

BC-337
GPS Receiver with Compact Flash Interface
User Manual

1. BC-337 at a glance



2. Introduction

The BC-337 is a GPS receiver with Compact Flash type I interface and it has a built-in high sensitivity antenna for tracking signal. Based on the SiRF star III high performance GPS Chip Set with very high sensitivity (Tracking Sensitivity: -159 dBm), it has an extremely fast TTFF (Time To First Fix) capability at the low signal level. The BC-337 is well suited to system integration and users who use PDA or notebook PC. It satisfies a wide variety of applications, including car navigation, personal navigation of touring devices, tracking and marine navigation purpose. Users can simply plug it into a PDA or other type of handheld PC running with suitable mapping and routing software for navigation.

2.1. 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.

- GPS Receiver (BC-337)
- CD (including User Manual, Testing Program, Driver for PCMCIA card slot of Notebook PC)

* Optional Accessory: CF-to-PCMCIA adapter

* Optional Accessory: External Antenna

2.2. LED Function

LED off	Receiver power off
LED on	Searching the signal
LED flashing	Position is fixed

2.3. External Antenna

Basically, you don't need external antenna to perform GPS positioning with BC-337; it already has a built-in antenna. The only condition that you need external antenna is when BC-337 unit can not "see" the sky, For instance, when you are in a car, or any environment that GPS signal is blocked, the external GPS antenna will help to receive better GPS signal.

Plug the external antenna with MMCX connector to the plug on BC-337. Place the magnetic external antenna on the roof of the car or the outdoor open-space, and make sure not to put it upside down. That is, the magnetic side is the bottom side, and the upper side must face to the sky in order to receive better signal.



Note: Hold the antenna connector while you plug the external antenna into the BC-337 or unplug the external antenna from the BC-337. Do not pull it by the cable line.

3. Specification

Electrical Characteristics (Receiver)	
Frequency:	L1, 1575.42MHz
Channel:	20 channels all-in-view tracking
Chipset:	SiRF Star III
Interface	
Interface:	Compact Flash Type I
Accuracy	
Position Accuracy:	10 meters, 2D RMS, (No SA). 5 meters, 2D RMS, (WAAS enabled).
Datum	
Datum:	WGS-84
Acquisition Rate	
Hot Start:	1 sec. average
Warm Start:	38 sec. average
Cold Start:	42 sec. average
Reacquisition Time:	0.1 sec. average
Protocol	
GPS output data:	NMEA 0183 protocol, supports command GGA (1 sec), GSA (1 sec), GSV (5 sec), RMC (1 sec), (VTG and GLL are optional).
Baud Rate:	4800 bps,N,8,1
Dynamic Condition	
Maximum Altitude:	18,000 meters (60,000 feet) max.
Maximum Velocity:	515 meter/sec. (1,000 knots) max.
Power	
Voltage:	DC 3.3 V \pm 10%
Power consumption:	90 mA
Physical characteristics	
Antenna Type:	Built in antenna
External Antenna Interface:	MMCX (Optional)
Dimension:	83 mm x 42.8 mm x 13.3 mm
LED Indicator:	GPS fix status. (blinking light: GPS is fixed, solid light: GPS is not fixed.)
Temperature	
Operating Temperature:	-10°C to +70°C
Storage Temperature:	-40°C to +85°C
Operation Humidity:	95%, Non- Condensing

4. Installation

The BC-337 GPS receiver supports plug and play.

For PDA	For Notebook PC
<ol style="list-style-type: none"> 1. Plug BC-337 GPS receiver into the Compact Flash slot of your PDA. 	<ol style="list-style-type: none"> 1. Plug BC-337 GPS receiver into PCMCIA card slot on notebook PC through a general "Compact Flash to PCMCIA adapter".
<ol style="list-style-type: none"> 2. Run the suitable mapping/navigation software, select the correct COM port and set the baud rate to 4800,N,8,1. 	<ol style="list-style-type: none"> 2. Install the "Compact Flash to PCMCIA" driver for Windows 98, ME, 2000 or XP. (Please see section 3.2 for details.)
<p>Usually the default COM port is COM2, but it depends on your PDA type. You can use the testing program (can be found within the CD) to detect the COM port that the BC-337 is currently using.</p>	<ol style="list-style-type: none"> 3. Run the suitable mapping/navigation software, select the correct COM port and set baud rate to 4800,N,8,1.
	

