

ROVA3 GNSS Receiver



ROVA3 is designed to enhance your performance in the field survey and to provide the most reliable positioning result.

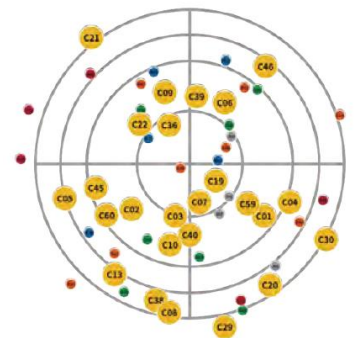
It integrates a 1598 channels world leading GNSS positioning engine, a high precision IMU, a patented-designed Farlink UHF radio, and 4G, Bluetooth, wifi... all state-of-art technologies are there to ensure you an excellent working experience.



Key Features

Quick and Reliable Fixed Solution

With the high-gain GNSS antenna of our latest design in 2025, the usability of Glonass & Galileo satellites is greatly improved, so even in harsh environment ROVA3 still is able to track more satellite than other receivers and deliver centimeter accuracy positioning result in few seconds.



Work Anytime, Anywhere with L-Band

By receiving correction delivered directly from L-band satellites, ROVA3 allows you to achieve 10 to 20 centimeter-level accuracy with only one rover on hand when base receiver or CORS service is not accessible in remote areas. This function is based on Galileo HAS and BDS PPP, please apply the registration code from local distributors.

Powerful and Durable Radio Connectivity

ROVA3 features our patented-designed Farlink radio technology. When it works as an UHF base station ROVA3 is able to transmit correction data farther than others, in good condition the working range can be 10 to 15 km. In 2025, the latest protocol Farlink Pro is added as a new option, for user to cope with challenging environment.

Efficient IMU Tilt Survey

ROVA3's IMU sensor is almost all-time available. When surveyor rotate the pole while walking, or changing the attitude of the receiver, the availability status won't be easily lost. The IMU is calibrate-free.

Superior Endurance & Ruggedness

The newly developed power management system allows ROVA3 to work up to 15-18 hours as rover and can be recharged by a type-C connector.

The shock-resistant frame, water-proof frame all have been enhanced, now the overall proof level is IP68.



SPECIFICATIONS

GNSS Features		Communications	
Channels	1598	I/O Port	4G SIM Card Slot
GPS	L1, L1C, L1C/A, L2C, L2P(Y), L5		5-PIN LEMO interface (external power port + RS232)
GLONASS	G1, G2, G3		Type-C interface (charge + OTG+ Ethernet)
BDS	B1I, B2I, B3I, B1C, B2a, B2b		UHF antenna interface
GALILEO	E1, E5a, E5b, E6, AltBOC*		Radio receiver and transmitter, repeater function
SBAS	L1*	Internal UHF	410-470MHz
IRNSS	L5*	Frequency Range	Farlink, Farlink Pro, Trimtalk, SOUTH, Satel
QZSS	L1, L2C, L5*	Communication Protocol	Typically 5-8km with Farlink protocol, up to 15km
MSS L-Band*	BDS PPP & Galileo HAS	Communication Range	Bluetooth 3.0/4.1 standard, Bluetooth 2.1 + EDR
Positioning Output Rate	1Hz~20Hz	Bluetooth	Support
Initialization Time	< 10s	NFC Communication	802.11 b/g/n standard
Initialization Reliability	>99.99%	Modem	
Positioning Precision		Data Storage/Transmission	
Code Differential Positioning	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS	Storage	4GB SSD internal storage, extendable up to 64GB Support external USB storage (OTG) The customizable sample interval is up to 20Hz
GNSS Static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 3.5 mm + 0.5 ppm RMS	Data transmission	Plug and play mode of USB data transmission Supports FTP/HTTP data download
Static (Long Observation)	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3 mm + 0.4 ppm RMS	Data format	Static data format: STH, Rinex2.01, Rinex3.02 and etc. Differential data format: RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 GPS output data format: NMEA 0183, PJK plane coordinate, Binary code Network model support: VRS, FKP, MAC, fully support NTRIP protocol
Rapid Static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS		
PPK	Horizontal: 3 mm + 1 ppm RMS Vertical: 5 mm + 1 ppm RMS		
RTK(UHF)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS		
RTK(NTRIP)	Horizontal: 8 mm + 0.5 ppm RMS Vertical: 15 mm + 0.5 ppm RMS		
SBAS Positioning	Typically<5m 3DRMS	Sensors	
RTK Initialization Time	2~8s	IMU	Built-in IMU module, calibration-free, 60°
IMU Tilt Angle	0°~60°	Electronic bubble	Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time
Hardware Performance		Thermometer	Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature
Dimension	135mm(W) ×135mm(L) × 83mm(H)	User Interaction	
Weight	900g (battery included)	Operating system	Linux
Material	Magnesium aluminum alloy shell	Buttons	Single button
Operating Temperature	-45°C~+75°C	Indicators	Bluetooth, satellites, data, charging and power indicators
Storage Temperature	-55°C~+85°C	Web interaction	With access to Web UI via WiFi or USB connection, users can monitor the receiver status and change the configurations
Humidity	100% Non-condensing	Voice guidance	Chinese/English/Korean/Spanish/Portuguese/Russian/Turkish/French/Italian
Waterproof/Dustproof	IP68 standard, protected from long time immersion to depth of 1m IP68 standard, fully protected against blowing dust	Secondary development	Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition
Shock/Vibration	Withstand 2 meters pole drop onto the cement ground naturally	Cloud service	The powerful cloud platform provides online services like remote management, firmware updates, online registers, etc.
Power Supply	6-28V DC, overvoltage protection		
Battery	7.2V, 6800mAh rechargeable Lithium-ion battery		
Battery Life	15h (rover bluetooth mode)		
*Reserve for future upgrade. Remarks: Measurement accuracy and operation range might vary due to atmospheric conditions, signal multipath, obstructions, observation time, temperature, signal geometry and number of tracked satellites. Specifications subject to change without prior notice.			



