**Next Generation High Performance GNSS Receiver**

**OEM628™**

**Designed With Future in Mind**

The OEM628 is designed with NovAtel’s new 120 channel ASIC, which tracks all current and upcoming GNSS constellations and satellite signals including GPS, GLONASS, Galileo and Compass. Configurable channels optimize satellite availability in any condition, no matter how challenging. Already tracking GPS L5 and Galileo GIOVE-A/B test satellites, the OEM6 is software upgradable to track future signals as they become available. Maximizing satellite availability and optimizing GNSS signal usage now, and in the future, ensures consistent, high performance GNSS positioning.

**Easy System Integration**

Like all NovAtel products, the OEM628 is designed and built with a focus on product quality and ease of integration. It maintains our industry-setting V2 form factor ensuring a successful drop-in replacement and backwards compatibility for existing customers. A development kit and user-friendly configuration software is available to assist new customers with rapid integration and faster time to market. NovAtel’s well-established, comprehensive set of software commands facilitates system integration. Ethernet and NTRIP 2.0 Client and Server connectivity is offered in addition to our traditional communications interfaces.

**Flexible Configurations for your Application**

Proven and innovative new NovAtel technology combine to achieve the best in GNSS positioning. NovAtel’s industry-leading Pulse Aperture Correlator multipath mitigation technology is standard and ensures the highest quality measurements and positioning. Innovative new technology provides excellent resistance to interference for consistent, accurate and reliable positioning. Configurable options ensure that your positioning and accuracy needs are being met at all times. To learn more about how our firmware options can enhance your positioning, please visit www.novatel.com/products/firmware-options.

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**Benefits**

Innovative OEM6™ Technology

Supports Current and Future GNSS Signals

Application-Based Configurations

Designed for Rapid Integration

**Features**

Low Power Consumption

Flexible Communication Interfaces

Software Configurable Performance

Ultra-Light

High Position Accuracy and Availability

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If you require more information about our receivers, visit novatel.com/products/gnss-receivers/oem-receiver-boards
### Receivers

**OEM628™**

### Performance

**Channel Configuration**
- 120 Channels with flexible configuration including:
  - GPS: L1, L2, L2C, L5
  - GLONASS: L1, L2
  - Galileo: E1, E5
  - GIOVE-A/GIOVE-B (test) Compass
- SBAS
- L-band

### Horizontal Position Accuracy (RMS)

- Single Point L1: 1.5 m
- Single Point L1/L2: 1.2 m
- SBAS: 0.6 m
- CDGPS: 0.6 m
- DGPS: 0.4 m
- OmniSTAR VBS: 0.6 m
- XP: 0.15 m
- RT-2™: 0.1 cm
- RT-2*: 0.2 m

### Initialization Time
- 1 cm + 1 ppm
- <10 s
- Initialization Reliability > 99.9%

### Measurement Precision (RMS)

- Fully independent code and carrier measurements:
  - GPS
  - GLO

### Signal Reacquisition

- L1: <0.5 s
- L2: <1.0 s

### Time Accuracy

- 20 ns RMS

### Velocity Accuracy

- 0.03 m/s RMS
- 514 m/s

### Physical and Electrical

- Dimensions: 60 x 100 x 9.1 mm
- Weight: 37 g

### Power

- Input Voltage: +3.3 VDC [+5%/-5%]
- Power Consumption: 1.3 W

### Antenna LNA Power Output

- Output Voltage: 5 VDC [+5%/-5%]
- Maximum Current: 100 mA

### Communication Ports

- 1 RS-232 (300 to 921,600 bps)
- 2 LVTTL (300 to 921,600 bps)
- 2 CAN Bus™ serial ports (1 Mbps)
- 1 USB port (12 Mbps)
- Event Marker Inputs
- 1 LAN Ethernet port supporting:
  - 10BaseT/100BaseT networks
  - Direct TCP/IP & UDP connectivity
  - NTRIP (v2.0) Client and Server

### Input/Output Connectors

- Main: 24-pin dual row male header
- Aux: 16-pin dual row male header
- Antenna Input: MMX female
- External Oscillator Input: MMX female

### Environmental

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

### Random Vibe

- MIL-STD-810G (Cat 24, 7.7 g RMS)
- Sine Vibe: IEC60068-2-6
- Bump: IEC9022-31-06 (25 g)
- Shock: MIL-STD-810G (40g)

### Firmware Options

- All firmware features are field upgradeable using authorization codes:
  - RT-2
  - RT-20
  - OmniSTAR® HP, XP, VBS, G2
  - CDGPS
  - ALIGN
  - GL1DE®
  - RAIM
  - 100 Hz output rate

### Accessories

- GPS-700 series antennas
- ANT series antennas
- RF Cables—5, 10 and 30 m lengths
- Development Kit

### NovAtel Connect Software

NovAtel Connect is an intuitive configuration and visualization tool suite allowing comprehensive control of the OEM628 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 OEM628 over the internet
- Available on Windows platforms

### Standard Features

- Field-upgradeable software
- 20 Hz measurement and position data rate
- PAC multipath mitigating technology
- Differential GPS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, CMR, CMR+, and RTCA
- Navigation output support for NMEA-0183 and detailed NovAtel ASCII and binary logs
- Auxiliary strobe signals, including a configurable PPS output for time synchronization and mark inputs
- Outputs to drive external LEDs
- External oscillator input

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