



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

ProMark™ 500



Multi-constellation GNSS Receiver



MAGELLAN®
PROFESSIONAL

GNSS Characteristics

- 75 channels:
 - GPS L1 C/A L1/L2 P-code, L1/L2 full wavelength carrier
 - GLONASS L1 C/A, L2-P code, L1/L2 full wavelength carrier
 - SBAS: code & carrier (WAAS/EGNOS/MSAS)
 - Low-signal acquisition and tracking engines for signal detection in difficult environments
- Fully independent code and phase measurements
- Magellan BLADE™ technology for optimal performance
- Advanced multipath mitigation
- Update rate: 10 Hz

Real-Time Accuracy (rms)^{1,2}

SBAS (WAAS/EGNOS/MSAS)

- Horizontal: <3 m (10 ft)
- Real-Time DGPS position
- <0.8 m (2.62 ft)
- Real-Time Kinematic Position (fine mode)
 - Horizontal 10 mm (0.033 ft) + 1.0 ppm
 - Vertical 20 mm (0.065 ft) + 1.0 ppm

Real-Time Performance

Instant-RTK³ Initialization

- Typically 2-second initialization for baselines <20 km
- 99.9% reliability

RTK Initialization range

- > 40 km

Office Software Suite – GNSS Solutions

Key software functions include:

- Network post-processing
- Integrated transformation and grid system computations
- Pre-defined datums along with user-defined capabilities
- Survey mission planning
- Automatic vector processing
- Least-squares network adjustment
- Data analysis and quality control tools
- Coordinate transformations
- Reporting
- Exporting
- Geoid
- Language: English, Spanish, French, German, Portuguese, Italian, Russian

Post Processing Accuracy (rms)^{1,2}

Static, Rapid Static

- Horizontal 5 mm (0.016 ft) + 0.5 ppm
- Vertical 10 mm (0.033 ft) + 1 ppm

Post-Processed Kinematic

- Horizontal 10 mm (0.033 ft) + 1.0 ppm
- Vertical 20 mm (0.065 ft) + 1.0 ppm

Data logging Characteristics

Recording interval

- 0.1 - 999 seconds

Physical Characteristics

Size

- Unit: 22.8x18.8x8.4 cm (9x7.4x3.3 in)

Weight

- GNSS receiver: 1.4 kg (3.1 lb)

Monitoring Screen

- Graphical OLED display

Memory

- 128 MB internal memory (expandable through USB)
- Up to 400 hours of 15 sec. raw GNSS data from 18 satellites

I/O Interface

- RS232, RS422, USB, Bluetooth
- PPS, Ext Event

Data Format

- RTCM 2.3, RTCM 3.1
- CMR, CMR+
- Magellan ATOM™
- NMEA 0183
- NTRIP protocol

Operation

- RTK rover/base, post-processing
- RTK Network rover: VRS, FKP, MAC

Environmental Characteristics

- Operating temperature: -30° to +55°C (-22° to +131°F)
- Storage temperature: -40° to +70°C (-40° to +158°F)
- Humidity: 100% condensing
- Waterproof
- Shock: ETS300 019, 2 m (6.56 ft) pole drop
- Vibration: EN60945

Power Characteristics

- Li-ion battery, 4400 mAh
- Battery life time: > 6hrs (UHF rover @ 20 °C)
- 6-28 VDC input

Optional System Components

- Rover Communication Module
 - Magellan UHF
 - Pacific Crest UHF
 - GSM/GPRS/EDGE (class 10) Quad-band
- Transmitter Kits
 - Magellan UHF
 - Pacific Crest UHF
- Rechargeable Battery kit
- Field Terminal kit with FAST Survey
- MobileMapper CX
- Allegro CX from Juniper

System Requirement

- Windows 2000 / XP / Vista
- Pentium® 133 or higher
- 32 MB RAM
- 90 MB disk space required for installation

Field Software Suite – FAST Survey

Key software functions include:

- ProMark 500 GNSS Protocol: configuration, monitoring and control
- Volume computation
- Background raster image
- Network connectivity
- Coordinate System Support: predefined grid systems, predefined datums, projections, Geoids, local grid
- Map view with colored lines

- Geodetic Geometry: intersection, azimuth/distance, offsetting, poly-line, curve, area
- Data import/export: DXF, SHP, RWS, LandXML ...
- Survey Utilities: calculator, RW5 file viewing
- Optical Surveying Instruments (optional)
- Road Construction (optional)
- Robotic Total Stations (optional)

Supported Hardware⁴

- MobileMapper CX
- Juniper Allegro CX

¹ Performance values assume minimum of five satellites, following the procedures recommended in the product manual. High-multipath areas, high PDOP values and periods of severe atmospheric conditions may degrade performance.

² Accuracy and TFF specifications based on tests conducted in Nantes, France, and Moscow, Russia in different locations under different conditions may produce different results.

³ Other field software & controllers are also compatible with ProMark 500.



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