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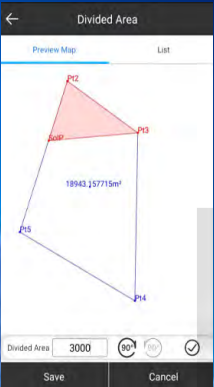
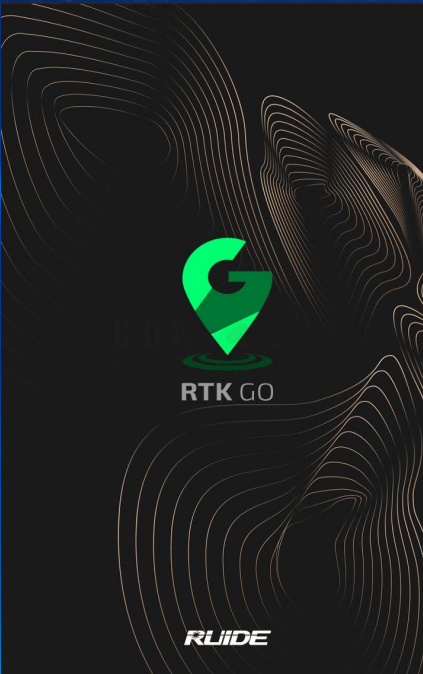
Specifications

Recommended Hardware	Operation System	Android 4.2 OS or higher
	CPU	Core 2.1GHz or better
	RAM	≥ 3Gb
	Screen	≥ 4.5 inches, ≥ 960*640 resolution
	Hardware	Bluetooth, Wi-Fi/GPRS
Supported Devices	GNSS Receiver	South Galaxy Series, INNO Series, ALPS Series GNSS Receivers
		Android device with built-in GPS
		GNSS device that support NMEA 0183 format
	Data Collector	H6/ H9/ H10 data collector
		N80/ X80 Series tablet
		Android device (≥4.2 Android OS)
Work Modes	Base	Internal Radio mode
		External Radio mode
		Internal GSM mode
	Rover	Internal Radio mode
		Internal GSM mode
		Controller Network mode
Functions	Static	Support static data record
	Project	Project configuration, Datum configuration, Basemap, Code list, Import & Export, Element library etc.
	Device	Device connection, Work mode configuration, Device information, Antenna configuration, Register, etc.
	Survey	Topo survey, Mapping survey, Detail survey, Auto survey, Stake point/line/CAD, PPK, Road design/stake, Feature survey, Surface stake, etc.
	Tool	Site calibration, Grid shift, Area calculation, Earthwork Calculation, COGO, FTP, E-mail
Communication	Supported protocol	Transmission Protocol: TCP, Ntrip UHF protocol: Farlink, Farlink Pro, South, Trimtalk, Satel
	Supported format	Correction data: RTCM 2.X, 3.X; CMR: CMR+ GNSS data: NMEA-0183, CNB (ComNav Binary)
		Graphic data: *.dxf, *.dwg, *.shp, *.kml, *.raw, *.rw5, *.pqx, *.jdx, *.jdw, *.xls Document format: *.csv, *.dat, *.txt, *.html
Supported Languages	Chinese (Simplified)	Persian
	Chinese (Traditional)	Polish
	English	Portuguese
	French	Russian
	German	Serbian
	Greek	Spanish
	Korean	Turkish

RTK GO 2025

The RUIDE RTK GO 2025 Suite was specially designed to give land surveyors & construction surveyors and engineers an efficient & easy-to-use solutions to meet their multiple surveying, construction, engineering needs.

