DATASHEET

TRIMBLE 5700 GPS SYSTEM

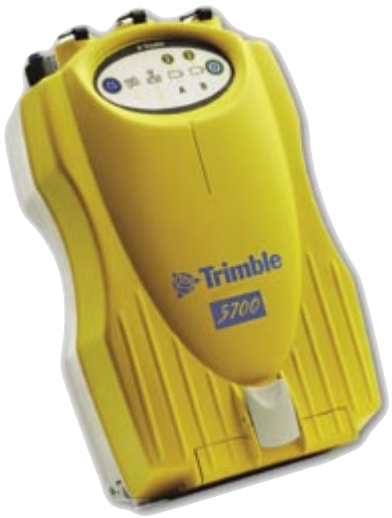
KEY FEATURES

Industry-leading technology provides superior performance

Flexible configurations put you in total control

Rugged, high-performance hardware is built to last

With the Trimble controller and software of your choice, enjoy seamless integrated surveying



ONE RECEIVER, MANY CONFIGURATIONS, FOR GREATER FLEXIBILITY AND CHOICE

The Trimble® 5700 GPS receiver is an advanced, but easy-to-use, surveying instrument that is rugged and versatile enough for any job.

Combine your 5700 with the antenna and radio that best suit your needs, and then add the Trimble controller and software of your choice for a total surveying solution. The powerful 5700 GPS system will provide all the advanced technological power and unparalleled flexibility you need to increase your efficiency and productivity in any surveying environment.

ADVANCED GPS RECEIVER TECHNOLOGY

The 5700 is a 24-channel dual-frequency RTK GPS receiver featuring the advanced Trimble Maxwell™ technology for superior tracking of GPS satellites, increased measuring speed, longer battery life through less power use, and optimal precision in tough environments. WAAS and EGNOS capability lets you perform real-time differential surveys to GIS grade without a base station.

MODULAR DESIGN FOR VERSATILITY

For topographic, boundary, or engineering surveying, clip the receiver to your belt, carry it in a comfortable backpack, or configure it with all components on a lightweight range pole. With the receiver attached to your site vehicle, you can survey a surface as fast as you can drive! For control applications, attach the receiver to a tripod … it's designed to work the way your job requires.

FULL METAL JACKET … AND LIGHTWEIGHT

The 5700 GPS receiver boasts the toughest mechanical and waterproofing specs in the business. Its magnesium alloy case is stronger than aluminum, but also 30% lighter—the 5700 weighs just 1.4 kg (3 lb) with batteries. Whether you're collecting control points on a tripod, or scrambling down a scree slope collecting real-time kinematic data, the receiver is light enough and tough enough to carry on performing.

FAST AND EFFICIENT DATA STORAGE AND COMMUNICATIONS

Use the receiver's CompactFlash memory to store more than 3,400 hours of continuous L1/L2 data collection at an average of 15-second intervals. Transfer data to a PC at speeds of more than 1 megabit per second through the super-fast USB port. Your choice of UHF radio modem is built in to the receiver to provide RTK communications receiving without the need for cables or extra power!

YOUR CHOICE OF TRIMBLE ANTENNA

Choose the high-accuracy Trimble GPS antenna that best suits your needs: the lightweight and portable Zephyr™ antenna for RTK roving, or the Zephyr Geodetic™ antenna for geodetic surveying.

The Zephyr Geodetic antenna offers submillimeter phase center repeatability and excellent low-elevation tracking, while the innovative design of its Trimble Stealth™ ground plane literally burns up multipath energy using technology similar to that used by stealth aircraft to hide from radar. The Zephyr Geodetic antenna thus provides unsurpassed accuracy from a portable antenna.

Trimble®

TRIMBLE 5700 GPS SYSTEM

General
- Front panel for on/off, one-button-push data logging, CompactFlash card formatting, ephemeris and application file deletion, and restoring default controls
- LED indicators for satellite tracking, radio–link, data logging, and power monitoring
- Tripod clip or integrated base case

PERFORMANCE SPECIFICATIONS

Measurements
- Advanced Trimble Maxwell technology
- High-precision multiple correlator L1 and L2 pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurement 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

Code differential GPS positioning[1]
Horizontal . . . . . ±(0.25 m + 1 ppm) RMS
Vertical . . . . . ±(0.5 m + 1 ppm) RMS
WAAS differential positioning accuracy typically <5 m 3DRMS[2]

Static and FastStatic GPS surveying[1]
Horizontal . . . . . ±5 mm + 0.5 ppm RMS
Vertical . . . . . ±5 mm + 1 ppm (× baseline length) RMS

