

# 850

## User's Manual

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## **Note and Warning**

- **850 uses AAA battery\*2. If 850 is used in temperature lower than -10°C or higher than 60°C, its battery capability will decrease. Please leave the 850 far from heat or high temperature environment. In addition, do not expose your 850 in temperature higher than 140°C/60°C. If you do not follow these rules, the battery may become heat, explode or burn itself, and this will lead to very serious damage.**
  - **While in the hospital, turning off the 850 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 850, take out the battery and store it in dry/cool places.**
  - **For safety, keep the 850 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 850, 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 850 yourself. Unauthorized hacking may damage the unit, and void your warranty.**
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# **Chapter1. Before you begin**

## **1.1 Introduction**

**The TripMate850 features an all-in-one, cost-effective portable GPS logger solution. When you travel in different country, it allows you to record your routes by ways of time/ distance/ speed. The 850 include a one inch LCD, as the real time, moving speed, distance measurement and position information, all of the message always can shown on the LCD. Through user friendly software utility, it can combine the beautiful pictures and record routes show on the map. This recorder is small and robust, ideal to carry everywhere for applications such as route tracking, mountain climbing or fleet management.**

## **1.2 Feature overview**

- ◎ MTK 3329 chip**
- ◎ Smart log function**
- ◎ Receiver & data logger dual function design**
- ◎ Vibration sensor for power saving**
- ◎ Micro SD card for POI storage**
- ◎ Powered by AAA battery\*2**

