

## KEY FEATURES

### A Field-Proven System Design

### Advanced Trimble GPS Technology for Your Unique Applications

### Integrated Surveying for Combining Systems and Techniques in the Field

### Enhanced Business Achievement via Trimble's Connected Site



### 20+ YEARS OF INNOVATION AND FIELD SUCCESS

No one becomes a great surveyor overnight; it takes years of professional development and field experience. In much the same way, the Trimble® R6 GPS System offers advanced technology and a system design that's proven itself on the job site. It's a GPS system as qualified for surveying as you are.

### MORE THAN A RECEIVER...A COMPLETE SYSTEM

The Trimble R6 GPS System comprises four integrated parts:

- **Trimble R6 receiver:** The receiver unit combines an advanced GPS receiver, antenna, battery, and radio in one field-ready housing.
- **Trimble TSC2 or Trimble CU controller:** Both controllers team perfectly with the receiver. With the receiver and controller on a rover pole, the Trimble R6 GPS system is lightweight, rugged, and cable free. The Trimble® TSC2® controller runs the latest Microsoft Windows operating system, so everything you know from the office is effortlessly applied in the field.
- **Trimble field software:** Designed by surveyors for surveyors, Trimble field software such as Trimble Survey Controller™ is the key to seamless data flow, field efficiency, and truly Integrated Surveying.
- **Trimble Business Center office software:** Easily transfer GNSS field data into the office for data processing, then export your GNSS data to the third-party design software of choice.

### GPS TECHNOLOGY YOU CAN TRUST

The Trimble R6 receiver delivers maximum accuracy and reliability with GPS.Plus, a Trimble R-Track™ technology option provides GLONASS support. GLONASS augments the GPS solution so you can view more satellites and measure more successfully in challenging environments.

This capability is powered by an innovative RTK engine that makes initialization faster and your surveying workflow more efficient. Reduce downtime caused by loss of lock and the time it takes to re-initialize.

### TRULY INTEGRATED SURVEYING™ FROM TRIMBLE

The Trimble R6 GPS System can be integrated with other surveying systems on a job site for superior flexibility. With the Trimble controller and field software, collect and manage GPS and optical data in one Job file simply by switching the controller between sensors. When field work is complete, transfer the Job file to your office software using the flexible communication option that suits your needs.

The Trimble R6 can also be used as part of a Trimble® I.S. Rover. Simply add a prism to the rover pole and partner the Trimble R6 with a robotic optical system such as the Trimble® S6 Total Station. This integrated solution maximizes the best of both surveying techniques for even greater field efficiency.

### THE CONNECTED SITE MODEL

In Trimble's Connected Site model tools, techniques, services, and business relationships work together to take you to previously unimagined levels of professional success. By partnering with Trimble, you'll dramatically increase your effectiveness in every job. And when you see what the Trimble R6 GPS System and other Trimble solutions have to offer, you'll know you've made the right decision.

# TRIMBLE R6 GPS SYSTEM

## PERFORMANCE SPECIFICATIONS

### Measurements

- Trimble R-Track technology for GLONASS support
- Advanced Trimble Maxwell™ Custom Survey GNSS Chip
- High precision multiple correlator for GNSS pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low-elevation tracking technology
- 72 Channels:
  - GPS L1 C/A Code, L1/L2 Full Cycle Carrier
  - GLONASS L1 C/A Code, L1 P Code, L2 P Code, L1/L2 Full Cycle Carrier
  - SBAS WAAS/EGNOS support

### Code differential GPS positioning<sup>1</sup>

Horizontal . . . . . ±0.25 m + 1 ppm RMS  
Vertical . . . . . ±0.50 m + 1 ppm RMS  
WAAS differential positioning accuracy<sup>2</sup> . . . . . typically <5 m 3DRMS

### Static and FastStatic GPS surveying<sup>1</sup>

Horizontal . . . . . ±5 mm + 0.5 ppm RMS  
Vertical . . . . . ±5 mm + 1 ppm RMS

### Kinematic surveying<sup>1</sup>

Horizontal . . . . . ±10 mm + 1 ppm RMS  
Vertical . . . . . ±20 mm + 1 ppm RMS  
Initialization time . . . . . typically <25-30 seconds  
Initialization reliability<sup>3</sup> . . . . . typically >99.9%

