



# GRS-1

## Dual Frequency RTK GNSS Receiver and Field Controller



**All-in-one, handheld,  
dual frequency GNSS Receiver  
and Field Controller**

- GNSS (GPS + GLONASS) 72 CHANNEL RTK SATELLITE RECEIVER
- GSM AND CDMA INTERNAL CELLULAR
- 806MHZ XSCALE PROCESSOR
- WINDOWS MOBILE® 6.1 OPERATING SYSTEM
- 2.0 MEGA PIXEL CAMERA
- 256MB SDRAM, 1GB FLASH
- INTERNAL MAGNETIC COMPASS
- BUILT-IN BLUETOOTH® WIRELESS TECHNOLOGY AND WIRELESS LAN CONNECTIVITY

Topcon Positioning System's (TPS) new GRS-1 is the world's first fully integrated dual constellation network enabled RTK rover system. It is an all-in-one handheld GNSS receiver and field controller with high-speed processor, increased memory, built-in camera and compass. Also integrated into the new system are SD memory card slot, optional internal GSM or CDMA modem, and connectivity via Wireless LAN and Bluetooth® wireless technology.

The GRS-1 (Geodetic Rover System) was designed with two primary system design goals: smaller size and weight, and lower cost. The new receiver has DGPS capability with internal L1 antenna for use in the GIS and navigation space, add the PGA-1 external antenna and connect to your local GNSS network via the internal modem, and instantly move to dual frequency, dual constellation GNSS centimeter RTK accuracy! The GRS-1 can also be used as a static post processed receiver system.

Utilizing the popular TopSURV surveying software the GRS-1 operates with the Windows Mobile® operating system. Version 7.2.2 of TopSURV adds new features and functions that are unique to the GRS-1 capabilities.



**GRS-1**

Dual Frequency RTK GNSS Receiver and Field Controller



**Small in size and weight, yet fully integrated with all the features you need.**



**Built-in 2.0 Megapixel Camera**

That's right, the GRS-1 comes with a 2.0 megapixel camera with autofocus for taking pictures. Store photos on-board with the 1GB of Flash memory or use the external SD card slot for additional memory.



**Internal Magnetic Compass**

Utilizing compass bearing with GNSS positioning, the magnetic compass allows for additional measurements to be taken from a single location.



**Extra Memory**

With 1GB Flash standard, the GRS-1 is loaded with memory. But if you need more, the SD card slot and the mini USB Host functionality can provide additional memory. Use the USB mini port as both a Host and Client. This functionality allows for expanded memory and easy file transfer through USB flash drives or SD memory cards.



**Expansion Connector**

Weather proof expansion port allows for the addition of the RH-1 unit. The RH-1 will allow the GRS-1 to communicate with radio based base stations for RTK operation. It is compatible with all previous radio types that are currently in use with Topcon GNSS systems. This includes Digital UHF, Spread Spectrum, and FCS enabled UHF radios from all previous Topcon systems.

**Bluetooth® and Wireless LAN**

Built-in Bluetooth wireless technology and Wireless LAN connectivity come standard. No need for expensive upgrades or CF cards. Use your device in a typical Hotspot to surf the web, check weather or e-mail files back to the office. When not in use, Topcon also provides a way to turn Bluetooth and Wireless LAN off to conserve battery power.



# All-in-one handheld GNSS Receiver and Field Controller with high-speed processor, increased memory, built-in camera and compass.



## TopSURV Onboard

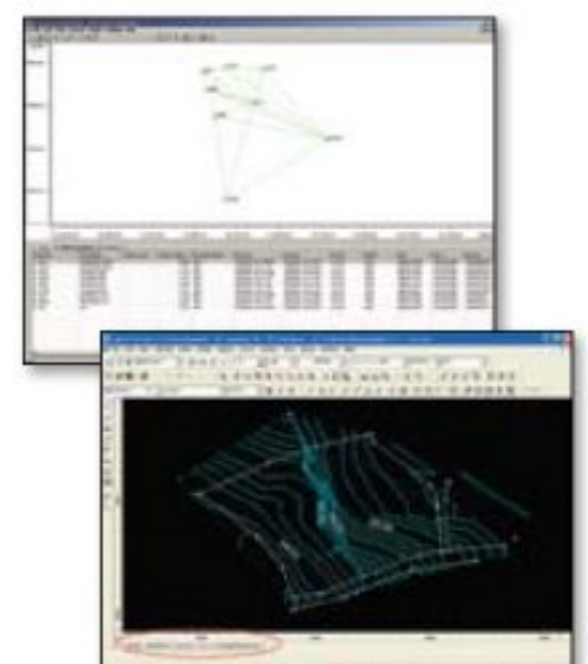
- Large Graphical User Interface (GUI)
- Intuitive User Interface
- Graphical Stakeout
- Map View Data Collection
- Fast Job Management and Storage
- Integrated Camera Function