4.1. Test the BC-337 GPS receiver for PDA

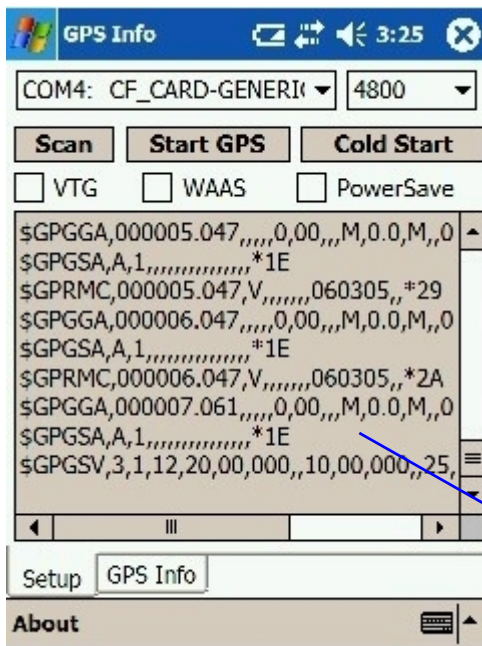
Note: Before you do the following test, please refer to GPS Information User Manual for installing the “GPSinfo” testing program. You can find the program and Manual in CD. (“GPSInfo.exe” and “gpsinfo_menu_Eng_rev Ver 1.02.pdf”)

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

1. Plug BC-337 into your PDA.
2. In your PDA, tap “Start”, “Programs” and tap “GPSinfo” icon.
3. You must select COM port (CF-CARD-GENERIC), Baud Rate (4800) and tap the [Start GPS] button to start receiving GPS data. You can use this testing program to check the GPS data received by BC-337.

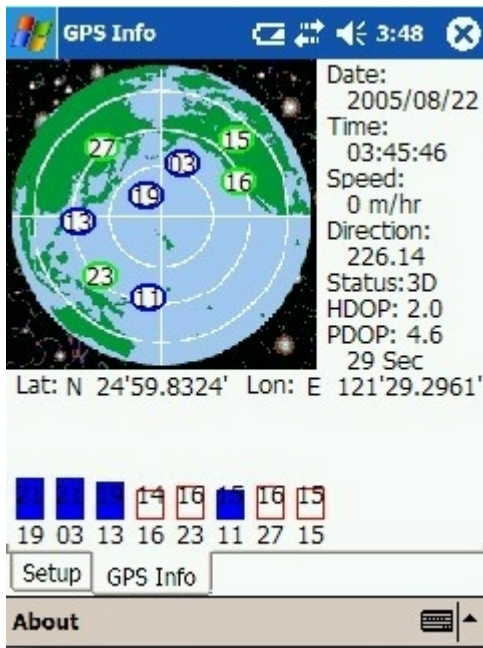


Here is the description of “GPSinfo” testing program as follows:



COM4: CF_CARD-GENERIC	COM Port Select
4800	Baud Rate Select
Scan	Scan COM Port
Start GPS	Start/Close receiving GPS data
Cold Start	Cold Start to GPS
<input type="checkbox"/> VTG	Enable/Disable VTG output
<input type="checkbox"/> WAAS	Enable/Disable WAAS/EGNOS
<input type="checkbox"/> PowerSave	Enable/Disable Trickle power mode

GPS data from satellites

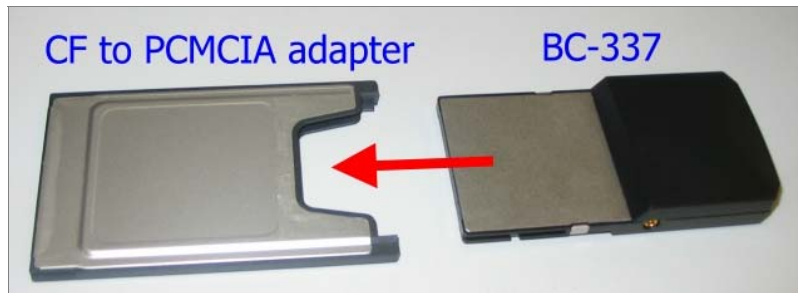


Date:	Time:	Date and Time information
Speed:	Direction:	Speed and Direction
Status:		2D or 3D
HDOP:		Horizontal Dilution of Precision
PDOP:		Positional Dilution of Precision
Lat:	Lon:	Latitude and Longitude
The number in above is the signal intensity. The number in below is the satellite number.		

