

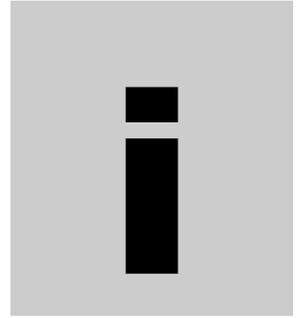
1.1

BTGPS

**User's Guide &
Manual**

Index

| | |
|--------------------------------------|-------------|
| Introduction | 1 |
| CHAPTER 1 | |
| Features & Specifications | 2 |
| CHAPTER 2 | |
| Operation Guide | 5 |
| Satellite Distribution | 7 |
| Satellite signal | 7 |
| GPS Position | 7 |
| Compass | 7 |
| Distance | 8 |
| Time | 8 |
| Connecting to a computer | 8 |
| Menu | 9 |
| Charging battery | 11ha |
| Driver Installation | 12 |



Introduction

The Billionton BTGPS Bluetooth GPS Receiver is a mobile GPS receiver with integrated Bluetooth wireless technology and a Universal-Serial-Bus (USB) transceiver. Our innovative concept combines a highly technical GPS receiver, built-in antenna, Bluetooth technology, Gray-scale LCD, and USB transceiver together. This micro-sized BTGPS boasts high gain and offers a totally wireless GPS solution. BTGPS is flexibly designed to be utilized for navigation and positioning in conjunction with any Bluetooth-enabled PC, Palm or Pocket PC devices and any set with a USB port. This wireless solution enables you to navigate freely without the hassle of messy wired connections.

1

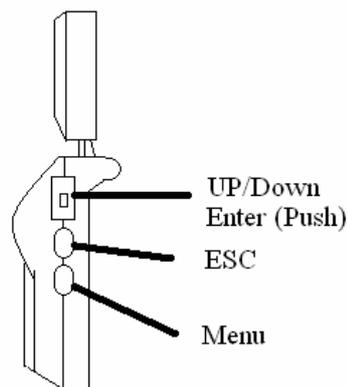
Features & Specifications

Features

- Best for mobile position awareness applications
- Inter-operative compatible with Bluetooth integrated mobile host terminals
- Built-in high sensitivity GPS active antenna and external high sensitivity antenna (Optional)
- Battery Charging indication LED-light
- Easy to use and hands-free carrying style designs

Specifications

- Uses the powerful ST MCU Family
- Supports both Bluetooth and USB transceiver interface
- Compliant Bluetooth Class 2 Ver1.1 specification
- Easy charging from general USB power source
- LCD display GPS data and system information
- Fully Compatible with USB 1.1 Specification
- 3-Way slide key that is easy to use



Side View

GPS Specification

- Firmware: 0.5.1
- Carrier frequency: L1, 1575.42MHz

- C/A (Coarse/Acquisition) code: 1.023MHz(Mbps) data rate
- Channels: 12 channels all-in-view tracking
- Re-acquisition rate: 100mS
- Build in WAAS(Wide Area Augmentation System) channel
- Support NMEA(National Marine Electronics Association) protocol & SiRF protocol
- Sensitivity
 - Test condition:
 - Environmental temperature: 20 degree
 - Test device: GPS simulator
 - Test results:
 - Passive antenna junction: -135dBm
 - Active antenna junction: -130dBm
- Acquisition rate
 - Hot start: under 3 sec.
 - Warm start: 36 sec. on average
 - Cold start: 45 sec. on average with active antenna
- Interface
 - Com port: Auto select
- Baud rate
 - 4800 bps for NMEA protocol
 - 38400 bps for SiRF protocol

Mechanical

- USB Mini-B Type Connector : x 1
- Power Switch : x 1
- External GPS Antenna connector : x 1
- 3-Way Slide Key : x 1
- Tact Punch Button : x 2

Certification

- CE EMC EN301 489-17+RF EN300 328-2
- CE EMC 300 440
- FCC ID+DOC

Environment Operating Ranges

- Operating
 - Temperature 0 ~ 55 degree Celsius
 - Humidity 10 ~ 95%
- Storage
 - Temperature -20 ~ 65 degree Celsius
 - Humidity 10 ~ 95%

Power Consumption (SLC / MLC)

- Operating Power: 0.8W @ Full Function Enable
- Operating Current: 160 +/- 10mA @ 5V

LED Indication

- Battery Charging LED (Green)

