "Tilt is not available, please measure in alignment" (red), please shake RTK slightly from left to right or back to front until the reminder disappears.

(3) The controller will prompt "Tilt is not available, please measure in alignment" when the receiver is stationary over 30 seconds or the pole hit the ground toughly.

(4) The pole cannot be shaken when point is collected.

(5) Initialization is required:

- when the RTK is turned on every time;
- when IMU module is turned on every time;
- when receiver drops at working;
- when the pole is tilted more than 65 degree;
- when the receiver is stationary more than 10 minutes;
- when the RTK rotates too fast on the matching pole (2 rounds per second);
- when the pole hit the ground toughly.



4. Configuring Through a Web Browser

Supported browsers:

(1)Google Chrome

(2) Microsoft Internet Explorer version 10, or higher

To connect to the receiver through a web browser:

(1) Turn on the Wi-Fi of the receiver.

(2) Search the wireless network named as GNSS-XXXXXXX (the SN of your receiver) on your computer, and then establish the connection.

(3) After the successful connection between your computer and the receiver, enter the IP address (192.168.1.1) of the receiver into the address bar of the web browser on your computer:



1. The web browser prompts you to enter a login account and password:



The default login account for the receiver is:

- Login Account: admin
- Password: password

Note – Tick **remember me** option, and then the browser will remember the Login Acco unt and

Password you entered.

2. Once you log in, the web page appears as follows:



🗊 Status	Position *		
Position	Position		DOP
 Activity 			
		31*9'57.35761355"(North)	PDOP: 1.178948
 Google Map 		121*17'16.98888663*(East)	HDOP: 0.616086
	Height:		VDOP: 1.005165
	Type:	Single	TDOP: 0.748491
	Satellite Used: 30Total		Satellites Tracked: 45Total
	GPS(8):	1,7,8,9,16,21,27,30	GPS(8): 1.7.8.9.16.21.27.30
	GLONASS(5):		GLONASS(5); 9,15,18,19,20
		1.3.7.10.26.35.40.44.59	BDS(23): 1.2.3.4.5.6.7.8.9.10.12.16.24.26.29.35.38.39.40.44.45.59.60
	GALILEO(6):	1.12.24.26.31.33	GALILEO(7): 1.9.12,24.26.31.33
	SBAS(0):		SBAS(0):
	QZ55(2):	194,195	QZSS(2): 194,195
Satellites			
Receiver Configuration	Receiver Clock		
Data Recording	GPS Week:	2194	
I/O Settings	GPS Seconds:	379197	
Network Setting			
8 Module Setting			
Firmware			

This web page shows the configuration menus on the left of the browser window, and the setting on the right. Each configuration menu contains the related submenus to configure the receiver and monitor receiver performance.

This chapter describes each configuration menu.

To view the web page in another language, select the corresponding language name from the drop down list on the upper right corner of the web page.

Currently, seven languages are available:

English	~	⊘ Confirm
中文		
English		
Русский		
Español		
Português		
Français		
日本語		

4.1 Status Menu

This menu provides a quick link to review the receiver's position information, satellites tracked, runtime, current data log status, current outputs, available memory, and more.

4.1.1 Position Submenu

This page shows the relevant position information about the receiver's position solution which including the position, DOP values, satellites used and tracked, and the receiver clock information.

	31°9'57.36875055"(North) 121°17'16.97717278"(East)		PDOP: 1.172767 HDOP: 0.616858
Height:			VDOP: 0.997431
	Single		TDOP: 0.744274
Satellite Used: 30Total		Satellites Tracke	ed: 45Total
GPS(7):	1,7,8,9,21,27,30	GPS(8):	1.7,8,9,16,21,27,30
GLONASS(5):	9,15,18,19,20	GLONASS(5):	9,15,18,19,20
BDS(10):	1,3,7,9,10,26,35,40,44,59	BDS(23):	1,2,3,4,5,6,7,8,9,10,12,16,24,26,29,35,38,39,40,44,45,59,
GALILEO(6):	1,12,24,26,31,33	GALILEO(7):	1,9,12,24,26,31,33
SBAS(0):		SBAS(0):	
QZSS(2):	194,195	QZSS(2):	194,195
Receiver Clock			
GPS Week:	2194		
GPS Seconds:	379271		



4.1.2 Activity Submenu

Lists several important items to help you understand how the receiver is being used and its current operating condition. Items include the identities of currently tracked satellites, internal and external storage usage rate, how long the receiver has been operational, state of the internal battery, power source state, files being logged, and data streams being output. With this information, it is easy to tell exactly what functions the receiver is performing.

