CHCNAV

LT800
RUGGED GNSS TABLET

⊕

MAPPING &
GEOSPATIAL

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Preface

Copyright

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Safety Warnings

The Global Navigation Satellite System (GNSS) consists of several distinct satellite constellations, each under the jurisdiction of a specific government agency. These entities have the sole responsibility for ensuring the accuracy of their respective systems and maintaining the integrity of their satellite networks.

Do not rely on the device alone for critical navigation decisions. GNSS signals can be affected by atmospheric conditions, satellite availability, signal blocking, etc.

Be aware of the limitations of GNSS accuracy. It provides positioning information with a degree of accuracy, but errors (including manual errors) and deviations may occur.

Avoid prolonged exposure to strong magnetic fields as they may interfere with the operation of the device and affect its accuracy.

Do not disassemble or modify the device. Any unauthorized modification may result in malfunction or damage and will void the warranty.

Follow all instructions in the user manual for proper handling, charging, and maintenance.

FCC Interference Statement

This equipment has been designed to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules in the Portable Mode. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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.

CE Interference Statement

This device complies with the essential requirements of the relevant European Union directives regarding electromagnetic compatibility and radio spectrum usage. This compliance ensures that the device will not interfere with other devices and will operate as intended within specified limits. These frequencies can be used without restriction in Europe.

CE FC

1 Introduction

Thank you for purchasing the CHCNAV LT800 GNSS RTK Tablet.

This User's Manual will provide you with useful information about your device. It will help you get started using it in the field.

1.1 Technical Assistance

If you have a problem and cannot find the information you need in the product documentation, contact your contact your local distributor from whom you purchased the LT800. Alternatively, please request technical support via the CHCNAV website (www.chcnav.com) or the CHCNAV technical support e-mail (support@chcnav.com).

1.2 Your Comments

Your feedback about this User Guide will help us to improve it in a future revision.
Please e-mail your comments to support@chcnav.com.

1.3 Disclaimer

This manual describes the CHCNAV LT800 RTK Tablet. Before using the LT800, please ensure that you have read and understood this User's Guide and the Safety Requirements. CHCNAV assumes no responsibility for any user's misuse or loss resulting from a misunderstanding of this User's Guide. However, CHCNAV reserves the right to periodically update and improve the contents of this User's Guide. For the latest information, please contact your local CHCNAV dealer.

1.4 Warning and Cautions

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.

1.5 Use and Care

The LT800 is designed to withstand the harsh environment typically encountered in the field. However, the LT800 is high-precision electronic equipment and should be handled with appropriate care.

2 Overview

2.1 Features

LT800 is a GNSS RTK tablet running Android 12 OS. Its dust and waterproof level is IP67 and it can survive a 1.2m drop onto concrete. With its 9000 mAh Li-Ion battery, it can work continuously for up to 10 hours.

Item	Specification
Operating System	Android 12.0 GMS certified
CPU	Advanced octa-core CPU 2.0 GHz
RAM	6 GB
ROM	128 GB
Extension	Micro SD card, up to 256 GB
Constellation	GPS L1C/A, GLO L1, BDS B1, GLE E1
RTK	2~5 m HRMS
Channel	45
WIFI	Wi-Fi, IEEE 802.11a/b/g/n/ac
Network 4G modem	GSM: 850/900/1800/1900 WCDMA: B1/B2/B5/B8 FDD-LTE: Band1/Band3/Band4/ Band5/Band7/Band8/Band17/ Band20/Band28
Bluetooth	Bluetooth™ 5.1
USB	Type C/OTG
Li-ion Battery	9000mAh
Voltage	3.8V
Battery Life	10 h
Charging Time	4.0 h Fast charging: QC 3.0
Front Camera	8 megapixels
Back Camera	16 megapixels
Flashlight	Integrated

2.2 Specifications

Physical specifications

Display

▪ Size: 8.1" touch screen

▪ Resolution: 1920 x 1200

▪ Brightness: 600 cd/m²

▪ Touch screen: Capacitive multi-touch, 5 points

▪ Point touch pen: Mapping pen with high degree of accuracy

▪ Screen technology: IPS display panel Corning® Gorilla® Glass 3

Physical

▪ Dustproof and waterproof: IP67

▪ Shock: Survives a 1.2 m drop onto concrete

▪ Humidity: 5% - 95% RH (without condensation)

▪ Dimension(L x W x H): 215.5 mm x 130 mm x 14.5 mm (8.5 in x 5.1 in x 0.6 in)

▪ Weight: 550 g (19.4 oz)

▪ Operating temperature: -20 °C to +60 °C(-4°F to +140°F)

▪ Storage temperature: -40 °C to +70 °C(-40°F to +158°F)

