

# OmniSTAR 9200G2 DGNSS Receiver



- Rugged, weatherproof modular receiver design
- OmniSTAR DGNSS capable
- Keypad and display for easy configuration and status monitoring
- Bluetooth®, Ethernet, Serial and USB
- Integrated battery that also acts as a UPS power supply
- Industry standard NMEA and RTCM outputs
- 1PPS output for time synchronization with other devices
- Output rates up to 10 Hz (20 Hz is optional)
- Upgrades available to track GPS L2C and GLONASS
- Can be used with the OmniSTAR IP service

## The OmniSTAR 9200G2 DGNSS receiver

The OmniSTAR 9200G2 is a state-of-the-art GNSS receiver, capable of providing a range of positioning techniques. The device is ideal for system integrators, OEMs, and land based contractors who require real-time positioning. The OmniSTAR 9200G2 receiver can utilize all OmniSTAR DGNSS services, i.e. OmniSTAR VBS for sub-meter level and OmniSTAR HP and XP for decimeter level positioning. The OmniSTAR G2 service (corrections for GLONASS) is optional.

The OmniSTAR 9200G2 receiver is rugged, low maintenance and cost efficient and incorporates many features for flexible operation. As a standard, the device can be configured to output positions with an update rate of up to 10 Hz (20 Hz is optional), allowing it to be used in a highly dynamic environment. Its rugged, waterproof enclosure protects the receiver against rain and dust and keeps the receiver working even in severe conditions. It can be used without the need for additional computer or PDA equipment thanks to its integrated display and function keypad that allows for in-the-field monitoring, configuring and measuring. The receiver has an internal battery which acts as backup in case of an external power failure. The 9200G2 can operate up to 13 hours in tough conditions on a single charge. Its field-upgradeable software eliminates the need for returning the receiver to the factory for firmware updates.

## Connections on the back panel

In addition to antenna and power connectors, the device features a 26-pin sub D connector that contains all wired I/O options. The receiver is capable of communicating over RS232 (3 ports), USB as well as through a 10BaseT/100BaseT LAN port. A separate Bluetooth® port is available for wireless connections with, for example, a mobile phone.

## Communication options

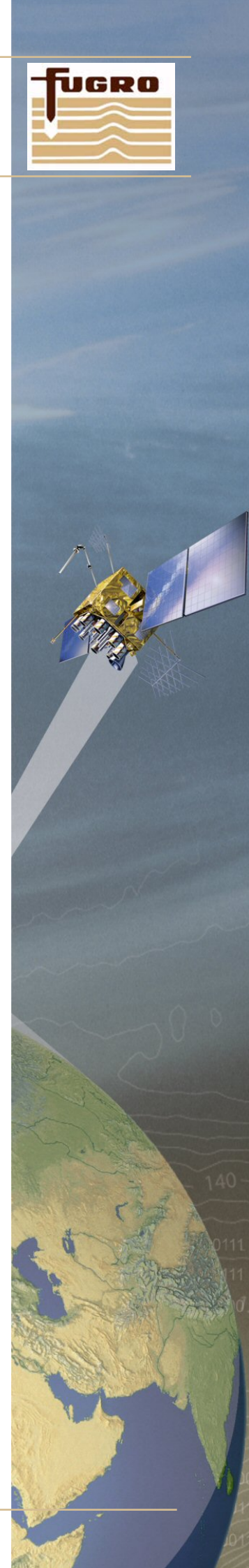
The receiver features an impressive range of communication options. It can function as an FTP server for those wanting to retrieve files manually, but is also capable of "FTP Push", a mechanism by which it is possible to automatically upload measurement data to a designated FTP server. In addition, the receiver supports USB devices such as memory sticks as well as external hard drives. It also contains a web server that will allow a user to configure the device through TCP/IP, using a web browser such as Firefox or Internet Explorer.

## OmniSTAR services

OmniSTAR delivers commercial DGNSS services worldwide by satellite and is leading in the design and development of Differential GPS and GLONASS positioning technology. OmniSTAR's DGNSS services provide real-time submeter and decimeter accuracy correction data. These services are based on data supplied by OmniSTAR's terrestrial reference station networks. OmniSTAR offers decimetre level accuracy worldwide, even in remote areas, such as Kazakhstan, Siberia or the Sahara.

## Why choose the 9200G2 receiver?

With its waterproof, shock-resistant and dustproof casing, the user-friendly 9200G2 receiver is very suitable for a wide range of applications, from agriculture to surveying, from construction to aviation.