		×			
ition	-	atellites Track: 46Total			Activity Status
ivity			07.00		
gle Map		GPS(8): 1,7,8,9,16,2 GLONASS(5): 9,15,18,19,2			Current Time: 2022-01-27 09:21:39 (UTC) Operation Duration: 00-00-00 01:20:50
		and a second	,8,9,10,12,16,24,26,29,35,	,38,39,40,44,45,59,60	Internal Storage: 4,85% 368MB/7595MB
		GALILEO(7): 1,9,12,24,26	,31,33		External Storage: 0% Disconnected
		SBAS(0): QZSS(3): 193,194,195			External Power: Disconnected
		QZSS(3): 193,194,195			Battery: 46%
		Туре	Description		Output
	1	RTK Client	211.144.118.5.2102		· · · · · · · · · · · · · · · · · · ·
	2		103 100 3 10 0000		
	2	TCP/UDP_Client1/NTRIP Server1	192.168.3.18.9900		
	3	TCP/UDP_Client1/NTRIP Server1 TCP/UDP_Client2/NTRIP Server2	192.168.3.18.9900		
	3	TCP/UDP_Client2/NTRIP Server2	192.168.3.18.9901		
	3	TCP/UDP_Client2/NTRIP Server2 TCP/UDP_Client3/NTRIP Server3	192.168.3.18.9901 192.168.3.18.9902		-
	3 4 5	TCP/UDP_Client2/NTRIP Server2 TCP/UDP_Client3/NTRIP Server3 TCP/UDP_Client4/NTRIP Server4	192.168.3.18.9901 192.168.3.18.9902 192.168.3.18.9903		
	3 4 5 6	TCP/UDP_Client2/NTRIP Server2 TCP/UDP_Client3/NTRIP Server3 TCP/UDP_Client4/NTRIP Server4 TCP/UDP_Client5/NTRIP Server5	192.168.3.18.9901 192.168.3.18.9902 192.168.3.18.9903 192.168.3.18.9904		
	3 4 5 6 7	TCPIUDP_Client2NTRIP Server2 TCPIUDP_Client3NTRIP Server3 TCPIUDP_Client4NTRIP Server4 TCPIUDP_Client5NTRIP Server5 TCPIUDP_Client6NTRIP Server5	192.168.3.18.9901 192.168.3.18.9902 192.168.3.18.9903 192.168.3.18.9904 192.168.3.18.9905		
	3 4 5 6 7 8	TCP/UDP_Client2NTRIP Server2 TCP/UDP_Client3NTRIP Server3 TCP/UDP_Client3NTRIP Server4 TCP/UDP_Client5NTRIP Server5 TCP/UDP_Client5NTRIP Server5 TCP/UDP_Client5NTRIP Server5	192.168.3.18.9901 192.168.3.18.9902 192.168.3.18.9903 192.168.3.18.9904 192.168.3.18.9905 9901		
	3 4 5 6 7 8 9	TCP/UOP_Clent2NTRIP Serve2 TCP/UOP_Clent3NTRIP Serve3 TCP/UOP_Clent3NTRIP Serve3 TCP/UOP_Clent3NTRIP Serve3 TCP/UOP_Clent3NTRIP Serve3 TCP/UOP_Clent3NTRIP Serve3 TCP Serve3NTRIP Caster1 TCP Serve3NTRIP Caster2	192,168,3,18,9901 192,168,3,18,9902 192,168,3,18,9903 192,168,3,18,9904 192,168,3,18,9904 192,168,3,18,9905 9901 9902		
	3 4 5 6 7 8 9 10	TCP/UOP_Clent2NTRIP Server3 TCP/UOP_Clent3NTRIP Server3 TCP/UOP_Clent4NTRIP Server4 TCP/UOP_Clent5NTRIP Server5 TCP/UOP_Clent5NTRIP Server5 TCP/UOP_Clent5NTRIP Server3 TCP Server/NTRIP Cater3 TCP Server/NTRIP Cater3	192168.3189901 192168.3189902 192168.3189903 192168.3189904 192168.3189904 9901 9902 9903		
	3 4 5 6 7 8 9 10 11	TCPUOP_Clent2NTRIP Server3 TCPUOP_Clent3NTRIP Server3 TCPUOP_Clent4NTRIP Server3 TCPUOP_Clent5NTRIP Server3 TCPUOP_Clent5NTRIP Server3 TCP ServerNTRIP Caster1 TCP ServerNTRIP Caster2 TCP ServerNTRIP Caster3 TCP ServerNTRIP Caster3	192168.3189901 192168.3189902 192168.3189903 192168.3189904 192168.3189904 9901 9902 9903 9903		

4.1.3 Google Map Submenu

Tap this submenu to show the location of the receiver on Google map.



4.2 Satellites Menu

Use the Satellites menu to view satellite tracking details and enable/disable GPS, GLONASS, BDS and Galileo constellations. These menus include tabular and graphical displays to provide all required information on satellite tracking status.