Sensors

▪ NFC: Support

▪ G-sensor: Support

▪ Light sensor: Support

▪ E-compass: Support

▪ Gyroscope: Support

2.3 Front View
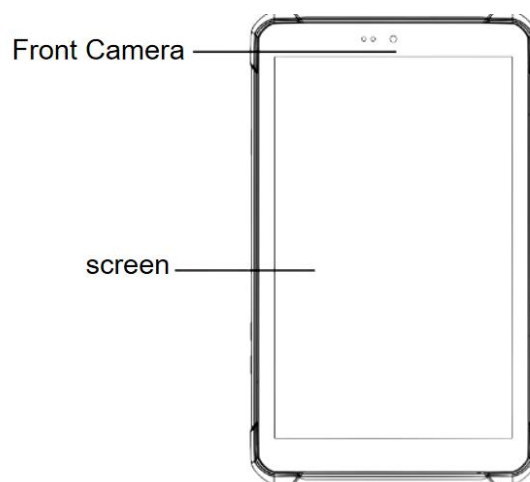
2.4 Back View
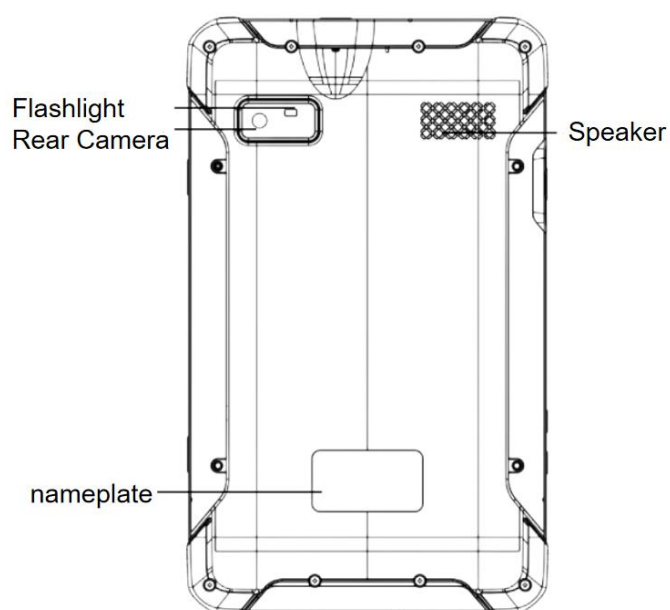
2.5 Top

USB Type -C Charging/Data Interface
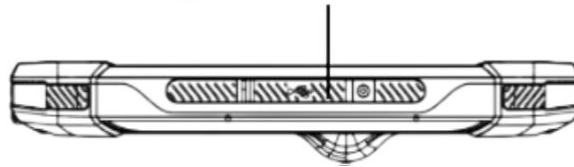
The tablet has an internal rechargeable lithium-ion battery, charge the battery fully before using it for the first time. To charge the battery, please connect the USB cable and the power adapter to the AC outlet.

WARNING - Charge the battery only according to the instructions. Charging or using the battery with unauthorized equipment or in a wet environment may cause an electrical short and damage the tablet. Do not insert any objects into the charging port as this may damage the charging port.

To prevent injury or damage:

• Charge the battery only in CHCNAV authorized equipment. Be sure to follow all instructions that are provided with the battery charger.

2.6 Left/Right Side

Power On/Off   Custom buttons

Card slot   Volume button
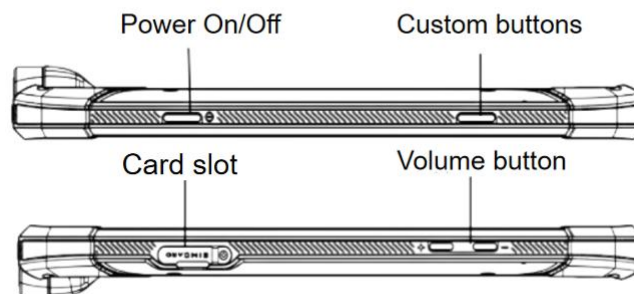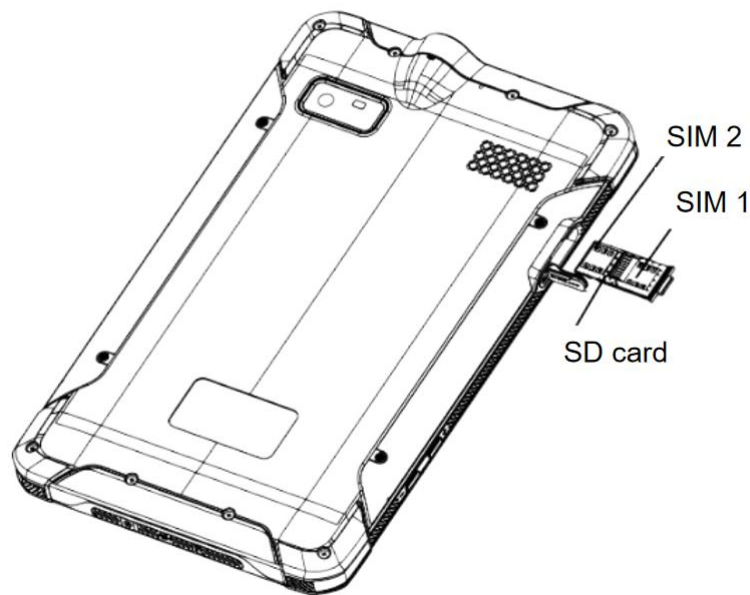
2.7 Installation

Please insert the SIM card and the MicroSD card in the direction of the diagram.