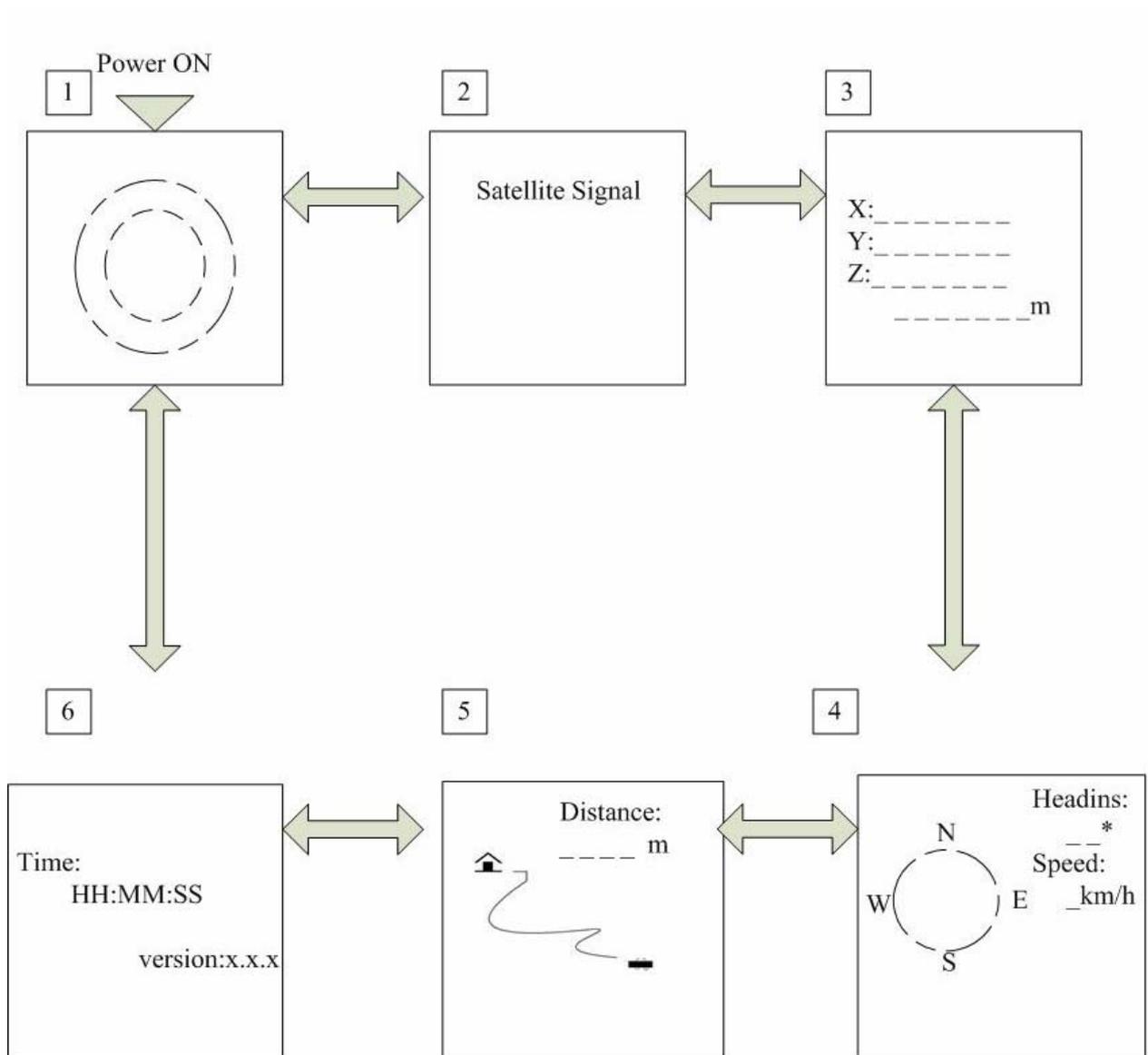
Driver Support

- Microsoft Windows 98SE, ME, 2000, XP

2

Operation Guide

The BTGPS has six main pages, that which can be selected by pressing the scroll button. Flip the scroll button up or down to see the feature options in the following sequence.

