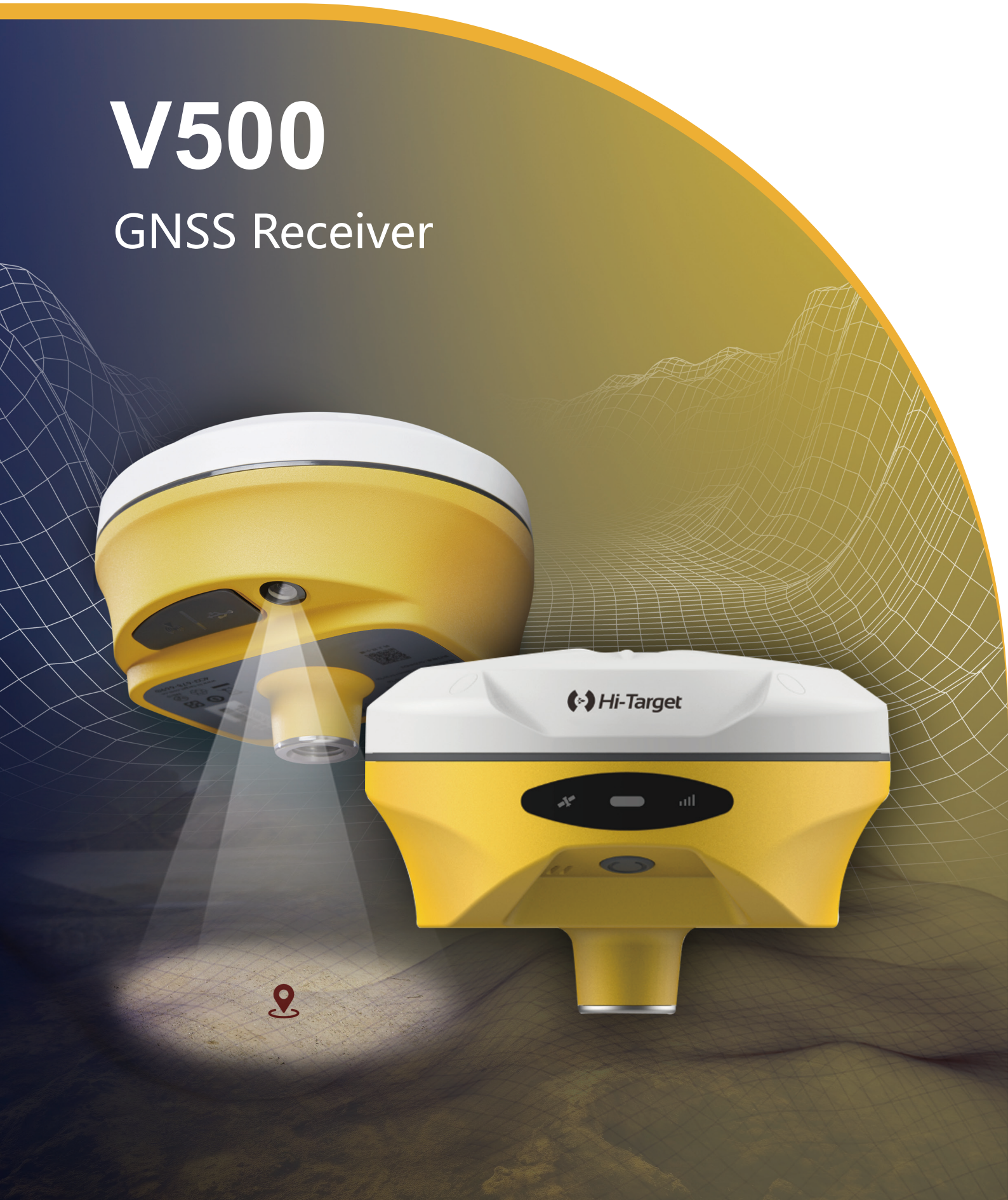
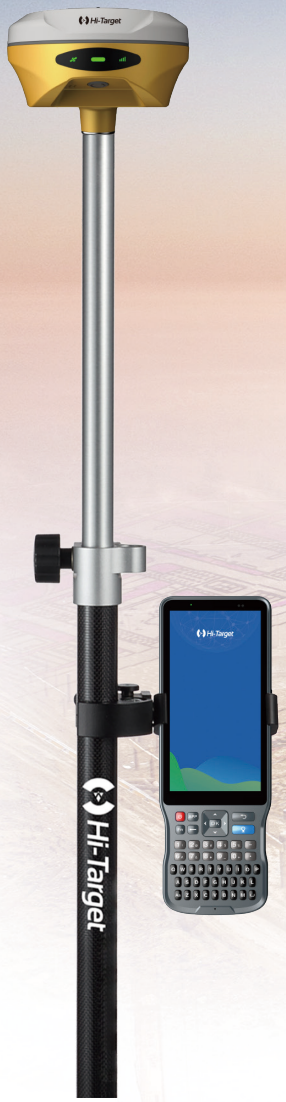
Hi-Target

