CHCNAV

i80

Survey & Engineering

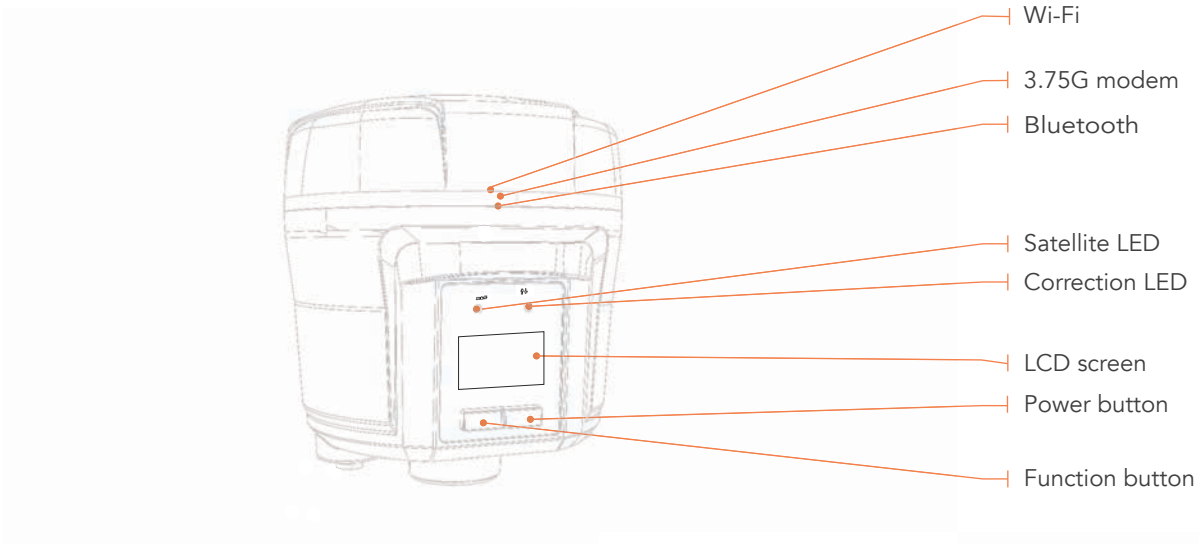
Make your work more efficient

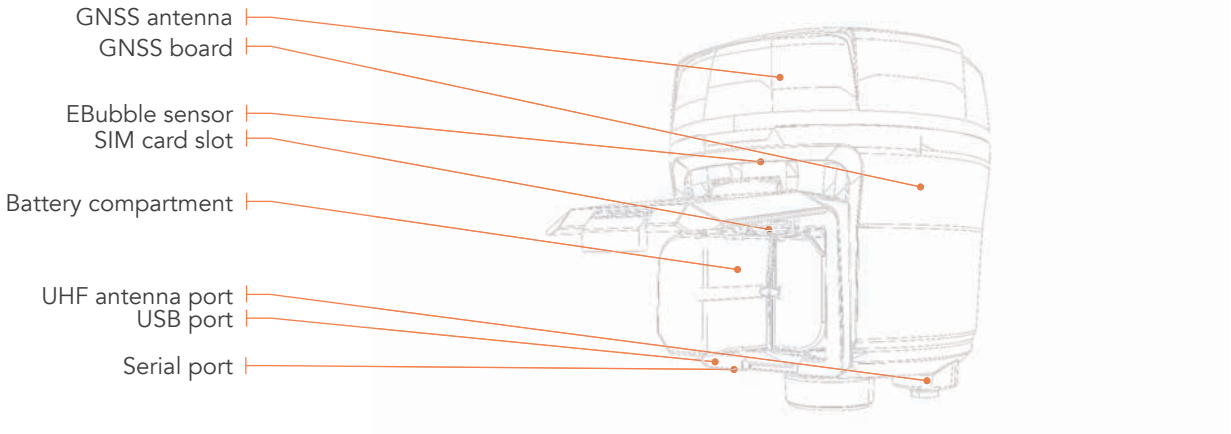
Hardware Description

i80
GNSS RTK Receiver

Elite Series

The i80 is a highly versatile GNSS receiver designed for high accuracy even in harsh environments. The GNSS core engine is powered by 220 channels which provides outstanding results to any demanding surveying project. The innovative hot swappable batteries, high resolution LCD display and overall integrated design make the i80 indispensable for demanding survey applications.





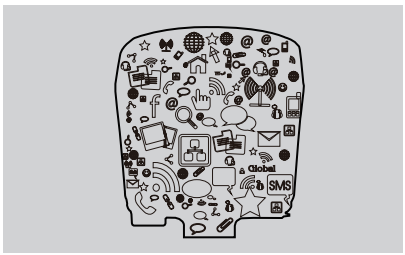
Core Technology

220 channel Multi-Constellation

The 220 channel GNSS core engine tracking GPS, GLONASS, Galileo and BeiDou signals provide high accuracy positioning results.

