# SPECIFICATIONS

| Satellite Signals Tracked Simultaneously | |
|---|---|
| Channels | 896 |
| GPS | L1C/A, L1C, L2C, L2P, L5 |
| GLONASS | L1C/A, L2C/A, L2P, L3CDMA |
| BDS | B1I, B1C, B2I, B2a, B3 |
| GALILEO | E1, E5A, E5B, E5AltBOC, E6 |
| SBAS | WAAS, MSAS, EGNOS, GAGAN, SDCM(L1,L5) |
| QZSS | L1C/A, L1C, L2C, L5, L6 |
| Navic | L5 |
| L-Band | (Reserve) |
| Positioning output rate | 1Hz~50Hz |
| Initialization time | <10s |
| Initialization reliability | >99.99% |
| Positioning precision | |
| Real-time kinematic (<40km) | Horizontal: 6mm+0.5ppm          Vertical: 10mm+0.5ppm RMS |
| GNSS Static | Horizontal: 2.5mm+0.5ppm        Vertical: 5mm+0.5ppm RMS |
| Standalone | Horizontal: 1. 2m                     Vertical: 1. 9m RMS |
| DGNSS | Horizontal: 0.4m                   Vertical: 0.7m RMS |
| SBAS positioning | Horizontal: 0.6m                   Vertical: 0.8m RMS |
| RTK initialization time | 2~8s |
| User interaction | |
| Operaing system | Linux |
| Buttons | Two buttons operation |
| Indicators | Five indicate lights |
| Web UI | Freely to configure and monitor the receiver by accessing to the web server via Wi-Fi and USB |
| Voice guide | iVoice intelligent voice technology provides status and voice guide |
| | Supporting Chinese, English, Korean, Russian, Portuguese, Spanish, Turkish and user define |
| Secondary development | Providing secondary development package |
| Hardware performance | |
| Dimension | 135mm(Diameter)x125mm(Height) |
| Weight | 1.39kg (with two batteries) |
| Material | Magnesium aluminum alloy shell |
| Operating | -40°C~+65°C |
| Storag | -40°C~+80°C |
| Humidity | 95% Non-condensing |
| Waterproof/Dustproof | IP67 standard, protected from long time immersion to depth of 1m |
| | IP67 standard, fully protected against blowing dust |
| Shock and vibration | Withstand 2 meters pole drop onto the cement ground naturally |
| Power Supply | 9-25V DC, overvoltage protection |
| Battery | Rechargeable, removable Lithium-ion battery, 7.4V 3400mAh/per; standard four batteries power package (optional) |
| Battery solution | Supporting one or two batteries installed; supporting power pole connection |
| Battery life | Single battery: >8h (static mode).And two installed hot swappable batteries works for more than 16 hours. |
| Communications | |
| I/O port | 5PIN LEMO external power port + RS232, 7PIN external USB(OTG)+Ethernet |
| | 1 radio antenna interface, SIM card slot |
| Wireless modem | Built-in radio, 1W/2W/3W switchable, typically work range can be 8KM |
| | Radio and internet repeater switchable |
| Frequency Range | 410-470MHz |
| Communication Protocol | TrimTalk450s, TrimMark3, PCC EOT, SOUTH |
| Cellular Mobile Network | WCDMA/CDMA2000/TDD-LTE/FDD-LTE 4G network modem, downward compatible with 3G GPRS/EDGE |
| Double Module Bluetooth | BLEBluetooth 4.0 standard, support for android, ios cellphone connection |
| | Bluetooth 2.1 + EDR standard |
| NFC Communication | Realizing close range (shorter than 10cm) automatic pair between receiver and controller |
| | (controller equipped NFC wireless communication module needed) |
| External Devices | Optional external GPRS/EDGE dual-mode communication module, switchable; |
| | allow to connect external WLAN card |
| WIFI | |
| Standard | 802.11 b/g standard |
| WIFI Hotspot | The WIFI hotspot allows any mobile terminal to connect and access to the internal webserver for the control |
| | and moditor receiver |
| | To work as the datalink that receiver is able to broadcast and receive differential data via WIFI |
| Data storage/ Transmission | |
| Data Storage | 8GB SSD internal storage |
| | Support external USB storage and automatical cycle storage |
| | Changeable record interval, up to 50Hz raw data collection |
| Data Transmission | USB data transmission, supporting FTP/HTTP data download |
| Data Format | Differential data format: CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 |
| | GPS output data format:  NMEA 0183, PJK plane coordinates, SBF |
| | Network model support:  VRS, FKP, MAC, fully support NTRIP protocol |
| Inertial sensing system | |
| IMU tilt compensation | Additional horizontal pole tip uncertainty typically less than 8 mm + 0.6 mm/° tilt down to 30°, tilt angle: 0° ~ 60° |
| Electronic bubble | Controller software display electronic bubble, checking leveling status of the centering rod real time |
| Thermometer | Built-in thermomter sensors, adopting intelligent temperature control technology which can mornitor and |
| | adjust the temperature of receiver in real time |



