

Receivers OEM617D™



COMPACT, DUAL-ANTENNA,
DUAL-FREQUENCY GNSS
RECEIVER DELIVERS ROBUST RTK
FUNCTIONALITY AND ALIGN®
HEADING CAPABILITY

HIGH PRECISION GNSS, COMPACT SIZE

The dual-frequency OEM617D is NovAtel's latest addition to its powerful OEM6® family of receivers offering heading and precise positioning for space constrained applications. Backwards compatible with NovAtel's popular OEM615™ form factor, the OEM617D provides the most efficient way to bring GNSS capable navigation and positioning products to market quickly. As with all NovAtel OEM6 receivers, the OEM617D is ready for existing and planned GPS, GLONASS and BeiDou signals.

DUAL-ANTENNA INPUT

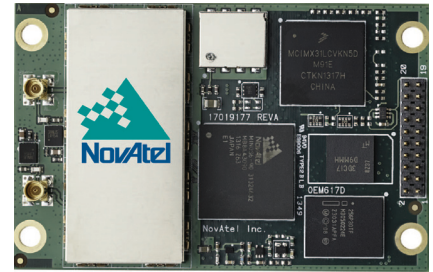
Dual-frequency, dual antenna input allows the OEM617D to harness the power of NovAtel CORRECT with RTK and ALIGN functionality. This makes the OEM617D ideal for ground vehicle, marine or aircraft based systems, providing industry leading GNSS multi-constellation heading and position data in static and dynamic environments.

DESIGNED FOR FLEXIBILITY

The modular nature of NovAtel's OEM6 firmware gives users the flexibility to configure the OEM617D for their unique application needs. Scalable to offer sub-metre to centimetre level positioning, it is field upgradable to with selected OEM6 family software options. Options include AdVance RTK for centimetre-level real-time positioning, ALIGN for precise heading and relative positioning, GLIDE™ for decimetre-level pass-to-pass accuracy and RAIM for increased GNSS pseudorange integrity.

CUSTOMIZATION WITH AN API

Application Programming Interface (API) functionality is available on the OEM617D. Using a recommended compiler with the API library, an application can be developed in a standard C/C++ environment to run directly on the receiver platform, eliminating system hardware, reducing development time and resulting in a faster time to market.



BENEFITS

- + Dual-frequency RTK with precise ALIGN heading+pitch/roll
- + Dual-frequency GPS+GLONASS BeiDou RTK and ALIGN heading solution
- + Easy to integrate
- + Compact size and low power

FEATURES

- + Increased satellite availability with BeiDou, GLONASS and Galileo* tracking
- + GLIDE smoothing algorithm
- + RT-2®, ALIGN and RAIM firmware options

*Available on selected models.

OEM617D™

PERFORMANCE¹

Channel Configuration

120 Channels²

Signal Tracking

Primary and Secondary RF

» GPS L1, L2, L2C
» GLONASS L1, L2
» BeiDou³ B1, B2

Other Signals

» Galileo E1
» SBAS
» QZSS

Horizontal Position Accuracy (RMS)

Single point L1 1.5 m
Single point L1/L2 1.2 m
SBAS⁴ 0.6 m
DGPS 0.4 m

NovAtel CORRECT™

» RT-2 1 cm + 1 ppm
Initialization time < 10 s
Initialization reliability >99.9%

ALIGN Heading Accuracy

Baseline	Accuracy (RMS)
2 m	0.08 deg
4 m	0.05 deg

Data Rate⁷

Measurements up to 20 Hz
Position up to 20 Hz

Time to First Fix

Cold start⁸ < 50 s
Hot start⁹ < 35 s

Signal Reacquisition

L1 < 0.5 s (typical)
L2 < 1.0 s (typical)

Time Accuracy¹⁰ 20 ns RMS

Velocity Accuracy

0.03 m/s RMS

Velocity Limit¹¹ 515 m/s

PHYSICAL AND ELECTRICAL

Dimensions 46 × 71 × 11 mm

Weight <24 g

Power

Input voltage +3.3 VDC ±5%

Power Consumption¹²

» GPS L1/L2 1.9 W
» GPS+GLO L1/L2 <2.0 W
» GPS+BDS+GLO L1/L2/B1/B2 <2.10 W

Antenna LNA Power Output

Output voltage 5.0 VDC
Maximum current 150 mA

Connectors

Main 20-pin dual row male header
Primary antenna MMCX female
Secondary antenna MMCX female

COMMUNICATION PORTS

3 LVTTTL up to 921,600 bps
2 CAN Bus 1 Mbps
1 USB 12 Mbps
Pulse Per Second (PPS) output

ENVIRONMENTAL

Temperature

Operating -40°C to +85°C
Storage -55°C to +95°C

Humidity 95% non-condensing

Vibration

Random MIL-STD 810G (Cat 24, 7.7 g RMS)
Sinusoidal IEC 60068-2-6 (Test Fc-5 g)

Bump ISO 9022-31-06 (25 g)

Shock MIL-STD-810G (40 g)

FEATURES

- Dual-frequency, dual antenna input
- Field upgradeable software
- 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 output for time synchronization and mark inputs
- Outputs to drive external LEDs
- GLIDE smoothing algorithm

NOVATEL CONNECT™

NovAtel Connect is an intuitive configuration and visualization tool suite allowing comprehensive control of the OEM617D product.

- Easy to use wizards for positioning mode configuration and raw data collection
- Detailed GUI for comprehensive status information
- Plan view and playback files allow monitoring of positioning and configuration history

FIRMWARE OPTIONS

- NovAtel CORRECT
- ALIGN
- RAIM

OPTIONAL ACCESSORIES

- GPS-700 series antennas
- ANT series antennas
- RF Cables—5 and 10 m lengths
- OEM6 Development Kit (additional adapters required)