PERFORMANCE SPECIFICATIONS

MEASUREMENTS
- 220 Channels
- 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

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 (EGNOS, WAAS, MSAS, GAGAN, QZSS)
Galileo	Simultaneous L1 BOC, E5A, E5B, E5AltBOC(Optional)
BDS	B1, B2

POSITIONING PERFORMANCE
Hot Start	Typically <10s
Cold Start	Typically <15s

High-Precision Static
Horizontal	2.5 mm + 0.1 ppm RMS
Vertical	3.5 mm + 0.4 ppm RMS

Static and Fast Static
Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	5 mm + 0.5 ppm RMS

Post Processing Kinematic
(PPK / Stop & Go) GNSS Surveying
Horizontal	8mm+1ppm RMS
Vertical	15mm+1ppm RMS
Initialization time	Typically 10 minutes for base while 5 minutes for rover
Initialization reliability	Typically > 99.9%

Real Time Kinematic (RTK) Surveying
Horizontal	8mm+1ppm RMS
Vertical	15mm+1ppm RMS
Initialization time	Typically 2-10s
Initialization reliability	Typically > 99.9%

Code Differential GNSS Positioning
Horizontal	25cm+1ppm RMS
Vertical	50cm+1ppm RMS
SBAS	0.50m Horizontal, 0.85m Vertical

HARDWARE

Physical
Dimensions (W x H)	18-20cm x 9-80cm (7-17inch x 3.86inch)
Weight	1.25kg (2.76lb) without internal battery
Operating temperature	-45℃ to +65℃ (-49 °F to +149 °F)
Storage temperature	-55℃ to +85℃ (-67 °F to +185 °F)
Humidity	100%, condensing
Water/dustproof	IP67 dustproof, protected from temporary immersion to depth of 1m (3.28ft).
Shock and vibration	Designed to survive a 3m(9.84ft) natural fall onto concrete.

Electrical
Power 6V to 28V DC external power input
Power consumption ≤3.5W
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(2402MHz to 2480MHz)
1 x standard USB2.0 port
1 x TNC UHF connector
2 x RS232 serial port
2 x DC power input (8-pin & 5-pin)
1 x MicroSD card port

COMMUNICATION AND DATA STORAGE

3G Communication
Fully integrated, fully sealed internal 3G, compatible with GPRS Network RTK (via CORS) range 20-50km

HI-TARGET Internal UHF Radio
Frequency	450-470MHz with 116 channels
Transmitting power	1~5W adjustable
Transmitting speed	9.6Kbps, 19.2Kbps
Working range	5km typical, 8~10km optimal

SATEL Internal UHF Radio(Optional)
Frequency	403-473MHz
Transmitting power	0.1W-1W adjustable
Transmitting speed	9.6Kbps, 19.2Kbps
Support most of radio communication protocols	
Working range	3~5 km typical, 8~10km optimal

HI-TARGET External UHF Radio
Frequency	460MHz with 116 channels
Transmitting power	5W, 10W, 20W, 30W adjustable
Transmitting speed	Up to 19.2Kbps
Working range	8~10km typical, 15~20km optimal

Advanced External UHF Radio(Optional)
Frequency	410-470MHz
Transmitting Power	5W/25W
Transmitting Speed	9.6Kbps, 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
1GB internal storage + 8GB Internal micro SD Card memory (Support up to 32GB extension)
Record GNS and Rinex format simultaneously

Data Formats
(1Hz positioning output, up to 50Hz - depends on installed option)
CMP: 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, GRS
Navigation outputs binary: GSOF
1 Pulse Per Second Output

HI·TARGET
Surveying the world, Mapping the future.