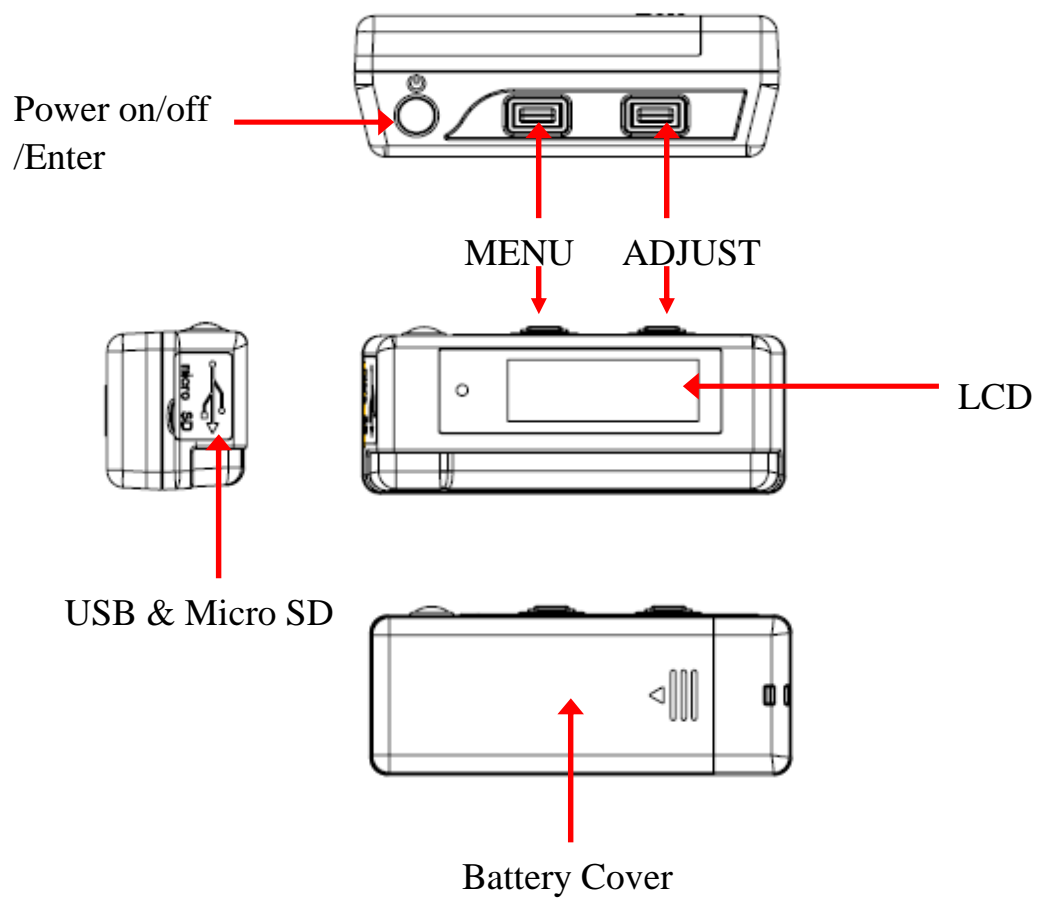
## 1.3 Specification

General			
Frequency	L1,1575.42MHz	C/A Code	1.023Mhz
Datum	WGS84		
Performance Characteristics			
Position Accuracy	Without aid: 3.0m 2D-RMS	Velocity Accuracy	Without aid: 0.1 m/s
	<3m CEP(50%) without SA(horizontal		DGPS(WAAS,EGNOS,MSAS): 0.05m/s
	DGPS(WAAS,EGNOS,MSAS) : 2.5m	Acceleration	Without aid: <4g
Timing Accuracy	50ns RMS		DGPS(WAAS,EGNOS,MSAS): <4g
Reacquisition Time	<1s	Hot start	1.5s
Warm start	34s	Cold start	35s
AGPS	<15s	Sensitivity	Acquisition: -148dBm Max.
Update	1Hz		Tracking: -165dBm Max.
Dynamic			
Altitude	Maximum 18,000m	Acceleration	Maximum 4g
Velocity	Maximum 515m/s		
Power			
Operation Time	16hours	Battery	AAA battery*2
I/O			
Baudrate	115200 bps	Protocol	NMEA 0183 v3.01

<b>LCD</b>			
Size	28 x 8.5mm	Pixel	128 x 32 pixel
<b>Environment</b>			
Operation Temperature	-10° to 50°		
<b>Interface</b>			
USB Bridge	Fully compliant with USB2.0	Bluetooth	Fully compliant with Bluetooth V1.2
	12Mbps		0dBm(Typical), Class II
SD	Micro SD card		Up to 10 meters
			Serial Port Profile(SPP)
			2.4GHz~2.4835GHz ISM Band
<b>Others</b>			
Weight (g)	57.5g(with battery)	Dimension	72*27x25mm
	36.5g(without battery)	NMEA	GGA,GSA,GSV,RMC

\*Citation MTK original chipset spec.

# 1.4 Buttons and Description





## 1.5 Accessories

Congratulations on your purchase of the 850. Before you start using 850, please make sure if your package includes the following items. If any item is damaged or missing, please contact your dealer at once.

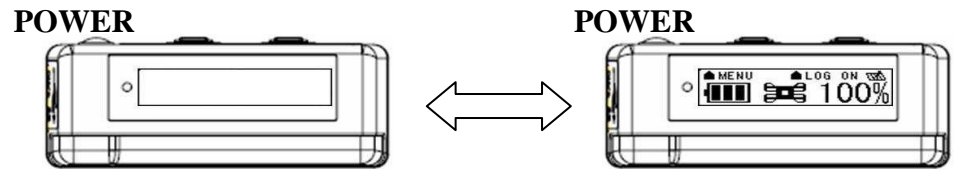
- ◎ **Driver CD x1**
- ◎ **USB cable x1**
- ◎ **AAA battery x2**
- ◎ **Quick start guide x1**
- ◎ **Micro SD 256M x1**