Kinematic surveying[1]
Real-time and postprocessed kinematic surveys
Horizontal . . . . . ±(10 mm + 1 ppm) (× baseline length) 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
Scalable GPS infrastructure initialization time . . . . . <30 seconds typical anywhere within coverage area
Initialization reliability[3] . . . . . Typically >99.9%

HARDWARE

5700 GPS receiver
Physical:
Casing . . . . . Tough, lightweight, fully sealed magnesium alloy
Waterproof . . . . . Tested to IPX7 standards
Shock and vibration . . . . . Tested and meets the following environmental standards:
Shock . . . . . MIL-STD-810F to survive a 1 m (3.28 ft) drop onto concrete
Vibration . . . . . MIL-STD-810-F on each axis
Weight . . . . . With internal batteries, internal radio, internal battery charger, standard UHF antenna: 1.4 kg (3 lb)
As entire RTK rover with batteries for greater than 7 hours, less than 4 kg (8.8 lb)
Dimensions (W×H×L) . . . . . 13.5 cm × 8.5 cm × 24 cm (5.3 in × 3.4 in × 9.5 in)
Electrical:
Power . . . . . DC input 11 V DC to 28 V DC with over voltage protection
Power consumption . . . . . 2.5 W receiver only, 3.75 W including internal radio
Battery . . . . . Greater than 10 hours data logging, or greater than 7 hours of RTK operation on two internal 2.0 Ah lithium-ion batteries
Battery weight . . . . . 0.1 kg (3.5 oz)
Battery charger . . . . . Internal with external AC power adapter; no requirement for external charger
Power output . . . . . 11.5 V to 20 V DC (Port 1), 11.5 V DC to 27.5 V DC (Port 3) on external power input
Certification . . . . . Class B Part 15 FCC certification, CE Mark approved, C-Tick approved, Canadian FCC
Environmental:
Operating temperature[4] . . . . . –40 °C to 65 °C (–40 °F to 149 °F)
Storage temperature . . . . . –40 °C to 80 °C (–40 °F to 176 °F)
Humidity . . . . . 100%, condensing

Communications and data storage:
- 2 external power ports, 2 internal battery ports, 3 RS232 serial ports
- Integrated USB for data download speeds in excess of 1 Mb per second
- External GPS antenna connector
- CompactFlash advanced lightweight and compact removable data storage. Options of 64 MB or 128 MB from Trimble
- More than 3,400 hours continuous L1+L2 logging at 15 seconds with 6 satellites typical with 128 MB card
- Fully integrated, fully sealed internal UHF radio modem option
- GSM, cellphone, and CDPD modem support
- Dual event marker input capability
- 1 Hz, 2 Hz, 5 Hz, and 10 Hz positioning and data logging
- 1 pulse per second output capability
- CMRII, CMR+, RTCM 2.× and 3.× input and output standard
- 15 NMEA outputs

Zephyr antenna
Dimensions . . . . . 16.2 cm (6.38 in) diameter × 6.2 cm (2.44 in) height
Weight . . . . . 0.55 kg (1.20 lb)
Operating temperature . . . . . –40 °C to 70 °C (–40 °F to 158 °F)
Humidity . . . . . 100% humidity proof, fully sealed
Shock and vibration . . . . . Tested and meets the following environmental standards:
Shock . . . . . MIL-STD-810-F to survive a 2 m (6.56 ft) drop onto concrete
Vibration . . . . . MIL-STD-810-F on each axis
- 4-point antenna feed for submillimeter phase center repeatability
- Integral low noise amplifier
- 50 dB antenna gain

Zephyr Geodetic antenna
Dimensions . . . . . 34.3 cm (13.5 in) diameter × 7.6 cm (3 in) height
Weight . . . . . 1.31 kg (2.88 lb)
Operating temperature . . . . . –40 °C to 70 °C (–40 °F to 158 °F)
Humidity . . . . . 100% humidity proof, fully sealed
Shock and vibration . . . . . Tested and meets the following environmental standards:
Shock . . . . . MIL-STD-810-F to survive a 2 m (6.56 ft) drop onto concrete
Vibration . . . . . MIL-STD-810-F on each axis
- 4-point antenna feed for submillimeter phase center repeatability
- Integral low noise amplifier
- 50 dB antenna gain
- Trimble Stealth ground plane for reduced multipath

1 Accuracy may be subject to conditions such as multipath, obstructions, satellite geometry, and atmospheric parameters. 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 operates normally to –40 °C (–40 °F) but some office-based functions such as USB download or internal battery charging are not recommended at temperatures below freezing.

Specifications subject to change without notice.

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