GeoAstra™

Y55G

RTK/PPP Android Device

User Manual

Date: April 2026

GeoAstra™

Content

Overview

Welcome to the GeoAstra Y55G handheld controller. This introduction describes how to use this product.

Advice

If you have any suggestions for this product, please email info@geoastra.com. Your feedback information will help us to improve the product and service.

1.1 Introduction

1.1.1 Foreword

The GeoAstra Y55G controller is a professional all-in-one data collector based on the Android system. It integrates a PPP/RTK module, GNSS antenna, battery, 4G, BLE, storage, and Survey app into a single device, providing a complete and portable high-precision positioning solution for users who need reliable high accuracy both with and without RTK network coverage.

1.1.2 Features

1. Positioning accuracy: 1cm+1ppm RMS in RTK mode and 20cm RMS in PPP mode, support below

   BDS: B1I, B1C, B2a, B2b（PPP), B3I, B1I, B2I;

   GPS: L1 C/A, L1C, L2, L5;*

   GLO: G1, G2;

   GAL: E1, E5a, E5b, E6;

   QZSS: L1C/A, L1C, L2, L5, L6;

   NavIC: L5;

   SBAS: L1 C/A;

2. Supports Bluetooth, Wi-Fi and 4G, which is convenient to carry out a variety of wireless data transmissions with the receiver.
3. Internal 13-million-pixel camera: for field collection of image information.
4. Industrial design, P67 waterproof and dust-proof, withstand 1.2 meters drop to a cement floor
5. Large battery lasting for 16-20hours
6. Support multiple languages
7. Provide surveying software, as well as third party GIS software

1.2 Appearance

1.2.1 Front of the controller

The front of the Y55G controller includes a touch screen, keyboard microphone and indicator light.

Figure 1-2-1 Y55G controller

1- Touch screen 2- GNSS antenna 3- Keyboard

- Touch screen: multipoint capacitive touch screen with touch pen (enable the touch pen function: Settings - Accessibility - Handwriting pen), which supports Chinese and English input.

- Keyboard: direction control, switch between Chinese and English, data collection, volume control, power on, power off and other functions.

1.2.2 Reverse side of the controller

There is a camera, belt, NFC, loudspeaker, etc. on the reverse of the controller.

Figure 1-2-2 the backside of the Y55G

1- Camera 2-NFC 3-Loudspeaker 4- Belt hole

- Camera: used for field collection of images.

- Belt hole: connect the belt to prevent it sliding down.

- Loudspeaker: conduct real-time voice broadcasts for operation and status.

- NFC: supports NFC data transmission to achieve rapid connection between RTK and the hand-held controller.

1.2.3 Side of the controller

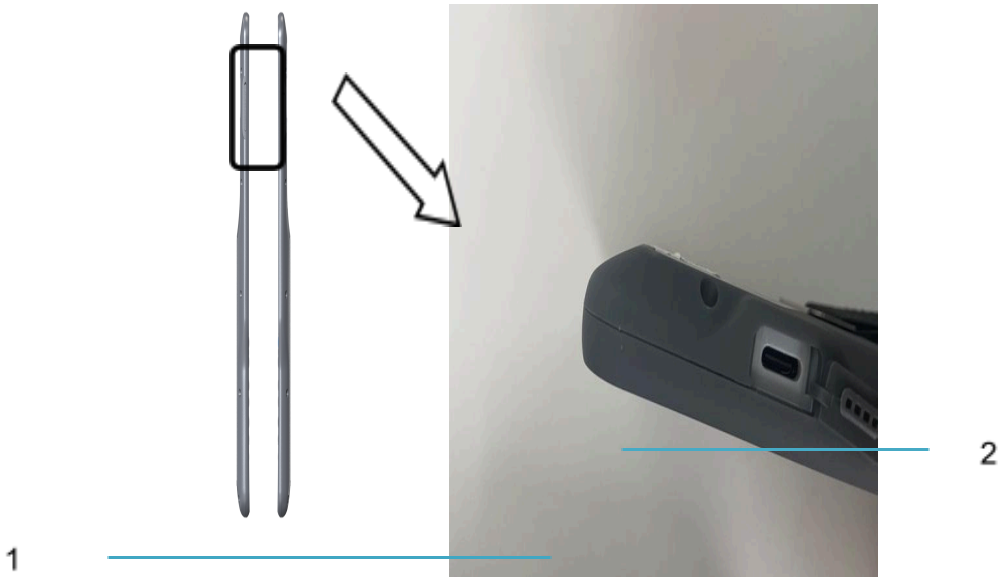


Figure 1-2-3 the port of Y55G

1- Waterproof & dust-proof rubber cover 2- Type-C port

- Type-C port: for connecting the USB data line and the controller.

