BT-328

Bluetooth GPS Receiver

User manual, version 1.4

1. Overview

❶	**Power button**
❷	**AC adapter jack**
❸	**Power status LED**
❹	**GPS status LED**
❺	**Bluetooth status LED**

Car charger

AC adapter (optional accessory)

2. System Specification

Model Name	**BT-328**
Electrical Characteristics (Receiver)	
Chipset	**SiRF GSC2**
Frequency	**L1, 1575.42 MHz**
C/A Code	**1.023 MHz chip rate**
Channels	**12**
Tracking Sensitivity	**-155 dBm**
Accuracy	
Position Horizontal	**10m 2D RMS**
Time	**1 micro-second synchronized to GPS time**
Velocity	**0.1m/sec 95%**
Datum	
Datum	**WGS-84**
Acquisition Rate	
Hot start	**8 sec. average (with ephemeris and almanac valid)**
Warm start	**38 sec. average (with almanac but not ephemeris)**
Cold start	**42 sec. average (neither almanac nor ephemeris)**
Reacquisition	**0.1 sec. average (interruption recovery time)**
Protocol	
GPS Output Data	**NMEA 0183 protocol, and supports command: GGA, GSA, GSV, RMC, VTG, GLL. (VTG and GLL are 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**
Power	
Voltage	**Built-in rechargeable battery (1300 mAh) and 5V DC input charging circuit**
Operation Time	**16 hr. After fully recharged, in continuous mode**
Physical Characteristics	
Dimension	**67.5mm X 45mm X 17mm**
Weight	**65g**
Temperature	
Operating	**-20°C ~ 60°C**
Humidity	**Up to 95% non-condensing**

3. Bluetooth Specification

	Bluetooth V2.0 Compliant
Supply Voltage	2.8V ~ 3.3V
Frequency Range	2.042 ~2.480 GHz
Receiver Sensitivity	– 80 dBm
Transmit Power	Class 2
Transmitting Range	10 m
Power Consumption	45 mA (Typical)

4. Features

- New SiRF GSC2 high performance and low power consumption chipset
- Communication with Host Platform via Bluetooth Serial Profile
- Built-in ceramic patch antenna
- Support NMEA 0183 data protocol
- 3 LED to show the status of GPS/Bluetooth/Battery
- Rechargeable Li-ion battery
- Operation time: 16 hours, in continuous mode
- Auto power-off, if Bluetooth is not connected to any device within 10 minutes
- Bluetooth operation range: 10m

5. Introduction

The BT-328 is a GPS receiver with Bluetooth interface and built-in active antenna for high sensitivity to tracking signal. Base on the SiRF start II Low power single chipset and supports all functions (Single Sat updates in reduced visibility, Superior urban canyon performance, Foliage Lock for weak signal tracking, etc.) The BT-328 is well suited to system integrations including PDA, Smart phone, Tablet PC and Notebook PC with Bluetooth devices. It satisfies a wide variety of applications that are purposes in automotive, and outdoor recreation navigation systems.

6. Getting Started

- **Turn the device on and off**

  Power on: Press the power button for 1 second until the GPS status LED is on.

  Power off: Press the power button for 1 second until the GPS status LED is off.

- **AC Adapter jack**

  The power jack allows you to connect either a DC car charger (included) or AC adapter (included) to recharge the internal battery. Please note that the adapter is rating 5V, 1.2A, positive pole center.

- **LED Function**

  Power Status LED (Red / Yellow):

Red	Battery power is critically low, please charge it immediately.
Yellow	Battery is charging now.
LED off	Battery is partially full or fully charged.

  GPS Status LED (Green):

Blinking	GPS position is fixed.
On	GPS position is not fixed.

  Bluetooth Status LED (Blue):

Blinking slowly (flash once in every 3 seconds)	Not connected to any Bluetooth device. (Standby mode)
Blinking quickly (flash once in every second)	Connected to a Bluetooth device. (On-line mode)

- **Power-saving Function**

  After you have turned on the power of BT-328, and if it was not connected to any Bluetooth device within **10** minutes, BT-328 will turn off the power automatically by itself. If the AC adapter is connected, this function will be disabled.

7. Usage

7.1 Connect BT-328 to your Bluetooth device

(1) Press the power button to turn on the BT-328.

(2) The Bluetooth device could be “a PDA with built-in Bluetooth”, “a PDA with Bluetooth Compact Flash card”, or “a Notebook with Bluetooth device”…etc.