Surveying the World, Mapping the Future

V500

GNSS Receiver





V500

Compact GNSS RTK with Long Endurance for Accurate Stakeout

Equipped with an upgraded high-definition starlight camera, V500 brings out an excellent visual stakeout experience in low-light conditions. The compact and lightweight design makes V500 a feasible and portable choice for engineering personnel in collecting data and improving positional accuracy.

Key Features

- Upgraded IMU
- AR Measurement
- Live View Stakeout
- 24 Hours Ultra-Long Battery life
- Advanced RTK Engine
- Portable and Compact

Better AR Stakeout Experience

- Visual positioning technology to find points with ease. The combination of virtual and reality by overlaying the design files with the real scene improves stakeout efficiency.
- Professional-grade starlight night vision HD camera with wide angle. Excellent performance and algorithm in tracking signals, achieving an accuracy of up to 1cm.
- Seamless switch of 360-degree AR stakeout between the handheld controller and the rover brings out immersive stakeout experiences making stakeout fast and accurate.

Built-in High-precision Tilt Survey

- Based on the new generation of IMU, initialization occurs automatically at the startup without obtaining a fixed solution.
- Measure as reaching the point, efficient and convenient.
- Stable performance for reliable results.

Full Constellation and Full Frequency

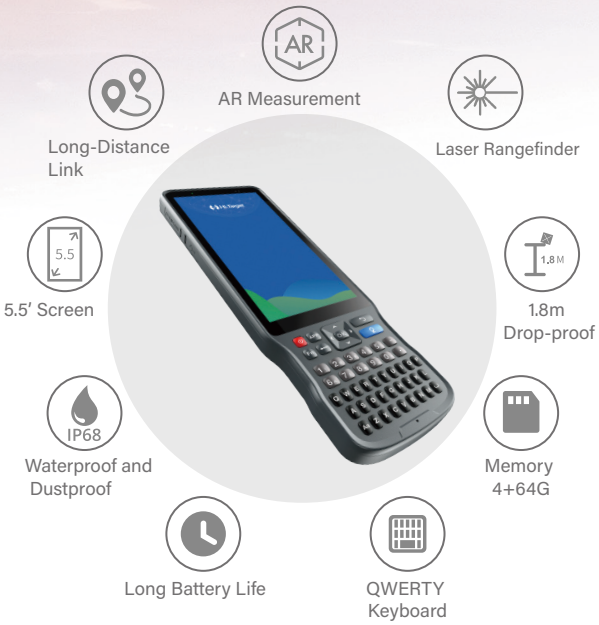
- Advanced GNSS SoC chip features 1408 channels, supporting new frequency points B1C, B2a, and B2b RTK decoding for Beidou-3 Satellites.
- Multi-frequency interference detection technology and multi-stage adaptive filtering technology with a strong signal, good data, fast fixed procedure, and high accuracy.

New iHand55

Professional Field Controller

The iHand55 Handheld Controller is a professional field controller with a big vision. More features of the latest Hi-Survey Software contribute to achieving high intelligence. Keeping robust and reliable in fieldwork under any conditions, iHand55 is a perfect choice for your survey work.

