SOKKIA

Radian IS

Integrated L1/L2 GPS System

2005 Release

Radian IS L1/L2 Integrated GPS Receiver

SOKKIA's Radian IS is an integrated, dual-frequency, survey-grade receiver that can perform both real time kinematic (RTK) and post-processed surveys. By integrating the receiver, antenna, memory and batteries into one lightweight and rugged package, SOKKIA's Radian IS requires fewer cables. These features, combined with PAC and Pinwheel Technologies (patented), provide comprehensive tracking capability with advanced multipath rejection.

Integrated Design

Integrated, dual-frequency GPS receiver, Internal Series 700 GPS antenna (L1/L2) with Pinwheel Technology (<1 mm phase center offset and multipath rejection equivalent to choke ring antenna), memory and batteries.

Simple Operation

Single-button operation and LED indicators for battery life, satellite tracking status, remaining memory and integer fixed occupation time.

Lightweight & Rugged

Weighs just 1.6 kg (3.5 lb) and can withstand a pole drop of 2.2 m (7.2 ft).

Unlimited Memory

Removable and upgradeable Compact Flash card provides unlimited hours of data collection.

Reliable Power

Ability to hot swap batteries for continuous surveying.

GPS Technology

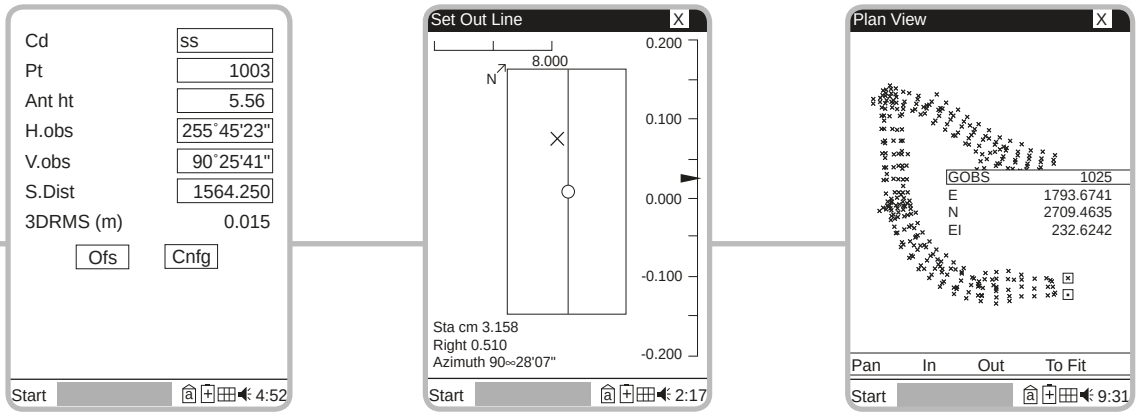
PAC technology achieves centimeter-level accuracy with RTK corrections, while Pinwheel technologies decrease errors associated with multipath and electromagnetic interference.

SDR Level 5 Data Collection Software

Built on knowledge from surveyors and previous generations of SDR electronic fieldbooks, the SDR Level 5 CE workflow is assembled to follow a logical field collection process. Provided in one single package, SDR's full functionality increases your productivity by offering topographic surveying, stake out, roading and coordinate geometry (COGO). Save time with the ability to switch between GPS and Terrestrial sensors, and ensure quality of the reading as you check the coverage of collected points using a graphical view.

