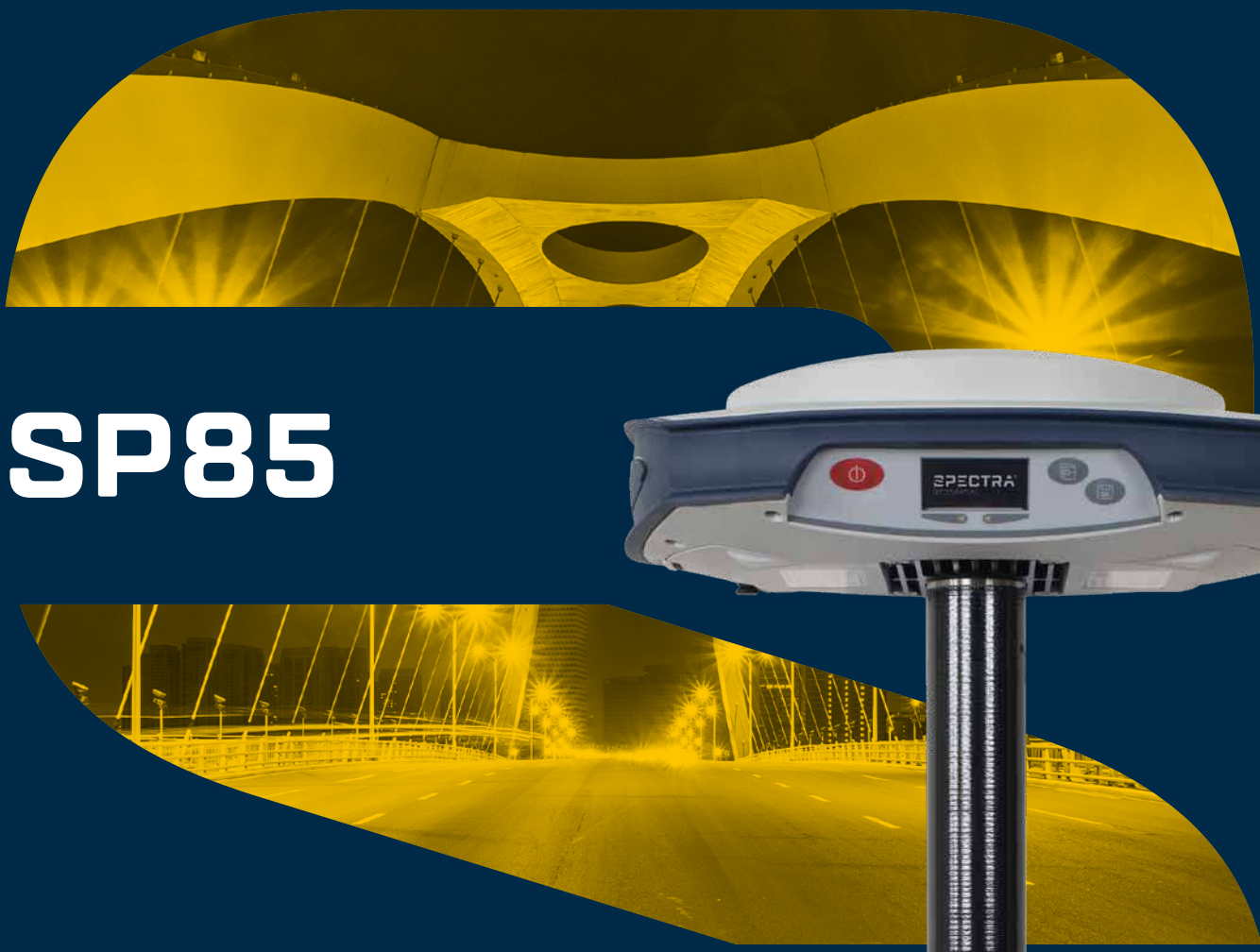
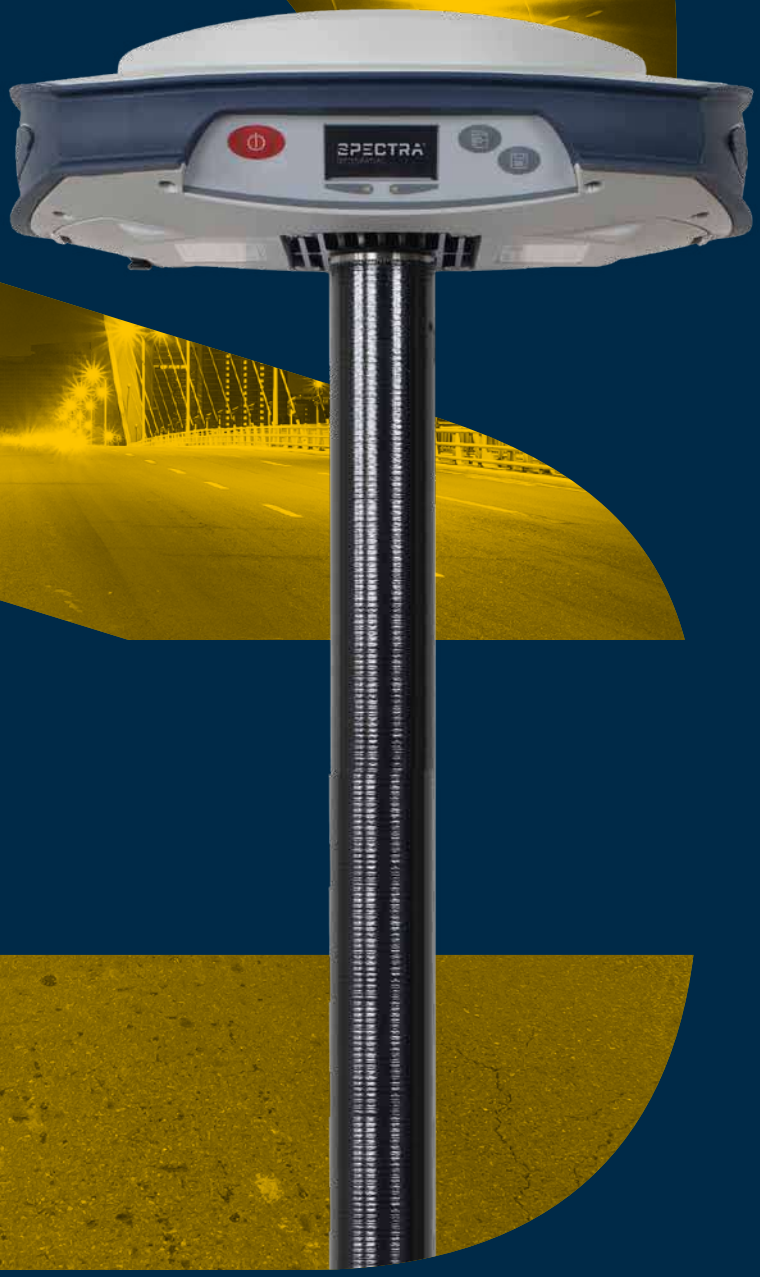
