RUIDE

# ROVA5

## Improving Never Stops

ROVA5 is designed to enhance your performancein the field survey and to provide the most reliable positioning result.



### HIGH PRECISION

Advanced GNSS engine with Powerful UHF radio transmitter.

### STABLE & RELIABLE

Strong signal tracking, anti-interference and more stable connection even in complex environments.

### GLOBAL COVERAGE

Supports 1598 channels, compatible With all major GNSS constellations.

**1598**
CHANNELS

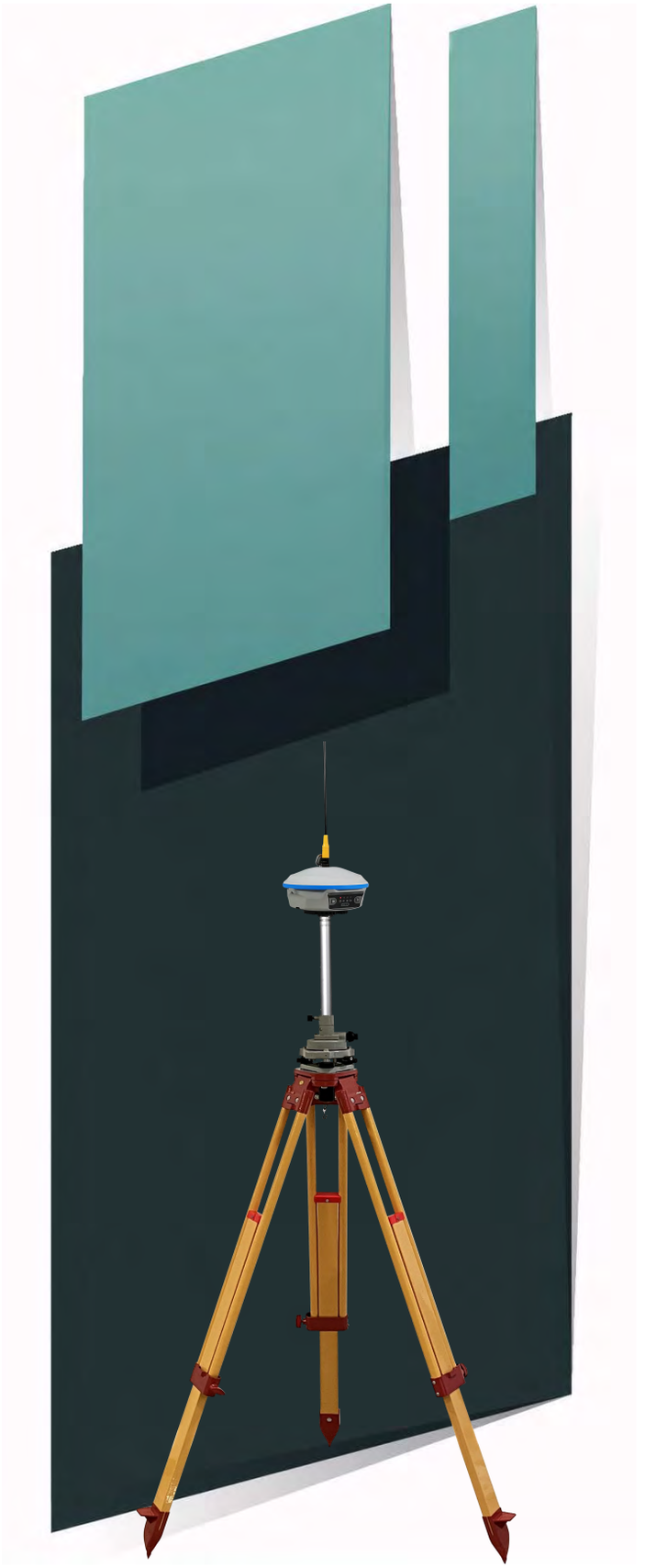
World leading GNSS tracking capability

**5W**
UHF RADIO

Extra long range communication

**FARLINK**
PROTOCOL

High quality data transmission, less data loss








## More channels and all constellations tracking

With 1598 GNSS channels solution, ROVA5 can support multi-constellation and multi-frequency tracking with the help of high-performance GNSS antenna.

## More powerful inbuilt radio

Coupling a high-performance UHF module with Farlink communication technology, which increases signal sensitivity and transmission efficiency, ROVA5 really achieves the goal of a 8~15km ultra-long-distance working range. (The working range can be extended to 30km in optimal condition). And the power consumption of this carrying new generation module is 60% lower than additional UHF, making the Base working time is much longer.

## Superior Endurance, Up to 25 hours working

ROVA5 uses a built-in 10000mAh ultra-large capacity Li-ion battery, which can last 25 hours of work(static) benefits from low power consumption design.
The Type-C interface is used on ROVA5 that it can support fast charging through a charger with PD protocol, and it can be full charged in 4 hours.