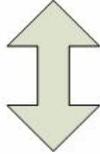


GPS Control Tree

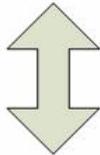
Power On



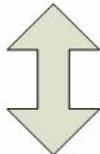
Satellite Distribution



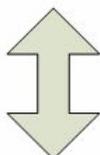
Satellite Signal



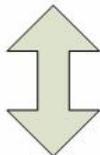
GPS Position



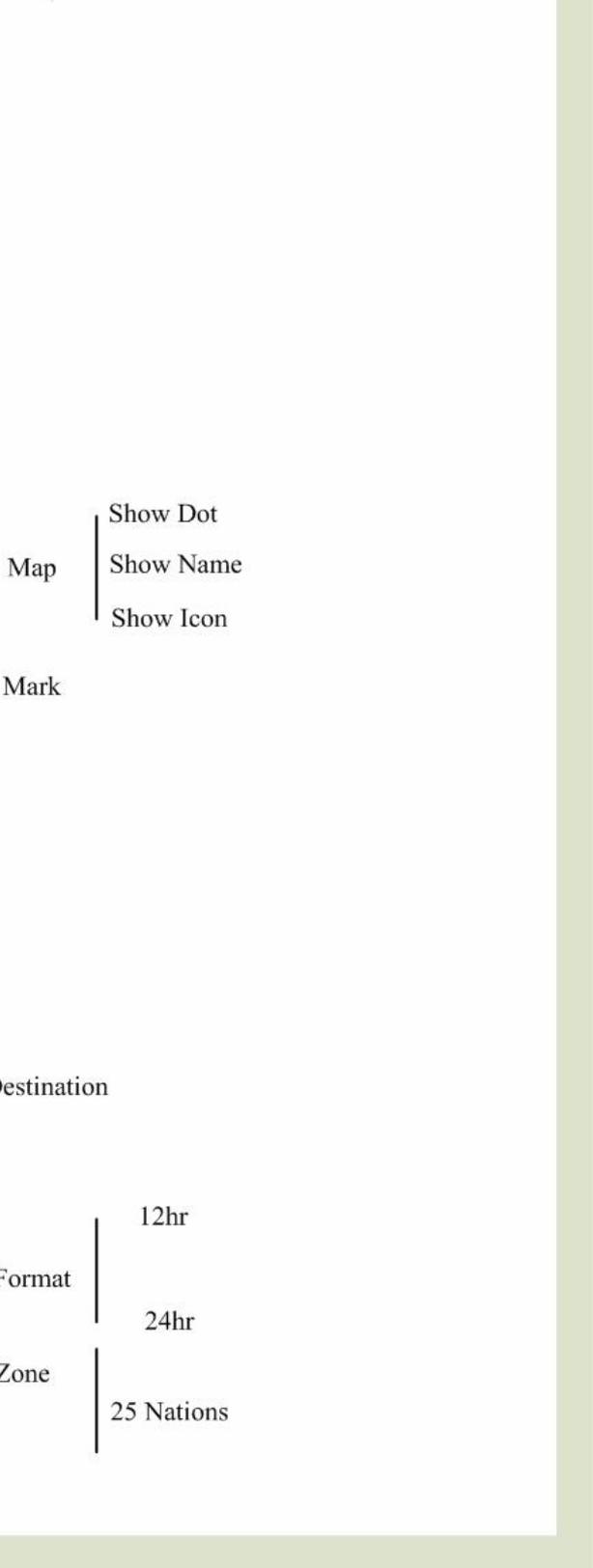
Compass



Distance



Time



Map

Mark

Destination

Format

Zone

- Show Dot
- Show Name
- Show Icon

12hr

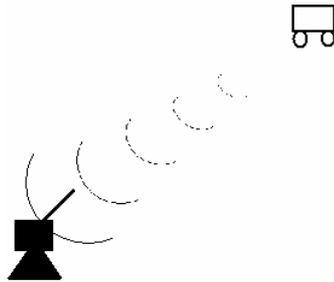
24hr

25 Nations

- **Satellite Distribution**

1

This page shows the distribution of the satellites which is connected.



The display indicates the GPS is in contact with the satellites and with good signal strength. If the signal indicator is in continuous motion, it means that the GPS is searching for satellite signals.

- **Satellite signal Intensity**

2

This page shows the signal intensity, in graphic and numeric representations, for each satellite. The format is shown below.

| Satellite | Signal | |
|-----------|--------|----|
| 12 | | 55 |
| 6 | | 32 |
| 8 | | 75 |
| 14 | | 16 |

- **GPS Position**

3

This page indicates the current global position in the presentation of X: latitude Y: longitude Z: altitude. Press the Enter key to enter the sub-menu and select mark to record your global position then it will be listed on the Last Views indication, if select map , it will show all of the waypoint record in this GPS.

*waypoint = The information of the position which user record.