1.3 Controller accessories

1.3.1 Data cable

Figure 1-3-1 Data cable

USB data cable: connect to the USB port of a computer, for download of data; connect to the Type-C port of the charger for charging the controller.

1.3.2 Touch pen

Figure 1-3-2 Touch pen

Touch pen: located on the strap of the controller.

1.4 Operation

1.4.1 Keyboard

Most settings and operations of the Y55G hand-held controller can be completed by the touch pen, and commonly used operations can be completed on the keyboard. Appearance and functions of the keyboard are as follows.

Y55G keyboard includes: Back, OK, Power, APP, Fn, Collect, etc.

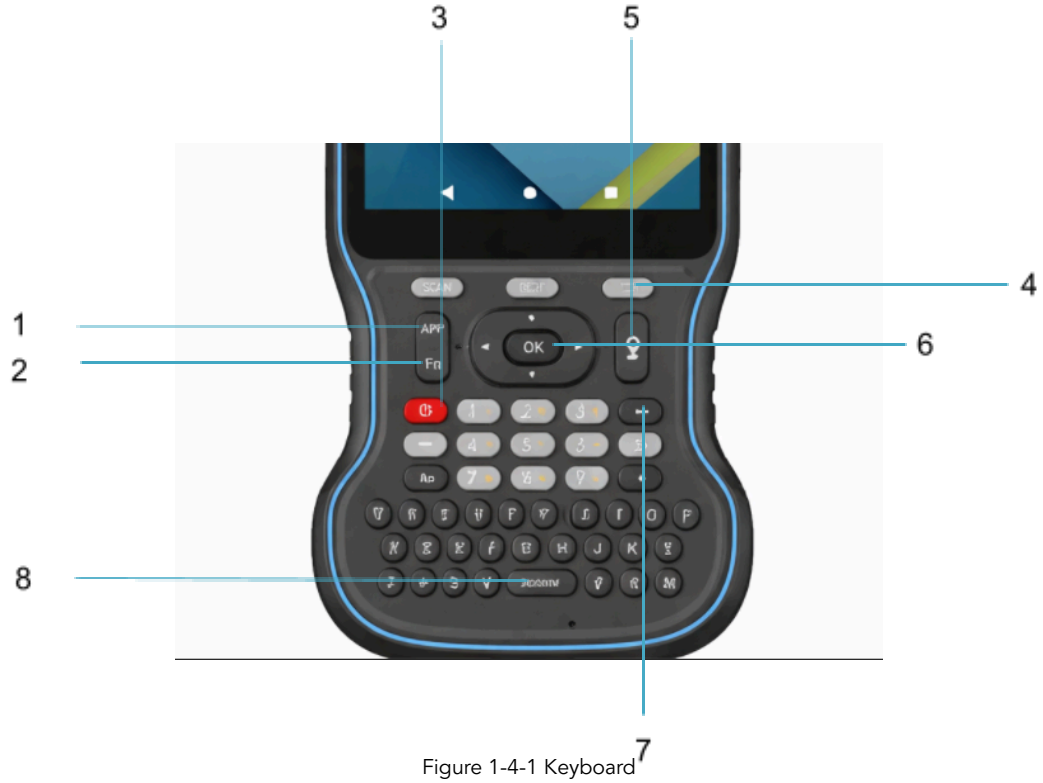


Figure 1-4-1 Keyboard

1- APP 2- Fn 3- Power 4- Back 5- Collect

6- OK 7- Delete 8- Space

- Back: cancel or exit the operation of the current window.

- OK: confirmation.

- Power: press it for over 3secs to power on/off. Press it for 1sec to turn off /on the screen backlight in the power on status.

- APP: quick start of the APP. The default is Hi-Survey Road software.

- Fn: when inputting, short press this key to cycle the input method (Chinese Pinyin/ English letter abc/ English association en/ number 123). In any interface, long press this button to pop-up the selection box to switch the system input method.

- Collect button: collect data by manual operation.

- Fn + direction up/ down key: volume increase/ decrease.

- Screenshot function: pull down the screen at the top menu, select the screenshot options, and the screen capture will be kept in the folder of Mobile phone storage→Pictures→ Screenshots.

1.4.2 Battery and Charger

1. Battery: The controller has a built-in 9000mAh battery and supports USB PD3.0 fast charging.

2. Charger: To charge the controller, use the standard charger.

Figure 1-4-2 Cable and charger

1.4.3 SIM card setting

The Y55G hand-held controller supports DSDS, the default card is SIM1. Both SIM1 and SIM2 support full network 4G.