Hardware Configuration	OS: Android 11 operating system Processer: CPU:8 core; 2.0GHZ Storage: 4GB RAM+64GB ROM; T-Flash memory card, up to 128GB Display:720*1440, 5.5", 500 nit, bright Outdoor Color capacitive multi-touch screen (with touch pen, can be operated with gloves) Input Configuration: Qwerty full keyboard, number / letter separate, professional custom smart input method
GNSS Features	GNSS antenna, GPS, GLONASS, BDS, AGPS
Communication Interface	Network modem: FDD-LTE B1/B3/B5/B7/B8/B20/B28/B2/B4/B12/B17 TDD-LTE B38/B39/B40/B41/B34 TDSCDMA B34/B39 WCDMA B1/B2/B5/B8/B4 GSM B2/B3/B5/B8 CDMA1x/CDMA2000 BC0 Cellular mobile：4G, Dual Nano-SIM WiFi: IEEE 802.11 a/b/g/n/ac, Wapi, AP(2.4G / 5G) Bluetooth: BT5.1, BLE, NFC USB: Type-C interface, OTG, supports fast charging (5V,3A)
Power Supply	Battery: 9200 mAh internal Duration: ≥15 hours Charging time: 4 h (typical)
Application	Camera: Built-in 13 million pixel camera Flash: Highlight Flash LED flash (support flashlight function) Sensor: Gravity sensor, compass, light sensor, gyroscope
Physical Features	Weight: 406g (within battery) Size: 221 mm*78 mm*16.5 mm Operating temperature: -20℃~+60℃ Storage temperature: -30℃~+70℃ Free fall: 1.8m Shock and vibration: MIL-STD-810H



Hi-Survey

Survey Data Collection Software

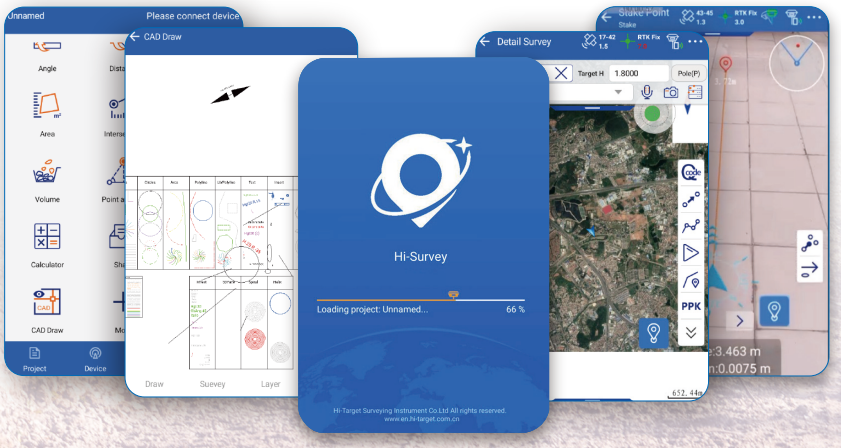
Hi-Survey is an Android software that is designed for all types of land survey and road engineering projects in the field. It is compatible with Hi-Target professional controllers, Android phones, tablets and other third-party Android devices. It is a sleek and easy-to-use software that supports the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

KEY FEATURES

High accuracy and good reliability with various algorithms even in tough environments.
Supporting tilt survey, quasi-dynamic technology, electronic bubble, detail survey, time mode static survey, etc..

Integrated professional measurement functions for engineering application.
Providing road functions, DTM surface operations, Cross-projects points selection, DXF and DWG format, Google map, OGC map service of WMS, WMTS, and third-party rangefinders, etc..

Strong interaction function to empower every surveyor.
AR stakeout, QR code scanning, COGO, FTP transmission, multi-format support, etc..



