



KEY FEATURES

Purpose-built integrated GPS receiver for improved productivity

Can be used as a rover or base for unrivaled versatility

Extremely lightweight—to reduce fatigue on all-day operations

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

Accurate and reliable for confidence in your results



Shown with the Trimble® ACU Controller

FULLY INTEGRATED, EXTREMELY LIGHTWEIGHT, CABLE-FREE GPS SYSTEM

The Trimble® 5800 GPS system makes cables a thing of the past. The receiver itself combines a dual-frequency GPS receiver, Trimble GPS antenna, UHF (receive only) radio and batteries in one compact unit.

INTEGRATED SYSTEM

Because the Trimble 5800 GPS system's components are completely integrated, as a rover the system is lightweight and ergonomic—and completely cable-free. 2 MB of internal memory makes collecting data for postprocessing 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/WAAS/EGNOS receiver, containing Trimble's proven Maxwell™ technology for robust tracking in difficult GPS environments.

Its WAAS and EGNOS capability provides real-time differential positioning 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

The Trimble 5800 as a rover 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, WAAS/EGNOS support

Code differential GPS positioning¹

Horizontal..... ±0.25 m +1 ppm RMS
Vertical..... ±0.50 m +1 ppm RMS
WAAS differential positioning accuracy²..... Typically <5 m 3DRMS

Static and FastStatic GPS surveying¹

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

Kinematic surveying¹

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 reliability³..... 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,
ACU controller and bracket

Temperature⁴

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..... IPX7 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

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, 2.0 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: 450 MHz or 900 MHz receive only 5.5 hours, 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 internal 900 MHz receiver
- Fully integrated, fully sealed 2.4 GHz communications port (Bluetooth)⁵
- External GSM, Cellphone and CDPD modem support 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
- Data storage on controller with 128 MB memory: Over 3400 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 Input and Output
- 14 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 Bluetooth type approvals are country specific. Contact your local Trimble office or representative for more information.

Specifications subject to change without notice.

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