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

# Chapter2. Getting started

## 2.1 Turn on/off 850

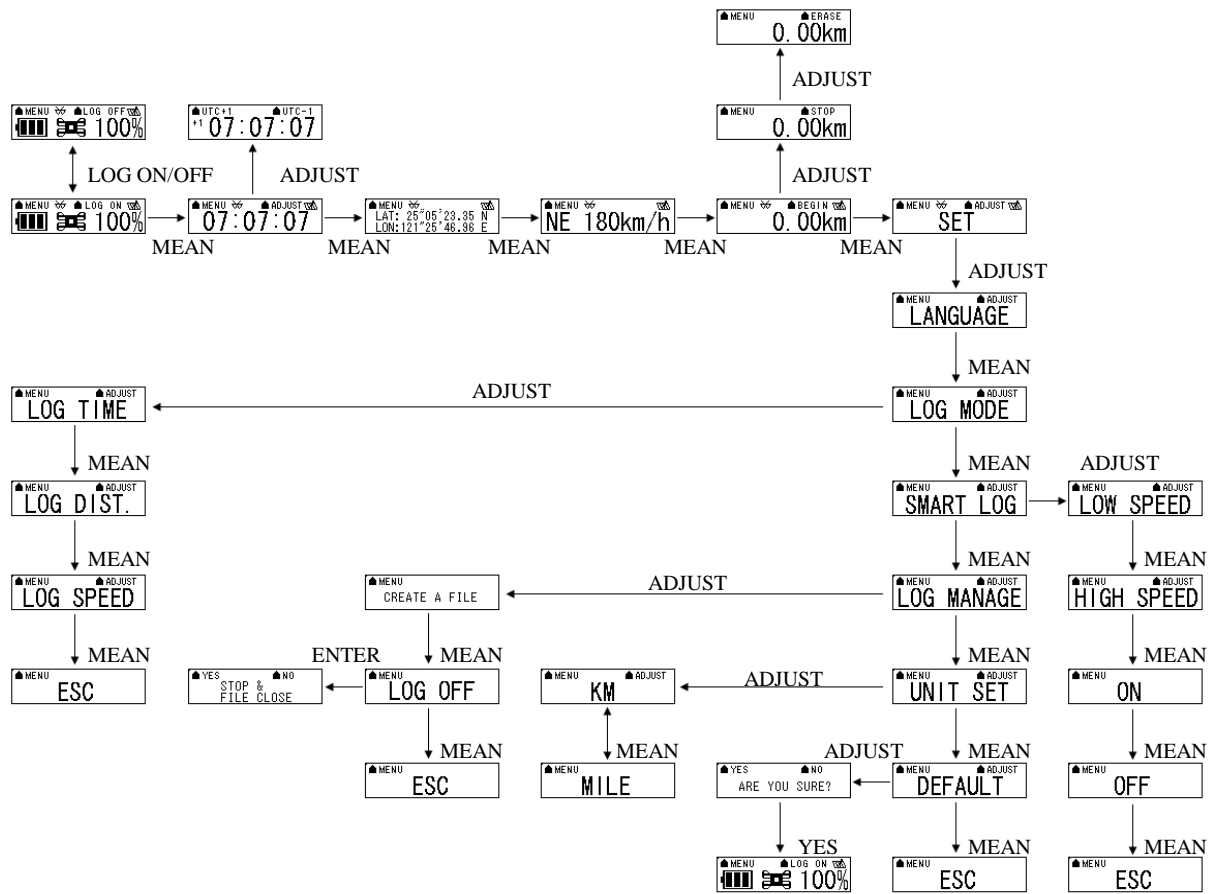
Press “POWER” button for 3 sec, LCD screen will show battery, satellite, log memory status.



## 2.2 Main flow

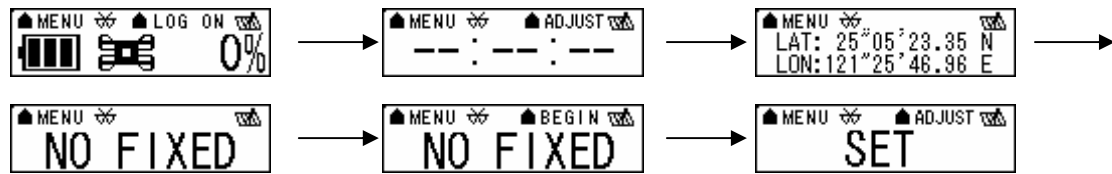
	Battery, Satellite, Log memory Mode
	Time Mode
	Position Mode
	Speed & Direction Mode
	Distance measurement Mode
	Setting Mode

## 2.3 Diagram flow



As the detail information, please see functional description.