RTK GO 2025 Suite is made of individual modules: GNSS, manual total station, robotic total station, echo sounder, Slam Lidar, etc. You can work them separately or jointly, to maximize your productivity.



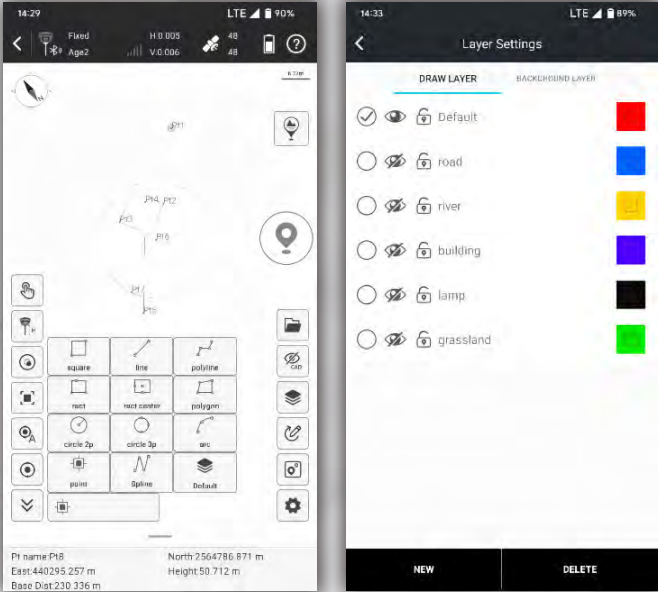
After years' development and improvement, now RTK GO 2025 can also meet the needs of inspectors, contractors, engineers and professionals in cartography, cadastral and/or GIS.

It contains a database of different global coordinate systems and can be used anywhere in the world. It has data export in multiple formats, quite a number of setout functions, measurement and calculation tools, as well as a GIS module, which helps meet various surveying and cartography needs.

RTK GO 2025 (GNSS Module)

Field Data Collection & Mapping: The Most Advanced is Here

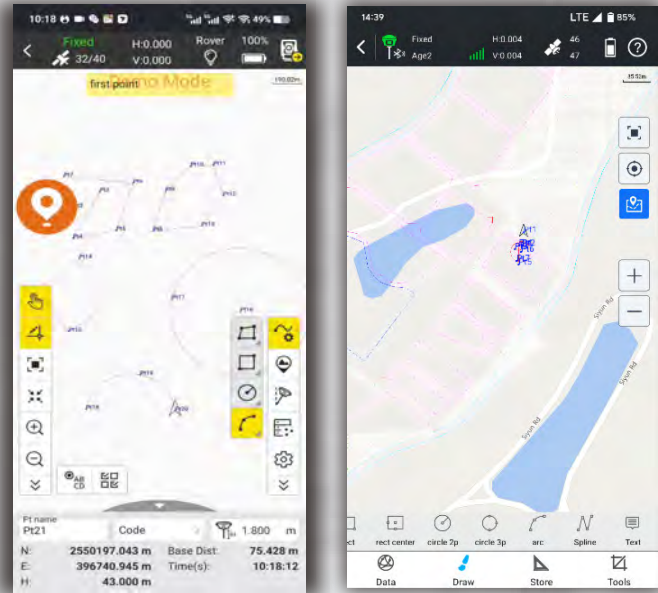
Measure & Draw : Save Time in Field work and Office



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.

