

GPS Smart Antenna

Applications

- Hand-held device for personal positioning & navigation
- AVL & Location-Based-Services
- Car navigation
- Fleet management
- Marine navigation



Solution

Foliage Lock-
operates even in areas of dense foliage.

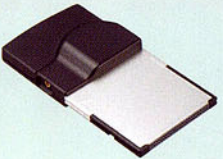
SingleSat-
allows position updates with a single satellite once the initial position has been calculated.

Dual Multipath Rejection-
effectively eliminates redundant data derived from signals coming from an indirect path

SnapLock-
the ability to renew satellite positioning within a tenth of a second after emerging from a blocked region.

Trickle Power-
achieves the lowest average power dissipation by powering down the main processor, after a position is determined. In such a manner when it is turned back on, it can recompute a position fix in the shortest amount of time.

GPS | Smart Antenna

	GPS-9531/9533	GPS-9532	GPS-9534
			
Main Chip	SIRFStarI	SIRFStarII	SIRFStarII
Performance			
General			
Tracking Channel	12	12	12
L1 Frequency	1575.42 MHz C/A code	1575.42 MHz C/A code	1575.42 MHz C/A code
Acquisition Time			
Cold Start	48 sec typical TTFF	45 sec typical TTFF	45 sec typical TTFF
Warm Start	38 sec typical TTFF, with current almanac, position and time	38 sec typical TTFF, with current almanac, position and time	38 sec typical TTFF, with current almanac, position and time
Hot Start	8 sec typical TTFF, with current almanac, position time and ephemeris	8 sec typical TTFF, with current almanac, position time and ephemeris	8 sec typical TTFF, with current almanac, position time and ephemeris
Reacquisition Time			
General	0.1sec	0.1sec	0.1sec
Max Blockage	Up to 30 sec	Up to 30 sec	Up to 30 sec
Position Accuracy			
	10m, 2D, without SA imposed 100m, 2D RMS, with SA imposed(95%)	10m, 2D, without SA imposed 100m, 2D RMS, with SA imposed(95%)	10m, 2D, without SA imposed 100m, 2D RMS, with SA imposed(95%)
DGPS Accuracy			
	<5m (50%)	<5m (50%)	<5m (50%)
Dynamics			
Velocity	515 m/s (1,000 knots) Max.	515 m/s (1,000 knots) Max.	515 m/s (1,000 knots) Max.
Acceleration	<4g	<4g	<4g
Altitude	18,000m (60,000 feet) Max.	18,000m (60,000 feet) Max.	18,000m (60,000 feet) Max.
Interface			
Serial Port	Universal connector (RJ11)	Universal connector (RJ11)	Serial port on CF connector
Dimensions	3.0in(L)X2.6in(W)X1.0in(H) 76.2mm(L)X66.04mm(W)X2.54mm(H)	2.56in(L)X2.24in(W)X0.87in(H) 65.02mm(L)X56.90mm(W)X22.10mm(H)	3.28in(L)X1.68in(W)X0.44in(H) 81.50mm(L)X42.80mm(W)X11.20mm(H)
Baud Rate	4,800 to 19,200 bps adjustable	4,800 to 38,400 bps adjustable	4,800 to 38,400 bps adjustable
Input Messages	NMEA/SIRF Binary Set altitude, position, date & time, select output messages and rates	NMEA/SIRF Binary Set altitude, position, date & time, select output messages and rates	NMEA/SIRF Binary Set altitude, position, date & time, select output messages and rates
Output Messages	SIRF Binary plus proprietary messages NMEA-0183 v2.0 GGA, GSA, GSV, RMC, VTG, GLL	SIRF Binary plus proprietary messages NMEA-0183 v2.0 GGA, GSA, GSV, RMC, VTG, GLL	SIRF Binary plus proprietary messages NMEA-0183 v2.0 GGA, GSA, GSV, RMC, VTG, GLL
Firmware Upgrade	Flash EPROM field programming software available	Flash EPROM field programming software available	
Time Mark	Output 1 pulse/sec, aligned with GPS time $\pm 1\mu\text{sec}$	Output 1 pulse/sec, aligned with GPS time $\pm 1\mu\text{sec}$	
Antenna	Embedded passive antenna	Embedded passive antenna	Embedded passive antenna with external antenna connector
Electrical			
Power	5.0 $\pm$ 5% VDC input	5.0 $\pm$ 5% VDC input	3.3 $\pm$ 5% VDC input
Power Consumption	0.9 W at 5.0 VDC	0.85W at 5.0 VDC	0.48W at 3.3 VDC
Backup Power	Replaceable 3V lithium battery	Rechargeable 3V lithium battery	Rechargeable 3V lithium battery
Trickle Power	165mW average	165mW average	165mW average
Environmental			
Operating Temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Safe Storage Temperature	-55°C to +100°C	-55°C to +100°C	-55°C to +100°C
Relative Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Connector Available	Universal connector available for different PDA/Pocket PC/Smart Phone	Universal connector available for different PDA/Pocket PC/Smart Phone	50pin CF connector
Mechanical			
Cable Length	PDA connector to RJ11 88 cm Junction point to cigar lighter 35.5cm Smart Antenna to R11 connector 150cm	PDA connector to RJ11 88 cm Junction point to cigar lighter 35.5cm Smart Antenna to R11 connector 150cm	
Mounting	Magnet base	Magnet base	CF card type1
Housing	Water-resistant plastic	Water-resistant plastic	



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