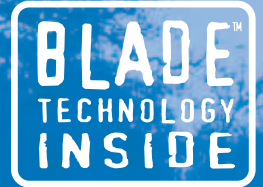


ProMark™ 500



Multi-constellation GNSS Receiver

FAST
ROBUST
POWERFUL
FLEXIBLE

MULTI GNSS



ProMark 500

ProMark 500

The ProMark 500 rover or rover/base system is a powerful RTK survey solution delivering precise GNSS positioning in a smart, rugged and cable-free design. The embedded BLADE™ technology delivers a unique patented way to optimally use the GPS, GLONASS and SBAS constellations. With the new built-in GALILEO/L5 antenna, you also have the guarantee that you can easily upgrade your receiver to use new constellations and frequencies when they are operational.

Ashtech ProMark 500 includes extended wireless network communications modules, for maximum mobility and flexibility in the field. Combined with the new FAST Survey field software, and the comprehensive GNSS Solutions office software, the ProMark 500 is a complete multi-constellation survey offer. The mix of exceptional RTK performance and compact design makes the ProMark 500 an extremely powerful and appealing RTK solution for demanding professional land surveyors.

Advanced BLADE Technology

- Short time-to-fix, and long-range RTK positioning
- Patented multi-constellation signal processing
- Use of SBAS and GLONASS ranging signals to strengthen the GPS solution
- Extended solution reliability in urban canyon and under tree canopy

All-in-one Flexibility

- UHF and GSM/GPRS/EDGE built-in communication modules
- Multiple operating modes and configurations
- Extended support of protocols and data formats
- Choice of state-of-the-art field terminals

All-Day Intensive Use

- Waterproof and shock resistant
- All-day battery life
- Field-proven ergonomic design
- Total weight of less than 2 kg for the complete rover



Feature-rich Surveying Solution

Ashtech offer includes field and office software as well as field terminal choice to ensure you get a robust, ready-to-use, cable-free RTK rover solution. Such features as large, color touch screen, SDHC memory card, WLAN and Bluetooth™ wireless technologies, are included in:

- ProMark 100, a GPS field terminal that can also be used as handheld for additional work such as pre-survey and GIS data collection.
- Ashtech FT-1, an ultra-rugged field terminal with full alphanumeric keyboard, for use in tough outdoor environment.

FAST Survey Field Software

Advanced FAST Survey field software meets the most demanding survey requirements. It includes topographic features typically associated with dual-frequency, and provides extensive data formats and local coordinate system support. Added options make it possible to interwork with a wide range of survey instruments and accessories to run complete survey jobs, including site calibration, stake out, and survey projects where total stations are used.

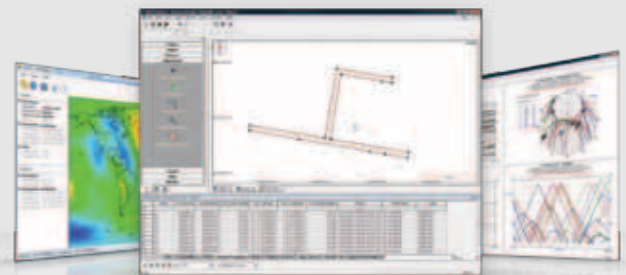
GNSS Solutions Office Software

GNSS Solutions is a comprehensive software package that provides all the tools necessary to successfully process GNSS survey data. It 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. Raster and vector map formats can be imported to enable background maps to be combined with land survey projects and to prepare stake out missions in the office.



ProMark 100

Ashtech FT-1



ProMark 500 Technical Specifications*

GNSS Characteristics

- 75 channels:
 - GPS
 - GLONASS
 - L1 C/A, P(Y)-code, full wavelength carrier
 - L2 P(Y)-code, L2C, full wavelength carrier
 - SBAS: WAAS/EGNOS/MSAS
- Fully independent code and phase measurements
- Advanced multipath mitigation
- Ashtech BLADE technology for optimal performance
- Up to 20 Hz real-time GPS, GLONASS, SBAS raw data (code and carrier) and position output
- Supported data formats: ATOM (Ashtech Optimized Messaging), RTCM-2.3, RTCM-3.1, CMR, CMR+, DBEN, LRK
- NMEA 0183 messages output
- RTK Network: VRS, FKP, MAC
- Galileo and L5 upgradeable

Real-Time Accuracy (RMS) ^{1 2}

SBAS (WAAS/EGNOS/MSAS)

- Horizontal < 50 cm (1.64 ft)

Real-Time DGPS position

- Horizontal 25 cm (0.82 ft) + 1 ppm in typical condition³

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-RTK® 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
- Language: English, French, German, Portuguese, Russian, Spanish

Survey Solutions Contact Information:

In USA +1 408 572 1103 ▪ Fax +1 408 572 1199

In South America +1 305 726 7813

Email surveysales@ashtech.com

In France +33 2 28 09 38 00 ▪ Fax +33 2 28 09 39 39

In Russia +7 495 980 5400 ▪ Fax +7 495 981 4840

Email surveysalesemea@ashtech.com

In Singapore +65 9838 4229 ▪ Fax +65 6777 9881

In China +86 10 5802 5174 ▪ Fax +86 10 5802 5135

Email surveysalesapac@ashtech.com

www.ashtech.com

Post-Processing Accuracy (RMS) ^{1 2}

Static, Rapid Static

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

Long Static⁴

- Horizontal 3 mm (0.009 ft) + 0.5 ppm
- Vertical 6 mm (0.019 ft) + 0.5 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

- 0.05 - 999 seconds

Physical Characteristics

Size

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

Weight

- GNSS receiver: 1.4 kg (3.1 lb)

User Interface

- Graphical OLED display

I/O Interface

- RS232, RS422, USB, Bluetooth
- PPS

Memory

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

Operation

- RTK rover/base, post-processing
- RTK Network rover: VRS, FKP, MAC
- Point-to-Point Circuit Switched Data (GSM)

- Point-to-Point GPRS through Real-time Data Server Software (internal GPRS or external cell phone)
- Limited RTK in standard (baseline 3kms)
- Full RTK option (long baseline)
- RTC Bridge
- NTRIP protocol

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, sealed against sand and dust
- Shock: ETS300 019
- Vibration: EN60945

Power Characteristics

- Li-ion battery, 4600 mAh
- Battery life time: 7 hrs
- 6-28 VDC input

Optional System Components

- Communication Module
 - U-Link Rx
 - Pacific Crest UHF
 - GSM/GPRS/EDGE (class 10) Quad-band
- Transmitter Kits
 - U-Link TRX
 - Pacific Crest UHF
- Rechargeable Battery kit
- Field Terminal kit with FAST Survey
 - ProMark 100
 - Ashtech FT-1

Field Software Suite – FAST Survey ⁵

Key software functions include:

- ProMark 500 GNSS Support: 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, RW5, LandXML ...
- Survey Utilities: calculator, RW5 file manager
- Language: English, Chinese, Czech, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Polish, Portuguese, Romanian, Russian, Serbian, Spanish and Turkish

- Optical Surveying Instruments (optional)
- Road Construction (optional)
- Robotic Total Stations (optional)

⁽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 TTFF specifications based on tests conducted in Nantes, France, and Moscow. Tests in different locations under different conditions may produce different results.

⁽³⁾ Open sky at base and rover, good pseudo range correction, after transient period.

⁽⁴⁾ Long baselines, long occupations, precise ephemeris used.

⁽⁵⁾ Other field software & controllers are also compatible with ProMark 500.

^(*) Including all available options.

