iBT-GPS Bluetooth GPS Data Logger

User's Manual

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Chapter 1 Before you begin

1.1 Note and Warning

- iBT-GPS uses Lithium battery. If iBT-GPS is used in temperature lower than -10℃ or higher than 60℃, its battery charging capability will decrease. Please leave the iBT-GPS far from heat or high temperature environment. In addition, do not expose your iBT-GPS in temperature higher than 140℉/60℃. If you do not follow these rules, the battery inside iBT-GPS may become heat, explode or burn itself, and this will lead to very serious damage. The Lithium battery inside the iBT-GPS should be recycled.
- While in the hospital, turning off the iBT-GPS is recommended. Like other common equipments do, wireless GPS receiver may also affect these medical equipments which use radio frequency and make these equipments malfunction.
- For a long period not using iBT-GPS, take out the battery and store it in dry/cool places.
- For safety, keep the iBT-GPS and all accessories out of small children's reach.
- We assume no responsibility for any damages and loss resulting from the use of this manual and also by deletion of data as a result of malfunction, dead battery, or misuse of the product in any way.
- Use only the supplied and approved accessories. Unauthorized accessories, antenna, modifications or attachments could damage the iBT-GPS, and may violate regulations governing radio devices.

- Use a dry, clean soft cloth to clean the unit. Do not use harsh cleaning solvents, chemicals, or strong detergents.
- Do not attempt to open the iBT-GPS yourself. Unauthorized hacking may damage the unit, and void your warranty.

1.2 Introduction

This BT GPS logger features an all-in-one, cost-effective portable GPS logging solution. With its large on-board memory, it allows you to log your route by setting the interval of time/ distance/ speed. Point of interest can also be recorded by push of a button. Through user friendly utility, it shows your track on Google Earth. This data logger is small and robust, ideal to carry everywhere for applications such as route tracking, keeping a watchful eye on shipment or vehicles.

1.3 Features

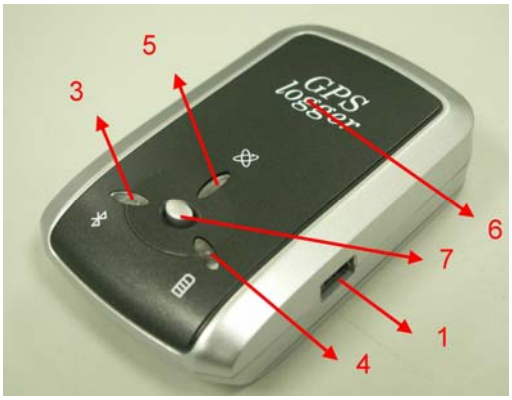
- Embedded with 16Mb memory for 100,000 way points record.
- Dual mode for both Data record (without PDA or Smartphone) and Navigation.
- Come up with a push button for recording data manually (Push to log).
- User can record the data by setting the interval of time, distance and speed.
- The recorded data can be played as track on the Google Map.
- WAAS and EGNOS supported for better accuracy.

- Support NMEA-0183 GGA, GSA, GSV, RMC, VTG, GLL.
- Bluetooth V1.1, 1.2, 2.0 compliant software like TomTom.
- Support most NMEA compliant software like TomTom, Route66 and various well-known GPS software program.

1.4 Application

- Record your travels
- Manage business trip expense
- Raise fleet efficiency, reduce time spent at unauthorized locations
- Keep an eye on valuable merchandise
- Concerned about one's driving behavior
- Record Point of Interest by a push button

1.5 Appearance



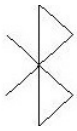
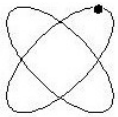
1. DC jack (mini USB type)
2. 3 Stage Power switch (Power off/ Navigation/ Data record)
3. Bluetooth status LED (blue)
4. Battery status LED (red/green)
5. GPS status LED (orange) / Push to log LED (blue)
6. Internal GPS antenna
7. Push Button

1.6 Power Switch and Push Button

Power Switch	
Right	Power off
Middle	Enable Navigation mode
Left	Enable GPS data logger
Push button	
Push	Push to log LED blinks 3 time, Points of Interest is recorded

1.7 LED Display

The Bluetooth GPS Receiver has three LED lights, one is Bluetooth Status LED, the 2nd one is Battery Status LED, the 3rd one is GPS Status LED/ Push to log LED. The status table of LED shows as follows:

Category	SYMBOL	COLOR	STATUS	Function
Bluetooth Status LED		Blue	Always on:	Bluetooth on, but not connected to any Bluetooth devices yet
			Slowly blinking:	Sleeping mode (1 time / 5 seconds)
			Quickly blinking:	Bluetooth is connected and ready for data transmission (1 time / 2 seconds)
Battery Status LED		Red	Blinking:	The battery is too low
		Green	Light On:	The battery is charging
		Green	Blinking:	The battery is fully charged
GPS Status LED		Orange	Always on:	Acquiring satellites, GPS position not fix
			Blinking:	GPS position is fixed, Navigation
		Blue	Blinking:	LED blinks 3 times, Points of Interest is recorded

Chapter 2 Getting Start

2.1 Checking the package content

Congratulations on your purchase of the iBT-GPS with built-in Lithium rechargeable battery. Before you start using iBT-GPS, please make sure if your package includes the following items. If any item is damaged or missing, please contact your dealer at once.

