



## GPS + GLONASS + OmniSTAR = Worldwide, Real-time 10cm Accuracy

The SXBlue III-L GNSS is a palm-sized receiver that delivers worldwide, real-time sub-decimeter accuracy using GPS and GLONASS satellites with OmniSTAR's G2 or HP service. Its battery-powered, lightweight design makes it an ideal choice for applications that require 10cm accuracy in real-time such as agriculture, engineering, mining, utilities, surveying, GIS, and others at a price you can afford. The SXBlue III-L GNSS is also capable of traditional RTK and post-processing for 1cm accuracy.

### Go Real-Time, All the Time, Anywhere in the World!

The SXBlue III-L GNSS uses innovative technology that fits dual frequency GPS, GLONASS, OmniSTAR, SBAS and RTK Network signals in the palm of your hand. You get 118 channels of proven high accuracy real-time performance in a rugged, lightweight design. In addition to OmniSTAR's G2/HP/XP/VBS service, the SXBlue III-L GNSS also supports RTK base and rover configuration when 1cm real-time accuracy is required. Aside from OmniSTAR and RTK, you also have the option of using L1 SBAS (WAAS, EGNOS, MSAS, GAGAN) for sub-meter mapping that the SXBlue series has built its reputation on. Having the choice of OmniSTAR G2/HP/XP/VBS, L1/L2 RTK or L1 SBAS for real-time mapping provides you with the flexibility that no other unit of this size and price can offer you.

### The OmniSTAR G2 Advantage - GLONASS

With the addition of GLONASS to OmniSTAR's service, it significantly increases the number of satellites available, which improves your productivity. Convergence is three times faster than GPS alone and you're able to work more productively in GPS-challenging environments.

### Worldwide Real-Time Accuracy with OmniSTAR's Services

OmniSTAR offers worldwide over-the-air correction services via a subscription. The SXBlue III-L GNSS is capable of achieving 10cm accuracy using the OmniSTAR's G2 and HP services, 15cm with OmniSTAR's XP service and submeter with the OmniSTAR's VBS service. The VBS service can be used in areas where free SBAS signal is not available. It is also ideal in all applications where submeter is sufficient. New technology employed by the SXBlue III-L GNSS allows it to use both GPS and GLONASS satellites for sub-meter, real-time mapping using SBAS, making it ideal for a full-day DGPS work even under forest canopy.

### Real-Time 1cm Accuracy with RTK using GPS and GLONASS

When you require 1cm horizontal and vertical accuracy, the SXBlue III-L GNSS offers optional support for RTK (Real-Time Kinematic). If an RTK network is available in your area, you may activate the RTK Rover option on your SXBlue III-L GNSS and connect to the network via a wireless link to achieve 1cm accuracy within seconds. The SXBlue III-L GNSS also features the option to be used as an RTK base station to output standard and proprietary formats such as RTCM 3.2, ROX and CMR.

### 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 accuracy you want.

### A Long Term Solution

Because the SXBlue III-L 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-L GNSS does not care which operating system your mobile device uses, it just keeps delivering high accuracy positioning to whichever device you want to connect to it using Bluetooth, USB or RS-232.

### Key Features:

- The convergence time is 3 times faster with the G2 service
- Get 10cm accuracy using OmniSTAR's HP service and 20cm using G2/XP services.
- 1cm RTK accuracy (optional)
- Rugged, waterproof

# Specifications

## GNSS Sensor

Receiver type:	GNSS (GPS/GLONASS) L1/L2 RTK with OmniSTAR (G2/HP/XP/VBS)
Channels:	372 channels
GPS:	24-channels L1, 36-channels L2P/C, 24-channels L5.
GLONASS:	12-channels L1, 12-channels L2.
L-Band Support:	1 channel
SBAS:	3-channels L1, 6-channels L5.
SBAS Support:	3 Satellite parallel tracking WAAS/EGNOS/MSAS/GAGAN (with SBAS ranging)
Update rate:	Up to 1 Hz (optional 10-20Hz)
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

## Accuracy

	RMS (67%)	2dRMS (95%)
OmniSTAR HP 1,7,8:	6cm	10cm
OmniSTAR G2 1,7:		10cm (CEP 95%)
OmniSTAR XP 1,7,8:	12cm	20cm
OmniSTAR VBS 1,7:	Submeter	
RTK Horizontal 1,7:	10mm + 1ppm	20mm + 1ppm
Post-processing (Horizontal) 1:	10mm + 1ppm	
SBAS 1:	30cm	60cm
Autonomous 1:		2.5m

## Communication

Ports:	Bluetooth 2.0, RS-232C, USB 2.0
Bluetooth:	Class 1 (250m range typical) 2
Baud rates:	4,800 – 115,200
Data I/O formats:	NMEA 0183, RTCM 104, Binary
Output datum:	OmniSTAR G2/HP/XP/VBS: ITRF-2005 (VBSin North America: NAD 83 Original) Autonomous: WGS-84 (G1150) SBAS: ITRF-2000 RTK: Same datum as the datum used by the correction source
Timing Output:	1 PPS (CMOS, active high, rising edge sync, 10 kOhms, 10pF load) 3
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 4:	RTCM 2.x, 3.x, CMR, CMR+, ROX
GPS Status LEDs:	Power, GNSS lock, DGPS/RTK position, DGPS/RTK lock, Bluetooth connection
Battery Status LED:	5 LED's bar graph



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Authorized Distributor

## Power

Battery type:	Field replaceable, rechargeable Lithium-Ion pack. (Rechargeable inside unit or separately)
Battery life:	8+ hours
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
Immersion:	30cm, 30 minutes
Dimensions:	14.1 x 8.0 x 5.6 cm (5.57" x 3.15" x 2.22")
Weight:	517g (1.14 lb)
Data Connectors:	DB-9 female, USB Type B female
Antenna connector:	SMA female

## Antenna

GNSS Freq Range:	L-Band, GPS L1, GLONASS G1: 1525-1607 MHz GPS L2, GLONASS G2: 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 D 0.86 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-L+ GNSS Receiver
- Li-Ion Battery Pack (Field replaceable)
- Li-Ion Charger
- Belt/Shoulder Carrying Case
- L1/L2, L-Band GNSS Antenna
- Antenna Cables (1.5 m, 0.2 m, 1.0 m)
- RS-232 Cable (6 ft)
- USB Type A/B Cable (6 ft)
- On Website (manuals and utilities)
- NTRIP Software
- Soft Hat for antenna

### NOTE:

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. Depends on activated options. CMR+ format is receive-only.
5. Lithium-Ion battery performance degrades below -20°C (-4°F)
6. RTK Base and Rover are optional field activated features.
7. Requires service subscription from OmniSTAR.
8. OmniSTAR HP/XP requires 45-60 minutes observation to achieve the specified accuracy. G2 convergence time is 3 times less.

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