



CHCNAV LT700 TABLET

User Guide



Make your work more efficient

Table of Content

Table of Content.....	2
1 Introduction.....	4
1.1 Technical Assistance.....	4
1.2 Your Comments.....	4
1.3 Safety Information.....	4
1.4 Warning and Cautions.....	4
1.5 Use and Care.....	5
2 Overview.....	6
2.1 Features.....	6
2.2 Specifications.....	7
2.3 Front View.....	9
2.4 Back View.....	11
2.5 Bottom.....	12
2.6 Installation.....	13
3 Basic Operation.....	14
3.1 Insert SIM Card and Power On.....	14
3.2 Language & Input.....	16
3.3 Set Date & Time.....	16
3.4 Display.....	17
3.5 Wi-Fi.....	19
3.6 Bluetooth.....	20
3.7 USB Connection.....	20
3.8 Use Camera.....	21
3.9 Log in 4G.....	22
3.10 Location.....	23
3.10.1 Turn on The Location Service.....	23
3.10.2 Select The Constellation Combination.....	23
3.11 Check The IMEI Number of The Device.....	24
3.12 Edit F1/F2 Function Key.....	24
4 Install Third-Party Software.....	26
4.1 Access The Cloud.....	27
4.2 Install The TopoXpress.....	28
5 Turn The Test Switch On.....	29
5.1 Enter Test Settings Interface.....	29
5.2 Turn The Test Switch On.....	31
6 Update The Android Operating System.....	32
6.1 Preparation.....	32
6.2 Updating.....	32

7	Getting Started With GNSSTool.....	35
7.1	Connection.....	35
7.2	CORS Login.....	37
7.3	Sky Plot.....	37
7.4	Debugging Data.....	38

1 Introduction

Thank you for choosing CHCNAV LT700 GNSS Hand-held Receiver.

This Getting Started Guide will provide useful information about your receiver. It will also guide you through your first steps of using LT700 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 local dealer from which you purchased the LT700. Alternatively, please request technical support using the CHCNAV Website (www.chcnav.com) or CHCNAV technical support email (support@chcnav.com).

1.2 Your Comments

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

1.3 Safety Information

This manual describes CHCNAV LT700 GNSS Data Collecting Terminal. Before using the LT700, please make sure that you have read and understood this Getting Started Guide, as well as the safety requirements.

1.4 Warning and Cautions

This device complies with Part 15 of the FCC Rules. The 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.

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.

1.5 Use and Care

The LT700 is designed to withstand the rough environment that typically occurs in the field. However, the LT700 is high-precision electronic equipment and should be treated with reasonable care.

2 Overview

2.1 Features

LT700 is the high-end GNSS tablet which supports Android 8.1 platform. Meanwhile, its dust and water proof level is IP67 and it can survive 1.2 m fall onto concrete. With 8000 mAh Li-ion battery, it can continuously work more than 12 h. LT700 can track GPS+GLONASS or GPS+BDS as user wanted.

Item	Specification
Operating System	Android 8.1
CPU	Eight-core 2.2 GHz
RAM	4GB
Flash Memory	64 GB
Memory Extend	Micro SD, up to 128G
GNSS	Support GPS, GLONASS, BDS, SBAS
Accuracy	SBAS: 2m
Channel	72
Cold Start	30s
Warm Start	1s
WIFI	802.11 a/b/g/n/ac
Cellular Modem	TDLTE, TDSCDMA, EVDO, GSM, WCDMA

Item	Specification
Bluetooth	V4.1
USB	Type C
Li-ion Battery	8000mAh
Voltage	3.8V
Battery Life	12 h (continuous work)
Charging Time	5.5 h
Front Camera	5.0 megapixel
Back Camera	16.0 megapixel
Flash Light	Support

2.2 Specifications

Physical specifications

Display

- Size: 8" IPS Glass touch screen
- Resolution: 1920*1200
- Brightness: 450 cd/m²
- Touch screen: Capacitance touch, 10 points touch screen
- Point touch pen: Mapping pen with high degree of accuracy

Physical

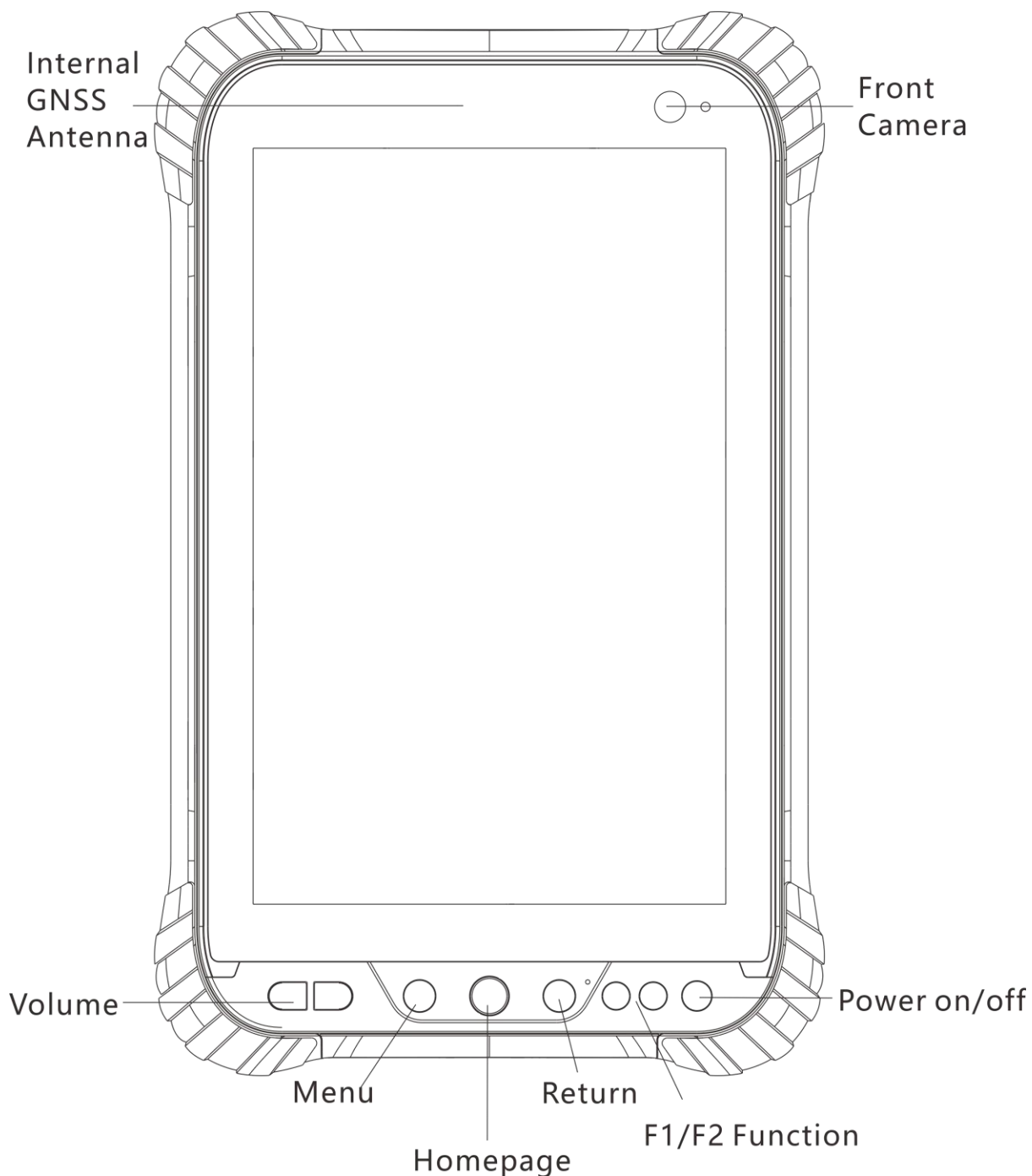
- Dustproof and waterproof: IP67
- Shock: Survives a 1.2 m drop onto concrete
- Humidity: 5% - 95% RH (without condensation)
- Dimension: 235 mm*146 mm* 13 mm (L*W*H)

- Weight: 560 g (with battery)
- Operating temperature: -20 °C to +60 °C
- Storage temperature: -30 °C to +70 °C

Sensors

- NFC: Support
- G-sensor: Support
- Light sensor: Support
- Distance sensor: Support
- E-compass: Support
- Gyroscope: Support

2.3 Front View



Power Button

Power on: Press the button for 1-2 seconds, the Power Indicator will turn on and the boot screen will appear, and then the LT700 will enter the operating system after 30 seconds.

Power off: Press the button for 1-2 seconds, the **[SELECT]** dialogue box will pop up,

select **[Power off]** to turn off the device.

Return: Press the button to go back to the last menu.

Menu Button

Click this button to bring out the start menu.

Homepage

Use the Homepage button to the main menu.

F1/F2 Function Button

This key is a shortcut key to the preset function or menu.

