



Low Cost, L1 GPS+GLONASS Receiver Enhances Satellite Availability and Positioning

Benefits

Increased satellite availability with GLONASS tracking

Easy to integrate

Form-factor consistent with Superstar II and OEMV-1/1G receivers

NovAtel OEMV®-style command interface

Features

Small form factor

Low power consumption

GL1DE™ firmware option

Designed for Integration

The OEMStar receiver is a drop-in hardware replacement for NovAtel's Superstar II and OEMV-1/1G receivers. The OEMStar uses Space Based Augmentation System (SBAS) corrections from services such as the Wide Area Augmentation System (WAAS) and the European Geostationary Navigation Overlay Service (EGNOS).

Multi-Constellation Performance

The OEMStar offers GPS+GLONASS positioning and measurements in combination with GPS data to provide increased satellite availability for positioning in challenging environments at a very cost-effective price.

Code and Carrier Phase

The OEMStar features up to 14 channels of combined L1 GPS and GLONASS code and carrier phase tracking for increased positioning, accuracy and availability. The position, velocity and time information is available at up to 10 Hz, with a 1 PPS accuracy of 20 ns.

Small Package and Low Power Consumption

The OEMStar measures 46 by 71 mm, accepts an input voltage between 3.3 and 5.0 VDC and consumes less than 750mW.

If you require more information about our receivers, visit novatel.com/products/receivers.htm



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Europe 44-1993-85-24-36

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Performance¹

Channel Configuration

14 GPS L1
 12 GPS L1 + 2 SBAS
 10 GPS L1 + 4 GLO L1
 8 GPS L1 + 6 GLO L1
 8 GPS L1 + 4 GLO L1 + 2 SBAS
 10 GPS L1 + 2 GLO L1 + 2 SBAS

Horizontal Position Accuracy (RMS)

Single Point L1 1.5 m
 SBAS² 0.8 m
 DGPS 0.6 m

Measurement Precision (RMS)

	GPS	GLO
L1 C/A Code	8 cm	35 cm
L1 Carrier Phase	0.8 mm	1.5 mm

Data Rate

Measurements up to 10 Hz
 Position up to 10 Hz

Time to First Fix

Cold Start³ 75 s
 Hot Start⁴ 45 s

Signal Reacquisition

L1 1.0 s (typical)

Time Accuracy⁵ 20 ns RMS

Velocity Accuracy < 0.1 m/s RMS

Velocity⁶ 515 m/s

Physical and Electrical

Dimensions 46 x 71 x 13 mm

Weight 18 g

Power

Input Voltage +3.3 to +5.0 +/-5% VDC
 Power Consumption⁷
 0.65 W (GPS only)
 0.75 W (GPS+GLONASS)

Antenna LNA Power Output

Output Voltage 5 V nominal
 Maximum Current 50 mA

Communication Ports

- 2 LV-TTL serial ports capable of 300 to 230,400 bps
- 1 USB 2.0 full speed client port

Input/Output Connectors

Main 20-pin dual row male header
 Antenna Input MCX female

Environmental

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

Random Vibe MIL-STD 810G
 Sine Vibe IEC 60068-2-6 (5 g)
 Shock MIL-STD 810G

Options and Accessories

- GPS-700 series antennas
- ANT-500 series antennas
- RF Cables—5, 10 and 30 m lengths
- Right angle RF connector

Additional Firmware Features

- GL1DE

Additional Features

- Auxiliary strobe signals, including a configurable PPS output for time synchronization and mark inputs
- Outputs to drive external LEDs
- Common, field-upgradeable software



Version 1 -Specifications subject to change without notice.
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 Printed in Canada. D13800
 OEMStar September 2009
 For the most recent details of this product:
novatel.com/Documents/Papers/OEMStar.pdf

¹ Typical values. Performance specifications subject to GPS system characteristics, US DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.
² GPS only.
³ Typical value. No almanac or ephemerides and no approximate position or time.
⁴ Typical value. Almanac and recent ephemerides saved and approximate position and time entered.
⁵ Time accuracy does not include biases due to RF or antenna delay.
⁶ Export licensing restricts operation to a maximum of 515 metres per second.
⁷ Typical values for 14 channel operation. Power consumption will vary depending upon features selected.