## 9200G2 Technical specifications

### Keyboard and display

- VFD display 16 characters by 2 rows
- On/Off key for one button start up
- Escape and Enter key for menu navigation
- 4 arrow keys (up, down, left right) for option scrolls and data entry

Dimensions (L x W x D) 24 cm (9.4 in) x 12 cm (4.7 in) x 5 cm (1.9 in) including connectors

Weight 1.55 kg (3.42 lb) receiver with internal battery

### Antenna Options

- GA510: L1/L2 GPS, SBAS and OmniSTAR  
 ANT-GNSS-00: L1/L2/L5/L2C GPS, GLONASS, SBAS and OmniSTAR

### Temperature

- Operating: -40 °C to +65 °C (-40 °F to +149 °F)<sup>1</sup>  
 Storage: -40 °C to +80 °C (-40 °F to +176 °F)  
 Humidity: MIL-STD 810F, Method 507.4  
 Waterproof: IP67 for submersion to depth of 1 m (3.3 ft), dustproof

### Shock and Vibration

- Drop: Designed to survive a 1 m (3.3 ft) pole drop onto a hard surface  
 Shock: Non-operating to 75 g, 6 ms  
 Shock: Operating to 40 g, 10 ms, sawtooth  
 Vibration: Tested to (4.5 g RMS): 10Hz to 300Hz: 0.04 g2/Hz; 300 Hz to 1000 Hz; -6 dB/octave

### Measurements

- Proven low elevation tracking technology
- 72-channel L1 C/A code, L1/L2/L2C Full Cycle Carrier.
- Upgradable to L2C and GLONASS L1/L2 Full Cycle Carrier.
- EVEREST™ multipath signal rejection

### Code Differential GPS Positioning<sup>2</sup>

- Correction type: DGPS RTCM v2.x  
 Correction source: DGPS Base via external radio / internet  
 Horizontal accuracy: ±(0.25m + 1 ppm) RMS ±(0.8 ft + 1ppm)  
 Vertical accuracy: ±(0.50m + 1 ppm) RMS ±(1.6 ft + 1ppm)

### OmniSTAR Positioning

- VBS service accuracy: Horizontal <1 m (3.3 ft)  
 HP/XP service accuracy: Horizontal 0.1 m (0.33 ft), Vertical 0.15 m (0.5 ft)

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### Power internal

- Rechargeable 7.4 V, 2.4 Ah Lithium-ion battery in internal battery compartment
- Internal battery operates as a UPS in the event of external power source failure

### Power external

- Power input on both the Lemo connector and the 26-pin D-sub connector (through adaptor cable)
- Power supply (Internal/External1/External2) is hot-swap capable in the event of power supply removal or cut off
- 9.5 V DC to 28 V DC external power input with over-voltage protection
- Receiver automatically turns on when connected to external power
- Power consumption 4.5 W at 18 V in rover mode

### Operation Time on Internal Battery

Rover: 13 hours; varies with temperature

### Communications

- Lemo (Serial): 7-pin OS Lemo, Serial 1, 3-wire RS-232 or CAN bus  
 Modem 1 (Serial): 26-pin D-sub, Serial 2, Full 9-wire RS232, using multi-port adaptor  
 Modem 2 (Serial): 26-pin D-sub, Serial 3, 3-wire RS-232, using adaptor cable  
 1PPS (1 Pulse-per-second): Available using suitable adaptor cable  
 Ethernet: Through a multi-port adaptor  
 Bluetooth: Fully-integrated, fully-sealed 2.4 GHz Bluetooth module  
 External GSM/GPRS: Cell phone support for direct-dial and Internet-based correction streams  
 Correction data input: OmniSTAR, RTCM 2.x  
 Data outputs: NMEA, GSOFF, 1PPS

### Notes

1. Receiver will operate normally to -40°C. Internal batteries are rated to -20°C.
2. Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry and atmospheric conditions. Always follow recommended practices.
3. Depends on SBAS system performance.
4. Bluetooth type approvals are country-specific.

### Regulatory Approvals

- FCC: Part 15 Subpart B (Class B Device) and Subpart C, Part 90
- R&TTE Directive: EN 301 489-1/-5/-17, EN 300 440, EN 300 328, EN 300 113, EN 60950, EN 50371
- CE mark compliance
- C-tick mark compliance
- UN ST/SG/AC.10.11/Rev. 3, Amend. 1 (Lithium-ion Battery)
- UN ST/SG/AC. 10/27/Add. 2 (Lithium-ion Battery)
- RoHS compliant
- WEEE compliant



OmniSTAR B.V. is a member of the Fugro Group, with offices throughout the world.

