

GNSS [RTK GPS](#) Product Specifications

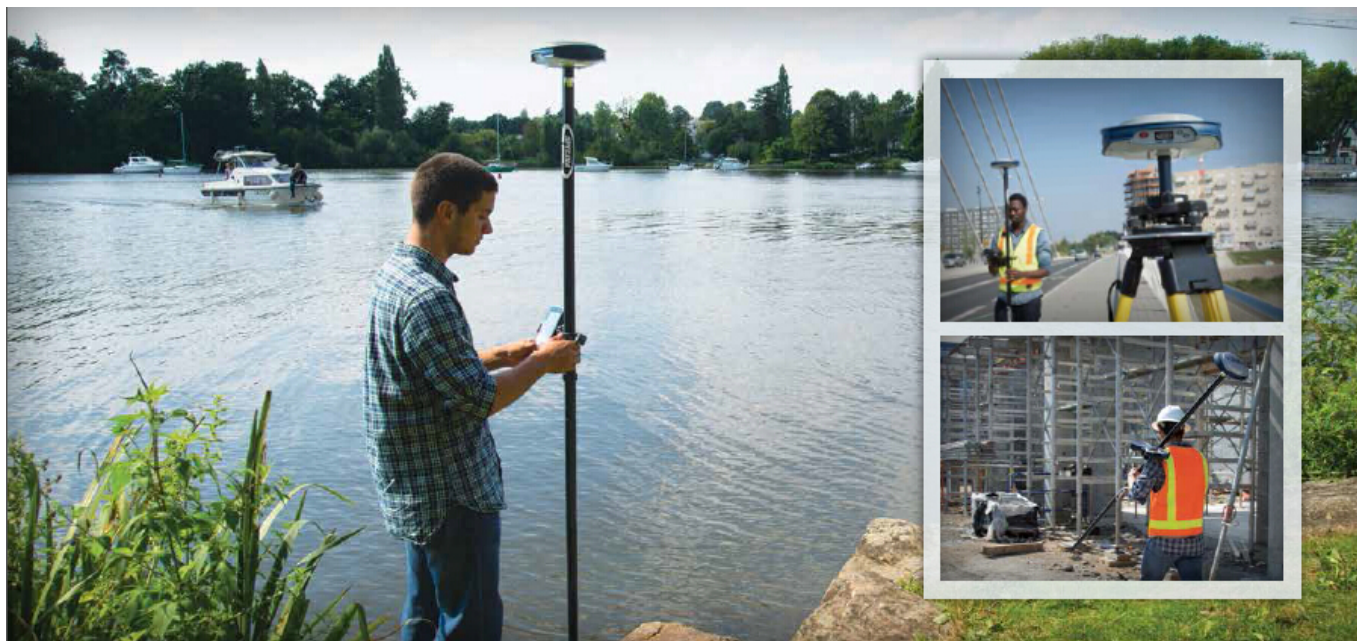
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Product Description

