

SkyTraq

Bluetooth GPS Receiver

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1. Notice:

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2. 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.

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3. Introduction:

The is a compact-size, high performance Bluetooth GPS receiver with elegant mechanical design. The core of this elegant device is the SkyTraq GPS receiver IC and the RFMD Bluetooth chipset.

This is a class 2 Bluetooth device, with range of 10 meters. It supports v1.1 Bluetooth Serial Port Profile, which ensures compatibility with all devices such as PDA and smart phones which also support the SPP Bluetooth Profile.

There are three LED indicators on the – a green (GPS) LED, a blue (Bluetooth) LED, and a red (power status) LED. The green LED will be on when the GPS receiver is in acquisition mode, and will start blinking every 1 second when the GPS position is fixed (i.e., tracking mode). The blue LED will be steady light when the Bluetooth is in connection and will be blinking every 6 seconds if the Bluetooth connection between the host and the GPS receiver is lost. The red LED will be blinking every 1 second to indicate the battery power level is low, on when charging the battery and off if the battery is fully charged.

It also incorporates an intelligent power management scheme so that the GPS will be turned off before the Bluetooth connection is established or when the Bluetooth connection is lost. Together with the large capacity mAh rechargeable battery, the operating time of the battery is much longer than most of the Bluetooth GPS receivers currently on the market.

4. Packing List:

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

- I Bluetooth GPS receiver
- I Rechargeable Li-ion battery
- I CD with the User Manual
- I DC car power charger
- I USB Cable

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5. Main Features:

- I SkyTraq GPS chipset
- I Acquire and track 44 satellites simultaneously
- I NMEA-0183 compliant protocol
- I Ultra fast signal acquisition and TTFF speed
- I Accuracy 5m CEP
- I Smart power saving
- I SBAS (WAAS/ EGNOS) capable
- I Bluetooth Technology

6. Specification:

System Specification		
Frequency		L1, 1575.42 MHz
C/A Code		1.023MHz chip rate
Channels		44 all-in-view tracking
Tracking Sensitivity		Tracking-158 dBm, Re-acquisition-155dBm (with 1 satellites at -140dBm, remaining satellites at -155dBm)
Accuracy	Position Horizontal	10m 2D RMS (without SA)
	WAAS enabled	5m 2D RMS (without SA)
	Time	1 micro-second synchronized to GPS time
	Velocity	0.1m/sec 95% (without SA)
Datum	Datum	WGS-84
Acquisition Rate	Hot Start	<1 sec. with open sky condition
	Warm Start	<35 sec. with open sky condition
	Cold Start	<35 sec. with open sky condition; <40 sec. with all signals at -135dBm
	Reacquisition	<1 sec. with power save mode OFF (5 sec if power save mode ON)
Protocol	GPS Output data	NMEA0183 v3.01 protocol (GGA, GSA, GSV, RMC)
	GPS Transfer rate	9600

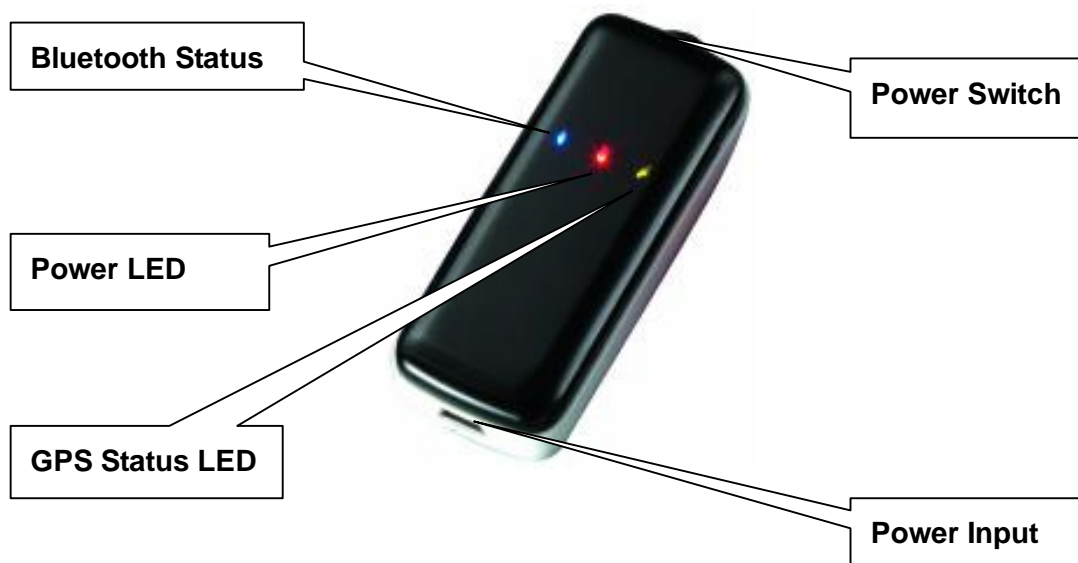
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Dynamic Condition	Acceleration	Less than 4G
	Altitude	<18,000 m (COCOM limit, either may be exceeded but not both)
	Velocity	<515 m/ s (COCOM limit, either may be exceeded but not both)
Interface		Bluetooth V1.1 certified with a Class 2 Bluetooth radio
Power	Voltage	Rechargeable Li-ion battery
Dimension		70 x 28 x 20 mm (L x W x H)
Temperature	Operating	-20℃ ~ +60℃
	Storage	-20℃ ~ +80℃
	Humidity	Up to 95% non-condensing

