



# Singular XYZ T8 Pro High Precision Tablet Instruction Manual

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## *SingularXYZ*

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**T8 Pro High Precision Tablet**



T8 Pro  
High Precision  
Tablet Manual  
V1.0, modified on 2021.12.04

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#### **Trademark notice**

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#### **FCC Notice**

SingularXYZ® RT8Pro comply with the limits for a Class B digital device, pursuant to the Part 15 of the FCC rules when it is used in the Portable Mode.

Operation is subject to the following two conditions:

4 This device may not cause harmful interference;

5 It must accept any interference received, including interference that may cause undesired operation.

#### **Copyright Notice**

This is the V1.0 (Dec, 2021) revision of the T8Pro User Guide. It cannot be copied or translated into any language without the written permission of SingularXYZ.

#### **Technical Assistant**

If you have any question and can't find the answer in this manual, please contact your local dealer from which you purchased the T8Pro. Alternatively, request technical support from SingularXYZ. Website: [www.singularxyz.com](http://www.singularxyz.com) or technical support email: [singularxyz@singularxyz.com](mailto:singularxyz@singularxyz.com). Your feedback about this Guide will help us to improve it with future revisions.

#### **Safety Information**

Before using the Tablet, please make sure that you have read and understood this User Guide, as well as the safety requirements.

- 4 Connect your devices strictly based on this UserGuide
- 5 Avoid falling to ground, or colliding with other items
- 6 Do not rotate GNSS antenna
- 7 Do not cover the radio, keep a sound ventilationenvironment
- 8 Change the cable if damaged

#### Related Regulations

The tablet contains integral Bluetooth wireless technology. Regulations regarding the use of the datalink vary greatly from country to country. In some countries, the unit can be used without obtaining an enduser license. But in some countries the administrative permissions are required. For license information, please consult your localdealer.

#### Use and Care

The tablet can withstand the rough treatment that typically occurs in the field. However,the tablet is high- precision electronic equipment and should be treated with reasonablecare.

#### Warning and Caution

An absence of specific alerts does not mean that there are no safety risks involved. A Warningor Caution information is intended to minimize the risk of personal injury and/or damage tothe equipment.

**WARNING-** A Warning alerts you to a potential risk of serious injury to your person and/or damage to the equipment, because of improper operations or wrong settings of the equipment.

**CAUTION-** A Caution alerts you to a possible risk of damage to the equipment and/or data loss.

#### Warranty Notice

SingularXYZ does not warranty devices damage because of force majeure (lighting,high voltage or collision). SingularXYZ does not warranty the disassembleddevices.

## Chapter 1 Introduction

### 1.1 About the T8Pro

Embedded with high precision GNSS module, the T8 Pro can simultaneously track all running and planned constellations including GPS, GLONASS, BeiDou, Galilei, QZSS and Navic, providing centimeter level positioning accuracy to satisfy the demands of most GIS applications.

### 1.2 T8Pro Features

Below is the T8Pro key features:



### 1.3 Specifications

#### SYSTEM

CPU	Qualcomm 8953 2.2GHz
OS	Android10
ROM	64GB
RAM	4GB
TF Card	Support
Rear Camera	16M
Front Camera	8M
Battery	9000mAh, 15hrs working time

## COMMUNICATION

WIFI	802.11 a/b/g/n/ac, 2.4GHz/5GHz
Network	GSM:850/900/1800/1 900 CDMA: BCO EVDO: BCO WCDMA: B1/B2/85/B8 TD-SCDMA: B34/B39 TDDLTE: Band38/Band39/Band40/Band41 FDDLTE: Band1 /Band2/Band3/Band4/Band5/Band7/Band8/ Band1 7/Band20/Band28
Bluetooth	BT 4.2
SIM Card	Dual SIM & Dual standby
USB	Type C
External Interface	USB, UART, GPIO

## GNSS SPECIFICATIONS

Channels	965
Satellite Tracking	<ul style="list-style-type: none"> <li>– GPS: L1C/A, L2P, L2C, L5, L1C</li> <li>– BeiDou: B1I, B2I, B3I, B1C, B2a</li> <li>– GLONASS: L1, L2</li> <li>– Galileo: E1, ESb, E5a</li> <li>– QZSS: L1C, L2, L5, L1C/A</li> <li>– Navic: L5</li> <li>– SBAS: L1, L5</li> </ul>
Single Baseline RTK	8 mm + 1 ppm Horizontal 15 mm + 1 ppm Vertical
Standalone	1.5m3D RMS

