



ROVA

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

- "Ultra Fast Connection between Controller and Receiver"
- Farlink 2.0 & Farlink Pro Radio Protocol
- One of best user-friendly IMU in the industry.
- Galileo HAS & BDS PPP are Optional
- R-Fill saves Signal Loss for 5 mins



Polestar
Algorithm

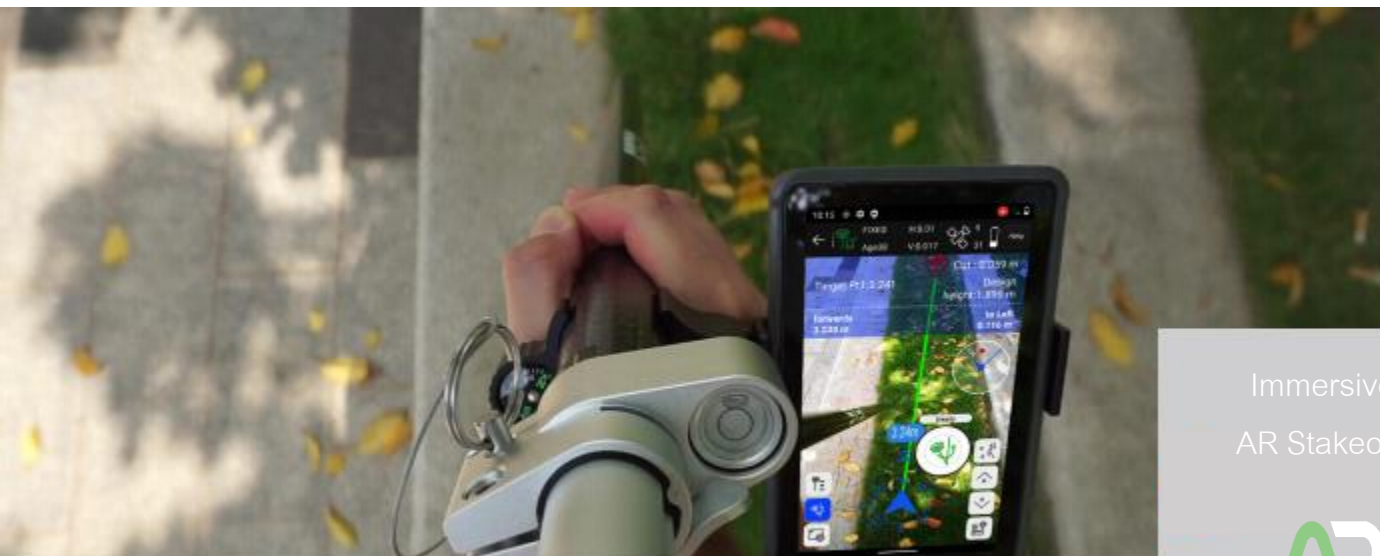
1,598
channels

21
frequencies

8+1
RTK accuracy

Empowered by the **Polestar** Algorithm, ROVA1s 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



ROVA1s 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 the 2MP camera on receiver (for precise positioning), provides up to 50% more efficiency.



Designed for
Professionals



Farlink Pro Radio

--Farther Transmission, Less Limitation

After years of hardware and firmware updates, Farlink radio updated to its Pro version. It can undertake larger data and provide more stable transmission. It can receive data from one specific base by using base-lock function. Even though there are several bases transmitting with the same frequency, your rover will receive data from the correct base. Each radio had extreme temperature-changing testing from 20°C to 60°C to ensure its robustness.