- Bluetooth GPS Date Logger - iBT-GPS x 1
- USB to mini-USB cable x 1
- Traveler Power Adapter x 1
- DC cigarette lighter adapter x 1
- Lithium rechargeable battery x 1
- CD Tool x 1
- User’s manual with Warranty Card x 1

*Unit package contents may vary depending on countries without prior notice.

2.2 Getting Start

Please follow the procedure step by step.

Step 1 Charging Your Battery

To charge your iBT-GPS data logger, you have to plug your USB cable into the power source. Charging time is about 2~3 hours and surely you can charge from PC/ Notebook's USB HOST or from cigar-lighter in car.

For the 1st time you use the iBT-GPS, please charge battery until it is full (the LED blinks). Take the power cable and connect it to the power jack (mini USB type). This will begin to charge the battery. The LED that represents the battery is the right-most battery icon (shown in below).

- If the LED is red, that means battery power is critically low. Charge immediately.
- If the LED is green, that means battery is charging now.
- If the LED is blinking, that means battery is fully charged.

Step 2 Turn on the power switch

Power off

Navigation

Data record

Step 3 Connecting your handheld device with iBT-GPS
(Warning: Users' are allowed to connect his handheld device with iBT-GPS only in Navigation mode!)

Please refer to the user manual of PDA to enable the Bluetooth connectivity. If the connection between your device and iBT-GPS is successful, the blue LED of iBT-GPS will be blinking.

Below, we provide a common procedure of software installation to set up your PDA. (For other PDA, the steps may be a little bit different. Bluetooth Manager is one of popular program used for Bluetooth device.)

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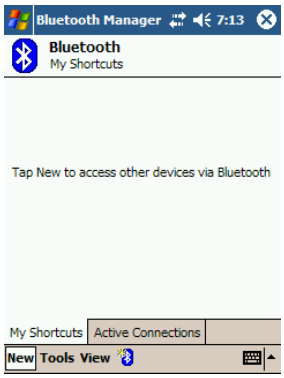
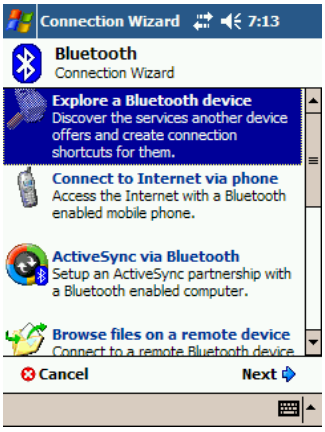


Start -> Bluetooth Manager New

1. Open “Bluetooth Manager” on pocket pc, and establish new connection.



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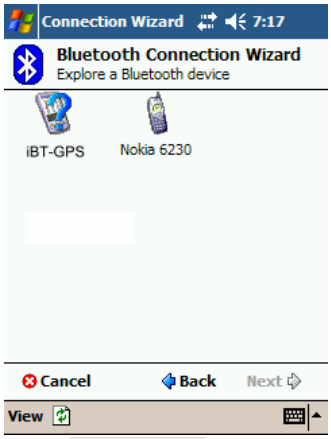

Explore A Bluetooth device ->Next

Tap iBT-GPS

2. Explore a Bluetooth device, and find the “iBT-GPS”

Passkey 0000 (if your PDA ask for the passkey)

3. (Optional)

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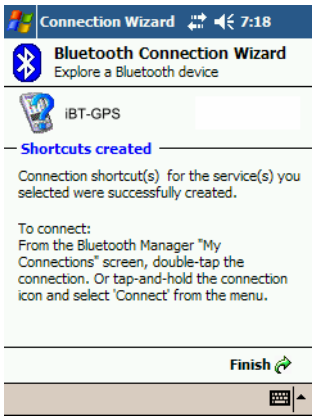
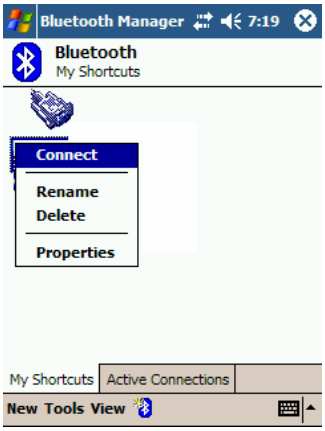


Select SPP slave->Next Finish

4. Connect to Serial Port Profile (SPP) Slave



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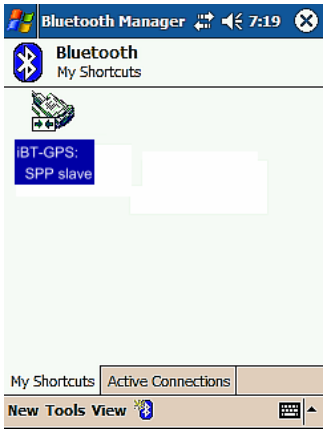


Tap and Hold iBT-GPS: SPP slave, Connect

Done

5. Finish Bluetooth Manager Setup

Step 4 Load your GPS mapping or routing software

, along with the corresponding maps of the areas that you plan to travel to.

Step 5 Start the application

and select the correct COM port & baud rate.

Note: The Bluetooth device in most of the applications has an “auto-detect” feature so that you do not need to select the Baud Rate.

