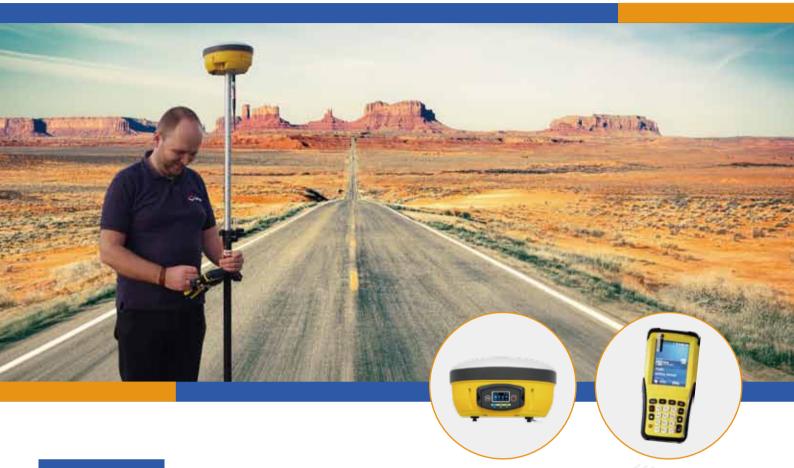# Features

- Equipped with "Lyra" chip and "Athena" calculation engine
- International advanced GNSS Board GPS/Glonass/Beidou/Gallieo full frequency antenna
- GE nano Material shell/smart host/Cortex-M3 Processor/Linux Platform/Quick Firmware Upgrade/TF card memory expansion /Multifunctional Composite Keys/OLED Display/Fast Self-check/Integrated Rubber-Circle/Industrial-grade Bluetooth Version 2.0/ 3G network Module/Support Self-built Ntrip Server
- Internal Radio Rx/Tx / External 35W Big UHF Radio/Compatible with all UHF Radio/UHF + ENET Dual Standby
- GIS Data Collector
- Original Imported LEMO connectors/Pass the EMC

Equipped with the fifth generation of "Lyra" chip and "Athena" calculation engine, performance in the long baseline in weak signal environment particularly well. Support A-RTK aided measurement (Star chain continuation of the journey) technology, In the case of disconnecting the base station differential signal (whether radio or network signals), the rover continues to maintain a fixed accuracy solution of a certain time (15-30min), providing the user with uninterrupted measurement of new experience!

## Technical Specifications

### Signal Tracking

394 channels satellite signals

-GPS: L1 CA, L1P, L1C, L2P, L2C,L5
-BeiDou: B1, B2, B3
-GLONASS: G1, G2, P1, P2
-GALILEO:E1BC, E5a, E5b

### Performance Specifications

Cold start: <50 s
Warm start: <30 s
Initialization time: <10 s
Singal re-acquisition: <2 s
Initialization reliability: >99.9%

### Positioning Specifications

#### Post Processing Static
-Horizontal: 2.5 mm + 1 ppm RMS
-Vertical:5 mm + 1 ppm RMS
#### Real Time Kinematic
-Horizontal: 10 mm + 1 ppm RMS
-Vertical: 20 mm + 1 ppm RMS

Atlas: H10:0.08m
SBAS:0.3m

### Physical

Size (W x H): 184mmx96mm
Weight: 1.2kg (include battery)
Button: FN + Power
Display:128x 62 OLED Screen

### P9 controller

Operation system: Windows Mobile6.5
Processor:TI Sitara™ AM335x 1GHz
RAM:512MB ROM: 8G
Screen: 3.7inch Blanview TFT transflective screen,
480×640VGA resolution ratio
Battery: 25.16W big capacity battery, single battery
endurance>10hours
Communication:Bluetooth, Version2.1+EDR,
USB OTG (directly conenct Uflash disk)
Communication module: 3.5G WCDMA 900 / 2100MH
WIFI: WLAN 802.11b/g

### Data Format

#### Data inputs/outputs
-Correction data 1/0: RTCM 2.X, 3.X, CMR , CMR+

#### Position data outputs
-ASCII: NMEA-0183
-Binary update to 50Hz

### Environmental

Operating temperature: -40°C  to +65°C
(-40°F  to 149°F )
Storage temperature: -40°C  to +75°C
(-40°F to 167°F )
Humidity: 100% condensation
Waterproof and dust proof: IP67 protected from
temporary immersion to depth of 1 meter, floats
Shock: survives a 2 meter drop on to concrete

### Electrical

Input Voltage: 9-18 VDC
Liion battery capacity: 2 x Rechargeable and
Removable 3400 mAh Lithium-ion Battery up to
10 hours typically

### Software

Esurvey field data collection software
SurveyCE data collection software

### Communications and Memory

1 Serial port (7 pin Lemo),
1 Serial port (5 Pin Lemo),
2 TNC antenna,
Memory: 256 MB internal with up to 32GB pluggable
memory card
Baud rates Up to 115,200 bps
Radio modem:
-Integrated GSM/GPRS modem
-Integrated Bluetooth V2.0 class 2
-Radio modem internal Rx/Tx: 410-470 MHz
-External Tx : 5W 35W adjustable
#### Communication  protocol
-Transparent,TT450S,South,TrimMask 111(19200),South 19200

Position data outputs, 1Hz Standard, 5Hz/10Hz Optional