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. Ruide 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

POSITIONING

Board Model	Mk-803
Channels	1,598
GPS	L1 C/A, L2C, L2P, L5
GLONASS	L1 C/A, L1P, L2C/A, L2P
BEIDOU	B1, B2, B3
GALILEO	E1, E5A, E5B, E6, E5 AltBOC
QZSS	L1, L2C
L-band	Supportable
Positioning Rate	1-20Hz

ACCURACY

Code Differential	H: 0.25m ± 1ppm (rms) V: 0.50m ± 1ppm (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 RTK	H: 8mm ± 0.5ppm (rms) V: 15mm ± 0.5ppm (rms)

IMU MEASUREMENT

Tilt Angle	Maximum 60°
Accuracy	10mm + 0.7mm/°

DATA STORAGE

Type & Storage	SSD 4GB External USB Pen drive
Data Transfer	USB Transfer Supports FTP/HTTP download
GPS Output Format	CMR, RTCM 2.x, RTCM 3.x, NMEA 0183, PJK plane coordinates, binary code
Network Model	VRS, FKP, MAC Ntrip fully supportable

COMMUNICATION

I/O	Type-C (OTG+Fast Charge+Ethernet) Radio antenna TNC interface
UHF Radio Module	X-link 2W 410-470MHz
Protocol	TrimTalk, SOUTH, X-link, HUACE, HI-TARGET
Cellular	Through controller's network
WiFi	802.11b/g/n Hotspot/Data Link
Bluetooth	Bluetooth 2.1 + EDR and 4.0
NFC	<10cm

CAMERA

Resolution	2 MP
Field of View	75°

INTERFACES

Button	1
LED Indicator	Data Link, Bluetooth, Recharging Battery level

POWER SUPPLY

Battery	Internal Li-on Battery 7.4V, 6,800mAh
Operating Time	Rover Mode 15h

PHYSICAL

Dimension	80mm(H), 131mm (W)
Weight	800g
Operating Temp.	-45-75°C
Proof	IP68 2m drop on hard surface 40G 10ms sawtooth wave

ITEM LIST (ROVER)

Receiver
Carrying Case
Charger
Type-C Cable
Radio Antenna
Carbon Fiber Pole
HI Measuring Plate
Connector

ITEM LIST (BASE)

Receiver
Carrying Case
Charger
Type-C Cable
Radio Antenna
30cm Pole
HI Measuring Plate
Connector



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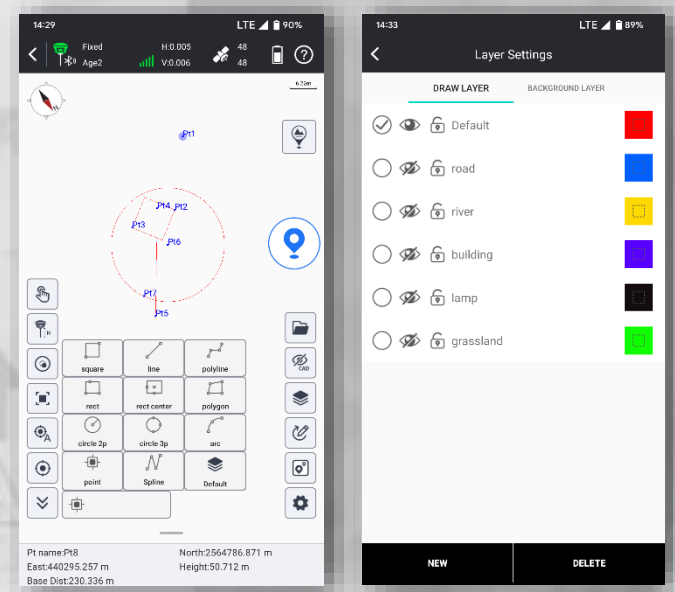


[RUIDEPositioning](#)

RTK GO APP

Field Data Collection & Mapping: The Most Advanced is Here

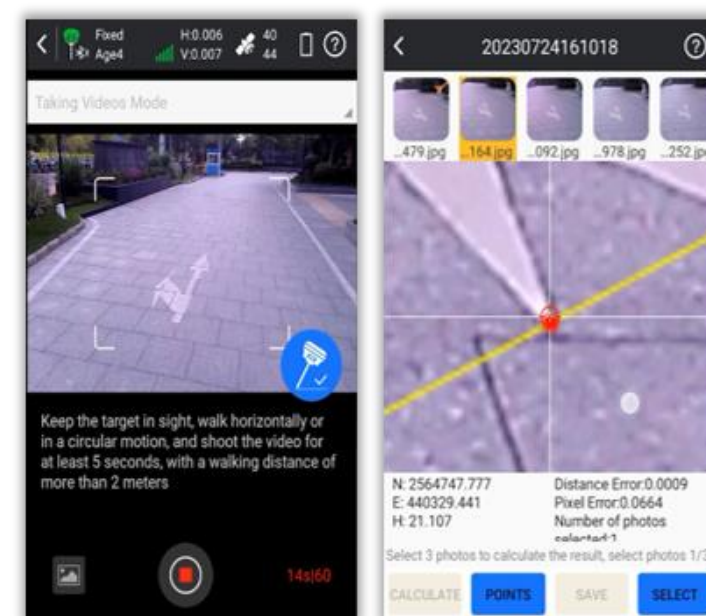
Measure & Draw : Save Time in Field work and Office



