



## Rugged, Bluetooth sub-meter Mapping receiver

*The SXBlue II-L GPS is a compact, real-time receiver that delivers true sub-meter performance every second to your application. Its integrated lightweight design makes it the ideal choice for a variety of industry applications including GIS, Forestry, Mining, Utilities, Agriculture, Survey and Environmental, at a price you can afford.*

### Go Real-time, All the Time!

The SXBlue II-L GPS uses innovative technology that delivers sub-meter accuracy in real-time, all the time. There is no need for post-processing or a beacon receiver when WAAS, EGNOS, MSAS, or GAGAN are available. Furthermore, the SXBlue II-L was designed to use Omnistar®'s VBS service anywhere in the world. Even in forestry applications and other difficult mapping environments where GPS reception is limited, the SXBlue II-L is designed to keep working and deliver the DGPS accuracy you need all day long.

### Accuracy and Productivity in One

The SXBlue II-L GPS takes real-time accuracy a step further. Its accurate code phase measurements and leading edge multipath mitigation delivers sub-60 cm (2dRMS, 95% confidence) positioning.

With its superior tracking performance and innovative real-time positioning, that means no downtime even in harshest conditions, the SXBlue II-L maximizes your productivity by working directly within your GIS framework (ESRI, Autodesk, CMT, Integraph, 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 II-L GPS becomes the heart of a modular solution

you can grow with. In today's rapidly evolving technologies, its unique multi-port interface (fully 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.

### Options

The SXBlue II-L GPS can also evolve with your needs with its optional features:

- 10Hz or 20Hz output rates
- Base Station (standard RTCM-104 output)
- Proprietary RTCM for sub-30cm accuracy
- Single Frequency Real-time Kinematic (RTK) for cm level accuracy
- Carrier Phase for post-processed cm level accuracy

### Key Features

- Sub-60cm, 2dRMS real-time performance
- Multi-port interface (Bluetooth, USB, RS-232)
- Rugged and Waterproof design
- Integrated Li-Ion battery pack for 9 + hours autonomy (10 + hours with Bluetooth switch off)
- Battery fuel gauge
- Compact and lightweight
- RoHS compliant

# Specifications

## GPS Sensor

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	12-channel, parallel tracking (10-channel when tracking SBAS)
SBAS Support:	2-channel, parallel tracking WAAS, EGNOS, MSAS, GAGAN, and compatible. SBAS Ranging
L-Band Support:	1-channel, 1530 to 1560 MHz Manual or Automatic Satellite Selection 15s typical startup and reacquisition
Update Rate:	2Hz default, optional 10 and 20Hz
DGPS Horizontal Accuracy: (SBAS, Omnistar)	< 60cm 2dRMS, 95% confidence <sup>1</sup> (< 30cm HRMS, < 25cm CEP)
Horizontal Accuracy: (Autonomous)	< 2.5m 2dRMS, 95% confidence (autonomous, no SA) <sup>2</sup>
Optional Proprietary RTCM:	< 30cm 2dRMS, 95% confidence <sup>3</sup>
Optional L1 RTK:	< 2cm 2dRMS, 95% confidence <sup>3</sup>
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 <sup>4</sup>
Bluetooth Frequency:	2.400 – 2.485 GHz
Fully Bluetooth pre-qualified:	Bluetooth 2.0
Baud Rates:	4800 to 57600
Data I/O Protocol:	NMEA 183, Binary
Data Output Datum:	Autonomous: WGS 84 (G1150) Omnistar / SBAS: ITRF-2000 Omnistar (North America): NAD 83
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kOhms, 10 pF load)
Event Marker Input:	HCMOS, active low, falling edge sync, 10 kOhms, 10 pF load
Raw Measurement Data:	Proprietary binary (Free RINEX utility)
Correction I/O Protocol:	RTCM SC-104, Optional Proprietary format
GPS Status LED:	Power, GPS lock, DGPS position, DIFF lock, Bluetooth connection
Battery Status LED:	5 LED's bar graph

## Power

Battery type:	Field replaceable Lithium-Ion pack (Rechargeable in unit)
Battery Capacity:	3,900mAh. 7.2V
Power Consumption:	< 3.8W
Charging Time:	4-5 hours (with supplied charger)
Antenna Voltage Output:	5 VDC
Antenna Input Impedance:	50 Ohms



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## Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185°F) <sup>5</sup>
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
Drop resistance:	Designed to withstand 1 m drop
Antenna Connector:	SMA Female

## Antenna

GPS Frequency Range:	L1 (1575 MHz +/- 10 MHz)
L-Band Frequency Range:	1525 - 1560 MHz
Gain (without cable):	26.5 dB (+/- 2 dB)
Voltage:	2.5 - 24 Vdc, 39mA
Impedance:	50 Ohms
Dimensions:	6.9 diam. x 1.89 cm (2.71 x .74 in.)
Weight (without cable):	109g (.24 lbs) (optional magnet mount)
Antenna Connector:	SMA Female
Finish:	Fluid Resistant
Temperature:	-55°C to +85°C (-67°F to +185°F)
Humidity:	Hermetically sealed

## Standard Accessories

- SXBlue II-L GPS Receiver
- Li-Ion Battery Pack (Field replaceable)
- Li-Ion Charger
- Belt/Shoulder Carrying Case
- Precision Antenna with 1.5m cable
- Soft Hat for antenna
- RS-232 Cable (6 ft)
- USB Type A/B Cable (6 ft)
- CD-ROM (manuals and utilities)

## Field Activated Options

- 10Hz, or 20Hz Output Rate
- Base Station RTCM Output
- Proprietary Real-time for <30cm
- L1 RTK for <2cm

### NOTES:

1. Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services) and ionospheric activities
2. Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activities
3. Option required on both base and rover. Also requires communication link between base and rover. Stated accuracies for baseline lengths of up to 5 km
4. Transmission in free space
5. Lithium-Ion battery performance degrades below -20°C (-4°F)

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