

# Carlson BRx6 GNSS Receiver

— *Be outstanding in your field!*

The BRx6 is Carlson's all-new multi-GNSS, multi-frequency smart antenna. The BRx6 provides robust performance and high precision in a compact and rugged package. With multiple wireless communications ports and an open GNSS interface, the BRx6 can be used as a precise base station or as a lightweight and easy-to-use rover.

## **World-Class Athena™ RTK Technology**

The BRx6 receiver is powered by a state-of-the-art Athena RTK (Real Time Kinematic) engine. With multiple connectivity options, the BRx6 allows for RTK corrections to be received over radio, cell modem, Wi-Fi, Bluetooth, or serial connection.

## **Integrated Atlas™ L-band Receiver**

The BRx6 receiver also enables users to work with the subscription-based Atlas service, Hemisphere's industry leading global correction service provided over L-band communication satellites and the internet. With this service, BRx6 users experience sub-decimeter positioning performance anywhere on earth, without the need to be near a GNSS or communication infrastructure.

**Multi-Constellation Support – GPS, Glonass, Beidou, Galileo**

For more information, visit  
[www.carlsonsw.com](http://www.carlsonsw.com) or call 800-989-5028.

**Since 1983**

 **Carlson**  
...For the Total Project



# Carlson BRx6 GNSS Receiver

## Specifications

### GPS Receiver

Receiver Type: Multi Frequency GNSS

Positioning Modes: RTK, L-band, DGNSS, SBAS, Autonomous

Channels: 372

RTK Formats: CMR, CMR+, RTCM3.0, RTCM3.1, ROX

L-Band Formats: Atlas H100, Atlas H30, Atlas H10

Update Rate / Recording Interval:  
Selectable from 1, 2, 4, 5, 10 Hz

### Performance (RMS)

|   | Horizontal        | Vertical            |
|---|-------------------|---------------------|
| RTK:                                      | 10 mm<br>+ 1 ppm  | 20 mm<br>+ 1 ppm    |
| Static Performance<br>(long occupation):  | 3 mm<br>+ 0.1 ppm | 3.5 mm<br>+ 0.4 ppm |
| Static Performance<br>(rapid occupation): | 3 mm<br>+ 0.5 ppm | 5 mm<br>+ 0.5 ppm   |
| L-band Performance:                       | 0.08 m            | 0.16 m              |
| SBAS (WAAS):                              | 0.3 m             | 0.6 m               |
| Autonomous, no SA:                        | 1.2 m             | 2.4 m               |

### Satellite Tracking

GPS: L1C/A, L2P, L2C

GLONASS: L1C/A, L2C/A

BeiDou: B1, B2

QZSS: With future firmware upgrade

Galileo: With future firmware upgrade

SBAS: MSAS, WAAS, EGNOS, GAGAN

### Communication

Connectors I/O:

5-pin Lemo connector for external power supply and external radio devices

7-pin Lemo connector for USB OTG connection and a serial port interface

1 TNC antenna connector for internal radio

1 TNC antenna connector for cell modem

WebUI: To upgrade the software, manage the status and settings, data download, via smart phone, tablet or other electronic device

TTS: Smart voice broadcast system.  
"Speaking" receiver

Reference Outputs: RTCM2.1, RTCM2.3, RTCM3.0, RTCM3.1, RTCM3.2 including MSM

### Radio

Frequency Range: 410 - 470 MHz

Channel Spacing: 12.5 KHz / 25 KHz

Emitting Power: 0.5 / 1 W

### Wireless Module

Wi-Fi: Integrated module with internal Wi-Fi antenna

Bluetooth: Bluetooth 2.1 + EDR Integrated Bluetooth (BT) communication module with internal BT antenna

### Cellular

Type: UMTS/HSPA+/GSM/GPRS/EDGE

Function: Data

Supported Frequencies:  
GSM/GPRS/EDGE (850, 900, 1800, and 1900 MHz)

HSDPA (850/800, 900, 1800, and 1900 MHz)

### Power

Battery: Rechargeable 11.1 V -37.74 Wh intelligent lithium battery

Battery life: 5+ hours with one battery and UHF radio in Rx mode

Voltage: 9 to 22V DC external power input with over-voltage protection (5-pin Lemo)

Charge Time: Typically 7 hours

### Memory

SIM card: User accessible SIM card slot

Memory: Internal 4GB, accessible through USB and Wi-Fi.

SD card: External Micro SD card slot, supports up to 64GB.

### Environmental

Operating Temperature: -30°C to 60°C (-22°F to 140°F)

Storage Temperature: -40°C to 80°C (-40°F to 176°F)

Waterproof/Dustproof: IP67. Protected from temporary immersion to a depth of 1 meter

Shock Resistance:  
MIL-STD-810G, method 516.6

Designed to survive a 2 m pole drop on concrete floor with no damage; designed to survive a 1 m free drop on hardwood floor with no damage

Vibration: MIL-STD-810G, method 514.6E-1

Humidity: Up to 100%

Inflammability: UL recognized, 94HB Flame Class Rating (3). 1.49 mm

Chemical Resistance: Cleaning agents, soapy water, industrial alcohol, water vapor, solar radiation (UV)

### Mechanical

Size: 14.1 D x 14.0 H (cm),  
5.5 D x 5.5 H (in), Weight:  
<1.38 kgs (<3.05 lbs)

Mounting: 5/8"x11, 55° thread angle, stainless steel insert

Phase center offset: GPS L1 and L2 offset below 2.5 mm



© Copyright 2014 Carlson Software, Inc. All rights reserved. Carlson Software is a registered trademark of Carlson Software, Inc. All other product names or trademarks belong to their respective holders.

Carlson Software Inc.  
33 East 2nd Street • Maysville, KY 41056, USA  
800-989-5028 • 606-564-5028 •

Since 1983

 **Carlson**  
...For the Total Project