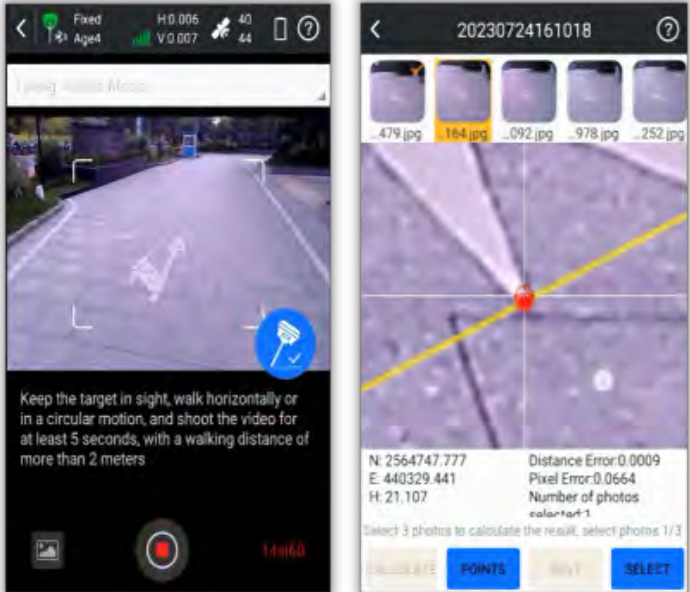
CAD Draw : Drafting without a PC



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.

- 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.

Visual Positioning : Industry-Leading Non-Contact Measurement Technology



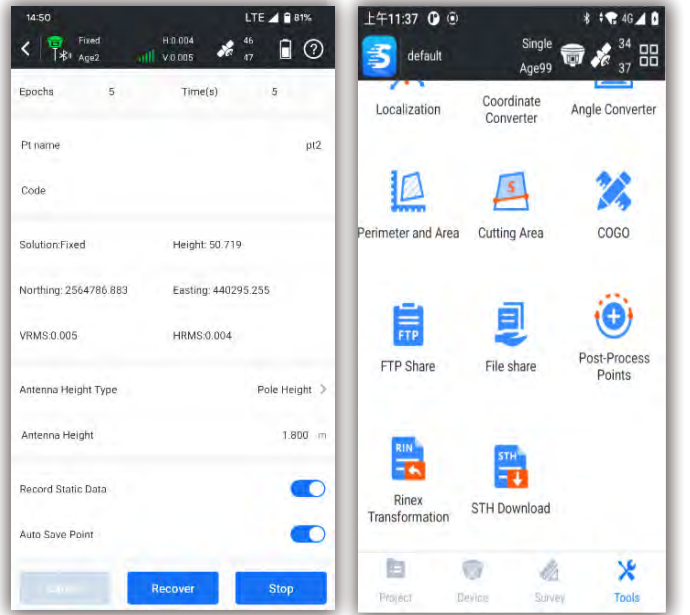
Photogrammetry Measurements can be conducted by taking pictures or videos. Coordinates of all points in the photos can be acquired.

- 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 GEO Datalab, 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.

• **Laser Measurement function has been added in July 2024**

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

Static & PPK Measurement : More Assistance Now is Available



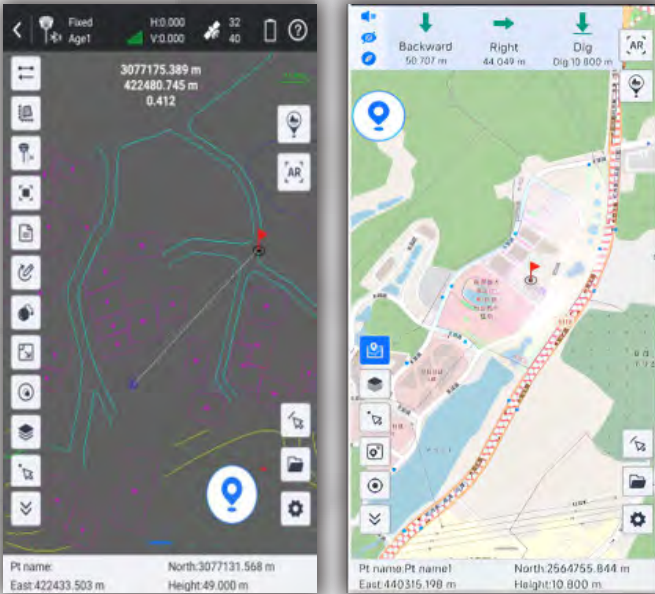
The software provides both static and PPK data collection capabilities.

- 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. (field to office)
- The accuracy of PPK data collection is as high as Trimble equipment, the result can be directly imported for use in TBC.

