V30 PERFORMANCE SPECIFICATIONS

MEASUREMENTS
- 220 Channels
- Advanced Pacific Crest Maxwell 6 Custom Survey GNSS Technology
- High precision multiple correlator for GNSS pseudo range measurements
- Unfiltered, unsmoothed pseudo range measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Signal-to-Noise ratios reported in dB-Hz
- Proven Pacific Crest low elevation tracking technology

Satellite signals tracked simultaneously

GPS ..... Simultaneous L1C/A, L2C, L2E, L5
GLONASS ..... Simultaneous L1C/A, L1P, L2C/A (GLONASS M only), L2P
SBAS ..... Simultaneous L1 C/A, L5
Galileo ..... Simultaneous L1 BOC, E5A, E5B, E5AltBOC[1]
BDS..... B1, B2
QZSS ..... L1 C/A, L1 SAIF, L2C, L5

POSITIONING PERFORMANCE[2]

Static and Fast Static GNSS surveying

Horizontal ..... 2.5mm+0.5ppm RMS
Vertical ..... 5mm+0.5ppm RMS

Post Processing Kinematic (PPK / Stop & Go) GNSS surveying

Horizontal..... 1cm+1ppm RMS
Vertical ..... 2.5cm+1ppm RMS
Initialization time ..... typically 10 minutes for base while 5 minutes for rover
Initialization reliability ..... typically > 99.9%

Realtime Kinematic(RTK) surveying

Horizontal ..... 8mm+1ppm RMS
Vertical ..... 15mm+1ppm RMS
Initialization time ..... typically < 8 seconds
Initialization reliability ..... typically > 99.9%

Code Differential GNSS positioning

Horizontal ..... 25cm+1ppm RMS
Vertical ..... 50cm+1ppm RMS
SBAS[3] ..... 0.50m Horizontal, 0.85m Vertical

HARDWARE

Physical

Dimensions (W x H) ..... 19.50cm x 10.40cm (7.68 in x 4.09 in)
Weight ..... 1.3kg (2.86lb) with internal battery, internal radio, standard UHF antenna
Operating temperature ..... -45℃ to +65℃ (-49℉ to +149℉)
Storage temperature ..... -55℃ to +85℃ (-67℉ to +185℉)
Humidity ..... 100%, considering
Water/dustproof ..... IP67 dustproof, protected from temporary immersion to depth of 1m (3.28ft).
Shock and Vibration ..... Designed to survive a 3m(9.84ft) nature fall onto concrete.

Electrical

Power 6V to 28V DC external power input
Power consumption 2.5W
Automatic Switching between internal power and external power
Rechargeable, removable 7.4V, 5000mAh Lithium-Ion battery in internal battery compartment

Internal battery life

Static 13 - 15 hours
RTK Rover (UHF/GPRS/3G) 10 - 12 hours
RTK Base 8 - 10 hours

I/O interface

1 x Bluetooth
1 x standard USB2.0 port
2 x RS232 serial port
2 x DC power input (8-pin & 5-pin)

COMMUNICATION AND DATA STORAGE

GPRS/GSM or 3G

Fully integrated, fully sealed internal GPRS/GSM or 3G
Network RTK (via CORS) range 20-50km

HI-TARGET internal UHF radio (standard)

Frequency ..... 460 MHz with 116 channels
Transmitting power ..... 0.1W, 1W, 2W adjustable
Transmitting Speed ..... Up to 19.2Kbps
Working range ..... 3~5Km typical, 8~10km optimal

Pacific Crest ADL Foundation internal UHF radio

Frequency..... 403~473 MHz
Transmitting power..... 0.5W, 1.0W, 2.0W adjustable
Transmitting Speed ..... Up to 19.2Kbps
Support most of radio communication protocol
Working range ..... 3~5km typical, 8~10 optimal

HI-TARGET External UHF radio (standard)

Frequency ..... 460 MHz with 116 channels
Transmitting power ..... 5W, 10W, 20W, 30W adjustable
Transmitting Speed ..... Up to 19.2Kbps
Working Range ..... 8~10Km typical, 15~20km optimal

Pacific Crest ADL Vantage Pro External UHF radio

Frequency ..... 390~430 MHz or 430~470 MHz
Transmitting Power ..... 4W to 35W adjustable
Transmitting Speed ..... Up to 19.2Kbps
Support most of radio communication protocol
Working Range ..... 8~10Km typical, 15~20km optimal

Support other external communication device

For example, external GSM modem.

