RUIDE

Visual Stakeout
One of the Best

V1

V1 is one of the most cost-effective and easy-to-use visual stakeout RTK in the industry. In addition to Dual Camera AR stakeout, it features:

- “Ultra Fast Connection between Controller and Receiver"
- "Radio Signal Strength Check” to compare signal quality of each radio channel and choose the most suitable one before working.
- "Multiple Protocols Compatibility” to support SATEL and other mainstream radio protocols.
- One of best user-friendly IMU in the industry.

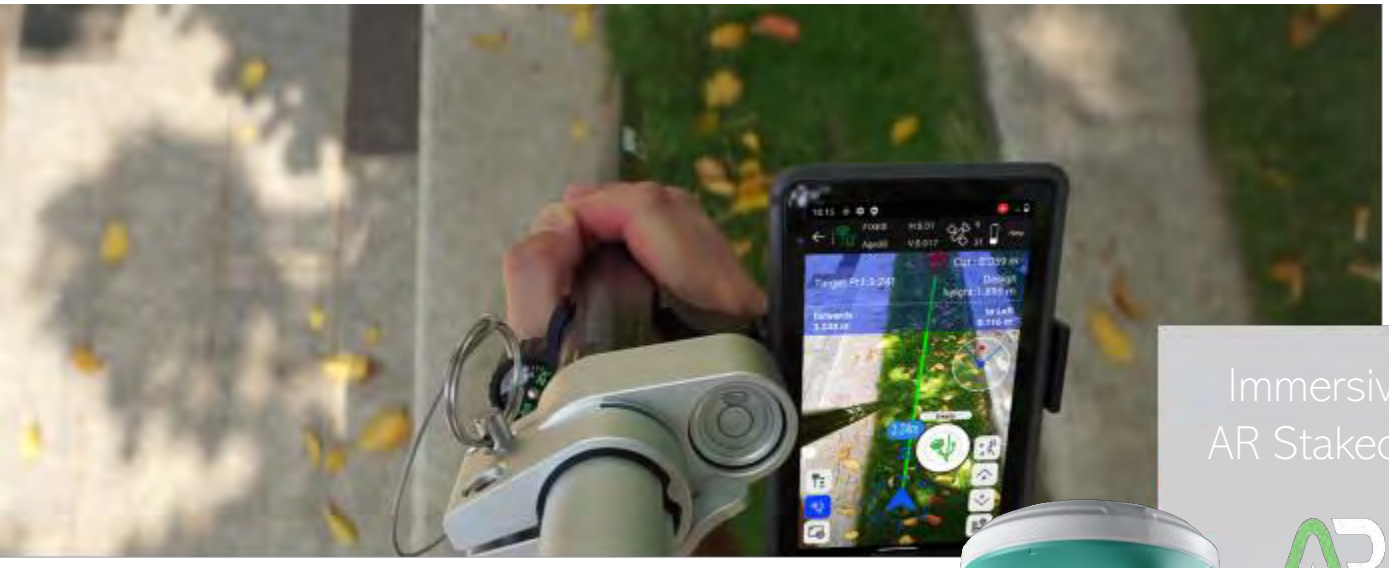
Polestar Algorithm

1,808 channels

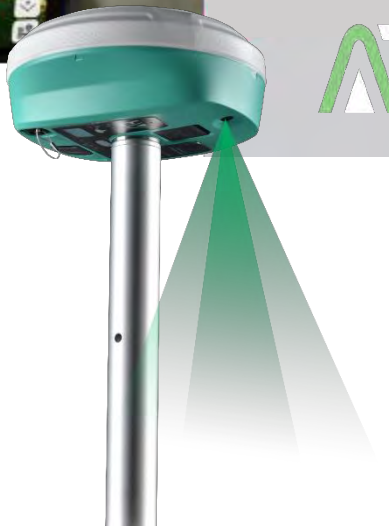
21 frequencies

8+1 RTK accuracy

Empowered by the **Polestar** Algorithm, V1 can track enormous signals of all constellations with stunningly fast fixing speed even under the thick cover of trees or beside tall buildings. Coordinates will be examined twice to ensure the utmost accuracy.



Immersive AR Stakeout



V1 allows you to implement immersive AR stakeout in any working environment. It is suitable for both non-experienced surveyor and expert to follow the visual guide to find the targets with data controller camera (for direction) and the 2MP camera on receiver (for precise positioning), provides up to 50% more efficiency.

During the work, it allows you to switch the data link from Bluetooth to WiFi, transfer visual data faster and save more time for work. When getting close to the target, it will provide direction and distance guidance to help users find targets at a faster speed.