## PHYSICAL

Size	237mm*144mm*14mm
LCD Display	8" HD Capacitive screen, 500Nits sunlight-readable
Resolution	1280°800 pixels
Weight	700g
Voltage	5V, 2A
Keypad	Power, Volume, F1, F2
Sensors	Microphone, Speaker, Flash Light, NFC, G Sensor, Compass, Light Sensor, Gyroscope, OTG

## ENVIRONMENTAL

Working Temperature	-20C~ 60C
Storage Temperature	-30C~ 70C
Waterproof & Dustproof	IP67
Drop Test	Survive from a 1.2m drop
Humidity	95% no condensation

## SOFTWARE

Compatible with common third-party GIS and field surveying software, such as ArcGIS Collector, Mapit GIS, FieldGenius Android etc.

1. The helix antenna of T8 Pro is detachable, which can be replaced with geodetic antenna, providing better GNSS signal quality for land surveying solution.

All specifications are subject to change without notice.

## Chapter 2 Packing Overview

This section provides overall T8Pro tablet parts list, including basic supplies and customized kits based on your requirements.

### 2.1 Basic supply kit

Item	Picture
T8Pro Tablet	
Type-C Cable	
Battery Charger	

## 2.2 Optional Choices

Item	Picture
Helix Antenna	
Geodetic Antenna (optional)	
Bracket	
Range Pole	

## Chapter 3 Installation and Setup

This section shows T8Pro installation in difference work mode, including use the helix antenna and geodetic antenna.

### 3.1 Helix antenna

Below picture is about how T8Pro connect with Helix antenna. Then can conduct the position collection work after fixed the helix antenna well. Suggest make the antenna head to sky.





### 3.2 Geodetic antenna

Below shows how T8Pro connect with the geodetic antenna. Use the provided cable make the connections.



