Total Solutions Package
PRECISION GPS+

TOPCON

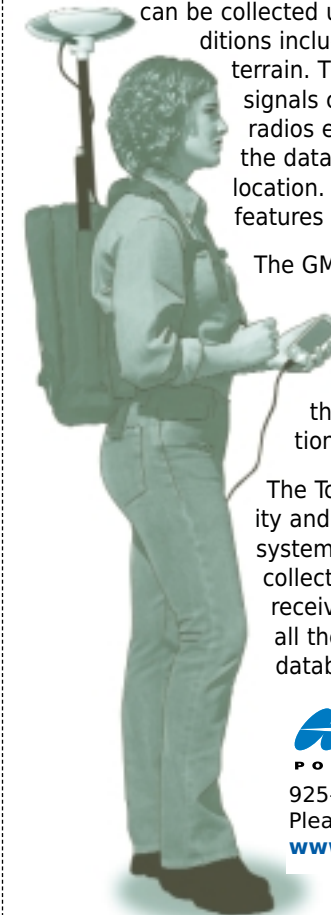# GMS-100

GIS Data Collection System

Topcon's new GMS-100 GIS data collection system is designed to make the most of your time in the field no matter what your level of GIS expertise. By combining ESRI's ArcPad software with a precision GPS receiver and real-time differential correction, the GMS-100 allows you to literally take your GIS into the field to make data collection more accurate and efficient. From natural resource mapping to building and maintaining spatial databases for large utilities, the GMS-100 is no ordinary GIS package.

The Topcon system lets you map virtually any type of feature you encounter—points, lines, and areas—quickly and accurately. With ArcPad software you can easily create custom data collection windows that allow you to capture attribute data in a format fully compatible with your GIS database. Once you've collected new features, you can immediately see them mapped along with your GIS data. Back in the office there's no need to convert to GIS compatible data formats because all of your work was done in Shape file format, the industry standard for GIS.

Accurate position data is a critical element in collecting data to populate your GIS. With Topcon's advanced GPS receiver technology, positions accurate to less than sub-meter can be collected under even the most demanding conditions including under trees or in mountainous terrain. The real-time differential correction signals collected with the fully integrated radios ensure that the position you see on the data collector display reflects your actual location. This makes navigating and relocating features a fast and simple process.

The GMS-100 is available with a Compaq iPAQ Pocket PC or a ruggedized data collector for work in harsh environments. Both of these data collectors provide large, backlit displays that can be viewed under any conditions from full sun to complete darkness.

The Topcon tradition of accuracy, productivity and innovation is alive in the GMS-100 system. From the rich, intuitive ArcPad data collection software to the precision GPS receiver, the GMS-100 will help you meet all the challenges of building your GIS database.

TOPCON
POSITIONING SYSTEMS

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Creation
TOPCON — 2002
70 years of inspired creation

Topcon GMS-100 is ideal for all GIS applications.

- Forestry
- Land use management
- Urban planning
- Fish and wildlife management
- Power pole inventory and maintenance
- Pipeline mapping
- Petroleum and mineral exploration
- Agriculture

Topcon GMS-100 is ready for the field, easy to use.

- Sub-meter accuracy with real-time differential correction from OmniSTAR® and Navigation Beacons
- OmniSTAR® satellite differential correction provides wide area coverage
- Coastal navigation beacons provide differential correction over most of North America and Europe
- WAAS and EGNOS ready
- Powerful navigation capabilities allow easy relocation of features
- ESRI ArcPad software provides intuitive data collection and allows GIS data to be uploaded and carried into the field for verification and update
- Data stored in Shape file format—GIS standard
- Supports multi-layer display of vector maps and raster images, including aerial photos and satellite imagery
- Create user defined data collection forms to exactly match your GIS database
- Captures points, lines, and polygons features with attributes

ArcPad software by ESRI is a data collection system and a mobile GIS. It supports a multi-layer environment with industry-standard vector map and raster image display that includes aerial photographs and satellite imagery. Other primary features include:

- Data stay in Shape file format so you can bring your GIS data into the field without converting to a unique portable format
- Ability to compare data directly to geographic features in the real world adds a deeper sense of reality to the GIS database
- Multiple projections – Geodetic coordinates, UTM, Gauss-Kruger, Lambert conformal conic, Cylindrical equal area

GMS-100 Technical Data[1]

Description	40 channel GPS receiver with internal power and fully integrated differential receiver(s)
Tracking Specifications	
Tracking Channels	40 L1 GPS
Signals Tracked	L1 C/A and Carrier
Performance Specifications	
Baseline Accuracy	sub-meter
Cold Start	<60 seconds
Warm Start	<10 seconds
Reacquisition	<1 second
Power Specifications	
Battery	Internal Lithium-Ion batteries plus 1x external port
External power input	6 to 28 volts DC
Power consumption	Less than 3.0 watts
Antenna Specifications	
GPS Antenna	Microstrip (zero-centered) on a flat ground plane
Differential Antenna	Integrated OmniSTAR® (plus optional Beacon)
I/O	
Communication Ports	Up to 4x serial (RS232), 2x standard
Status Indicator	2x3-color LED's, two-function keys (MINTER)
External Control & Display Unit	iPAQ Pocket PC or ruggedized data collector
Data Output	
Real time data outputs	RTCM SC104 version 2.2
ASCII Output	NMEA 0183 version 2.2
Other Outputs	TPS format
Output Rate	Up to 20 times per second (20Hz)
Environmental Specifications	
Receiver	Waterproof, 159w x 172h x 88d mm/6.3x6.8x3.5 in
Antenna (GPS/Omnistar)	Waterproof, 200w x 200d x 69h mm/7.9x7.9x2.7 in, 0.5kg/1.1 lbs
Operating Temperature	-40°C to 55°C / -40°F to 130° F

Package Configurations

GMS-100
GIS Data Collection System with iPAQ Pocket PC
- GPS L1 Receiver (0Mb)
- iPAQ Pocket PC
- GPS and OmniSTAR® antenna
- ESRI ArcPad software
- Backpack with dual antenna supports and extension
- iPAQ to receiver cable
- Upload/download cable
- Users manual & Quick Start Guide

GMS-100B
GIS Data Collection System with iPAQ Pocket PC and Beacon Receiver
- GPS L1 Receiver (0Mb)
- iPAQ Pocket PC
- GPS, OmniSTAR® and Beacon antenna
- ESRI ArcPad software
- Backpack with dual antenna supports and extension
- iPAQ to receiver cable
- Upload/download cable
- Users manual & Quick Start Guide

GMS-100R
GIS Data Collection System with ruggedized data collector
- GPS L1 Receiver (0Mb)
- External ruggedized data collector with accessories
- GPS and OmniSTAR® antenna
- ESRI ArcPad software
- Backpack with dual antenna supports and extension
- iPAQ to receiver cable
- Upload/download cable
- Users manual & Quick Start Guide

GMS-100RB
GIS Data Collection System with ruggedized data collector and Beacon Receiver
- GPS L1 Receiver (0Mb)
- External ruggedized data collector with accessories
- GPS/OmniSTAR®/Beacon antenna
- ESRI ArcPad software
- Backpack with dual antenna supports and extension
- iPAQ to receiver cable
- Upload/download cable
- Users manual & Quick Start Guide

1 Specifications are subject to change without notice. Performance specifications assume a minimum of 6 GPS satellites above 15 degrees in elevation and adherence to procedures recommended by TPS in the appropriate manuals. In areas of high multipath, during periods of high PDOP and during periods of high Ionospheric activity performance may be degraded. Robust checking procedures are highly recommended in areas of extreme multipath or under dense foliage.