Receivers



OEMV-2



Benefits

Proven OEMV® technology

Lowest power consumption in the market for a dual frequency receiver

Application Programming Interface (API) reduces hardware requirements and system complexity

Easy to integrate

Features

L1, L2 and L2C signal tracking

Increased satellite availability with GLONASS tracking

RT-2[™], RT-20[™], ALIGN[™] and GL1DE firmware options

Compact, Dual Frequency GNSS Receiver Delivers Robust RTK Functionality

Designed for Efficiency

The OEMV-2 sports low power consumption and a small form factor for ease and efficiency in integration. The modular nature of OEMV-2 firmware allows the user the flexibility to configure the receiver from a basic GPS L1-only to a dual frequency receiver with RTK functionality.

Greater Performance with GNSS Functionality

The OEMV-2 is configurable with GPS or GPS+GLONASS real-time capabilities. The GPS+GLONASS option increases available positions in obstructed sky conditions and allows users to work more often.

Enhanced, Flexible Firmware Features

With L2C tracking capabilities, the OEMV-2 is ideal for low signal strength applications, providing stronger signal tracking and better cross correlation protection. The OEMV-2 provides decimetre-level pass-to-pass accuracy with NovAtel's GL1DETM technology. NovAtel's optional AdVanceTM RTK technology is available for centimetre-level real-time position accuracy. ALIGN technology is available for heading and position outputs.

Customization With The API

The Application Programming Interface (API) functionality is available on the OEMV-2. 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.

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



novatel.com

sales@novatel.com 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

Receivers

OEMV-2

Performance¹

Channel Configuration

14 GPS L1, 14 GPS L2 12 GLONASS L1, 12 GLONASS L2 2 SBAS

Horizontal Position Accuracy (RMS)

Single Point L1	1.5 m
Single Point L1/L2	1.2 m
SBAS ²	0.6 m
DGPS	0.4 m
RT-20 ³	0.2 m
RT-2	1 cm+1 ppm

Measurement Precision (RMS)

	GPS	GLO
L1 C/A Code	4 cm	15 cm
L1 Carrier Phase	0.5 mm	1.5 mm
L2 P(Y) Code	8 cm	8 cm
L2 Carrier Phase	1 mm	1.5 mm
Data Rate Measurements Position		20 Hz 20 Hz
Time to First Fix Cold Start ⁴ Hot Start ⁵		60 s 35 s
Signal Reacquisition		
L1		(typical)
L2	1.0 s	(typical)
Time Accuracy ⁶	20	ns RMS
Velocity Accuracy	0.03 n	n/s RMS
Velocity ⁷		515 m/s

Dimensions 60 x 100 x 13 mm Weiaht 56 a Power Input Voltage +3.3 +5%/-3% VDC Power Consumption 1.2 W (GPS only) 1.6 W (GPS & GLONASS) **Antenna LNA Power Output Output Voltage** +5.1 VDC Maximum Current 100 mA **Communication Ports** • 1 RS-232 or RS-422 capable of 300 to 921,600 bps 2 LV-TTL serial port capable of 300 to 230,400 bps • 1 CAN Bus⁸ serial port capable of 1 Mbps 1 USB port capable of 5 Mbps **Input/Output Connectors** 24-pin dual row male header Main Antenna Input **MMCX** female External Oscillator Input MMCX female Environmental Temperature Operating -40°C to +85°C Storage -45°C to +95°C Humidity 95% non-condensing Random Vibe MIL-STD 810F (7.7 g RMS) Sine Vibe SAEJ1211 (4 g) Bump/Shock IEC 68-2-27 (30 g)

Physical and Electrical

Options and Accessories

- · GPS-700 series antennas
- ANT-500 series antennas
- RF Cables–5, 10 and 30 m lengths
- 50 Hz output rate⁹
- Right angle RF connector

Additional Firmware Features

- RT-20
- RT-2
- ALIGN
- GL1DE
- Pseudo Range/Delta-Phase (PDP) Positioning

Additional Features

- Common, field-upgradeable software for all OEMV family receivers with OEM4 compatible commands and logs
- Auxiliary strobe signals, including a configurable PPS output for time synchronization and mark inputs
- · Outputs to drive external LEDs
- · External oscillator input



Version 4 -Specifications subject to change without notice © 2009 NovAtel Inc. All rights reserved. NovAtel and OEMV are registered trademarks of NovAtel Inc.

RT-20, RT-2, Advance, GL1DE and Align are trademarks of NovAtel Inc.

Printed in Canada. D09556 0EMV-2 May 2009 For the most recent details of this product: novatel.com/Documents/Papers/OEMV-2.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 Expected accuracy after static convergence.

- 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 External CAN transceiver and user application software required. Replaces one LV-TTL serial port.
- 9 GLONASS is not supported at 50Hz.