## Double data backup

The measured data can be simultaneously stored into both internal memory of receiver and controller, realizing the measured data double backup, which effectively avoid data loss.

## Upward and hidden UHF antenna design

Upward UHF antenna design, achieving all-direction UHF signal receiving and transmitting. And the antenna interface is hidden into top cover that effectively avoid accident breaking, protect from water and dust.

## Intelligent base signal locking technology

Using one-to-one signal tracking and locking technology, and the independent frequency under Farlink protocol, the rover can continuously lock and capture the target base station signal to reduce cross-frequency interference even though other base stations are working nearby with the same channel.

## Smart system management-ROS

ROVA5 is integrated with the ROS system, which comes with intelligent deployment of multi-mode hardware components, strong computing power and an intelligent scheduling mechanism, and coupling with an ultra-fine memory management mechanism, making the fluency and running speed of the receiver comprehensively improved.

# SPECIFICATIONS

## GNSS Features

Channels……1598
GPS…… L1C/A, L1C, L2C, L2P, L5
GLONASS……G1, G2, G3*(reserved)
BDS……B1I, B1C, B2I, B2a,B2b,B3
GALILEO…… E1, E5A, E5B, E5AltBOC, E6
SBAS……EGNOS, WAAS, GAGAN, MSAS, SDCM(L1,L5)
QZSS…… L1C/A, L1C, L2C, L5, L6
Navic…… L5*(reserved)
On module L-Band (Reserve)
Positioning output rate…… 1Hz~20Hz
Initialization time……< 10s
Initialization reliability……> 99.9%

## Positioning Precision*

Real-time kinematic……Horizontal: 8 mm + 0.5 ppm RMS
(Baseline<40km) Vertical: 15 mm + 1 ppm RMS

GNSS static…… Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 5 mm + 0.5 ppm RMS
Standalone…… Horizontal: 1.2m Vertical: 1.9m RMS
DGNSS…… Horizontal: 0.4m Vertical: 0.7m RMS
SBAS positioning……Horizontal: 0.6m Vertical: 0.8m RMS

## Hardware Performance

Dimension……165mm(φ) × 108mm(H)
Weight……1.35kg (battery included)
Material…… Magnesium aluminum alloy shell
Operating temperature…… -45℃ ~ +65℃
Storage temperature……-45℃ ~ +85℃
Humidity…… 100% Non-condensing
Waterproof/Dustproof…… IP68 standard, protected from long time immersion to depth of 1m
IP68 standard, fully protected against blowing dust
Shock/Vibration……Withstand 2 meters pole drop onto the cement ground naturally
Power supply…… 9-28V DC, overvoltage protection
Battery…… Inbuilt 10000mAh rechargeable, unremovable Li-ion battery
Battery life……Static: 20~25hrs
Base: 10~12hrs
Rover: 16~20hrs

## Communications

I/O Port……5-PIN LEMO external power port + RS232
Type-C interface (charge + OTG + Ethernet)
1 UHF antenna interface
1 PPS ouput interface
SIM card slot (Micro SIM)
Internal UHF…… 5 W receiver and transmitter
Frequency range……410 - 470MHz
Communication protocol…… Farlink, Trimtalk450s, RUIDE, HUACE, Hi-target, Satel
Communication range…… Typically 8-15km with Farlink protocol
Working range can be extended to 30 km in optimal condition
Cellular mobile network…… 4G cellular module standard
Bluetooth……Bluetooth 4.2 standard, Bluetooth 2.1 + EDR
NFC Communication…… Realizing close range (shorter than 10cm) automatic pair between receiver and controller

## WIFI

Modem…… 802.11 b/g standard
WIFI hotspot……Receiver broadcasts its hotspot form web UI accessing with any mobile terminals

## Data Storage/Transmission

Storage…… 16GB SSD internal storage standard, extendable up to 64GB
Automatic cycle storage
Support external USB storage
The customizable sample interval is up to 20Hz
Data transmission…… Plug and play mode of USB data transmission
Supports FTP/HTTP data download
Static data format…… STH, Rinex2.x, Rinex3.x
Differential data format……CMR, RTCM 2.x, RTCM 3.x(MSM included)
Position output data format……NMEA 0183, PJK plane coordinate, SBF
Network model supports…… Fully support NTRIP protocol

## Sensors

Electronic bubble…… Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time
Thermometer…… Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature

## User Interaction

Operating system…… Linux
Buttons…… Dual-button
Indicators…… 4 LED indicators
Web interaction…… With the access of the internal web interface management via WiFi or USB connection, users are able to monitor the receiver status and change the configurations freely
Voice guidance…… It provides status and operation voice guidance,
Secondary development……Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition

**The data comes from the RUIDE GNSS Product Laboratory, and the specific situation is subject to local actual usage.*

CE FC

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