3 Basic Operation

3.1 Insert SIM Card and Power On

Refer to **2.7 Installation** to find the SIM card and TF card slot, and then insert the cards into slots correctly.

Before powering on LT800, please make sure to fully charge the battery. Then long press the power button to turn on LT800 and enter its home screen.
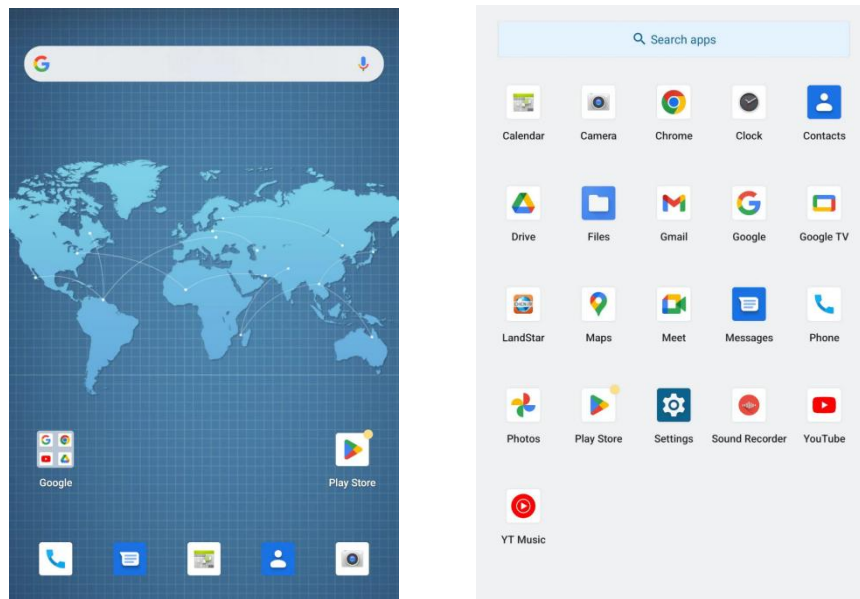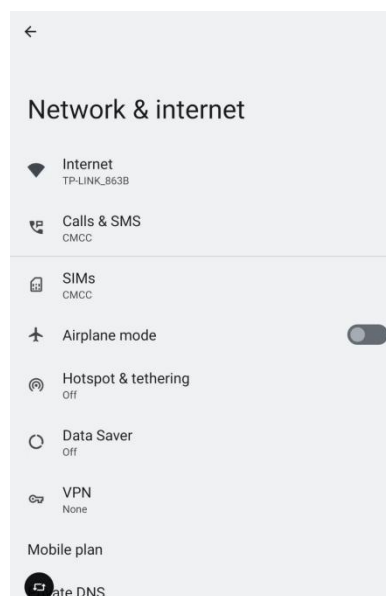
Click 📞 to make a phone call.

Click 📧 to open a message.

Click 📅 to open a calendar.

Click 👤 to access contacts information.

Click 📷 to turn on the camera.

After powering on LT800, click **Settings**— **Network & Internet** —**SIMS** to turn on the SIM cards.