When the 850TripMate is no fixed, the screen will show below image.



## 2.4 ICON introduce

Symbol	Category	Status	Function
	LOG ICON	on	Device is not into the log mode yet.
		blinking	In LOG mode.
	BLUETOOTH ICON	on	Bluetooth on, but not connected to any Bluetooth devices yet.
		blinking	Bluetooth is connected and ready for data transmission.
	SATELLITE ICON	on	Acquiring satellites, GPS position not fixed.
		blinking	GPS position is fixed can start for smart phone navigation.
	BATTERY ICON	on	The battery capacity is been full.
	BATTERY ICON	on	The battery capacity is too low.
	SMART LOG ICON	on	Start smart log function.
		off	Shut down the Smart log function.

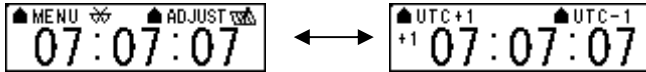
## 2.5 Functional description

### 2.5.1 Battery, Satellite, Log memory Mode



FUNCTION	BUTTON	Detail Description
START LOG	LOG ON > ENTER	When you want to start log data, please check up right hand corner of the screen is stay in “LOG ON”, and than please press “ENTER” button. The log icon will blink for 1second.
STOP LOG	LOG OFF > ENTER	After you start the 850, the screen will show log memory from 0% to 100%. When log memory increase to 100%, the 850 will stop log. If you want to stop log data, please press “LOG ON/OFF” button to “LOG OFF” and than press “ENTER” button.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

## 2.5.2 Time Mode



FUNCTION	BUTTON	Detail Description
TIME ADJUSTMNET	ADJUST > UTC+1 or UTC-1 > ENTER	The time mode is use UTC time and receiver form GPS ephemeris. You can select location time. After you press “ADJUST” button, the screen will show “UTC+1” and “UTC-1”. When the time adjust successfully, please press “ENTER” button.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

## 2.5.3 Position Mode



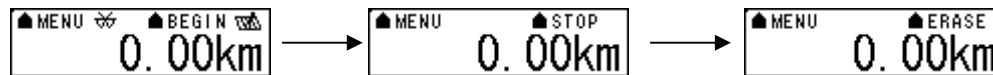
FUNCTION	BUTTON	Detail Description
POSITION INFORMATION	NONE	When the GPS is fixed, the 850 will show the latitude and longitude information on the LCD.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

## 2.5.4 Speed & Direction Mode



FUNCTION	BUTTON	Detail Description
SPEED AND DIRECTION	NONE	In this mode, the 850 will indicator Current speed and direction on the LCD.
NEXT SECTION	MENU	Please press "MENU" button go to next section.

## 2.5.5 Distance measurement Mode



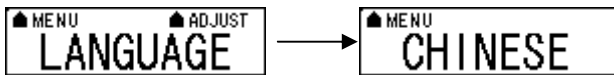
FUNCTION	BUTTON	Detail Description
Begin distance measurement	BEGIN > ENTER	Please select "BEGIN", "STOP", or "ERASE" in the same button. When you make sure option, please press "ENBER" button.
Stop distance measurement	STOP > ENTER	
Erase data	ERASE > ENTER	
NEXT SECTION	MENU	Please press "MENU" button go to next section.

## 2.5.6 Setting Mode



FUNCTION	BUTTON	Detail Description
FURTHER SET	ADJUST	1. Please press “ADJUST” button go to option of the setting mode. In set mode, include “LANGUAGE”, “LOG MODE”, “SMART LOG”, “LOG MANAGE”, “UNIT SET”, and “DEFAULT”. Allow you further set.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

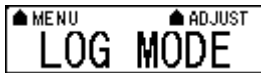
### 2.5.6.1 Several Language Setting



FUNCTION	BUTTON	Detail Description
LANGUAGE SETTING	ADJUST > MENU (TO YOUR LANGUAGE > ENTER	You can press “ADJUST” button into the several language selection. When you make sure your option, please press “ENTER” button.
NEXT SECTION	MENU	Please press “MENU” button go to next section.
Go back to language	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the 850 will back to language.



