

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: L1 C/A, L2E, L2C, L5 (reserved)
 - GLONASS: L1 C/A, L1 P, L2C/A (GLONASS M only), L2 P
 - SBAS: L1 C/A, L5 (reserved)
 - Galileo: (reserved)
- supports GIOVE-A: L1BOC, E5A, E5B, E5AltBOC
supports GIOVE-B: L1CBOC, E5A, E5B, E5AltBOC
- Compass: (reserved)
- B1 (QPSK), B1-MBOC (6, 1, 1/11), B1-2 (QPSK)
B2 (QPSK), B2-BOC (10, 5),
B3 (QPSK), B3BOC (15, 2.5)
L5 (QPSK)

Code differential GNSS positioning

Horizontal: 25mm+1ppm RMS
Vertical: 50mm+1ppm RMS
WAAS differential positioning accuracy: typically <5m 3DRMS

Static and FastStatic GNSS surveying

Horizontal: 2.5mm+0.5ppm RMS

Vertical: 5mm+1ppm RMS

Kinematic surveying

Horizontal: 10mm+1ppm RMS

Vertical: 20mm+1ppm RMS

Initialization time: typically <15s

Initialization reliability: typically >99.9%

Hardware

Physical

Dimension (L x W x H): 184mm x 184mm x 98mm (7.2in x 7.2in x 3.8in)
Weight: 1.2kg (2.64 lb) with internal battery, internal radio

Temperature

Operating: -40°C ~ +65°C (-49°F ~ +140°F)

Storage: -55°C ~ +85°C (-67°F ~ +185°F)

Humidity: 100%, condensing

Water/Dustproof: IP65 level, protected from temporary immersion to depth of 1m (3.28ft)

Shock and vibration: Designed to survive a 2m (6.6ft) pole drop onto concrete

Electrical

Power 12-15V DC external power input

Rechargeable, removable 7.4V, 2.3Ah 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

Fully sealed and integrated 2.4GHz communication Bluetooth port

UHF receiving antenna port

Fully sealed and integrated 450-470MHz receiver

Standard GDL25 Radio (Default configuration)

- Transmit power: 25W
 - UHF Range (varies with terrain and temperature): 8-10 km typical/15-20 km optimal
- Mini GDL5 Radio (Optional)
- Transmit power: 2-5W
 - UHF Range (varies with terrain and temperature): 3-5km typical/8-10km optimal

Mini GDL2 Radio (Optional)

- Transmit power: 0.5-2W
- UHF Range (varies with terrain and temperature): 3-5km typical/8-10km optimal

Fully sealed and integrated internal GPRS/GSM module

External cellphone support for GPRS/GSM module for network RTK (CORs) operations

Network RTK (via CORs) range (varies with temperature and GPRS data rate): 20-50km

Data storage: internal memory 64MB

Recording Rate: 1Hz positioning

Reference outputs:.....CMR+, CMR+, RTCM 2.1, RTCM 2.2, RTCM 2.3, RTCM 3.0, RTCM 3.1

Controller Part

Platform

PXA270 624 MHz processor

1 GB Flash ROM

256 MB RAM

Operating System

Windows® CE 5 (standard supply)

Windows Mobile® 6 Classic, Professional (optional)

Wireless Communications

Integrated Bluetooth® Class II, V 2.0 + EDR

External Connectors

One tether connection with full RS232 and USB On-The-Go (USB 1.1) functionality

One Low-Insertion Force (LIF) docking connector

DC Power Jack

User Interface

Color screen / Touch display

3.7 in (9.398 cm)

Full VGA 480 x 640 Resolution

Transflective, portrait mode TFT

Sunlight readable (for outdoor use)

High-reliability adjustable LED

Backlight featuring a bright

165 cd/m2 output

Touchscreen (standard)

Passive stylus or finger operation

Signature capture

Full Alphanumeric keyboard

Backlit, high durability hard-capped keys

Expansion Slots

-One SD/MMC memory card slot

-End-cap USB Interface supports GPS expansion module.

-100-PIN expansion interface: supports PCMCIA (type II), GPRS/EDGE and other third-party expansion modules developed using Psion Hardware Developer's Kit.