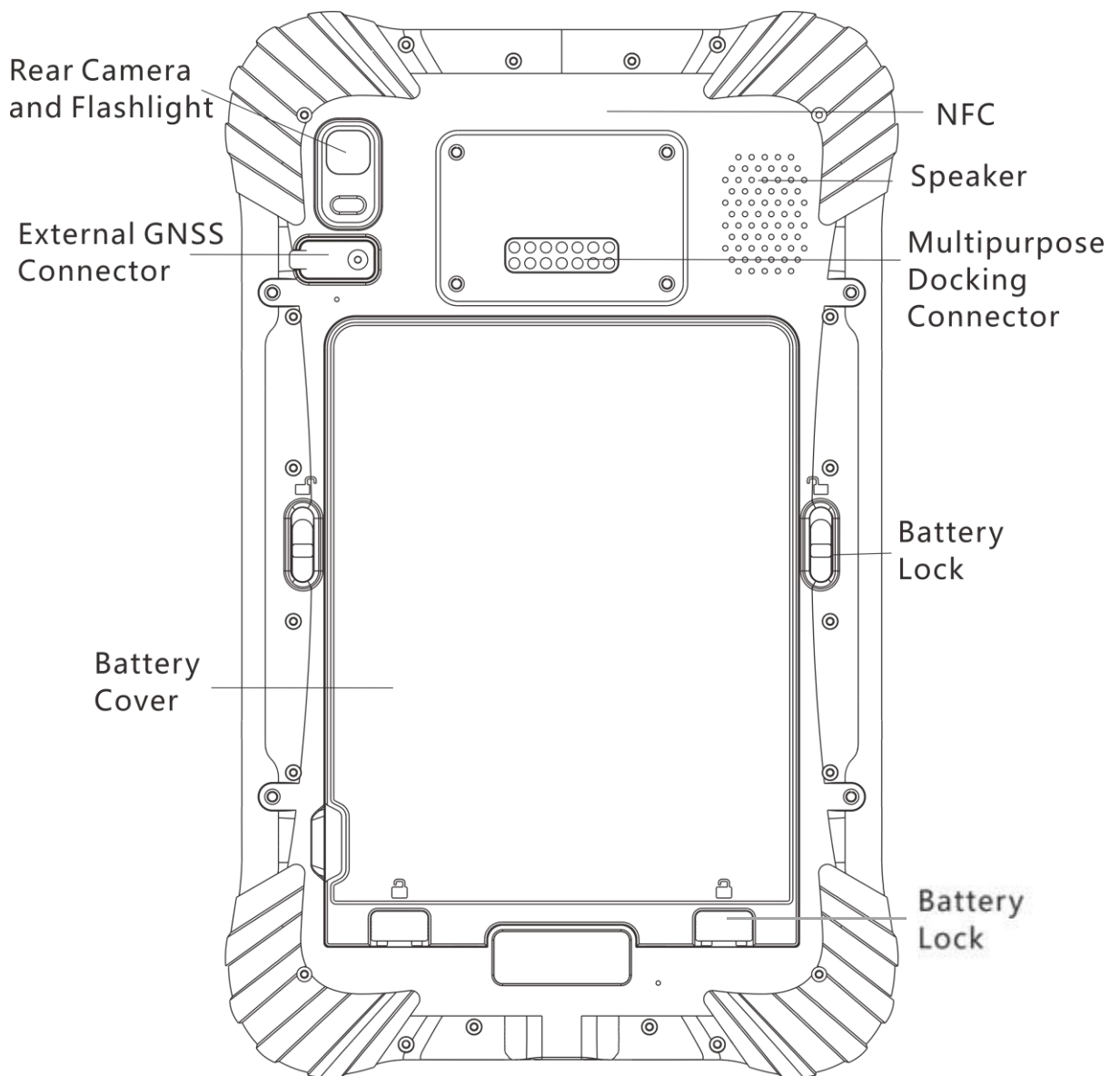
Type C

This interface is used for battery charging and data transmission between LT700 and PC by using a USB cable.

Volume button

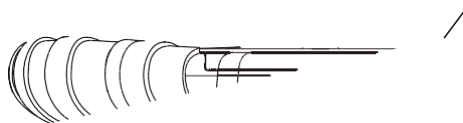
These two buttons are used for increase / decrease the volume.

2.4 Back View



2.5 Bottom

USB Type-C Charging/Data Inter



The tablet has a internal rechargeable Lithium-ion battery, charge the battery completely before using it for the first time. To charge the battery, please connect to the AC power via the USB cable and power adapter.

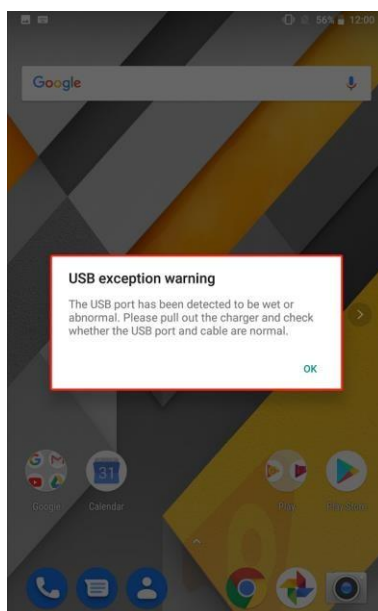


WARNING - Charge the battery only in strict accordance with the instructions. Charging or using the battery in unauthorized equipment or in a wet environment can cause an electric short and damage to the tablet. Do not insert any object into the charging port, it can result in damage to the charging 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.
- Discontinue charging a battery that gives off extreme heat or a burning odor.

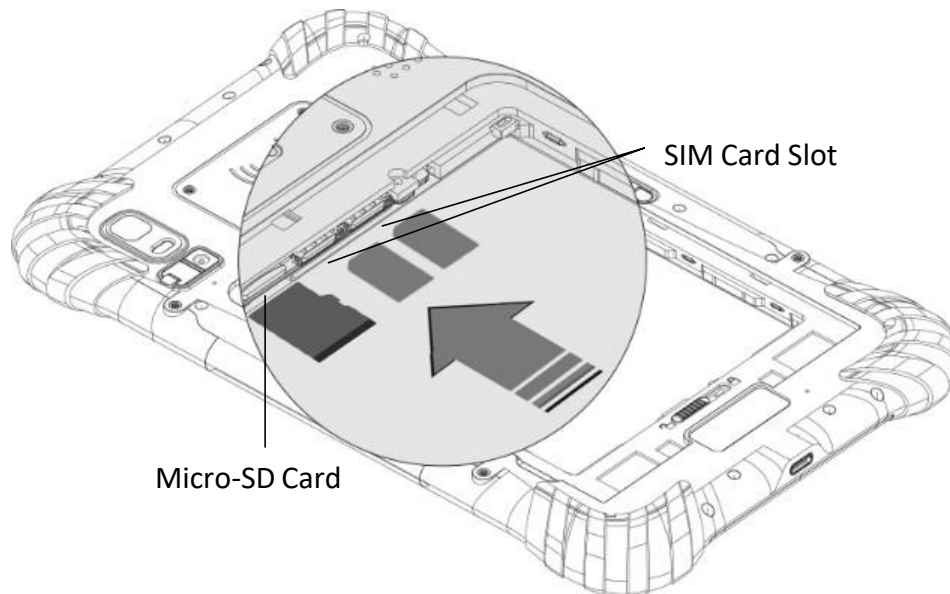
The operation system has short circuit proof design, a pop-up warning will show up if it's short-circuited (as shown below), please unplug the charger and check the charging port, USB cable and power adapter.



Please note: If no action is taken while the warning shows up, this would also result in damage to the charging port.

2.6 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 **2.6 Installation** find the SIM card and TF card slot, and then insert the cards into slots correctly.


Before powering on LT700, please make sure the battery has plenty of power. Then long press the power button to turn on LT700 and enter its home screen.

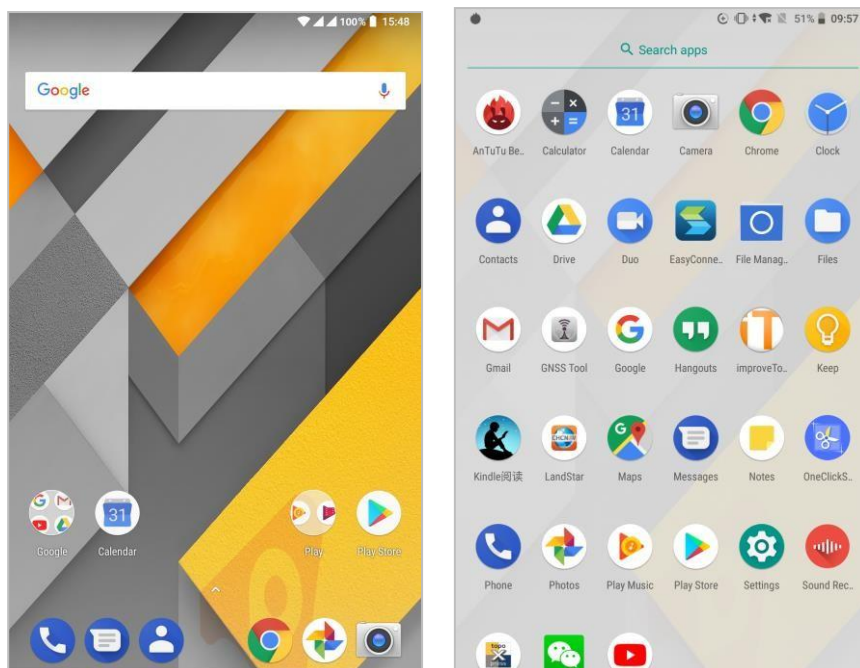
Click  to make a phone call.

