

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 MEGAPIXEL CAMERA
- 256MB SDRAM, 1GB FLASH
- INTERNAL MAGNETIC COMPASS
- BUILT-IN BLUETOOTH® WIRELESS TECHNOLOGY AND WI-FI® 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 wireless connectivity via Wi-Fi® 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.



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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 Wi-Fi®

Built-in Bluetooth wireless technology and Wi-Fi 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 Wi-Fi 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.



Integrated Digital Camera and Magnetic Compass

L1 Glonass and GPS Internal Antenna

Internal Dual Frequency GPS + Glonass 72 Channel RTK Receiver

L1, L2 Dual Frequency Antenna Port

Ultra Sharp Color TFT Touch Screen



Removable Rechargeable Li-ion Battery

Internal GSM Sim Card Enabled Modem



Stylus Holder

Software Support TopSURV -



Internal Bluetooth® Wireless Technology Connectivity



Internal Wi-Fi Connectivity

SD Memory Slot
USB Port
Serial Port
Power Port

TopSURV Onboard

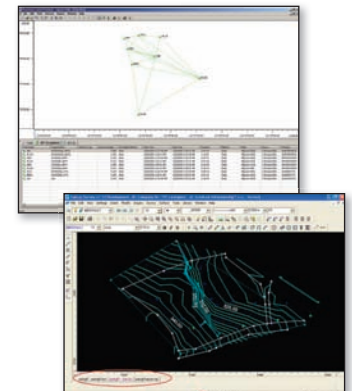
- Large Graphical User Interface (GUI)
- Intuitive User Interface
- Graphical Stakeout
- Map View Data Collection
- Fast Job Management and Storage
- Integrated Camera Function



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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Specifications subject to change without notice

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GRS-1 Specifications

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

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