User Manual

SDIO GPS Receiver

SD-501

Version 1.3

SD-501 at a glance

Some wireless device like Bluetooth device or WiFi device may affect the performance of GPS receiver. You may use the booster to improve acquisition sensitivity.

1. Introduction

The SD-501 is a GPS receiver with **SDIO** interface and built-in active antenna for high sensitivity to tracking signal. Based on the SiRF star Ⅱe/LP low power chip set and supports all functions (SingleSat updates in reduced visibility, Superior urban canyon performance, FoliageLock for weak signal tracking, etc.).

The SD-501 is well suited to system integration and users who use PDA, Smart phone with WinCE devices. It satisfies a wide variety of applications for car navigation, personal navigation or touring devices, tracking and marine navigation purpose.

1.1 Feature

- SiRF Star II/LP high performance and low power consumption chipset
- Built-in high sensitivity active GPS antenna
- Optional external GPS antenna
- LED to show GPS fix or not fix
- Built-in super capacitor to reserve system data for rapid satellite acquisition
- SDIO interface
- Operating platform: Pocket PC 2002/2003, Win CE, Win CE.Net, WM2003
- Antenna can be folded from 0° ~ 180°
- Base on Bsquare SDIO Now!

1.2 Package

Before you start up, make sure that your package includes the following items. If any items are missing or damaged, contact your dealer immediately.

- SDIO GPS Receiver
- A CD with the User Manual、Driver and the Testing Program.
- Cover
- Booster

1.3 LED Function

GPS Status LED (Red):

Blinking ---- GPS position is fixed

Steady light ---- GPS position not fixed

1.4 Compatible Device

Acer n30 Pocket PC
Dell Axim X3 Pocket PC
Dell Axim X30 Pocket PC

HP iPAQ rz1710 series Pocket PC
HP iPAQ h1930 series Pocket PC
HP iPAQ h1940 series Pocket PC
HP iPAQ h2210 series Pocket PC
HP iPAQ h3970 series Pocket PC
HP iPAQ h4150 series Pocket PC
HP iPAQ h5550 series Pocket PC

O2 XdaII Windows Mobile 2003 for Pocket PC, phone edition

Toshiba E800BT

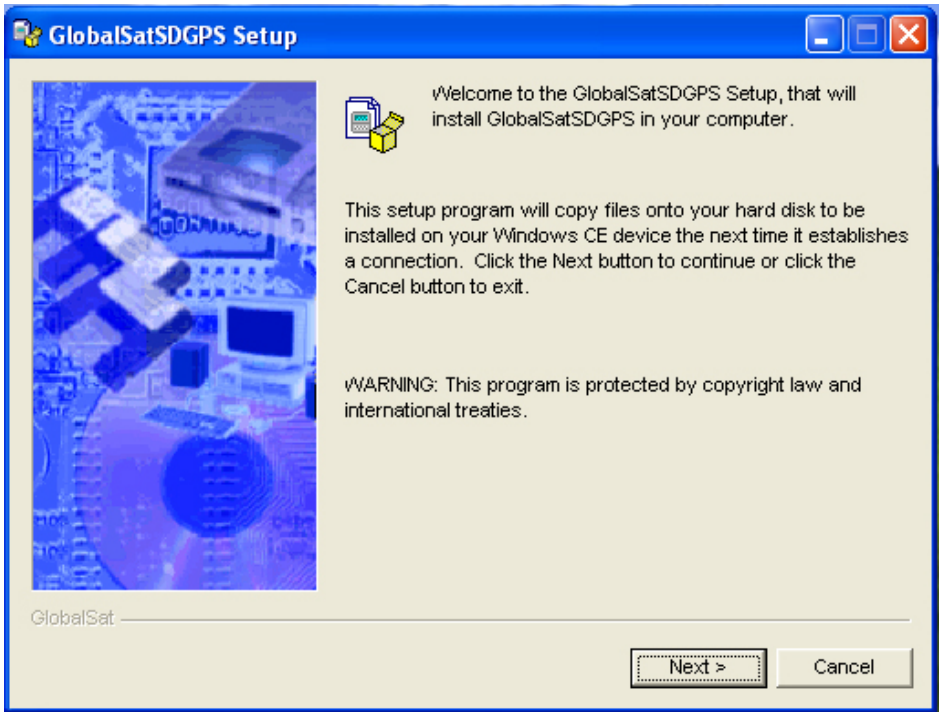
PS. Devices above have been tested and compatible with SD-501.Basically, if the WinCE Device with SDIO port and adopt the **Bsquare SDIO NOW!** would be compatible.