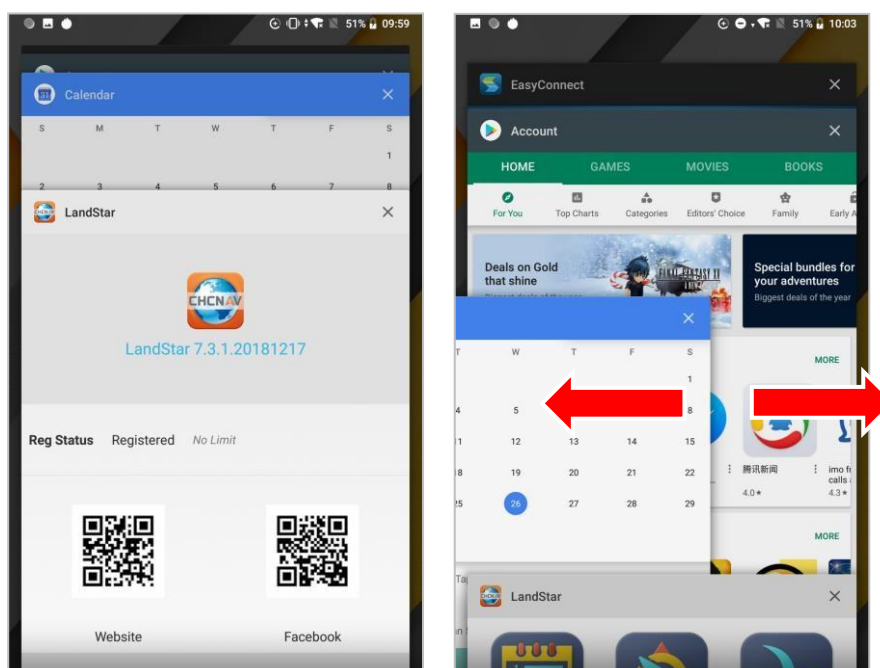
Click  to access contacts information.

Click  to open a message.

Click  to open a browser.

Click  to open the drawer to see all the apps that have been installed.






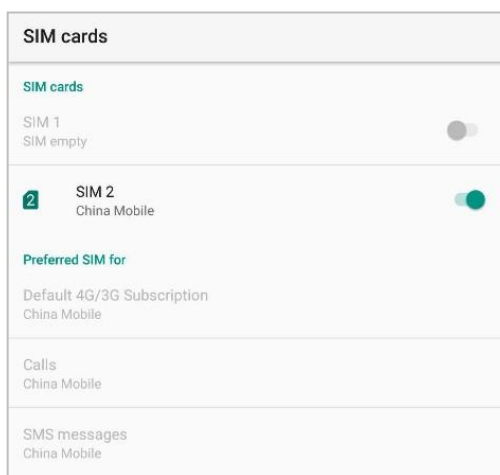
Use virtual button key to facilitate your operation with LT700.

Click  to go back to the previous menu.

Click  to return home screen.

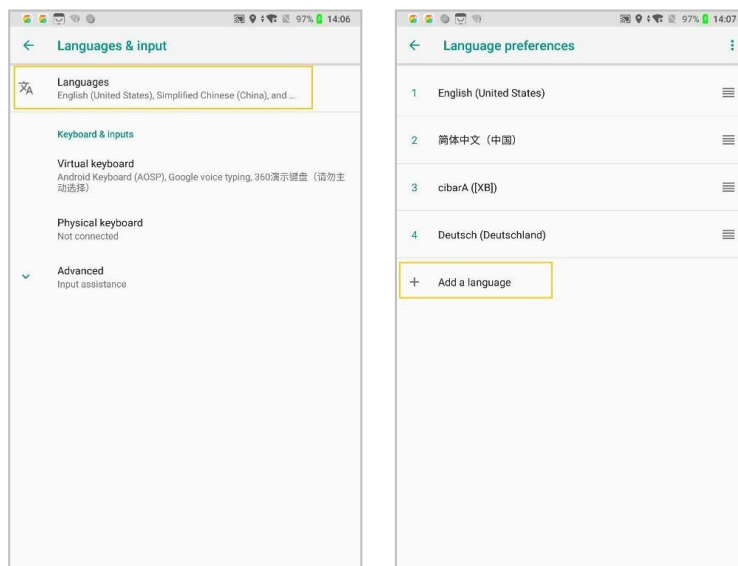
Click  to see all the running apps and then you can remove apps by sliding them right or left.

After powering on LT700, click Settings/SIM card to turn on the SIM cards.



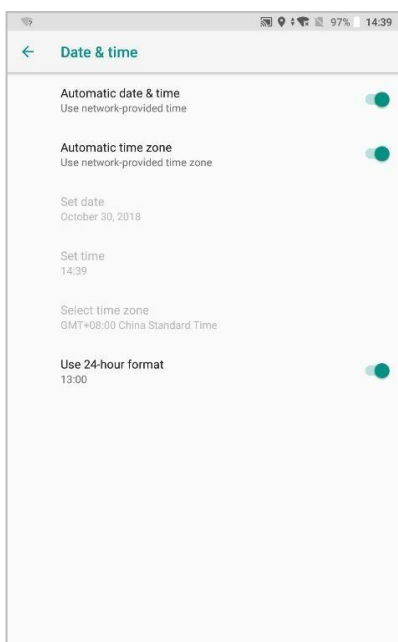
3.2 Language & Input

Click [Settings] – [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.

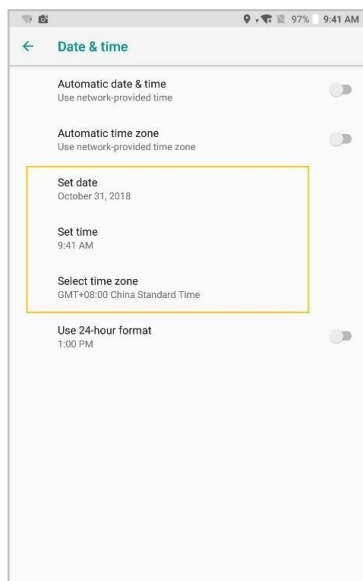


3.3 Set Date & Time

Click [Settings] – [Date & time] and enter [Date & time] interface.



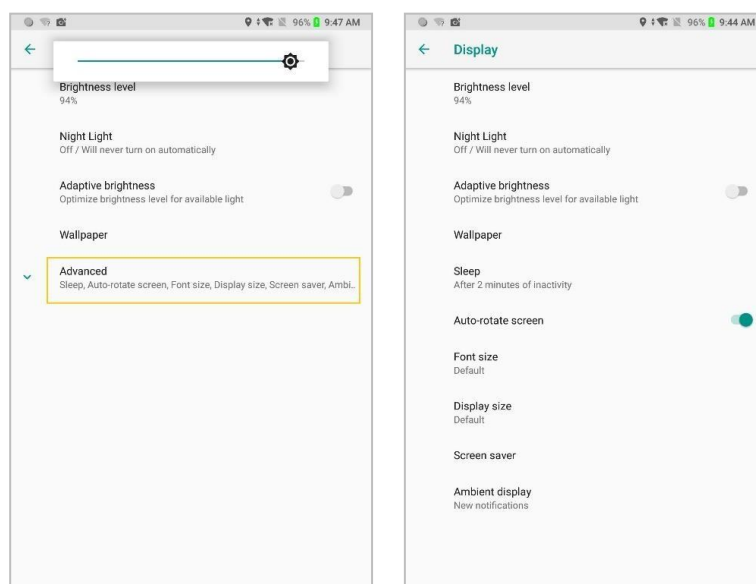
If you want to set date and time by yourself, please turn off the **Automatic date & time** first and then click **Set date** and **Set time** to start your settings.



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

3.4 Display

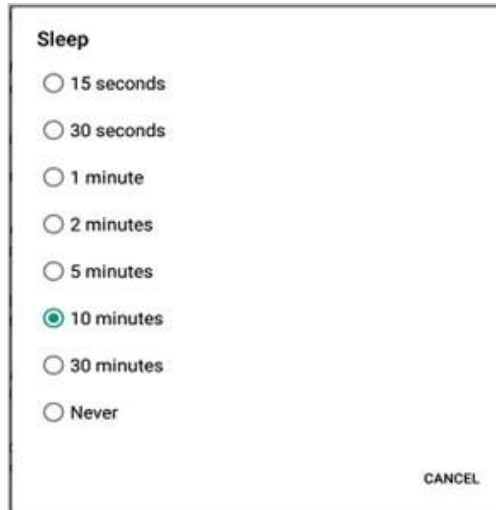
Click **[Settings] – [Display]** to enter **Display** interface. Click **Advanced** to view all the options.



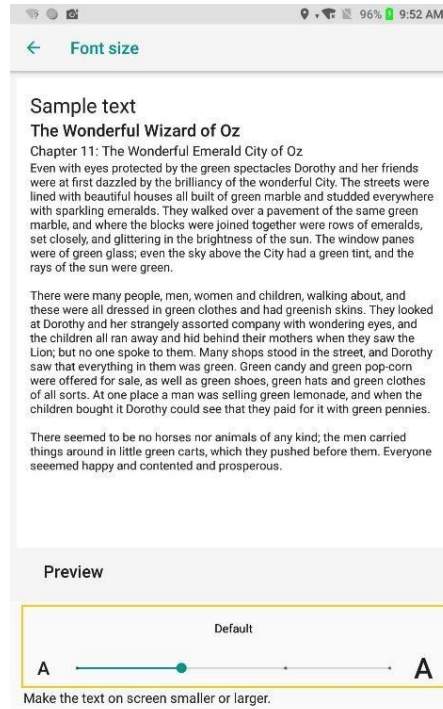
Brightness adjusting: Click **Brightness level** to adjust it according to your preference.



