

# Trimble NetRS GPS Reference Station

## Versatile GPS Receiver with Advanced Communications Control

### The Most Powerful CORS System Available

Ideal for a wide range of GPS reference station applications, the NetRS™ GPS receiver is the latest in a long line of innovative reference station products from Trimble. The NetRS GPS receiver is designed for use with Trimble's scalable infrastructure solutions and as a Continuously Operating Reference Station (CORS) for geodetic, survey, high-accuracy GIS and monitoring applications.

The NetRS GPS receiver offers ease of use, low power consumption, L2C (GPS civil signal) tracking capability, Ethernet connectivity, and advanced data management capability.

### Scalable Infrastructure Solutions

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

GPSBase is the entry point and is designed to meet the needs of companies and organizations that require a single fixed reference station to serve their local area—and be positioned to grow. GPSNet provides the ability to set up a network of reference stations, and it can be upgraded to RTKNet for the setup of a true RTK network and ultimately Trimble's exclusive VRS solution.

### Powerful Remote Management

With Internet Protocol (IP) as the primary communications mechanism, the NetRS GPS receiver 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 base 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.



### NetRS Applications

- Continuously Operating Reference Stations (CORS)
- GPS reference and VRS networks
- Geodetic infrastructure
- Survey data generation
- Atmospheric research
- Subsidence and natural features monitoring (landslides, oil fields, etc.)
- Monitoring of manmade structures (dams, bridges, etc.)

### Lower Maintenance and Operation Costs

The 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. Configuration memory ensures that the receiver reverts to its last known state if subjected to a power loss, eliminating unplanned trips to remote locations.

### 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 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.



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## Powerful and Versatile GPS Receiver With Advanced Communications Control



### System

- Advanced Maxwell 5 custom chip
- R-track technology for L2C signal tracking capability<sup>1</sup>
- High precision multiple correlator for L1 and L2 pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data for low noise and low multipath error
- Very low noise L1 and L2 carrier phase measurements
- 24 Channels L1 C/A Code, L2C<sup>1</sup>, L1/L2 Full Cycle Carrier WAAS/EGNOS
- External frequency input

<sup>1</sup> The availability of L2C signal is dependent on the US Government. The NetRS receiver is compatible with the new L2C signal; however, a firmware upgrade will be required and will be provided at no cost.

### Data storage

Memory . . . . . 150 MB internal, 3400 hours of raw data observables based on recording data from satellites at 15 sec epoch

### Accuracy

Static . . . . . 5 mm + 1 ppm horizontal RMS and 10 mm + 1 ppm vertical RMS

### Electrical

- 11–28 VDC external power input with over-voltage protection
- Power consumption
  - less than 3 Watts for NetRS
  - 3.5 Watts with a Dorne & Margolin choke ring antenna
  - 4.0 Watts 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 lbs)

### 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 as are available through the 10BaseT/100BaseT port

### Positioning and outputs

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

### Control software

HTML web browser . . . . . Internet Explorer v 5.0 or newer and Netscape v 4.78 or newer

### 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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