RTK GO 2025 (GNSS Module)

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

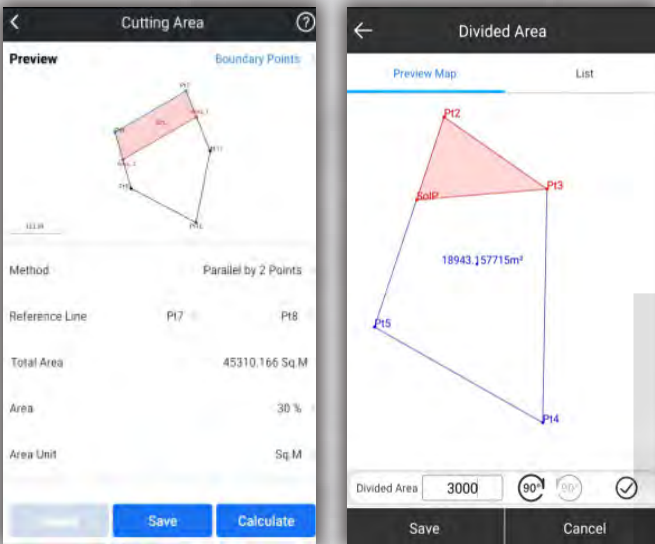


Innovations for Better User Experience

- 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



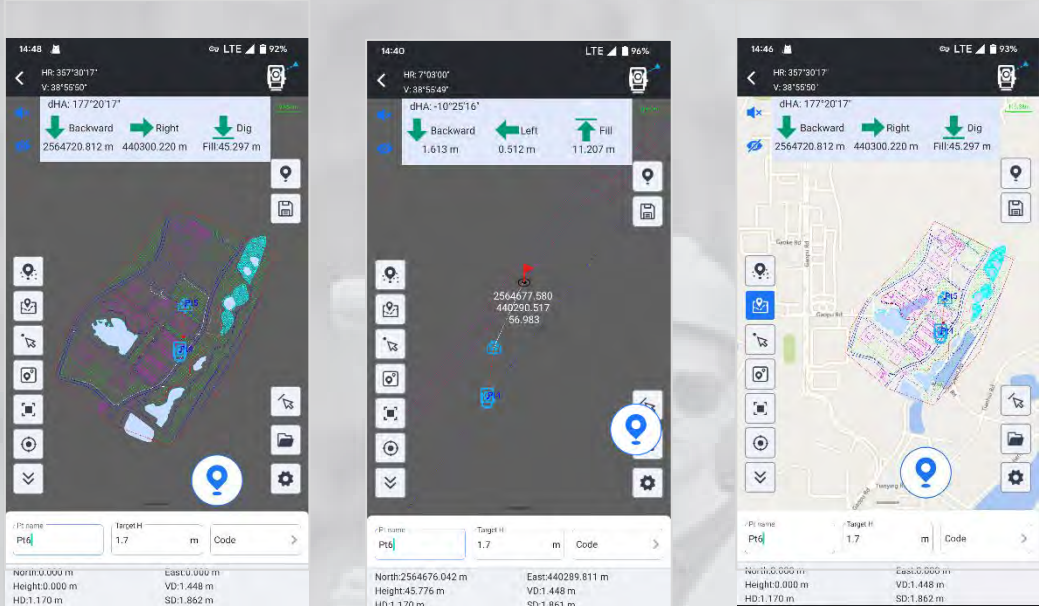
Select points to form a polygon, and directly identify the area division points for the surveyor to stake out. There is no more need for the user to guess a position to measure, and then to adjust.

- 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.

RTK GO 2025 (Manual Total Station)

