

Bluetooth GPS Receiver

User's Manual

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0. NOTICE

1. First time use: before using BT GPS receiver, please make sure to first charge it for at least 2 hours in advance.
2. If you experience difficulty receiving the positioning information from the satellites and have been using BT GPS receiver for a period without recharging, the power of the battery maybe low and may need to be recharged. Please recharge the battery of your BT GPS receiver for at least 2 hours and then turn the power switch on.
3. LED lights indicators
 - a. Blue LED Light
On→ Bluetooth devices has been connected
 - b. Green LED Light
On→ Battery is being charged
 - c. Red Light
 - I. Light blinking once every second -> BT GPS receiver is receiving positioning data from the Satellite.
 - II. Light blinking once every 4 seconds -> BT GPS receiver is searching for GPS satellites

Thank you for considering and purchasing BT GPS receiver.

Attention:

Federal Communications Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

1. GETTING START

1.1 Product Description

The Bluetooth GPS receiver is a mobile GPS receiver integrated with Bluetooth wireless technology. By combining an advanced GPS receiver, a mini antenna and Bluetooth technology together, the BT GPS receiver is the perfect solution for users seeking a compact and wireless GPS receiver that consumes low power and has a long battery life with high gain. The flexible design of the BT GPS receiver allows you to navigate and seek your position with any Bluetooth-enabled devices, such as your PC, laptop, Palm or Pocket PC. With Bluetooth wireless technology, you can now navigate freely without the hassle of messy wire connections.

1.2 Features

- ◊ Bluetooth wireless technology for wireless connection.
- ◊ Capability of reading NMEA-0183 Sentences (GGA, GSV, RMC, GSA, GLL, VTG and ZDA).
- ◊ Built-in high sensitivity GPS active antenna and external high sensitivity antenna (Option)
- ◊ Smallest Bluetooth GPS receiver in the market.
- ◊ Streamline and lightweight: Perfect for any use.
- ◊ Clear Blue and Red LED to indicate Bluetooth and GPS status, Yellow LED means Low power, and Green LED means power charging.
- ◊ Use Lithium battery to operate more than 8hr after full charged in continuous mode. This battery is re-chargeable.
- ◊ Fast TFFF: Cold/Warm/Hot: 50/35/5 Seconds

1.3 Applications

- ◊ Navigation and positioning
- ◊ Finding streets and routes using GPS map software
- ◊ Travel/track planning
- ◊ Personal security and safety
- ◊ Application for Marine Navigation
- ◊ Fleet management GPS system
- ◊ GPS network timing
- ◊ In-car navigation/locating for public safety and emergency
- ◊ AVL GPS function

1.4 Specifications

General	
Frequency	L1, 155.42 MHz.
C/A	1.023 MHz chip rate
GPS Fix Data Renewal Rate	1 sec
Channels	12 Parallel Channels
DPGS Source	Default: None
Antenna Type	Built-in Antenna
Accuracy: (DPGS: None)	
Position:	5 meters RMS, without SA
Velocity:	0.1meters/second, without SA

Speed accuracy:	0.1Km/h with Signal level higher than -150dBm.
Bearing accuracy:	0.1 deg with Signal level higher than -150dBm.
Acquisition sensitivity:	-139dBm
Tracking sensitivity:	-150dBm (Fixed position)
Time Accuracy(95%)	1ms (Fixed position)
Time:	1ms synchronized to GPS time
Datum:	WGS-84 (or by demanded)
Acquisition Rate:	Open Sky and Stationary
Reacquisition:	5 sec, average
Cold Start:	<50 sec, average
Warm Start:	<35 sec, average
Hot Start:	<5 sec, min.
Connection:	Communicate with Host Platform via Bluetooth (Class2) Serial Port Profile (4800 BPS)
Protocol:	Default: NMEA-0183 (V3.01) GGA, GSV, GSA, RMC, GLL, VTG and ZDA
Power:	Default: 8 hr.(min.) with Lithium Battery
Device Size and Weight:	60(W) x 80(L) x 11(H)mm, 56g
Environmental:	Operating Temperature: -20°C to +60°C Storage Temperature: -30°C to +70°C Relative Humidity: 5% to 95%, non-condensing

Specifications are subject to change without prior notice.

1.5 Package Contents

This package is including the following items:

- Bluetooth GPS receiver
- 12V to 5V @3A car charger
- An user manual CD

2. OPERATION GUIDE

2.1 Operating System Requirement

- ◊ Windows 98, Windows NT, Windows XP, Windows CE, Macintosh or any other OS that is compatible with GPS NMEA Sentence format and the eMap (Electrical street map) which can support in hardware device.
- ◊ Any Bluetooth-enabled device, such as your Desktop/laptop PC, Palm, Pocket PC.
- ◊ Host Control Interface (HCI) Supports Bluetooth Serial Port Profile(SPP)

2.2 GPS Signal Reception

The BT GPS receiver offers a highly accurate positioning accuracy of 5m and a 50sec TTFF for initial position fixes under cold start conditions. However, those performances depend on the location and the initial state of the receiver. Your GPS TTFF and positioning accuracy can be affected by the following factors:

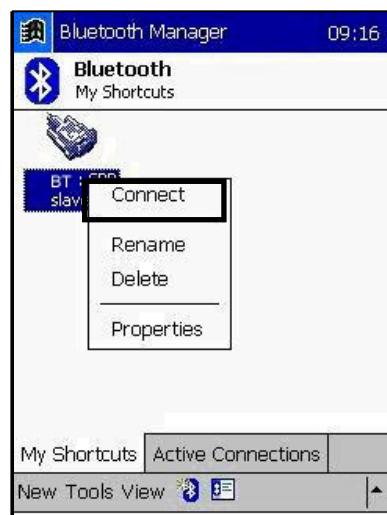
- ◊ Tall buildings and constructions
- ◊ Narrow streets
- ◊ Heat rejection film on glass or on windshield
- ◊ Under trees of heavy leafage
- ◊ Beside large and tall cliffs
- ◊ Any object that obstructs a clear view of the sky
- ◊ Poor satellites geometry conditions.

