GENEQ inc.

SXblue SMART

GNSS SMART ANTENNA

SXblue SMART

Simple and elegant
without losing precision

INGENIOUS AND STYLISH DESIGN

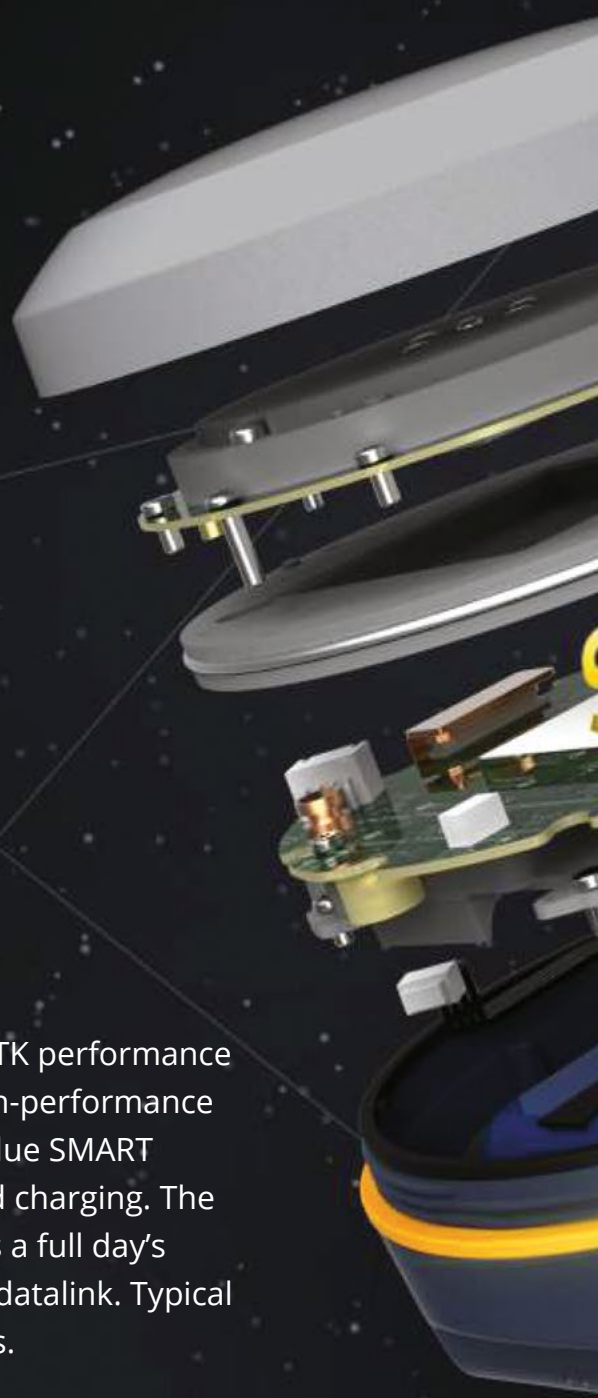
With a highly integrated and layered design, SXblue SMART is smaller than other Galaxy series receivers. The magnesium alloy body of the shell adds durability, while the weight totals only **850g** including the internal battery, which is very light and convenient to carry.

THE EXTRAORDINARY INBUILT RADIO

SXblue SMART adopts a new self-developed digital radio module with **"Farlink"** protocol to achieve an 8km working range. The large transmission bandwidth of **"Farlink"** perfectly solves the problem of the large data volume, for multiple constellations transmission. The power consumption during data transmission is reduced by about 60% compared to traditional RTK.

THE ULTIMATE GOAL OF FULL SIGNAL TRACKING

SXblue SMART combines high and low-frequency integrated antennae with a low-profile design to reduce the physical difference between high and low-frequency bands and improve phase center consistency. The applied frequency selective radiation mechanism enhances the antenna's anti-interference ability. Combined with a high-performance GNSS board, SXblue SMART fully supports all the running satellite constellations, especially BeiDou III global satellite signals.



WORRY-FREE SURVEYING

The new generation of SoC platform offers more stable RTK performance and lower power consumption. The built-in 6800mAh high-performance battery supports **15 hours*** of continuous operation. SXblue SMART adopts a Type-C charging interface that supports PD rapid charging. The battery can be fully charged in 3 hours and easily sustains a full day's work. Generally, the working time depends on the use of datalink. Typical working time with the Bluetooth mode is around 15 hours.

PUSHING AHEAD INTO THE FUTURE

SXblue SMART is integrated with an advanced SoC, offering the advantages of high integration and low power consumption, efficient suppressing of the interference signals, and higher-quality observation data from satellite constellations.