7. Operation:




7.1 Device Description:



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7.2 LED Status:

Symbol	LED	Status	Description
	Blue	1. Stand-by mode	Blinking every 6 seconds
		2. Connected	Steady Light
	Green	1. Stand-by mode	OFF
		2. Tracking	Steady Light
		3. GPS position fix	Blinking every 1 seconds
	Red	1. In normal	OFF
		2. In low battery	Blinking every 1 seconds
		3. In charging	Steady light

7.3 Usage:

7.3.1 To turn on the Bluetooth GPS receiver:

When turn on the power of BLUETOOTH GPS RECEIVER all the LED lights will blink one time. When there is a host Bluetooth device enables the connection between the Bluetooth and BLUETOOTH GPS RECEIVER the blue LED will blink once every two seconds.

When switch the power of ON, the GPS receiver will start to acquire the satellites. No matter it gets the position fix or not, if there is no connection between the Bluetooth device and the BLUETOOTH GPS RECEIVER, the Bluetooth GPS will turn off the GPS in five minutes.

For better satellite acquisition, make sure that the GPS receiver is in clear view of the sky without any obstruction for better satellite acquiring.


When the connection between the Bluetooth device and is established, the GPS tools or navigation software can be run and the Bluetooth GPS receiver will start to transfer the NMEA data to Bluetooth device.

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7.3.2 Connection:

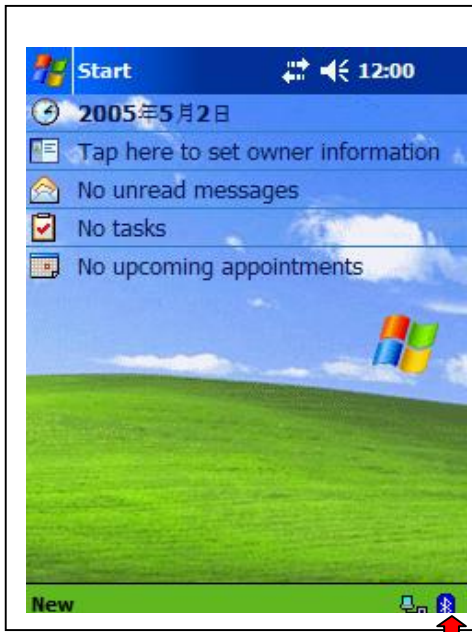
7.3.2.1 Connect to PDA:

Supports Bluetooth Serial Port Profile V1.1, works with any Bluetooth enabled device with Serial Port Profile.



The screenshot shows the Windows Mobile Start screen with a blue header bar containing the 'Start' button, a clock showing 12:00, and a date '2005年5月2日'. Below the header are several status bars: 'Tap here to set owner information', 'No unread messages', 'No tasks', and 'No upcoming appointments'. The background is a green grassy hill with a blue sky and a Windows logo. A 'Turn Bluetooth ON' dialog box is visible in the bottom right corner of the screen. A red arrow points to the Bluetooth icon in the task bar.

