ProMark™ 3 RTK

High Precision Without the High Cost
ProMark™3 RTK

Proprietary Magellan RTK Technology

ProMark3 RTK offers complete real-time GNSS surveying and mobile mapping capabilities on an innovative platform at a remarkably affordable price.

Magellan’s embedded BLADE™ technology, a proprietary GNSS processing solution, enables ProMark3 RTK to outperform other single-frequency RTK receivers, granting real-time performance in the most lightweight handheld system on the market.

An outstanding new GNSS engine, BLADE technology delivers centimeter accuracy for real-time and post-processing surveys and mapping operations. BLADE’s unique GPS+SBAS RTK algorithm ensures quick initialization with single frequency receivers and takes full advantage of the maximum satellite coverage from the dual constellation.

With BLADE built in, ProMark3 RTK is feature rich, precise and reliable.

Powerful, Flexible and Affordable

In the tradition of ProMark3, ProMark3 RTK is easy-to-use and affordable. In addition to real-time surveying, ProMark3 RTK continues to provide both post-processing and mapping capabilities.

ProMark3 RTK offers a powerful FAST Survey™ option for extended requirements, including complex stake out, and enhanced compatibility with total stations.

ProMark3 RTK features the flexibility of two real-time survey modes:

- Base + rover system using a “plug and play” radio modem, powered and configured via the receiver
- Rover only with network connectivity, via NTRIP or Direct IP

Real-time features are fully compatible with previous version of ProMark3. A FREE firmware upgrade enables the new RTK features in the receiver and the GNSS Solutions office software.

Based on an advanced, easy-to-use, easy-to-learn technology, ProMark3 RTK is rugged and reliable, offering precision performance even under difficult conditions.

If you need an affordable, high-precision GNSS solution, YOU’VE GOT IT! – with the most popular handheld survey system on the market; ProMark3 RTK.
ProMark3 RTK offers superior GNSS capability in a complete range of survey modes, including real-time, real-time + raw data, post-processing and mapping. Ideally suited for short baseline surveys, such as construction site, stake out, and cadastral, ProMark3 RTK is a high-performance positioning and mapping solution.

**ProMark3 RTK System: Base + Rover**

ProMark3 RTK is available as an all-inclusive Base + Rover system with a licence-free plug-and-play radio kit.

This provides a great advantage when a network is unavailable or when surveying independently from 3rd party data corrections.

The integrated radios conform to the IP65 standard and are directly powered from the receiver and easily configured through a simple menu.

**ProMark3 RTK in Network: Rover Only**

ProMark3 RTK can be used as a rover only, connected to a real-time network. A Bluetooth connection can be established between ProMark3 RTK and a cellular phone.

ProMark3 RTK is compatible with NTRIP and direct IP and can be connected to any GPS network broadcasting corrections (RTCM 2.3, RTCM 3.1). In this rover configuration the real-time performance of the receiver is linked to the quality of the network (i.e., distance to the station, interval between stations, VRS quality).

**ProMark3 RTK: Post-processing**

As with the original ProMark3 receiver, post-processing features are included in ProMark3 RTK. Raw data, simultaneously recorded during RTK jobs, can also be post-processed via the GNSS solutions office software for superior survey integrity.

Post-processing ensures full control of the quality of the data collected.

**ProMark3 RTK: Mapping**

ProMark3 RTK enables you to take any supported GIS file into the field. Easily navigate to field infrastructure for reckon and mapping. Update your GIS data and transfer the file back to the office GIS for the customer.

In mapping mode, ProMark3 RTK delivers decimeter to centimeter-accurate positioning.
Enhanced RTK Option: FAST Survey Field Software

The FAST Survey option is provided to comply with demanding requirements, such as compatibility with a wide range of survey instruments, extensive data formats and local coordinate system availability. FAST Survey includes topographic features typically associated with dual-frequency. These easy-to-use features make it possible for professional surveyors and novice GPS users alike to run complete survey jobs, including stake out, and combining projects done in association with total stations.

Survey Data Post-Processing: GNSS Solutions Office Software

GNSS Solutions is a comprehensive software package with all the tools required to successfully process GPS and SBAS survey data. Focusing on simplicity, the software performs quick and easy data transfer and management.