V60
GNSS RTK SYSTEM
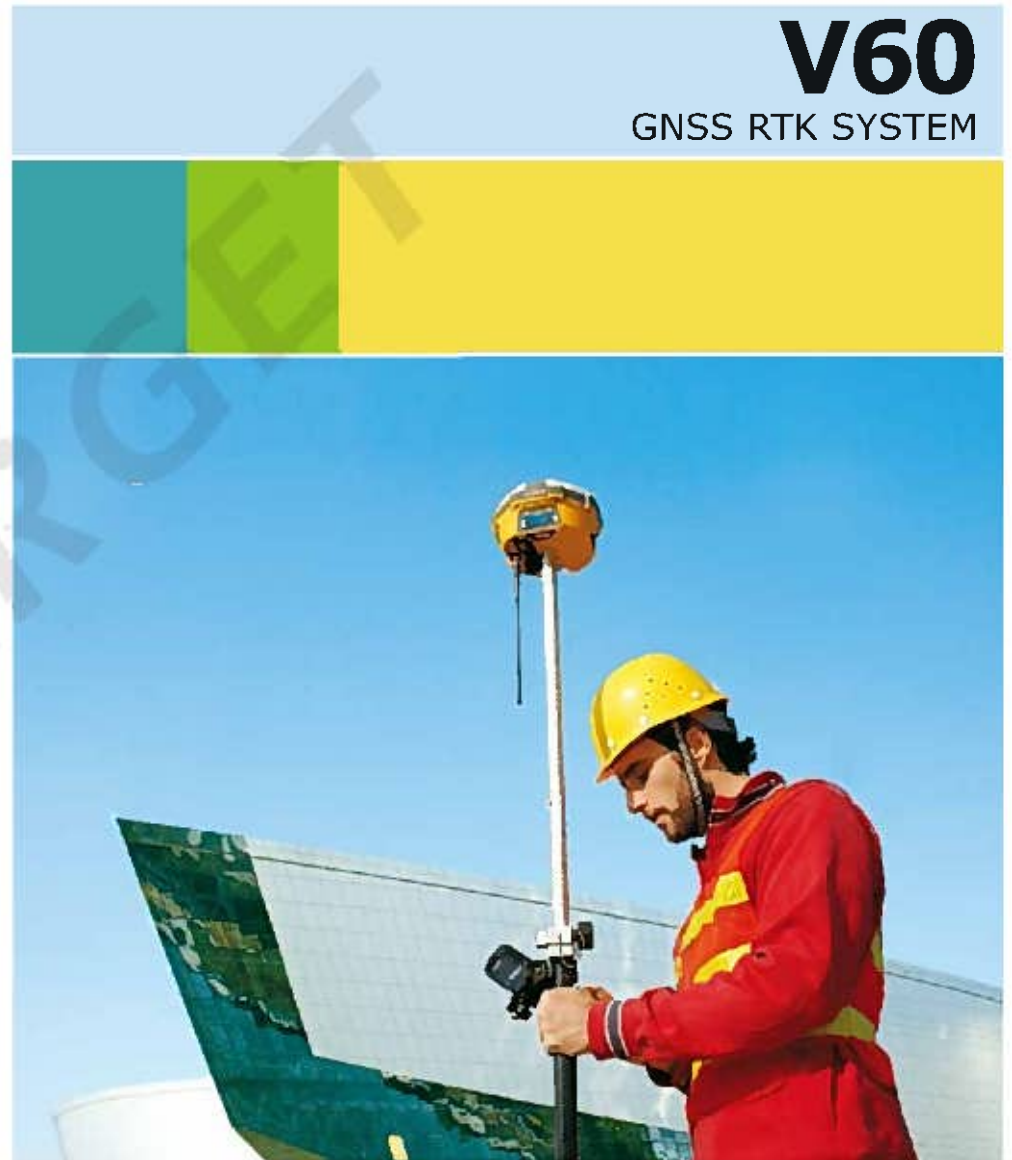
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AUTHORIZED DISTRIBUTION PARTNER

V60

GNSS RTK SYSTEM

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Improved and updated, the Hi-Target V60 GNSS RTK system is far more intelligent and efficient.

Smart Operation

- Visual LED screen and voice assistance guide your field operation quickly.

- Multi one-button operations. Auto base setup by one button without controller.

- Standard Rinex data and HI-TARGET raw data recorded at the same time.

- Quick upgrade by USB.

Multi-Constellation Tracking

- 220 tracking channels.

- Supports GPS, GLONASS, GALILEO, BDS, SBAS.

- NGS approved GNSS antenna.

Optional Transceiver UHF Radio

- The transceiver UHF radio enables the working mode to be switchable between base and rover.

- 5-watt HI-TARGET internal UHF radio and 1-watt Satel internal UHF radio are optional. Satel internal UHF radio is compatible with other radios.

Seamlessly Operation in CORS System

- Built-in cellular makes V60 work perfectly with network RTK positioning.

Powerful Battery

- Powered by high-capacity (5000mAh) Li-ion battery to insure whole day operation.

Rugged Design, IP67

- IP67 dust/water protection.

- Withstands 3-meter natural fall onto concrete.

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iHand30

Professional Field Controller

The iHand30 is a rugged field controller that is designed for data collection and GNSS device control. Based on the Android operating system, it is compatible with Hi-Target professional software and third-party Android software. Combining the physical keyboard with a touchscreen, it can boost efficient field work and provide express solutions for users.

- Ergonomically designed, lighter and easy to hold.

- Industrial-grade protection that can withstand tough environments.

- Convenient wireless data transfer via Bluetooth, Wi-Fi and 4G.

- Quick charge, with large capacity lithium battery to ensure real day work.

Hardware Configuration	OS: Android 8.0 Processor: 1.5GHz, 4 core Storage: ROM 16GB (up to 32GB extension micro-SD) Display: 3.7", 640×480, sunlight readable Camera: 8CF 1st model (I) Sensory: Gravitate, E-compass, barometer, Light field sensor, gyro
Communication	Cellular mode: Dual SIM card, dual stand-by Cellular network: 4G TDD-LTE, FDD-LTE, WCDMA, GPRS Wi-Fi: IEEE 802.11b/g/n, 2.4GHz/5GHz Bluetooth: V2.0/4.0 USB: Type-C, supports OTG NFC
Physical	Weight: 440g (with battery) Size: 208mm*83mm*24mm Temperature: -20C ~ +50°C (working), -30 ~ +70 (Storage) Free fall: 1.2m IP67
GNSS Features	GNSS: GPS, GLONASS, AGPS, 20 channels; Update rate: 1Hz
Power Supply	Battery: Removable 3.7V lithium battery; 5000mAh Duration: 15 hours

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Hi-Survey Road

Survey Data Collection Software

The Hi-Survey Road is an android software that is designed for all types of land survey and road engineering projects in the field. It is compatible with Hi-Target professional controllers, android phones, tablets and other third-party android devices. It is a sleek and easy-to-use software that supports the operating of big data with build-in tools. With customized industrial application solutions, more possibilities are created for users.

- Tilt survey, quasi-dynamic technology, detail survey, timing static survey, etc.

- Cross-projects points selection, QR code scanning, multi-format support, etc.

- Road functions, DTM surface operations, Google online base map, 3rd party rangefinders, etc.