
Receivers OEMStar[®]

LOW COST, L1 GPS+GLONASS RECEIVER ENHANCES SATELLITE AVAILABILITY & POSITIONING

DESIGNED FOR INTEGRATION

The OEMStar receiver has the same form factor as NovAtel's OEMV-1 series receivers and uses the OEMV[®] style command interface. This allows you to easily integrate the OEMStar into existing OEMV-1 series systems. The OEMStar uses SBAS corrections from services such as WAAS and EGNOS.

MULTI-CONSTELLATION PERFORMANCE

The OEMStar features up to 14 channels of L1 GPS only, GLONASS only or combined 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 for GPS and 40 ns for GLONASS. The multi-constellation timing feature lets a user select a primary and secondary constellation for the timing source.

SMALL FORM FACTOR WITH LOW POWER CONSUMPTION

The OEMStar measures only 46 by 71 mm, accepts an input voltage between 3.1 and 5.25 VDC and consumes less than 500 mW. This makes the OEMStar an attractive choice for use in handheld and battery powered applications.

CUSTOMIZING WITH API

Application Programming Interface (API) functionality is available on the OEMStar. Using a recommended compiler with the API library, an application can be developed in a standard C/C++ environment to run directly from the receiver platform, eliminating system hardware, reducing development time and resulting in faster time to market.



BENEFITS

- + Increased satellite availability with GLONASS tracking
- + Easy to integrate
- + Form-factor consistent with NovAtel OEMV-1 receivers
- + NovAtel OEMV style command interface

FEATURES

- + Small form factor
 - + Very low power consumption
 - + GLIDE™ firmware option
 - + API firmware option
 - + Receiver Autonomous Integrity Monitoring (RAIM) firmware option
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OEMStar®

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		
7 GPS L1 + 7 GLO L1		
14 GLO L1		
Horizontal Position Accuracy (RMS)		
Single point L1	1.5 m	
SBAS ²	0.7 m	
DGPS	0.5 m	
Measurement Precision (RMS)		
	GPS	GLO
L1 C/A code	5 cm	35 cm
L1 carrier phase	0.6 mm	1.5 mm
Maximum Data Rate		
Measurements		10 Hz
Position		10 Hz
Time to First Fix		
Cold start ³		65 s
Hot start ⁴		35 s
Signal Reacquisition		
L1	< 1.0 s (typical)	
Time Accuracy		
GPS ^{2,5}	20 ns RMS	
GLONASS ^{5,6}	40 ns RMS	
Velocity Accuracy	< 0.05 m/s RMS	
Velocity Limit ⁷	< 515 m/s	

PHYSICAL AND ELECTRICAL⁸

Dimensions	46 × 71 × 13 mm
Weight	18 g
Power	
Input voltage	+3.3 to 5.0 VDC ±5%
Power consumption ^f	0.36 W
Antenna LNA Power Output	
Output voltage	5 V nominal
Maximum current	100 mA
Connectors	
Main	20-pin dual row male header
Antenna input	MCX female

COMMUNICATION PORTS

2 LV-TTL	300 to 230,400 bps
1 USB 2.0	

ENVIRONMENTAL

Temperature	
Operating	-40°C to +85°C
Storage	-45°C to +90°C
Humidity	95% non-condensing
Vibration	
Random	MIL-STD 810G
Sine	IEC 60068-2-6 (5 g)
Shock	MIL-STD 810G

FEATURES

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

FIRMWARE OPTIONS

- GLIDE
- API
- RAIM

OPTIONAL ACCESSORIES

- GPS-700 series antennas
- ANT series antennas
- RF cables—5, 10 and 30 m lengths
- Right angle RF connector
- Available in the FlexPak-G2™ enclosure

NOVATEL CONNECT™

NovAtel Connect is an intuitive configuration and visualization tool suite allowing comprehensive control of the OEMStar product.

- Easy to use wizards guide you through positioning mode configuration and raw data collection
- Detailed graphical windows display comprehensive status information
- Plan view and playback files allow you to monitor the positioning and configuration history
- Remotely control and monitor the OEMStar over the internet
- Windows XP and Windows 7 platforms

For the most recent details of this product: www.novatel.com/products/gnss-receivers/oem-receiver-boards/oemstar/

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Version 6 Specifications subject to change without notice.

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