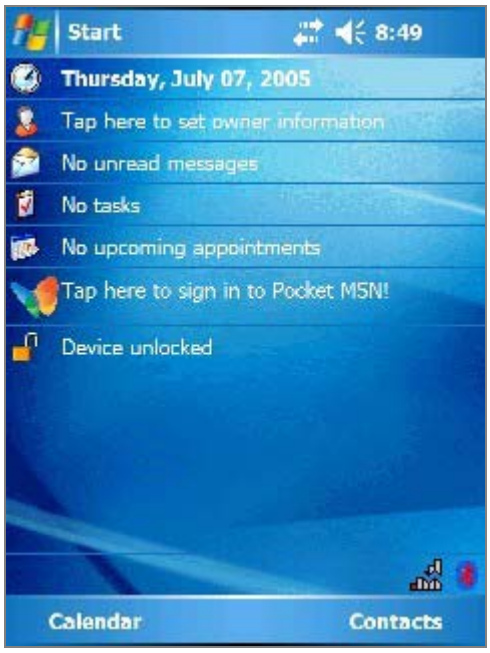
(3) Please refer to the user manual of your Bluetooth device and enable it for connecting to BT-328. Some Bluetooth device may need the Bluetooth passkey, the passkey is “**0000**“.

(4) Check the number of COM port used by the Bluetooth device.

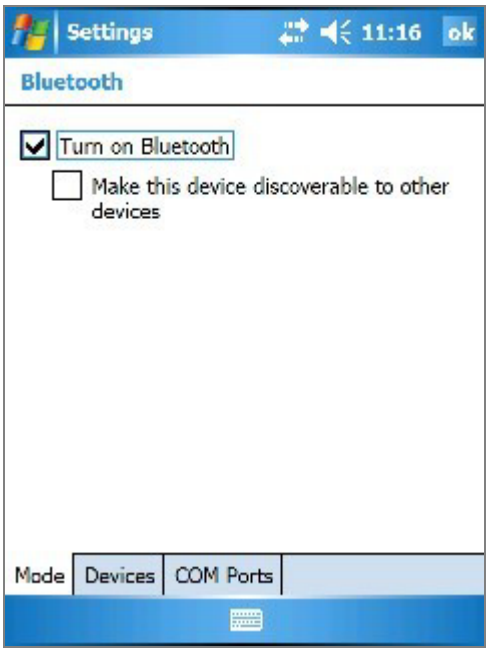
(5) Run the suitable mapping/navigation software and select the **correct COM port & Baud rate: 38400**.

Note: Most of the application software of Bluetooth device has an auto-detect feature, so you don’t have to manually select the Baud rate.

7.2 Connect BT-328 to a “Windows Mobile Version 5 Pocket PC”



1. Tap on the Bluetooth button on right lower corner.
2. Turn on your Bluetooth GPS receiver.



3. Check “Turn on Bluetooth”.

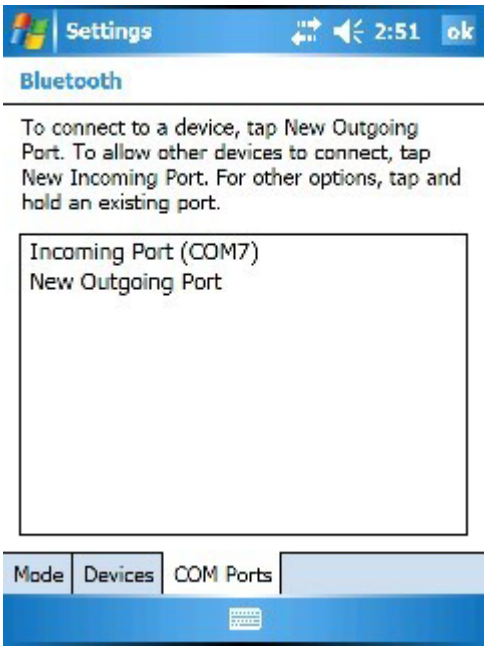
4. Tap the “Devices” tab, and tap “New Partnership…”.