4.2.1 Tracking Table Submenu

Provides the status of satellites tracked in general, such as the satellite ID, satellite type, attitude angle, azimuth angle, L1 SNR, L2 SNR, L5 SNR and enable/disable status of each one.

ali 🔵 GPS	S GLONA	ASS 🔿 BDS	O GALILEO	0					
SV	Туре	Elevation Angl	e Azimuth Angle	L1 SNR	L2 SNR	L5 SNR	B1C SNR	B2A SNR	Enable
3	GPS	21	282	40.000	40.850	30.880	0.000	0.000	Yes
4	GPS	15	318	40.030	36.800	27.800	0.000	0.000	Yes
16	GPS	45	242	44.820	39.450	0.000	0.000	0.000	Yes
26	GPS	74	318	48.720	43.430	36.160	0.000	0.000	Yes
27	GPS	12	188	34.690	35.890	26.250	0.000	0.000	Yes
29	GPS	23	50	41.370	36.580	0.000	0.000	0.000	Yes
31	GPS	55	44	45.450	41.970	0.000	0.000	0.000	Yes
32	GPS	35	149	42.840	38.490	30.140	0.000	0.000	Yes
1	GLONASS	52	211	41.760	46.170	0.000	0.000	0.000	Yes
2	GLONASS	40	313	47.100	46.320	0.000	0.000	0.000	Yes
8	GLONASS	14	174	36.530	43.730	0.000	0.000	0.000	Yes
12	GLONASS	41	300	45.760	49.200	0.000	0.000	0.000	Yes
21	GLONASS	22	94	37.800	44.160	0.000	0.000	0.000	Yes
1	BDS	45	140	39.830	42.710	44.970	0.000	0.000	No
2	BDS	35	235	35.420	43.410	42.250	0.000	0.000	No
3	BDS	50	199	40.270	44.410	43.470	0.000	0.000	Yes

4.2.2 Tracking Info. Table Submenu

The following figure is an example of satellite track diagram page. Users can determine the satellite types and the corresponding SNR of L-band carriers to be displayed in any combination.





4.2.3 Tracking Skyplot Submenu

The following figure is an example of Skyplot page.



4.2.4 Satellite Activation Submenu

Use this menu to enable or disable satellites.



tellite Activation ×								
PS GLONASS BDS GALILEO QZSS SBAS								
Enable All Disable All								
Satellite Id Enable Satellite Id Enable								
Satemite id	Enable	Satemite id	Enable					
1	1	2						
3		4						
5		6						
7		8						
9		10						
11		12						
13		14						
15		16						
17		18						
19		20						
21		22						
23		24						
25		26						
27		28						

4.3 Receiver Configuration Menu

Use this menu to configure settings such as the antenna type and height, elevation mask and PDOP setting, the reference station coordinates, receiver resetting and web interface language:



4.3.1 Description

CHCNA	▼华测		SN:9999690	English 🗸 🚺 Quit
B Status	Description =			
 Solation Receive Configuration Receive Configuration Adverse Sandyaction Adverse Sandyaction Adverse Sandyaction Receive Sandyaction	Receiver Mob Anterna Types CHC (78 Anterna 59: 909600 Manuar 99: Anterna Pasa Conter Galance (79) Anterna Pasa Galance Maak: 1 FGOP Maak: 1	Reference Station Mos Reference Station Mos Reference Language Reference Language Reference Language Reference Height Station Stati		
Data Recording				
J I/O Settings				
Network Setting				
8 Module Setting				
Firmware				



This submenu shows the receiver information and reference station information, including antenna related information, elevation mask angle, reference station work mode and position, etc.

4.3.2 Antenna Configuration Submenu

Use this screen to configure all the items related to the GNSS antenna. You must enter the correct values for all antenna-related fields, because the choices you make affect the accuracy for logged data and broadcast correction data significantly:

4.3.3 Reference Station Settings Submenu

Auto Rover		~
Save		
Single Soluti	on Coordinates	Fixed Solution Coordinates
300	9.3%	
• Start	(II) Stop	
	Save Single Solution	Single Solution Coordinates 300 9.3%

Use this screen to configure settings such as the station coordinates and the broadcast station identifiers. You must enter accurate information in these fields, as this data affects the accuracy of logged data files and broadcast correction data significantly:

For Reference Station Mode, there are three modes available:

(1) **Auto Rover:** The receiver will serve as a rover after this mode is enabled, and then receive correction data through the working mode set last time.

(2) **Auto Base:** The receiver will serve as a base after this mode is enabled, and then broadcast correction data based on coordinate inputted by user or obtained



through autonomous positioning automatically.

CHCNA	/ 华测	SN:9999690	English 🗸 📔 Quit
🤠 Status	Reference Station Settings ×		
Suites Suites Suites Suites Suites Receiver Configuration Description Antenna Configuration Receiver Reset Language User Management HCPPP Settings	Reference Station Mode: Auto Base Base Station Name: 9999990 Base Station Name: 9999990 Base Station Nume: 9999990 Base Station Nume: 9999990 Base Station Nume: 9999990 Base Station Nume: 91 State Station Nume: 91 State Station Nume: 91 Base Station Nume: 91 <tr< th=""><th></th><th></th></tr<>		
Data Recording I/O Settings Network Setting Si Module Setting	Sampling Amount: 300 0% O Start O Stop Coordinates transfer threshold value(Meter): 0 O Save Save Base list		0
Firmware	1 15.8100 31 19 58.23544000 C S N 121 117	15.28542026 ° • E O V	v

(3) **Manual Base:** The receiver will serve neither as a base nor a rover after this mode is enabled. Users need to configure the receiver manually.