Data Reliability

GNSS Solutions includes advanced error detection and quality analysis tools to ensure accurate and reliable results. Loop closures, automatic repeat, observation analysis, and least-squares adjustments are integral components of the software.

Intuitive Handling of Graphical Data

GNSS Solutions guides the user through mission preparation, planning, processing, quality control, reporting and exporting.

Survey data are presented in graphical and tabular form, making post-processing simple. Jobs can be viewed in different forms through simple drag and drop operations.

Raster Maps Support

The capability to import raster or vector map formats enables you to combine background projects with land survey projects and plan and prepare stake out missions in the office.

GIS Data Post-Processing: MobileMapper Office Software

ProMark3 RTK is a mobile mapping system with full GIS data collection and navigation software. MobileMapper™ Office software links the receiver to the GIS base and provides convenient features such as:

- Quick and easy editing and exporting of data. Includes support for .SHP, .MIF, .DXF and .CSV files
- Uploading or creation of vector background maps for use in the field
- Raster image support
- Post-processing

Mapping Made Easy

ProMark3 RTK is a turnkey solution for the operator who wants to create or maintain GIS maps or feature in the field.

The software includes a Feature Library Editor that creates lists of features and attributes for describing GIS assets in the field. It can even generate the feature libraries automatically by reading imported .SHP and .MIF files.

ProMark3 RTK enables you to add mapping services to your portfolio, without investing in additional dedicated GIS equipment.
## The ProMark3 RTK Advantage

### + Affordability
ProMark3 RTK provides centimeter-accuracy in a real-time solution at less than half the price of dual-frequency receivers. ProMark3 RTK easily beats the limits optical instruments have in terms of portability and range. Ease-of-use, flexibility and cost-effectiveness make ProMark3 RTK the must-have GNSS system for any survey or mobile mapping job.

### + BLADE technology
Magellan’s proprietary GNSS processing solution enables ProMark3 RTK to outperform other single-frequency RTK receivers and grants real-time performances in a lightweight handheld system. This exclusive technology drives rapid initialization, reliability and real-time centimeter-level accuracy to make the ProMark3 RTK a new reference for RTK surveying.

### + Professional solution
The ProMark3 RTK system is a rugged survey solution including radio modems, software and all accessories. It is designed for field workers that count on reliability, simplicity and high performance:
- Complete surveying and mobile mapping capabilities
- Lightest real-time positioning system on the market.
- Rugged and ergonomic features for enhanced comfort
- Embedded monitoring, diagnostics and quality control tools to qualify the job before leaving the field

### + Ease of Use
ProMark3 RTK offers a user-friendly interface that capitalizes on the ProMark ease of use. Its integrated design enables maximum portability. The simple interface, large color touch screen and full alphanumeric keypad make operation easy and quick.

- Learning curve for GPS operation is quick and hassle-free
- Set up base + rover system easily for real-time
- Complete jobs fast, both in the field and in the office

### + Multi-Application
ProMark3 RTK empowers you to perform both real-time and post-processing surveys and to offer GIS and mapping services to customers without a substantial investment in equipment and training.

### Discover the ProMark Range

<table>
<thead>
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<th>Feature</th>
<th>ProMark3</th>
<th>ProMark3 RTK</th>
<th>ProMark3 RTK +FAST Survey</th>
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<tbody>
<tr>
<td>Post-processing (centimeter accuracy)</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Mapping (decimeter to centimeter accuracy)</td>
<td>+</td>
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<tr>
<td>RTK (real-time centimeter accuracy)</td>
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<tr>
<td>Office software suite (surveying &amp; mapping)</td>
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<td>NTRIP, Direct IP, network compatibility</td>
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<tr>
<td>FAST Survey, enhanced RTK features</td>
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The ProMark range is fully upgradeable and backward compatible to ensure maximum flexibility and protect your investment over time.

