

i80

—
Survey & Engineering

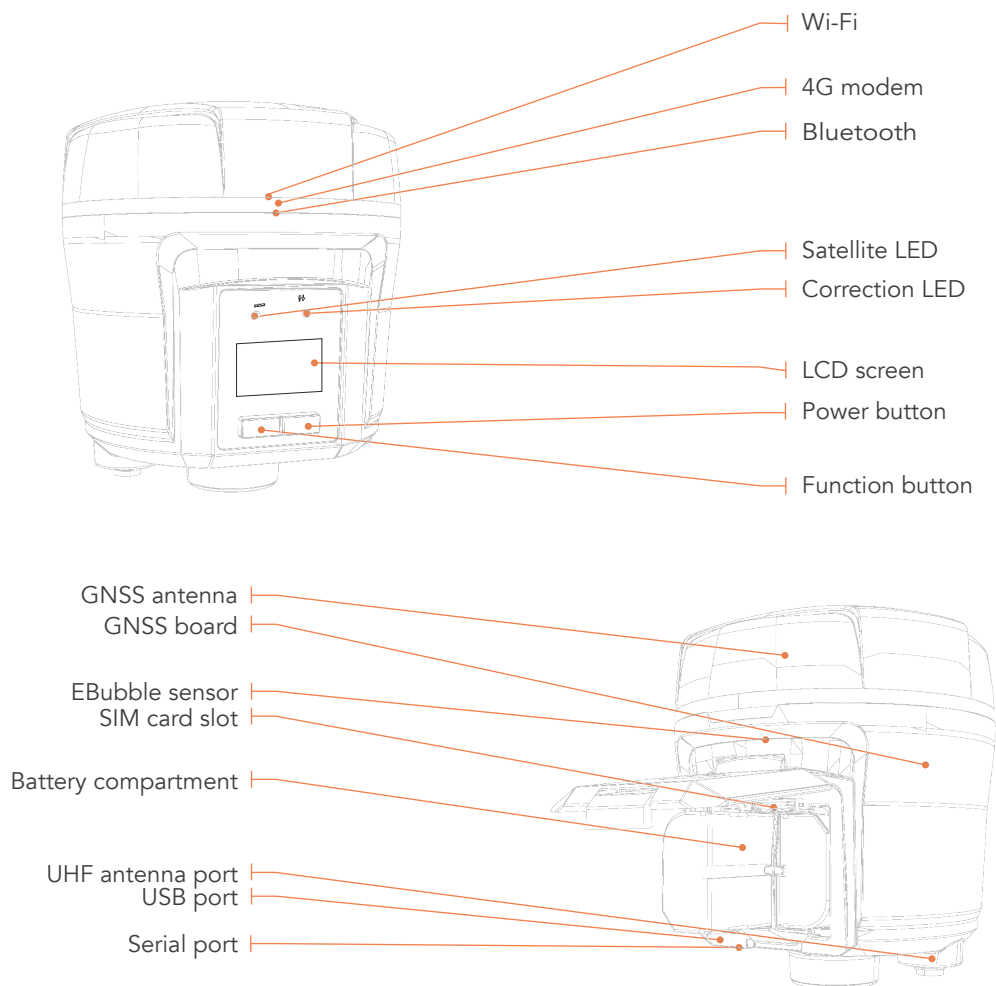


Hardware Description

i80 GNSS RTK Receiver

Elite Series

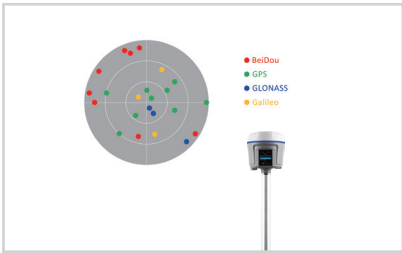
The i80 is a highly versatile GNSS receiver designed for high accuracy even in harsh environments. The GNSS core engine is powered by 220 channels which provides outstanding results to any demanding surveying project. The innovative hot swappable batteries, high resolution LCD display and overall integrated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



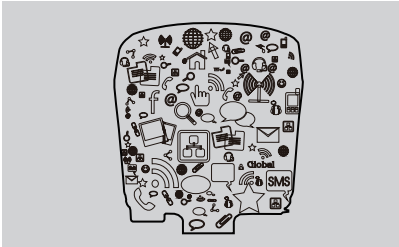
Sunlight Readable Display

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.



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.



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.



Rugged design

The rugged and durable design meets the IP67 environmental standard for water and dust. The i80 can survive a 2 m drop onto concrete.

Applications



Specifications

GNSS Characteristics⁽¹⁾

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⁽²⁾

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
Post-processing static	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.5 ppm RMS
SBAS	0.5 m RMS
Code differential	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
Time to first fix⁽³⁾	Cold start: < 45 s Hot start: < 10 s Signal reacquisition: < 2 s

Hardware

Size (H x W)	124 mm x 140 mm (4.9 in x 5.5 in)
Weight	1.02 kg (2.2 lb)
Environment	Operating: -40°C to +65 °C (-40°F to +149 °F) Storage: -40°C to +85 °C (-40°F to +185 °F)
Humidity	100%
Ingress protection	IP67 waterproof and dustproof, protected from temporary immersion to depth of 1 m
Shock	Survive a 2-meter pole drop
LCD	128 x 64 dpi sunlight readable
Tilt sensor	Ebubble Tilt compensator ⁽⁴⁾

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®	V4.1
Ports	2 x 7 pin LEMO port (external power, data download, firmware update, RS232) 1 x UHF antenna port (TNC female)
UHF radio	Standard Internal Rx/Tx: 410 MHz to 470 MHz Transmit Power: 0.5 W to 2 W Protocol: CHC, Transparent, TT450 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: Satel_3AS, PCC4FSK, Transparent, TT450 Link rate: 9600 bps to 19200 bps Range: optimal up to 5 km
Data formats	RTCM 2.x, RTCM 3.x, CMR, CMR+, SCMRX input and output HCN, HRC, RINEX 2.11, 3.02 NMEA 0183 output NTRIP Client, NTRIP Caster
Data storage	32 GB highspeed memory

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⁽⁵⁾	UHF receive/transmit (0.1 W): 6 h Cellular receive only: Up to 9 h Static: Up to 10 h
External power input	9 V DC to 36 V DC

*Specifications are subject to change without notice.

(1) Subject to availability of BDS ICD and Galileo commercial service definition. GLONASS L3, BDS B3 and Galileo E6 will be provided through future firmware upgrade.

(2) 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.

(3) Typical observed values.

(4) The accuracy of tilt compensator varies with operating environment and electromagnetic pollution.

(5) Battery life is subject to operating temperature.



© 2018 Shanghai Huace Navigation Technology Ltd. All rights reserved. The Bluetooth® world mark and logos are owned by Bluetooth SIG, Inc. The CHC and CHC logo are trademarks of Shanghai Huace Navigation echnology Limited. All other trademarks are the property of their respective owners – Revision August 2018

Shanghai Huace Navigation Technology Ltd.

599 Gaojing Road, Building D
Shanghai, 201702, China

+86 21 54260273 WWW.CHCNAV.COM

