

# GNSS Receiver **CHC i80**

*Leading Technology.  
Superior Capabilities.*



## *Features LCD Display Screen and Dual Hot-Swappable Batteries for Continuous Work*

The i80 represents the pinnacle of productivity on today's jobsite. Leading technology with superior capabilities, the i80 has tracked all GNSS constellations: GPS, GLONASS, Galileo, BDS, QZSS and SBAS.

It is the smartest GNSS receiver on the market incorporating dual hot-swappable batteries, allowing continuous uninterrupted work. Integrated 3.75G network modem, TRx UHF module, E-bubble, Bluetooth and WiFi connectivity provides a seamless solution in the field. The high resolution LCD panel also exploits a new method for surveyors to check receiver working states. All these features integrated into a small but ruggedized package allows the most productive day of surveying possible.

The i80 is constructed from cast magnesium chassis with doubled sealed gaskets, protected connectors and vibration dampened internal parts. This contributes to its outstanding field survivability of IP68 and ability to resist a 2 m pole fall onto concrete and high vibration environment.

### **Highlights**

- ▶ 220 channel multi-constellation receiver
- ▶ 128 x 64 dpi sunlight readable LCD panel
- ▶ 3.75G network modem
- ▶ Internal TRx UHF
- ▶ Built-in Bluetooth and WiFi communication
- ▶ RTK data forwarding
- ▶ Dual hot-swappable batteries
- ▶ 32GB internal memory

**CHC i80**

# CHC i80 Receiver

## GNSS Specifications

220 channels with all in view simultaneously tracked satellite signals

GPS	L1 C/A, L2E, L2C, L5
GLONASS	L1 C/A, L1 P, L2 C/A, L2 P, L3
BeiDou	B1, B2
Galileo	E1, E5A, E5B
SBAS	L1 C/A, L5 (QZSS, WAAS, EGNOS, GAGAN)

## Performance Specifications<sup>1</sup>

### Network RTK

Horizontal	8 mm + 0.5 ppm RMS
Vertical	15 mm + 0.5 ppm RMS
Initialization Time	< 10 s
Initialization Reliability	> 99.9%

### Real-Time Kinematics (RTK)

Horizontal	8 mm + 1 ppm RMS
Vertical	15 mm + 1 ppm RMS
Initialization Time	< 5 s
Initialization Reliability	> 99.9%

### Post-Processed Kinematics (PPK)

Horizontal	8 mm + 1 ppm RMS
Vertical	15 mm + 1 ppm RMS

### High-Precision 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

## Physical Specifications

Size (H x W)	5.5 in x 4.9 in
Weight	1.22 kg with batteries
LCD	128 x 64 dpi sunlight readable with function/accept buttons
Tilt Sensor	EBubble leveling, tilt compensator <sup>2</sup>

## Environment

Operating Temperature	-40 °C to +75 °C (-40 °F to 167 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to 185 °F)
Humidity	100% condensation
Waterproof & Dustproof	IP68
Drop	2 m protection

Specifications are subject to change without notice.

## Electrical Specifications

Power Consumption	3.2 W (depending on user settings)
Li-ion Battery Capacity	2 x 3400 mAh, 7.4 V
Operating Time <sup>3</sup>	
RTK UHF Base	Up to 6 h
RTK Rover	Up to 10 h
Static	Up to 12 h
External power	12 V DC to 36 V DC

## Communication

Serial	2 x 7-pin LEMO port (external power, USB data download, USB update, RS-232)
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### Network Modem

Internally 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

Bluetooth	Internally integrated multimode system compatible with Android, Windows Mobile and Windows desktop operating systems
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WiFi	802.11 b/g/n, access point mode
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### UHF Radios<sup>4</sup>

Protected TNC Female
Standard Internal Rx/Tx: 410 MHz to 470 MHz Transmit power: 0.5 W to 2 W Protocol: CHC, Trimble, Pacific Crest Range: 5 km optimal conditions
FCC Certified Internal Rx/Tx: 403 MHz to 473 MHz Transmit power: 0.1 W to 1 W Protocol: Trimble, Satel, Pacific Crest Range: 5 km optimal conditions

### Protocols

CMR, CMR+, SCMRX input and output
RTCM 2.1, 2.3, 3.0, 3.1, 3.2 input and output
NMEA 0183 output
HCN, HRC and RINEX static formats
NTRIP Client, NTRIP Caster

### Data Storage

32GB high-speed memory
Positioning rates: Up to 20 Hz

<sup>1</sup> Accuracy and reliability specifications may be affected by multipath, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.

<sup>2</sup> Accuracy of tilt compensator varies with operating environment and electromagnetic pollution.

<sup>3</sup> Operating time varies based on temperature.

<sup>4</sup> UHF is an option and UHF type approvals are country specific.



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