-Flex cable interface supports scanner (serial) and imager (USB) modules

-One Type II CF Card Slot

Power Management

Optional 3.7V, 2700 mAh standard capacity battery

Advanced smart battery with gauge

Built in charger

Rechargeable, user replaceable backup battery pack

Environmental

-Withstands multiple drops from 6 ft (1.8 m) or 26 drops (on 12 edges, 6 corners, 8 faces) from 5 ft (1.5 m) to concrete while powered on

-Waterproof/Dustproof: IP65, IEC 60529

-Operating temperature: -4°F to 122°F (-20°C to +50°C)

-5%-95% RH non-condensing

-Storage temperature: -40°F to 140°F (-40°C to +60°C)

-ESD: +/- 8kVdc air discharge, +/-4kVdc contacts

Physical

-Dimensions (LxWxH): 223mmx100mmx42mm (8.78 in x 3.94 in x 1.65 in)

-Weight: 0.48kg (1 lb) without battery

*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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Surveying system

Your Ideal kit
for RTK solution!

SOUTH

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KEY FEATURES



BD970 Motherboard Equipped
Proven PacificCrest Maxwell 6 technology, demonstrated performance, outstanding efficiency.



Rubber Ring Sealed
Well protects the receiver for steady waterproof, dustproof and quakeproof.



Battery & Compartment
BT-L72SA2300mAh lithium battery runs 6-8 hours for operation.



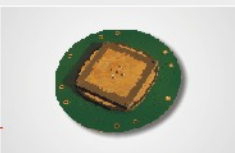
RS-232 Serial Port
Interfaces via multi-purpose communication cable (L997Y) with computer (for static data transfer) or controller.



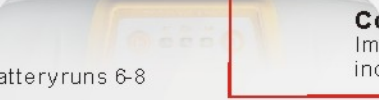
Dual Bluetooth Integrated
Helps the receiver to communicate with controller and mobile device for realtime data transfer.

UHF Receiving Antenna Socket
Smart design for both reliable antenna connection and perfect cover (while not connected).

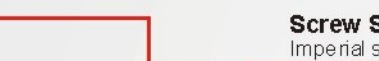
Dual-frequency Antenna
Inhibits multipath effect and enhances satellites searching quality.



Compact Housing
Solid, yet handy housing with ABS+PC material at industrial level, nice-looking and long lasting.



Control Panel
Imported PLC control circuit with 2 buttons & 6 indicating lights to view status and mode, easy to use.



Screw Socket
Imperial screw-in port, highly compatible.



SIM Card Slot
To insert SIM card to enter VR S mode for network RTK.



5-pin Communication Port
Standard LEMO interface to link receiver and external radio transmitter plus external power supply via multi-purpose communication cable (LE52X).



Integrated Module Pack
Advanced data link, with both UHF receiving radio and GPRS/CDMA modules built in, switchable for radio/network RTK modes.



Base Station

Multifunctional receiver unit standby, to interchange between base and rover.

Standard GDL25 Radio (default supply): 15-25W, 8-10km typical, 15-20km optimal.
Mini GDL2 Radio (optional): 0.5-2W, 3-5km typical, 8-10km optimal.

S82T Series Case
Quality carrying case, rugged and durable



30cm Supporting pole
Increases the receiver height for easier connections.



UHF Transmitting Antenna
All-direction antenna (100W, gain 7.5dB) guarantees reliable signals in long distance.



RTK Survey

Static Survey

Access to CORS

Rail/Road Survey

Hydrographic Survey

Stake-out

Data Collection

Electronic Wire Survey

Wide Applications

Receiving Antenna

All-direction antenna, gain 5dB, to install underneath for better avoiding interference.

PSION Controller

PSION Workabout Pro 7527 C-G2, from internationally reputed brand TEKLOGIX, a flexible, expandable, rugged device.



Carlson SurvCE onboard (optional)

Apart from default software EngineeringStar, S82T can also work with Carlson SurvCE (GPS), a user-friendly fieldwork solution, to meet diverse needs. Advanced functionality, ease-of-use, and sheer capabilities of this data collection software makes S82T a much more powerful kit for your RTK jobs.

Carbon Fiber Pole

Rigid pole CLS25, extendable to 2.5m, with high quality leveling bubble, lightweight but durable.

Rover