3.2 Language & Input

Click **[Settings] – [System]- [Language & input] – [Language]** to select language. If you have not found the language you want to choose, click **[Add a language]** to find the target language.
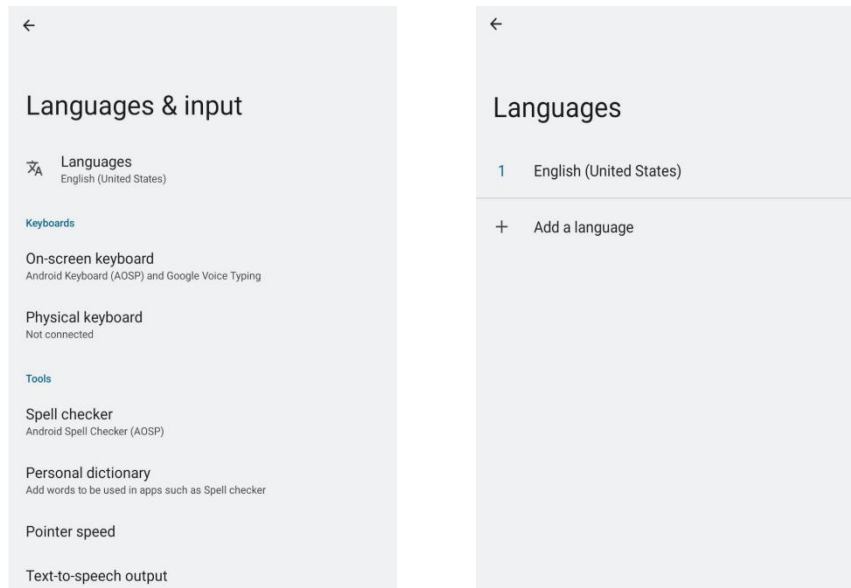
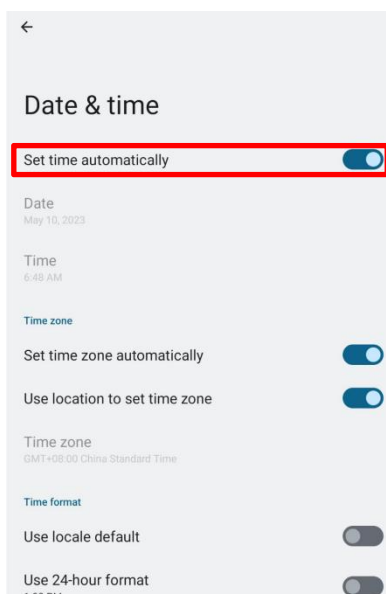## 3.3 Set Date & Time

Click **[Settings] – [System]- [Date & time]** and enter **[Date & time]** interface.
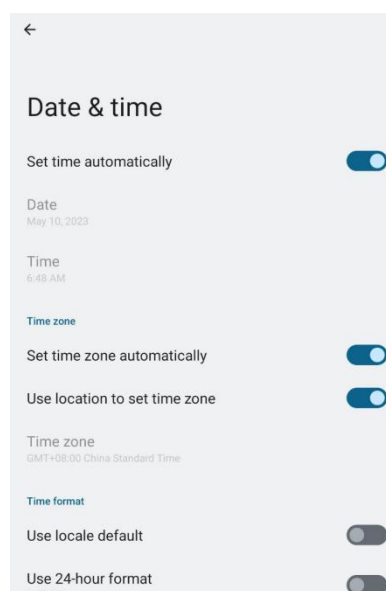
If you want to set date and time by yourself, please turn off the **Set time automatically** first and then click **Date** and **Time** to start your settings.

You can also customize your time zone and choose whether to use the 24-hour format in this interface.

3.4 Display

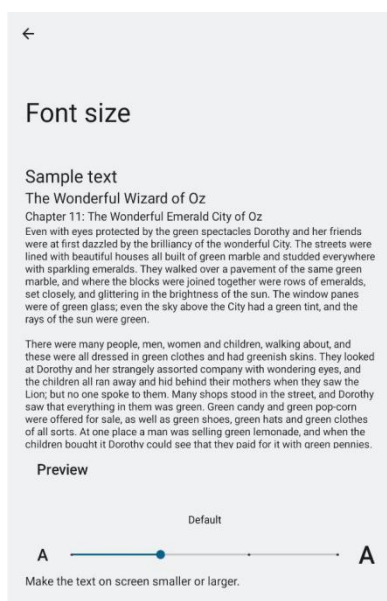Click **[Settings] – [Display]** to enter **Display** interface.
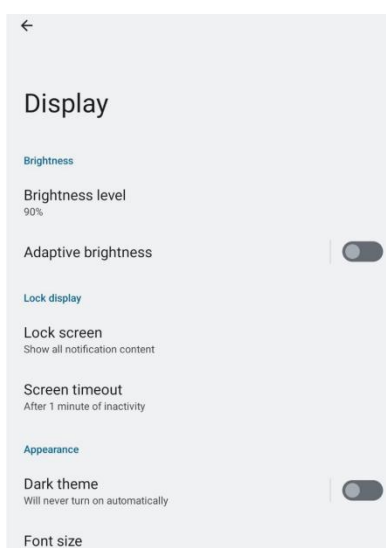
Brightness adjusting: Click **Brightness level** to adjust it according to your preference.
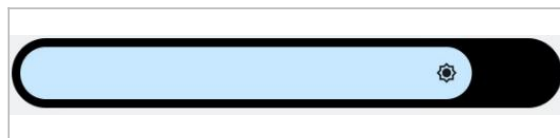
Lock display: Click to optimize the inactivity time LT800 needs to close the screen.
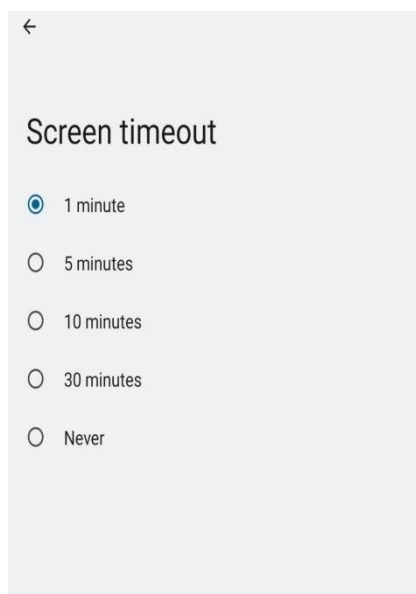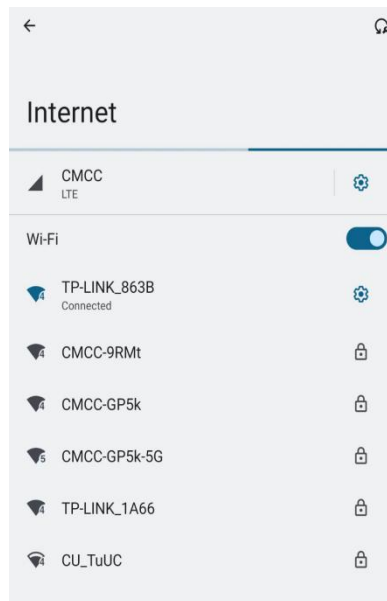

