



**Geo Graphics Limited**  
GPS Surveys & Dealer for Magellan Professional GPS Systems

# ProMark™ 3 RTK



High Precision Without the High Cost



**MAGELLAN<sup>®</sup>**  
PROFESSIONAL

# 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 (rover mode) and 3.1 (base and rover mode)
- Compatible with VRS, FKP, MAM Networks
- Connectivity: NTRIP & Direct IP
- Protocol: NMEA0183

## Real-Time Accuracy<sup>(1)(4)(5)</sup>

- RTK (horizontal accuracies)**
- Fixed: 1cm (0.032ft) + 1ppm
- Floating: 20cm (0.656ft) + 1ppm (CEP), convergence: 3 min

## SBAS (WAAS/EGNOS) (rms)

- Horizontal: <1m (3ft)
- DGPS (Beacon or RTCM) (rms)**
- Horizontal: <1m (3ft)

## Post-Processed Accuracy<sup>(1)(2)</sup>

- 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

## Data Logging Characteristics

### Recording Interval

- 1 - 30 seconds

## 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, RW5, LandXML, etc.
- Survey utilities: calculator, RW5 file viewing
- Compatibility with optical surveying instruments

## Internal Memory Capacity

- Up to 72 hours of 10 satellite data @ 1 second interval

## Physical Characteristics

### Receiver

- Size: 19.5 x 9 x 4.6 cm (7.7 x 4 x 1.8 in)
- Weight: 0.48 kg (1.05 lb) with battery

### Antenna

- Size: 19 x 9.6 cm (7.5 in DIA x 3.8 in H)
- Weight: 0.45 kg (1.00 lb)

### Radio

- Size: 14.5 x 10 x 4 cm (5.7 x 3.9 x 1.6 in)
- Weight: 0.20 kg (0.44 lb)

### User Interface

- Full color advanced TFT liquid crystal display with backlight
- 320 x 240 resolution with 262 144 colors
- Resistive touch panel
- Keyboard with backlight 20 buttons
- Audio: built-in speaker

### Memory

- 128 MB SDRAM, 128 NAND Flash memory
- Removable SD Card: up to 1 GB

### Communication

- Bluetooth wireless technology
- USB: host and slave
- RS232

### Radio (base and rover mode)

- License-free radio 500 mW, 869 MHz for Europe, 902-928 MHz for North America

## 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

## 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

### 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.

## 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<sup>6</sup>
- 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

### Optional Accessories

- External Power kit
- Dual-slot battery charger
- USCG/IALA Beacon receiver

### Emissions Certification

- Immunity (EN 55022 Class B)
- Susceptibility (EN 55082-1)
- FCC and CE certified

- 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

<sup>1</sup> Performance varies on satellite conditions and may not apply at all time in all area in the world. High-multipath areas, poor satellite geometry, and periods of high-activity atmospheric conditions will degrade accuracy. Accuracy and RTK specifications based on tests conducted in Nanles and Moscow. Tests in different locations under different conditions may produce different results.

<sup>2</sup> Limitations based on character availability may apply. Localization is under distributor's responsibility.

<sup>3</sup> PP accuracies assume minimum of 5 satellites, following the procedures recommended in the product manual. Post-processing with GNSS Solutions Software.

<sup>4</sup> RTK accuracies assume minimum of 7 satellites, following the procedures recommended in the product manual.

<sup>6</sup> For baselines <10 km.



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