SXblue SMART will bring you a leap-forward experience in RTK performance.

MEASURE WHATEVER YOU WANT

SXblue SMART features the new generation **Inertial Measurement Unit** which makes tilt measurement more stable and accurate. The coordinates are corrected automatically according to the inclination direction and angle. Thus, without needing to always level the receiver, surveyors get their productivity boosted by about 30 percent.

BASE STATION ALTITUDE REMINDER

The built-in high-precision tilt attitude module is associated with the receiver attitude. When the base station moves or falls, it can accurately detect it, and promptly issue a reminder.

SPECIFICATIONS

GNSS Features

Channels(Optional)	448, 965, 1760
GPS	L1, L1C, L2C, L2P, L5
GLONASS	G1, G2, G3
BDS	BDS-2: B1I, B2I, B3I BDS-3: B1I, B3I, B1C, B2a, B2b*
GALILEOS	E1, E5A, E5B, E6C, AltBOC*
SBAS	L1*
IRNSS	L5*
QZSS	L1, L2C, L5*
MSS L-Band (Reserve)	
Positioning output rate	1Hz~20Hz
Initialization time	< 10s
Initialization reliability	> 99.99%

Positioning Precision

Code differential GNSS positioning	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
GNSS static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Real-time kinematic (Baseline<30km)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS
SBAS positioning	Typically < 5m 3DRMS
RTK initialization time	2 ~ 8s
IMU tilt angle	0° ~ 60°

Hardware Performance

Dimension	130.5mm(φ) × 84mm(H)
Weight	850g (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	-25℃ ~ +65℃
Storage temperature	-35℃ ~ +80℃
Humidity	100% Non-condensing
Waterproof/Dustproof	IP68 standard, protected from long time immersion to depth of 1m IP68 standard, fully protected against blowing dust
Shock/Vibration	Withstand 2 meters pole drop onto the cement ground naturally
Power supply	6-28V DC, overvoltage protection
Battery	Inbuilt 6800mAh rechargeable, Li-ion battery
Battery life	Single battery: 16h (static mode) 8h (Base + UHF) 12h (Rover + UHF), 15h (Rover + Bluetooth)

Communications

I/O Port	5PIN LEMO external power port + Rs232 Type-C interface (charge + OTG + Ethernet) 1 UHF antenna interface SIM card slot (Micro SIM)
Internal UHF	2W radio, receive and transmit, radio router and radio repeater
Frequency range	410 - 470MHz
Communication protocol	Farlink, Trimtalk450s, HUACE, Hi-target, Satel
Communication range	Typically 8km with Farlink protocol
Cellular mobile network	4G cellular module standard, customizable 5G module
Bluetooth	Bluetooth 3.0/4.1 standard, Bluetooth 2.1 + EDR
NFC Communication	Realizing close range (shorter than 10cm) automatic pair between receiver and controller (controller requires NFC wireless communication module else)

WIFI

Modem	802.11 b/g standard
WIFI hotspot	Receiver broadcasts its hotspot form web UI accessing with any mobile terminals
WIFI datalink	Receiver can transmit and receive correction data stream via WiFi datalink

Data Storage/Transmission

Storage	8GB SSD internal storage standard, extendable up to 64GB Automatic cycle storage (The earliest data files will be removed automatically while the memory is not enough) Support external USB storage The customizable sample interval is up to 20Hz
Data transmission	Plug and play mode of USB data transmission Supports FTP/HTTP data download
Data format	Static data format: STH, Rinex2.01, Rinex3.02 and etc. Differential data format: RTCM 2.1,RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 Output format: ASIC (NMEA-0813), Binary code (GENEQ Binary) Network model support: VRS, FKP, MAC, fully support NTRIP protocol

Sensors

Electronic bubble	Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time
IMU	Built-in IMU module, calibration-free and immue to magnetic interference
Thermometer	Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature

User Interaction

Operating system	Linux
Buttons	Single button
Indicators	5 LED indicators
Web interaction	With the access of the internal web interface management via WiFi or USB connection, users are able to monitor the receiver status and change the configurations freely
Voice guidance	It provides status and operation voice guidance, and supports Chinese/English/Korean/Spanish/Portuguese/Russian/Turkish
Secondary development	Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition
Cloud service	The powerful cloud platform provides online services like remote manage, firmware update, online register and etc.

*Items marked with * will be upgraded with the update of the firmware version*

The data comes from the GENEQ GNSS Product Laboratory, and the specific situation is subject to local actual usage.

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