



## Rugged, Bluetooth sub-meter GPS and SBAS receiver

### **GPS and SBAS**

The SXBlue is a compact GPS and SBAS module that offers sub-meter performance suitable for a variety of applications including Forestry, Mining, Machine Navigation, Precision Agriculture, GIS and Mapping, at a price that you can afford.

### **Bluetooth Enabled**

The SXBlue provides a wireless link with any Bluetooth enabled PDA, computer or device, thus eliminating the need for cumbersome cabling.

### **High Performance GPS**

The SXBlue delivers sub-meter positioning accuracy, low power consumption and optional 2, 10 or 20Hz position update rates.

It uses a new GPS engine architecture that provides faster startup and acquisition times. With a current almanac and ephemeris, the SXBlue will provide a position within 35 seconds. If it's been powered within the last couple hours, the SXBlue will provide a position within approximately 20 seconds.

### **SBAS Support**

The US Federal Aviation Administration's Wide Area Augmentation System (WAAS) is now undergoing rigorous final testing for its Initial Operation Capability. Other WAAS-compatible Space Based Augmentation Systems (SBAS) are also under development elsewhere such as the European Geostationary Navigation Overlay System (EGNOS) and the Japanese MTSAT Satellite-based Augmentation System (MSAS), among others. The SXBlue provides compatibility for each of these free services.

### **Interface**

The SXBlue features a Bluetooth and an RS-232 serial ports, both of which may be independently configured for versatility. For example, both ports might be set to output either NMEA 183 or RTCM-104. The RS-232 might be configured for RTCM-104 input.

A series of LED on the front panel provides useful monitoring information such as Power, GPS, DGPS, SBAS Lock and Bluetooth connection.

### **COAST™ Technology**

COAST™ Technology allows the SXBlue to use old correction data for up to 45 minutes or more without seriously affecting the quality of your positioning. Using COAST™, the SXBlue is less likely to be affected by differential outages due to differential signal blockages, weak signal, or interference. No other product offers this flexibility.



# Specifications

## GPS Sensor

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	12-channel, parallel tracking (10-channel when tracking WAAS)
WAAS Tracking:	2-channel parallel tracking
Update Rate:	1 Hz default, 2,10 or 20Hz optional
Horizontal Accuracy:	<60cm 95% confidence (DGPS) <sup>1</sup> <2.5m 95% confidence (no SA) <sup>2</sup>
Cold Start:	60s (no almanac or RTC) <sup>3</sup>
Warm Start 1:	45s (valid almanac, no RTC)
Warm Start 2:	35s (valid almanac and RTC)
Hot Start:	20s (valid almanac, RTC, and <2 hours since last fix)
Reacquisition:	<1s
Maximum Speed:	1607 km/h (999 mph)
Maximum Altitude:	18,288m (60,000 ft)

## Communication

Serial ports:	1 Bluetooth serial port (9600 baud) 1 full duplex RS-232C
Baud Rates:	4800 to 57600
Data I/O Protocol:	NMEA 183
Raw Measurement Data:	Proprietary binary (RINEX utility available)
Correction I/O Protocol:	RTCM SC-104
Status LEDs: Bluetooth connection	Power, GPS lock, DGPS position, SBAS lock,

## Bluetooth

Bluetooth Transmission:	Class 1
Frequency:	2.400 – 2.485 GHz
Max Transmit Power:	+6 dBm
Min Transmit Power:	+0 dBm
Range:	250 m
Fully Bluetooth pre-qualified:	Bluetooth 2.0

## Power

Input Voltages:	5 VDC (4.5 to 9 VDC), or 12 VDC (9 to 18 VDC), or 24 VDC (18 to 36 VDC)
Average Power Consumption:	3.6 W @ 7.2 V
Average Current Consumption:	865 mA @ 5 V 270 mA @ 12 V 125 mA @ 24 V
Antenna Voltage Output:	5 VDC
Antenna Input Impedance:	50 Ω

## Environmental

Operating Temperature:	-40°C to +70°C
Storage Temperature:	-40°C to +85°C
Humidity:	95% non-condensing

## Mechanical

Enclosure material:	Environmentally sealed powder-coated Aluminum
Enclosure rating:	IP65, NEMA4X, DIN VDE 0470
Enclosure Dimensions:	11.26 x 8.54 x 3.53 cm (4.43 x 3.36 x 1.39 in.)
Overall Dimensions:	14.20 x 8.54 x 3.53 cm (5.59 x 3.36 x 1.39 in.)
Weight:	268g (.6 lbs)
Mounting:	Mounting bracket optional
Power Connector:	2-pin weathertight
Data Connector:	3-pin weathertight
Antenna Connector:	BNC female, straight

## Antenna

GPS Frequency Range:	L1 (1575 MHz +/- 10 MHz)
Gain (without cable):	26.5 dB (+/- 2 dB), 35mA
Voltage:	+5 VDC +/- 10%
Impedance:	50 Ohms
Dimensions:	5.5 diam. x 2.2 cm (2.16 x .87 in.)
Weight (without cable):	79g (.17 lbs) (with removable magnet mount)
Antenna Connector:	SMA Female
Finish:	Fluid Resistant
Temperature:	-55oC to +85oC (-67°F to +185°F)
Humidity:	Immersion 1 meter

## Field Activated Options

2Hz, 10Hz, or 20Hz Output Rate  
Base Station RTCM Output  
Proprietary Real-time for <20cm  
L1 RTK for <5cm

### Notes

- SVs > 5, HDOP < 2, short baseline from reference station, and low multipath environment.
- Dependant upon ionospheric activity and multipath
- Real-time clock

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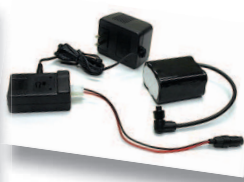
Made in Canada



Precision Antenna



Mounting Brackets



Battery and Charger



Nylon Carrying Case



8047, Jarry East, Montreal (Quebec) H1J 1H6  
Tel.: 514 354-2511 - 1-800 463-4363  
Fax : 514 354-6948  
Email : info@geneq.com

[www.geneq.com](http://www.geneq.com)