This feature allows you to draw the result map while completing point measurements.

- Before measuring points, users can choose the shape of the target object to be measured from 11 preset figures. The software will guide you to measure points in an order and automatically connect lines and complete the drawing of the figure.
- The .dxf or .dwg maps created on-site can be used directly in office work.
- Users can assign measured objects with different attributes, to different layers for measurement and management, making no mistakes.

Visual Positioning : Industry-Leading Non-Contact Measurement Technology

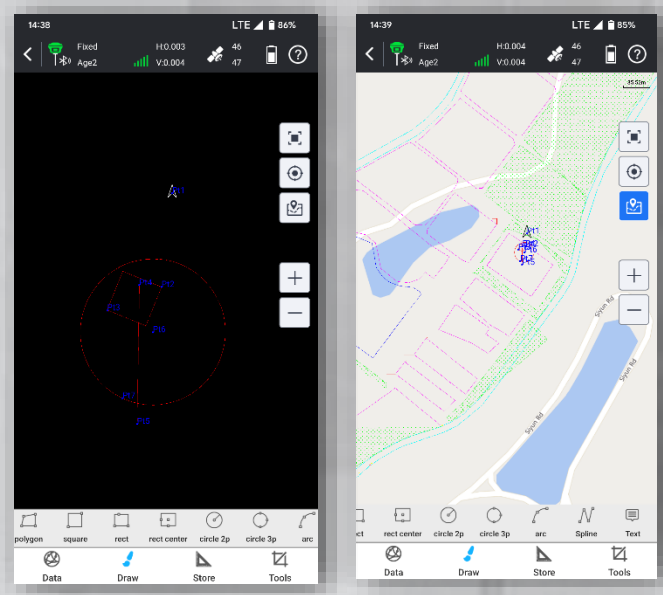


Photogrammetry Measurements can be conducted by taking pictures or videos. Coordinates of all points in the photos can be acquired.

- Now, target points that are inaccessible due to dangerous environments, poor satellite signals, or impassable terrain can be measured remotely.
- The captured image data can also be used with software like SGO, Pixel4D, DJI Terra, and CC for 3D modeling.
- Image measurement data can also be combined with drone measurement data to address issues of blurriness and deformation in ground data models collected by drones.

(This function only works with the receiver models that have front-facing camera or dual-cameras)

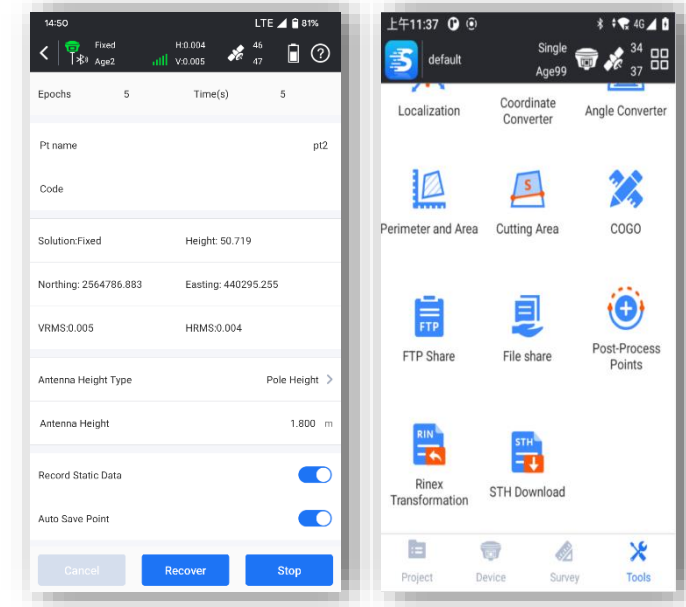
CAD Draw : Drafting without a PC



This feature enables CAD drawing capabilities, which were previously only possible on a PC. Now surveyors can edit CAD map on RTK controller or tablet or phones.