2.3 Drivers

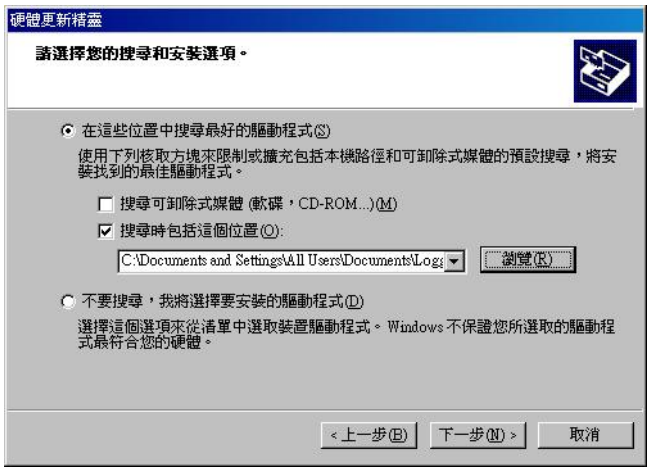
1、 Plug the USB device into PC Host, PC will automatically detect this USB device and request for USB device’s driver.

2、 Click for install driver from specific file directory.

3、 Driver is located in CP210x folder.

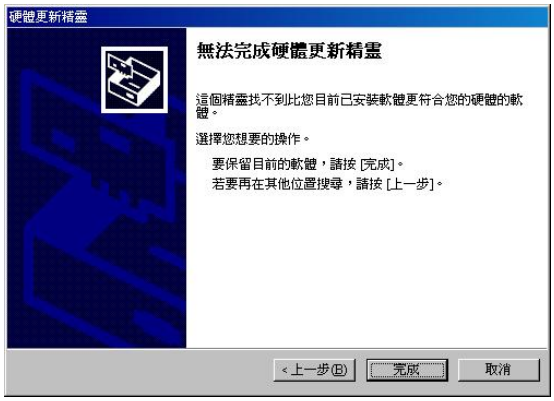

瀏覽資料夾
選擇包含您的硬體的資料夾。
共用文件
11761201
Adobe PDF 6.0
Logger Tool
CP210x
Win2K XP
sales_printserver
USB driver for CP2101
要瀏覽任何子資料夾，請按上述 + 號。
確定
取消

4、 Next


硬體更新精靈
請選擇您的搜尋和安裝選項。
在這些位置中搜尋最好的驅動程式(S)
使用下列核取方塊來限制或擴充包括本機路徑和可卸除式媒體的預設搜尋，將安裝找到的最佳驅動程式。
搜尋可卸除式媒體 (軟碟，CD-ROM...)(M)
搜尋時包括這個位置(O):
C:\Documents and Settings\All Users\Documents\Log
瀏覽(R)
不要搜尋，我將選擇要安裝的驅動程式(D)
選擇這個選項來從清單中選取裝置驅動程式。Windows 不保證您所選取的驅動程式最符合您的硬體。
< 上一步(B)
下一步(N) >
取消

5、 Now installing…

6、 Complete installation



User can go to the MS Windows’ device manager to see the status

showing this USB device installation is completed.

Please go to check the corresponding virtual COM Port. Afterward users only have to use same COM Port in same USB port, and can directly make a connection successfully between the PC end and iBT-GPS data logger. For example, COM7.

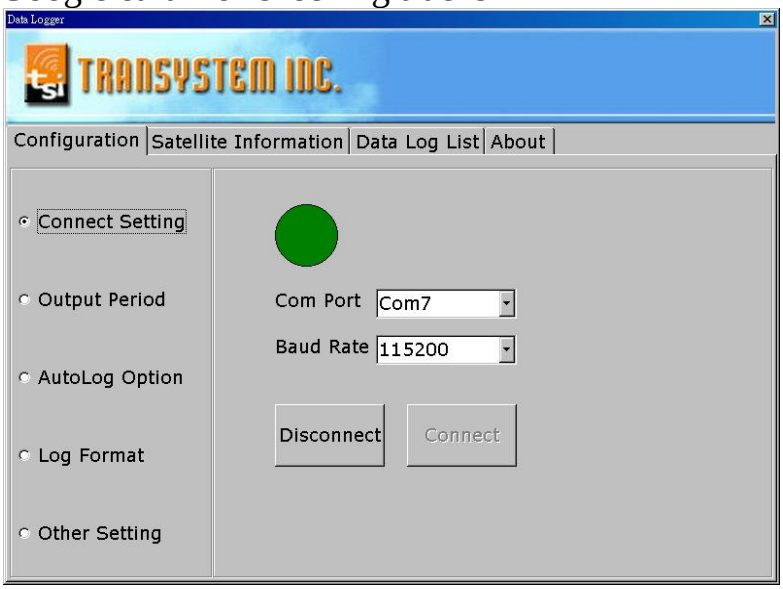
2.4 Helpful Tips

- Some vehicles having heavy metallic sun protecting coating on windshields, which may affect signal receptions
- Driving in and around high buildings may affect signal receptions.
- Driving under tunnels or in buildings may affect signal receptions.
- Low battery of a PDA or of an iBT-GPS may affect signal receptions.
- Please check the correct “COM” and “Baudrate” of your PDA.
- In general, any GPS receiver performs best in open space where it can see clean sky. Also weather will affect GPS reception – rain & snow contribute to worse sensitivity.
- iBT-GPS output data updates every second, thus the actual position and the position in your map may have time delay. This may happen when you drive at higher speed or make a turn around a corner.
- Note that iBT-GPS may not work indoors where it can not see the sky.
- For the 1st time you use the iBT-GPS, it will take 1 to 3 minutes to get the satellite constellation and fix your position, this is called “Cold Start”. If you replace the battery, iBT-GPS will do Cold Start again.
- If your iBT-GPS can’t fix your position for more than 20 minutes, we suggest you change to another open space and then try again.