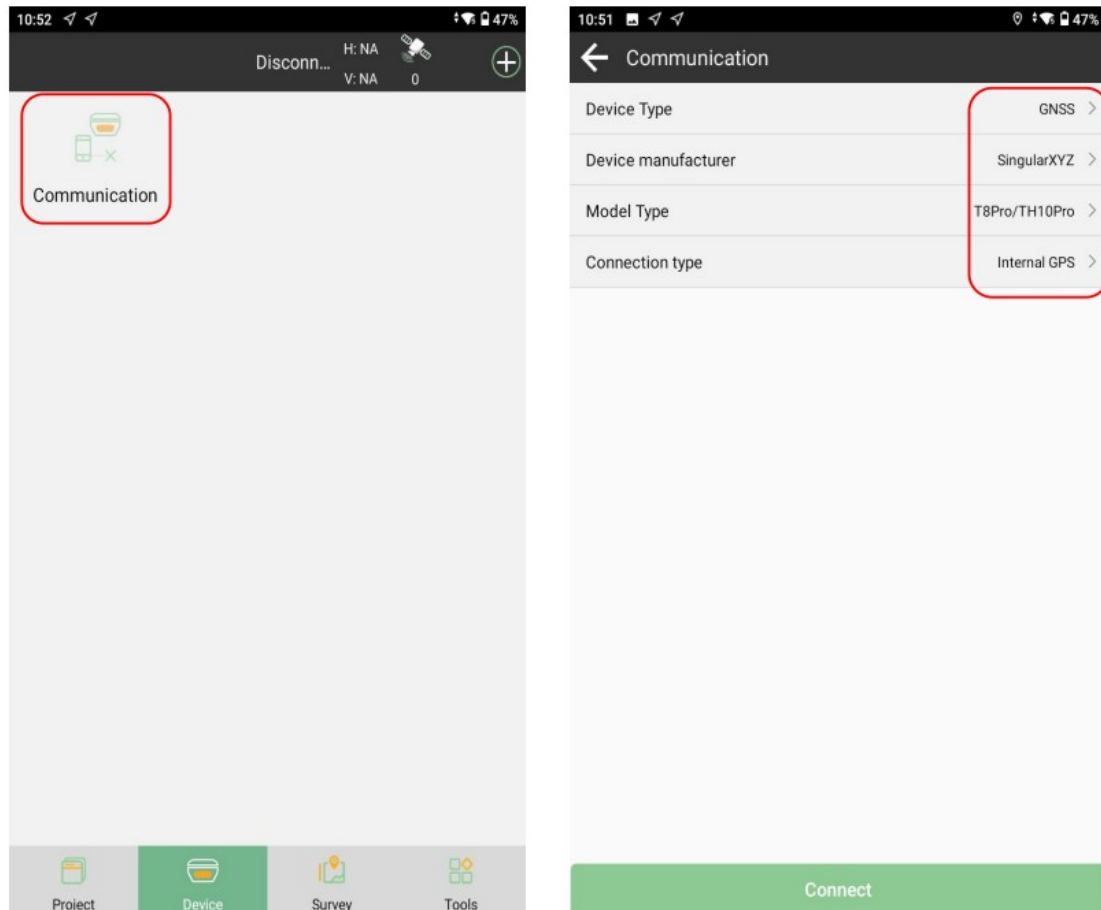
## Chapter 4 Operation

### 4.1 SingularPad software

SingularPad can connect to internal OEM board and set work mode directly.

