

## GR-312, SiRFstarIII, Sleek USB Bluetooth GPS Receiver & Data Logger Dongle



### Overview

GR-312 is a sleek, easy to bring, ultra-high performance, low power GPS receiver and data logger with USB connector. In addition to USB wired connection, it also supports Bluetooth wireless communication. The built-in SiRFstarIII chip and our experienced design provide fast acquisitions and excellent tracking performance. It is a perfect navigation companion with Smart phone, PDA, Notebook PC, UMPC, MID etc.

It is also a passive tracking device which records place (latitude, longitude, altitude, velocity, date, and time) wherever it has been to. It could support data records of up to 130 thousands or about 90 days for logging interval of 1 minute.

Two Convenient PC/Windows free management tools -

- NaviFilter - allows retrieving data via USB port automatically **without knowing the COM port details**. Select the preferred trip interval from the full logging time interval for generating **trip reports**. Identify **stop points** in the trip automatically. Easy **photo integration** with trip track. **Multi-language** support available. Individual trip sub-path data dividing by stop point(s) facilitates the **trip memory sharing with your friends**. The **stop interval** could be easily configured.
- NaviLogManager - could be used to **set your own unique ID**, change logging interval, retrieve logging data, clear logging memory etc via Bluetooth or

USB ports. Abundant Google Earth trip information could be generated.

- Photo tagging – One can tag pictures and integrate it with the trace. It's easy and convenient for photo tagging and sharing.

The housing embedded string hole allows one to bring this sleek device as a necklace or a key chain.

### Applications

- Business trip/travel expense claim
- Trucks/ships/gas tanks/cargos travel management
- Vehicle navigation
- Leisure/Sports memory
- Photo tagging
- Automatic vehicle location

### Features

- Compact, sleek, lightweight
- Easy, flexible report for trip expense claim
- Logging interval configurable
- **90 days logging** for interval of 1 minute
- locr-certified **photo tagging**
- **Google Earth enabled** passive tracking
- Average **15 hours continuous** logging and navigation **working time** with standard battery.
- **Plug** it into PC USB port **and save** logging data in your preferred storage location **easily**.
- Easy use PC side data logger management utility
- Both wired (USB) and wireless (Bluetooth) navigation and data upload support

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- Based on SiRF's GSC3f low power single chip
- Bluetooth version 2.0, class 2
- High performance: -159dBm tracking sensitivity
- Low power: 75mA at continuous tracking
- SBAS (WAAS and EGNOS) support (optional)
- Backup battery support for faster position fix
- Green LED for GPS position fix and data logger memory capacity indication
- Blue LED for Bluetooth and logging status indication
- Sleek design for bringing as necklace or key chain
- It becomes an independent portable unit when inserted into an optional battery bank.
- Customization of higher logging capacity and longer continuous working time are welcome is possible.

Max. Update Rate	1Hz
Max. Altitude	<18,000 m
Max. Velocity	<1,852 km/hr
Protocol Support	NMEA v3.00, 4800bps N,8,1; GGA, GSA, GSV, RMC, VTG
Datum	WGS-84
SBAS Support	WAAS, EGNOS, MSAS (optional)
Acceleration	<4g
Jerk	<20 m/sec <sup>3</sup>

## Technical Specifications

### GPS Receiver Performance Data

Receiver Type	20-channel, L1 frequency (1575.42MHz), C/A code (1.023 MHz chip rate) GPS:1575.42MHz
Horizontal Position Accuracy	< 2.5m (Autonomous) < 2.0m (WAAS) (50% 24hr static, -130dBm)
Velocity Accuracy	<0.01 m/s (speed) <0.01° (heading), (50%@30m/s)
Time To First Fix	Autonomous
Hot start	<1sec
Warm start	<35sec
Cold start	<42sec (50% -130dBm)
Sensitivity (Autonomous)	-142dBm (acquisition) -159dBm (tracking) (-142dBm 28dB-Hz with 4dB noise figure)

### Bluetooth Data

Version 2.0	Downward compatible with ver.1.0/1.1/1.2
Class 2	Communication range: Up to 10 m
Profile	SPP (Serial Port Profile)