Data storage

64MB internal memory

Data formats

(1Hz positioning output, up to 50 Hz - depends on installed option)
CMR: sCMRx,CMR,CMR+input and output
RTCM: RTCM 2.1, 2.2, 2.3, 3.0, 3.1,3.2 input and output
Navigation outputs ASCII: NMEA-0183 GSV, AVR, RMC, HDT, VGK, VHD, ROT, GGK, GGA, GSA, ZDA, VTG, GST, PJT, PJK, BPQ, GLL, GRS, GBS
Navigation outputs Binary: GSOF
1 Pulse Per Second Output

[1]Developed under a License of the European Union and the European Space Agency.
[2]Precision and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. The specifications stated recommend the use of stable mounts in an open sky view, EMI and multipath clean environment, optimal GNSS constellation configurations, along with the use of survey practices that are generally accepted for performing the highest-order surveys for the applicable application including occupation times appropriate for baseline length. Baselines longer than 30 km require precise ephemeris and occupations up to 24 hours may be required to achieve the high precision static specification.
[3]GPS only and depends on SBAS system performance. FAA WAAS accuracy specifications are <5 m 3DRMS.

Descriptions and specifications are subject to change without notice

HI-TARGET

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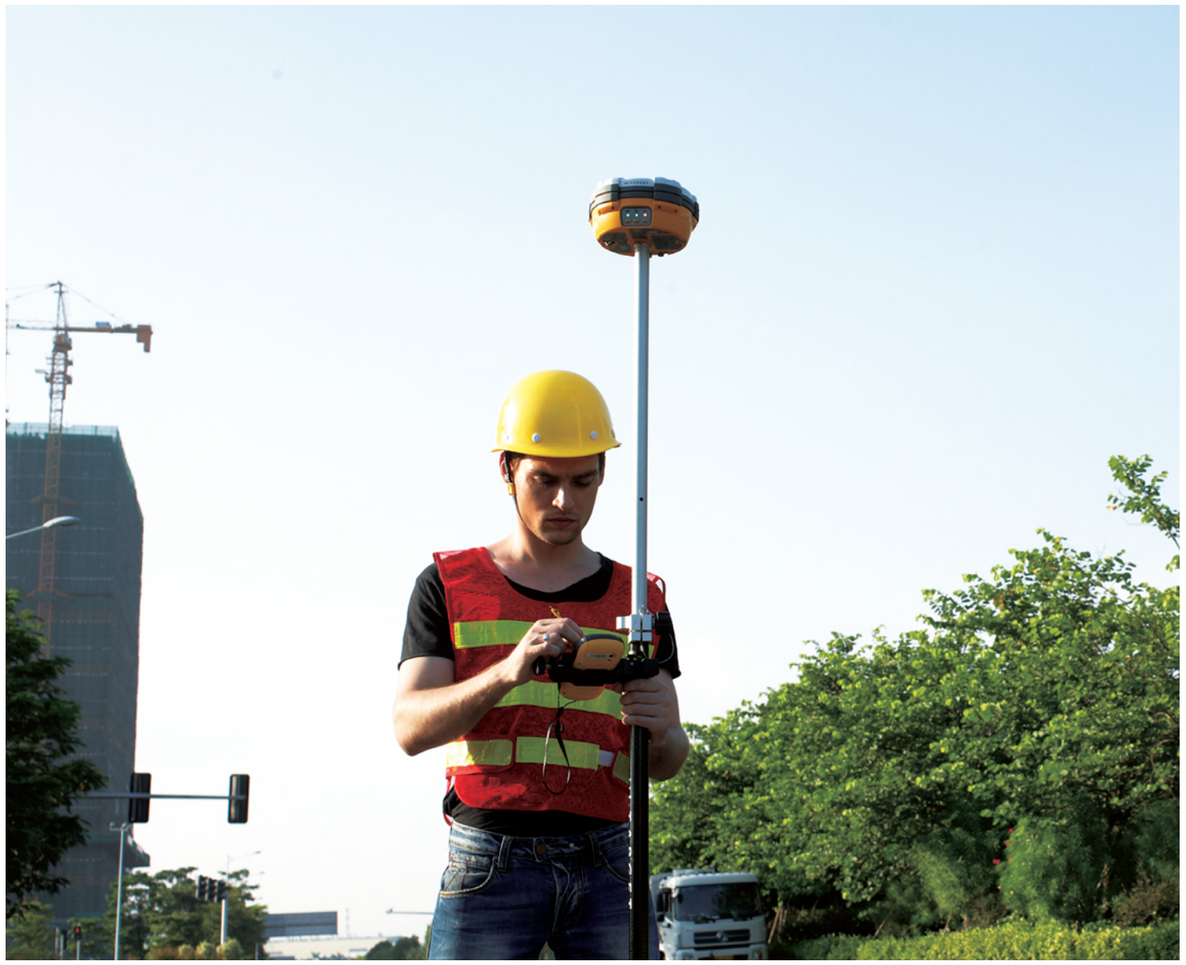
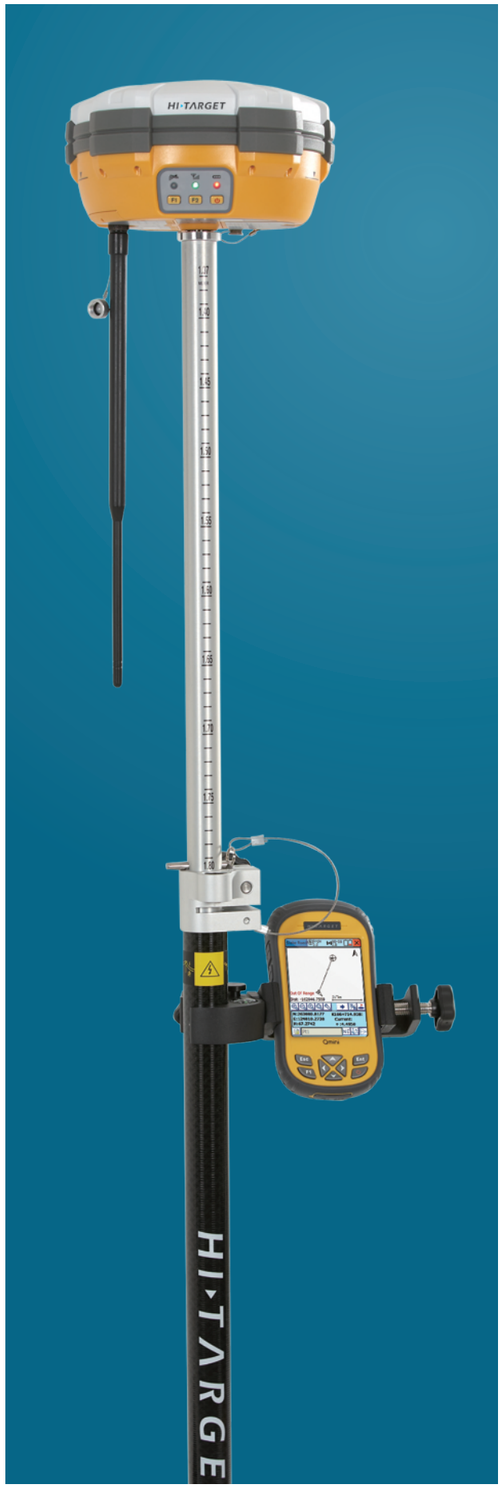
V30

Dual-Frequency GNSS RTK System





V30 GNSS RTK SYSTEM

The V30 GNSS RTK system is designed to meet high quality standards at an affordable price. It is outstanding in its class, with a rugged design and user-friendly functions.