2. Install Driver

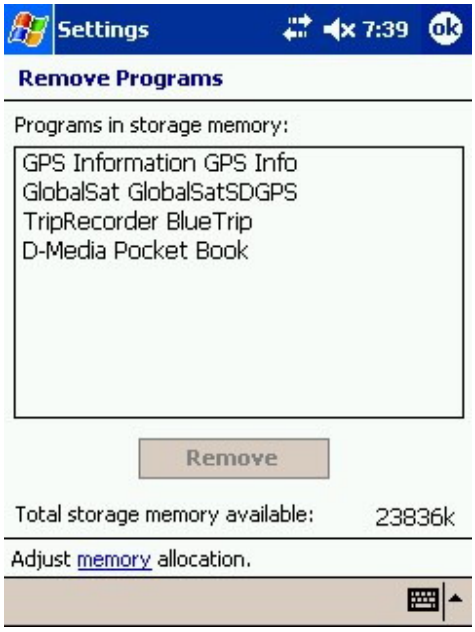
For PDA which built-in SDIO (Example: iPAQ 1940)
Please make sure the **ActiveSync** has been installed and your PDA is connected to PC

1. Put the CD with driver into CD Rom, the CD would run automatically,
   and then you can see the screen as below

2. Select " SD-501 Driver for WinCE" to install the driver



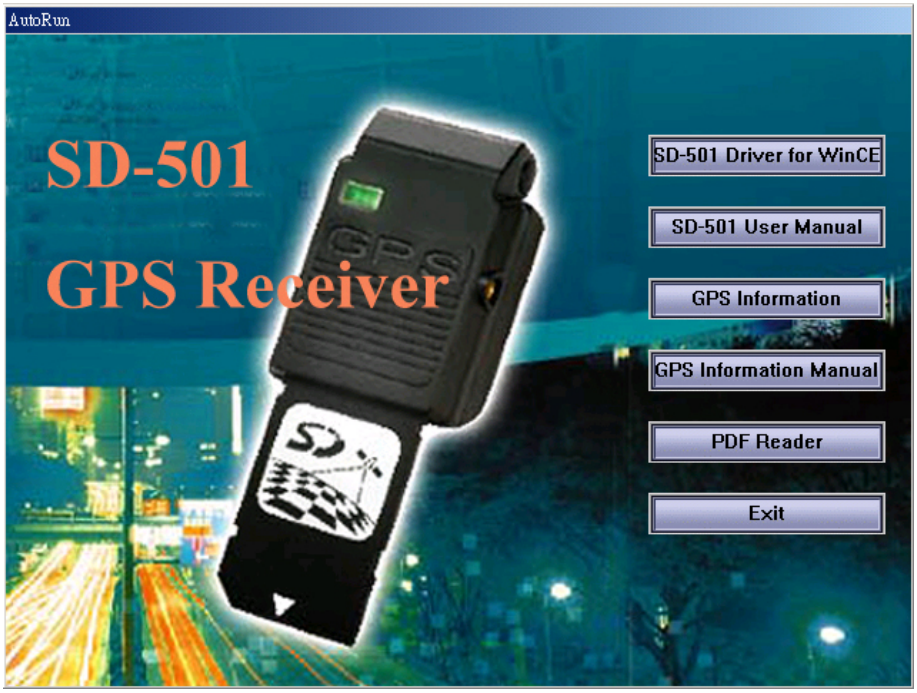
3. You can move to **Remove Programs** under **Settings**, to make sure the driver (GloblSatSDGPS) has been installed.



