KEY FEATURES

A unique integrated survey-grade L1 GPS receiver and rugged PDA solution

Field-proven and robust for tough surveying conditions

Trimble GPS technology for quality and confidence

Microsoft® Windows Mobile™ for Pocket PC operating system, the industry standard

The Trimble® R3 GPS system is a complete L1 GPS postprocessed solution from the industry leader in GPS surveying technology. Combining an L1 GPS receiver and antenna, rugged handheld controller, and easy-to-use field and office software, the Trimble R3 system brings precise sub-centimeter control to your site, establishes new localized control, and collects topographic data. The system operates without line-of-sight between points, and it can operate day or night in any weather.

A UNIQUE FORM FACTOR THAT WORKS AS HARD AS YOU DO

For the first time, the Trimble R3 system integrates a survey-grade receiver with the popular Trimble® Recon® controller, a proven, ultra-rugged PDA designed especially for tough surveying conditions. The compact and lightweight Trimble R3 system thus handles drops, extreme temperatures, and water with ease, making it one of the toughest L1 GPS solutions available. It also spares you the expense of a separate GPS receiver.

The Trimble Recon offers many other innovative features to make your L1 GPS workflow easy and efficient: a large color touchscreen, expandable memory, and USB support to name a few.

A TOTAL SURVEYING SOLUTION FOR L1 GPS

The Trimble R3 GPS system contains the same proven Trimble Maxwell™ technology used in Trimble's advanced, dual-frequency GPS systems, so you can have complete confidence in the accuracy and quality of your results. Simply set up two or more systems to quickly establish a survey network and then log your data. Download the data to your PC for easy baseline processing.

The Trimble R3 system employs a similar workflow to the advanced Trimble Survey Controller™ software, the most popular GPS field solution in the surveying industry. Additionally, every component of the Trimble R3 system is designed and developed by Trimble to work together as a total surveying solution. The Trimble R3 thus offers the performance and reliability of an advanced system, while remaining an extremely cost-effective investment.

FAMILIAR, EASY-TO-USE SOFTWARE IN THE FIELD AND OFFICE

The Trimble R3 system runs the Microsoft Windows Mobile for Pocket PC operating system, which is the worldwide industry standard for PDAs. This means you can run additional specialized Pocket PC programs, including Pocket Word or Excel, making the Trimble R3 system very flexible and suitable for multiple uses.

Windows Mobile for Pocket PC also makes the Trimble R3 system very easy to use. New users have a very short learning curve on the operating system and Trimble® Digital Fieldbook™ field software because of the familiar options, menus, and terminology.

Trimble® Business Center office software is also designed to be intuitive and easy to learn. Even first-time users will experience effortless download, increased productivity, and superior quality control with minimal effort.

Trimble.

INTEGRATED SURVEYING™ GPS RECEIVER AND ADVANCED PDA

A unique, integrated solution, the Trimble R3 is compact, lightweight and convenient. It's also economical: no additional receiver purchase is required.

GPS RECEIVER TECHNOLOGY FROM TRIMBLE

Proven Trimble Maxwell technology for L1 GPS delivers superior satellite tracking, faster measuring, optimal precision, and lower power usage. Solve all your high-precision control needs with accurate baseline measurements.

POWERFUL AND ULTRA-RUGGED

The Trimble Recon controller contains a powerful 400 MHz Intel XScale processor and is specifically designed for tough surveying environments; it's extremely robust, exceeding military specifications for drop, vibration, immersion, and operating temperatures.

FLEXIBLE, MULTI-USE PDA

On the Windows Mobile for Pocket PC operating system, run your choice of specialized Pocket PC programs, including Pocket Word and Excel.

EASY-TO-USE FIELD SOFTWARE

The Trimble Digital Fieldbook software reflects industry standards for its UI. New users can quickly learn to operate the system via familiar options, menus, and commands.

LARGE COLOUR TOUCH SCREEN

The large color display on the Trimble Recon makes viewing data and maps easy even in poor light conditions. Navigating through software via the touch screen is fast and efficient.

FAST DATA TRANSFER

Transfer data to a PC at speeds of more than 1 Mb/s—ten times faster than the fastest serial port.

EXPANDABLE MEMORY

Extend the system's data storage space via the CompactFlash Card slot on the Trimble Recon controller.

ROBUST, LOW-MULTIPATH GPS ANTENNA

The Trimble® A3 L1 GPS antenna resists unwanted signal interference or "multipath", which can cause inaccurate measurements. Multipath is caused by signals being reflected from surfaces such as the ground, surrounding trees, or buildings.

A TOTAL SURVEYING SOLUTION

Every part of the Trimble R3 system, from the hardware to the software, is designed to work together. Collect data in the field then seamlessly transfer your job file to the Trimble Business Center software in the office for processing.

TRIMBLE DIGITAL FIELDBOOK SOFTWARE

Trimble Digital Fieldbook field software controls the Trimble R3 GPS system in the field. It makes performing Static, FastStatic, Kinematic, and continuous Kinematic surveys on short to moderate baselines fast, easy, and productive.

The software is simply designed and is extremely user-friendly, so even new users can learn the software and reach maximum productivity in a short time. You can introduce your survey crews to GPS surveying without significant downtime while they master the new techniques; your Trimble R3 GPS system will begin its return on your investment almost immediately.

Trimble Digital Fieldbook software runs from an active, real-time map display. Use the colour touch screen on the Trimble Recon controller to navigate through the software and access your data—this speeds up all your work! The software organizes each job into a single Job file for easy data transfer in the field or office.