3.5G cellular modem

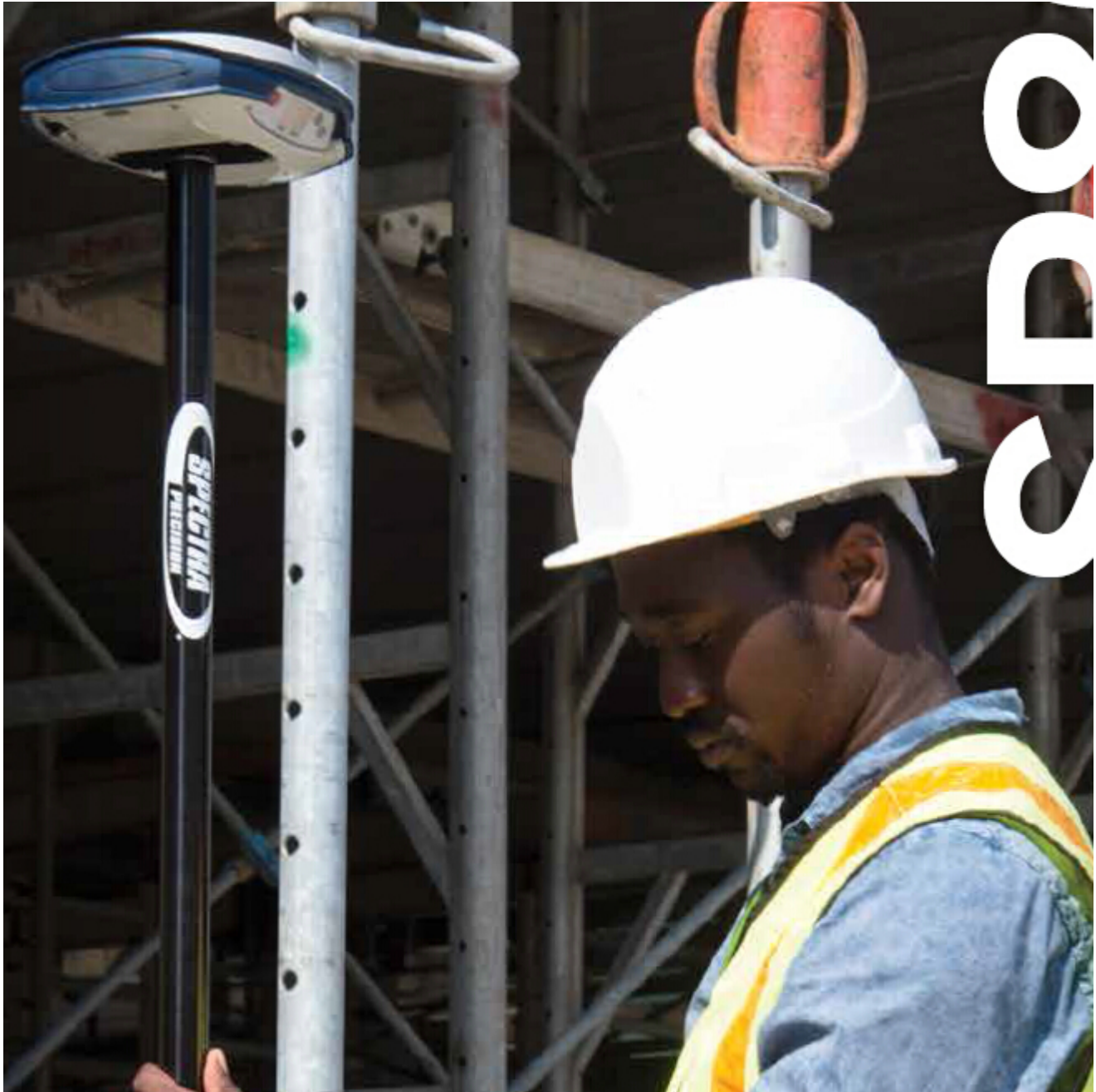
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- RTK Bridge
- 240 0000 6G ASIC
- Hot GNSS
- 00 TRx UHF 00
- 3.5G00000000
- WiFi000000
- Anti-theft protection
- 000000
- 000000RTK
- RTK0000
- e000000000
- CenterPoint® RTX 00



