Key features and benefits

- 20 Hz position update rate
- Less than 20 milliseconds position latency
- Centimeter-level position accuracy
- Front panel display & keypad for status monitoring and configuration
- User-defined local coordinates direct from receiver
- Industry standard CAN bus interface

The MS750™ represents the highest level of accuracy and response available from a dual frequency GPS receiver. The receiver is specifically designed to allow the easy integration of reliable centimeter-level positions to any guidance or control application.

Accuracy and Response Times
Dynamic platforms, require virtually instantaneous position reports multiple times per second. The MS750 delivers positions to guidance or control loop software twenty times per second with a latency of less than 20 milliseconds. This responsiveness is matched with a horizontal accuracy of two centimeters and vertical accuracy of three centimeters. For the most precise applications, the MS750 provides one centimeter accuracy horizontally at a 5 Hz rate with a small increase in latency.

Interfacing and Configuration Ease
The MS750 is designed to plug right into your application with minimal development. An easy-to-use application file interface enables the user to completely program receiver operation with a single command. Alternately, the receiver can be configured via the user-friendly built-in display and keyboard interface, or by the included Windows-based Configuration Toolbox software. Multiple configurations can be stored in the receiver as files and activated when desired. Local datum and transformation parameters may be loaded directly into the receiver. Therefore, output grid coordinates are compatible with GPS and traditional survey systems that may be in use on the same site. ASCII or Binary messages may be output through any of the three bi-directional serial ports. The receiver also includes support for the industry standard CAN (Controller Area Network) interface.

Advanced Technology
The accuracies, update rates and latencies available in the MS750 are made possible through a GPS architecture specifically designed for demanding dynamic positioning applications. Reliable operation in the most adverse environments, such as radio interference experienced at construction or mining sites, is a strict requirement. Custom designed hardware with Supertrak™ multibit GPS signal technology and Everest™ advanced multipath suppression provide superior tracking especially for weaker, low elevation satellites.

Both the RTCM format for differential GPS corrections and Trimble’s published Compact Measurement Record (CMR) differential data can be received simultaneously, allowing the receiver to choose the optimum source and provide seamless navigation. Available as an option is the ability to calculate the baseline vector between two moving receivers to centimeter accuracy. The MS750 addresses a vast range of applications in the field of machine positioning, guidance and control.
MS750
Dual Frequency RTK Receiver for Precise Dynamic Positioning

STANDARD FEATURES

• Centimeter accuracy, real-time positioning
• 20 Hz position updates
• < 20 ms position latency
• Front panel display & keypad
• User-defined local coordinates direct from receiver
• 3 serial I/O ports
• 2 CAN ports
• 1 PPS Output
• Trimble CMR Input/Output
• RTCM Input/Output
• One year hardware warranty
• Compact, easy mounting design
• Synchronized 5 Hz position updates

ENVIRONMENTAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temp</td>
<td>-20°C to +60°C</td>
</tr>
<tr>
<td>Storage temp</td>
<td>-30°C to +80°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>MIL 810 E, Meth. 507.3 Proc III, Aggravated, 100% condensing</td>
</tr>
<tr>
<td>Vibration</td>
<td>MIL 810 D, Tailored Random 3gRMS Operating Random 6.2gRMS Survival</td>
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<tr>
<td>Mechanical Shock</td>
<td>MIL 810 D, ± 40 g Operating ± 75 g Survival</td>
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<tr>
<td>EMC</td>
<td>CISPR 12</td>
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<tr>
<td>Conducted Emissions</td>
<td>SAE J1113/41</td>
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<tr>
<td>Radiated Immunity</td>
<td>ISO/DIS 13766, 30V/m</td>
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<tr>
<td>ESD</td>
<td>±15KV</td>
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<tr>
<td>Input Voltage Transients</td>
<td>ISO 7637-2</td>
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</tbody>
</table>

OPTIONS AND ACCESSORIES

• Moving Base RTK
• Rugged L1/L2 machine mount antenna
• Micro-Centered Antenna
• 5 m, 7.5 m, 10 m, 24 m & 30 m antenna cables
• Data extension cable
• Extended hardware warranty
• Firmware and Software update service

TECHNICAL SPECIFICATIONS

| Tracking                  | 9 channels L1 C/A code, L1/L2 full cycle carrier Fully operational during P-code encryption |
| Signal processing         | Supertrak Multibit Technology Everest Multipath Suppression |
| Positioning mode          | Accuracy\(^1\) Latency\(^2\) Max Rate |
| Synchronized RTK          | 1cm+ 2ppm Horizontal 300ms\(^3\) 5 Hz Std |
| Low Latency               | 2cm+ 2ppm Horizontal \(^4\) < 20 ms 20Hz |
| DGPS                      | < 1 m < 20 ms 20Hz |

\(^1\) 1 sigma level
\(^2\) At maximum output rate
\(^3\) Dependent on data link throughput
\(^4\) Assumes 1 second data link delay

ORDERING INFORMATION

MS750  Part Number 36577-00

Includes MS750 receiver, Configuration Toolbox software, operating manual, power/data cable, data/1 PPS cable

PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>14.5cmW × 5.1cmH × 23.9cmD (5.7²W × 2.0² H × 9.4²D)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.0 kg (2.25 lbs)</td>
</tr>
<tr>
<td>Power</td>
<td>12VDC/24VDC, 9 Watts</td>
</tr>
</tbody>
</table>

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NORTH AMERICA
Trimble Engineering and Construction Division
5475 Kellenburger Road
Dayton, Ohio 45424, U.S.A.
800-538-7800 (toll free)
+1-937-233-8921 (phone)
+1-937-233-9004 (fax)
www.trimble.com

EUROPE
Trimble GmbH
Am Prime Parc 11
65479 Raunheim
GERMANY
+49-6142-21000 Phone
+49-6142-2100-550 Fax

ASIA PACIFIC
Trimble Navigation Australia Pty Limited
Level 1/123 Gotha Street
Fortitude Valley, QLD 4006
AUSTRALIA
+61-7-3216-0044 Phone
+61-7-3216-0088 Fax

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