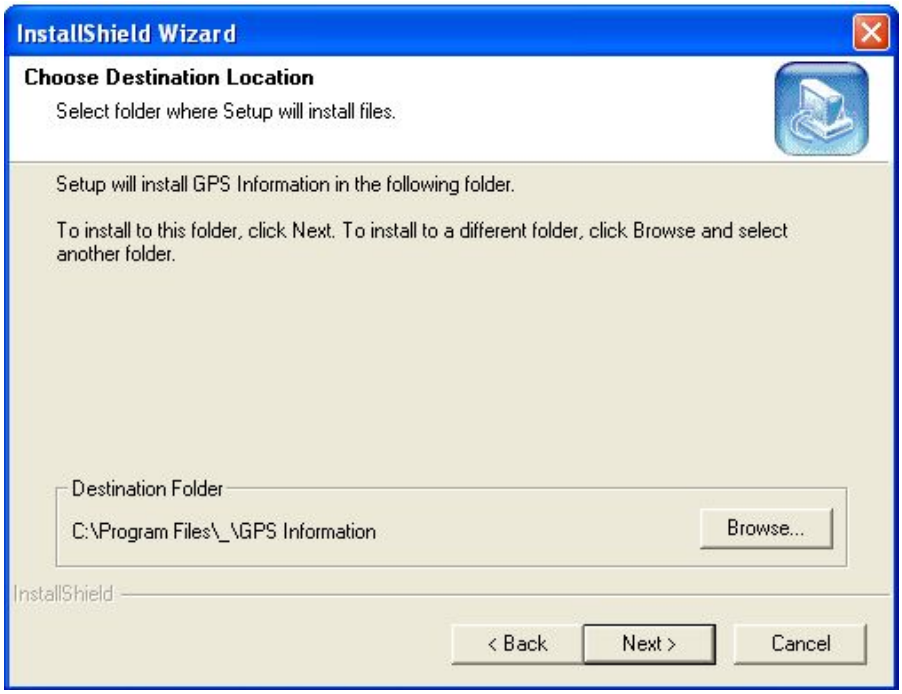
3. How to test your SDIO GPS Receiver?

The testing program only supports the Microsoft Windows CE & Pocket PC based PDA platform.

1. Put the CD with driver into CD-Rom, the CD would run automatically,
   and then you can see the screen as below



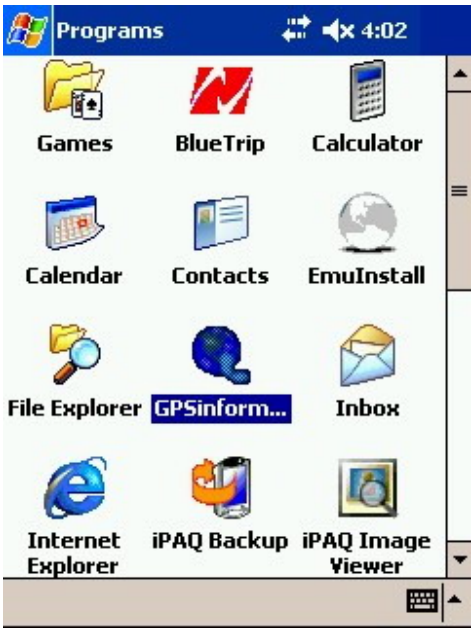
2. Click the " GPS information" to execute the installation procedure of testing program (via PC and ActiveSync).