• For more detail about this GPS Info testing program, please refer to the GPS Information User Manual, you can find it in the CD. ("gpsinfo_menu_Eng_rev Ver 1.02.pdf")

4.2. Install the "Compact Flash to PCMCIA" driver

Insert the BC-337 into the "CF to PCMCIA adapter" and insert the adapter into your notebook PC. The BC-337 GPS receiver supports the plug and play feature, so your notebook PC will detect it automatically.



Setup for Windows 98, ME

Add New Hardware Wizard



Windows has found the following new hardware:

CF CARD-GENERIC

Windows can automatically search for and install software that supports your hardware. If your hardware came with installation media, insert it now and click Next.

What would you like to do?

- Automatic search for a better driver (Recommended)
- Specify the location of the driver (Advanced)

< Back

Next >

Cancel

Add New Hardware Wizard



Compact Flash 0X16CF950

Windows has finished installing the new hardware device.

< Back

Finish

Cancel

1. The system will recognize the device. It will show the “**Add New Hardware Wizard**” dialog box. Select “**Automatic search for a better driver**”, insert the driver CD into the CD-ROM drive and click “**Next**” button.
2. The system will search the driver of this device and automatically copy the necessary files into the system.
3. Click “**Finish**” button to complete the installation.

Setup for Windows 2000



1. The system will recognize the device. It will show the “**Found New Hardware Wizard**” dialog box. Please insert the driver CD into the CD-ROM drive and click “**Next**” button.



2. Select “**Search for a suitable driver for my device**” and click “**Next**” button.



3. Select “**CD-ROM drives**” and click “**Next**” button.



- 4. Click **Next** button. The driver will copy the necessary files into system.



- 5. Click **Finish** button to complete the installation.

Setup for Windows XP



1. The system will recognize the device. It will show the “**Found New Hardware Wizard**” dialog box. Please select “**Install the software automatically**”, insert the driver CD into the CD-ROM drive and click “**Next**” button.



2. Please click “**Continue Anyway**” button. The system will search the driver of this device and automatically copy the necessary files into the system.

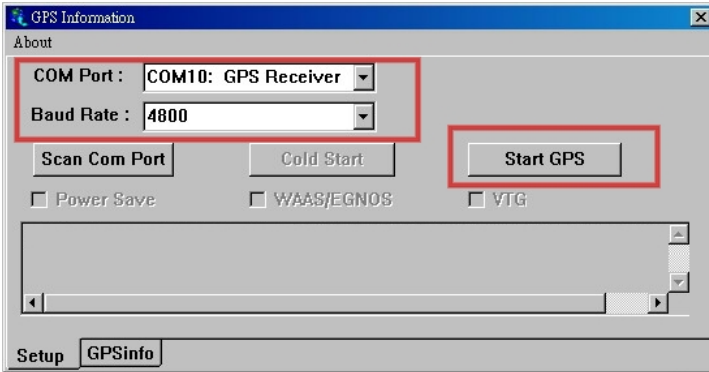


3. Click “**Finish**” button to complete the installation.

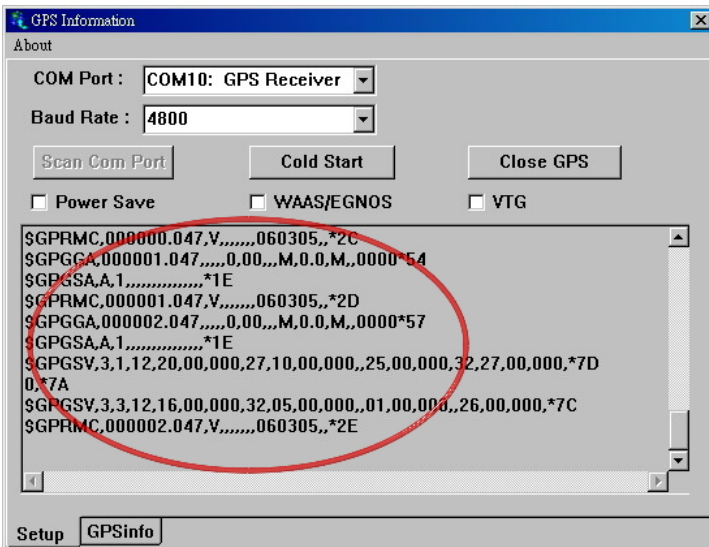
4.3. Test the BC-337 GPS receiver for Notebook PC