Font size: Click **Font size** to enter Font size interface and then Slide the green dot to change the font size.
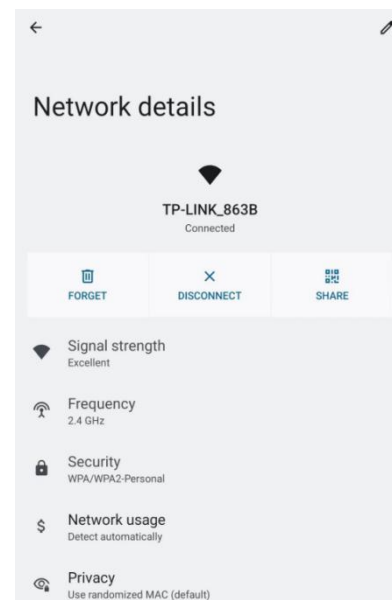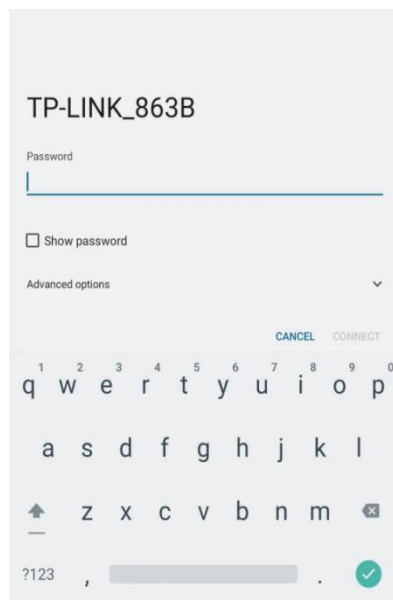
3.5 Wi-Fi

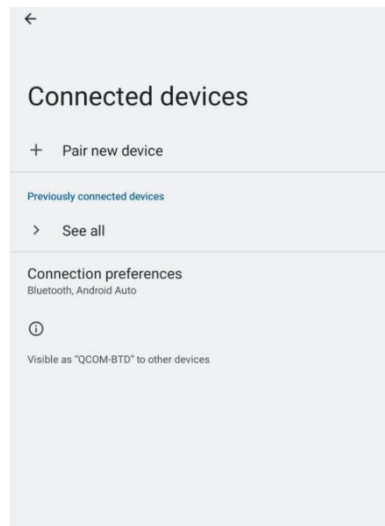Click **[Settings] – [Network & Internet] – [Internet] – [Wi-Fi]** to switch on the button.

Select **Wi-Fi** and type in its password to connect. After connecting Wi-Fi, the Network info can be checked.

3.6 Bluetooth

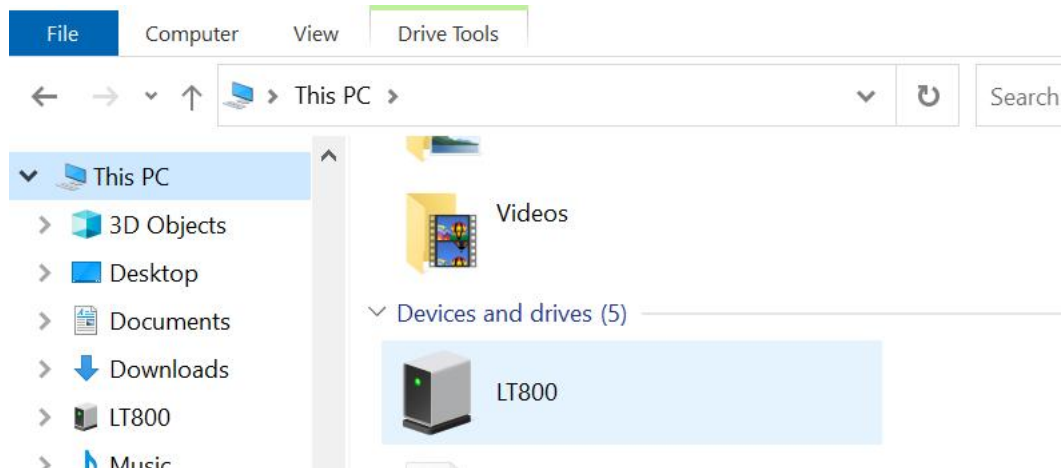Click **[Settings] – [Connected device] – [Bluetooth]** to find nearby devices and pair with it.