Sleep: Click to optimize the inactivity time LT700 needs to close the screen.



Font size: Slide the green dot to change the font size.

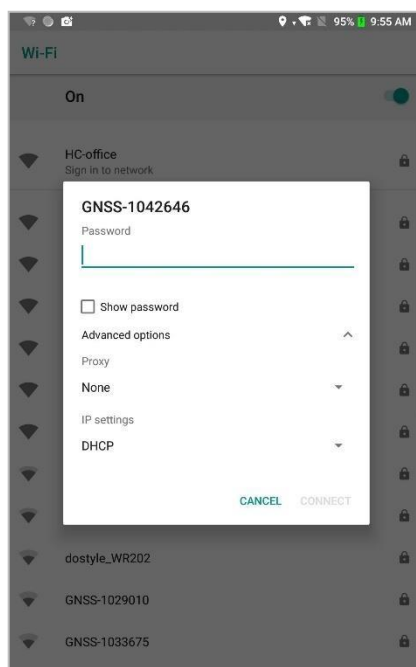


3.5 Wi-Fi

Click [Settings] – [Wi-Fi] to switch on the button.

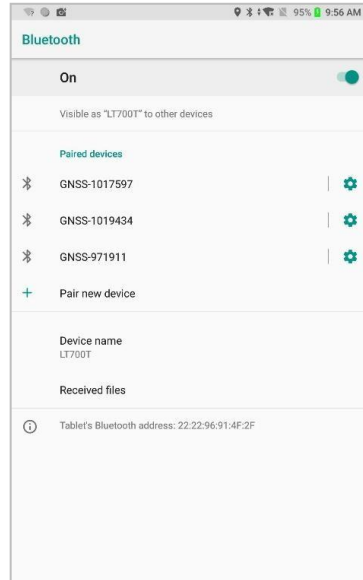


Select Wi-Fi and type in its password to connect.



3.6 Bluetooth

Click [Settings] – [Bluetooth] to turn on the Bluetooth.

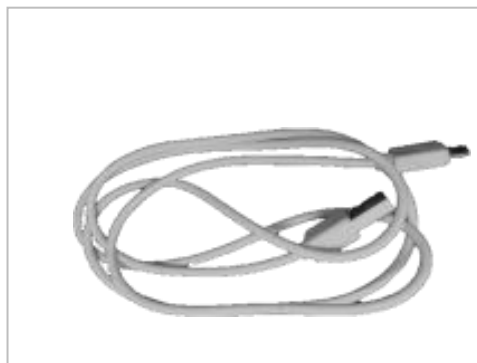


Find nearby devices and pair with it.

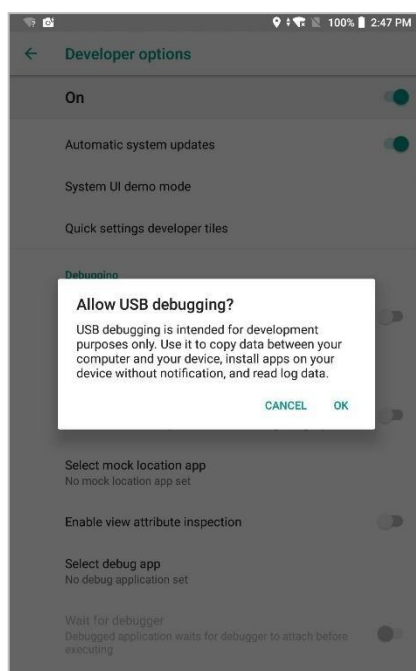


3.7 USB Connection

For connection or data transmission between LT700 and PC, please use the USB data cable as shown below.



Click [Settings] – [System] – [Developer options] – [USB debugging] to make sure this function is switched on. After USB data cable is connected with PC, wait until the **Allow USB debugging** dialogue pops up, and then click OK.



You can also use third party software to manage the documents and data stored in LT700 and install software like GNSS Tool into it.

3.8 Use Camera

Make sure that the battery is charged and installed in the receiver.

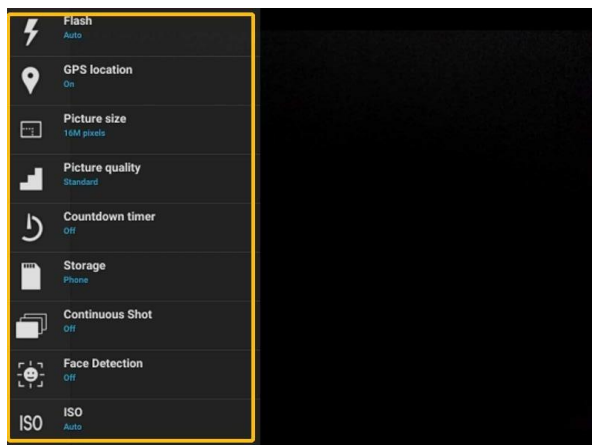


Click to select recording the video or panorama mode.

 Click to take a photo.

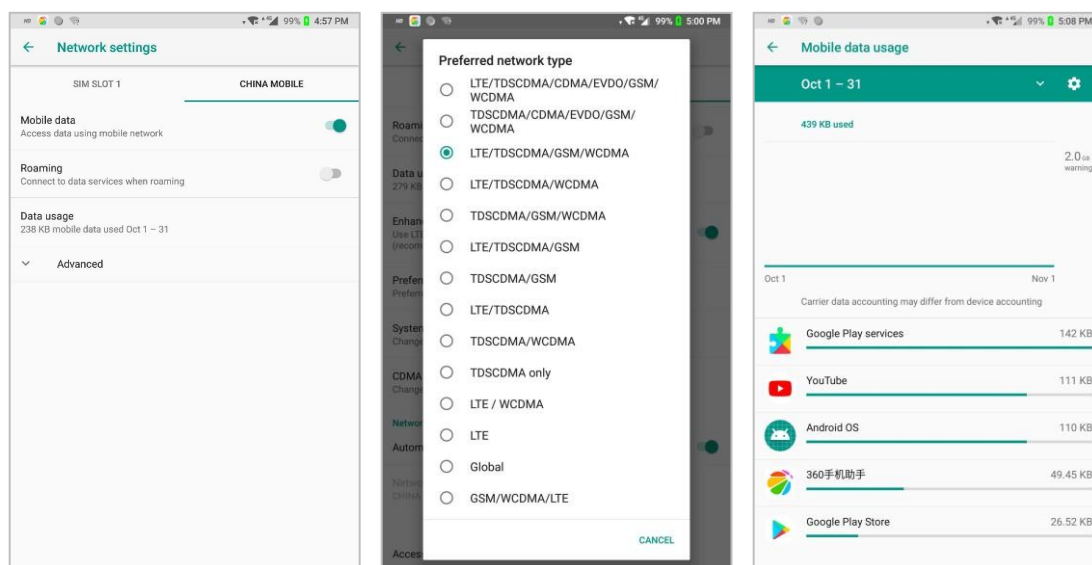
 Camera Settings

Click to configure related parameters.



3.9 Log in 4G

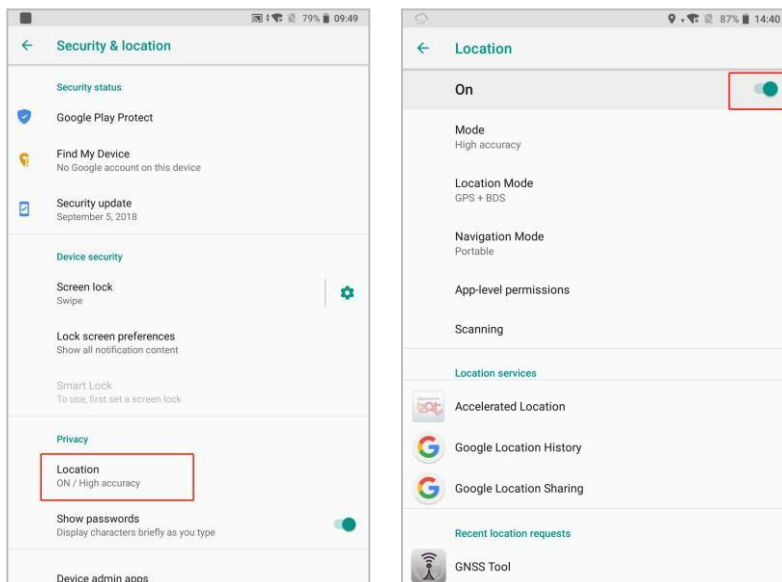
After inserting your SIM card, click **[Settings] – [Network & Internet] – [Mobile Networks] – [Advance] – [Preferred network type]** and select corresponding network type of your SIM card. Then turn on **Mobile data** and click **Data usage** to see data usage.



3.10 Location

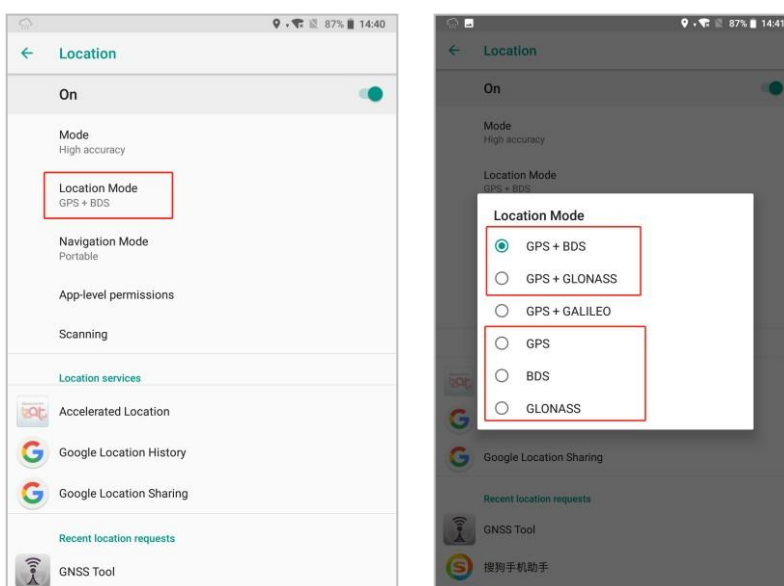
3.10.1 Turn on The Location Service

Click [Settings] – [Security & Location] – [Location] – [On] to switch on location service.