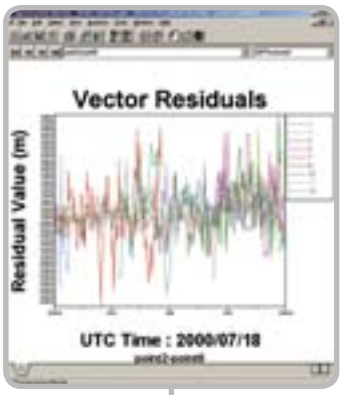
SDR Level 5 Features

- Full functionality in one package enables you to finish your job quickly.
- Handles a large range of GPS and Terrestrial sensors.
- Runs on multiple platforms, including Allegro CX™, JETT•ce®, Pocket PC PDAs and many others.
- Map vertical heights with a supplied GEOID file or an inclined plane.
- Complete any type of surveying, including solar observation.
- Access existing jobs, browse for other jobs, or create a new job simultaneously without using a file browser.
- Utilize customizable feature code lists with point-sorting capabilities.
- Automatic generation of linework.
- Ability to export data by a serial port, IRDA connection, modem connection or pre-existing file.
- Customize point code IDs with a range from numeric to alphanumeric.
- Handle data in many forms, including horizontal; horizontal and vertical; and horizontal, vertical and X-slope; using COGO or Roading modes.
- Export data to industry standard formats such as Delimited Text, SDR, ICS, MOSS, and SDMS.



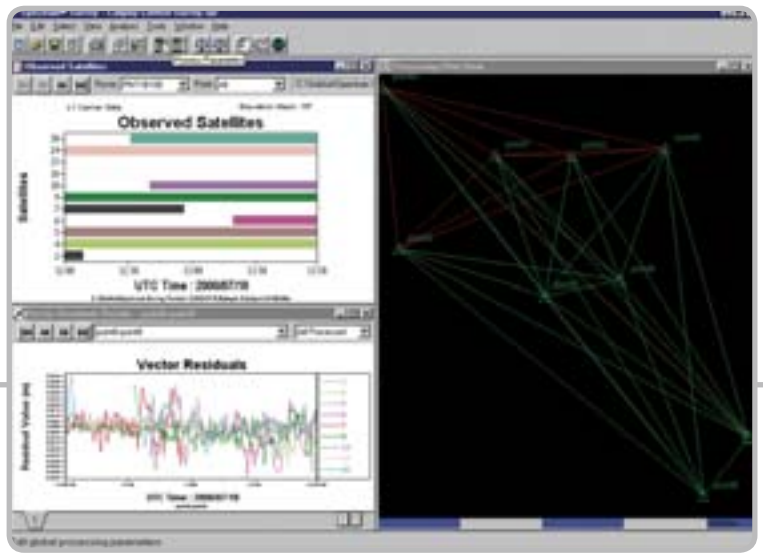
Spectrum Survey Post-Processing Software

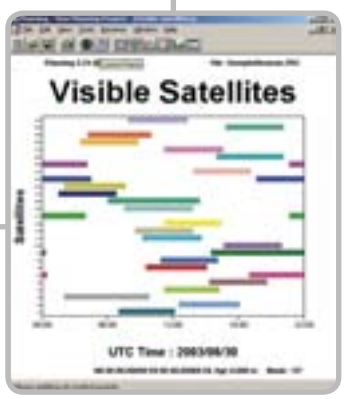
SOKKIA's Spectrum Survey is a comprehensive, easy-to-use, Windows based software package that supports all phases of GPS survey operations. Spectrum Survey Suite combines Spectrum Survey and Planning into one software package. This package provides all of the tools you need to successfully manage your project, from planning to processing, adjusting and analyzing GPS survey data.



Spectrum Survey Features

- Process single and dual-frequency GPS data (code and carrier).
- An integrated GPS data processing and network adjustment environment makes it easy to process and adjust data in a few simple steps.
- Display data in geographic, state plane, UTM or user-defined coordinates. Compute and export data in ground coordinates.
- View and edit baselines before processing, either through menus or through the graphical interface.
- Supports commonly used methods of survey data collection, including static, rapid-static, kinematic and stop-and-go.
- Compatible with SOKKIA's Radian IS, GSR2600 and Stratus GPS receivers, along with other proprietary data formats including RINEX.





Radian IS Integrated GPS System

With a focus on efficiency, SOKKIA's Radian IS system enables a single user to complete the toughest task, saving time and money. Coupled with Spectrum® Survey or SDR Level 5, the Radian IS system provides high-accuracy results. With a rugged waterproof and dustproof design, the system is ideal for a variety of applications, including topographic mapping, control surveys and construction staking.

