



### KEY FEATURES

Purpose-built integrated GPS receiver for improved productivity

Scalable from L1, postprocessing to full RTK configurations

Lightweight design for reduced fatigue on all-day operations

Cable-free rover for more flexibility and ease-of-use in the field

Accurate, reliable and rugged



### A SCALABLE GPS SOLUTION FOR A RANGE OF SURVEYING NEEDS

The Trimble® 5800 GPS receiver provides reliability and simplicity for basic surveying tasks. You can trust that the proven design of the Trimble 5800 will perform under the toughest conditions.

### INTEGRATED SYSTEM

Because the Trimble 5800 GPS receiver's components are completely integrated, the system is lightweight and ergonomic—and completely cable-free. 2 MB of internal memory makes collecting data for post-processing extremely easy and efficient, whether for static or kinematic (stop-and-go) surveying.

The Trimble 5800 can also be used as a base station, so it is versatile to meet the changing needs of your business.

### ADVANCED TECHNOLOGY

The Trimble 5800 GPS system offers advanced Trimble GPS technology. It is a 24-channel dual-frequency GPS receiver, containing Trimble's proven Maxwell™ technology for robust tracking in difficult GPS environments.

Two additional channels for WAAS and EGNOS tracking let you perform real-time differential surveys to GIS grade without a base station.

The dual-frequency Trimble antenna enhances the tracking capabilities of the Trimble 5800—the patented four-point antenna feed provides submillimeter phase center stability for precise results. The position of the UHF radio antenna mounting further increases accuracy by being out of the GPS line-of-sight, reducing multipath and avoiding interference with the GPS antenna.

For rover communications use the built-in 450 or 900 MHz radio, or use an external radio, cell phone or wireless packet data modem.

For base communications, select a radio from Trimble's range of powerful communication products. Just the kind of flexibility you need!

For extended coverage and comprehensive error checking when roving, the Trimble 5800 works with signals from multiple base stations transmitting on the same radio channel. For even larger area coverage, at highest accuracies, the Trimble 5800 works with Trimble VRS™ networks.

Integrated Bluetooth® wireless technology enables cable-free communication between the receiver and your Trimble controller.\*

### BUILT FOR THE FIELD

As a rover, the Trimble 5800 is not only lightweight and cable-free; it also consumes minimal power. Two miniature batteries will power the receiver for up to 11 hours – at least enough for a full working day.

Environmentally rated to IPX7, and submersible to a depth of 1 m, the Trimble 5800 is rugged enough for any job. It can withstand a drop of up to 2 m on to a hard surface.

### WIDE RANGE OF APPLICATIONS

The 5800 GPS system is ideal for a wide range of positioning applications, including:

- Survey
- Construction
- Asset management

It offers you the accuracy, flexibility, and ease of use you need for all your survey-grade GPS applications.

\* Bluetooth type approvals are country specific. Contact your Trimble representative for more information.

# TRIMBLE 5800 GPS SYSTEM

## PERFORMANCE SPECIFICATIONS

### Measurements

- Advanced Trimble Maxwell™ Custom Survey GPS Chip
- High precision multiple correlator for L1 and L2 pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise L1 and L2 carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- L1 and L2 Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low elevation tracking technology
- 24 Channels L1 C/A Code, L1/L2 Full Cycle Carrier
- 2 additional channels for 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..... Single/Multi-base minimum 10 sec +0.5 times  
baseline length in km, up to 30 km  
Initialization reliability<sup>3</sup>..... Typically >99.9%

## HARDWARE

### Physical

Dimensions (WxH) . 19 cm (7.5 in) × 10 cm (3.9 in), including connectors  
Weight ..... 1.31 kg (2.89 lb) with internal battery,  
internal radio, standard UHF antenna. 3.67 kg (8.09 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  
Water/dustproof..... IP67 Dustproof, protected from temporary  
immersion 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 <2.5 W, in RTK mode with internal radio.
- Operating times on internal battery: 5.5 hours with 450 MHz receive-only (varies with temperature)
- Certification Class B Part 15, 22, 24 FCC certification, Canadian FCC, 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
- Fully integrated, fully sealed 2.4 GHz communications port (Bluetooth)<sup>5</sup>
- External cell phone support for GSM/GPRS/CDPD modems for RTK and VRS operations
- Data storage on 2 MB internal memory: 55 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
- CMR+, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1 Input and Output
- 16 NMEA outputs, GSOFF and RT17 outputs

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

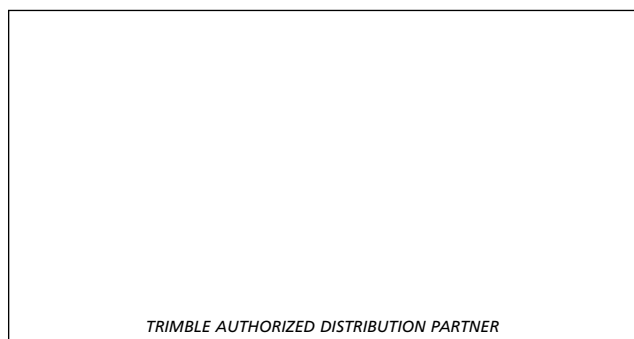
<sup>2</sup> Depends on WAAS/EGNOS system performance.

<sup>3</sup> May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.

<sup>4</sup> Receiver will operate normally to -40 °C, Bluetooth module and internal batteries are rated to -20 °C.

<sup>5</sup> Bluetooth 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

### NORTH AMERICA

Trimble Engineering  
& Construction Group  
5475 Kellenburger Road  
Dayton, Ohio 45424-1099 • USA  
800-538-7800 (Toll Free)  
+1-937-245-5154 Phone  
+1-937-233-9441 Fax

### EUROPE

Trimble GmbH  
Am Prime Parc 11  
65479 Raunheim • GERMANY  
+49-6142-2100-0 Phone  
+49-6142-2100-550 Fax

### ASIA-PACIFIC

Trimble Navigation  
Singapore Pty Limited  
80 Marine Parade Road  
#22-06, Parkway Parade  
Singapore 449269 • SINGAPORE  
+65-6348-2212 Phone  
+65-6348-2232 Fax



www.trimble.com