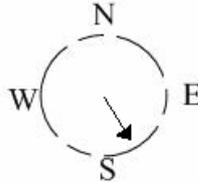
X:00'00.000"N
degree minute direction

Y:000'00.000"E
degree minute direction

- **Compass**

4

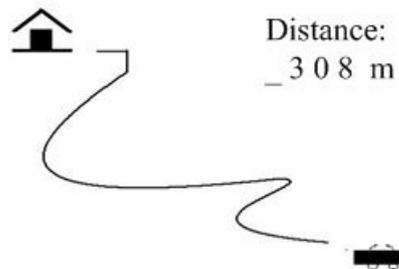
This page indicates the directions of east, west, north and south shown in E, W, N and S respectively. E, W, N and S will rotate just like a compass. The rotation varies with the actual movement represented by the arrow at the center. The moving speed is shown in three types of units, nautical miles, kilometers per hour and miles per hour.



- **Distance**

5

This page displays the distance from the current position to the destination position. It will also display the coordinates of both source and destination position. Destination position may be selected from previously recorded points or manually input by the user.



- **Time**

6

This page shows the local time. To have the correct local time, press the Enter key while at this page to set the desired time zone. Press ESC key to exit settings.

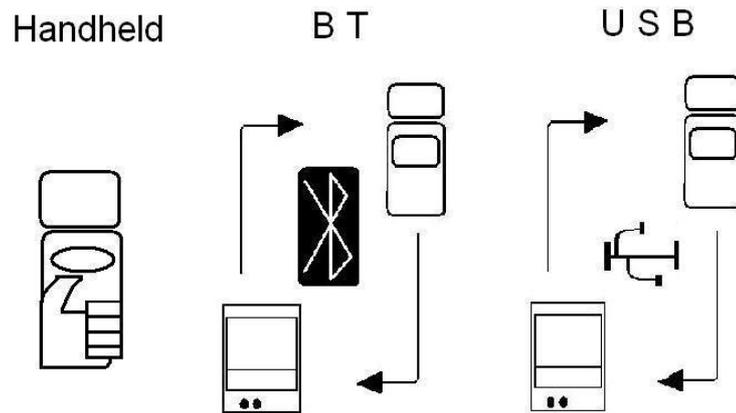
Time :

21 : 56 : 37

Version 0.5.1

- **Connecting to a computer**

This device provides two ways to connect to a computer: USB and Bluetooth. Before using either function, please make sure the desired function is enabled. Press Menu key at any time to enter the selection page.



Bluetooth

Bluetooth software is required to establish the Bluetooth connection. Once the connection is setup, the mapping program can use the virtual COM port provided by the bluetooth connection to receive the GPS information. The configurations for the COM port are: 4800 baud rate, 8 bit data, no parity check, and one stop bit without follow control.

When bluetooth is enabled the BTGPS becomes a bluetooth device with GPS function. Any bluetooth device can inquiry and connect to this device using the SPP (Serial Port Profile) connection with the PIN code "1234".

USB

The BTGPS becomes a USB GPS device when USB is enabled. That is, a computer can receive GPS information via the USB cable.

The USB port provides two functions, a data link and battery charger. Once the USB connection is setup the computer will ask for the driver. The driver is located on the companion CD in the "**Driver**" folder.

Menu

Press the Menu key twice to enter the settings menu, this menu allows the user to select "Waypoint", "System" and "GPS". Using the Up/Down key to select (by highlighting) and pressing the Enter key to enter the selected menu.

Menu

| | | |
|----------|------------|-----------------------------|
| WayPoint | List | |
| | Delete All | |
| System | Unit | Nautical / Statute / Metric |
| | LCM | Off / Always On / Save |
| GPS | Reset | Cold / Warm / Hot |
| | Power Save | Enable / Disable |

Waypoint Menu

The Waypoints menu shows the recorded global position status .

List

The List indication will list the global position records in the presentation of X: latitude
Y: longitude. Press the scroll button up or down to highlight and select the desired record.

Delete All

The Delete All will delete all position records by pressing the Enter button.

System Menu

Unit

Users may choose from three different measuring units: Nautical, Statute or Metric.

LCM

The LCM operates under three modes:

OFF: LCM backlight OFF while device is operated.

ON: LCM backlight ONI while device is operated.

Power save: Backlight will turn-on and last for 10 seconds when key pressed is detected.

GPS Menu

The GPS command menu allows the user to control the GPS module including reset and power saving modes.

Reset

Three types of reset can be used, Cold, Warm and Hot. Reset is to restart the GPS module only not the entire system.

Hot: The GPS module restarts by using the values stored in the internal memory.

The stored ephemeris and almanac are both valid.

Warm: This option has the same functionality as Hot Start except that it clears the ephemeris data and retains all the other data.

Cold: This option clears all data that is currently stored in the internal memory including position, almanac, ephemeris, time, and clock drift.

Power Save

Enable the power save option to reduce the power consumption of the GPS module thus extending the usage time.