2.3 Connecting the Bluetooth GPS receiver to your Pocket PC

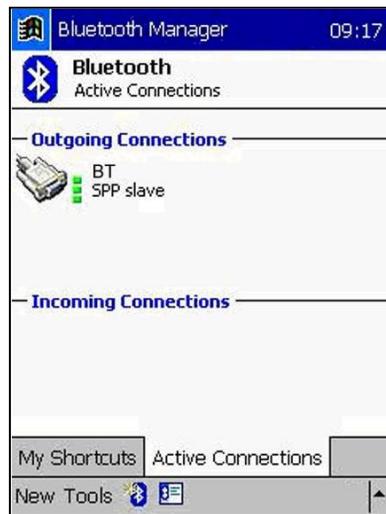
1. Turn the power switch on. The battery status LEDs will immediately light up. The Blue LED, when it is on, means a Bluetooth connection has been established, the Red LED means GPS fixes have been established, and the Green LED means power is being charged.
2. Place your BT GPS receiver in a secure place with an unobstructed, open view of the sky. If you use BT GPS receiver in your vehicle, place it on the dashboard with the front surface facing the sky.
3. To establish a Bluetooth connection between your BT GPS receiver and Pocket PC, turn your Pocket PC on first. After initializing, you will see the Bluetooth icon on the right bottom corner of your screen. Press the Bluetooth icon and select the "Bluetooth Manager" item on the pop-up menu.



4. Now in the Bluetooth Manager menu, you will see a "BT" icon. Press the icon, hold it still and select the Connect option.



5. Your Bluetooth connection should now be established. In the Active Connection window, you can check the status of your Bluetooth connection.



6. Await TTFF simultaneously, the GPS status LED will be Red to indicate GPS positioning fix.
7. Your BT GPS receiver will now automatically and continuously receive the satellites' GPS NMEA data and transfer to Pocket PC via Bluetooth for navigation application.

3. CARE & MAINTENANCE

Cleaning

- Before cleaning, make sure the unit is not in use and the power is off.
- Clean the body and the components by wiping it with a soft dry cloth.
- Do not use any kind of volatile or organic cleaners as it may result in corrosion.
- No lubricators/chemicals should be used to clean the unit; it may cause unexpected damage to the surface or the inner electronic components.

Care & Maintenance

- Do not expose the product to extreme temperatures, sunlight, dust, high humidity environments, liquids and dirt, in case of unpredictable breakdowns.
- Avoid exposing the unit to extreme magnetic fields.
- Keep the product out of small children's reach.
- Never disassemble or alter the components inside the unit for it may result in electrical damage or injury. This will also void your warranty.
- Do not drop, shake or knock the product as it may cause permanent damage to the product.
- Do not fold or place the cables under high strain as this may cause power connection faults.
- Do not place or use the device in environments filled with highly flammable gas.

4. TROUBLESHOOTING

If you are experiencing difficulties with your BT GPS receiver, consult the following troubleshooting table for possible solutions.

BT GPS receiver Problems		
Problem	Diagnosis	Solution
• Module has no data output	• Power failure • Bluetooth connection failure • Baud rate is incorrect • Antenna's view is obstructed..	• Refer to the solution of power failure • Fix the baud rate at 4800bps • Make the antenna has a clear view of the sky
• GPS data is not in correct order • Module takes a longer time to start	• Module is in cold start mode	• Under cold start mode, the module will take 50 seconds to initialize. • Longer TTFF results from necessary accumulation of GPS data from each satellite or obstruction of the sky view
• Pocket PC cannot find BT GPS receiver	• Pocket PC Bluetooth function not enabled • The power switch of BT GPS receiver is not on • BT GPS receiver is in low Battery Mode • Bluetooth connection is busy	• Make sure the Pocket PC Bluetooth function is on • Reconnect Pocket PC and BT GPS receiver again • Recharge the batteries • Reset your Pocket PC and BT GPS receiver and reconnect again

If you encounter problems during installation and operation that cannot be solved from the provided information in this manual, please contact your dealer or our technical support staff.

5. WARRANTY

Warranty Time Period and Repair Coverage

We warrant BT GPS receiver to be free from all defects and malfunctions in materials and workmanship for a period of one year from the original purchase date from the authorized dealers. If the equipment functions improperly during the warranty period, we will either repair or replace the unit without charge. Such repair service will include necessary adjustment, remanufacture, and replacement. The product should be returned freight-prepaid by the purchaser within valid warranty period. **Notice that you must contact us or your dealer for a RMA (Return Material Authorization) number before returning the goods for repair.**

Limitations

This warranty is limited only to the repair or replacement of defective parts confirmed by the manufacturer to be a result of faulty materials or workmanship. Instruments mechanically or physically damaged due to the following conditions are beyond our warranty:

- **Neglect, misuse or abuse, such as incorrect testing, installation, or operation.**
- **Place subject in extreme environments beyond the limits of the specifications.**
- **Subjected to disassembling, soldering, alteration, unauthorized repair, and electrical shock by nature.**
- **Any incidental or consequential losses or damages result from the purchase.**
- **Disaster, accident, cost or loss of any substitutive equipment.**