3.10.2 Select The Constellation Combination

On the [Location] panel, the choose [Location Mode], and the user can choose the constellation/constellations.



For LT700, there are five options:

GPS+BDS: The device will use GPS, BDS and SBAS data to do the positioning;

GPS+GLONASS: The device will use GPS, GLONASS and SBAS data;

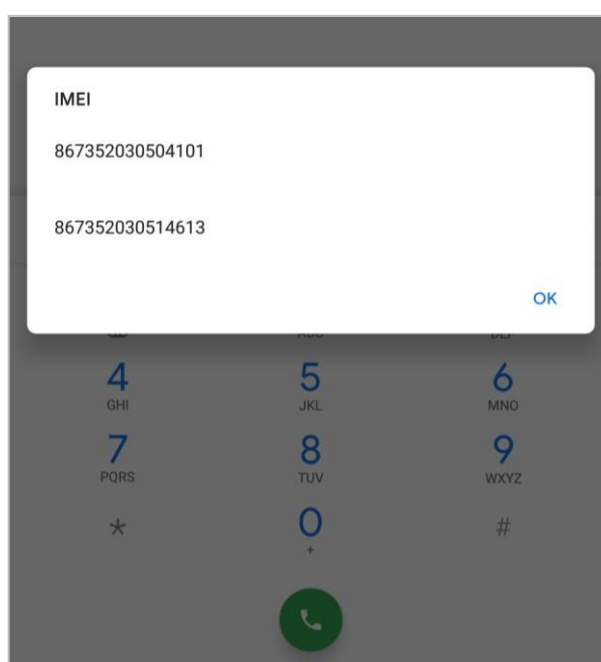
GPS: The device will use GPS, SBAS data;

BDS: The device will use BDS signal only;

GLONASS: The device will use GLONASS signal only;

3.11 Check The IMEI Number of The Device

Turn the LT700 on and enter the dialing panel, tap '*#06#', the IMEI numbers show up automatically.

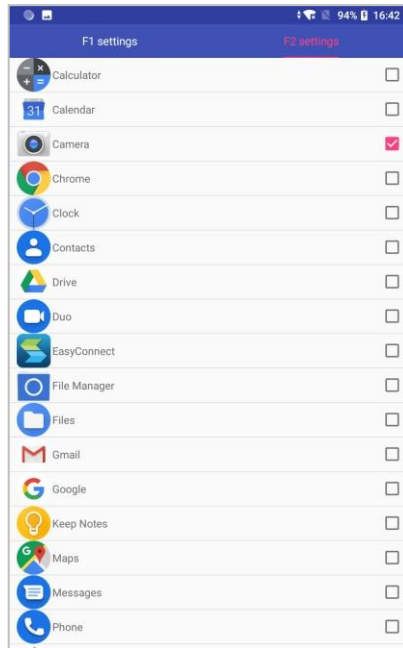


3.12 Edit F1/F2 Function Key

The F1/F2 Function Key can be edited to launch the APPs in the device.

Enter the edit interface vis **[Settings] – [System] – [Gestures] – [F1 F2 Function Key]**.

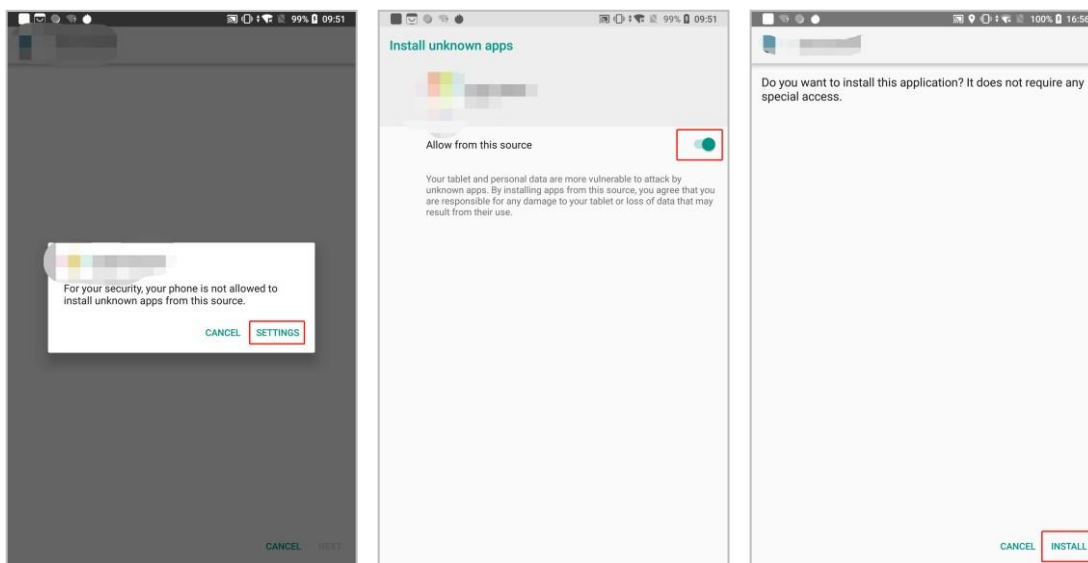
Check the APP for corresponding function key in **[F1 Settings]** / **[F2 Settings]**.



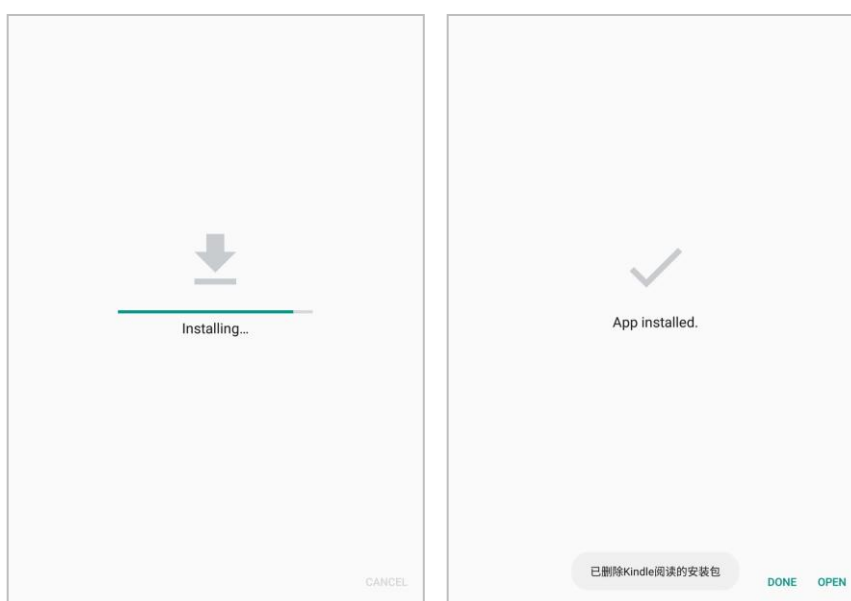
4 Install Third-Party Software

As for installing the third-party software, there are some steps to be followed:

1. Download the .apk file from the play store;
2. Click **[Install]** and a security confirmation message pops up, click **[Setting]** and enter next step;
3. Click **[Install]** to continue the process;



4. Wait for the installing, and the 'APP installed' shows up when the installation finished.



4.1 Access The Cloud

In TopoXpress, there is a cloud server which can provide various online services such as uploading and downloading layers, jobs, saving changes:

User: name for cloud login;

Password: password for cloud login;

Online: online cloud access, this mode periodically checks the cloud server;

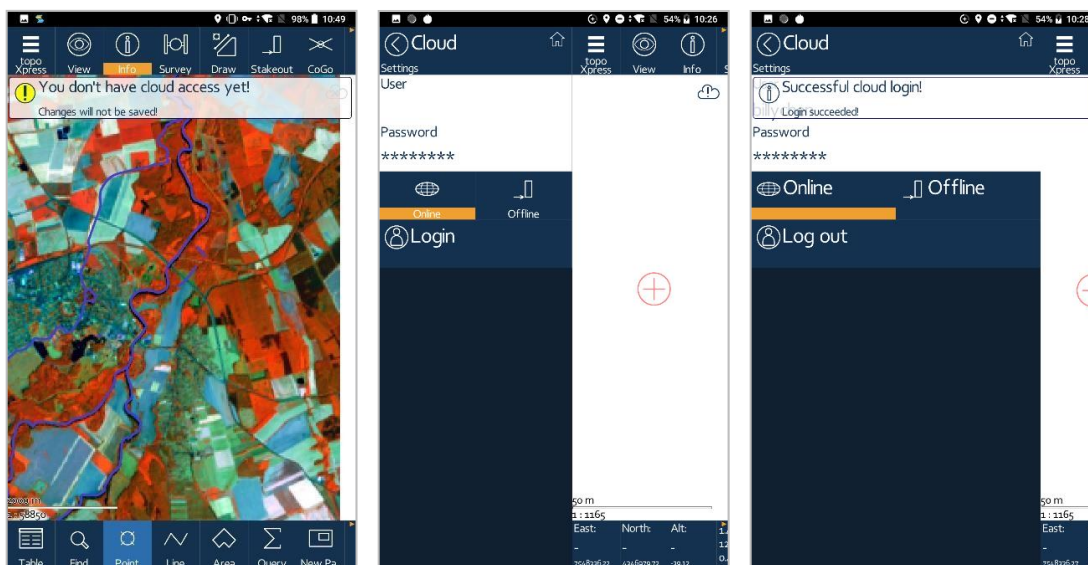
Logout: log out from the cloud;

Offline: offline work for a specified period, this mode acquires access from the server, and the software can be used offline until the period expires;

Period: defines the offline work period: 1 hour, 4 hours, 1 day, 7 days;

Date of expiration: displays the expiration date of the offline work.