Chapter 3 iBT-GPS Logger Tool

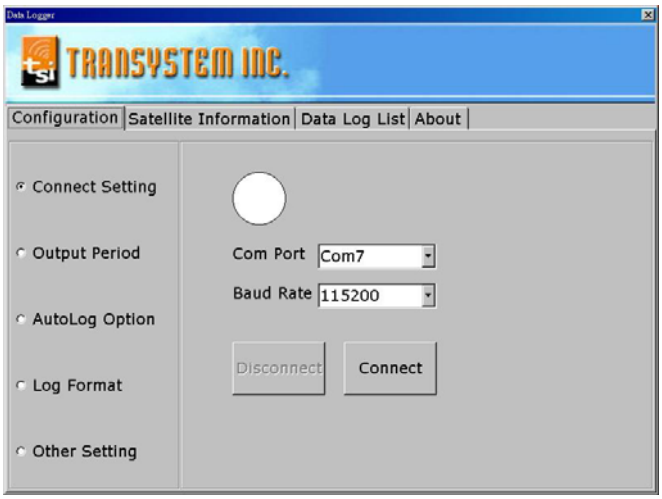
1. Execute Logger Tool
2. See below, four menu bars will display horizontally on the screen in an array from left to right as below:

- Configuration：
  To create settings for connection/ Command setting
- Satellite Information：
  To view GPS status, Perform Hot/ Warm/ Cold Start
- Data Log List：
  Upload of log data/ Use Google earth for checking tracks
- About:
  Using Google earth for checking tracks



3.1Configuration

3.1.1 Connection Setting：



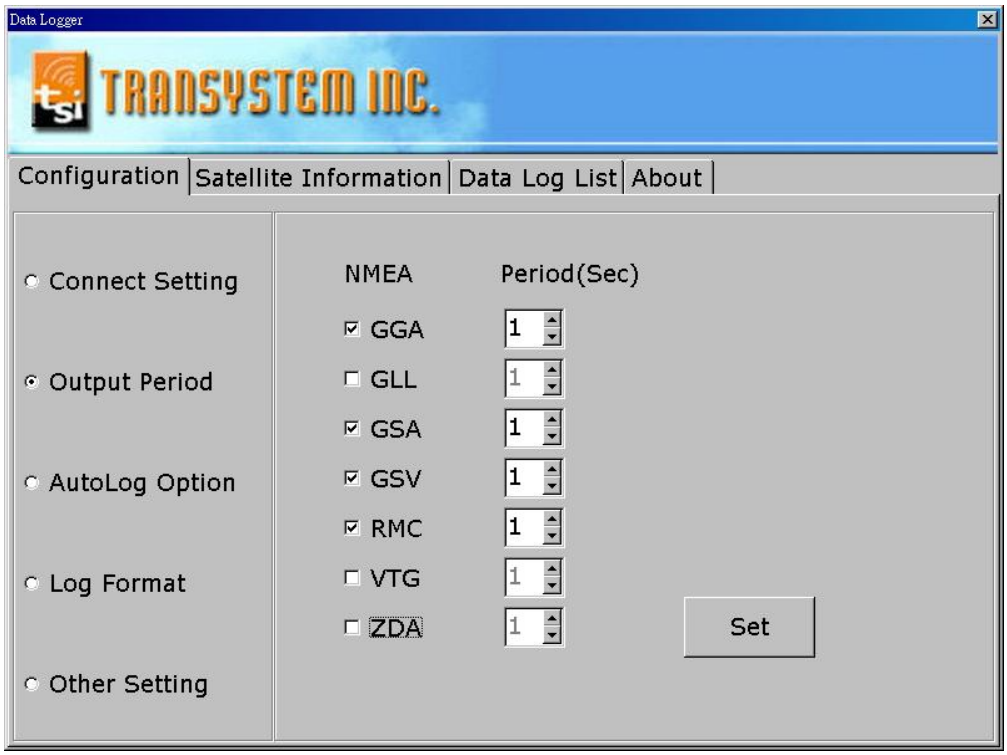
1. Please go to"device manager" and find out the Virtual Com Port number of iBT-GPS data logger (check Virtual Com Port number of iBT-GPS data logger)

2. Select correct Port（COM7 used in this example）and set BaudRate at a fixed 115200. Then click on Connect

3. Please click on "Connect" to build a connection. To cease connection anytime, just click on "Disconnect" near by. If the connection is built, the GPS status is shown.