Key Features

Multi-constellation tracking

- 220 tracking channels.
- Supports GPS, GLONASS, GALILEO, BDS, SBAS.
- NGS approved GNSS antenna.

Intelligent operation

- Equipped with a smart speaker guiding the whole operation.
- Multi one-button functions make fieldwork easier, such as auto base setup by one button, the rover can get fix solution once it is turned on.

Diversify RTK application

Optional transceiver UHF radio

- The transceiver UHF radio enables the working mode to be switchable between base and rover.
- 2-watt HI-TARGET internal UHF radio and 2-watt Pacific Crest TrimTalk© internal UHF radio are optional. Pacific Crest TrimTalk© internal UHF radio is compatible with other radios.
- Removable internal UHF radio enables users to fix or exchange simply.

Seamless operation in CORS system

- Built-in GPRS/GSM/3G module ensures that the V30 works perfectly with network RTK positioning.

Long-life battery

- Powered by 5000mAh Li-ion battery.
- Static working time 13 - 15 hours.
- RTK Rover (UHF/GPRS/GSM) working time 10 - 12 hours.
- RTK Base working time 8 - 10 hours.

Rugged and unique design

- IP67 dust/water protection.
- Withstands 3-meter natural fall onto concrete.
- Rapid tracking and perfect avoidance or reduction of obstruction and multipath effect to ensure superior positioning capability.

Qmini MP field controller

The V30 is compatible with various controllers, to meet multi user requirements.

The default controller is Qmini MP.

- With Microsoft Windows Mobile 6.5 operating system.
- Fully compatible with third-party software such as Carlson SurvCE, MicroSurvey Field Genius, Digiterra Explorer, EsriArcPad, etc.
- Lightweight and anti-drop design, IP65 dust/water protection.

Controller and field software

Free and user-friendly Hi-RTK software

- Supports multi OS running platform, such as Windows Mobile, Windows CE, Windows XP and Windows 7 operating systems.
- Global parameter and projection conversion supports coordinates definition.
- Multiple color schemes choice and personalized software interface.

Carlson SurvCE software

- With more than two dozen languages, provide excellent localized operation.
- Users work smoothly and efficiently with V30.

Post-processing software

HI-TARGET Geomatics Office (HGO) software

- Provides total GPS/GLONASS/BDS processing solution.
- Standard Rinex data format and Hi-Target raw data format can be processed flexibly and easily.

Qmini MP PERFORMANCE SPECIFICATIONS

System Configuration

Operating system..... Windows Mobile 6.5
Processor..... 806MHz
RAM..... 256MB RAM
Flash memory..... 8 GB
Display..... 3.7 inch LED, 640×480 resolution

GPS Features

GPS..... L1
BDS..... B1
Built-in high sensitivity anti-interference GPS antenna
Update rate..... 1fix/s (User configurable)
Update rate.....1Hz (Configurable w/future FW 2Hz max)
Time to first fix (TTFF)..... 35 seconds (Typical)

Position Accuracy

Single point positioning..... 5m

Application Functions

5 million pixel camera with LED
Built-in speaker

Communication Interface

Bluetooth
Mini USB
WIFI: 802.11b/g
Micro SD card slot, supports up to 32GB
Built-in 3G module

Power Supply

3.7V, 3100mAh lithium battery, up to 8 hours continuous work, online charging

Physical Properties

10 keys, with the four arrow keys
Size..... 152mm x 82mm x 32mm
Weight..... 315g (with battery)
Operating temperature.....-20℃ to +70℃
Storage temperature..... -30℃ to +80℃
Water/dustproof..... IP65
Anti-shock.....1.5m free fall

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