For Reference Latitude and Reference Longitude:

Reference Station Mode:	Manual Base 🗸 🗸			~			
Base Station Name:	99996	90					
Base Station ID:	99996	90					
Reference Latitude:	31	•	9	7	34.56636444	•	⊙N OS
Reference Longitude:	121	0	10	ł	42.49352449	ŀ	●E ○W
Reference Height:	50.43	36					
	⊚ Us	e C	urrent	Pos	iition 🛄 S	ave	
Sample for Average	1000	1000	-				
Sample for Average Positioning Constraint: Sampling Amount:	Sir 300	ngle	Soluti	on C	oordinates C	Fix	ed Solution Coordinates

There are mainly three methods to enter the reference coordinates and shown as follows:

(1) Acquire Current Position: Click this button to acquire current position obtained through autonomous positioning automatically.

(2) Manual Input: Manually input the coordinate of a control point.

(3) **From CORS**: After the receiver logging in CORS, the software can record the coordinate of current position based on fix solution.

For Sample for Average:

Users can determine the positioning limit and sampling amount. The positioning limit falls into two types:

(1) **Single Solution Coordinates**: Collect the coordinates of receiver obtained through autonomous positioning.

(2) **Fixed Solution Coordinates**: Only collect coordinates of receiver with a fixed solution.



After the configuration of positioning limit and sampling amount, click \bigcirc start to carry out sampling and averaging \rightarrow the progress bar will show the progress \rightarrow the result will be served as the coordinate of current position.

If users need to save the changes, please tap ^{Save} button.

4.3.4 Receiver Reset Submenu

Use this screen to completely or partially reset the receiver:

Receiver Reset ×	
Reboot Receiver:	⊗ Confirm
Return to Factory Defaults:	⊘ Confirm
Clear Satellite Data:	🛇 Confirm
Turn Off Receiver:	⊘ Confirm

4.3.5 Languages Submenu

 Language ×

 English

 ぐ Confirm

 中文

 English

 Русский

 Español

 Português

 Français

 日本語

Use this screen to select the web interface language:

4.3.6 User Management Submenu

Jser Ma	inagemen	t			
2 Add	Save	🗑 Delete	📓 Modify Anti-t	heft password	
ID	0	Us	er Name	Password	
1		admin		•••••	
2		admin1		•••••	
3		admin2		•••••	

4.4 Data Recording Menu

Use the Data Logging menu to set up the receiver to log static GNSS data and to view



the logging settings. You can configure settings such as observable rate, recording rate, continuous logging limit, and whether to auto delete old files when memory is low. This menu also provides the controls for the FTP push feature:



4.4.1 Log Settings Submenu

Here shows the data logging status, including internal and external storage usage and data logging status of each session. Also, users can configure the data logging settings for each session, including recording name, store location, storage limit, store formats, start time, etc.

Store Info						
	Position		Total Storage		Storage Av	railable
1	Internal Storage		6425MB		64251	IB
2	External Storage		OMB		OME	1 ·
Attention: Total Record Info	assigned storage size sh	ould be less than 8GB	. It will stop recordin	g when the storage is full.		Cle
		ould be less than 8GB	. It will stop recordin Log Status	g when the storage is full. Setting Parameter	Switch	Clear Data

To edit the settings of each session, click the **Modify** button to the right of the required session, and then the Recording Edit screen appears:

Auto Record:	Ves No		Antenna Height:	0.0000	
Sample Interval:	1Hz 👻		Measure Way:	Antenna Phase Ce	~
Elevation Mask:	10	(°)	Storage Format	HCN	~
Duration Time:	1440		RINEX Version:	OFF	~
Site Name:	(Minute)			Advanced	
	6	3 Save	🛞 Back		

Click advanced to see more settings.

mulo necola. (🔾 Yes 💿 No		Antenna Height:	0.0000	
Sample Interval: 1	Hz 💙		Measure Way:	Antenna Phase Ce	4
Elevation Mask: 1	0	(°)	Storage Format:	HCN	i
Duration Time:	440		RINEX Version:	OFF	~
Durabort mile. (N	Vinute)		4	dvanced	
Clast Date: (Yes No		Store Location:	Internet Sterror	
					1
Apply Time: (Assigned Storage:	6000	(MB)
gral Point Store: (🔾 Yes 💿 No		Observer:	CHC	
ulating Memory:			Observe Agency:	CHC	
e Observations: (e after storage space Yes No observation.Turn off to		FTP Push:	Close 1:ftp server 2:ftp server 3:ftp server	2