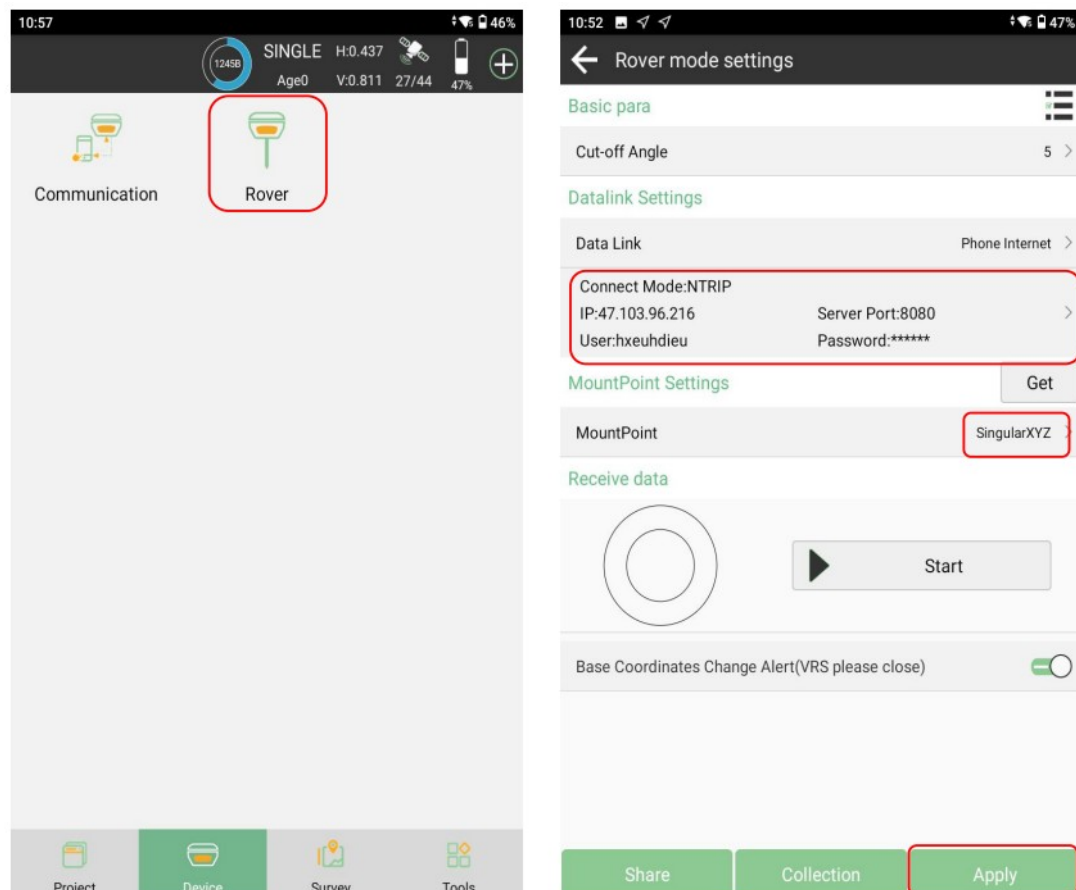


### 4.1.1 Connection



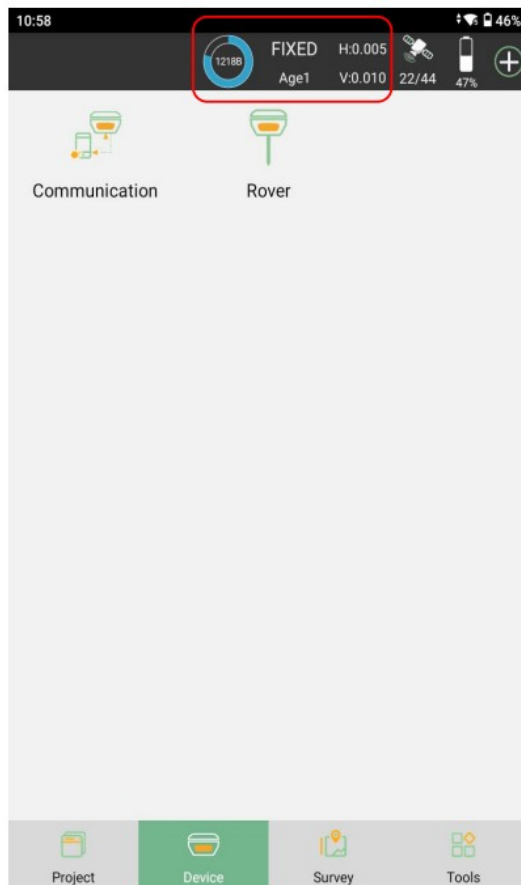
### 4.1.2 Set work mode

After connection, it will show a icon in the software as Rover, click and set CORS parameters: IP, Port, User, Password and MountPoint. Finally remember apply it.



### 4.1.3 Survey and Stakeout

Then the status will get fixed, and you can start your work



## 4.2 SingularSurv + High Precision software

High-Precision software is designed to configure the correction for integrated GNSS board, and also for checking information of the GNSS board, including satellites status, NMEA message, firmware version and more. Before you start your work with SingularSurv, you need to get single via High-Precision not SingularSurv.


### 4.2.1 Setup CORS connection or connect to your single Basestation

—make sure you have put SIM card to the tablet, or connected with WiFi before setup.

Click Setup IP, input the IP address and Port for your server. Select MountPoint from the list → input the account name and password → click CONNECT

←

High-Precision



Version: V1.5

SETUP IP

47.103.96.216:8080->SingularXYZ

RESET A/C

Account:

singularxyz

Password:

.....

CONNECT

DISCONNECT

After CORS configuration you will find the positioning status changed to FIX. And High-Precision software will share the location to the tablet, which means when there has another software requests the location, it will get the high accuracy location.

Password: .....