4 New Features to Give You More Power & Freedom

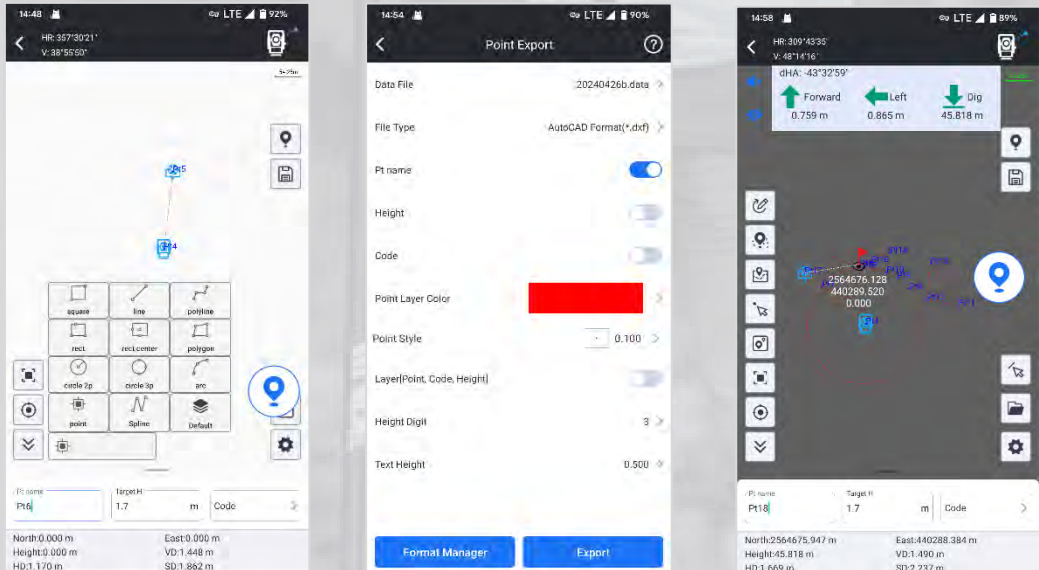
CAD Stakeout: Increasing Productivity & Decreasing Error



CAD Stakeout allows you to import **CAD basemap** and stakeout it, without inputting point coordinates one by one.

When you need, you also can connect to your local **online map** and overlap it to CAD basemap, to increase the precision of your job.

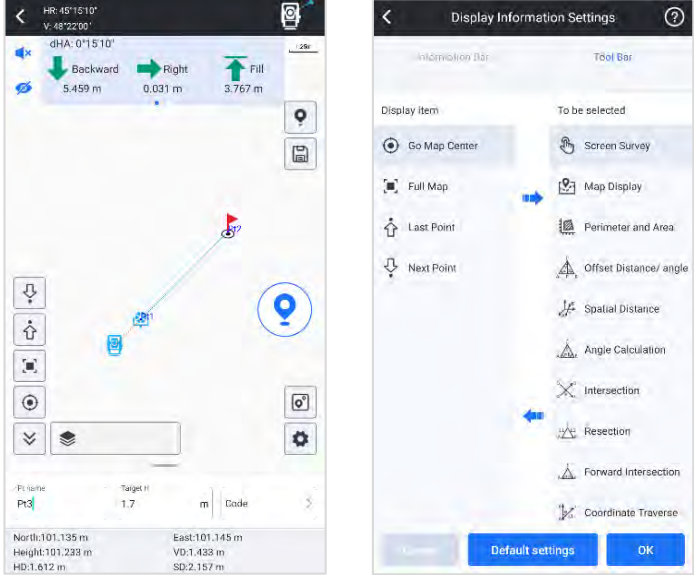
Measure & Draw: Save Time in Both Field work and Indoor Work



User is allowed to draw line, polygon, circle...up to 11 kinds of graphic, while measuring target points. No need to manually draw draft map anymore.

User is allowed to manage different objectives as different layers. The draft map can be saved and output in CAD format, and to be used in indoor works.

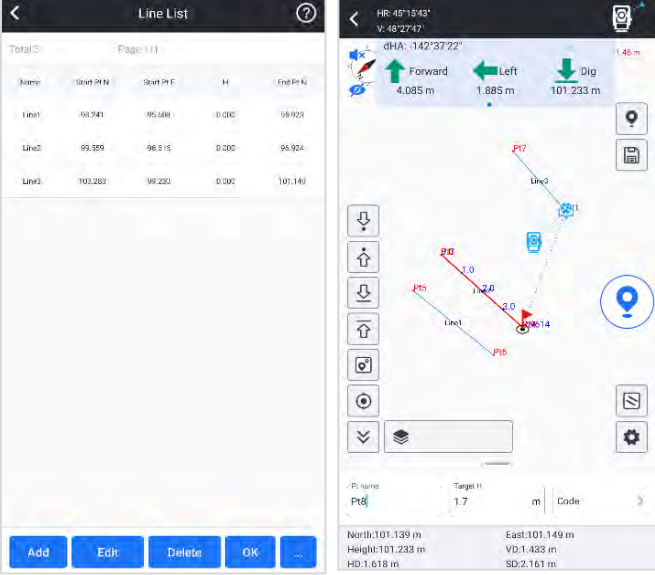
Point Survey & Stakeout: More Ease and Convenience



With graphic display, now it is easy to you to observe the relation between occupied point and target points. It will help you to make less mistakes when measuring many points.

The stakeout program screen displays information more completely, indicates target points more intuitively, your workflow will be smoother than before.

