

# GNSS Surveying System Champion WR1

*More Compact,  
Rugged and Advanced  
than Ever Before!*



## *The Next Generation of Surveying*

The WR1 GPS receiver is built with next generation technology. Its feature combination is a breakthrough for the surveying industry in price and performance. It features a full-band antenna that supports all satellite navigation signals for GPS, GLONASS, BeiDou and Galileo. The included Pacific Crest UHF radio enables the WR1 to function as a base or rover. When used as a rover, corrections can be received through the included UHF radio, built-in 3G-GSM modem or Bluetooth interface from your favorite data collector running Carlson SurvCE or MicroSurvey FieldGenius. The included software supports post-processing of static sessions and the creation of OPUS 2.11 data files. There is even an electronic bubble if you doubt the bubble on your rover rod!



**Champion**  
INSTRUMENTS

**Champion WR1**



# Champion WR1

## GNSS Specifications

220 channels with simultaneously tracked satellite signals\*

GPS	L1 C/A, L2E, L2C, L5
GLONASS	L1 C/A, L1 P, L2 C/A (GLONASS M Only), L2 P
BeiDou	B1, B2
Galileo	L1 BOC, E5A, E5B, E5AltBOC
SBAS	L1 C/A, L5

Advanced multipath mitigation technology

Low noise carrier phase measurement with < 1 mm precision in a 1 Hz. bandwidth

## Performance Specifications

Real-Time Kinematics (RTK)

Horizontal	10 mm + 1 ppm RMS
Vertical	20 mm + 1 ppm RMS
Initialization Time	Typically < 10 s
Initialization Reliability	Typically > 99.9%

Post Processing Static

Horizontal	2.5 mm + 1 ppm RMS
Vertical	5 mm + 1 ppm RMS
Baseline Length	≤ 300 km

## Physical Specifications

Size	6.02 in x 3.27 in
Weight Without Battery	950 g (2.09 lbs)

## Environment

Operating Temperature	-40 °C to +65 °C (-40 °F to 149 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to 185 °F)
Humidity	100% condensation
Waterproof & Dustproof	IP67
Drop	3 m protection

Specifications are subject to change without notice. Champion, Champion WR1 are trademarks of Champion Instruments, LLC.

## Communication

Internal Radio

Pacific Crest UHF-Link (403~473 MHz) Rx & Tx both

UHF-Link (390~430MHz/430~450MHz/450~470MHz) Rx only

GSM/GPRS/EDGE (class 10)

Quad-band: 850/900/1800/1900 MHz band

Operation

RTK Rover/Base, post-processing

RTK Network Rover: VRS, FKP, MAC

Point-to-Point Circuit Switched Data (GSM) GPRS mode through Real-Time Data Server Software (internal GPRS or external cell)

Internal Memory

16GB supports up to 32GB

I/O Interface

RS232\*2 (LEMO & DB9)  
Bluetooth  
WiFi

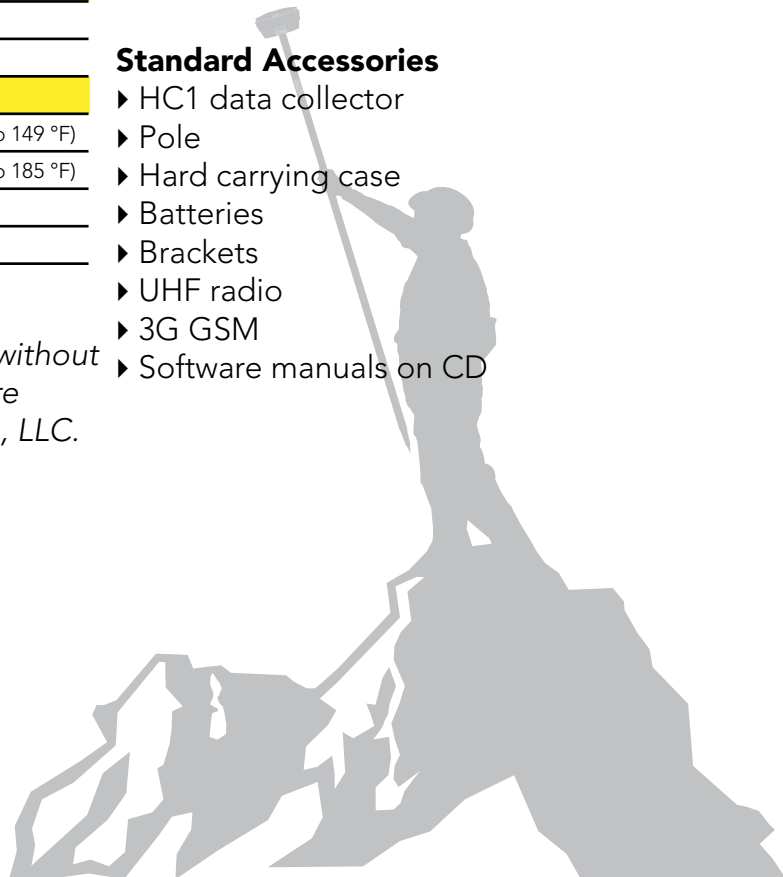
Data Formats

RTCM 2.1, RTCM 2.2, RTCM 2.3,  
RTCM 2.x, RTCM 3.x, RTCM 3.2, CMR,  
CMR+, SCMRX

\*Reception is dependent upon firmware versions and licensed features

## Standard Accessories

- ▶ HC1 data collector
- ▶ Pole
- ▶ Hard carrying case
- ▶ Batteries
- ▶ Brackets
- ▶ UHF radio
- ▶ 3G GSM
- ▶ Software manuals on CD



We will not let you fail.



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