In this screen, you can configure all the data logging parameters, and determine whether the recording files will be affected by the FTP Push. The parameters are mainly as follows:

- > Auto Record: on or off.
- > Sample Interval: Select the observable rate from the drop down list.
- > Elevation Mask: Enter the elevation mask.
- > Duration Time: Set the duration of data logging.
- > Site Name: Enter the name of the site.
- > Antenna Height: the measured height value.
- > Measure way: Antenna Phase Center, Vertical Height, Slant Height
- > **Storage Format**: Select the format of the data store.
- > **RINEX Version**: OFF, 3.02, 2.11
- Start Date: Select Yes or No option to determine whether to auto record start date.
- Apply Time: Select Yes or No option to determine whether to auto record apply time.
- Integral Point Store: Select Yes or No option to determine whether to allow receiver to save data every hour.
- Circulating Memory: Select Yes or No option to determine whether to auto delete old files if the storage space is full.
- Repeat Observations: Select Yes or No option to determine whether to turn on to record a single observation.
- > **Store Location:** Internal Storage, External Storage.
- Assigned Storage: The assigned memory size of current thread(for example, Record 1) is 10000MB
- > **Observer:** Enter the name of observer.
- > **Observer Agency:** Enter the name of observer agency.
- FTP Push: Decide whether to push the stored files to the FTP server of your choice.

Tap Save button to save the settings and back to the Log Settings screen. Also, users can click Back to abandon the changed settings and back to Log Settings screen.

Note – To modify data logging parameters, make sure the data logging session is switched off.

To switch **on** or **off ANY** data logging session, tap the **ON** or **OFF** button on the right of the required session.

To delete the recorded files of **ANY** data logging session, tap the Clear button on the right of the required session.



To delete the recorded files of **ALL** data logging sessions, tap the **Clear ALL Accounts button**.

4.4.2 FTP Push Settings Submenu

Use this screen to configure the receiver to push stored files to the FTP server of your choice. Only files that are configured to use FTP push are transmitted.

ecord Info				
Server ID	Server IP	Remote Directory	Server Description	Modify
1	192.168.3.72	/repo/first	ftp server 1	Modify
2	192,168,3,72	/repo/second	ftp server 2	Modify

Tap **Modify** button on the right of the required FTP server and the *FTP Push Settings* screen appears:

Server IP:	192.168.3.72
Port:	21
Remote Directory:	/repo/first
Local directory:	/mnt/repo_3225804 ~
Server Description:	ftp server 1
User Name:	ftpuser1
Password:	•••••

4.4.3 FTP Push Log Submenu

Shows the related information about the recorded filed that be pushed. And users can tap **Clear Ftp Send Log** button in the upper right corner to clear the log of FTP Push operations.

Record Info				
				Clear FTP Push
Server ID	Push File	File Size	Push Time	Push Successful Or Not

4.4.4 Data Download Submenu

In this submenu, users can download the data files that recorded in the internal storage through the internal FTP site. Please note that Chrome, EDGE and Firefox version higher than year 2020 version remove the FTP support through the browser.

(1)Click this submenu, and then the log on dialogue box will prompt you to enter a user name and password:



Sign in				
tp://192.168.1.1				
Your connection to this	site is not priv	/ate		
Username				
Password				
			Sign in	Cancel

The default logon account for the internal FTP site is:

- User name: ftp
- Password: ftp

(2)Click the directory named as "repo" to view and download the files currently stored on the receiver:

ndex of /		
Name	Size	Date Modified
System Volume Information/		8/9/19, 10:28:00 PM
repo 3225804/		7/16/19, 1:17:00 PM

(3)To find the file need to be downloaded, click the name of data logging session \rightarrow the date of file that be recorded \rightarrow the format of the file \rightarrow the name of the target file.

[parent directory]	repo_3225804/
Name Size	Date Modified
push_log/	7/16/19, 1:17:00 PM
record_1/	8/15/19, 10:22:00 AM

(4)To download a file, left click the name of the target file \rightarrow download the file according to the prompts.

4.5 IO Settings Menu



Use the IO Settings menu to set up all receiver outputs and inputs. The receiver can output CMR, RTCM, Raw data, Ephemeris data, GPGGA, GPGSV, on TCP/IP, UDP, serial port, or Bluetooth ports.



4.5.1 IO Settings Submenu

The following figure shows an example of the screen that appears when you select this submenu.