**SOUTH**
**Tar**get your success

**GALAXY G1 Plus**
— Innovative IMU-RTK Receiver —

Linux OS   All constellations   Tilt survey   AP hot spot   NFC   Radio Router

Bimodule bluetooth   Industrial 3-proofings   Cloud service   8G SSD storage   RINEX support

Behind every significant epoch-making change in human society,
always accompanied by the birth of an important technology.

Computer and electronics make surveying and mapping industry achieve a span from the analog age to the
digital age.

And the development of Internet technology further opens the prelude of surveying and mapping information age.

In the form of the ubiquitous,
internet is penetrating and fusion in all corners of the surveying technology,
and setting off an unprecedented reconstruction and transformation.

In the dawn of a new era,
south is walking in front of it to craft Galaxy 1plus which opening a '+' era of high-precision positioning
applications.

## KEY FEATURES

### Intelligent platform
**Linux OS**
New generation of embedded Linux operating system platform improves RTK performance and work efficiency. Its operating efficiency is higher; a unique core processing mechanism which can respond to more than one command at one time; it starts faster and more responsive in real time. While the stability of system is much higher, it can be adapt to the job of longer uninterrupted power.
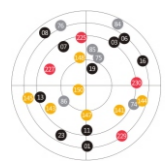
**Web UI management platform**
Embedded Web UI management platform supports WIFI and USB mode connection. Users can monitor the receiver status and configure it via the internal Web UI management platform.

### Wireless data communications
**Wi-Fi**
New Wi-Fi module, not only can be used as data link to access to internet, but also can be as a hotspot which can be accessed by any other smart devices to configure the receiver.

**Full satellite constellations support**
Equipped with most advanced GNSS boards, SOUTH Galaxy G6 system can track most signals from all kinds of running satellite constellations, especially supports the signals from Beidou3, also is able to get position result only with Beidou signal.

- BDS
- GPS
- GLONASS
- Galileo

### IMU auxiliary tilt measurement
The uniquely capable IMU sensor is able to greatly improve the productivity of RTK measurement because of its excellent performances, fast initialization, calibration-free, not affected by magnetic environment. Rapidly measures points without leveling instrument, as long as pole tip reaches the target.

60°

**Shake tilt measurement**
It's a tilt measurement technology based on the patented core algorithm. No magnetic sensor use, calibration-free, anti-jitter, unlimited tilt angle.
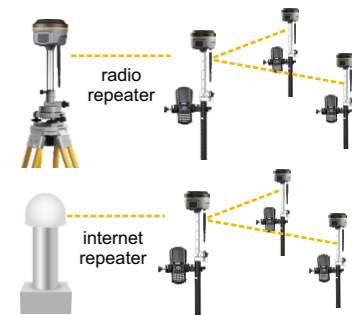
### Data Link

**Built-in functional digital radio**
SOUTH self-developed digital radio which can fully support the communications with the mainstream radio protocols: Trimtalk450S, TrimMark3, PCC EOT, and SOUTH. Realize the random switching of the radio range 410MHZ-470MHZ and the power level as well.
Radio repeater: The rover can broadcast the corrections via internal radio to other rovers after received the radio differential signal.
Internet repeater: The rover can broadcast the corrections via internet to other rovers after received the network differential signal.

radio repeater

internet repeater

**Built-in network module**
Standard 4G module which supports WCDMA/CDMA2000/TDD-LTE/FDD-LTE 4G network and downward compatible with 3G GPRS/EDGE. Smart PPP dialing technology can auto dial which makes the G1 PLUS keeping online continuously during the survey.

### Intelligent technology

**Storage technology**
Internal 8GB SSD and it supports external USB storage.
Supports STH, RINEX raw data storage and the sample rate can reach to 50Hz.
Supports automatic data storage cycle, the data will be automatically deleted when the space is not enough.
Disk-On-key which can easily copy the data to external U disk.

8GB

**Dual-battery system**
The new design for battery house can support 2 batteries installed, that is able to last longer time for common field work!

**iVoice**
Intelligent iVoice can voice broadcast the current receiver status and operation guide in real time, it supports multiple languages.

**Smart power pole supply technology**
External power pole can provide up to 10 hours of power. It also can display the remaining power in real time.