3.7 USB Connection

For connection or data transmission between LT800 and PC, please use the USB data cable as shown below.
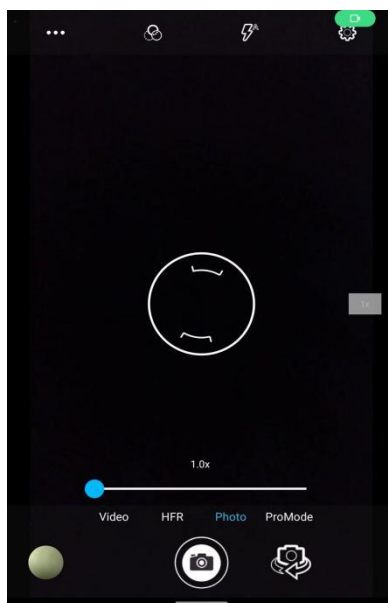

After USB data cable connecting with PC, the computer will recognize the storage space of the LT800.

You can also use third-party software to manage the documents and data stored in LT800 and install software such as GNSS Tool.

3.8 Use Camera

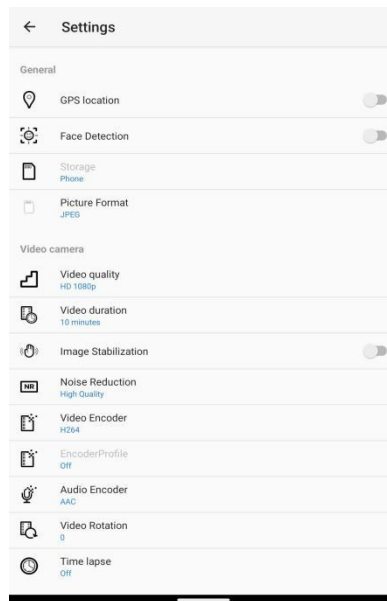
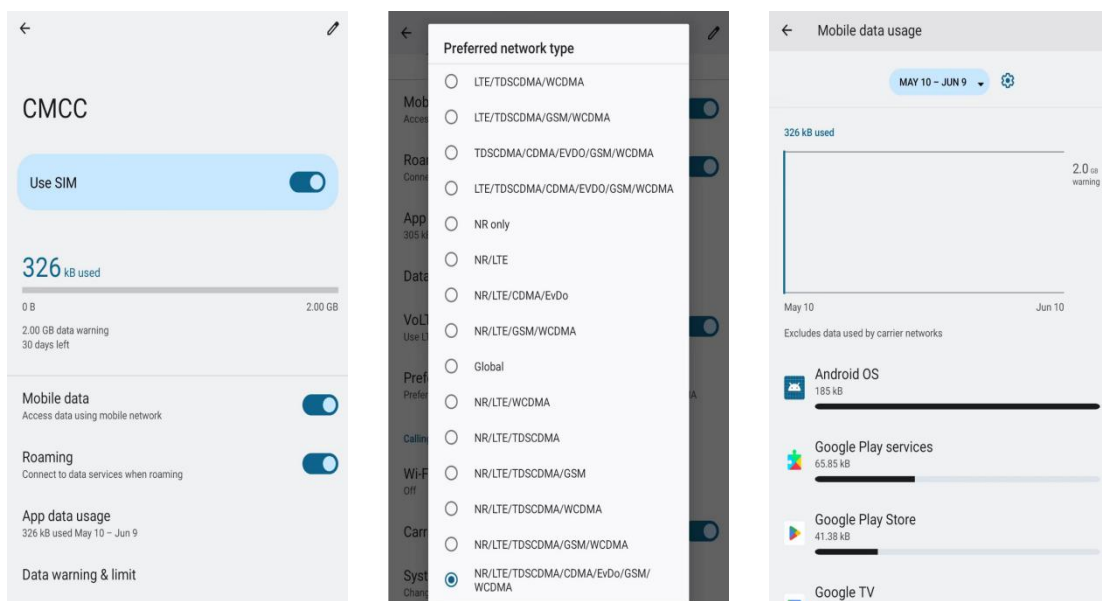Click to select recording the video or panorama mode.

Click to take a photo.

