



## Radian IS

### L1/L2 Integrated GPS System

#### Radian IS System

- Fully integrated receiver, antenna, memory and batteries in one enclosure
- Spectrum<sup>®</sup> Survey Suite V3 processing and adjustment software
- Windows<sup>®</sup> CE data collector and software
- Rugged, field-ready carrying case
- PDL 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 <sup>1</sup>

Static <sup>2</sup>	3.0 mm + 0.5 ppm (horizontal) 10.0 mm +1 ppm (vertical)
Rapid Static <sup>2</sup>	5.0 mm + 1 ppm (horizontal) 10.0 mm + 1 ppm (vertical)
Kinematic, Stop-and Go <sup>2</sup>	10.0 mm + 1 ppm (horizontal) 20.0 mm + 1 ppm (vertical)
RTK <sup>3</sup>	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

<b>Channels</b>	12 x L1 and 12 x L2 with full code and carrier
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### 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

<b>Receiver Technology</b>	PAC technology
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### 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)

<b>Integrated Antenna <sup>4</sup></b>	Internal GPS antenna (L1/L2) with Pinwheel Technology, <1 mm phase center offset and multipath rejection equivalent to choke ring antenna
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### Physical Characters

Weight	1.6 kg	3.5 lb
Size (l x w x h)	23 cm x 16 cm	9 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 <sup>5</sup>	2.2 m pole drop; 1 m stand alone	7.2 ft pole drop; 3.3 ft drop stand alone

<b>GPS Board Communication Ports</b>	2 x RS232, External Bluetooth adaptor available, External GSM module available
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<b>RTK Initialization</b>	10-30 sec based on satellite constellation and base line length
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<b>External Device</b>	Any device that has RS232 serial communications
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### 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 battery 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. Numbers show are for baselines not exceeding 10 km.
2. 95% confidence level. Based on testing carried out under a controlled environment.
3. 1 sigma. Numbers show are for baselines not exceeding 10 km.
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.

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