Palm-Sized Dual Frequency RTK GPS receiver

SXBlue III GPS

Rugged, Bluetooth High-Accuracy L1/L2 RTK-Mapping receiver

The SXBlue III GPS is a compact GPS receiver that delivers centimeter accuracy every second using RTK with GPS L1 and L2. The SXBlue III sets a new price/performance standard for dual frequency, high-accuracy GPS receivers. Its integrated lightweight design makes it the ideal choice for a variety of applications including GIS, Machine control, Mining, Construction, Utilities, Agriculture, Surveying and Environmental, at a price you can afford.

Go L1/L2 RTK with the SXBlue III GPS!

The SXBlue III GPS uses innovative technology puts dual frequency RTK in one of the smallest packages ever. You get 51 channels of proven 1 cm RTK performance from a lightweight unit that fits in the palm of your hand, and that includes an integrated 8 hour battery! In addition to RTK, you also have the option of using L1 SBAS for sub-meter mapping that the SXBlue has built its reputation on. Having the choice of using either L1/L2 RTK for real-time centimeter accuracy or L1 SBAS for 60cm real-time mapping provides you the flexibility that no other unit of this size and price can offer you.

Accuracy and Productivity in One

The SXBlue III GPS takes real-time and High Accuracy GIS to the next level. Its accurate carrier phase measurements and leading edge multipath mitigation delivers 1 cm real-time positioning. With its superior tracking performance and innovative real-time positioning, that means no downtime even in harshest conditions, the SXBlue III maximizes your productivity by working directly within your framework (Esri, Autodesk, Carlson, CMT, Intergraph, MapInfo, TDS, etc.) both in the field and the office.

A Long Term Solution

Add a field computer that suits your application, an off-the-shelf software of your choice, and the SXBlue III GPS becomes the heart of a modular solution you can grow with. In today's rapidly evolving technologies, its unique multi-port interface (independent Bluetooth, USB, RS-232 ports) helps to protect your long term investment by always allowing the use of up-to-date computer hardware, operating system and software.

RTK at a price you can afford!

- GPS L1/L2 RTK for centimeter accuracy.
- Compatible with RTK Networks
- Compatible with Esri's ArcPAD (all versions), Carlson, CMT, and most surveying/GIS data collection software
- 48 channels for GPS L1/GPS L2 + 3 channels for SBAS

Key Features

- 1cm + 1ppm L1/L2 RTK accuracy.
- 30cm using L1 SBAS
- Micro-sized GPS L1/L2 antenna
- Rugged and Waterproof design (IP-67)
- Field-replaceable Li-Ion battery pack (9+ hours)
- Multi-port interface (Bluetooth, USB, RS-232)
- Long-range, Class 1 Bluetooth (250 meters typical)
- Battery fuel gauge
- Compact and lightweight
- RoHS compliant

Other Features

- Satellite tracking technology uses all satellites, not just the ones that the reference station is tracking.
- Update rates of up to 20Hz (20 times a second)
- RTCM Ver. 2.3/3.x, CMR/CMR+
- NMEA 0183 support
- Patented technology allows you to use SBAS in conditions where other SBAS receivers won't work.

Specifications

GPS Sensor

Receiver Type:	L1/L2 RTK with carrier phase
Channels:	48 channels, parallel tracking 12 x L1 C/A, 12 x L1P, 12 x L2C, 12 x L2P
SBAS Support:	3 channels, parallel tracking, dedicated to WAAS, EGNOS, MSAS, GAGAN and compatible or L1 C/A. Features SBAS Ranging.
RTK Formats:	RTCM 2.3, RTCM 3x, CMR, CMR+
Update Rate:	1Hz default, optional 10 Hz and 20Hz
RTK Horizontal Accuracy:	10mm + 1ppm (RMS) [1]
RTK Vertical Accuracy:	20mm + 1ppm (RMS) [1]
SBAS Horizontal Accuracy:	< 60cm 2dRMS, 95% confidence [1] (< 30cm HRMS, < 25cm CEP)
RTK initialization:	On-The-Fly (OTF)
Cold Start:	60s (no almanac or RTC)
Reacquisition:	< 1s
Maximum Speed:	1607 km/h (999mph)
Maximum Altitude:	18,288m (60,000 ft)

Communication

Ports:	Bluetooth, RS-232C, USB 2.0
Bluetooth Transmission:	Class 1, 250m typical range [2]
Bluetooth Frequency:	2.400 – 2.485 GHz
Fully Bluetooth pre-qualified:	Bluetooth 2.0
Baud Rates:	4800 to 115200
Data I/O Protocol:	NMEA 183, Binary
Data Output Datum:	Autonomous: WGS 84 (G1150) SBAS: ITRF-2000 Local Correction: ouput datum follows datum of correction source
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kOhms, 10 pF load) [3]
Event Marker Input:	HCMOS, active low, falling edge sync, 10 kOhms, 10 pF load [3]
Raw Measurement Data:	Proprietary binary (Free RINEX utility)
Correction I/O Protocol:	RTCM 2.3, 3.x, CMR, CMR+, ROX
GPS Status LED:	Power, GPS Lock, DGPS/RTK Position, DGPS/RTK Lock, Bluetooth connection
Battery Status LED:	5 LED's bar graph

Power

Battery type:	Field replaceable Lithium-Ion pack (Rechargeable in or outside of unit)
Battery Capacity:	3,900mAh. 7.2V (Average autonomy: 9+ hours)
Power Consumption:	< 3.6W
Charging Time:	4-5 hours (with supplied charger)
Antenna Voltage Output:	5 VDC
Antenna Input Impedance:	50 Ohms

Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185 °F) [4]
Storage Temperature:	-40°C to +85°C (-40°F to +185 °F)
Humidity:	95% non-condensing
Compliance:	FCC, CE, RoHS and Lead-free

Mechanical

Enclosure Material:	Re-enforced Nylon
Battery Case Material:	ABS
Enclosure Rating:	Waterproof, IP-67
Immersion:	30cm, 30 minutes
Enclosure Dimensions:	14.1 x 8.0 x 5.6 cm (5.57 x 3.15 x 2.22 in.)
Weight:	517g (1.14 lbs)
Data Connectors:	DB-9 Female USB Type B Female
Antenna Connector:	SMA Female

Antenna

GPS Freq Range:	1575 MHz ± 10 MHz, 1227 MHz ± 10 MHz
Impedance	50 OHMs
Gain (no cable):	27dB ±3dB
Noise Figure:	2.5dB Max
Voltage/Current:	2.5-5Vdc/<60mA
Connector:	SMA female
Dimensions:	19.8mm H x 55.4mm D 0.78in H x 2.18in D
Weight:	79.4g (0.175 lb)
Temperature:	-55°C to +85°C
Humidity:	Waterproof

Standard Accessories

SXBlue III GPS Receiver
Li-Ion Battery Pack (Field replaceable)
Li-Ion Charger
Belt/Shoulder Carrying Case
L1/L2 Antenna with 1.5m cable
Soft Hat for antenna
Antenna Mounting Plate
Magnetic Mount
Pole Bracket and Clamp
RS-232 Cable (6 ft)
USB Type A/B Cable (6 ft)
CD-ROM (manuals and utilities)

Field Activated Option

10 Hz and 20Hz Output Rates
Base Station RTK Output
L2C

NOTES :
1. Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services) and ionospheric activities. Stated accuracies for baseline lengths of up to 50 km
2. Transmission in free space
3. Free options available on serial port upon request
4. Lithium-Ion battery performance degrades below -20°C (-4°F)