

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, dual antenna OEM617D is NovAtel's latest addition to the 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 GPS, GLONASS and BeiDou signals.

DUAL-ANTENNA INPUT

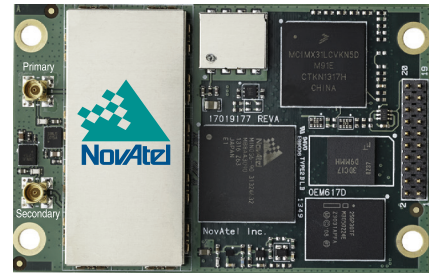
Dual-frequency, dual antenna input allows the OEM617D to harness the power of NovAtel CORRECT™ with RTK and ALIGN functionality. This makes the OEM617D ideal for ground vehicle, marine or aircraft based systems, providing industry leading GNSS multi-constellation heading and position data in static and 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 and field upgradeable with selected OEM6 family software options. Options include NovAtel CORRECT with 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.

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

OEM617D™

PERFORMANCE¹

Channel Configuration

120 Channels²

Signal Tracking

Primary and Secondary RF

GPS	L1, L2, L2C
GLONASS	L1, L2
BeiDou ³	B1, B2
Galileo	E1, E5b
SBAS	
QZSS	

Horizontal Position Accuracy (RMS)

Single point L1	1.5 m
Single point L1/L2	1.2 m
SBAS ⁴	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

Maximum Data Rate⁷

Measurements	up to 20 Hz
Position	up to 20 Hz

Time to First Fix

Cold start ⁸	< 50 s
Hot start ⁹	< 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 V +5%/-3%

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

Input voltage	6 VDC-12 VDC
Output voltage	5.0 VDC
Maximum output current	
» Dual antenna	100 mA
» Single primary	200 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 Survival (75 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

- ALIGN
- RAIM

OPTIONAL ACCESSORIES

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

For the most recent details of this product: www.novatel.com/products/gnss-receivers/oem-receiver-boards/oem6-receivers

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SE Asia and Australia 61-400-883-601

Version 3 Specifications subject to change without notice.

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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. Tracks at least 60 L1/L2 satellites depending on model options.

3. Designed for BeiDou Phase 2, B1 and B2 compatibility.

4. GPS only.

5. L2 P for GLONASS.

6. L2 C/A for GLONASS.

7. 20 Hz on selected models.

8. Typical value. No almanac or ephemerides and no approximate position or time.

9. Typical value. Almanac and recent ephemerides saved and approximate position and time entered.

10. Time accuracy does not include biases due to RF or antenna delay.

11. Export licensing restricts operation to a maximum of 515 metres per second.

12. Typical power consumption values.