Tap **[topoXpress] – [Settings] – [Cloud]**, and then, enter the username and password.

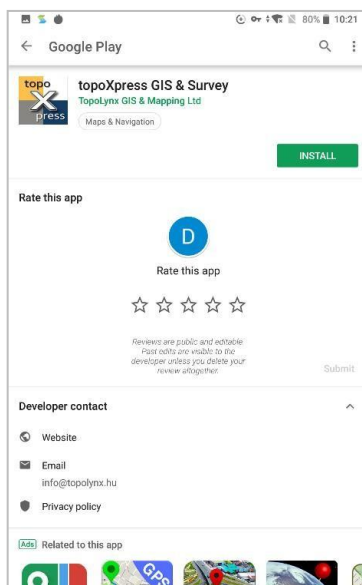


Tap the **[Login]**, if the user and password are correct, the message box with 'Successful cloud login!' pops out.

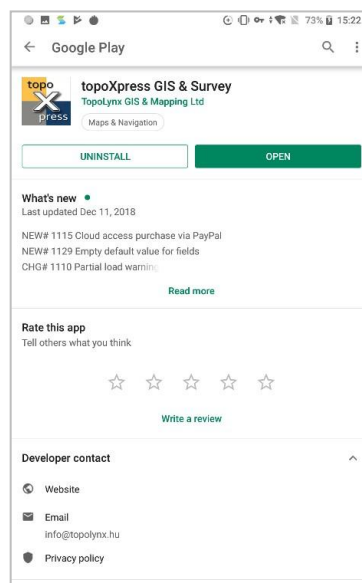
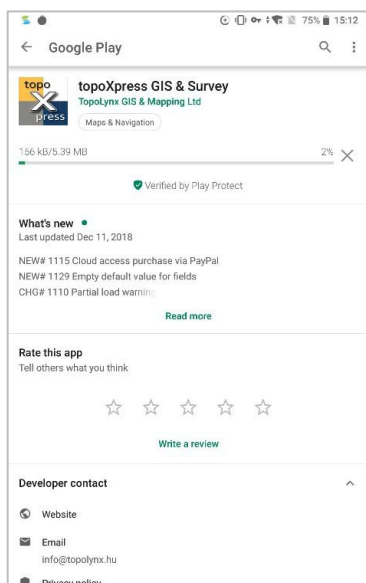
4.2 Install The TopoXpress

As for installing the TopoXpress, there are some steps to be followed:

1. Launch the play store, and search 'TopoXpress' in the search box.



2. Click **[Install]** to start downloading the .apk file from the play store;
3. Wait for the installing, and the 'APP installed' shows up when the installation finished.



5 Turn The Test Switch On

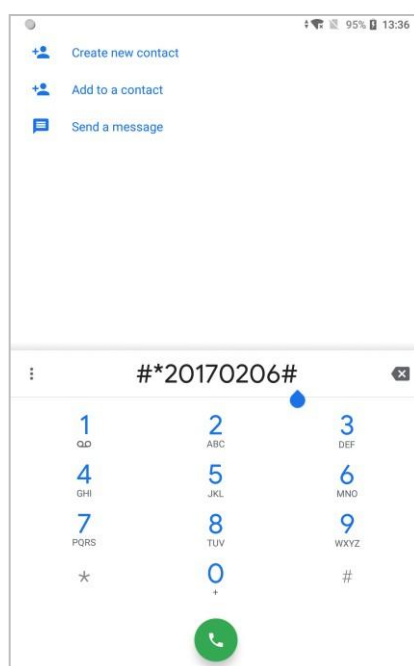
For the test settings or another advanced purpose, the customers can use the **Test Settings**.

This chapter will give the guidance to the test setting panel and show how to turn the test switch on.

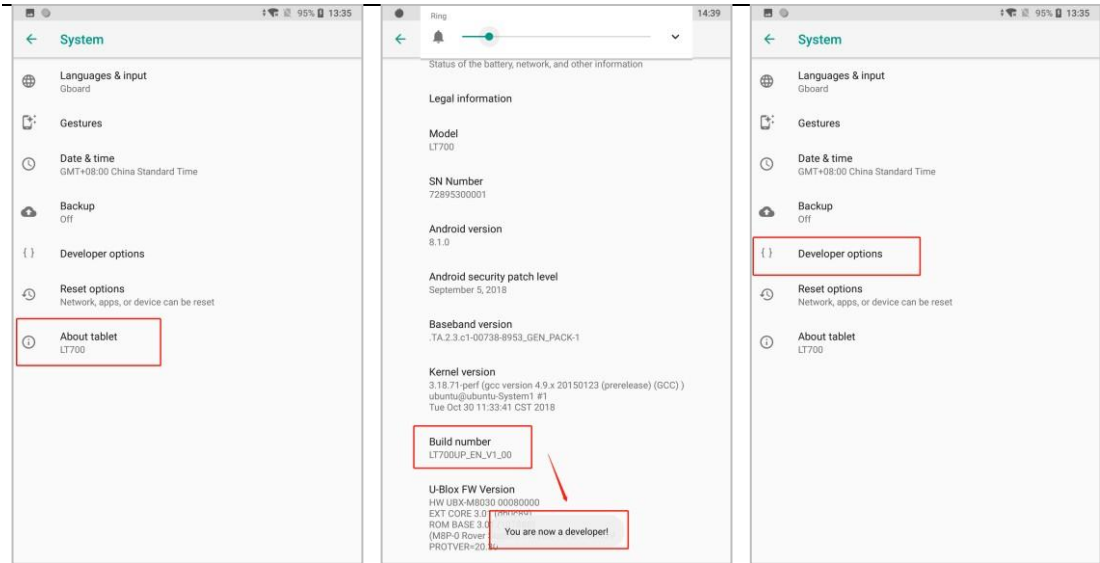
5.1 Enter Test Settings Interface

According to the version of the OS, there are two methods for the device.

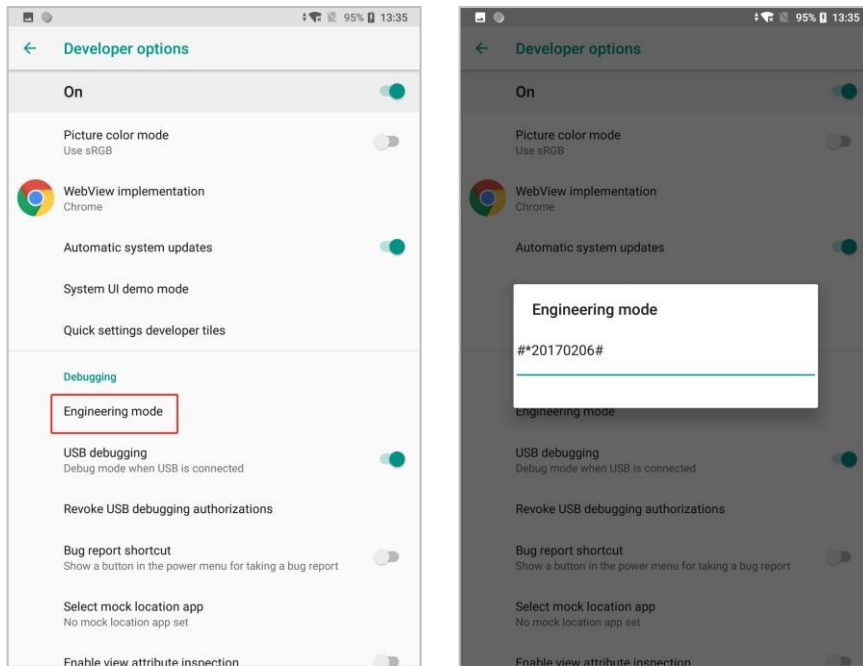
If the OS version is below 8.1, please enter the dialing panel and tap ‘#*20170206#’.



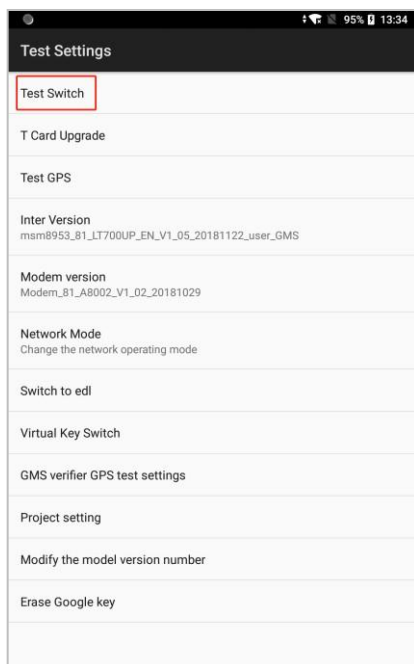
If the OS version is 8.1, please get into developer first via **[Settings] – [System] – [About Tablet]**, then tap **[build number]** 5 times until the system pops up the ‘you are now a developer’. One step back, on the **[System]** screen, the **[Developer Options]** option shows up.