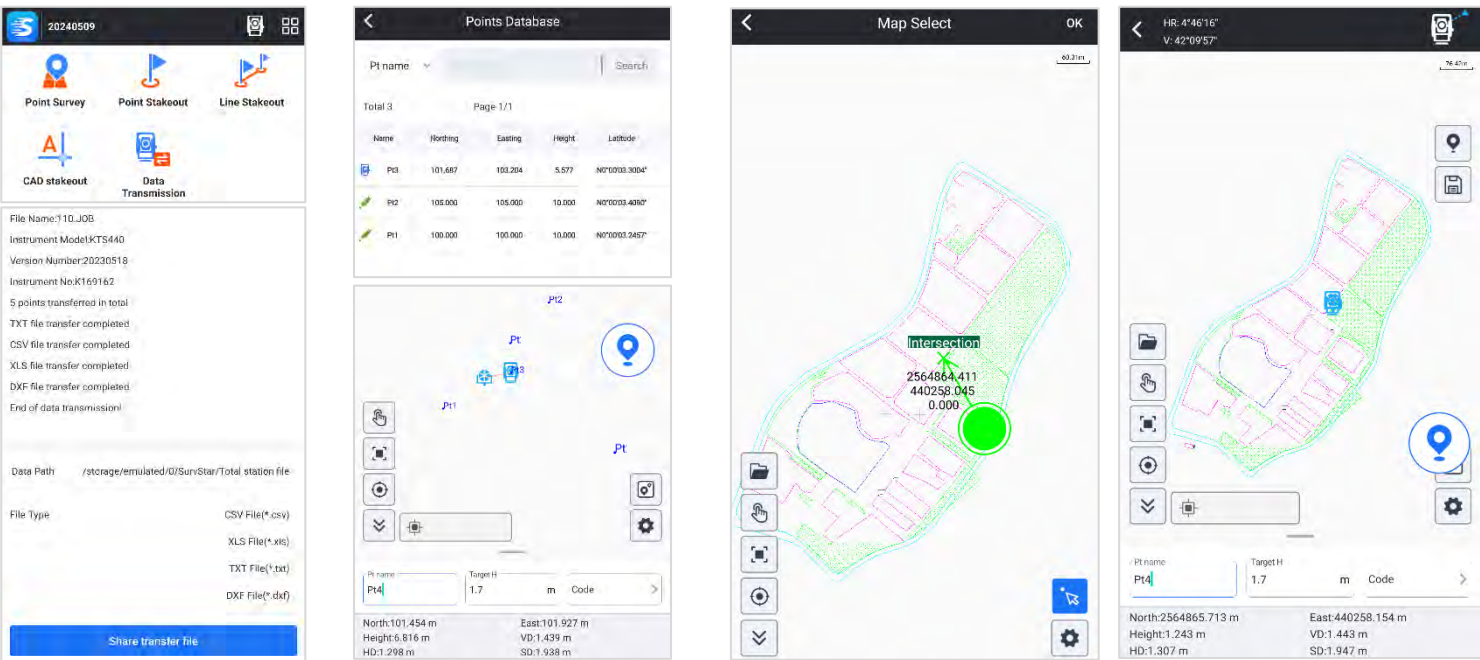
Line Stakeout: Smarter than Traditional Way



User is allowed to manually choose points from library, line will be formed by program automatically. Then user input interval distance, setout points will be calculated out and displayed on screen.

This function is suitable for road or other objective that is containing lines.

Other Features: More Innovation, No Limitation



Download & Share (.csv, .dxf, .txt, .xls)

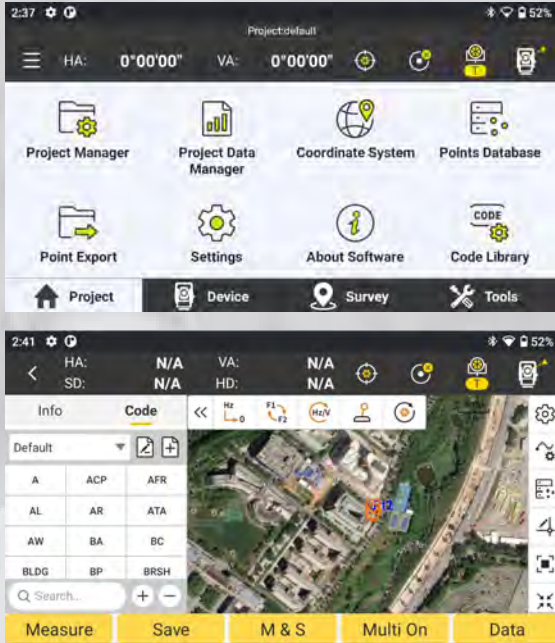
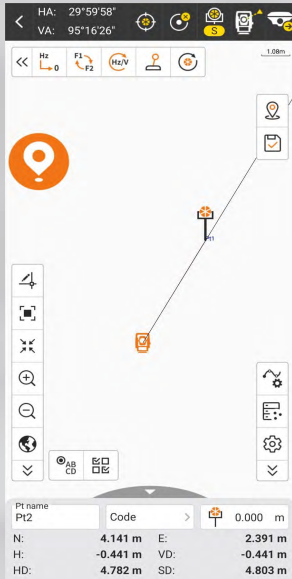
Resection

