TRIMBLE NetRS
GPS REFERENCE STATION

KEY FEATURES

Trimble R-Track technology for GPS Modernization

An important component in Scalable GPS Infrastructure solutions

Easy setup and remote operation using an Internet browser or Trimble software

Low power consumption and extreme ruggedness

VERSATILE GPS RECEIVER WITH ADVANCED COMMUNICATIONS CONTROL

The Most Powerful CORS System Available
Ideal for a wide range of GPS reference station applications, the Trimble® NetRS® GPS reference station is designed for use with Trimble's scalable GPS infrastructure solutions and as a Continuously Operating Reference Station (CORS) for geodetic, survey, scientific, high-accuracy GIS and monitoring applications.

The Trimble NetRS GPS reference station is ideal for the following applications: monitoring of manmade structures, natural features and subsidence; atmospheric research; survey data generation; and geodetic infrastructure.

Scalable GPS Infrastructure Solutions
Trimble provides a portfolio of infrastructure solutions including single reference stations, a network of reference stations, or a Trimble VRS™ (Virtual Reference Station) solution. This scalability allows you to select the best solution for your requirements. Trimble NetRS can be used with Trimble's GPSBase™, GPSNet™ and RTKNet™ scalable infrastructure software product family.

GPSBase is the entry point and meets the needs of companies and organizations that require a single fixed reference station to serve their local area. GPSNet, the next step, enables users to set up a network of reference stations. They can then upgrade to RTKNet and enjoy the benefits of a true Network RTK system with Trimble VRS.

Powerful Remote Management
With Internet Protocol (IP) as the primary communications mechanism, Trimble NetRS can be accessed and controlled remotely using simple Internet browsers or Trimble Infrastructure software. The NetRS uses the Linux framework, which allows for extension and customization that is simply not possible with proprietary operating systems. And with the ability to store all configuration settings to a file, you can quickly and identically configure all receivers in the network. Additionally, it is possible to establish a primary configuration with multiple operating modes that can be remotely selected and enabled as necessary. Multiple levels of security ensure controlled access to the receiver's configuration.

Lower Maintenance and Operation Costs
Trimble NetRS features extremely rugged construction, low power consumption and dual power ports with intelligent switching. Its advanced communications control makes it easy for you to operate the receiver and manage data from a convenient location—it's not necessary to have a local computer. Following problems such as power loss, the NetRS receiver can reload its last known configuration settings; this ability eliminates the need to visit remote locations to manually reset the receiver.

Trimble NetRS Benefits
- IP as the primary communications mechanism ensures ease of use. The receiver is fully configurable from remote locations.
- Multiple security options for varying levels of user access.
- Low power consumption ensures reliable operation when using a range of power sources—including solar, mains, and battery backup.
- Small size and convenient connector layout makes Trimble NetRS easy to install.
- Exceptional flexibility in data outputs and logging.
- Rugged construction allows receiver to be set up and unattended in remote, hostile environments.
- Proven Trimble GPS receiver technology, including Trimble R-Track technology for tracking L2C signals in modernized GPS satellites. Advanced technology protects investment and ensures optimum productivity and performance into the future.

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PERFORMANCE SPECIFICATIONS
- Trimble R-Track technology for tracking L2 Civil Signal (L2C)
- 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, L2C[1], L1/L2 Full Cycle Carrier, WAAS/EGNOS support

DATA STORAGE
Internal Memory . . . . . . 150 MB (3,400 hours) or 950 MB (21,533 hours) of raw data observables based on recording data from satellites at 15 sec epoch

ACCURACY
Static . . . . ±5 mm + 0.5 ppm horizontal RMS
±5 mm + 1 ppm vertical RMS

ELECTRICAL[2]
- 11–28 V DC external power input with over-voltage protection
- Power consumption:
  - less than 3 W for NetRS
  - 3.5 W with a Dorne & Margolin choke ring antenna
  - 4.0 W with a Zephyr Geodetic™ antenna

SIZE AND WEIGHT
Size . . . . .22.8 cm W x 6.5 cm H x 14 cm D
(9 in W x 2.6 in H x 5.5 in D)
Weight . . . . 1.6 kg (3.5 lb)

ENVIRONMENT
Operating temperature. . . . .–40 °C to +65 °C
(–40 °F to +149 °F)
Storage temperature . . . .–40 °C to +75 °C
(–40 °F to +167 °F)
- Waterproof to IPX5
- Fully sealed from sand, dust and moisture
Humidity . . . . .100% non-condensing

SHOCK AND VIBRATION
- MIL-810-F Figure 514 5c-17 vibration levels on each axis
- Shock tested to MIL-810-F Table 516.5-I to survive a 2 m (6.56 ft) drop onto hard surface

COMMUNICATION
- 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 RT17 streaming
- 4 RS232 ports
  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
- Security features
  - HTTPS supporting SSL encryption
  - IP filtering
  - Client authentication for datastreams
  - Configurable ethernet ports for HTTP, HTTPS and FTP

POSITIONING AND OUTPUTS
- 1 Hz, 2 Hz, 5 Hz and 10 Hz positioning, internal logging and data streaming outputs
- RT-17 outputs
- CMR, CMR+, BINEX and RTCM 2.1, 2.3 outputs

CONTROL SOFTWARE
HTML web browser . . . . Internet Explorer 5.0 or later
and Netscape 4.78 or later

ANTENNA OPTION
- Zephyr Geodetic and rover, and EDO Dorne & Margolin Choke Ring Antenna

CERTIFICATIONS
- Class B Part 15 FCC certification, CE Mark approval, and C-tick approval

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1 The availability of L2C signals is dependent on the US Government. Trimble NetRS is compatible with the new L2C signal.
2 For "auto-power on" please note the voltage must be above 12 V.

This product includes software developed by the WU-FTPD Development Group, the Washington University at Saint Louis, Berkeley Software Design, Inc. and their contributors.

Specifications subject to change without notice.

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