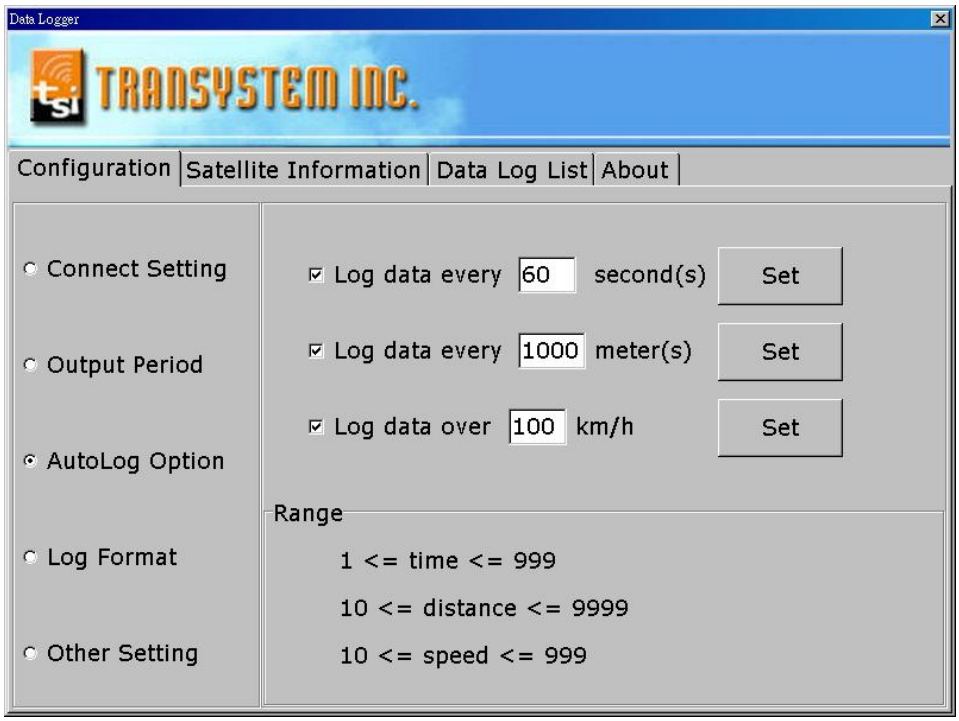
4. Please stop log first, or you are not allowed to perform any setting. Go to “Data Log List” tab, and then click “Stop Log”

3.1.2 Output Period：



- For selecting NMEA data output (RMC, GSV, GSA, GGA are compulsory data in Logger Tool, user are not allowed to cancel)

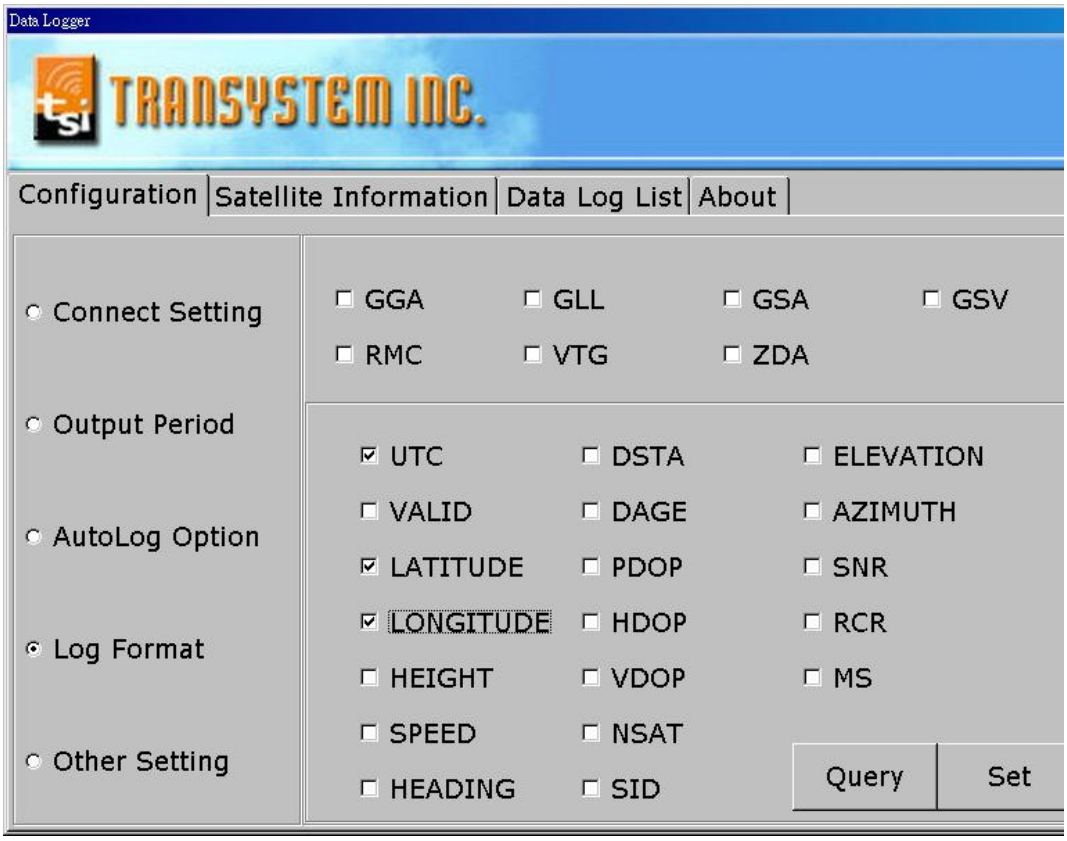
3.1.3 AutoLog Option：



1. Setting log time interval：Configure log interval between 1~999 sec.
2. Setting log distance：Configure log interval between 10~9999 meter(s)
3. Setting log speed：