CONNECT

DISCONNECT

Location Status: RTK fixed

Longitude: 121.28957506666666

Latitude: 31.16644334833334

Altitude: 3.5238000000000005

Speed: 0.0052777776

Vertical Accuracy: 0.0036m

Horizontal Accuracy: 0.0036m

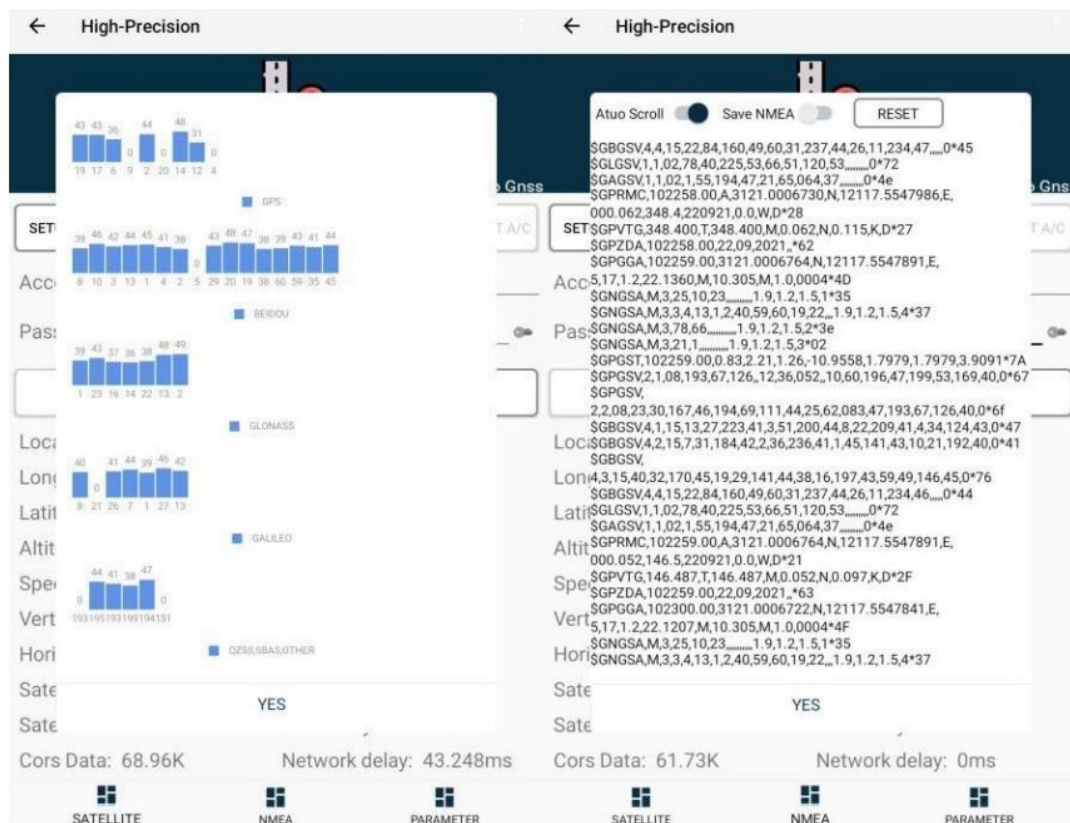
Satellite Count: 45

Satellite in used: 36

CorsDelay:0s

#### 4.2.2 Check satellites information and NMEA message

Click Satellites and NMEA to check the corresponding information.



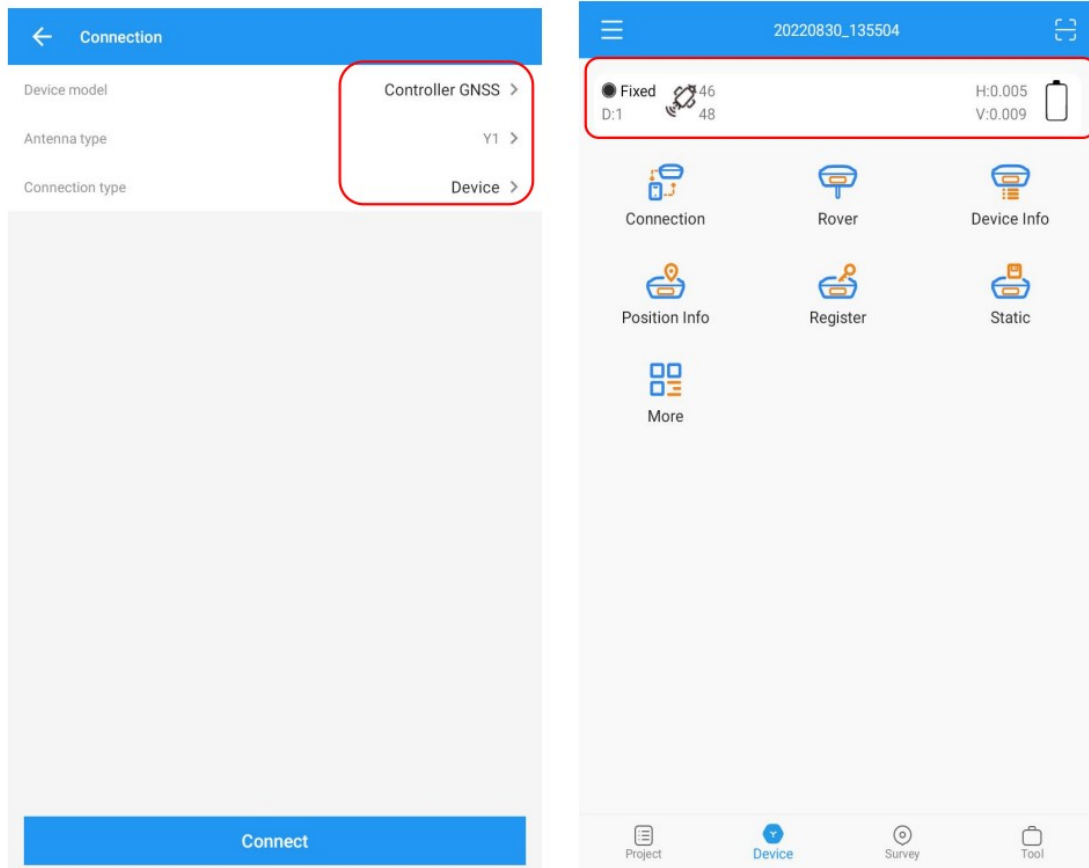
#### 4.2.3 Send command to communicate with the integrated board.

