MULTI-FREQUENCY GNSS RECEIVER DELIVERS ROBUST POSITIONING AND SIMPLIFIES INTEGRATION

HIGH PRECISION GNSS
The multi-frequency OEM7700 offers future ready, precise positioning for space constrained applications. Advanced interference mitigation features are available for performance in challenging environments. With a variety of interface options to facilitate system integration, the OEM7700 provides the most efficient way to bring powerful Global Navigation Satellite System (GNSS) capable products to market quickly. With centimetre level positioning utilizing TerraStar L-Band satellite-delivered correction services, the OEM7700 ensures globally available, high performance positioning without the need for expensive network infrastructure. Anywhere. Anytime.

BUILT-IN FLEXIBILITY
The OEM7700 uses a 555 channel architecture and can be configured in multiple ways for maximum flexibility. NovAtel's OEM7™ firmware provides users with the ability to configure the OEM7700 for their unique application needs. The OEM7700 is scalable to offer sub-metre to centimetre level positioning, and is field upgradable to all OEM7 family software options. These options include ALIGN® for precise heading and relative positioning, GLIDE™ for decimetre level pass-to-pass accuracy and SPAN® GNSS+INS for continuous 3D position, velocity and attitude. NovAtel CORRECT™ with RTK delivers centimetre level real-time positioning, or go base-free for centimetre and decimetre PPP solutions using TerraStar corrections.

To learn more about how our firmware solutions can enhance your positioning, please visit novatel.com/products/firmware-options.

DESIGNED WITH THE FUTURE IN MIND
The OEM7700 is capable of tracking all current and upcoming GNSS constellations including GPS, GLONASS, Galileo, BeiDou, QZSS and IRNSS. It is software upgradable to track upcoming signals as they become available.

FEATURES
+ 555 channel, all-constellation, multi-frequency positioning solution
+ Multi-channel L-Band supports TerraStar correction services
+ Serial, USB, CAN and Ethernet connectivity with Web interface
+ Advanced interference visualization and mitigation features
+ RTK, GLIDE and STEADYLINE® firmware options
+ Simple to integrate, small form factor with 20 g vibration performance rating
+ SPAN GNSS+INS functionality

If you require more information about our receivers, visit novatel.com/oem7
# OEM7700

## Performance

<table>
<thead>
<tr>
<th>Channel Count</th>
<th>555 Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Tracking</td>
<td>GPS L1 C/A, L1C, L2C, L2P, L5 GLONASS L1 C/A, L1C, L2C, L2P, L3, L5 Beidou B1, B2, B3 Galileo E1, E5a, E5b, E6 IRNSS L5 SBAS L1, L5 QZSS L1 C/A, L1C, L2C, L5, L6 L-Band (up to 5 channels)</td>
</tr>
<tr>
<td>Horizontal Position Accuracy (RMS)</td>
<td>Single Point L1 1.5 m Single Point L1/L2 1.2 m NovAtel CORRECT SBAS 60 cm DGPS 40 cm PPP ^7 TerraStar-L 40 cm TerraStar-C 4 cm RTK 1 cm + 1 ppm Initialization time &lt; 10 s Initialization reliability &gt; 99.9%</td>
</tr>
<tr>
<td>Maximum Data Rate</td>
<td>Measures up to 100 Hz Position up to 100 Hz</td>
</tr>
<tr>
<td>Time to First Fix</td>
<td>Cold start ^8,14 &lt; 40 s (typical) Hot start ^8,14 &lt; 19 s (typical)</td>
</tr>
<tr>
<td>Signal Reacquisition</td>
<td>L1 &lt; 0.5 s (typical) L2 &lt; 1.0 s (typical)</td>
</tr>
<tr>
<td>Time Accuracy</td>
<td>20 ns RMS</td>
</tr>
<tr>
<td>Velocity Accuracy</td>
<td>&lt; 0.03 m/s RMS</td>
</tr>
<tr>
<td>Velocity Limit</td>
<td>515 m/s</td>
</tr>
<tr>
<td>Velocity Limit</td>
<td>1 cm + 1 ppm</td>
</tr>
<tr>
<td>Power</td>
<td>Input voltage +3.3 VDC ±5%</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>GPS L1 0.9 W (typical) GPS/GLONASS L1/L2 1.3 W (typical) All frequencies/All constellations with L-Band 1.8 W (typical)</td>
</tr>
<tr>
<td>Antenna Port Power Output</td>
<td>Output voltage 5.0 VDC ±5% Maximum current 200 mA</td>
</tr>
<tr>
<td>Connectors</td>
<td>Main 60-pin dual row female socket Antenna Input MMBX female</td>
</tr>
<tr>
<td>Communications Ports</td>
<td>5 LVC MOS up to 460,800 bps 2 CAN Bus 1 Mbps 1 USB 2.0 (device) HS 1 USB 2.0 (host) HS 1 Ethernet 10/100 Mbps</td>
</tr>
<tr>
<td>Environmental</td>
<td>Temperature Operating -40°C to +85°C Storage -55°C to +95°C Humidity 95% non-condensing Vibration Random ^6 MIL-STD-810G Method 514.7 (Cat 24, 20 g RMS) Sinusoidal IEC 60068-2-6 Bump ISO 9022-31-06 (25 g) Shock Operating MIL-STD-810G (40 g) Non-operating MIL-STD-810G, Method 516.7 (75 g)-Survival Acceleration Operating MIL-STD-810G, Method 513.7 (16 g)</td>
</tr>
</tbody>
</table>

## Features

- Field upgradeable software
- Differential GPS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, CMR, CMR+, RTCA and NovateLX
- Navigation output support for NMEA 0183 and detailed NovAtel ASCII and binary logs
- Receiver Autonomous Integrity Monitoring (RAIM)
- GLIDE and STEADYLINE smoothing algorithms
- Interference Toolkit
- Web GUI
- Outputs to drive external LEDs
- 4 Event inputs
- 4 Event outputs
- Pulse Per Second (PPS) output

## Firmware Solutions

- ALIGN
- SPAN
- RTK
- RTK ASSIST™
- TerraStar PPP
- API ^14

## Optional Accessories

- VEXXIS™ GNSS—500 and GNSS—800 series antennas
- ANT series antennas
- Mechanical mounting rails
- OEM7 Development Kit

For the most recent details of this product: novatel.com/oem7

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