Set Occupied Point from CAD basemap or Graphic Map

RTK GO 2025(Android & Robotic TS)

Innovation Never Stops

Enhanced CAD, Renewed UI, Added Landscape Display: Increased Productivity



RUIDE User can work RTK GO 2025 with their Robotic Total Station and Android Total Station.

In later 2024, a few update have been done: CAD function is available in all of measurement and stakeout program; Point picking on CAD drawing is more precise; A new user interface is available; User is able to choose portrait display or landscape display according to their work need.

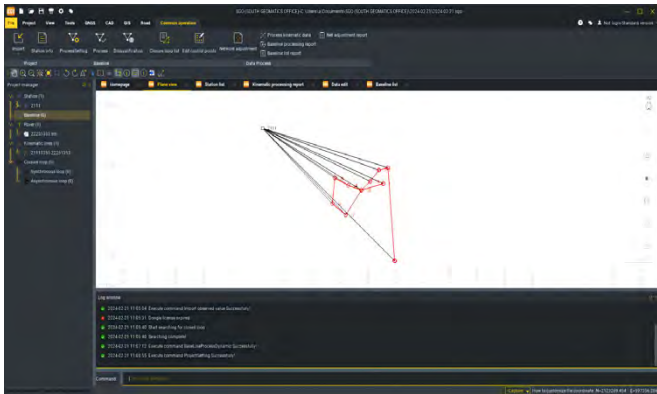
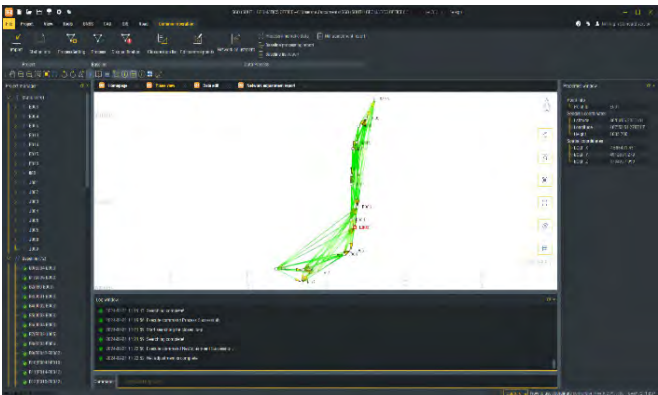
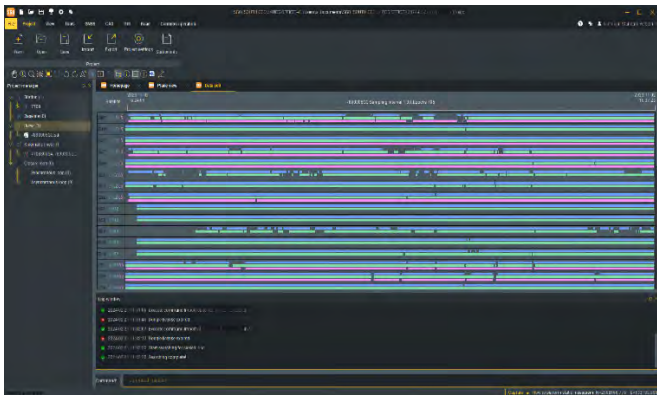
Combination of GNSS & Total Station: More Intelligence, More Creativity



RTK GO 2025 now enable surveors to work GNSS receiver and Robotic Total station jointly. When a GNSS receiver being installed onto prism pole, Robotic total station can track prism with higher efficiency by using GNSS data, it greatly helps when you are working in complicated terrain and prism sometimes being blocked.

Geo DataLab

Ideal GEO Spatial 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.