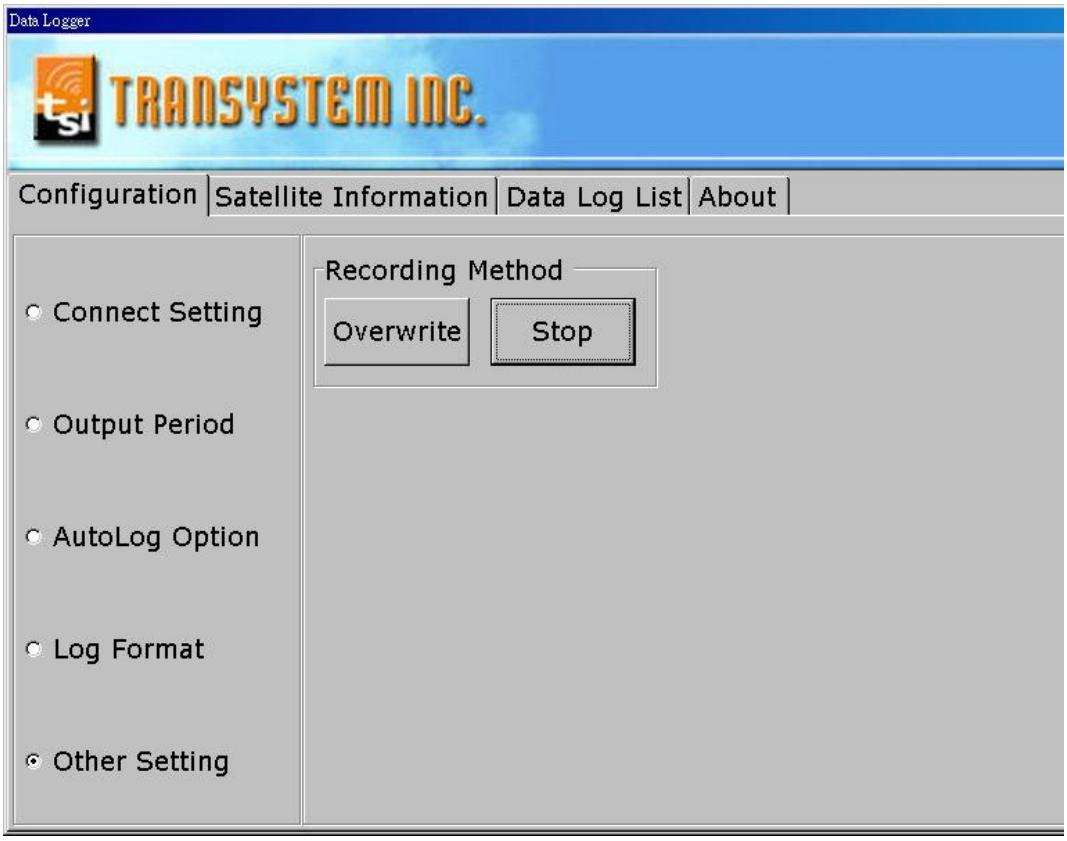
Configure log interval between 10~999 km/h. Set speed at the highest rate. If any log data exceeds this speed, it will be recorded.

3.1.4 Log Format：



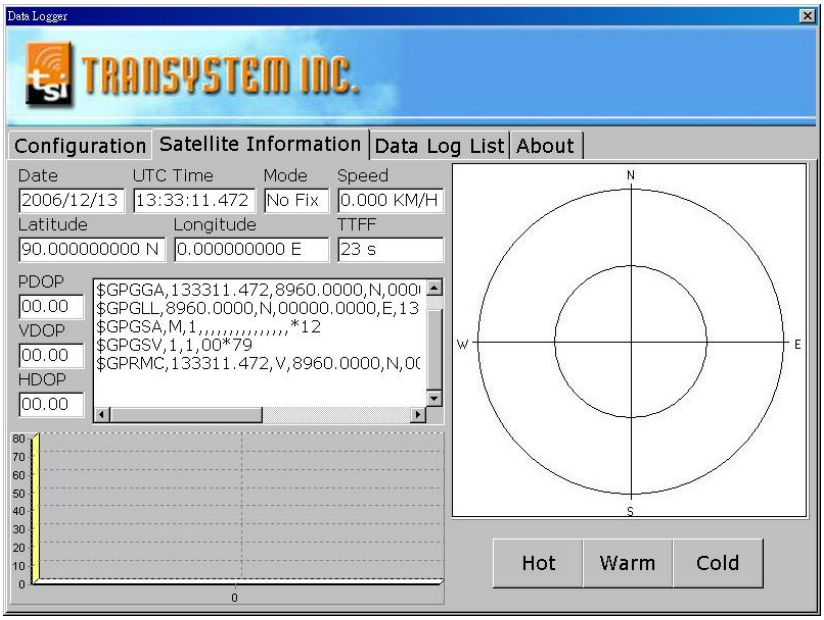
Data category that each way point will record. Normally, we choose UTC, latitude and longitude.

3.1.5 Other Setting：



There are two recording method for you to choose from. One is overwrite, the other is saturation then stop.

3.2 Satellite Information



3.2.1 GPS status view：

To check GPS acquisition condition (Reception)

