

# HP50 High-precision GNSS Module

## User Manual



**Edition: V1.0\_20210524**

## Statement

**Please read carefully:**

Thank you very much for purchasing our product. For instructions on how to use this product, please be sure to read the user manual.

This user manual is for your receiver only. If your receiver does not match the situation in the user manual, the actual situation of the receiver shall prevail.

The information in this document is subject to change without notice; We reserve the right to change or improve its products as well the content without any obligation to notify individual or organization of such changes or improvements. For any questions, please contact the customer service center or contact our authorized dealer.

Customer safety is important. Please carefully read the precautions and instructions in the user manual. To avoid accidental damage, use only original supplied parts. If you do not use the system or connect incompatible accessories in accordance with the correct procedures, it may cause damage to the equipment and may even endanger others and your safety. In this regard, the company does not assume any responsibility.

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## 1. Product Description

HP50 is a high-precision module designed for UT30 tablet. It brings with centimeter-level accuracy to meet GNSS and GIS survey job. It is also able to equip an external GNSS antenna to get better antenna phase center measurement. To achieve high accuracy positioning, user can choose to connect network NTRIP server or directly subscribe L-band service.

### Main features:

- Support multi-frequency and GPS, GLONASS, BDS, GALILEO, SBAS constellations
- Centimeter-level accuracy
- 800 channels for tracking signals
- Support NTRIP and L-band (Atlas)
- Any software can ready the high-precision position

## 2. Appearance

HP50 includes the GNSS module and small antenna. The antenna is connected to the GNSS module with MCX port.



### 3. Technical Specifications

<b>GNSS</b>		SBAS	H: 0.3 m V: 0.6 m
Satellites Tracking	GPS L1C/A, L1P, L2P, L2C, L5 BDS B1I, B2I, B3I, B1C, B2a, B2b, ACEBOC GLONASS G1/G2 Galileo E1, E5a, E5b, ALTBOC, E6 QZSS L1C/A, L1C, L2C, L5 SBAS <sup>1</sup> L-Band: Atlas H10/H30/Basic	L-Band	Atlas H10: 4 cm RMS Atlas H30: 15 cm RMS Atlas Basic: 30 cm RMS
	Channels	800	Correction Data
Update Rate	1 Hz	<b>Physical</b>	
<b>Performance</b>		Dimension	Φ148 mm x H74.5 mm
RTK	H: 8 mm + 1 ppm V: 15 mm + 1 ppm	Weight	1.06 kg
Code Differential	H: 0.3 m V: 0.6 m	Operating Temperature	-20°C ~ +55°C
		Storage Temperature	-40°C ~ +70°C
		Shock	Survive a 1.2 m drop on concrete floor
		Vibration	Vibration resistant
		Humidity	Up to 95%

### 4. Connect to UT30

The HP50 module is connected to UT30 with pogo pin. The UT30 tablet provides power and HP50 outputs position information through the pogo pin.

- Take down the thin film on UT30 pogo pin if there is



- Fix HP50 on UT30 with two screws




## 5. Connect the external Antenna

To have better antenna phase center measurement, user can replace the default antenna with the MCX port.




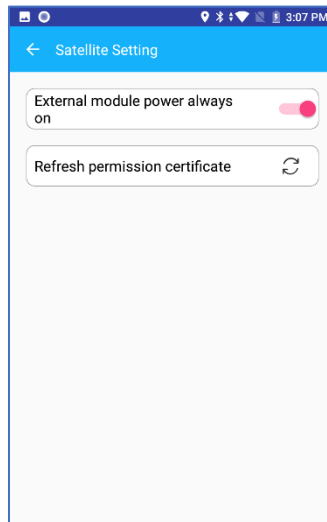
## 6. Software configuration

To configure the HP50 module, user must have the correct firmware on UT30. If there is a software named “Satellite Settings”  on UT30, then it is normal. Otherwise, please contact eSurvey support for the new firmware. Note:

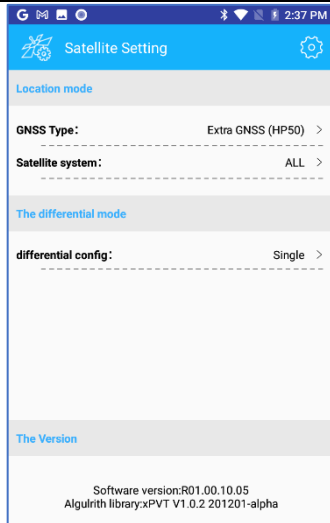
1. The software just needs to be configured at the first time. All the settings will be saved when user press back/home button.
2. Extra GNSS satellite system: **[All] mode** includes GPS+BDS+GLONASS+GALILEO+SBAS.
3. To change the setting, all the software that requires location need to be stopped. Otherwise, the setting will not take effect. User can also disable Android location before making changes.