	Туре	Description	Output	Connection Status	Modify
1	RTK Client	211.144.118.5:2102		Unconnected	Connect Disconnecting D
2	TCP/UDP_Client1/NTRIP Serve	192.168.3.18:9900		Unconnected	Connect Disconnecting D
3	TCP/UDP_Client2/NTRIP Serve	192.168.3.18:9901		Unconnected	Connect Disconnecting D
4	TCP/UDP_Client3/NTRIP Serve	192.168.3.18:9902		Unconnected	Connect Disconnecting D
5	TCP/UDP_Client4/NTRIP Serve	192.168.3.18:9903		Unconnected	Connect Disconnecting D
6	TCP/UDP_Client5/NTRIP Serve	192.168.3.18:9904		Unconnected	Connect Disconnecting
7	TCP/UDP_Client6/NTRIP Serve	192.168.3.18:9905		Unconnected	Connect Disconnecting D
8	TCP Server/NTRIP Caster1	9901		Closed	Connect Disconnecting D
9	TCP Server/NTRIP Caster2	9902		Closed	Connect Disconnecting D
10	TCP Server/NTRIP Caster3	9903		Closed	Connect Disconnecting D
11	TCP Server/NTRIP Caster4	9904		Closed	Connect Disconnecting D
12	Serial Port	115200			Settings
13	Bluetooth	GNSS-3411955	GPGGA:5s,		Settings
14	Radio	462.5500MHz			Settings

In this submenu, users can configure 6 types of input and output settings.

(1) RTK Client

After configuring the settings of RTK client, users can log on CORS or APIS. Tap the Connect button to the right \rightarrow the IO Settings screen will appear \rightarrow choose one of the connection protocols among the NTRIP, APIS_BASE and APIS_ROVER \rightarrow configure the related parameters \rightarrow click \bigcirc confirm to log on CORS or APIS.

Connection Protocol: NTRIP

connection Protocol:	NTRIP
Server IP:	211.144.118.5
Port:	2102
Mount Point:	asd 🗸 🎸 Get
User Name:	zc
Password:	zc

Connection Protocol: APIS_BASE

connection Protocol:	APIS_BASE 🗸
Server IP:	111.111.111.1
Port:	9901
Differential Data:	OFF 🗸

Connection Protocol: APIS_ROVER



Connection Protocol:	APIS_ROVER 🗸
Server IP:	210.14.66.58
Port:	9902
Base ID:	1019923 💉

Connection Protocol: TCP

Connection Protocol:	TCP
Server IP:	201.255.122.215
Port:	9902
(C) Co	nfirm 🛞 Back

(2)TCP/UDP_Client/NTRIP Server

Tap the Connect button on the right of required TCP/UDP Client \rightarrow the IO Settings screen will appear \rightarrow select the connection protocol from TCP, UDP, NTRIP1.0 and NTRIP2.0 \rightarrow enter the IP and Port of the target server \rightarrow configure messages that you want to output to the target server \rightarrow click \bigcirc confirm to save and complete the connection.

Connection Protocol: TCP

Auto connect:				Connection Protocol:	TCP	~
Server IP:	192.168.3.18					
Port:	9901					
Differential Data:	OFF		~			
Raw Data:	OFF 💊			HCPPP Data:	OFF	~
GPGGA:	OFF		~	GPGSV:	OFF	~
GPRMC:	OFF		\sim	GPZDA:	OFF	~
GPGST:	OFF		~	GPVTG:	OFF	~
GPGSA:	OFF		\sim	GPPOS:	OFF	~
Retransmit:	RTK	OFF	~			

Connection Protocol: UDP

Auto connect:					Connection Protocol:	TCP	~
Server IP:	192.168.3	.18					
Port:	9901						
Differential Data:	OFF			~			
Raw Data:	OFF	\sim			HCPPP Data:	OFF	~
GPGGA:	OFF			~	GPGSV:	OFF	~
GPRMC:	OFF			\sim	GPZDA:	OFF	~
GPGST:	OFF			~	GPVTG:	OFF	~
GPGSA:	OFF			\sim	GPPOS:	OFF	~
Retransmit:	RTK	~	OFF	~			

Connection Protocol: NTRIP1.0



Auto connect:					Connection Protocol:	TCP	~
Server IP:	192.168.	3.18					
Port:	9901						
ifferential Data:	OFF			~			
Raw Data:	OFF	~			HCPPP Data:	OFF	~
GPGGA:	OFF			~	GPGSV:	OFF	~
GPRMC:	OFF			~	GPZDA:	OFF	~
GPGST:	OFF			~	GPVTG:	OFF	~
GPGSA:	OFF			~	GPPOS:	OFF	~
Retransmit:	RTK	~	OFF	~			

Connection Protocol: NTRIP2.0

Auto connect:		Connection Prot	tocol: TCP	~
Server IP:	192.168.3.18			
Port:	9901			
Differential Data:	OFF	~		
Raw Data:	OFF 🗸	HCPPP D	Data: OFF	~
GPGGA:	OFF	✓ GPG	SSV: OFF	~
GPRMC:	OFF	✓ GPZ	ZDA: OFF	~
GPGST:	OFF	✓ GPV	/TG: OFF	~
GPGSA:	OFF	✓ GPP	OS: OFF	~
Retransmit:	RTK V OFF	~		

(3)TCP Server/NTRIP Caster

Tap the **Connect** button to the right of required TCP Server/NTRIP Caster \rightarrow the IO Settings screen will appear \rightarrow select one of the connection protocols between NTRIP and TCP \rightarrow configure the other related parameters \rightarrow click \bigcirc **Confirm** to save the settings and open the server.

