SPECIFICATIONS

Satellite Signals Tracked Simultaneously	
Signal tracking	220 channels (standard),496 channels (optional), 555 channels (optional)[1]
	BeiDou (B1, B2, B3)
	GPS (L1C/A, L1C, L2E, L2C, L5),
	Galileo (E1, E5a, E5b, Alt-BOC, E6)
	Glonass (L1C/A, L1P, L2C/A, L2P, L3)
	SBAS (WAAS, EGNOS, MSAS, GAGAN), L-band, QZSS (L1 C/A, L1C, L2C, L5, LEX)
GNSS features	Positioning output rate:1Hz~50Hz
	Initialization time:<10s
	Initialization reliability:>99.99%
Positioning precision	
Code differential DGPS/RTCM Typically	Horizontal: 25cm+1ppm Vertical: 50cm+1ppm
SBAS positioning accuracy	Typically < 5m 3DRMS
Static (phase) with long observations	Horizontal: 2.5mm+0.5ppm Vertical: 5mm+0.5ppm
Real-time Kinematic surveying	Horizontal: 8mm+1ppm Vertical: 15mm+1ppm
Network RTK	Horizontal: 8mm+0.5ppm Vertical: 15mm+0.5ppm
RTK initialization time	2~8s
User interaction	
Operaing system	Linux
Buttons	Single button operation
Indicators	Three 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
Hardware performance	
Dimension	129mm(Diameter)x112mm(Height)
Weight	1kg(battery included)
Material	Magnesium aluminum alloy shell
Operating	-45°C~+60°C
Storag	-55°C~+85°C
Humidity	100% 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 3 meters pole drop onto the cement ground naturally
Power Supply	9-25V DC, overvoltage protection
Battery	Rechargeable, removable Lithium-ion battery, 7.4V; standard four batteries power package(optional)
Communications	
I/O port	5PIN LEMO external power port + RS232, 7PIN external USB(OTG)+Ethernet
	1 TNC radio antenna interface, SIM card slot
UHF 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, SOUTHx
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)
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
WIFI data link	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, Binary code, Trimble GSOF
	Network model support: VRS, FKP, MAC, fully support NTRIP protocol
Inertial sensing system	
Tilt survey (optional)[2]	Built-in tilt compensator, correcting coordinates automatically according to the tilt direction and angle of the centering rod
Electronic bubble (optional)[3]	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

The OEM board with 555 channels reserves the function of tracking L-Band from TerraStar, it requires a subscription to TerraStar data service.
Tilt sensor is not the standard configuration on new Galaxy G1.
Bonding with tilt sensor, electronic bubble also is an option for new Galaxy G1.

GALAXY G1
— Innovative GNSS Receiver —

2019 New Edition

WiFi · Linux · 4G · Web

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 new Galaxy 1 which opening a "i" era of high-
precision positioning applications.

KEY FEATURES

GNSS features
The new G1 has more options for GNSS board selection, and all of them own the ability of tracking most signals from all kinds of running satellite constellations. And this compact device is allowed to enable and disable tracking the constellations.

GPS   BDS
GLONASS   GALILEO

Bluetooth
Equipped with dual-mode Bluetooth v4.0 standard which is able to connect the other smart devices and compatible with Bluetooth v2.1 standard. It not only enlarges the work range but also makes the data communication become more stable.

NFC
A light touch can be successfully paired which makes the connection become faster and more convenient.

30°

Tilt survey

Tilt survey
The internal tilt sensor helps receiver to survey without centering, in order to improve survey efficiency, and tilt angle can reach 30 degree maximum.

Temperature control technology
Built-in sensitive thermometer sensors can monitor the temperature of each integrated modules in real time and then adjust it to make sure the receiver is in a best status.
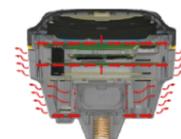
OPTIMIZING

Easy-to-use of SIM slot
The new design of SIM card slot avoid inserting wrong place, and it is easy to insert and take out the SIM card.

Stable TNC radio interface
The more stable TNC interface is adopted for radio antenna to instead the flimsy SMA interface.

UPGRADES

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.

Linux OS

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.

Advanced WiFi technology
Adopting the advanced wifi technology as datalink which improves the measurement result, at the meantime, the wifi AP hotspot function makes any smart terminals can connect to the receiver to control it.

WiFi

4G

Excellent network modem
The new G1 is equipped with the up-to-date 4G module which supports TDD-LTE/FDD-LTE 4G network, and is downward compatible with 3G like WCDMA/CDMA2000 and GPRS/EDGE 2G network, it brings high-speed of communication with reference station.

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. And the radio module achieved approval CE and FCC certifications.

radio repeater

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.

internet repeater

Intelligent storage technology

8GB

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.