TRIMBLE NetR5 REFERENCE STATION

KEY FEATURES

Proven GNSS technology from Trimble

Automatic and secure file upload

External memory options for greater data storage

Designed to optimally support the Trimble GNSS infrastructure solution

Rugged, lightweight, and power efficient

The Trimble® NetR5™ Reference Station is a multi-channel, multi-frequency GNSS (Global Navigation Satellite System) receiver designed for use as a stand-alone reference station or as part of a GNSS infrastructure solution.

TRIMBLE R-TRACK TECHNOLOGY FOR COMPREHENSIVE GNSS SUPPORT

Trimble® R-Track™ technology in the NetR5 receiver supports the modernized GPS L2C and L5 signals as well as GLONASS L1/L2 signals. This extensive GNSS support is capable of providing users with real field benefits.

With the world's GNSS in constant development, surveying businesses small and large can be confident in the results achieved using a Trimble solution. Trimble, already proven in GPS technology, will continue to lead the industry in GNSS support. And this will protect your investment in the Trimble NetR5 for many years to come.

HARDWARE AND SOFTWARE DESIGNED WITH THE USER IN MIND

The Trimble NetR5 is ideal for many different purposes. In the field it's rugged and lightweight, and consumes very little power due to its purpose-built ASIC (Application Specific Integrated Circuit) platform. The NetR5 can operate up to 15 hours in tough conditions on a single charge. It is also easy for any user to configure via its simple front panel; a software interface is not required. The front panel also enables you to quickly check the receiver's status.

Collect, store, and transfer large amounts of data easily and conveniently via the NetR5 receiver's limitless expandable memory. The receiver supports USB devices such as memory sticks as well as external hard drives. The Trimble NetR5 also offers "FTP Push", which is a function that automatically and securely uploads data files, and which removes the need for manually copying receiver files for

significant time savings. The receiver can also function as an FTP server for those wanting to retrieve files manually. The receiver has an internal battery (~15 hours) which will act as backup in case of any external power failures.

The Trimble NetR5 works seamlessly with Trimble's infrastructure software Trimble® GPSBase™ and Trimble® GPSNet™. Additionally, the software has security options to restrict access to only those who are permitted. The software is available in eight languages, allowing most users to control the receiver in their language of choice.

AN IMPORTANT COMPONENT OF A TRIMBLE GNSS INFRASTRUCTURE SOLUTION

Trimble® GNSS Infrastructure is the most established and widely used GNSS infrastructure solution available. Additionally, all components of Trimble GNSS infrastructure—including the Trimble NetR5 reference station—are designed to work together. This means the solution is scalable; that is, it will grow with you as your business needs change. And the solution is part of Trimble's Connected Survey Site model, where products, techniques, services, and relationships combine to take your business to unprecedented levels of achievement.

With numerous fully modeled Trimble® VRS™ networks all over the world and dedicated Trimble GNSS infrastructure engineers on hand to support your unique needs, Trimble GNSS infrastructure solutions are always a wise investment. Surveying professionals can rely on Trimble's experience and expertise in this field, and be confident that choosing a Trimble GNSS infrastructure solution is the right decision.

Trimble

PERFORMANCE SPECIFICATIONS

- Trimble R-Track technology
- Advanced Trimble Maxwell™ Custom Survey GNSS Chip
- High precision multiple correlator for GNSS pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Signal-to-Noise ratios reported in dB-Hz
- Proven Trimble low elevation tracking technology
- 72 Channels:
  - GPS L1 C/A Code, L2C, L1/L2/L5[1] Full Cycle Carrier
  - GLONASS L1 C/A Code, L1 P Code, L2 P Code, L1/L2 Full Cycle Carrier
  - SBAS WAAS/EGNOS support

Data Storage

Internal memory . . . . .59 MB (1620 hours) of raw data observables based on recording data from 6 satellites at 15 sec epoch intervals

External memory . . . . .Support for USB memory stick and USB hard drives allowing several hundred GB to be stored for applications requiring more memory

Code differential GPS positioning[2]