ProMark3 RTK is available as a rover only or as a rover + base system which includes a plug-and-play radio kit.
ProMark3 RTK Technical Specifications

**General Characteristics**
- 14 parallel channels
- L1 C/A code and carrier
- SBAS tracking and use in RTK process
- Update rate: 1 Hz
- Time tagged (synchronous) and Fast RTK (extrapolation)
- RTCM 2.3 (Receiver mode) and 3.1 (base and rover mode)
- Compatibility with VRS, FKP, MAC Networks
- Connectivity: NTRIP & Direct IP
- Protocol NMEA0183

**Real-Time Accuracy**
- RTK (horizontal accuracies):
  - Fixed: 1cm (0.032ft) +1ppm
  - Float: 20cm (0.656ft) +1ppm (CEP), convergence: 0.3 m
- SBAS (WAAS/EGNOS) (rms):
  - Horizontal: <1 arc second

**Post-Processed Accuracy**
- Static Survey (rms):
  - Horizontal: 0.005 m + 1 ppm (0.016 ft + 1 ppm)
  - Vertical: 0.01 m + 2 ppm (0.032 ft + 2 ppm)
  - Azimuth: < 1 arc second
  - Observation Time: Ranges from 4 to 40 min depending on distance between the receivers and other environmental factors
- Kinematic Survey:
  - Horizontal: 0.012 m + 2.5 ppm (0.039 ft + 2.5 ppm)
  - Vertical: 0.015 m + 2.5 ppm (0.049 ft + 2.5 ppm)
- Recommended Initializer Bar Occupation: 5 min

**Environmental Characteristics**
- Receiver:
  - Operating Temp: -10°C to 60°C (-14°F to 140°F)
  - Storage Temp: -20°C to 70°C (-4°F to 158°F)
  - Weather: Water-resistant
  - Shock: 1.5 m (4.9 ft) drop on concrete

**GIS: MobileMapper Office Key Features:**
- Feature Library Editor
- Background Map Creation
- Job Creation and Editing
- Differential Correction
- GIS Data Display and Editing
- GIS Import/Export: ESRI SHP, MapInfo .MIF and AutoDesk .DXF import/export and .CSV export

**Survey: GNSS Solutions Key Features:**
- Integrated transformation and grid system computations allow for processing, adjusting, reporting and exporting point positions in user-selected or user-defined systems
- Pre-defined datums along with user-defined capabilities using the 7-parameter method of computing and applying datum transformation parameters
- Raster map support
- Survey mission planning
- Automatic vector processing
- Least-squares network adjustment
- Data analysis and quality control tools
- Coordinate transformations
- Geoid 03

**Field Software Option**
- FAST Survey Key Features:
  - Map view
  - Geodetic geometry: intersection, azimuth/distance, offsetting, poly-line, curve, area
  - GPS configuration, monitoring and control
  - Coordinate system support: predefined grid systems, predefined datums, projections, Geoids, local grid
  - Data import/export: DXF, SHP, RWS, LandXML
  - Survey utilities: calculator, RWS file viewing
  - Compatibility with optical surveying instruments

**Office Software Suite**
- System Requirement:
  - Windows 2000 / XP
  - Pentium® 133 or higher
  - 64MB RAM mini, 128 MB RAM recommended
  - 200 MB disk space required for installation

**Antenna**
- Operating Temp: -55°C to 85°C (-67°F to 185°F)
- Weather: Waterproof
- Shock: 2 m (6.6 ft) drop on concrete
- Radio:
  - Temp: -20°C to 70°C (-4°F to 158°F)
  - Meets IP65

**Power Characteristics**
- Battery type: 3.7 V Li-ion, 3900 mAh
- Battery life: 8 hours (typical operation), 6 hours with radio connected
- External power for extended operation time

**Receiver Language Support**
- English, French, German, Spanish, Italian, Portuguese, Finnish, Swedish, Dutch, Custom language(2)
- Russian
- Chinese

**Accessories**
- Standard System Accessories
  - Clip-on I/O Module with power, USB and RS232 ports
  - Universal AC adapter
  - Stylus (2)
  - Hand strap
  - Carrying case
  - USB data cable
  - 32 MB SD memory card
  - Padded field bag
  - HI measurement device

**Recommended Initializer Bar Occupation:** (1) (3)

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ProMark follows a policy of continuous product improvement; specifications and descriptions are thus subject to change without notice. Please contact Magellan for the latest product information.

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