Main features

e-level technology



Theft prevention technology

Backup RTK

Built-in WiFi communication



RTK GPS

240 Channel 6G ASIC



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CenterPoint® RTX compatible



GNSS Characteristics

- 240 GNSS channels
 - GPS L1C/A, L1P(Y), L2C, L2P(Y), L5
 - GLONASS L1C/A, L1P, L2C/A, L2P, L3
 - Beidou (Phase II) B1, B2
 - Galileo E1, E5a, E5b
 - QZSS L1C/A, L1-SAIF, L1C, L2C, L5
 - SBAS L1C/A, L5 (WAAS, EGNOS, MSAS, GAGAN, SDCM)
 - IRNSS L5
- Patented Z-Blade technology for optimal GNSS performance
 - Full utilization of signals from all 6 GNSS systems (GPS, GLONASS, BeiDou, Galileo, QZSS and SBAS)
 - Enhanced GNSS-centric algorithm: fully-independent GNSS signal tracking and optimal data processing, including GPS-only, GLONASS-only or BeiDou-only solution (Autonomous to full RTK)
 - Fast Search engine for quick acquisition and re-acquisition of GNSS signals
- Patented SBAS ranging for using SBAS code & carrier observations and orbits in RTK processing
- Patented Strobe™ Correlator for reduced GNSS multi-path
- Up to 20 Hz real-time raw data (code & carrier and position output)
- Supported data formats: ATOM, CMR, CMR+, RTCM 2.1, 2.3, 3.0, 3.1 and 3.2 (including MSM), CMRx and sCMRx (rover only)
- NMEA 0183 messages output

Real-Time Accuracy (RMS) ⁽¹⁾⁽²⁾

SBAS (WAAS/EGNOS/MSAS/GAGAN)

- Horizontal: < 50 cm
- Vertical: < 85 cm

Real-Time DGPS position

- Horizontal: 25 cm + 1 ppm
- Vertical: 50 cm + 1 ppm

Real-Time Kinematic Position (RTK)

- Horizontal: 8 mm + 1 ppm
- Vertical: 15 mm + 1 ppm

Real-Time Performance

- Instant-RTK® Initialization
 - Typically 2 sec for baselines < 20 km
 - Up to 99.9% reliability
- RTK initialization range: over 40 km

Post-Processing Accuracy (RMS) ⁽¹⁾⁽²⁾

Static & Fast Static

- Horizontal: 3 mm + 0.5 ppm
- Vertical: 5 mm + 0.5 ppm

High-Precision Static ⁽³⁾

- Horizontal: 3 mm + 0.1 ppm
- Vertical: 3.5 mm + 0.4 ppm

Data Logging Characteristics

Recording Interval

- 0.05 - 999 seconds

Physical Characteristics

Size

- 22.2 x 19.4 x 7.5 cm (8.7 x 7.6 x 3.0 in)

Weight

- 1.17 kg (2.57 lb)

User Interface

- Graphical PMOLED display

I/O Interface

- RS232 serial link
- USB 2.0/UART
- Bluetooth 2.1 + EDR
- WiFi (802.11 b/g/n)
- 3.5G quad-band GSM (850/900/1800/1900 MHz) / penta-band UMTS module (800/850/900/1900/2100 MHz)

Memory

- 2 GB internal memory NAND Flash (1.5 GB user data)
- Over a year of 15 sec. raw GNSS data from 14 satellites
- SD/SDHC internal memory card (up to 32GB)

Operation

- RTK rover & base
- RTK network rover: VRS, FKP, MAC
- NTRIP, Direct IP
- CSD mode
- Post-processing

Environmental Characteristics

- Operating temperature: -40° to +65°C (-40° to +149°F) ⁽⁴⁾

Power Characteristics

- 2 Li-Ion hot-swappable batteries, 38.5 Wh (2 x 7.4 V, 2600 mAh)
- Battery life time (two batteries): 10 hrs (GNSS On, and GSM or UHF Rx On)
- External DC power: 9-28 V

Standard System Components

- SP80 receiver
- 2 Li-Ion batteries
- Dual battery charger, power supply and international power cord kit
- Tape measure (3.6 m / 12 ft)
- 7 cm pole extension
- USB to mini-USB cable
- Hard case
- 2 year warranty

Optional System Components

- SP80 UHF Kit (410-470 MHz 2W TRx)
- SP80 Field Power Kit
- SP80 Office Power Kit
- Data collectors
 - Ranger 3
 - T41
 - MobileMapper 20
 - ProMark 120
- Field software
 - Survey Pro
 - FAST Survey

Internal TRx UHF Wireless