1. Installation of the SIM card

Step1: remove the left side cover and expose the SIM card slot. Slot 1: Micro SIM card; slot 2: standard SIM card.

Step2: put the SIM card into the slot with the front side (metal contact side) down.

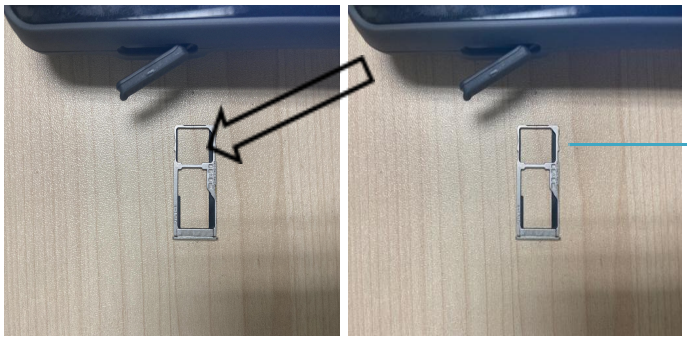


Figure 1-4-3 Installation of SIM card

2. Network: Settings → Data usage.

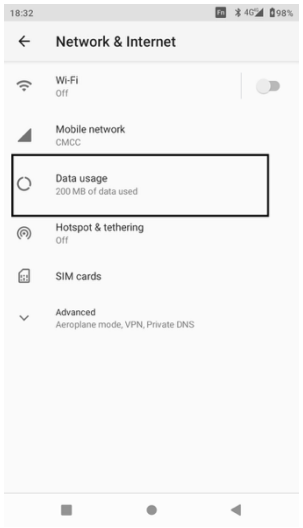


Figure 1-4-4 Data usage

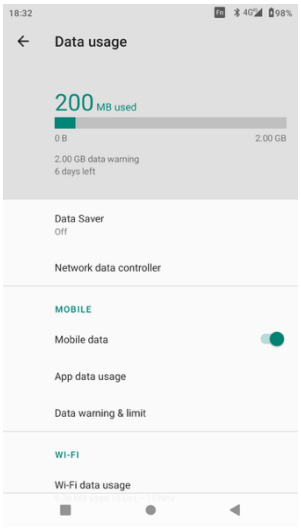


Figure 1-4-5 Overview of data

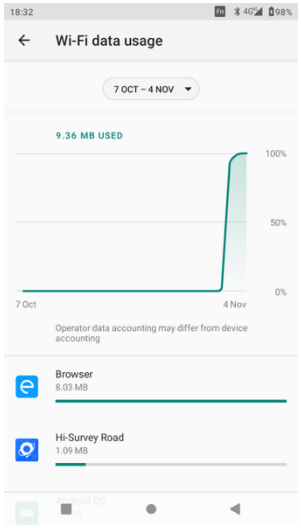


Figure 1-4-6 Cellular data network

1.4.4 Installation of the Micro SD card

The Micro SD card can save collected data and program files.

Notice: Micro SD card（TF card）is an external storage card, usually used in mobile phones and PDAs. If you buy this, please note the difference to ordinary SD cards. The volume of the ordinary SD card is larger than the Micro SD card, and is not suitable for the Y55G hand-held controller.

Step1:remove the left side cover and expose the Micro SIM card slot..

Step2: Put Micro SD card into the slot (metal contact side down).

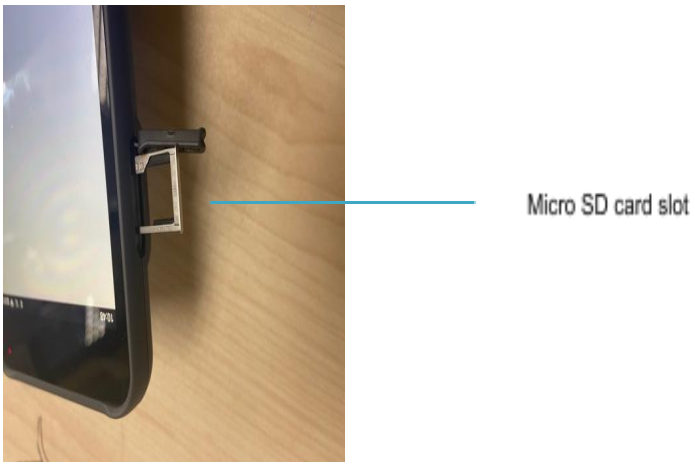


Figure 1-4-7 Micro SD slot

Figure 1-4-8 Installation of Micro SD card

1.4.5 Power on/off

In the off state, long press the power button for 3 seconds, it will power on.

