

## SPECIFICATIONS

### Receiver Part

#### Measurements

##### General Info

- 220 channels, by advanced Pacific Crest Maxwell 6 Custom Survey GNSS technology
- High precision multiple correlator for GNSS pseudo range measurements
- Unfiltered, unsmoothed pseudo range measurements data for low noise, low multipath error, low time domain correlation and high dynamic response
- Very low noise GNSS carrier phase measurements with 1mm precision in a 1Hz bandwidth
- Signal-to-Noise ratios reported in dB-Hz
- Proven Pacific Crest low elevation tracking technology

##### Satellite signals tracked simultaneously

- GPS: Simultaneous L1 C/A, L2E, L2C, L5
- GLONASS: Simultaneous L1 C/A, L1 P, L2 C/A (GLONASS M Only), L2 P
- SBAS: Simultaneous L1 C/A, L5
- Galileo: Simultaneous L1 BOC, E5A, E5B, E5AltBOC
- Compass: B1, B2
- QZSS: L1 C/A, L1 SAIF, L2C, L5

##### Code differential GNSS positioning

- Horizontal: 25cm+1ppm RMS
- Vertical: 50cm+1ppm RMS
- SBAS differential positioning accuracy: typically <5m 3DRMS

##### Static and FastStatic GNSS surveying

- Horizontal: 3mm+0.5ppm RMS
- Vertical: 5mm+0.5ppm RMS

##### Realtime Kinematic surveying

- Horizontal: 8mm+1ppm RMS
- Vertical: 15mm+1ppm RMS
- Initialization time: typically <8s
- Initialization reliability: typically >99.9%

### Hardware

#### Physical

- Dimension (LxWxH): 205mm x 205mm x 100mm (8.07in x 8.07in x 3.94in)
- Weight: 1.47kg (including inbuilt radio module and installed battery)

#### Environmental

- Operating: -45°C ~ +60°C (-49F ~ +140F)
- Storage: -55°C ~ +85°C (-67F ~ +185F)
- Humidity: 100%, condensing
- Water/Dustproof: IP67 standard, protected from long time immersion to depth of 1m (3.28ft)
- Shock and vibration: designed to survive a 2.5m (8.2ft) pole drop onto concrete

#### Electrical

- Power 12-15V DC external power input
- Rechargeable, removable 7.4V, 3000mAh Lithium-Ion battery in internal battery compartment
- Battery life: 6-10 hours for 2 batteries from standard supply (varies with temperature and working mode)

#### Communications and Data Storage

- Standard USB2.0 port
- RS-232 port: baud rates up to 115200
- Stollmann's BlueMod+B20 inside for Bluetooth function
- Fully sealed and integrated 2.4GHz communication Bluetooth port
- UHF receiving antenna port and GPRS/GSM signal antenna port
- Fully sealed and integrated radio receiver/transmitter:
  - standard module: 0.5w, 410-430/430-450/450-470MHz optional (default 450-470MHz)
  - XDL radio module: 0.5/1w adjustable, 410-470MHz
- Radio RTK performance:
  - integrated radio transmitter only: 2-3km (varies with terrain and temperature)
  - with external radio: 15-20km (varies with terrain and temperature)
- Fully sealed and integrated internal SIEMENS Mc75 GPRS/GSM module
- External cellphone support for GPRS/GSM (2G default, 3G optional) module for network RTK (CORS) operations
- Network RTK (via CORS) performance: 20-50km (varies with temperature And GPRS data rate)
- Data storage: internal memory 4GB and 4GB SD card memory (extendable up to 32GB)
- Update rate: 1Hz, 2Hz, 5Hz, 10Hz, 20Hz & 50Hz positioning outputs (depends on installed option, default 1Hz)
- Reference outputs: CMR, CMR+, RTCM 2.1, RTCM 2.2, RTCM 2.3, RTCM 3.0, RTCM 3.1

### Controller Part (Getac PS336 Lite)

#### Platform

- TI AM3715 1GB Microprocessor
- 1GB Flash ROM
- 512MB MDDR Memory
- 256MB NAND Flash and 8GB iNAND

#### Operating System

- Windows Mobile 6.5

#### User Interface

- 3.5in VGA (480x640 pixel)
- 600 nits sunlight readable display
- Pressure sensitive touchscreen
- Nuance XT9 Soft input panel (SIP)
- Transcriber handwriting recognition
- Alpha/Numeric keypad

#### Communications

- WLAN 802.11 b/g/n
- Bluetooth (v2.1+EDR Class 2)