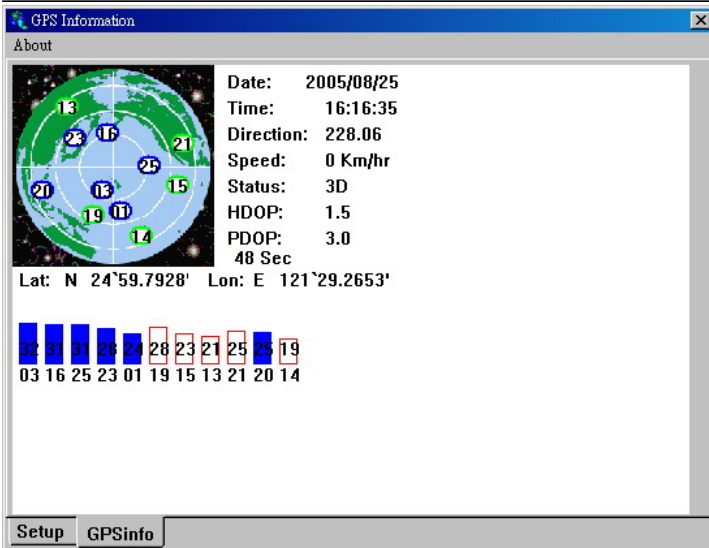
1. From desktop, double click the “Gpsinfo” icon to start the GPS Information program.



2. Select the correct COM Port and set the Baud Rate to 4800.
 3. Click “Start GPS” button to start receiving the GPS data.

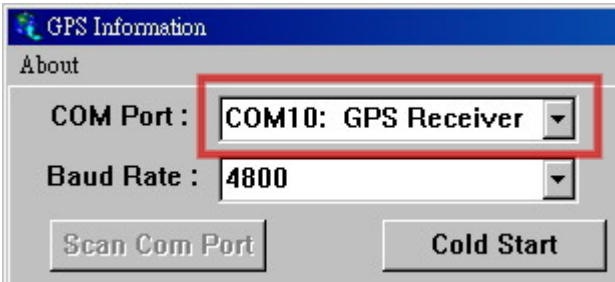
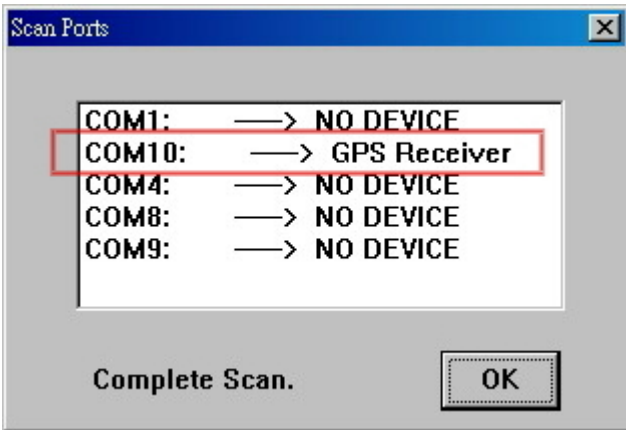
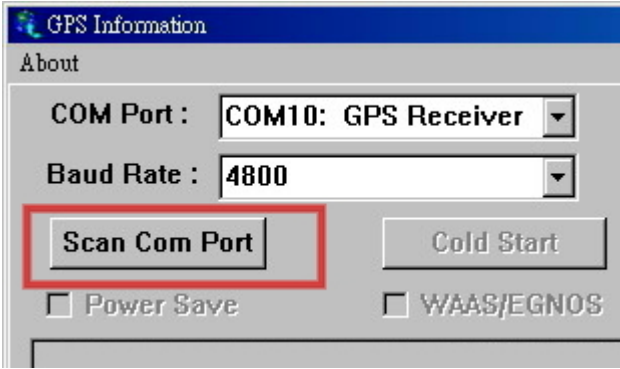


4. You will see the GPS data running in the window.



5. Also you can switch to GPSinfo tab to see the satellite information.

• For more detail about this GPS Info testing program, please refer to the GPS Information User Manual, you can find it in the CD. (“gpsinfo_menu_Eng_rev Ver 1.02.pdf”)