### LED Display

Green LED	Always on as no position fix Blinks in following way as position is fixed: <ul style="list-style-type: none"> <li>● 1s on 1s off as capacity &lt; 80%</li> <li>● 2s on 1s off as capacity ≥ 80% and not full</li> <li>● 1s on 2s off as capacity full</li> </ul>
Blue LED	<ul style="list-style-type: none"> <li>● Always off as there is no Bluetooth connection and recording is off.</li> <li>● Blinks 10s off 0.25s on as there is no Bluetooth connection and recording is on.</li> <li>● Blinks 2s on 0.5s off as there is Bluetooth connection and recording is on.</li> <li>● Blinks 2s on 2s off as there is Bluetooth connection and recording is off.</li> <li>● Blinks 0.5s on 0.5s off during data upload</li> </ul>

### Electrical Data

Power Supply	5 VDC
Power Consumption	75mA/average tracking, communicating via Bluetooth interface

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**Environmental Data**

Operating temperature	-20 ~ 65°C
Storage temperature	-20 ~ 80°C

**Other Data**

Dimension	21 x 72 x 13.4 (mm) including USB cap 21 x 65.9 x 13.4 (mm) without USB cap
Weight	18.6 g, dongle including USB cap 17 g, dongle without USB cap

**Ordering Information**

GR-312X

X=A	GGA, GSA, RMC, VTG@1Hz, GSV@1/5Hz 4800bps, N-8-1
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Note. Other baud rate, NMEA sentences, datum, higher capacity could be customized based on MOQ.

**Optional Accessory**

- USB cable of length 1.5m for extending the GPS signal reception range.
- Car charger with USB connector for powering GR-312 or charging a battery bank (BB-100).



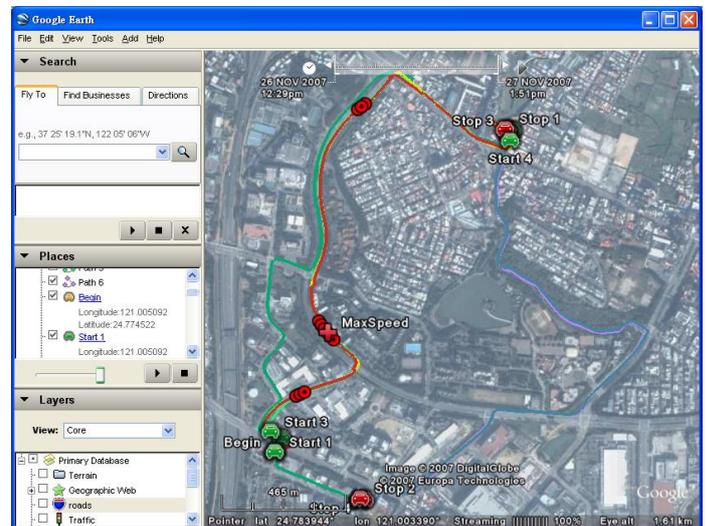
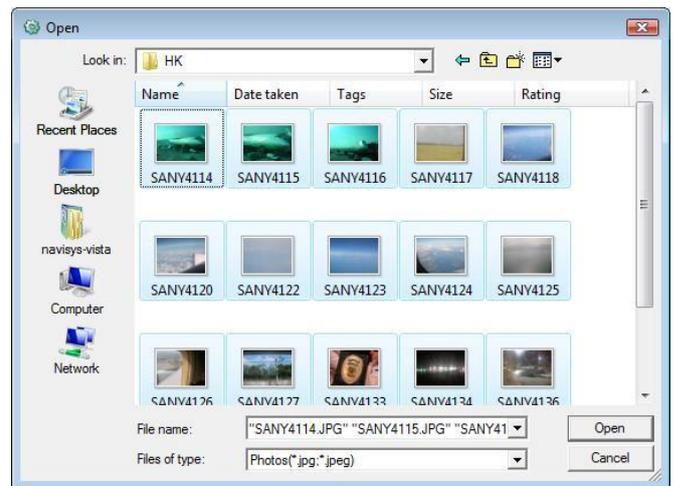
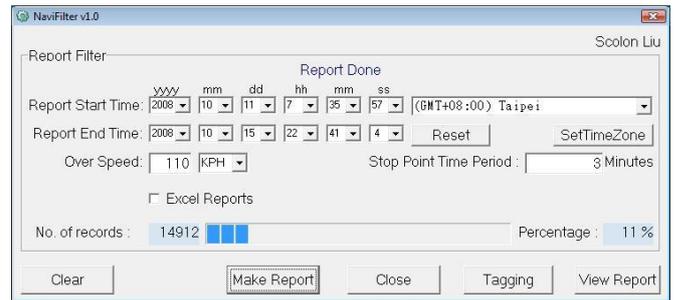
- BB-100 battery bank for powering GR-312



BB-100

BB-100 and GR-312

**Examples**



\* This document is subject to change without notice.