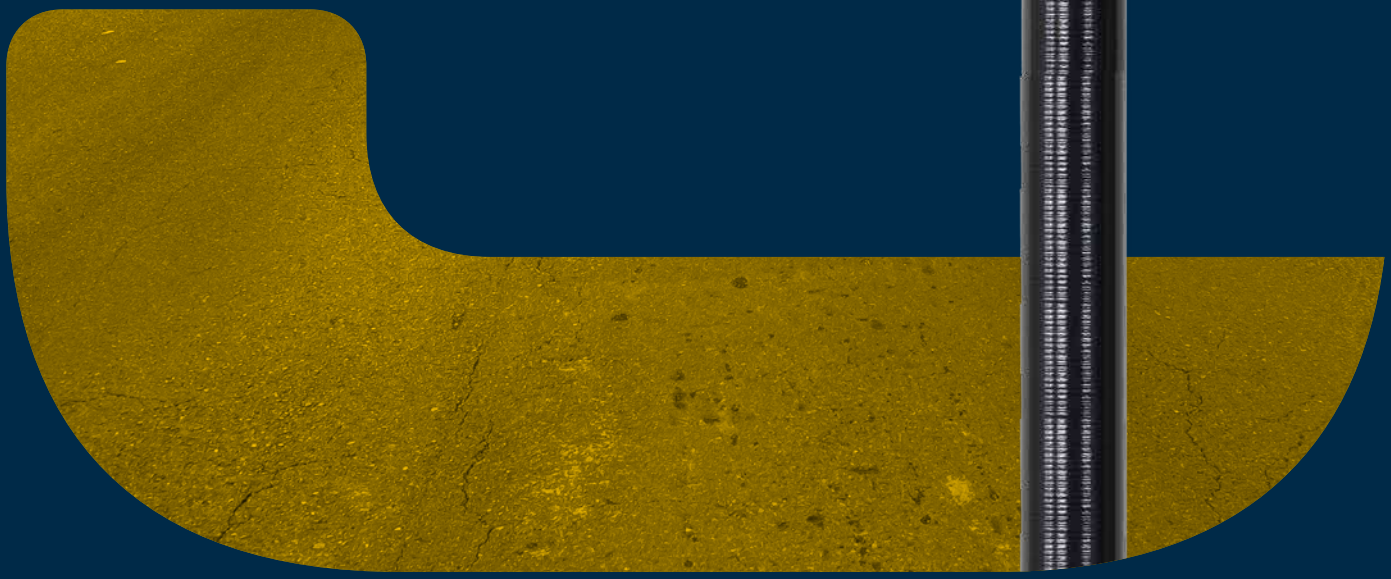
SPECTRA®
GEOSPATIAL



