OEMStar™

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[1]

NovAtel OEMV®-style command interface

Features

Small form factor

Low power consumption

GL1DE™ firmware option

Designed for Integration

The OEMStar receiver has the same form factor as NovAtel's Superstar II and OEMV-1/1G receivers. This allows customers to easily integrate the OEMStar into existing Superstar II and OEMV-1/1G systems[1]. 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 Form Factor with Low Power Consumption

The OEMStar measures only 46 by 71 mm, accepts an input voltage between 3.3 and 5.0 VDC and consumes less than 600 mW.

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

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1-800-NOVATEL (U.S. and Canada)
or 403-295-4900
Europe 44-1993-85-24-36
SE Asia and Australia 61-400-833-601

Performance[2]

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
SBAS[3]	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 Start[4]	75 s
Hot Start[5]	45 s

Signal Reacquisition

L1	< 1.0 s (typical)

Time Accuracy[6]	**20 ns RMS**
Velocity Accuracy	**< 0.05 m/s RMS**
Velocity[7]	**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 Consumption[8]	0.46 W (GPS only) 0.54 W (GPS+GLONASS)

Antenna LNA Power Output

Output Voltage	5 V nominal
Maximum Current	100 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	-45°C to +90°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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For the most recent details of this product:
novatel.com/Documents/Papers/OEMStar.pdf

[1] Physical size, mounting holes and connector location is identical to Superstar II and OEMV-1/1G recievers. Some of the 20-pin connector signal assignments have been modified.
[2] 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.
[3] GPS only.
[4] Typical value. No almanac or ephemerides and no approximate position or time.
[5] Typical value. Almanac and recent ephemerides saved and approximate position and time entered.
[6] Time accuracy does not include biases due to RF or antenna delay.
[7] Export licensing restricts operation to a maximum of 515 metres per second.
[8] Typical values for 14 channel operation. Power consumption will vary depending upon features selected.

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