5. It will search for all the Bluetooth devices.
6. Select a device (for example “BT-GPS-328EB2”) and tap Next.

7. Enter Passkey “0000” and tap Next.

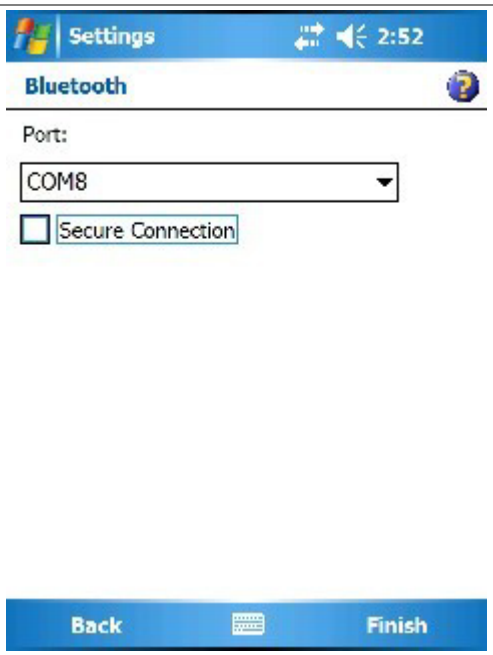
8. Check “Serial Port” and tap Finish.

9. The device will be shown on the list.

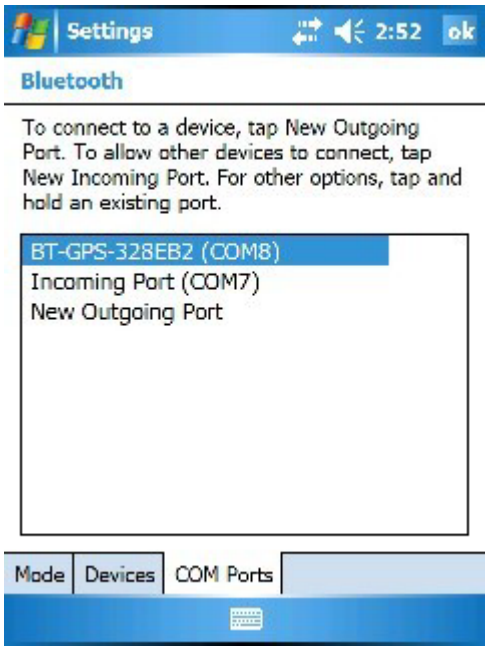


10. Tap the “COM Ports” tab, and select “New Outgoing Port”.

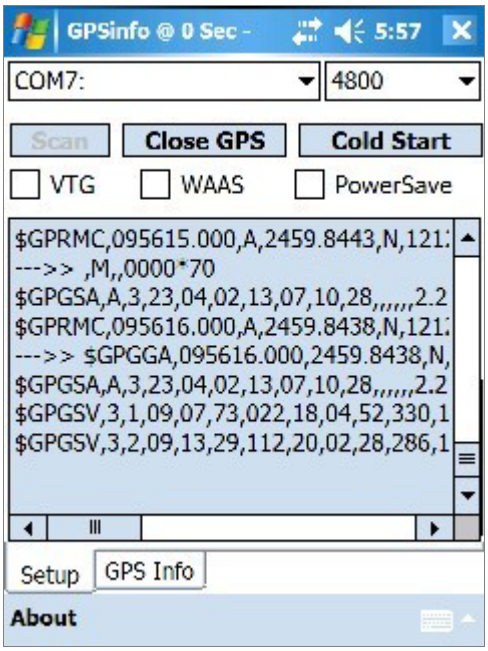
11. Select the device and tap Next.



12. Uncheck “Secure Connection” and from the drop down box select a COM port number (for example, COM8), and then tap Finish.



13. The device with it's COM port number will be shown on the list.



14. Now you can go to GPSinfo program, set the correct COM port and test the GPS receiver.

8. Test the BT-328 Bluetooth GPS Receiver

Please install the GPS Information program. It is included in the CD, file name could be “GPSinfo.exe” or “GPS Information.exe”.

This testing program only supports the Microsoft Windows CE & Pocket PC based PDA platform. Please refer to the GPSinfo User Manual for more detailed guide.

9. Troubleshooting

- **Bluetooth is unable to be connected**
  (1) Check if the Bluetooth status LED is flashing normally.
  (2) Check if the battery power is enough. If not, please recharge it.
  (3) Check if the other Bluetooth device is enabled or not.

- **GPS cannot be positioned**
  (1) Check if the GPS status LED is flashing normally.
  (2) Check if the battery power is enough. If not, please recharge it.
  (3) If GPS cannot be positioned for long, apply GPSinfo software to make it a Cold Start, and move it to an open space for performing the positioning task.

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.