Input the command for the board, click send command. Here take "log version" as example, you can get the firmware version information.

The figure shows the 'Parameter Configuration' dialog in the 'High-Precision' application. The 'Send Command' button is highlighted with a red box. Below it, the 'Output result' section shows the command 'log version' being executed, resulting in 'OK! Command accepted! Port: COM1.' and 't: COM'. The 'Cors Data' is 'OK' and the 'Network delay' is '490.189ms'.

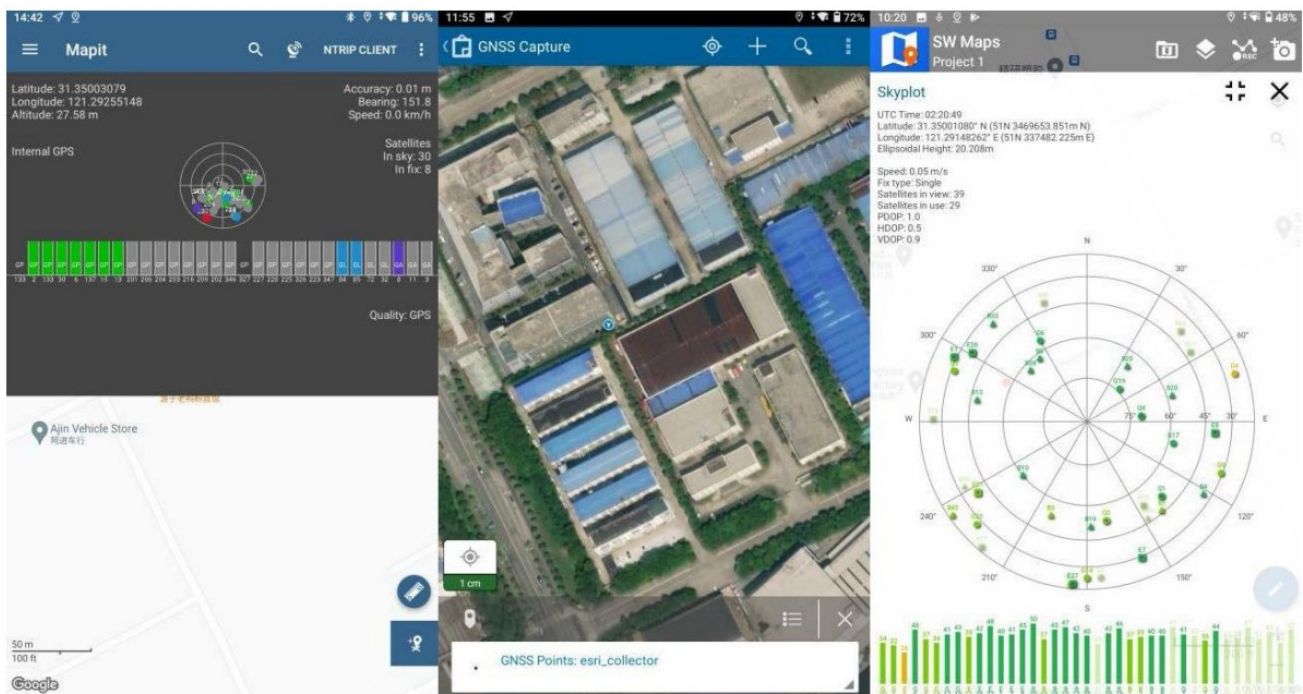
#### 4.2.4 SingularSurv Software

Go SingularSurv, in Connection, select Controller GNSS, and click Connect. Then you can go toTopo Survey to collect points.



#### 4.3 Other 3rd Party GIS Software

For GIS software which supports read the tablet location, all can work by T8 PRO high precision tablet. Blow shows some samples of GIS software.





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## Documents / Resources

	<p><a href="#">Singular XYZ T8 Pro High Precision Tablet</a> [pdf] Instruction Manual T8 Pro High Precision Tablet, T8 Pro, High Precision Tablet, Precision Tablet, Tablet</p>
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## References

- [ComNav Technology Ltd\\_ComNav,GNSS OEM Board,GNSS Receiver,GNSS Antenna,Wireless Data Link,Software,Collector](#)
- [SingularXYZ](#)
- [User Manual](#)