In the *power on* state, long press the power button for 3 seconds, it will prompt to shut down and to confirm, click Power off.

1.5 Application

1.5.1 Connecting the controller to computer

1. Connect the controller to computer via the USB data cable.

2. Transfer files: pull down the notice column and click USB for charging.

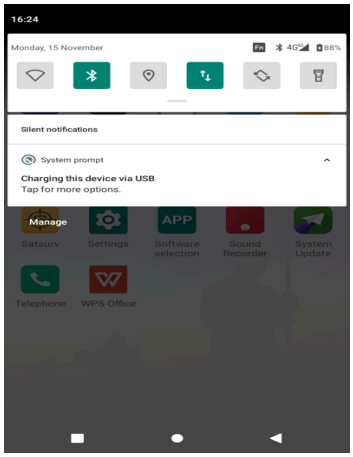


Figure 1-5-1 USB connected

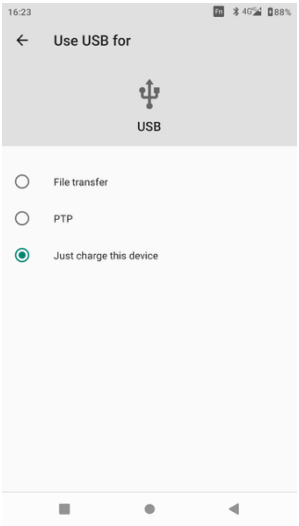


Figure 1-5-2 Charging

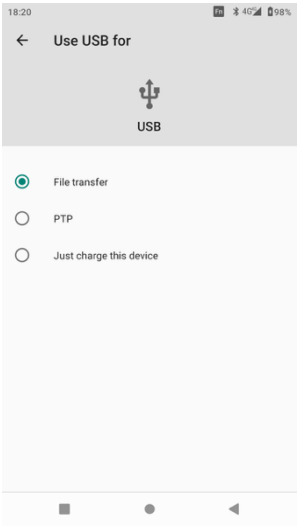


Figure 1-5-3 File transfers

3. Connect the PC version mobile phone assistant: open the hand-held controller, click Setting →System → Developer options → USB debugging.

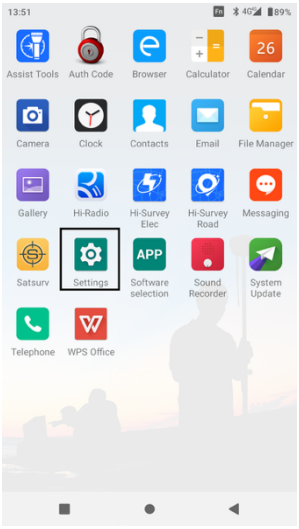
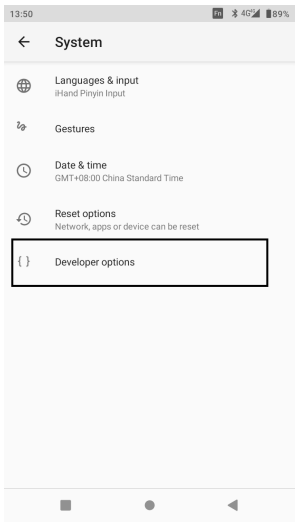


Figure 1-5-4 Settings



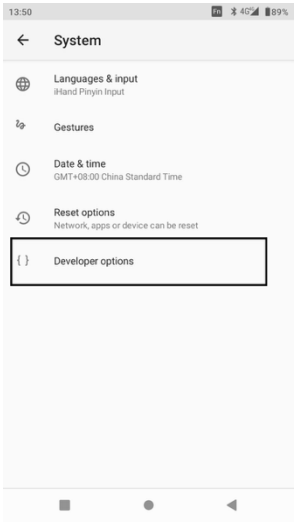


Figure 1-5-5 Developer options

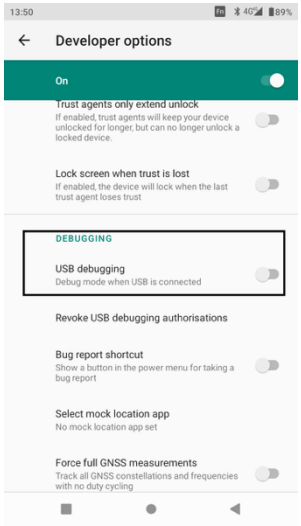


Figure 1-5-6 USB debugging