- CAD drawing does not require a computer.
- CAD files prepared on office PCs can be edited and managed by users on RTK data collection terminals.
- Drawing tools include up to 11 types of figures and one type of text.

Static & PPK Measurement : More Assistance Now is Available



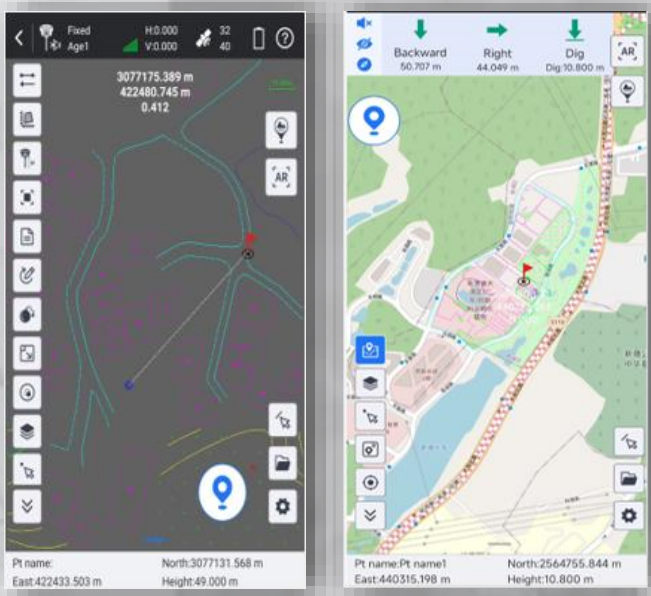
The software provides both static and PPK data collection capabilities.

- Data can be downloaded wirelessly, no need for a PC and cables.
- It is possible to convert .sth files into RINEX files right on the data collector or tablet or your phone, no need of PC.
- Data can be shared with others through mobile Internet.
- The accuracy of PPK data collection is as high as Trimble equipment, the result can be directly imported for use in TBC.

RTK GO APP

Stakeout: Lighten Your Load, Increase Your Output

CAD Stake-Out : Save Labor Cost and Reduce Errors

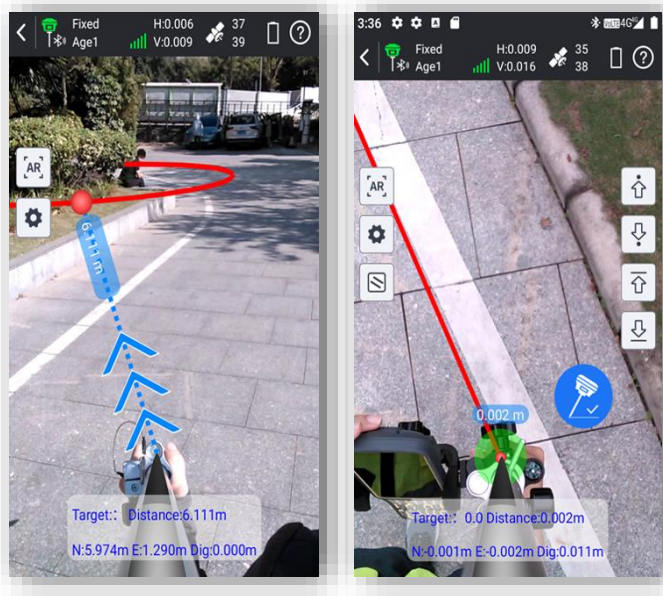


Traditional data collection software requires users to import points or lines to be setout from .csv or .txt files, users need to spend quite a lot of time to edit point and line libraries.