Horizontal. . . . . ±0.25 m + 1 ppm RMS
Vertical . . . . ±0.50 m + 1 ppm RMS
WAAS differential positioning accuracy[3]. . . . . .typically <5 m 3DRMS

Static and FastStatic GPS surveying[2]

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

Kinematic surveying[2]
(Available only when used as a rover integrity receiver in the GPSNet software)

Horizontal. . . . . ±10 mm + 1 ppm RMS
Vertical . . . . ±20 mm + 1 ppm RMS
Initialization time. . . . . typically <10 seconds
Initialization reliability[4]. . . . . typically >99.9%

ELECTRICAL

- 10.5 V to 28 V DC input power range on lemo port with over voltage protection
- 9.5 V to 28 V DC input on 26 pin D sub connector with over voltage protection
- Integrated internal battery 7.4 V, 7800 mA-hr, Li-Ion 15 hours of continuous operation
- Internal battery operates as a UPS in the event of power source outage
- Internal battery will charge from external power source when input voltage is >15 V
- Integrated charging circuitry

Power consumption

Power . . . . .4.8 W average
Size . . . . 24 cm x 12 cm x 5 cm (9.4 in x 4.7 in x 1.9 in) including connectors
Weight . . . . 1.55 kg (3.42 lb) receiver with internal battery

REGULATORY COMPLIANCE

FCC Part 15 (Class B Device), CE mark, C-tick Industry Canada ICES-003, RSS-210, RSS-Gen, RSS-310

ENVIRONMENT

Operating temperature[5] . . . . –40 °C to +65 °C (–40 °F to +149 °F)
Storage temperature . . . . –40 °C to +80 °C (–40 °F to +176 °F)
Humidity. . . . . MIL-STD 810F, Method 507.4
Vibration. . . . . Operating: 10 Hz to 300 Hz 0.04 g^2/Hz, 300 Hz to 1000 Hz -6dB/octave
Shock. . . . . Survival: 75g, 6ms, Non-operating: survives 1 m drop onto hard surface

- Waterproof to IP67 for submission to depth of 1 m (3.28 ft)
- Fully sealed from sand, dust and moisture

Communication

- NTRIP server and client functionality
- 1 LAN port:
  - 1 port with RJ45 connector supports links to 10BaseT/100BaseT networks
  - All functions are performed through a single IP address simultaneously—including web GUI access, FTP file transfer, and raw data streaming
- 3 RS232 ports[6]:
  - One or more serial ports can be used simultaneously for local CMR or RTCM correction transmission or a remote PPP dial-up through a modem supporting all the same functions that are available through the 10BaseT/100BaseT port
- Bluetooth® port[7]:
  - Multiple Bluetooth connections are supported to configure the receiver over PPP
- 1 USB port:
  - Allows the connection of external USB memory sticks or hard drives for increased data storage
- Security features:
  - Client authentication for datastreams
  - Configurable ethernet ports for HTTP, and FTP
  - WebGUI access can be password protected with variable security settings
  - Email client for alarming and notification of various receiver parameters

Positioning and Outputs

- 1 Hz, 2 Hz, 5 Hz, 10 Hz and 20 Hz positioning, internal/external logging and data streaming outputs
- RT-17/RT-27 outputs
- CMR, CMR+, BINEX and RTCM 2.1, 2.2, 2.3, 3.0 outputs

Control Software

HTML web browser . . . . Internet Explorer 6.0 or later, Firefox 1.50 or later

ANTENNA

- Zephyr Geodetic model 2, and EDO Dorne & Margolin Choke Ring Antenna

1 The availability of the L5 signal is dependent on the US Government.
2 Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.
3 Depends on WAAS/EGNOS system performance.
4 May be affected by atmospheric conditions, signal multipath, and satellite geometry. Initialization reliability is continuously monitored to ensure highest quality.
5 The receiver will operate normally to –40 °C, internal batteries are rated to –20 °C.
6 Use of three serial ports requires use of an adaptor that is not included with the kit. Contact your local Trimble authorized distribution partner for more information.
7 Bluetooth type approvals are country specific. Contact your local Trimble authorized distribution partner for more information.

Specifications subject to change without notice.

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