### 6.1 Basic Setting

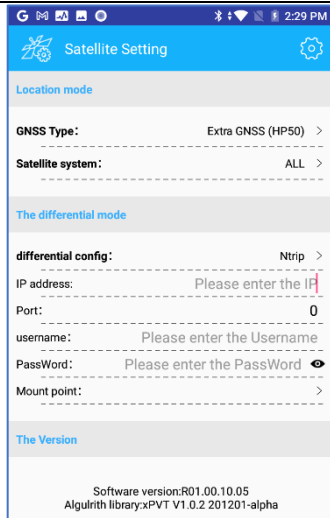
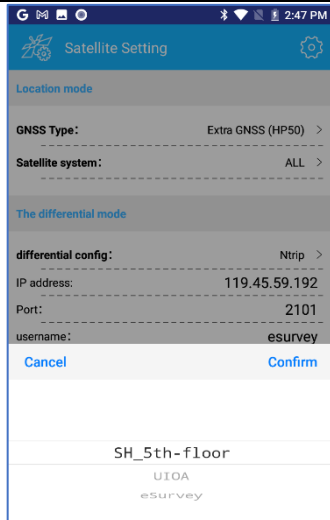
Click the setting button  at the up-right corner. User can enable/disable **[External module power always on]**. This option allows the HP50 module work in the background even no software requires position to fasten the position initialization speed.

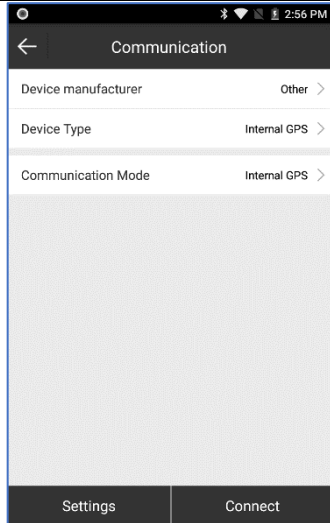
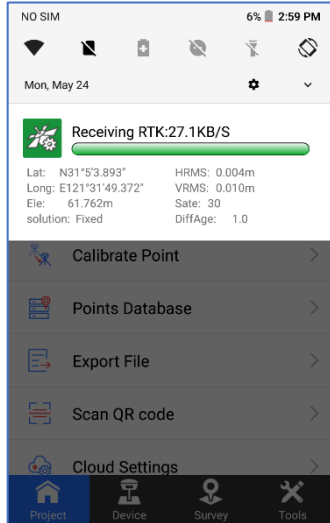



### 6.2 SBAS Mode

<ol style="list-style-type: none"> <li>GNSS Type: <b>Extra GNSS (HP50)</b></li> <li>Satellite System: <b>All</b></li> <li>Differential config: <b>Single</b></li> </ol>	
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### 6.3 NTRIP Mode

<ol style="list-style-type: none"> <li>GNSS Type: <b>Extra GNSS (HP50)</b></li> <li>Satellite System: <b>GPS/BDS/GPS+BDS/GPS+GLONASS/All</b></li> <li>Differential config: <b>NTRIP</b></li> </ol>	
<ol style="list-style-type: none"> <li>Input the IP address, port, username, and password, click the arrow on <b>[Mount point]</b> to load the mountpoint list. Then choose the one needed.</li> <li>Click back/home button, the configuration will be saved.</li> </ol>	

<p>6. Open the survey software and choose <b>[Internal GPS]</b>.</p>	
<p>7. Basic position information is displayed on the Android drop down zone.</p>	
<p>8. The survey software is ready to go.</p>	



## Warranty Policy

### The Guarantees Rights

- e-survey supports free exchange or refund within 7 days from the day when you have received the products, where the device appears "performance failure", which confirmed by e-survey repaircenter.
- e-survey supports free maintenance or exchange within 15 days from the day when you have received the products, where the device appears "performance failure", which confirmed by e-survey repair center.
- e-survey supports free maintenance or exchange the same type of device within one year from the day when you have received the products, where the device appears "performance failure", which is still not in working conditions after two repairs.
- e-survey supports a 24-month warranty service for the device host and a 3-month free warranty service for the accessory from the day when you have received the products.

### Warranty service

If the device host meets the warranty conditions, the warranty service can be obtained according to the warranty card and the purchasing invoice. If the proof of purchase and the warranty card cannot be provided, and e-survey will use the delivery time as the standard for the warranty period.

- If it is a non-warranty product, and the repair center will handle the maintenance of the extra-fee.
- After the device is repaired, the same fault is confirmed by the repair center and e-survey will provide a 3-month free warranty service.
- The transportation, delivery and disposal costs incurred during the delivery or inspection of the product to e-survey shall be borne by the user. The freight generated by the repair or inspection equipment returned to the user shall be borne by e-survey.
- Equipment that needs to be repaired or sent for inspection, please back up the data in the machine in time.
- During the warranty period, the parts normally used for maintenance are free.
- The parts that have been replaced during the repair are owned by e-survey.
- e-survey is not responsible for non-product standard and software or applications that are not certified by the company.

### Following conditions are not within the scope of the warranty and service

The device host and accessories have been subjected to: abnormal or improper use, improper storage of abnormal conditions, unauthorized disassembly or alteration, accidents, damage caused by improper installation.

- Damage caused by improper use of user, such as liquid injection, damage due to external force, etc.
- Failure to use, repair or transport caused by the equipment's instruction manual.
- Damage to the product is caused by external, including but not limited to, abnormal and unpredictable factors such as satellite systems, geomagnetism, static electricity, physical pressure, etc.
- Damage caused by force majeure such as earthquakes, floods, wars, etc.
- Other conditions that cannot comply with the relevant provisions of the Guarantees Rights.