

# EPOCH 35 GNSS SYSTEM



- Affordable GPS + GLONASS integrated receiver
- Integrated Bluetooth and Interface Control Panel
- RTK- real-time positioning
- Network RTK positioning
- Comprehensive Spectra Precision Field Surveyor application software
- Support for all GNSS data with Spectra Precision Survey Office software

The Spectra Precision® EPOCH® 35 GNSS System uses highly accurate Global Positioning System (GPS) and GLONASS technology for cadastral, topographic, control, stakeout and other precision survey applications. Combining both these satellite services provides the user with the greatest possible satellite coverage, allowing observations in areas where only one satellite solution would not provide results.

The EPOCH 35 is a complete GNSS system that includes a base, rover, field software, data collector, and radio modem. The EPOCH 35 GNSS rover features integrated Bluetooth capability, an internal radio modem and battery. The system runs Spectra Precision Field Surveyor, this premiere field software operates on the Spectra Precision Recon® or Nomad™ data collectors.

With fast, reliable initialization, the EPOCH 35 GNSS system is a measurement solution that provides high-quality results in several survey modes including RTK and Static. The system operates without line-of-sight between points, and can be used in any weather. Designed as a multi-purpose, integrated system, the EPOCH 35 GNSS system provides surveyors with total flexibility. Built especially for tough surveying conditions, the compact and lightweight EPOCH 35 GNSS system handles drops, extreme temperatures, dirt, and water.

For RTK surveying, the base system may include a choice of radio modems that provide either a long- or short-range data link from the base to the rover. In addition Network RTK is also supported by simply connecting to an external data capable cellular modem. Back at the office, surveyors can use the Spectra Precision Office Software for post-processing and quality control.

# EPOCH 35 GNSS SYSTEM

## GENERAL

### When connected to the data collector

- GPS & GLONASS (GNSS) RTK dual frequency with centimeter accuracy
- Ergonomic, light and compact design
- Integrated Wireless Bluetooth® technology
- Color touch-screen indicators for satellite tracking, data logging
- Application programs, job, and data management
- Access Network RTK with GPRS

## TECHNICAL SPECIFICATIONS

### Static GNSS surveying<sup>1</sup>

Horizontal  $\pm 5$  mm +0.5 ppm RMS

Vertical  $\pm 5$  mm +1 ppm RMS

### Real-Time surveying<sup>1</sup>

Horizontal

$\pm 10$  mm + 1 ppm RMS

Vertical

$\pm 20$  mm + 1 ppm RMS

Initialization

Automatic OTF (on-the-fly) while moving

Initialization time

Typically <30 seconds

Start-up

<60 seconds from power on to

<30 seconds with recent ephemeris

### Code differential GPS positioning<sup>1</sup>

WAAS/EGNOS differential positioning accuracy

Typically <5 m 3DRMS<sup>2</sup>

### Measurements

- Low elevation satellite tracking technology
- 14 L1, 14 L2 GPS, 12 L1, 12 L2 GLONASS, 2 SBAS, WAAS/EGNOS
- NMEA-0183: AVR, GSV, HDT, VGK, VHD, ROT, GGK, GGA, GSA, ZDA, VTG, GST, PJT, and PJK
- 5 Hz position rate

### Physical

Dimensions (W×H×D)

GPS receiver

19.0 cm x 7.0 cm x 20.0 cm

(7.48 in x 2.76 in x 7.87 in)

### Weight

Base 1.0 kg (2.2 lb)

Rover 1.1 kg (2.4 lb), internal radio, UHF antenna

### Ports

I/O Two 7-pin Lemo, RS-232

Data Link antenna TNC (Rover only)

## ENVIRONMENTAL

### Operating temperature

-20 °C to +65 °C (-4 °F to +149 °F)

### Storage temperature

-40 °C to +75 °C (-40 °F to +167 °F)

### Humidity

95%, condensing

### Water/Dust

IP64

**Shock and vibration:** Tested and meets the following environmental standards:

**Shock** UNE EN 60068-2-27:1993

**Vibration** MIL-STD-810F Fig 514.5C-1

## ELECTRICAL

- Power 10 V DC to 15 V DC external power input with over-voltage protection on Port 1 and Port 2 (7-pin)
- Rechargeable, 7.4v 2400 mAh Li-Ion internal battery
- Power consumption is <2.5 W, in RTK mode with internal radio
- Average operating times on internal battery:
  - RTK/Static: 5.5 hours<sup>3</sup>

## COMMUNICATIONS

**Base** Pacific Crest LPB or HPB positioning data

link OTA 9600 bps Transparent GMSK

RTCM 2.1, 2.2, 2.3, 3.0, CMR

**Rover** Integrated receive-only UHF data link

RTCM 2.3 & 3.0, CMR, CMR+, NTRIP

- <sup>1</sup> Accuracy and reliability may be subject to anomalies such as multipath, obstructions, satellite geometry, and atmospheric conditions. Always follow recommended survey practices.
- <sup>2</sup> Depends on WAAS/EGNOS system performance.
- <sup>3</sup> Two batteries supplied standard.