## Post-Processing Office Software

**Topcon Tools** provides a powerful post-processing, network analysis and adjustment solution with an intuitive operator interface that's easy to learn and use. Sort data by a variety of fields such as point name, antenna height, vector length, and RMS values.

**SurveyMaster** is a powerful CAD solution from Topcon! Improve the efficiency of your data management. Draft TopSURV 7 field data into a finished product from SurveyMaster software.



## The Leader in Positioning Technology...

Topcon Positioning Systems is the worldwide leading developer and manufacturer of precision positioning equipment and offers the widest selection of innovative precision GPS systems, laser, optical surveying, and machine control products.

From open-field construction projects to isolated surveying sites and from rolling farmland to inner city utility projects, Topcon Positioning Systems creates innovative technology solutions that give a decidedly competitive edge to end-users.

Recognized as the innovative trend-setter in its industry, Topcon has focused on developing an array of integrated positioning and automation technologies to meet the constantly changing demands facing GIS, construction, surveying, agriculture, utilities and law enforcement professionals worldwide. We look forward to building solutions that solve your data collection project challenges today and in the future.

## The Leader in Customer Satisfaction...

To ensure that your Topcon product maintains peak performance, your local Topcon dealer offers factory trained and certified service technicians. If service isn't available in your area, our factory offers a repair and return policy second to none.

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## GRS-1 Specifications

<b>Number of Channels</b>	72 GPS + Glonass L1/L2 tracking
<b>DGPS Accuracy</b>	<1m* HRMS
<b>L1, L2 Static</b>	H: RMS 3mm + 0.8ppm V: RMS 4mm + 1.0ppm
<b>Real time RTK Accuracy</b>	H: 10mm + 1.0ppm V: 15mm + 1.0ppm
<b>WAAS/EGNOS</b>	Yes
<b>CORS Beacon</b>	Yes with BR-1
<b>Onboard Software</b>	TopSURV
<b>Office Software (post processing)</b>	Topcon Tools™, SurveyMaster
<b>Microprocessor</b>	XScale PXA320
<b>Processor Speed</b>	806MHz
<b>Operating System</b>	Windows Mobile® 6.1
<b>Memory</b>	256MB SDRAM 1GB Flash
<b>Data Update Rate</b>	Up to 100Hz
<b>Interface</b>	
USB	Mini Port
Card Slot	SD
<b>GNSS Receiver</b>	GPS + GLONASS
<b>Cellular Capability</b>	Internal GSM or CDMA
<b>Input/Output</b>	Bluetooth®, USB, Serial, ANT, and Power
<b>Wireless LAN Connectivity</b>	Standard (Internal, 802.11.b)
<b>Display</b>	3.7" VGA LCD
<b>Built-in Camera</b>	2.0 Megapixel
<b>Keyboard</b>	3 Key plus Virtual Keyboard
<b>Magnetic Compass</b>	Internal, 4 degree accuracy
<b>Expansion Connector</b>	Weatherproof Communication Port
<b>Battery Life</b>	5 hrs while in GPS static mode
<b>Battery Type</b>	2500mAh Removable, Li-Ion Rechargeable
<b>Dimensions</b>	7.76" x 3.54" x 1.81" (197 x 90 x 46mm)
<b>Weight</b>	1.5 lbs (0.7kg)
<b>Environmental</b>	IP66, 1 meter drop -20° to 50°C Operating Temperature -10° to 50°C Operating with camera -30° to 60°C Storage Temperature

\*<50cm with external antenna

Your local Authorized Topcon dealer is:

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