

WayPoint - R2V GNSS VISUAL RTK

WayPoint is a portable multi-functional GNSS. It has a built-in high-precision positioning module that supports tracking satellite signals from all systems and frequency bands. It is equipped with 4G full network access, Bluetooth, WIFI and built-in data transmission radio. The high-precision IMU integrates AR and Laser to achieve tilt measurement, Image Measurement Laser measurement and AR real-Time Stakeout, making the measurement work more convenient and efficient.



Linux Smart System

Linux+ARM Cortex-A7 intelligent system platform offers efficient computation and unlimited product functionality expansion.

Full GNSS Constellations

The receiver integrates a high-precision positioning module, utilizing 1408 channels to support a comprehensive range of signals including BDS (B1I/B2I/B3I/B1C/B2a/B2b), GPS (L1/L2/L5), GLONASS (L1/L2/L3), Galileo (E1/E5a/E5b/E6), QZSS (L1/L2/L5), SBAS and NavIC.

4G Full NetCom

The 4G NetCom solution based on the Linux platform fully supports 2/3/4G networks, offering better compatibility, stronger signals, and more stable connections.

Tilt Measurement

Built-in intelligent high-precision inertial navigation module for real-time tilt compensation, eliminating "fly points" in RTK measurement.

AR Real-Time Stakeout

Utilizes a professional ultra-wide-angle camera to provide high-definition real-time plotting functionality, making stakeout tasks more accurate and convenient.

Image Survey

Equipped with a 1/2.6-inch large base high-definition wide-angle camera, it integrates high-precision inertial navigation algorithms and works with high-performance Android handheld devices for high-precision image measurement.

Key Features

- Linux + ARM Cortex-A7 Smart System
- Support BDS/GPS/GLONASS/Galileo /QZSS/NavIC (IRNSS) and SBAS
- Centimeter-level positioning
- The accuracy of the tilt measurement is less than 2cm within a 60° range
- Complete data link, support 4G/BT/WIFI and radio, more flexible work
- Support AR real-time Stakeout
- Support Laser Measurement
- Equipped with a high-capacity lithium battery, long endurance
- Meets IP68 design requirements, safe and reliable



OPERATION		ACCURACY	
HARDWARE SYSTEM	ARM Cortex-A7	Standalone	Horizontal: 1.5m Vertical: 2.5m
OS	Linux	DGNSS	Horizontal: 0.4m Vertical: 0.8m
CHANNEL	1408	RTK	Horizontal: 8mm+1ppm
GNSS			Vertical: 15mm+1ppm
GPS	L1 C/A, L1C, L2P(Y), L2C, L5	Timing Precision	20ns
GLONASS	L1, L2, L3	Static Precision	Horizontal: 2.5mm+1ppm
BDS	B1I, B2I, B3I, B1C, B2a, B2b		Vertical: 5mm+1ppm
GALILEO	E1, E5a, E5b, E6	Velocity Estimation	0.03m/s
QZSS	L1, L2, L5	Tilt Correction	<2cm@within 60°
SBAS	L1	AR Stakeout	Horizontal: 8mm+1ppm
NavIC(IRNSS)	L5		Vertical: 15mm+1ppm
Standard Output	NMEA-0183		
Correction Protocol	RTCM3.X	SYSTEM	
Frequency	≤20Hz	Bluetooth	BR+EDR+BLE
Reacquisition Time	<1s	NFC	Support
Cold Start Time	<40s	WIFI	802.11 b/g/n/ac
RTK Initialization	<10s	Network	LTE FDD:B1/2/3/4/5/7/8/12/
Internal noise level	≤1mm		13/18/19/20/25/26/28
Phase Center Offset	≤2.5mm		LTE TDD: B38/39/40/41
BATTERY			WCDMA: B1/2/4/5/6/8/19
Battery	7.4V, 6500mAh		GSM: B2/3/5/8
Work time	More than 16 hours (Rover, GSM)	Radio	Integrated transceiver radio
Charge	USB PD 15V/2A 5V/3A		Frequency Range: 410~470MHz
ENVIRONMENTAL			Power: 0.5W/1.5W
Operating Temperature	-25℃~+60℃		Air Baud Rate: 4800, 9600, 19200
Storage Temperature	-40℃~+85℃	IS Camera	Protocols: TRIMTALK,TRIMMK3,
Shock Resistance	1.5m drop		SOUTH, TRANSEOT, SATEL, LORA
Protection Rating	IP68		Supports image survey
PHYSICAL			Sensor size: 1/2.6 inch
Materials	Magnesium alloy and ABS/PC		Focal length:: 3.27mm
Dimensions	Φ134mm*86mm		Aperture: f/2.8
Weight	≤0.78Kg		Resolution: 1920*1080
Storage	8GB		Field of view: 83x72x51 °
Voice	Support		Distortion: <0.5%
ACCESSORIES		AR Camera	Supports AR real scene stakeout
Receiver	1 PCS		Sensor size: 1/2.8 inch
USB power adapter	2 PCS		Aperture: f/2.5
USB Type-C to C	2 PCS		Resolution: 1920*1080
Radio Antenna	1 PCS		Field of view: 69.3°±3°
Controller	1 Set		Distortion: <0.38%

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