 Camera Settings

Click to configure related parameters.
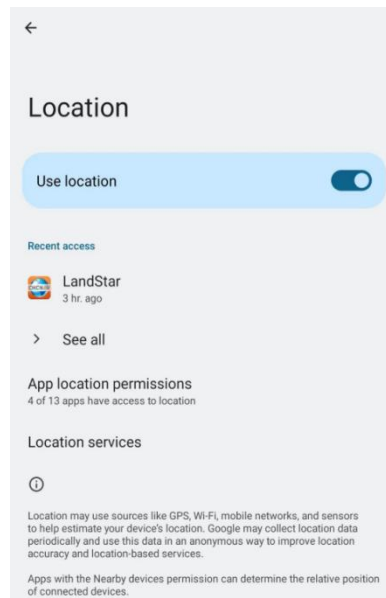

3.9 Log in 4G

After inserting your SIM card, click **[Settings] – [Network & Internet] – [SIMS] – [Preferred network type]** and select corresponding network type of your SIM card. Then turn on **Mobile data** and click **Data usage** to see data usage.
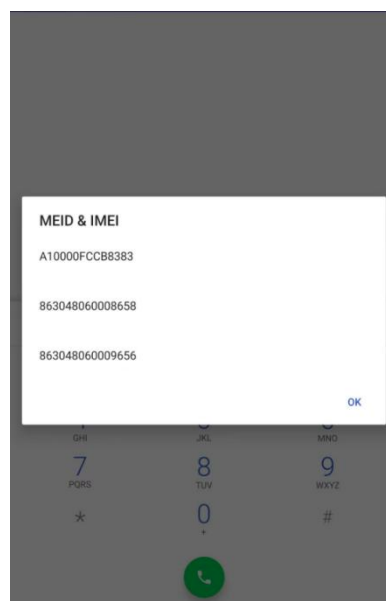
3.10 Location

Turn on The Location Service

Click **[Settings]** – **[Location]** – **[Use location]** to switch on location service.

3.11 Checking the IMEI Number of The Device

Turn the LT800 on and enter the dialing panel, tap '*#06#', the IMEI numbers show up automatically.
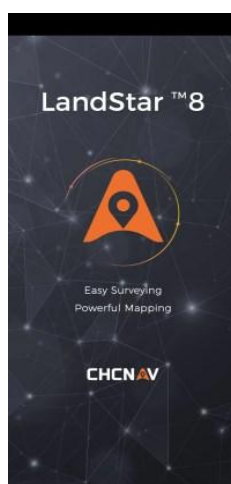
4 Getting Start with LandStar 8

4.1 Connect the LT800 to internet

Please select Wi-Fi or mobile network to enable Internet to allow a connection to your GNSS RTK Corrections Service provider.

4.2 Create a project

Power on the LT800: Long press the power button for 3-5 seconds.

Launch the LandStar 8 software.

Click **New** to create a new project, users should set coordinate, codeList and other survey parameters.

**Name**: Input the project name, backslash (/) is forbidden.

Time Zone: Choose the time zone in drop-down list from UTC-12:00 to UTC+14:00.

Reference project: choose a reference project and get the parameters automatically, including Coordinate system, Codes library and Projects settings. Control point, Enter, and Stakeout points are optional.
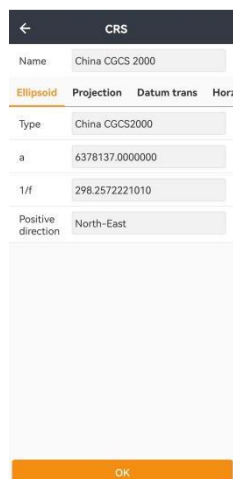
Coordinate System:

Users can create a new coordinate system or use the template of existing projects. Click **User defined** to create a new coordinate system.

Set the right parameters according to the surveying area, and then click Save to finish CRS configuration.
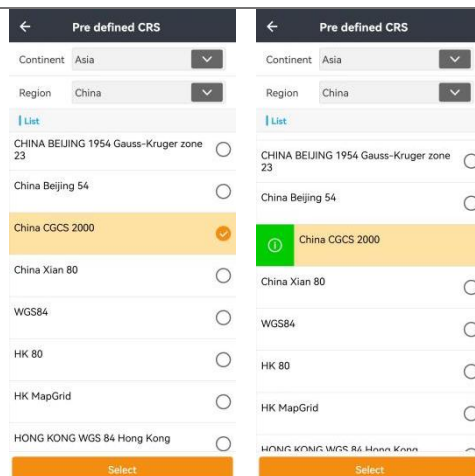
Click **Pre defined** to enter **Common Coordinate** interface, and then users are able to add a new coordinate system by clicking **Select**. Slide right and click the green button to check the coordinate system information.