TECHNICAL SPECIFICATIONS

GNSS Feature	Specification	
GNSS Signal[1]	Channels	1408
	GPS	L1C/A, L1C, L2P(Y), L2C, L5
	BDS	B1I, B2I, B3I, B1C, B2a, B2b
	GLONASS	L1, L2, L3
	Galileo	E1, E5a, E5b, E6
	QZSS	L1, L2, L5, L6*
	NavIC	L5
	SBAS	L1, L2, L5
	PPP	B2b-PPP, Galileo E6-HAS
Positioning Performance[2]	High-Precision Static	H: 2.5 mm + 0.1 ppm RMS | V: 3.5 mm + 0.4 ppm RMS
	Static and Fast Static	H: 2.5 mm + 0.5ppm RMS | V: 5 mm + 0.5ppm RMS
	Post Processing Kinematic (PPK / Stop & Go)	H: 8mm + 1ppm RMS | V: 15mm + 1ppm RMS Initialization time: Typically 10 min for base and 5 min for rover Initialization reliability: Typically>99.9%
	PPP	H: 10cm | V: 20cm
	Positioning rate	1 Hz, 5 Hz and 10 Hz
	Code Differential GNSS Positioning	H: ±0.25m+1ppm RMS | V: ±0.5m+1ppm RMS SBAS: 0.5m (H), 0.85m (V)
	Real Time Kinematic (RTK)	Horizontal: 8mm+1ppm RMS | Vertical: 15mm+1ppm RMS Initialization time: Typically <10s | Initialization reliability: Typically > 99.9%
	Time to first Fix	Cold start:< 45s | Hot start:< 30s | Signal re-acquisition:< 2s
	Hi-Fix[3]	H: RTK+10mm / minute RMS | V: RTK+20mm / minute RMS
	Tilt Survey Performance[4]	Additional horizontal pole-tilt uncertainty typically less than 8mm+0.7mm/°tilt (0° ~ 60°)
	AR stakeout accuracy	1cm
Physical	Dimensions (W x H)	130mm × 68mm
	Weight	≤ 0.75kg (1.65lb)
	Operation temperature	-40℃~+75℃ (-40℉~+167℉)
	Storage temperature	-55℃~+85℃ (-67℉~+185℉)
	Humidity	100% non-condensing
	Water/dustproof	IP68 dustproof, protected from temporary immersion to depth of 1.0m (3.28ft)
	Shock and vibration	MIL-STD-810G, 514.6
	Free fall	Designed to survive a 2m(6.56ft) natural fall onto concrete
Electrical	Internal Battery[5]	Internal 7.4V / 6800mAh lithium-ion rechargeable battery RTK rover(UHF/Cellular): up to 24 hours
	External power	Using standard smartphone chargers or external power banks (Support 5V 2.8A Type-C USB external charging)
Communication	I/O Interface	1 × USB type C port; 1 × SMA antenna port
	WiFi	Frequency 2.4GHz, Supports 802.11 b/g/n
	Bluetooth	BT 5.2, 2.4GHz
	Internal UHF Radio	Power: 0.5W/1W/2W Adjustable Frequence: 410MHz~470MHz Protocol: HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc. Working Range: Typically 3~5km, optimal 8~15km Channel: 116 (16 scalable)
Camera	Function	Professional starlight night vision HD camera, large viewing angle, support live view stakeout
Control Panel	Physical button	1
	LED Lights	Satellite, Signal, Power
System Configuration	Storage	16GB ROM internal storage
	Output format	ASCII: NMEA-0183
	Output rate	1Hz~20Hz
	Static data format	GNS, Rinex
	Real Time Kinematic (RTK)	RTCM2.X, RTCM3.X, CMR
	Network Mode	VRS, FKP, MAC, Support NTRIP protocol

Note:
[1]QZSS L6 can be provided by firmware upgrade.
[2]The measurement accuracy, precision, reliability and initialization time depend on various factors, including tilt angle, number of satellites, geometric distribution, observation time, atmospheric conditions and multi-path validation, etc. The data are derived under normal conditions.
[3]Accuracies are dependent on GNSS satellite availability. Hi-Fix Positioning ends after 5 minutes without differential data.Hi-Fix is not available in all regions, check with your local sales representative for more information.
[4]Irregular operations such as rapid rotation and high-intensity vibration may affect the inertial navigation accuracy.
[5]The battery operating time is related to the operating environment, operating temperature and battery life.
Descriptions and Specifications are subject to change without notice

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