Moreover, for complex shapes such as curves, circles, and polygons, the traditional stake-out process is complicated. Now, our new CAD stake-out program offers a superior solution for surveyors.

- No need for manual editing of point libraries.
- Staking-out geometric shape is faster and easier.
- No need for obtaining coordinate files before work. Staking-out can be done with just a CAD drawing.
- Online maps and CAD drawings can be displayed simultaneously, improving accuracy.
- AR guide lines make staking-out more intuitive.

Live-View Stake-Out : Faster, More Accurate, More Intelligent



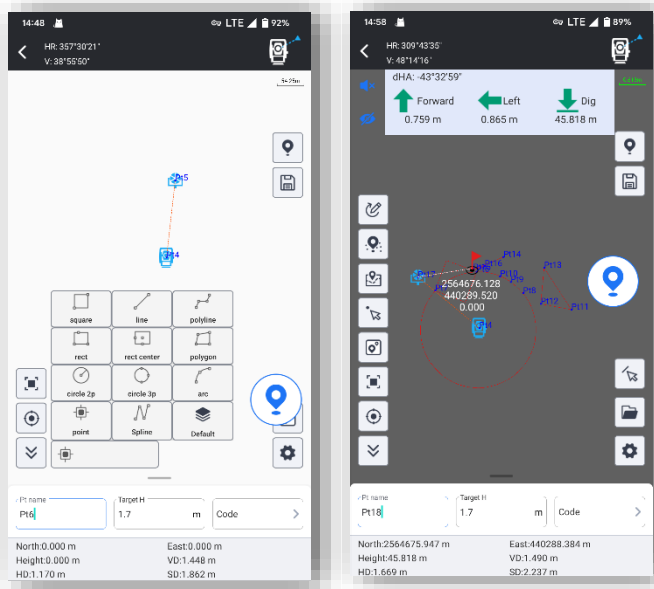
(This function only works with the receiver models that have downward-facing camera or dual-cameras)

Users utilize the real-time imagery captured by the camera at the bottom of the receiver and the AR guide lines displayed by the software, to locate the target points.

- When users perform stake-out with a dual-camera GNSS receiver, the software can call upon both cameras to work together. At medium to long distances, the software uses the front-facing camera to indicate the direction of travel, and at close range, it uses the downward-facing camera to find the specific location. This further increases the speed of staking out.
- AR guide lines can be displayed in point staking out, line staking out, and CAD staking out programs.

Additional Features

Compatible with Multiple Devices

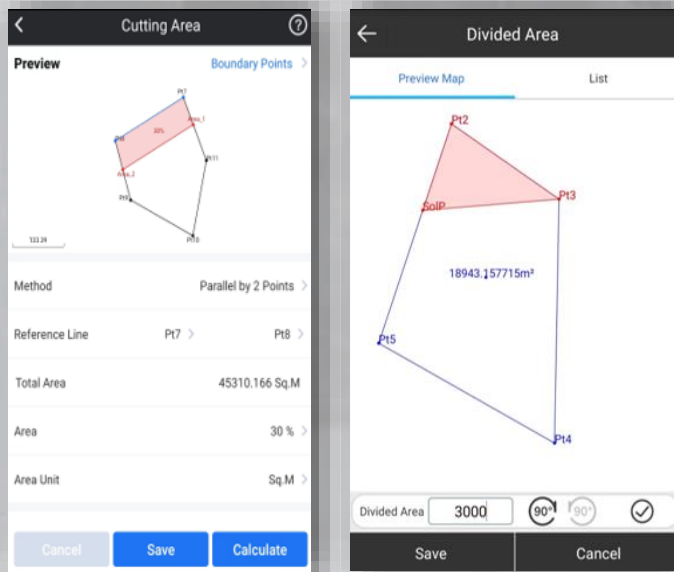


Innovations for Better User Experience

- RTK Data Backup
- QR Code Share
- Multiple Basemap Support
- Basemap Adjustment
- Network Mount Point Sorting
- NMEA Output Setting

The App Now works with GNSS, Total Station, Echo Sounder, GIS Tablet, in future it will work with SLAM Scanner, Terrestrial Lidar Scanner.