1. Click the Bluetooth icon at the right bottom of task bar.
2. Turn Bluetooth On.



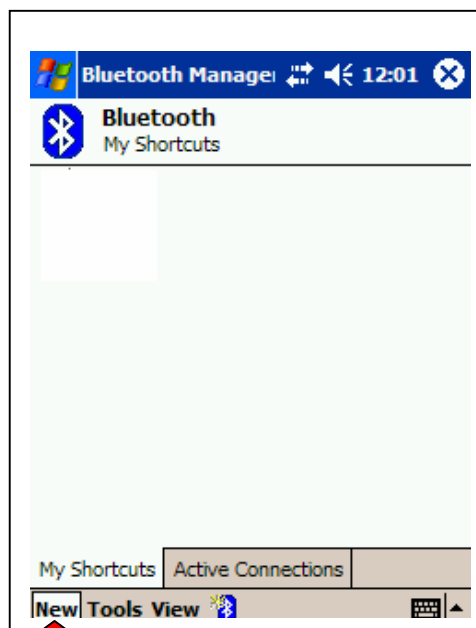
The screenshot shows the same Windows Mobile Start screen as the previous one, but the Bluetooth icon in the task bar is now blue, indicating it is enabled. A red arrow points to the Bluetooth icon.

3. Bluetooth is enabled.

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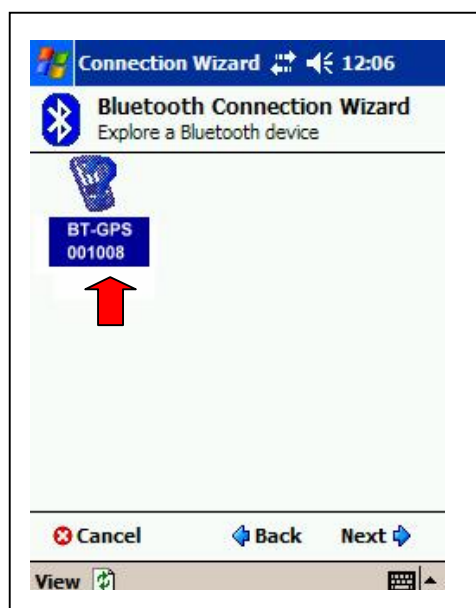
4. Click Bluetooth icon.
5. Select Bluetooth Manager.



6. Click New button to active Bluetooth Connection Wizard.



7. Click Explore a Bluetooth device to detect Bluetooth device
8. Click the Next button



9. Once the PDA detect the Bluetooth GPS receiver. It will show this new device in the Wizard. Please select BT-GPS xxxxx

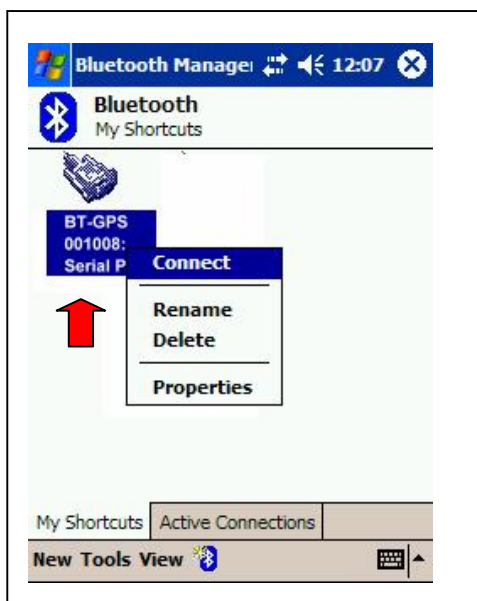
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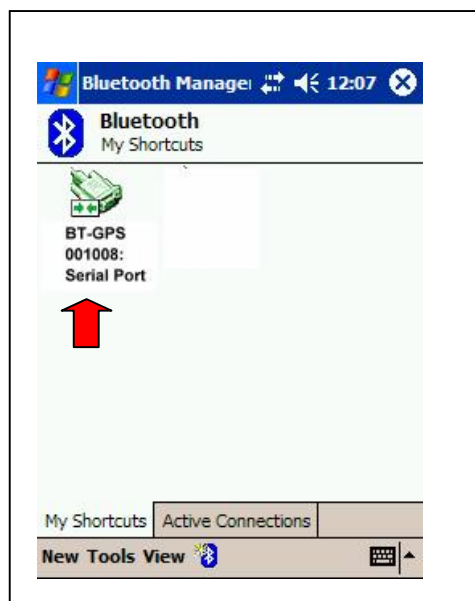
10. Select the Serial Port then click Next button.