3.2.2 Hot：

Perform hot start

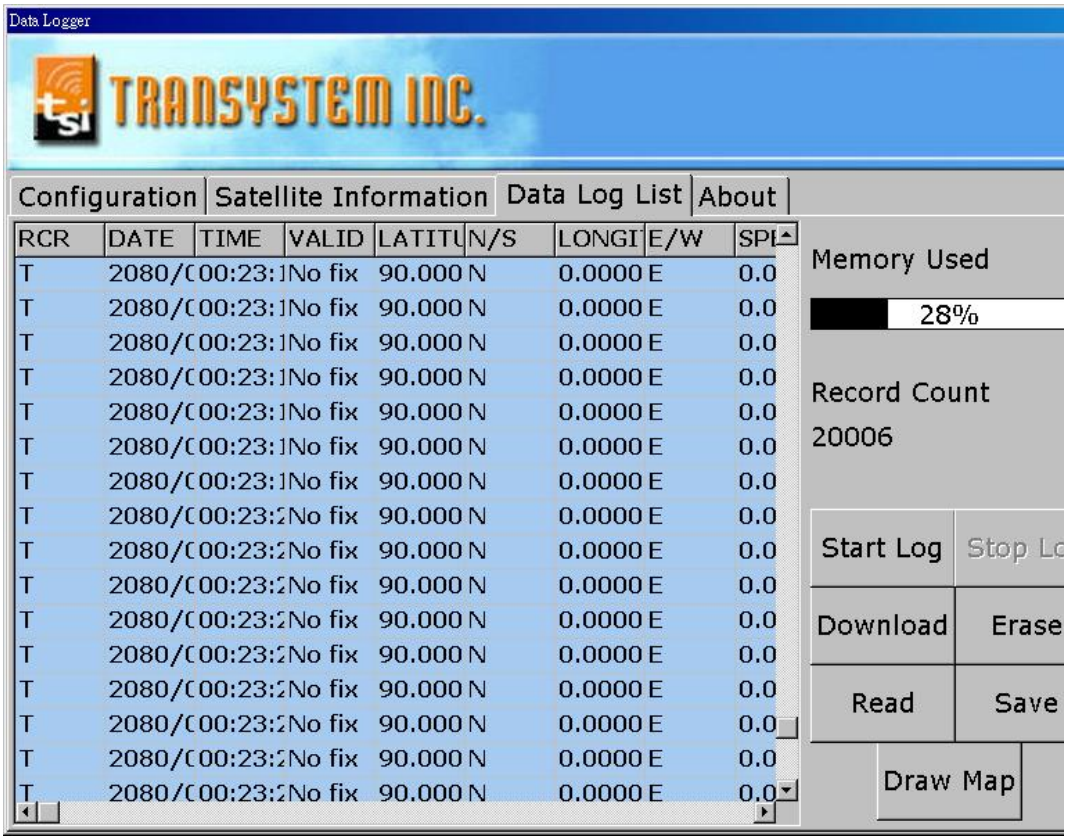
3.2.3 Warm：

Perform warm start

3.2.4 Cold Start：

Perform cold start

3.3 Data Log List



3.3.1 Grid Array：

See the recorded data list

3.3.2 Memory Used：

Know how much space there are remaining in the memory

3.3.3 Record Count：

Data record count

3.3.4 Start Log：

1. Enable Log feature
2. iBT-GPS is now in Log mode, and iBT-GPS data logger become a stand alone log machine. (without PDA/ Smartphone)

3.3.5 Stop Log：

1. Disable Log feature
2. iBT-GPS is now in Navigation mode, an extra PDA/ Smartphone is needed now

3.3.6 Download：

- To download log data to computer file (While downloading, “cancel” manu bar will appear on middle of the screen. To cease downloading, click on Cancel.
-

3.3.7 Erase：To clear all log data from GPS receiver’s memory

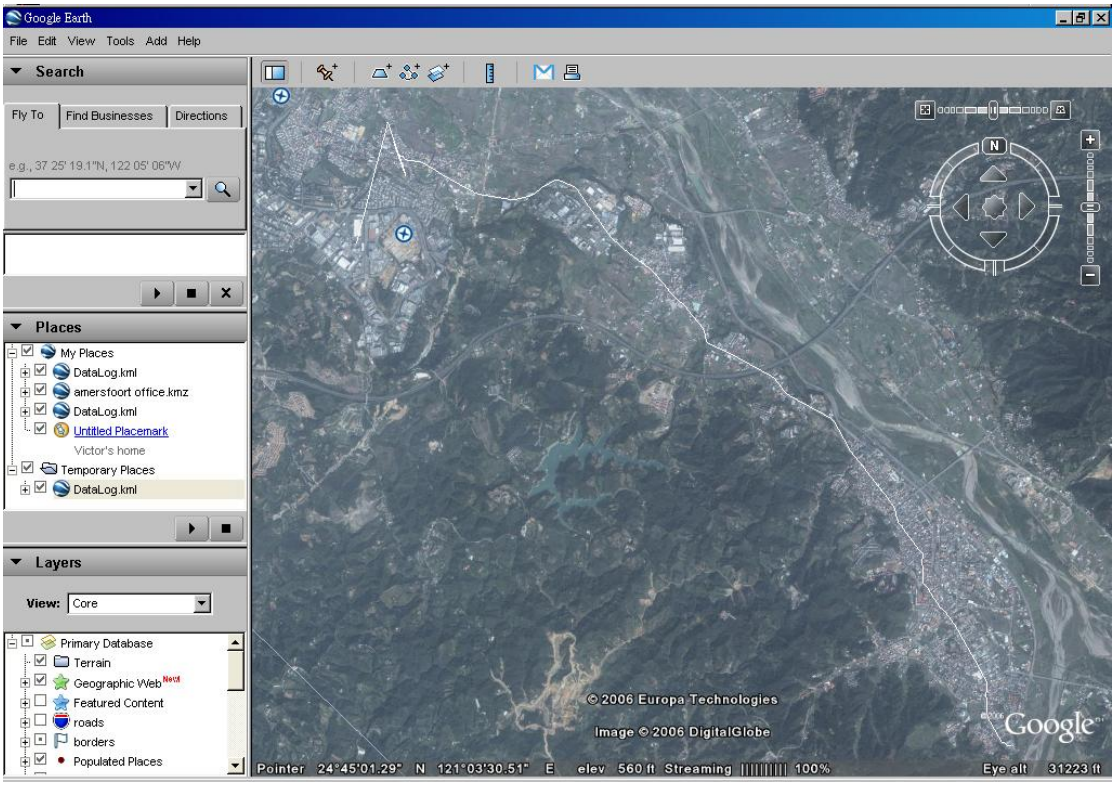
3.3.8 Read：To open former travel file from user’s PC