Area Division : Developed for Professional Cadastral Survey and Stake Out

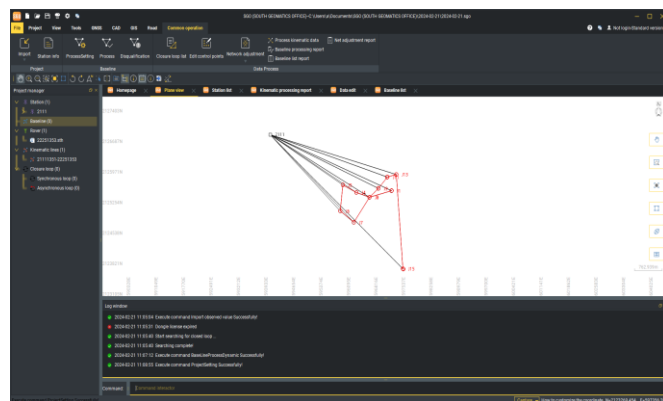
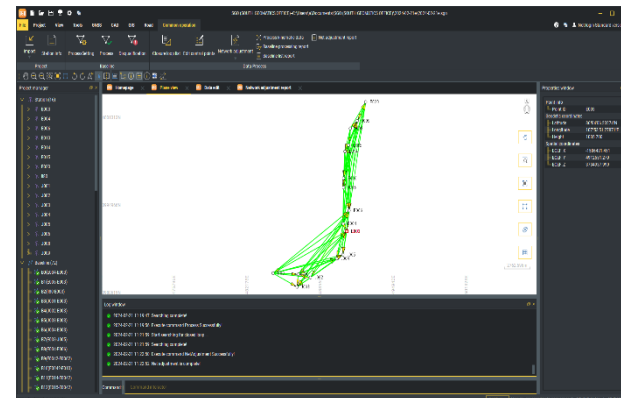
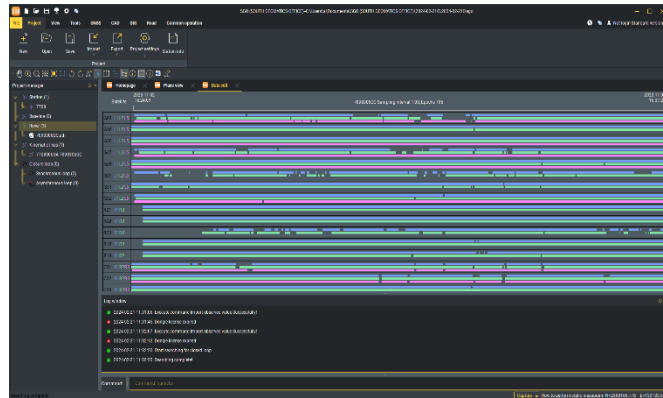


Select points to form a polygon, and directly identify the area division points for the surveyor to stake out. There is no more need for the user to guess a position to measure, and then to adjust.

- Six methods of division to determine the area division points. The methods are flexible and suitable to different user needs.
- The graphic display is intuitive and understandable.

GEO DATA LAB

Ideal GNSS Data Processor, Help You To Keep Advancing



Data Processing & Reporting

When surveyors need to do post-processing of GNSS data, our software always can provide state-of-the-art technology to help you to produce optimal results.

User just need to import field data, the software will automatically process GNSS baselines.

Once results come out, the software can generate reports.

High Accuracy Guaranteed

RTK check, the unique function in our software, can compare RTK and PPK results to automatically acquire the most accurate coordinates for each target point.

It fills up the gap of poor corrections in RTK or hindered observations in PPK.

This improvement is to provide guarantee for your every survey.

RINEX Import and Export

This feature enables users to import the third party GNSS receiver data into our software and post-process it, by using the industry standard RINEX format.

3D Modelling

User can import photogrammetry image data into the software, to achieve 3D modeling, visually presenting geographic information data such as coordinates, areas, and volumes.

Model data can be transformed into different formats and applied with various coordinate parameters based on actual needs, making it adaptable to a wider range of application scenarios.