#### I/O Interfaces

- DC, USB OTG, RS232
- Office docking port, FlexiConnTM port

#### Power Management

- Battery type: 3.7V, 5600mAh
- Li-Ion battery pack

#### Environmental

- MIL-STD 810G certified
- IP68 certified, drop resistant (26 drops from 6ft/1.82m)
- Tumble resistant (1000 cycles; 0.5m/1.6ft)
- Optional ATEX zone 2/22
- Operating temperature: 22° F to 140° F (-30° C to 60° C)
- Storage temp temperature: 40° F to 158° F (-40° C to 70° C)
- 95% RH, Non-condensing

#### Physical

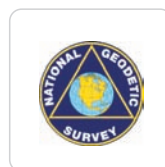
- Dimensions(LxWxH): 178mmx89mmx30mm (7inx3.5inx1.18in)
- Weight: 0.53kg

### 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.*

*Refer to separate brochure for more details of optional controller models, SOUTH MasterPro Mobile S10.*

*Specifications subject to change without prior notice.*



DEALER INFO

**SOUTH**  
Target your success

# S82

## Integrated RTK GNSS Surveying System



Make **YES!** Happen

**SOUTH**  
Target your success

### SOUTH SURVEYING & MAPPING INSTRUMENT CO.,LTD.

Add: 2/F, Surveying Building (He Tian Building), NO.26, Ke Yun Road, Guangzhou 510665, China  
Tel: +86-20-23380891/85524990/23380888 Fax: +86-20-85524889/85529089/23380800  
E-mail: mail@southsurvey.com export@southsurvey.com impexp@southsurvey.com gnss@southsurvey.com  
http://www.southinstrument.com http://www.southsurvey.com



# CONTROLLER

Optional controllers with different design, sizes and features, like SOUTH MasterPro S10 and GETAC PS336 Lite, are ready to meet diverse needs.

# KEY FEATURES



## Extremely Rugged Housing

This tough receiver is designed to survive a 2.5m pole drop onto the concrete, ideal for working in severe condition.



## Outstanding Waterproof Capability

The compact unit is built to IP67 standard and protected from long time immersion to depth of 1m. It's ideal to work in extremely tough conditions like heavy rain, or even dropping into the water for long time.



## Powerful Function Panel

2 buttons plus 12 LED indicators make receiver settings and status display much easier, eliminating the need for repeated checks with the controller display while delivering informative messages.



## Intuitive Voice Guide

Multi-lingual and clear-tone messages enable the users to understand the critical information and status of the receiver such as signal interruption, radio interference, low battery, low memory and more, which definitely helps to improve work efficiency by being acknowledged without having to look at the LED display or controller screen.



Rover



S82 Series Case  
Quality carrying case,  
rugged and durable



SOUTH MasterPro Mobile S10



Getac PS336 Lite

# SOFTWARE

The fieldwork software includes SOUTH EGStar, Carlson SurvCE and MicroSurvey FieldGenius for a complete field-to-office solution.



## SOUTH EGStar 3.0 (Default)

This upgraded version supports all RTK survey tasks including data collection, road design, stake-out, etc. The enhanced graphic display, tab-based menu structure, standard industrial data formats, and multi-language platform help to make your work easier.



## Carlson SurvCE (Optional)

To meet diverse needs, SurvCE combined advanced functionality, highly graphical and intuitive messages, ease of use, sheer capabilities of the data collection, making your RTK job more powerful.



## MicroSurvey FieldGenius (Optional)

Advanced display with high definition graphic and intuitive interface, advanced roading, surfacing, slope staking, smart-points, code-free alignment and GPS support make it a good choice for the effect-oriented groups.



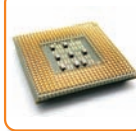
## BD970 Motherboard Equipped

Market-proven Pacific Crest Maxwell 6 technology delivers demonstrated performance and outstanding efficiency.



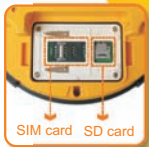
## ARM Cortex M4 Core

The ARM processor that features in low power consumption helps with low gate count, low interrupt latency and low-cost debug to improve the instrument stability.



## Huge Internal Memory and Data Backup

The 4GB flash memory plus 4GB SD card allow mass storage of measured data for long time collection and can record data individually, which is of great convenience for static survey.



## Built-in Transmitting Radio Module

Independent of external radio while working within short range, eg.2-3km(default)  
XDL radio module compatible with other popular brands(optional)



### ① UHF Transmitting Antenna

All-direction antenna (100W, gain 7.5dBi)  
guarantees reliable signals in long distance.

### ② Multi-functional receiver unit standby, to interchange between base and rover.

### ③ Standard GDL20 Radio (default): 15/25W, 8-10km typical, 15-20km optimal. Mini GDL5 Radio (optional): 2/5W, 3-5km typical, 8-10km optimal.

## Base Station