Users can view the parameters of ellipsoid, projection, datum transformation, Horz. adjustment and Vert. adjustment. Click **OK,** it'll return to **Coordinate System** interface, and then click **Select** to finish CRS configuration.
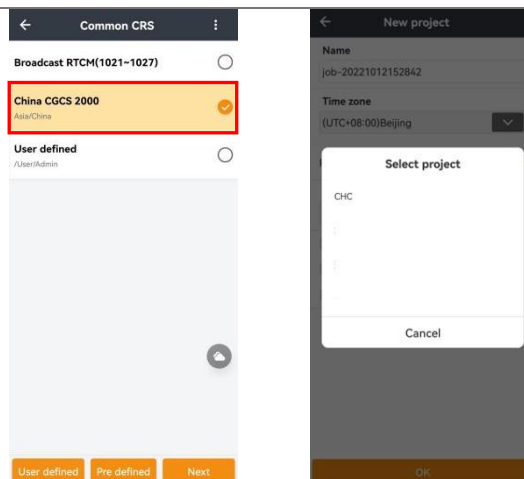
Tick the **Reference project** in Coordinate System to select project template, then it will show a list of historical projects. Users can select one and click **OK** to apply. It's used for applying the transformation parameters for different sites. For example, there is project A which has finished site calibration, while another project B needs the transformation parameters the same as project A. Then users can select project A in the project template while creating project B.

4.4 Connect to the LT800 GNSS Module

Tap [Config] - [Connect instruments].
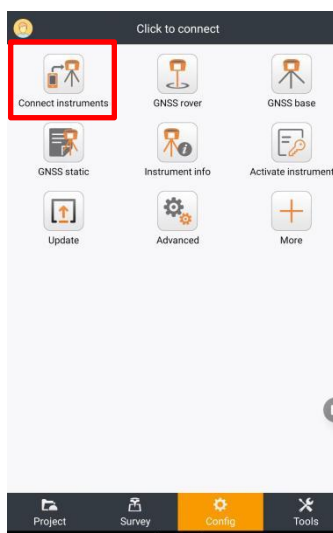
Select Brand as **[CHC]**, Type as **[Android location]**, Model as **[LT800],** Antenna Type as **[CHCLT800]**.
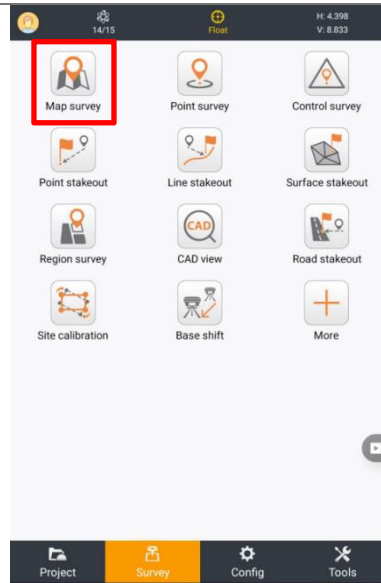
When connected to the LT800 GNSS, the message "Connect successfully. Check antenna height!" appears.
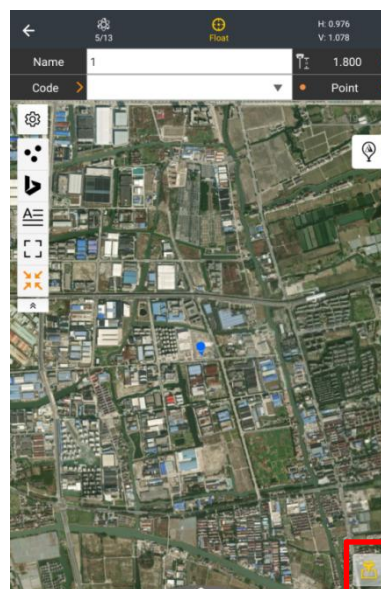
4.5 Survey

Wait until the software shows **[SBAS]**, which means the LT800 is using the

GNSS correction data from the SBAS satellites.

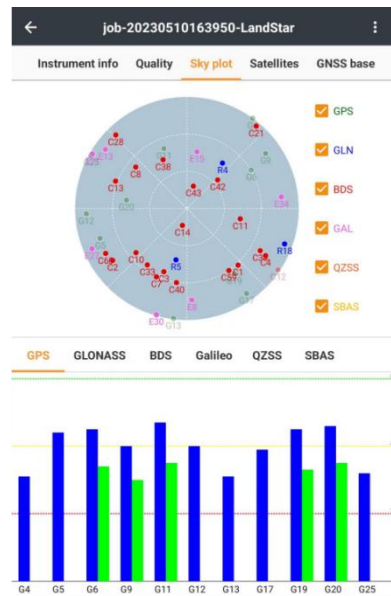Click the **[Survey]** - **[Map survey]** to start your work.

Tap **[Survey]** icon to collect the points.

4.7 Sky Plot

Click **Sky Plot** and see how many satellites the device is currently tracking.

CHC Navigation

577 Songying Road,

Qingpu District, 201702 Shanghai, China

Tel: +86 21 542 60 273 | Fax: +86 21 649 50 963

Email: sales@chcnav.com | support@chcnav.com

Skype: chc_support

Website: www.chcnav.com

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