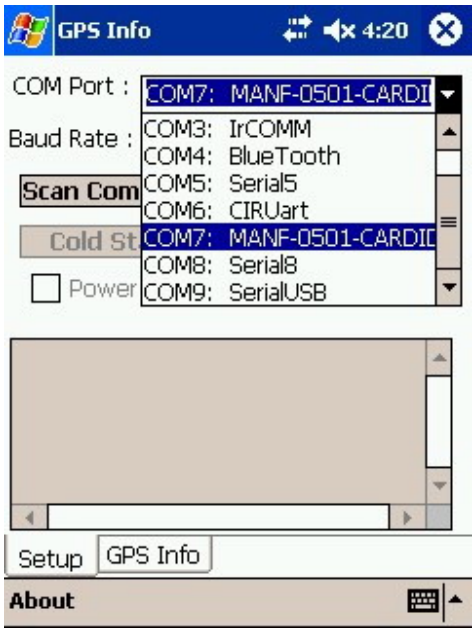


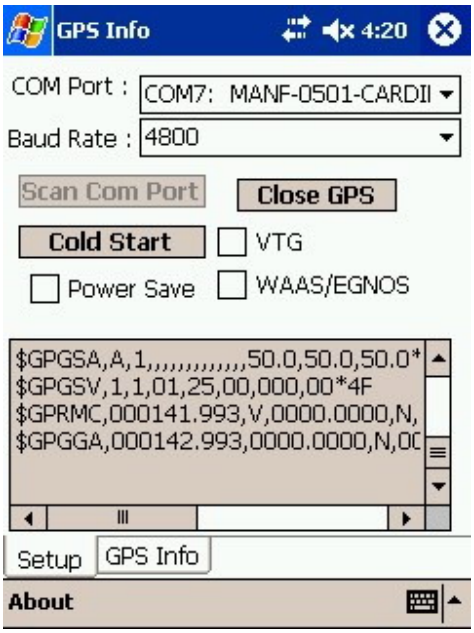
2. Run the “ GPS Information” program from “ Start → Program files” of PDA.

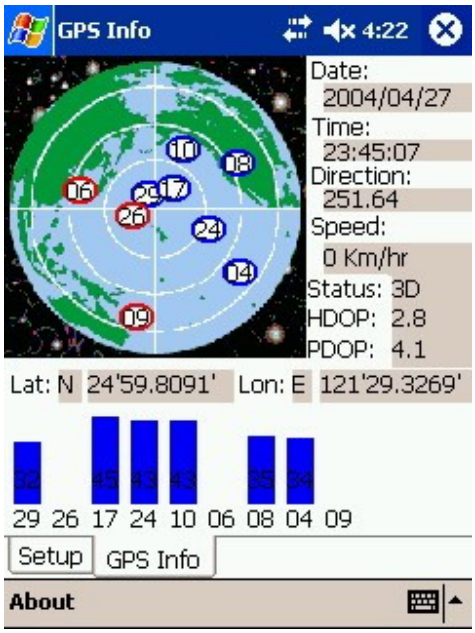
Here is the description of “ GPS Information” testing program as follows:

User must select COM port , Baud Rate (4800) and click the [Star GPS] button to start receiving GPS data.









4. System Specification

Electrical Characteristics (Receiver)	
Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	12 channel all-in-view tracking
Accuracy	
Position Horizontal	10 meters, 2D RMS 1-5 meters 2D RMS, WAAS corrected
Velocity	0.1m/sec
Time	1 micro-second synchronized to GPS time
Datum	
Datum	Default: WGS-84
Acquisition Rate	
Hot start	8 sec., average
Warm start	38 sec., average
Cold start	45 sec., average
Reacquisition	0.1 sec. average
Protocol	
GPS Protocol	Default: NMEA 0183 (Secondary: SiRF binary)
GPS Output format	GGA(1sec), GSA(1sec), GSV(5sec), RMC(1sec), GLL, VTG is optional
Dynamic Condition	
Acceleration Limit	Less than 4g
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/sec. (1,000 knots) max.
Jerk Limit	20 m/sec**3
Temperature	
Operating	-20°~ 70°C
Humidity	5 to 95% non-condensing
Power	
Voltage	3.3V
Power Consumption	90mA
Physical Characteristics	
Dimension	78mm x 31mm x 17.5mm

4.1 SDIO Specification

- Compliant with SDIO Card Specification Ver.1.00
- Base on Bsquare SDIO Now!

4.2 Set up the format and COM port

1. TomTom Navigator

Plug in SD-501 first, and then select the format “NMEA 0183v2 4800”
and the COM port “SDGPS”