Palm-Sized Dual Frequency RTK GNSS Receiver

SXBlue III+ GNSS

GPS + GLONASS + RTK = 1cm Accuracy

The SXBlue III+ GNSS is a palm-sized receiver that delivers real-time 1cm accuracy using GPS/-GLONASS satellites. Its battery-powered lightweight design makes it an ideal choice for applications that require cm-level horizontal and vertical accuracy in real-time such as agriculture, engineering, mining, utilities, surveying, GIS, and others. A free Microsoft Windows-based NTRIP/DIP software utility for Windows and Windows Mobile is included to allow the SXBlue III+ GNSS to connect to any of the hundreds of RTK Networks and RTK reference stations available around the world.

Go 1cm Real-time, All the Time!

The SXBlue III+ GNSS takes full advantage of both GPS and GLONASS satellites to allow you to work all day and in more places without suffering from non-productive down-time that GPS-only RTK receivers sometimes experience. You get 372 channels of proven 1cm RTK performance from a lightweight unit that fits in the palm of your hand, and includes a field-replaceable rechargeable battery for 8 + hours of operation. In addition to RTK, you also have the option of using SBAS for sub-meter mapping that the SXBlue product has built its reputation on. Having the choice of either L1/L2 GPS/GLONASS RTK for real-time centimeter accuracy or GPS/GLONASS SBAS for 30cm real-time mapping provides you the flexibility that no other receiver of this size and price can offer you.

Use GLONASS Without Having GLONASS in your Base Station

A unique and powerful feature of the SXBlue III+ GNSS is its ability to utilize GLONASS satellite data with reference stations that are not GLONASS-enabled. For example, if you have not upgraded your receiver to GLONASS because the RTK network you use does not support GLONASS, that is no longer a problem with the SXBlue III+ GNSS. While the SXBlue III+ GNSS is connected to a RTK Network or any reference station that does not support GLONASS, it will still incorporate GLONASS data into the 1cm RTK positioning. This is a huge step forward in allowing users to enjoy the tremendous benefits of GLONASS without relying on the reference station infrastructure. You could even use a twenty year old GPS receiver that is broadcasting GPS-only RTK and still get GPS/GLONASS performance from the SXBlue III+ GNSS receiver.

Work in More Places than Ever Before

We have heard it over and over. Once you start using GLONASS, you will be addicted. By using GLONASS satellites, your productivity immediately improves. With both GPS and GLONASS satellites, you will have nearly twice as many satellites in view, meaning you will not have to wait for the RTK accuracy you want.

A Long Term Solution

Because the SXBlue III+ GNSS does not have a built-in computer, it cannot become obsolete. On one project, connect it to your smartphone. On the next project, connect it to your tablet computer. Android? Windows Mobile? The SXBlue III+ GNSS does not care which operating system your mobile device uses, it just keeps delivering 1cm RTK accuracy to whichever device you want to connect to it using Bluetooth, mini USB or RS-232.

Key Features:

- Utilize GPS and GLONASS even if your reference station only supports GPS.
- Utilize GPS and GLONASS for SBAS
- 1cm RTK accuracy
- Rugged, waterproof

Specifications

GNSS Sensor

Receiver type:	GNSS (GPS/GLONASS) L1/L2 RTK with carrier phase (Galileo, BeiDou, QZSS optional)
Channels:	372 channels
SBAS Support:	3 Satellite parallel tracking WAAS/EGNOS/MSAS/GAGAN (with SBAS ranging)
Update rate:	1 Hz (optional 10-20 Hz)
RTK Accuracy:	1cm[1]
SBAS Accuracy:	<30cm HRMS
Autonomous Accuracy:	1.2 meters
Cold start:	< 60 sec typical (no almanac or time)
Reacquisition:	< 1 sec
Max speed:	1,850 kph / 999 knots / 1,150 mph
Max altitude:	18,288 meters / 60,000 ft

Communication

Ports:	Bluetooth 2.0, RS-232C, USB 2.0
Bluetooth:	Class 1 (Typical range)[2]
Baud rates:	4,800 – 115,200
Data I/O formats:	NMEA 0183, Crescent, Binary
Timing Output:	1 PPS (CMOS, active high, rising edge sync, 10 kOhms, 10pF load
Event Marker Input:	HCMOS, active low, falling edge sync, 10 kOhms 10pf load[3]
Raw Measurement Data:	Binary (Free RINEX utility)
Correction I/O Protocol:	RTCM 2.3, RTCM 3.2, CMR, CMR+, ROX Format
LED mode indicators:	Power, GNSS lock, DGPS position, DIFF lock, Bluetooth connection

Power

Battery type:	Field replaceable, rechargeable Lithium-Ion pack. (Rechargeable inside unit or separately)
Battery life:	8+ hours[4]
Charging time:	4-5 hours using supplied charger

Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185°F)
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, dustproof, IP-67
Dimensions:	14.1 x 8.0 x 4.7cm (5.57" x 3.15" x 1.85")
Weight:	481g (1.06 lbs)
Data Connectors:	DB-9 female, USB Type B female
Antenna connector:	SMA female

Antenna

GNSS Freq Range:	1525 - 1607 MHz, 1217 - 1260 MHz
Impedance:	50 OHMs
Gain (no cable):	29dB ± 2dB
Noise Figure:	2.5dB Max
Voltage/Current:	+4.5 to +5.5 VDC
Connector:	SMA female
Dimensions:	26.6 mm H x 66.3 mm D0.86 in H x 2.6 in D
Weight:	125 g (0.363 lb)
Temperature:	-55°C to +70°C (-67°F to + 158°F)
Humidity:	Waterproof

Standard Accessories

- SXBlue III+ GNSS Receiver
- Li-Ion Battery Pack (Field replaceable)
- Li-Ion Charger
- Belt/Shoulder Carrying Case
- L1/L2, L-Band GNSS Antenna
- RS-232 Cable (6 ft)
- USB Type A/B Cable (6 ft)
- Soft Hat for antenna
- Antenna Cable (1.5 meter)
- Hard shell case

Field Activated Option

- 10 Hz or 20 Hz Output rate

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).

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