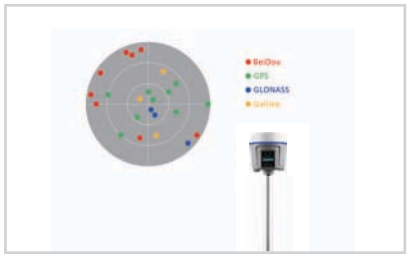
Uninterrupted Use

With dual batteries that provide up to 6 hours of operation in UHF base transmit, you can be confident to get a full day of operation.



Rugged design

The rugged and durable design meets the IP68 environmental standard for water and dust. The i80 can survive a 2 m drop onto concrete.



Sunlight Readable Display

The 128 x 64 dpi sunlight readable LCD display and function buttons allow for an easy and seamless management of the i80 receiver work modes (radio, NTRIP, raw data recording) in the field.

Easy Set Up without software

The intelligent embedded Linux operating system enables the receiver to be configured via a website from any smart devices. This eliminates the need for software or dedicated data collect to control the receiver.

Applications

Specifications

GNSS Characteristics

Channels	220
GPS	L1C/A, L2C, L2E, L5
GLONASS	L1C/A, L1P, L2C/A, L2P, L3
Galileo	E1, E5A, E5B
BeiDou	B1, B2
NavIC (IRNSS)	L1C/A, L5 (QZSS, WAAS, EGNOS, GAGAN)

GNSS Accuracies[1]

Real time kinematics(RTK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialization time: < 5 s Initialization reliability: > 99.9%
Network RTK	Horizontal: 8 mm + 0.5 ppm RMS Vertical: 15 mm + 0.5 ppm RMS Initialization time: < 10 s Initialization reliability: > 99.9%
Post-processing kinematics (PPK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS
High-procision static	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.4 ppm RMS Baseline Length: ≤ 300 km
SBAS	0.5 m RMS

Hardware

Size (H × W)	140 mm x 124 mm (5.5 in × 4.9 in)
Weight	1.02 kg (2.2 lb), 1.22 kg (2.7 lb) with batteries
Environment	Operating: -40°C to +75 °C (-40°F to +167 °F) Storage: -55°C to +85 °C (-67°F to +185 °F)
Humidity	100%
Dust and Water Proof	IP68
Shock and Vibration	2 m (6.56 ft) fall onto concrete
LCD	128 x 64 dpi sunlight readable
Tilt sensor	Ebubble leveling Tilt compensator[2]

Certifications and Calibrations

FCC Part 15 (class B Device), FCC Part 22, 24, 90; CE Mark; CTick; Bluetooth EPL; IGS & NGS Antenna Calibration; MIL STD 810G, Method 514.7

Communications and Data recording

Network modem	Integrated 3.75G modem HSPA+ 21 Mbps (download), 5.76 Mbps (upload) WCDMA 850/900/1700/1900/2100 EDGE/GPRS/GSM 850/900/1800/1900
Wi-Fi	802.11 b/g/n, access point mode
Bluetooth®	Internally integrated multimode system campatible with Android, Windows, Mobile and Windows desktop operating systems
Ports	2 x 7 pin LEMO port (external power, data download, firmware update, RS232) 1 x UHF antenna port (TNC female)
UHF radios[3]	Standard Internal Rx/Tx: 410 MHz to 470 MHz Transmit Power: 0.5 W to 2 W Protocol: CHC, Trimble, Pacific Crest Link rate: 9600 bps to 19200 bps Range: typical 3 km to 5 km, optimal up to 5 km FCC Certified Internal Rx/Tx: 403 MHz to 473 Mhz Transmit Power: 0.1 W to 1 W Protocol: Trimble, Satel, Pacific Crest Link rate: 9600 bps to 19200 bps Range: optimal up to 5 km
Data formats	CMR, CMR+, SCMRX input and output RTCM 2.1, 2.3, 3.0, 3.1, 3.2 input and output HCN, HRC, RINEX statics formats NMEA 0183 output NTRIP Client, NTRIP Caster
Data storage	32 GB high-speed memory Positioning Rates: Up to 20Hz

Electrical

Power consumption	3.2 W (depending on user settings)
Liion battery capacity	2 x 3400 mAh, 7.4 V
Operating time on internal battery[4]	UHF receive/transmit (0.1 W): 6 h Cellular receive only: Up to 10 h Static: Up to 12 h
External power input	12 V DC to 36 V DC

*Specifications are subject to change without notice.

(1) Accuracy and reliability are determined under clear unobstructed conditions, multi-paths, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.
(2) The accuracy of tilt compensator varies with operating environment and electromagnetic pollution.
(3) UHF is an option and UHF type approvals are country specific.
(4) Battery life is subject to operating temperature.

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