

SPECTRA PRECISION®

PROMARK™ 800 GNSS RECEIVER

SPECSHEET

GENERAL

- 120 channels for multi-constellation GNSS support
- RTK rover/base, postprocessing
- RTK networks: VRS, FKP, MAC
- Limited RTK in standard (baseline 3 km)
- RTC bridge
- NTRIP protocol

TECHNICAL SPECIFICATIONS

Postprocessed GNSS surveying^{1, 2}

Static, Rapid Static

Horizontal 5 mm + 0.5 ppm RMS
Vertical 10 mm + 0.5 ppm RMS

Long Static³

Horizontal 3 mm + 0.5 ppm RMS
Vertical 6 mm + 0.5 ppm RMS

Kinematic

Horizontal 10 mm + 1.0 ppm RMS
Vertical 20 mm + 1.0 ppm RMS

Real-Time GNSS surveying (RMS)^{1, 2}

Real-Time Kinematic Position (fine mode)

Horizontal ±10 mm + 1.0 ppm RMS
Vertical ±20 mm + 1.0 ppm RMS

Instant-RTK® Initialization Independent of GPS availability
when other GNSS signals are available¹

Initialization time Typically 2-second initialization for baselines <20 km

Initialization reliability 99.9% reliability

RTK Initialization range 40 km

SBAS (WAAS/EGNOS/MSAS)

Horizontal <50 cm RMS
Vertical <1 m RMS

Real-Time DGPS position

Horizontal 25 cm + 1 ppm RMS in typical conditions²
Vertical 50 cm + 1 ppm RMS in typical conditions²

Measurements

- New z-BLADE technology for optimal GNSS performance
 - New Ashtech GNSS centric algorithm: Fully independent GNSS satellites tracking and processing⁴
 - Fully independent code and phase measurements
 - Quick signal detection engines for fast acquisition and re-acquisition of GNSS signals
 - Advanced multi-path mitigation
- Satellite signals tracked simultaneously:
 - GPS L1 C/A L1/L2 P-code, L2 C, L5, L1/L2/L5 full wavelength carrier
 - GLONASS L1 C/A and L2 C/A, L1/L2 full wavelength carrier
 - GALILEO E1 and E5 (including GIOVE-A/GIOVE-B test satellites⁵)
 - SBAS: code and carrier (WAAS/EGNOS/MSAS)

PHYSICAL

Dimensions (WxHxD) 22.8x8.4x18.8 cm (9x3.3x7.4 in)
Weight (with battery) 1.4 kg (3.1 lb)
User interface Graphical LED display
I/O interface RS232, RS422, USB, Bluetooth, PPS

ENVIRONMENTAL

Operating temperature -30° to +55°C (-22° to +131°F)
Storage temperature -40° to +70°C (-40° to +158°F)
Dust/water IP67
Humidity 100% condensing
Shock 2 m pole drop

ELECTRICAL

- Rechargeable, 7.4 V 4600 mAh Li-Ion internal battery
- Average operating time on internal battery: 8 hours (GSM and UHF off)
- Power 6 V DC to 28 V DC external power input with over-voltage protection on port PWR (3 pin)

COMMUNICATIONS AND DATA STORAGE

- 128 MB internal memory (expandable through USB)
- Up to 400 hours of 15 sec. raw GNSS data from 18 satellites
- Up to 20 Hz real-time raw data (code and carrier) and position output
- Recording Interval: 0.05–999 seconds
- Internal optional communication modules
 - Pacific Crest UHF
 - U-Link Rx
 - GSM/GPRS/EDGE/3.5G quad-band
- External optional UHF transmitters
 - Pacific Crest UHF
 - U-Link TRx

CORRECTION FORMATS

- Supported data formats: ATOM (Ashtech Optimized Messaging), RTCM 2.3–3.1, CMR, CMR+, DBEN, LRK
- NMEA-0183 messages output

¹ Accuracy and TTFF specifications may be affected by atmospheric conditions, signal multipath, satellite geometry and corrections availability and quality.

² Performance values assume minimum of five satellites, following the procedures recommended in the product manual. High multi-path areas, high PDOP values and periods of severe atmospheric conditions may degrade performance.

³ Long baselines, long occupations, precise ephemeris used.

⁴ Each GNSS constellation is processed independently, and combined for optimal performance.

⁵ Galileo Commercial Authorization: Receiver technology having Galileo capability to operate in the Galileo frequency bands and using information from the Galileo system for future operational satellites is restricted in the publicly available Galileo open Service Signal-In-Space Interface Control document (GAL OS SIS ICD) and is not currently authorized for commercial use. Receiver technology that tracks the GIOVE-A and GIOVE-B test satellites uses information that is unrestricted in the public domain in the GIOVE A + B Navigation Signals-In-Space Interface Control document. Receiver technology having developmental GIOVE-A and B capability is intended for signal evaluation and test purposes.

Specifications are subject to change without prior notice.



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