Tap the [Engineering mode], and then, tap '#*20170206#'.



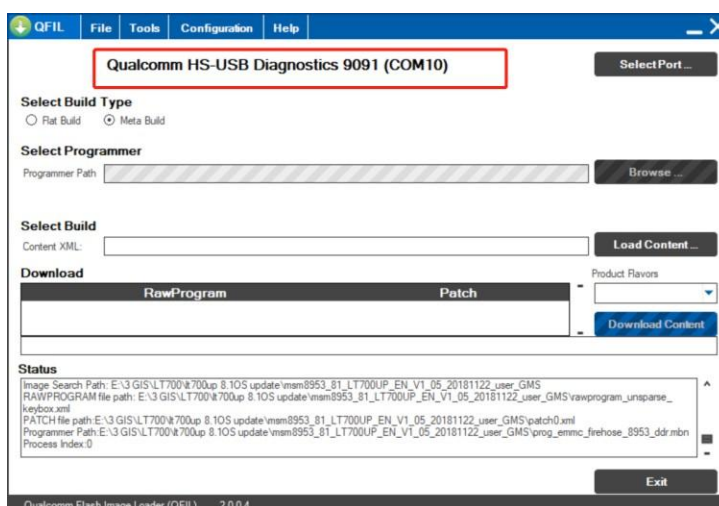
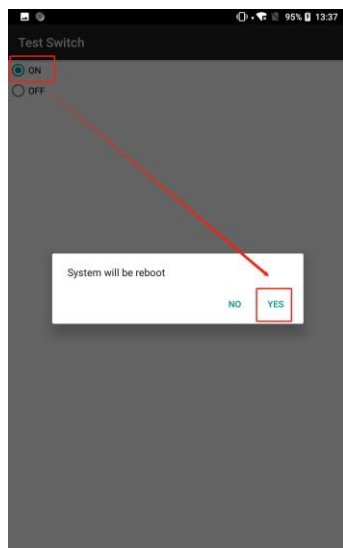
After the tapping, the test setting panel shows automatically.



5.2 Turn The Test Switch On

Tap the **[Test Switch]** on the top of the screen, and check **[On]** on the new interface shows up.

Choose **[Yes]**, and the computer can detect the device after the reboot finished.



6 Update The Android Operating System

6.1 Preparation

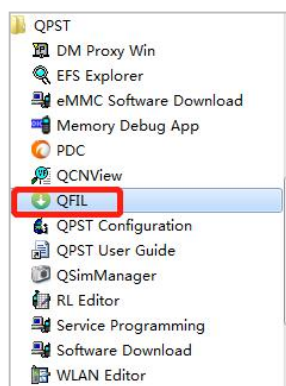
We need to prepare the updating tools (software and data cable), update OS and LT700.

For updating tools (software), please contact our technical support for the download link. The contact methods are shown at the end of this user guide.

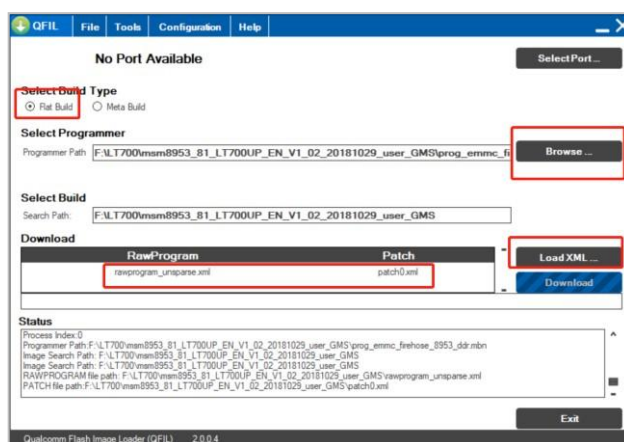
1. Install QPST;
2. Download the Android Operating System(unzipped);

6.2 Updating

1. Launch QFIL; ([Start] - [all programs] - [QPST] - [QFIL])



2. The main screen shows as follow:

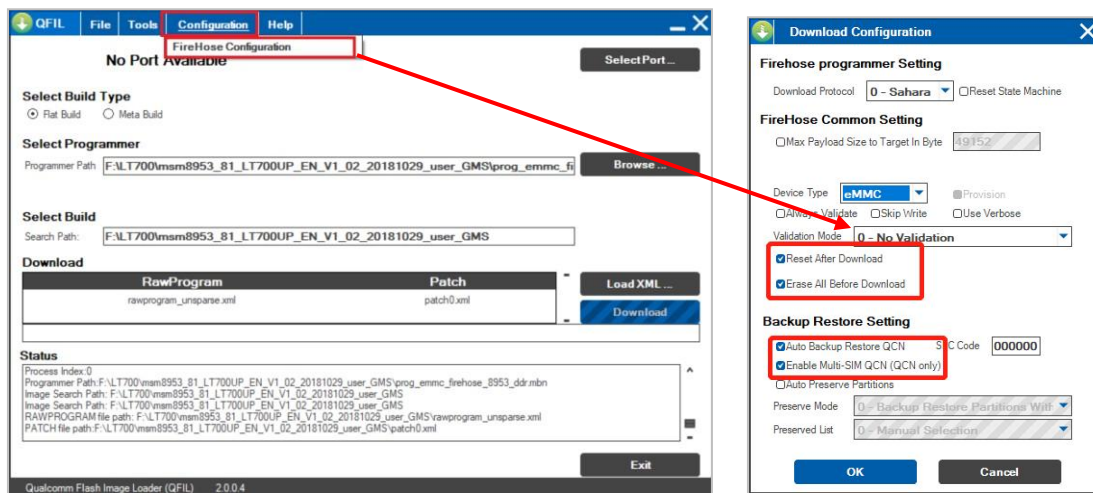




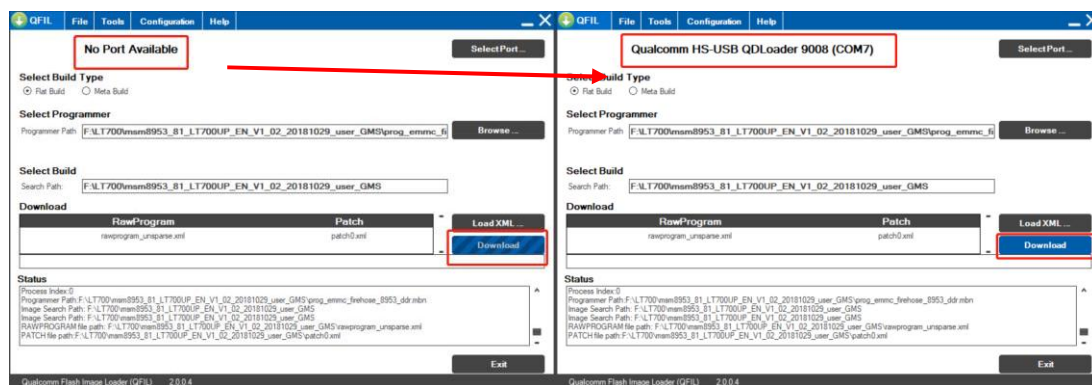
3. Check the **[Flat Build]** for the **[Select Build Type]**;
4. For the **[Select Programmer]**, click **[Browse]** and choose the only selectable file in unzipped Android Operating System folder;
5. Select build;

Click **[Load XML]**, and choose the default file (only choice);

6. **[Configuration]** – **[FireHose Configuration]**, check **[Reset After Download]**, **[Erase All Before Download]**, **[Auto Backup Restore QCN]** and **[Enable Multi-SIM QCN]**;

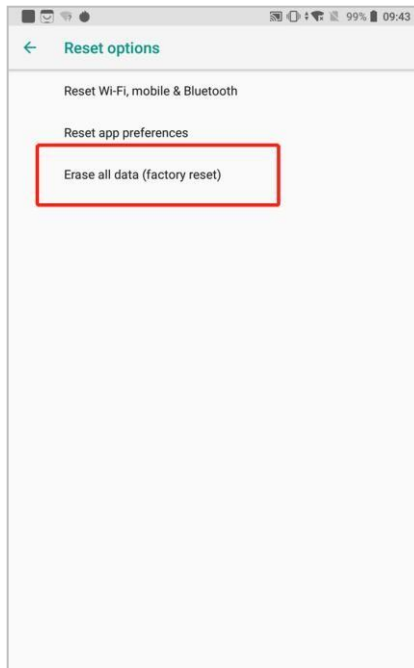


7. Connect LT700 to the computer via data cable, when the **[No Port Available]** position changes to **9091/9008 Port**, click download and wait until 'Download Success' pops up. (if the computer cannot detect the LT700, please switch the device into test mode, see chapter 5);