## HARDWARE

### Physical

Dimensions (W×H) . . . . . 19 cm × 11.5 cm (7.5 in × 4.4 in), including connectors

Weight . . . . . 1.35 kg (2.97 lb) with internal battery, internal radio, standard UHF antenna.  
3.71 kg (8.18 lb) entire RTK rover including batteries, range pole, controller and bracket

### Temperature<sup>4</sup>

Operating . . . . . -40 °C to +65 °C (-40 °F to +149 °F)  
Storage . . . . . -40 °C to +75 °C (-40 °F to +167 °F)

Humidity . . . . . 100%, condensing

Waterproof . . . . . IP67, protected for submersion to depth of 1 m (3.28 ft)

Shock and vibration . . . . . Tested and meets the following environmental standards:

Shock . . . . . Non-operating: Designed to survive a 2 m (6.6 ft) pole drop onto concrete. Operating: To 40 G, 10 msec, sawtooth

Vibration . . . . . MIL-STD-810F, FIG.514.5C-1

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## Electrical

- Power 11 to 28 V DC external power input with over-voltage protection on Port 1 (7-pin Lemo)
- Rechargeable, removable 7.4 V, 2.4 Ah Lithium-Ion battery in internal battery compartment. Power consumption is <3.1 W, in RTK mode with internal radio. Operating times on internal battery:
  - 450 MHz receive only option 5.3 hours, varies with temperature
  - 450 MHz receive/transmit option 3.5 hours, varies with temperature and wireless data rate
  - GSM/GPRS 3.8 hours, varies with temperature
- Certification Class B Part 15, 22, 24 FCC certification, 850/1900 MHz. Class 10 GSM/GPRS module. CE Mark approval, and C-tick approval.

## Communications and Data Storage

- 3-wire serial (7-pin Lemo) on Port 1. Full RS-232 serial on Port 2 (Dsub 9 pin)
- Fully Integrated, fully sealed internal 450 MHz receiver/transmitter option:
  - Transmit power: 0.5 W
  - Range<sup>5</sup>: 3–5 km typical / 10 km optimal
- Fully integrated, fully sealed internal GSM/GPRS option<sup>6</sup>
- Fully integrated, fully sealed 2.4 GHz communications port (Bluetooth®)<sup>6</sup>
- External cellphone support for GSM/GPRS/CDPD modems for RTK and VRS operations
- Data storage on 11 MB internal memory: 302 hours of raw observables based on recording data from 6 satellites at 15 second intervals
- 1 Hz, 2 Hz, 5 Hz, and 10 Hz positioning
- CMRII, CMR+, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1 Input and Output
- 16 NMEA outputs. GSOF and RT17 outputs. Supports BINEX and smoothed carrier.

1 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.

2 Depends on WAAS/EGNOS system performance.

3 May be affected by atmospheric conditions, signal multipath, and satellite geometry.

Initialization reliability is continuously monitored to ensure highest quality.

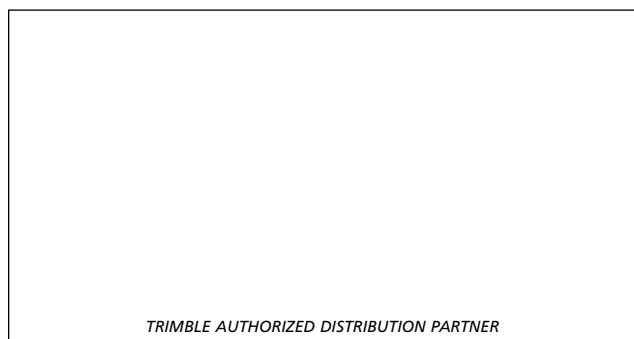
4 Receiver will operate normally to -40 °C. Bluetooth module and internal batteries are rated to -20 °C.

5 Varies with terrain and operating conditions.

6 Bluetooth and GSM type approvals are country specific.

Contact your local Trimble authorized distribution partner for more information.

Specifications subject to change without notice.



TRIMBLE AUTHORIZED DISTRIBUTION PARTNER

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