

# SiRFTrac High Sensitivity Software

## Extending the Operating Range of GPS



### INTRODUCTION

Complimenting SiRF's existing product line of GPS solutions, SiRFTrac is SiRF's high sensitivity GPS software solution. SiRFTrac extends the operating range in which GPS can be used, dramatically increasing the versatility of GPS-enabled products such as personal digital assistants (PDA's), automotive navigation solutions, AVL applications, and other location aware consumer devices. If loaded with SiRFTrac high sensitivity software, GPS-enabled mobile consumer devices will be able to continue operating in far more locations than ever before possible.

### Extending the Range of GPS

The SiRFTrac high sensitivity software enables the existing SiRFstarIIe/LP chip set to acquire, and continue tracking GPS signals at far lower signal levels than is currently possible with other autonomous GPS solutions. This means that GPS can now be used in environments previously deemed inaccessible - environments such as severe urban canyons, parking garages, dense foliage, multi-level freeways, under bridges and overpasses, and, in many cases, indoors. By expanding the number of areas in which GPS can get a position fix, SiRFTrac will improve existing location-based applications and enable new ones that have been impractical until now.

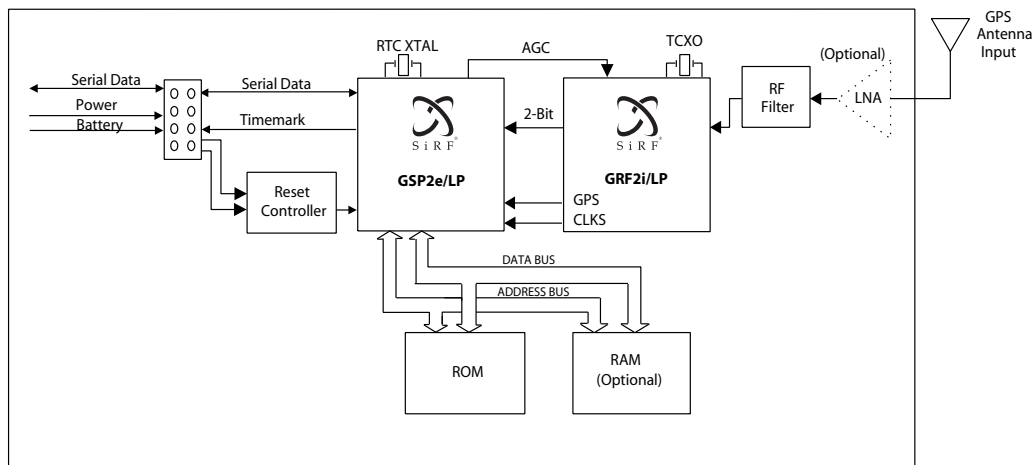
### Antenna Flexibility

Regardless of the application, the placement of the GPS antenna is a crucial element to the success of the product. More often than not however, placement options are limited. Because of SiRFTrac's lower acquisition and tracking thresholds, the antenna can now be placed in locations previously avoided - places like under a persons clothing, inside a vehicle (and not just on the dash), or even embedded within the mobile device itself. If necessary, it can even assist in overcoming the deficiencies of smaller or cheaper antenna solution.

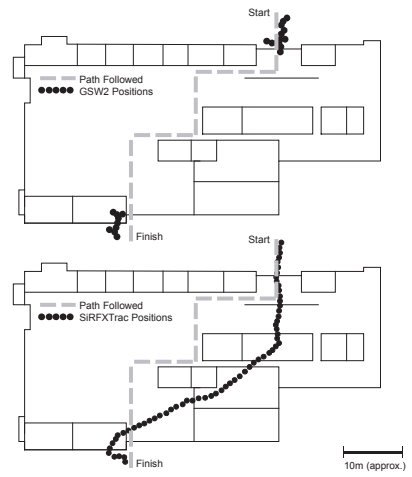
### Interference Resistant

One problem frequently encountered by developers is the additional interference generated by the hardware platform that the GPS application is based on (typically found in PDA's). This can effectively reduce the available signal to the GPS receiver - rendering it less effective than it should. By having the ability to utilize much lower signal strengths, SiRFTrac is highly resistant to the ever-present interference and assists in maintaining an acceptable level of operation.

### SiRFstarIIe/LP & SiRFTrac Implementation



Coverage - Single Story Office Block



- 1 Evaluate
- 2 Develop
- 3 Build

## TECHNICAL SPECIFICATIONS

<b>Position Accuracy<sup>1</sup></b>	
Autonomous	<5m
<b>Receiver</b>	
Tracking	L1, CA code
Channels	12
Max. Update Rate	10Hz
Max. Altitude	<60,000 ft
Max. Velocity	<1,000 knots
Protocol Support	NMEA, SiRF Binary
<b>Time to First Position</b>	
Reacquisition	100 msec
Continuous	1 sec
Hot Start	<4 sec
Warm Start	<35 sec
Cold Start	<45 sec
<b>Sensitivity<sup>2</sup></b>	
Tracking	16 dB-Hz
Hot Start	23 dB-Hz
Warm Start	28 dB-Hz
Cold Start	32 dB-Hz
<b>Power</b>	
Draw	68 mA
Voltage	2.7 - 3.3V (5V I/O capable)

- 1: A typical value based on 24 hour open sky static test. Note that the US Government guarantee's performance no better than 10m.  
 2: The sensitivity value is specified at the correlator. On a SiRFstarIIe/LP Evaluation Receiver with the supplied antenna, 32 dB-Hz is equivalent to -142 dBm or -172 dBW. Other board and antenna characteristics will vary.

## WORLDWIDE SALES OFFICES

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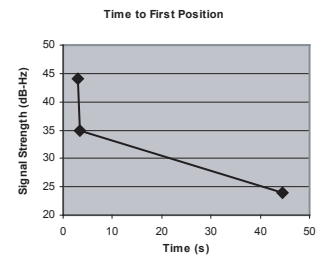
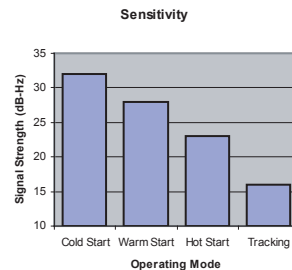
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## HIGHLIGHTED ADVANTAGES

Plainly stated, SiRFXTrac is GPS software that can acquire and track lower signals than any other autonomous software solution. This means that a SiRFXTrac enabled device will continue to provide positions or obtain an initial fix in places previously not possible.



SiRFXTrac will enable a GPS enabled device to continue operating in locations such as under cover garages, multi-level roads, dense foliage cover, and even in many indoor environments.

Apart from providing extended GPS coverage, SiRFXTrac also assists in overcoming two regularly faced challenges - antenna placement and interference from the hardware platform.

## Product Ordering Information

For more information on how to become a SiRFXTrac software customer, contact your local SiRF representative, or contact SiRF on +1 (408) 467-0410, or visit us at [www.sirf.com](http://www.sirf.com).

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