



### KEY FEATURES

Offers the increased speed, efficiency, and productivity of RTK

Ideal for stakeout, cadastral, topographic, and control surveys

Built for the field with rugged components and an ergonomic, cable-free design

Easy to use for immediate productivity



The Trimble® 5800 Limited GPS System is a surveying system that combines a dual-frequency GPS receiver, antenna, UHF radio, and battery in a single compact unit.

#### TRIMBLE GPS TECHNOLOGY AND QUALITY

The 5800 Limited GPS System offers Trimble's proven, industry-leading GPS technology. It is extremely easy to use and reliable, delivering the accuracy and performance you need every day.

As a Trimble product, the 5800 Limited GPS System is an important part of Trimble's Integrated Surveying™ solution and the Connected Survey Site. Combine your GPS and optical data in one file in the Survey Pro with Trimble Systems Extension (TSX) field software; perform powerful processing of all your data in Trimble office software such as Trimble Geomatics Office™ software. The data flow is seamless and ensures efficiency and optimal productivity on the job.

#### PROVEN SYSTEM DESIGN

The 5800 Limited GPS System offers a field-proven ergonomic design that is lightweight, rugged, and cable-free. Combining the GPS receiver, antenna, and battery in one compact but tough unit, the system can withstand a pole drop of 2 m onto a hard surface. Its environmental specifications are also impressive, with a water resistance rating of IPX7.

The 5800 Limited GPS System consumes very little power, so you will have less battery-changing inconvenience in the field.

#### POPULAR AND FAMILIAR SOFTWARE AND OPERATING SYSTEM ON A POCKET PC CONTROLLER

The 5800 Limited GPS System includes the popular and ultra-rugged Trimble® Recon® Controller. A Pocket PC device, the Trimble Recon controller runs the Microsoft® Windows Mobile™ for Pocket PC operating system, so the color graphic display plus all menus and screen options are familiar and easy to use.

Because the controller runs an industry standard operating system, surveyors can run other Pocket PC applications on the Trimble Recon controller, such as Pocket Word, Excel, or other specialized programs. This feature allows surveyors to take the convenience of their office to the field.

The Survey Pro with TSX software packaged with the 5800 Limited GPS System is North America's most popular surveying field software. Its familiarity to many surveyors for optical surveying makes it easy to learn and use for GPS. Even new surveyors on your team will not lose time while training on the software.

# 5800 LIMITED GPS SYSTEM

## PERFORMANCE

### Measurements

- Advanced Trimble Maxwell™ technology
- High precision 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-H
- Proven Trimble low elevation tracking technology
- 24 channels L1 C/A Code, L1/L2 Full Cycle Carrier, WAAS/EGNOS support

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

Horizontal.....	$\pm 0.25 \text{ m} + 1 \text{ ppm RMS}$
Vertical.....	$\pm 0.50 \text{ m} + 1 \text{ ppm RMS}$
WAAS differential positioning accuracy <sup>2</sup> .....	Typically <5 m 3DRMS

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

Horizontal.....	$\pm 10 \text{ mm} + 1 \text{ ppm RMS}$
Vertical.....	$\pm 20 \text{ mm} + 1 \text{ ppm RMS}$
Initialization time.....	Single/Multi-base minimum 10 sec +0.5 times baseline length in km
Initialization reliability <sup>1</sup> .....	Typically >99.9%

## HARDWARE

### Physical

Dimensions (WxH).....	19 cm (7.5") × 10 cm (3.9"), incl. connectors
Weight.....	1.31 kg (2.89 lb) with internal battery, internal radio, standard UHF antenna. 2.8 kg (6.2 lb) entire RTK rover including batteries, range pole, controller and bracket

### Environmental

Operating temperature <sup>3</sup> .....	-40 °C to +65 °C (-40 °F to +149 °F)
Storage temperature.....	-40 °C to 75 °C (-40 °F to 167 °F)
Humidity.....	100%, condensing
Waterproof.....	IPX7 for submersion to depth of 1 m
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, 2.4 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:
  - Receive 5.5 hours
  - Transmit 3.5 hours
- Certification Class B Part 15, 22, 24, 90 FCC certification. CE Mark approval, and C-tick approval. Bluetooth type approvals are country specific. Contact your local Trimble Authorized Business Partner for more details.

## Communications and data storage

### Base:

- Bluetooth
- 0.5 W integrated transmit-only radio (450–470 MHz in the US, 430–450 MHz in Canada)
- CMRll, CMR+
- 1 Hz position rate

### Rover:

- Bluetooth
- Integrated receive-only radio (450–470 MHz in the US, 430–450 MHz in Canada)
- CMRll, CMR+
- RTK up to 2400 m
- 1 Hz position rate

<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 system performance.  
<sup>3</sup> Receiver will operate normally to -40 °C, Bluetooth module and internal batteries are rated to -20 °C.

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