3.3.9 Save：

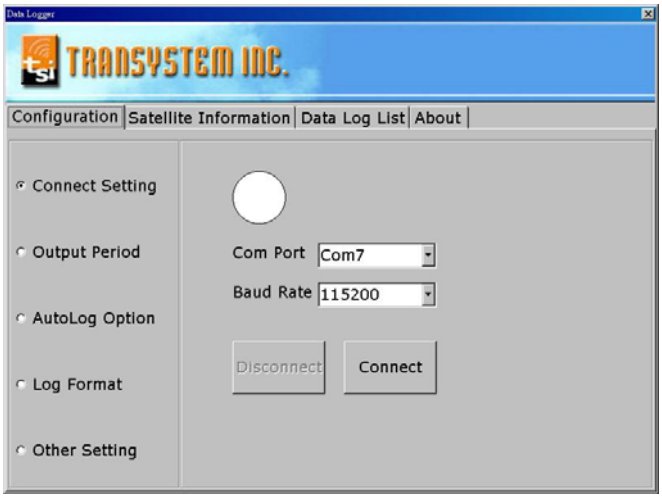
To save logged data in iBT-GPS’s memory to user’s PC

3.3.10 Draw Map：

1. Use Google Earth to re-view record of journey
2. If you computer is not installed with Google earth. Google Earth has free download version, go download it in the internet first.
3. Display Track in Google Earth



3.4About



Version, Author, Company Information

Appendix

Appendix A. Specifications

General	
Frequency	L1,1575.42MHZ
C/A Code	1.023MHZ
Datum	WGS84
Performance Characteristics	
Position Accuracy	Without aid: 3.0m 2D-RMS
	<3m CEP(50%) without SA(horizontal)
	DGPS (WAAS,EGNOS,MSAS,RTCM):2.5m
Velocity Accuracy	Without aid: 0.1m/s
	DGPS (WAAS,EGNOS,MSAS,RTCM):0.05m/s
Acceleration	Without aid:<4g
	DGPS (WAAS,EGNOS,MSAS,RTCM):<4g
Timing Accuracy	50 ns RMS
Reacquisition Time	<1s
Hot start	<3s
Warm start	36s
Cold start	39s
Sensitivity	Acquisition:-144dBm
	Tracking:-158dBm
Update	Up to 5Hz

Dynamic	
Altitude	Maximum 18,000m
Velocity	Maximum 515m/s
Acceleration	Maximum 4g
Power	
Input Voltage	Vin : DC 3.0-5.0V
Backup Voltage	DC1.2V+-10%
Power Consumption	42mA
Battery	Built-in rechargeable 1000mAH Lithium battery
I/O	
Signal Output	RS-232,38400bps,8 data bits,no parity,1 stop bit
Available Baud Rates	4800/9600/14400/19200/38400/57600/115200 bps
Protocols	NMEA 0183 v3.01(Default: GGA,GSA,GSV,RMC,VTG,GLL)
Environment	
Operating Temperature	-10 ~ 60C
Storage Temperature	-20 ~ 60C
Charging	0 ~ 45C
BT	
Standard	Fully compliant with Bluetooth V1.2
Output Power	0dBm (Typical),ClassII
Range	Up to 15 meters

Bluetooth Profile	Serial Port Profile(SPP)
Frequency	2.4G ~ 2.4835GHz ISM Band
Security	Yes
USB Bridge	
Standard	Fully compliant with USB2.0
Full - speed	12Mbps
Dimension	46.5 x72.2 x20 mm

Appendix B. Certification

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 interface, 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 UNAUTHOURIZED MODIFICATION TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Industry Canada Caution

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6,

obtainable from Health Canada's website.

"www.hc-sc.gc.ca/rab"

CE Notices

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

The equipment was passed. The test was performed according to the following European standards:

- EN 300 328-2 V.1.2.1 (2001-08)
- EN 301 489-1 V.1.4.1 (2002-04) / EN 301 489-17 V.1.2.1 (2002-04)
- EN 50371: 2002
- EN 60950: 2000

Appendix C. Warranty Information

Thank you for your purchase of GPS product from the company.

The company warrants this product to be free from defects in materials and workmanship for one year from the date of purchase. The warranty for accessories is six months. The stamp of distributor or a copy of the original sales receipt is required as the proof of purchase for warranty repairs. The company will, as its sole option, repair or replace any components, which fail in normal use. Such repair or replacement will be made at no charge to the customer for parts or labor. The customer is, however, responsible for any transportation costs.

This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration of repairs. The company assumes no responsibility for special, incidental punitive or consequential damages, or loss of use.

Warranty

Model number: _____

Series number: _____

Data of purchase: _____

Name: _____

Address: _____

City, Zip code: _____

State, Country: _____

E-mail address: _____

Distributor Stamp Here

FCC statement in User's Manual (for class B)

"Federal Communications Commission (FCC) Statement

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.

FCC Caution:

1.The 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.

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

3. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.