Designed for Professionals

Radio TX / RX

--Three Unique Techniques

The radio of V1 supports most of the mainstream protocols such as SATEL, TRIMTALK, SOUTH and covers all their frequencies. In addition, 7 of its channels are set to fixed values to avoid accidentally changing the frequencies. To obtain the best working performance, you can check the radio signal quality of each channel and use the best one to ensure stable communication during the work.

Inertial Measurement Unit

--One of the best IMU in Industry

Traditionally, surveyors encountered issues with IMU usability when rotating the pole during changing walking direction or adjusting the receiver attitude. V1 IMU effectively eliminates the loss of IMU status in most scenarios, enhancing IMU availability and productivity. During AR stakeout, you can walk at your own pace without worrying about losing IMU, making workflow smooth.

SPECIFICATIONS

SATELLITE PERFORMANCE

Channels	1,808
GPS	L1C/A, L2C, L2P(Y), L5
GLONASS	L1, L2
BEIDOU	B1I, B2I, B3I, B1C, B2a, B2b
GALILEO	E1, E5a, E5b, E6
QZSS	L1, L2, L5, L6
SBAS	L1, L5
L-Band	B2b PPP (only for Asian-Pacific region)
Positioning Rate	1-20Hz

ACCURACY

Code Differential	H: 0.40m (RMS) V: 0.80m (RMS)
Static	H: 2.5mm±0.5ppm (RMS) V: 5mm±0.5ppm (RMS)
Real-time Kinematic	H: 8mm±1ppm (RMS) V: 15mm±1ppm (RMS)
Network PPK	H: 3mm±1ppm (RMS) V: 5mm±1ppm (RMS)

IMU MEASUREMENT

Tilt Accuracy	2cm within 60°

DATA STORAGE

Type & Storage	SSD 8GB External USB Pen drive
Data Tranfer	Type-C USB Transfer Supports FTP/HTTP download
Differential Format	RTCM 2.1, RTCM 2.2, RTCM 3.0, RTCM 3.1, RTCM 3.2, NMEA 0183, CMR
Static Data Format	DAT, RINEX 2.x, RINEX 3.x, BINEX
GPS Output Format	VRS, FKP, MAC
Network Model	Ntrip fully supportable

CAMERA

Optical Format	1/5 inch
Pixel Size	1.75*1.75“µm
Active Pixel Array	1616*1232
Sensor	2 mega CMOS imaging sensors

COMMUNICATION

I/O	Type-C (Fast Charge+Ethernet)
Antenna Port	UHF antenna
Network Modem	Nano-SIM card LTE FDD, LTE TDD, UMTS, GSM
UHF Radio	2W Tx/Rx 410-470MHz
Protocol	SATEL, TrimTalk, Hi-Target, SOUTH, CHC
WiFi	IEEE 802.11 a/b/g/n/ac Hotspot/Data Link
Bluetooth	Bluetooth 2.1 + EDR and 4.0
NFC	Available

INTERFACES

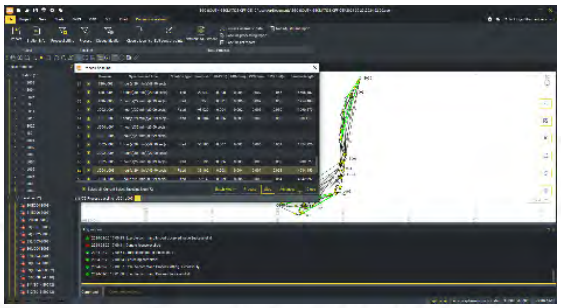
Button	1
LED Indicator	Data Link, Satellite, Power

POWER SUPPLY

Battery	Internal Li-on Battery (support working with power bank)
Operating Time	3.6V, 12000mAh Static mode 30h Rover mode 23h

PHYSICAL

Dimension	57mm(H), 132mm (W)
Weight	668g
Operating Temp.	-30°C to 65°C
Storage Temp.	-40°C to 80°C
Proof	IP68 water and dustproof 2m drop on hard surface 40G 10ms sawtooth wave



GEO DataLab (Included)

- Image Processing
- Static baseline processing
- PPK data processing
- PPP data processing
- Data quality check
- Format conversion

H6 (Optional)

- Android 11
- MediaTek
- BT 4.1
- 5" touchscreen
- 64GB ROM
- 9200mAh battery
- Support SurPad

H10 (Optional)

- Android 11
- Snapdragon
- BT 5.0
- 5.5" touchscreen
- 64GB ROM
- 7000mAh battery
- Support SurPad

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