8. After the updating, please erase all the data:

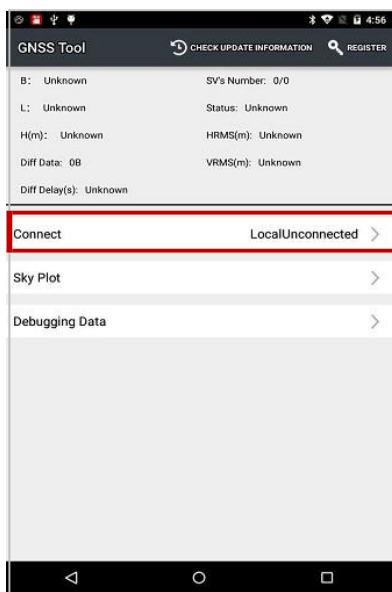
Enter [Settings] - [System] - [Reset options] - [Erase all data (factory reset)]



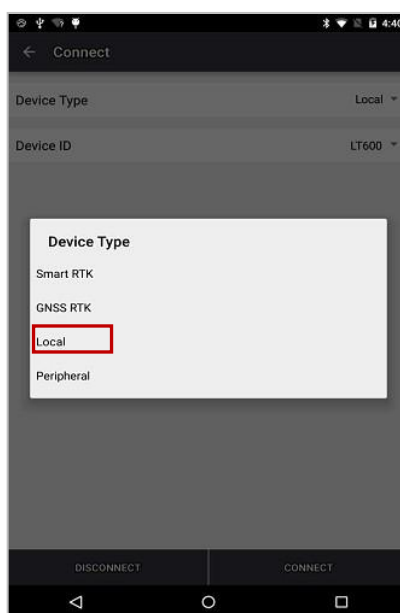
7 Getting Started With GNSSTool

7.1 Connection

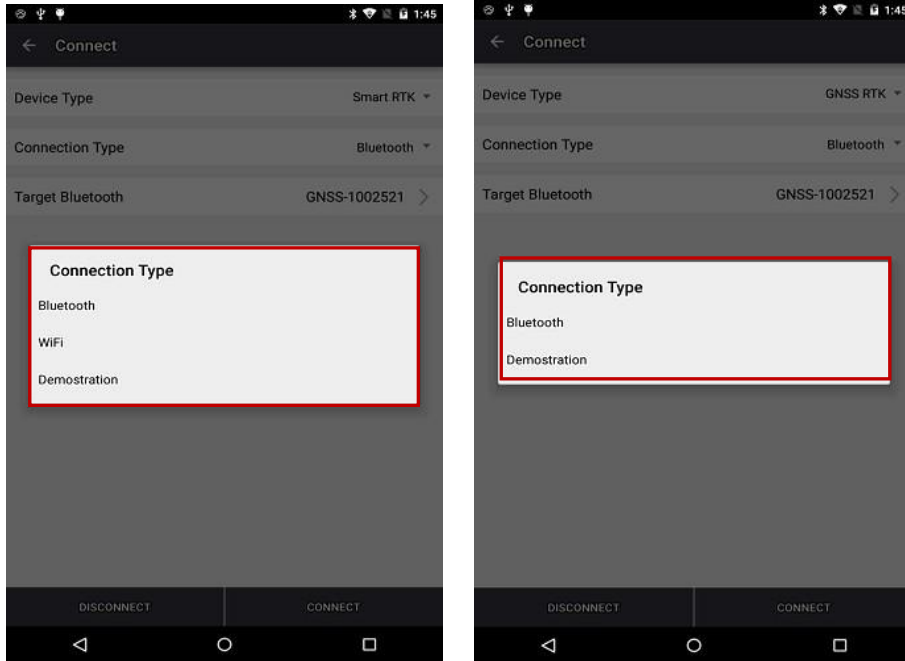
1. Open GNSSTool and click **[Connect]** menu and select **[Device Type]** and **[Connection Type]** – **[Device ID]** in connect interface.



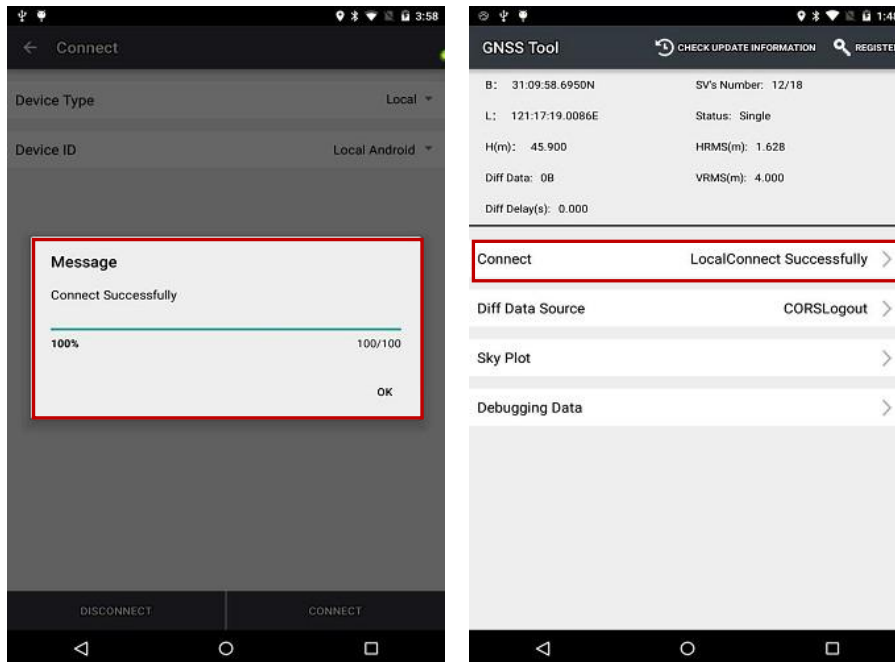
2. **Device Type:** There are 4 types of Device Type: **Smart RTK**, **GNSS RTK**, **Local** and **Peripheral**. Here for LT700, we choose **Local**.



3. **Connection Type:** For smart RTK (like i80), we select **Bluetooth**, **WiFi** or **Demonstration**. For GNSS RTK (like X91), we can select **Bluetooth**, and **Demonstration**. For Local and Peripheral, we select the specific device type that we use. Here we select **LT700** for **Connection Type**.



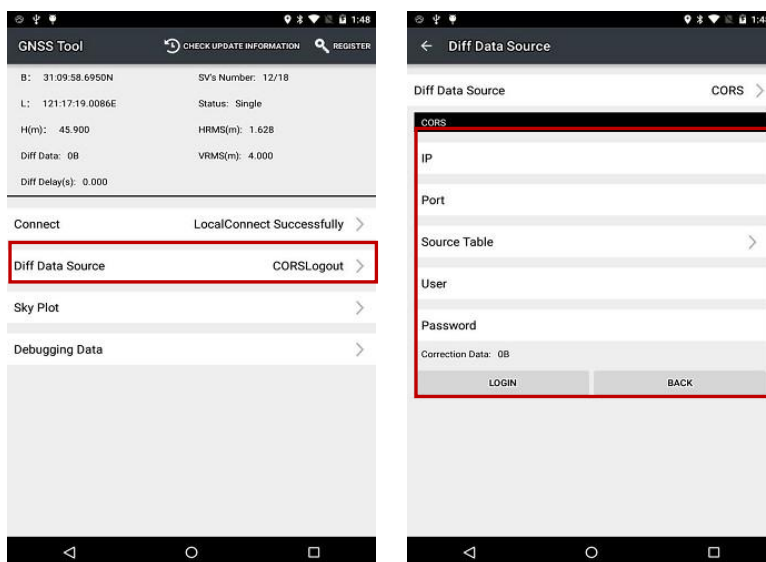
4. Click [**Connect**] to connect with the receiver successfully and go back to the previous interface.



7.2 CORS Login

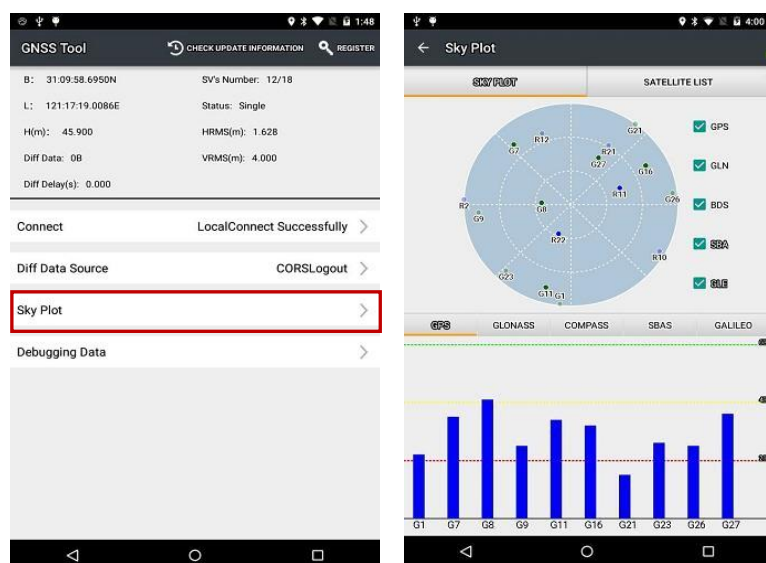
After finishing the connection successfully, we can log in CORS to receive differential data.

1. Click **Diff Data Source** in the main interface, type in IP, Port, Source Table and other parameters and then click **LOGIN**.



7.3 Sky Plot

Click **Sky Plot** and see how many satellites (including GPS, GLONASS, BDS, GALILEO and SBAS) the device is currently tracking.





CHC Navigation

Building C, NO. 577 Songying Road,
Qingpu District, 201703 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

Make your work more efficient