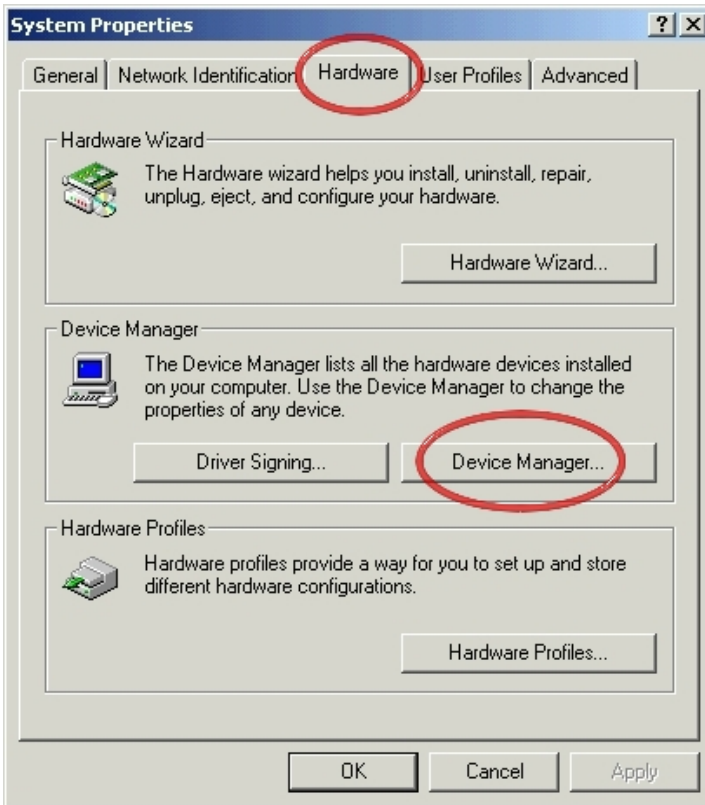
6. If BC-337 can not receive the GPS data, please check if you select the correct COM Port. You can click the **“Scan Com Port”** button to let the program scan for you.

7. A **“Scan Ports”** dialog box will appear and the program starts to scan and find the device. When the scan is completed, click **“OK”** button.

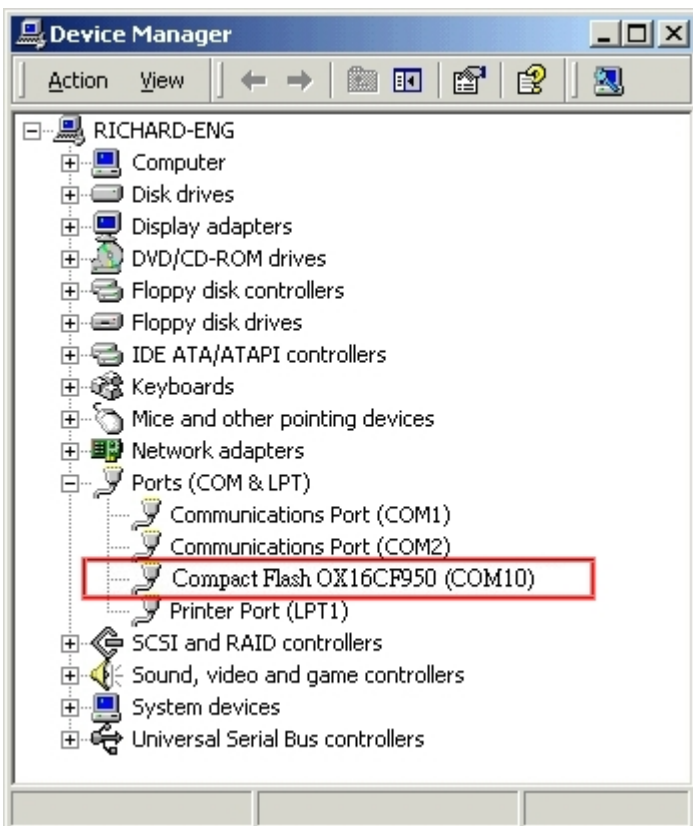
(If the scan is failed, please repeat the step 6 and do it again.)

8. The program will automatically set the correct COM port number which it found the GPS Receiver.

A tip to check the COM port of BC-337



1. From desktop, right click on “**My Computer**” icon and click “**Properties**”.
2. In the “**System Properties**” dialog box, click “**Hardware**” tab, and then click “**Device Manager**” button.



3. In the “**Device Manager**” dialog box, expand the “**Ports**” group and you can find a Compact Flash device and its COM port number.

FCC Notices

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation .

FCC RF Exposure requirements:

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.