SP85





spectrageospatial.com

UNMATCHED CONNECTIVITY

SPECTRA GEOSPATIAL

SP85

GNSS CHARACTERISTICS

- 600 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, L1C, L2C, L5
  - IRNSS L5
  - SBAS L1C/A, L5 (WAAS, EGNOS, MSAS, GAGAN, SDCM)
  - L-band MSS
- Support for Trimble RTX™ real-time correction services
- Patented Z-Blade technology for optimal GNSS performance
  - Full utilization of signals from all 7 GNSS systems (GPS, GLONASS, BeiDou, Galileo, QZSS, IRNSS and SBAS)
  - Enhanced GNSS-centric algorithm: fully-independent GNSS signal tracking and optimal data processing, including GPS-only, GLONASS-only, Galileo-only, or BeiDou-only solution (Autonomous to full RTK)
- Fast Search engine for quick acquisition and re-acquisition of GNSS signals
- 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, 2.2, 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][7]

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

Network RTK [6]

- Horizontal: 8 mm + 0.5 ppm
- Vertical: 15 mm + 0.5 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][7]

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
- WEB UI (accessible via WiFi) for easy configuration, operation, status, and data transfer

I/O Interface

- RS232 serial link
- USB 2.0/UART
- Bluetooth 5.0 dual mode
- 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

- 4GB internal memory NAND Flash (3.5 GB user data)
- Over two years 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
- RTK bridge
- UHF repeater
- UHF networking
- Trimble RTX (satellite and cellular/IP)

Environmental Characteristics

- Operating temperature: -40° to +65°C (-40° to +149°F) [4]
- Storage temperature: -40° to +85°C (-40° to +185°F) [5]
- Humidity: 100% condensing
- IP67 waterproof, sealed against sand and dust
- Drop: 2m pole drop on concrete
- Shock: ETS300 019
- Vibration: MIL-STD-810F

Power Characteristics

- 2 Li-Ion hot-swappable batteries, 41.4 Wh (2 x 7.4 V, 2800 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

- SP85 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

- SP85 UHF Kit (410-470 MHz 2W TRx)
- SP85 Field Power Kit
- SP85 Office Power Kit
- Data collectors
  - ST10
  - Ranger™ 7
  - Ranger™ 3
  - T41
  - MobileMapper® 60
  - MobileMapper® 50
- Field software
  - Survey Pro
  - Survey Mobile (Android)
  - SPace control app for 3rd party devices (Android)

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 At very low temperatures UHF module should not be used in the transmitter mode.

5 Without batteries. Batteries can be stored up to +70°C.

6 Network RTK PPM values are referenced to the closest physical base station.

7 Receiver initialization time varies based on GNSS constellation health, level of multipath, and proximity to obstructions such as large trees and buildings.

TRIMBLE RTX INITIALIZATION [1][2][6][7]

	Horizontal (RMS)	Initialization	GNSS
CENTERPOINT® RTX	<2 cm	<15 min, <1 min	L1 + L2

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Please visit spectrageospatial.com for the latest product information and to locate your nearest distributor. Specifications and descriptions are subject to change without notice.