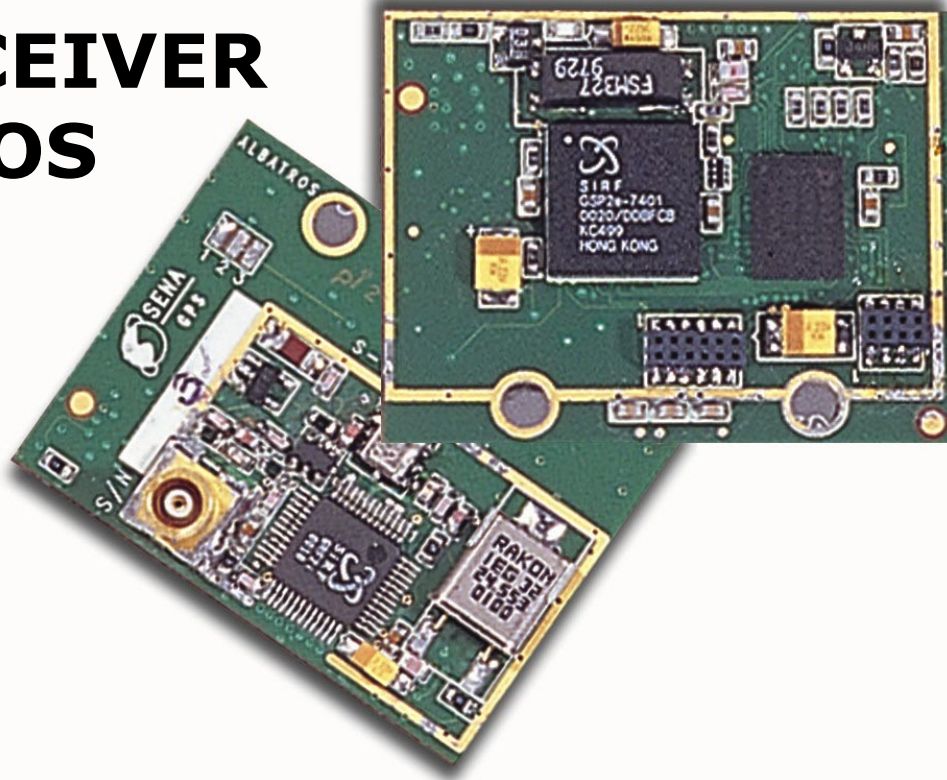# GPS RECEIVER ALBATROS

The **Albatros** OEM GPS Receiver from SENA GPS is a new OEM GPS receiver product that features the revolutionary SiRFStar-II chipset. This complete 12-channel, provides a vastly superior position accuracy performance in a much smaller package. The SiRFstar-II architecture adding an acquisition accelerator, differential GPS processor, multipath mitigation hardware and satellite-tracking engine. **Albatros** delivers major advancements in GPS performance, accuracy, integration, computing power and flexibility.

The innovative **Albatros** has been designed to minimize the impact of common mobile application problems like obstructed view conditions and GPS signal multipath caused by foliage and urban canyons, providing DGPS accuracy for applications requiring more precise positioning, such as basic AVL.

Industry Leading GPS Performance:

- Signal acquisition using 1920 time/frequency search channels
- Satellite signal tracking engine to perform GPS acquisition and tracking functions without CPU intervention
- Multipath-mitigation hardware
- Cold Start in under 45 seconds
- Advanced TricklePower mode for power savings to 98%. The TricklePower mode allows to maintain the 1-sec update rate, yet the chip set enters a sleep mode for almost 90% of each 1-sec cycle.
- Extreme low power in power down mode, but capable of very fast starts

The great capacity of calculation of the processor, makes that it could support the functions of GPS receiver and the most complex personal embedded applications, written in a JAVA language and utilize the great quantity of resources of input and output signals, from the receiver.

An Evaluation and Development Kit for **Albatros** system integration and OEM developers is available to assess receiver performance, begin development and fully incorporate **Albatros** into your application. It includes antenna, cables, and everything you need to integrate the receiver, including Windows based Evaluate software. Use the kit with confidence to prove **Albatros's** power and productivity in all of your GPS mobile application needs.

General Characteristics

Full OEM GPS receiver board for AVL applications.
12 channel, continuous tracking, using 2-bit digital quantization.
L1 frequency (1575.42 Mhz), C/A code (SPS) direct-sequence spread-spectrum.
All-in-view satellites tracking.
1 PPS output (+/- 1 usec).
Sensitivity -175 dBW

Technical Characteristics

Receiver Architecture	
Maximum Solution Update Rate	10/second (1/second standard)
Acquisition/Reacquisition Performance	
Satellite Reaquisition Time	100mS
SnapStart	< 2 seconds
Hot Start	< 8 seconds average
Warm Start	< 38 seconds average
Cold Start	< 45 seconds average
Dynamics	
Maximum altitude	< 60,000 feet
Maximum velocity	< 1,000 knots
Position Accuracy	100 meter 2d RMS, SA on 25 meter (SEP), SA off 1 - 5 meter, DGPS corrected

Physical Characteristics

Size	11 x 29.5 x 38 mm.
Weight	9 gm.
Operating Temperature	-40°C to +85°C
Operating Humidity	5% to 95% R.H., Non Condensing, at +60°C
Shock	20g (11 mS Sawtooth)
Vibration	4 g

Electrical Characteristics

Power Consumption: **normal mode**	440 mW (135 mA)
TricklePower	75 mW (23 mA)
Stand by	30 mW (9 mA)
Voltage	3.15 - 3.6V
Voltage to active antenna	2.8Vdc (Option 5Vdc external)

Interfaces

Protocols	NMEA v2.2, SiRF Binary
Diferential protocol	RTCM 104 V2.1 Message type 1, 2 y 9.
RS232 serial port	2 Full Duplex
Discretes Inputs	3 (5V tolerant)
Discretes Outputs	6 (5V tolerant)
Debug port	JTAG
Reset	External input
Wakeup	State output