Audible messages provide status updates and alert you to changing conditions so that you don't miss a thing. Innovative features, map-centric displays, and numerous customizable tools all help you to do every part of every job faster and more easily.

OFFICE PROCESSING EFFICIENCY: TRIMBLE BUSINESS CENTER

In the office, transfer your field data to the Trimble Business Center software on your PC to quickly process baselines and generate sub-centimeter results. Trimble Business Center also performs data reduction, computation, QA/QC and network adjustment. It even provides tools to both identify and correct field errors. Control data and background maps can be exported to Trimble Digital Fieldbook for use in the field.

Trimble Business Center is a sophisticated, but exceptionally easy-to-use, solution for postprocessing L1 GPS survey data. It features the following:

- Intuitive display, navigation and selection of data
- Integrated data transfer to and from the Trimble Recon
- Import/Export of ASCII data (including custom formats)
- Graphical and command-driven tools to aid in assuring the quality of your project
- A library of global coordinate systems
- Baseline loop closure
- Network adjustment

PERFORMANCE SPECIFICATIONS

Measurements
- 12 Channels L1 C/A Code, L1 Full Cycle Carrier, WAAS/EGNOS
- Trimble Maxwell GPS technology for robust satellite tracking
- Trimble EVEREST™ multipath reduction technology

Static and FastStatic GPS surveying[1]
Horizontal. . . . . ±(5 mm + 0.5 ppm)[2] RMS
Vertical . . . . ±(5 mm + 1 ppm)[2] RMS

Kinematic surveying[1]
Horizontal. . . . . ±(10 mm + 1 ppm)[2] RMS
Vertical . . . . ±(20 mm + 1 ppm)[2] RMS

Real-Time positioning with WAAS/EGNOS[3]
WAAS/EGNOS differential positioning
. . . . .accuracy typically <3 m 3DRMS

HARDWARE

Trimble R3 GPS system

Physical
Dimensions (W×H×L) . . . . .9.5 cm × 4.4 cm × 24.2 cm
(3.7 in × 1.7 in × 9.5 in)
Weight . . . . with internal battery: 0.62 kg (1.37 lb)
Casing . . . . lightweight, fully sealed, toughened industrial plastic
Sand and Dust IP6X
Waterproof. IPX7
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

Electrical
Power . . . . DC input 5.0 V DC
Power consumption . . . . 0.6 W receiver and antenna
Battery . . . . up to 8 hours on a full charge
Recon Battery weight . . . . 0.20 kg (0.44 lb)
Recon Battery charger . . . . internal with external AC power adapter
Certification . . . . . . Class B Part 15 FCC certification, CE Mark approved,
C-Tick approved, Canadian FCC

Environmental
Operating temperature[4] . . . . –30°C to +60°C (–22°F to +140°F)
Storage temperature . . . . –40°C to +70°C (–40°F to +158°F)
Humidity. . . . . 100%, condensing

Communications
- 1 x external power port
- 1 x RS232 serial port
- Integrated USB for data download speeds in excess of 1 Mb/s
- External SMB type GPS antenna connector
- 2 x CompactFlash ports when Trimble R3 not installed

Data Logging
- More than 900 hours of continuous L1 logging at 15 seconds with 6 satellites is typical with 64 MB Recon memory
- Maximum of 1 Hz positioning and data logging

TRIMBLE A3 ANTENNA
Dimensions . . . . 16.2 cm (6.38") diameter, 6.2 cm (2.44") height
Frequency . . . . 1575.42 ±10 MHz
Antenna Gain. . . . . 42 dB min (amp plus antenna)
Polarization . . . . .right hand circular
Voltage . . . . 2.95 V DC to 11.5 V DC
(max 18 V DC – not for continuous operation)
Current . . . . 60 mA max
Connector. . . . . .TNC bulkhead
Weight . . . . 0.39 kg (0.86 lb)
Temperature:
Operating . . . .–50 °C to +85 °C (–58 °F to +185 °F)
Storage. . . . .–50 °C to +85 °C (–58 °F to +185 °F)
Mounting . . . . 5/8–11 thread

STANDARD SYSTEM ACCESSORIES
- Trimble HI tape
- Trimble R3 system field case
- Trimble R3 pouch
- Trimble Recon cap base
- Trimble A3 antenna cable
- Tripod bracket

OPTIONAL SYSTEM ACCESSORIES
- Range pole bracket
- Trimble Recon vehicle charger

1 Accuracy may be subject to conditions such as multipath, obstructions, satellite geometry, and
atmospheric parameters. Always follow recommended survey practices.
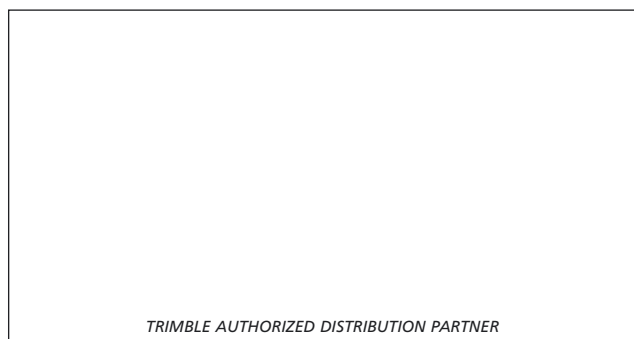2 PPM is relative to baseline length.
3 Depends on WAAS/EGNOS system performance.
4 Receiver operates normally to –30 °C (–22 °F) but some office-based functions such
as USB download is not recommended at temperatures below freezing.

Specifications subject to change without notice.

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