Connection Protocol: TCP

Auto connect:				Connection Protocol:	TCP	~
Server IP:	192.168.3.18					
Port:	9901					
Differential Data:	OFF		\sim			
Raw Data:	OFF 🗸			HCPPP Data:	OFF	~
GPGGA:	OFF		~	GPGSV:	OFF	~
GPRMC:	OFF		~	GPZDA:	OFF	~
GPGST:	OFF		\sim	GPVTG:	OFF	~
GPGSA:	OFF		~	GPPOS:	OFF	~
Retransmit:	RTK 🗸	OFF	~			

Connection Protocol: NTRIP

Auto connect:			Connection Protocol:	TCP	~
Server IP:	192.168.3.18				
Port:	9901				
Differential Data:	OFF	~			
Raw Data:	OFF 🗸 🗸		HCPPP Data:	OFF	~
GPGGA:	OFF	~	GPGSV:	OFF	~
GPRMC:	OFF	~	GPZDA:	OFF	~
GPGST:	OFF	~	GPVTG:	OFF	~
GPGSA:	OFF	~	GPPOS:	OFF	~
Retransmit:	RTK V OFF	~			

(4)Serial Port

Tap the **Settings** button on the right of Serial Port \rightarrow the *Serial Port Setup* screen will



appear \rightarrow select Baud Rate used to transmit data \rightarrow configure the messages that you want to output through the serial port \rightarrow click \bigcirc confirm to save the settings and start to transmit.

Auto connect:			Connection Protocol:	TCP	~
Server IP:	192.168.3.18				
Port:	9901				
Differential Data:	OFF	~			
Raw Data:	OFF 🗸		HCPPP Data:	OFF	~
GPGGA:	OFF	~	GPGSV:	OFF	~
GPRMC:	OFF	~	GPZDA:	OFF	~
GPGST:	OFF	~	GPVTG:	OFF	~
GPGSA:	OFF	~	GPPOS:	OFF	~
Retransmit:	RTK V OFF	~			

(5)Bluetooth

Tap the Settings button to the right of Bluetooth \rightarrow the Bluetooth Set screen will appear \rightarrow configure the messages that you want to transmit through Bluetooth \rightarrow click \bigcirc confirm to save the settings and start to transmit.

~	TCP	Connection Protocol:		Auto connect:
			192.168.3.18	Server IP:
			9901	Port:
			OFF 🗸	Differential Data:
~	OFF	HCPPP Data:	OFF 🗸	Raw Data:
~	OFF	GPGSV:	OFF 🗸	GPGGA:
~	OFF	GPZDA:	OFF 🗸 🗸	GPRMC:
~	OFF	GPVTG:	OFF 🗸 🗸	GPGST:
~	OFF	GPPOS:	OFF 🗸 🗸	GPGSA:
			RTK V OFF V	Retransmit:

(6)Radio

Tap the Settings button to the right of Radio \rightarrow the Radio Settings screen will appear \rightarrow select the format of differential data that you want to transmit through radio from the dropdown list \rightarrow click \square Confirm to save the settings and start to transmit.

Retransmit: RTK 🗸 OFF 🗸

4.6 Network Setting Menu

Use this menu to set email alert for specific situation, configure HTTP or HTTPS port, and the username and password of internal FTP site:





4.6.1 Email Alarm Submenu

Use this submenu to choose which situation of receiver will be alerted and input the email address.

то	
Email Address 1:	test@huacenav.com
Email Address 2:	test1@huacenav.com
Email Address 3:	test2@huacenav.com
	🖾 Save
L	
From	
Account:	
Account.	
Password:	
Server Address:	
	172.0
	Save
Email Alert	
	Receiver is powered on
	External power is off
	Battery level is low
	Ftp push is failed
	Reciever(license) will be expired in 7 days.

4.6.2 HTTP Submenu

Use this submenu to configure HTTP port.

HTTP ×			
	HTTP Po	rt: 80	🛄 Save

4.6.3 HTTPS Submenu

Use this submenu to configure HTTPS port.



HTTPS ×		
HTTPS]
	Enable HTTPS:	● Yes ◯ No
	HTTPS Port:	443
		Save

4.6.4 FTP Service Submenu

Use this submenu to configure the user name and password of internal FTP site.

