

GNSS L1 Base, Rover And Data Collector Champion HC3



*Revolutionize the Way
You Work Around
the World.*

*Works as a GNSS Base or Rover and as a Data Collector for
Your Existing GNSS, Total Station or Robotic Total Station!*

Long Range Bluetooth

Buy this unit with confidence knowing you can use it with yesterday's total stations and robots with external radios and today's GNSS receivers, total stations and robots using long range Bluetooth.

More Features and a Long Life Battery

Building on the success of the Champion HC1 and HC2, the HC3 comes with a 1 GHz CPU in addition to the external long range Bluetooth antenna and u-blox chip introduced with the HC2. The long range Bluetooth radios allow two HC3's to work as a base and rover pair to 3000' and beyond using external GNSS antennas. With the proper network correction, a single HC3 will operate as a network rover*! Static sessions are even supported. The long range Bluetooth radio in the HC3 is capable of operating the GeoMax Zoom90 robot beyond 3000'.

**Requires RTCM3.2 MSM4 or MSM7 corrections*

Choice, Choice, Choice

Network connectivity for RTN rovers and file transfer is accomplished through the convenient internal 3G GSM modem or WiFi, depending on the wireless coverage in your area.

Features

- ▶ Internal u-blox M8P-2 high precision L1 multi-constellation GNSS receiver
- ▶ Base, Rover and RTN* capable
- ▶ IP54 - Limited protection against dust and water
- ▶ 6500mA battery
- ▶ 9 pin serial port
- ▶ 3.7" sunlight readable screen
- ▶ 3G GSM modem, WiFi, Bluetooth and 3000 ft long range Bluetooth
- ▶ 1 year warranty
- ▶ 1.2 lbs with battery
- ▶ 1 GHz, 512MB RAM, 1GB storage expandable to 33GB
- ▶ 5 megapixel camera
- ▶ Optional external antenna for survey accuracy

Champion HC3



Champion
INSTRUMENTS

Champion HC3

Overview

Processor	1 GHz
Storage	1GB (expandable to 33GB using a MicroSD card)
RAM	512MB
Operating System	Windows Embedded 6.5
Multi-Language	✓
Keypad	27 numeric + programmable keys
Mic	✓
Speaker	✓
Display	3.7" sunlight readable with integrated touchscreen
Display Resolution	480 x 640
Camera	5 megapixel
Dimension	7.87"(W) x 3.78"(H) x 1.26"(D)
Weight	1.2 lbs. with battery

Communications & Data Storage

Long Range Bluetooth	HC3 Base to HC3 Rover: 3000 ft; HC3 to Zoom90: 3050 ft
GSM/3G	3G
WiFi	✓
USB Port	Type B USB
Serial Port	DB9 (RS232)
Voice	✓

Power

DC Input	DC 5 V, 1 A
Detachable Li-ion Battery	6500 mA, 3.7 V

Environment

Operating Temperature	-20 °C ~ +60 °C (-4 °F ~ 140 °F)
Storage Temperature	-30 °C ~ +70 °C (-22 °F ~ +158 °F)
Limited Dust and Water	IP54
Drop	1.2 m protection

NEO-M8P performance in different GNSS modes (default: concurrent reception of GPS and GLONASS)

Parameter	Specification	GNSS Modes		
		GPS & GLONASS	GPS & BeiDou	GPS
Receiver Type	72 channel u-blox M8 engine GPS L1C/A, GLONASS L1OF, BeiDou B1I			
Time-To-First-Fix ¹	Cold Start	26 s	28 s	29 s
	Hot Start	1 s	1 s	1 s
Sensitivity ²	Reacquisition	-160 dBm	-160 dBm	-160 dBm
	Cold Start	-148 dBm	-148 dBm	-148 dBm
	Hot Start	-157 dBm	-157 dBm	-157 dBm
Convergence Time ³	RTK	2 min ⁴	2 min ⁴	3.5 min ⁴
Horizontal Position Accuracy	Standalone ⁵	2.5 m CEP		
	RTK ^{3,6}	0.025 m + 1 ppm CEP		

Standard Accessories

- ▶ Belt clip with stylus
- ▶ USB connectivity cable
- ▶ DC charger for USB port
- ▶ Serial cable
- ▶ Clear screen protector
- ▶ External Bluetooth antenna
- ▶ External GNSS antenna cable
- ▶ Champion HW-02 mounting bracket and claw

Optional Accessories

- ▶ Champion AS1-S GNSS antenna
- ▶ Champion 2 meter GNSS pole
- ▶ Bipod

Specifications are subject to change without notice. Champion, Champion HC3 are trademarks of Champion Instruments, LLC.

¹ All satellites at -130 dBm

² Demonstrated with a good external LNA

³ Depends on atmospheric conditions, baseline length, GNSS antenna, multipath conditions, satellite visibility and geometry

⁴ Measured with 1 km baseline, patch antennas with ground planes; GPS+BeiDou measured in Singapore

⁵ Circular Error Probability (CEP), 50%, 24 hours static, -130 dBm, > 6 SVs

⁶ ppm limited to baselines up to 10 km

We will not let you fail.



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