Radian IS System

- Integrated receiver, antenna, memory and batteries in one enclosure
- Spectrum® Survey Suite V3 processing and adjustment software
- Windows® CE data collector and software
- Rugged, field-ready carrying case
- RTK radio data link
- GSM connectivity

Post-Processed & RTK Applications

- Boundary surveys
- Construction stake out
- Create slopes and terraces in landscaping
- Determine cut and fill for a road project
- Establish station pairs
- Geodetic Control points
- Map utility lines, cables and piping
- Position aerial photo panels
- Position aerial towers
- Position recording pods
- Plan haul roads, set out blasting patterns or reclamation work

** SOKKIA is preparing for future GPS system enhancements, such as L2C and L5. In support of this, innovations are being explored to accommodate these future changes.*

Radian IS Specifications

Position Accuracy[1]		
Static[2]	3.0 mm + 0.5 ppm (horizontal)	10.0 mm +1 ppm (vertical)
Rapid Static[2]	5.0 mm + 1 ppm (horizontal)	10.0 mm + 1 ppm (vertical)
Kinematic, Stop-and Go[2]	10.0 mm + 1 ppm (horizontal)	20.0 mm + 1 ppm (vertical)
RTK[3]	10.0 mm + 1 ppm (horizontal)	20.0 mm + 1 ppm (vertical)
Differential (DGPS)	WAAS/EGNOS: 0.8 m CEP	
Latency	0.02 sec (typical)	
Stand-alone Position	1.5 m CEP	
Channels	12 x L1 and 12 x L2 with full code and carrier	
Time to First Fix		
Cold Start	50 sec	
Warm Start	40 sec	
Hot Start	30 sec	
Signal Reacquisition	0.5 sec L1, 1.0 sec L2	
Data Rate	20 Hz	
Receiver Technology	PAC technology	
Interface		
Operation	Single-button operation for power, receiver reset and clear memory	
Display	LED display status indicators	
Status Indicators	Power, battery life, satellites tracked, available memory and occupation timer	
Memory	Internal, removable Compact-Flash memory card (16 MB card provided)	
Integrated Antenna[4]	Internal Series 700 GPS antenna (L1/L2) with Pinwheel Technology, <1 mm phase center offset and multipath rejection equivalent to choke ring antenna	
Physical		
Weight	1.6 kg	3.5 lb
Size (d x h)	23.0 cm x 16.0 cm	9.0 in x 6.3 in
Environmental		
Operating Temperature	-20° C to +55° C	-4° F to +131° F
With External Batteries	-40° C to +55° C	-40° F to +131° F
Storage Temperature	-40° C to +85° C	-40° F to +185° F
Water Resistance	IPX7	
Shock[5]	2.2 m pole drop; 1.0 m stand alone	7.2 ft pole drop; 3.3 ft drop stand alone
GPS Board Communication Ports	2 x RS232, External Bluetooth® adapter available, External GSM module available, Optional internal wireless communications available	
RTK Initialization	10-30 sec based on satellite constellation and base line length	
External Device	Any device that has RS232 serial communications	
Power Requirements		
Power Port	Multi sources power port (12 V car battery, AC/DC adaptor)	
Batteries	Various power options	
Operating Time	Varies with power option chosen. 6 hours operation on internal BDC batteries	
Swapping	Hot swap between batteries without interrupting receiver operation	
Standard Input/Output	RTCA, CMR, RTCM, NMEA, 1 PPS (out), mark-in	

1. Accuracy depends on the number of satellites used, obstructions, satellite geometry (DOP), occupation time, multipath effects, atmospheric conditions, baseline length, survey procedures and data quality.
2. 95% confidence level.
3. 1 sigma.
4. GPS antenna calibration performed by US NGS.
5. Shock specifications based on receiver without cables attached.

Design and specifications are subject to change without notice.

Dealer Information

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