FTP Servic	:e	
	User Name:	ftp
	Password:	•••

4.7 Module Setting Menu

Use this menu to check module information, configure WiFi, Bluetooth, radio related settings, turn on/off static voice of buzzer, and setting IMU:



4.7.1 Description Submenu

Use this submenu to check the information of WiFi module, Bluetooth module and radio module.



escription ×			
WI-FI Information		Radio Information	
Power Status:	ON	Radio Type:	Integ
Wifi Mode:	Access Point	Radio Power:	1W
MAC:	82:5b:10:07:ec:2b	OTA Baud Rate:	9600
Access Point Details		Radio Frequency:	443.000000MHz
SSID:	GNSS-9999690	Radio Protocol:	Transparent
		Radio Frequency Channel:	Full Range
		Frequency Range:	410MHz470MHz

4.7.2 WiFi Submenu

Use this submenu to turn on/off WiFi function and modify password.

WiFi ×	
WiFi Power Status:	ON CFF
SSID:	GNSS-9999690
Encryption Type:	NONE
Network frequency bands:	5_8G
🖳 s	tart

4.7.3 Bluetooth Settings Submenu

Use this submenu to turn on/off Bluetooth function and modify PIN number.

Bluetooth Settings ×	
	GNSS-9999690 81:5B:10:07:EC:2B 1234
	ave

4.7.4 Radio Settings Submenu

Use this submenu to turn on/off radio function and configure radio parameters.



lio Settings			
Radio Status: O			F
Auto Start:	Yes No		
Radio Protocol:	Transparent	~	
Channel Bandwidth :	12.5	~	(kHz)
OTA Baud Rate:	4800	~	
Radio Power:	1W	~	
Radio Frequency:	1 🗸 456.05	0000	(410MHz470MHz)
FEC:			

4.7.5 IMU Setting

Use this submenu to turn on/off IMU function and set antenna height.

U Setting ×		
IMU Setting		
IMU Status:		
Antenna Height:	2.0	
🔲 s	ave	
IMU Init Status:	IMU init fail, please shake the center bar	
Lat:	31°9'34.56599718"(North)	
Lon:	121°10'42.49304187"(East)	
Alt:	48.354	
Vertical dip:	0°28'3.82295453"	
disaction of dist	227°9'57.51882360"	

4.8 Firmware Menu

Use this menu to check the current firmware information, download the system log, update the receiver firmware, download or update the configuration file and register the receiver, and more:





4.8.1 Firmware Info Submenu

Use this submenu to check the current firmware information. The following figure shows an example of the firmware information.

Firmware Info. ×	
Firmware Version:	1.0.6
Firmware Release Time:	20211115_364c74b

4.8.2 Hardware Version Submenu

Use this submenu to check the hardware information, including main board version and core board version:

Hardware Version ×	
Main Board:	1.0.1
Core Board:	1.0.1
PN:	A11356980005070507
Board Firmware Version Number:	14259

4.8.3 Config File Submenu

Use this submenu to update Configuration File.





4.8.4 System Log Download Submenu

Use this submenu to download the system log of the receiver.

System Log Type:	Firmware Log	~
	System Log Type:	System Log Type: Firmware Log

4.8.5 User Log Submenu

Use this submenu to download the user log. Tap **Download** to download current user log; Tick items that you want to see on the user log and tap confirm button to confirm selected user log.

User	Log settings			
	System Starting Time	 Image: A second s	Wi-Fi Status	
 Image: A second s	External Power Removed		Bluetooth status	
	Satellites Tracking Status Changed		CORS and APIS states	
	TCP Client Connection		3g Connection status	
	TCP Client Disconnect			
	Observation Recording Start and End			
	FTP file pushed			
	Email alert time			

4.8.6 Firmware Update Submenu

Use this submenu to load new firmware to the receiver across the network. Tap the Browse button to locate the upgrade file \rightarrow tap Confirm button to confirm the selected



upgrading file and start upgrading.

Firmware Update ×		
	Upgrade File:	Browse
		🖾 Confirm

Notes-

It may take about 3 or 4 minutes to complete the firmware upgrading. Do not touch the power button or unplug the power until the upgrading process finishes, or damage will be caused to the receiver.

The receiver will restart after the firmware upgrading is done, so users need to reconnect the receiver with your computer via Wi-Fi, and then log-in the receiver through a web browser to continue the configuration.

4.8.7 GNSS Board Upgrade Submenu

Use this submenu to upgrade GNSS Board. Use this submenu to load new board to the receiver across the network. Tap the **Browse** button to locate the upgrade file \rightarrow tap **Confirm** button to confirm the selected upgrading file and start upgrading.

GNSS Board Upgrade ×	
Upgrade File:	🖳 Browse
	Confirm

4.8.8 GNSS Registration Submenu

Use this submenu to register the receiver. Paste or enter the registration code to the *Registration Code* field \rightarrow tap **Registration** button to complete the registration.

	Serial Number:	9999690	
	Registration Limit:	2024-6-21	
	Registration Code:	TDnSRvavY6y	
Registration dea	dline for external account access:	Unregistered	



CHC Navigation

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This document is intended for general information purposes only. It does not consider the reader's specific circumstances and environmental constraints of use of GNSS.

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