11. Click the Finish button.



12. Press the BT-GPS:xxxx icon for 2 – 3 seconds, it will pop-up a menu
13. Select the Connect from the menu to build the connection



14. Once the connection is built, the BT-GPS:xxxx icon will become green color.

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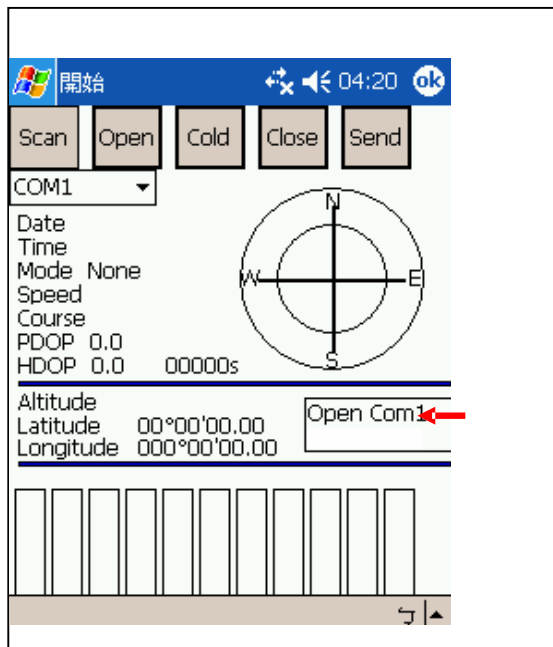
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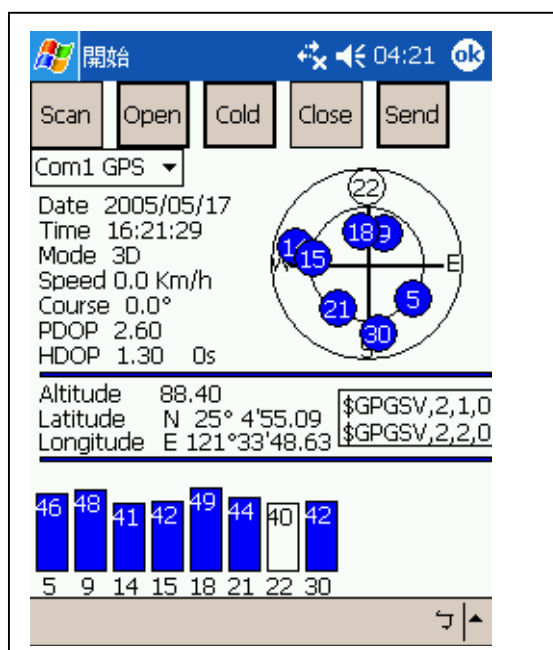
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7.3.2.2 Verify the connection:

Once you install the GPS View from the Installation CD, you can run the GPS View by click “GPS View” from the Program Files. After you run the GPS View, you will see a window below.



1. Scan: To detect GPS receiver connected COM port (You may select the COM port from the pull-down menu)
2. Once the COM port has Selected, press the Open button to open the COM port.
3. The NMEA will be rolling on the NMEA window.



4. Once the GPS receiver got the position fix, the Satellite Constellation map will display the position of Satellites. And the white C/N bar will become blue.

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7.3.2.3 Connect to Laptop with Bluetooth device:

1. Switch on the power of Bluetooth GPS Receiver.
2. Please refer to the User Manual of Bluetooth device to enable it connects to the Bluetooth GPS Receiver.
3. Some Bluetooth devices may need the Bluetooth password, the password is "0000"
4. Check the number of COM port used by Bluetooth (Example COM5)
5. Open the GPS software and configure the correct COM port and baud rate: 9600bps

7.3.3 Power Jack:

The power jack lets you connect either a DC car cigarette charger or AC power charger to recharge the internal Lithium-ion battery.

Please note that the adapter rating is 5V, 1.0A, positive pole center

7.3.4 Smart Power Saving Feature:

The GPS circuitry of is turned off when the Bluetooth connection is lost. This intelligent power saving function could help conserve battery power.

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