▪ **Charging battery**

You may charge the Li-ion battery inside the BTGPS by using the USB cable (plugging in the USB cable). While charging takes effect, the charging LED remains on. The LED turns off when the battery is fully charged. Battery charging will not affect the functionality of BTGPS.

Notice

The BTGPS offers highly accurate positioning which relays on environment factors. Environmental factors that influence the position accuracy:

- tall buildings,
- narrow streets and passageways,
- protective film on glass,
- heavy foliage,
- large cliffs,

and other obstructions where the satellite signals may be blocked or by poor geometrical satellite positioning.

- **Driver installation**

For Windows 98SE:

1. Plug the device into the USB port on your PC, the system will recognize the device by displaying "**Add New Hardware Wizard**" dialog box. Please insert the accompanying CD and then click the "**Next**" button.



2. Select "**Search for the best driver for your device (Recommended)**", then click the "**Next**" button



3. Mark "**Specify a location**" then enter the directory where the driver located or select the "**CD-ROM drive**" that the accompanying CD is located in.



4. After the information file is identified, click "**Next**" to initiate the installation.



For Windows ME:

1. After Plugging the device into a USB port on your PC, the system will recognize the device. Then select "**Automatic search for a better driver**" after inserting the accompanying CD.



2. After the information file is identified, click "**Next**" to initiate the installation.

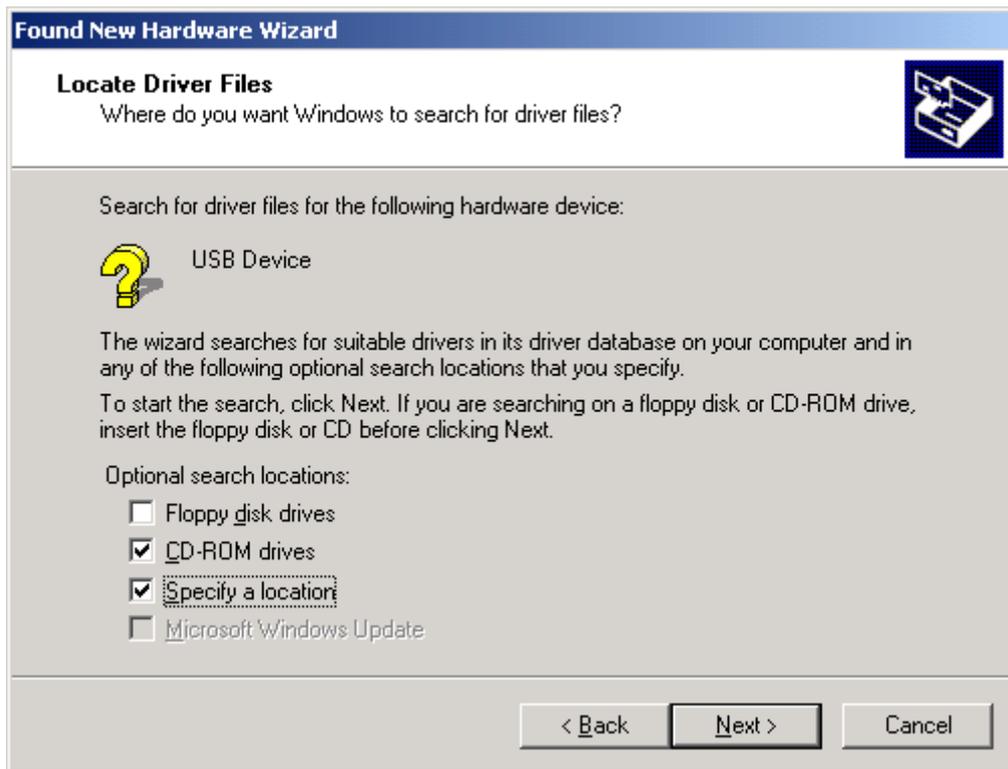


For Windows 2000:

1. After Plugging the device into a USB port on your PC, the system will recognize the device. Then select "**Search for a suitable driver for my device**" after inserting the accompanying CD.



2. Mark "**CD-ROM drives**" for installing the driver from the accompanying CD or "**Specify a Location**" for entering the drivers location manually, then click the "**Next**" button to initiate the installation process.



For Windows XP:

1. Plug the device into a USB port on your PC. The system will recognize the device by displaying the "Found New Hardware Wizard" dialog box. Select "Install the software automatically (Recommended)", and insert the accompanying CD then click the "Next" button.



2. The following message will pop up during driver installing, please click the "**Continue Anyway**" button to continue and complete the process.