## 2.5.6.2 Log Mode Setting



In log mode, you can choose log by time, distance or speed. Please press “ADJUST” button to further set. When you make sure selection, please press “ENTER” button to save set.

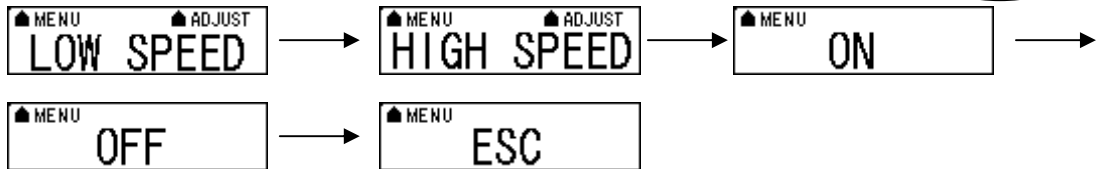
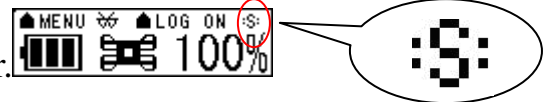


FUNCTION	BUTTON	Detail Description
LOG BY TIME	ADJUST > ENTER	In log time mode, the 850 can set every 1 second, 5 second, 15 second, 30 second, 5 minute, or 10 minute to log one point.
LOG BY DISTANCE	ADJUST > ENTER	In log distance mode, the 850 can set every 5 meter, 10 meter, 30 meter, 100 meter, or 500 meter to log one point.
LOG BY SPEED	ADJUST > ENTER	In log speed mode, the 850 can set if speed is over than 3km/h, 6km/h, 10km/h, 50km/h, or 100km/h will log one point for one second.
GO BACK TO LOG MODE	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the 850 will back to log Mode.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

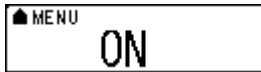
### 2.5.6.3 Smart Log Setting



When the smart log function is start, the 850 will into different log manner and depend on speed of hour.



FUNCTION	BUTTON	Detail Description
LOW SPEED	MENU (TO LOW SPEED) > ADJUST > ENTER	In low speed, you can press “ADJUST” button to select 4km/h, 6km/h, 8km/h, and 15km/h.
HIGH SPEED	MENU (TO HIGH SPEED) > ADJUST > ENTER	In high speed, you can press “ADJUST” button to select 30km/h, 60km/h, 100km/h and 140km/h.
START SMART LOG FUNCTION	MENU (TO ON) > ENTER	The 850 will start smart log function. All of the main flow will show "s" icon on up right hand corner.
STOP SMART LOG FUNCTION	MENU (TO OFF) > ENTER	The 850 will stop smart log function.
GO BACK TO SMART LOG	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the 850 will back to smart log.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

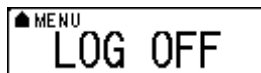
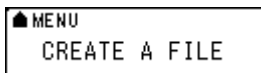


When you select “ON” and then press “ENTER”

button. Please see below description.

> 6km/h (LOW SPEED)	Each 15sec record one point
60>Middle SPEED>6km/h	Each 10sec record one point
60km/h(HIGH SPEED) >	Each 5sec record one point

### 2.5.6.4 Log Manage Setting



If you want to create a new track, you can select create a new file. The log file will produce different track in Photo Tagger software.

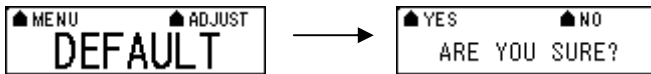
FUNCTION	BUTTON	Detail Description
CREATE A FILE	ADJUST > ENTER	Create a new file will produce different track in Photo Tagger software.
STOP LOG AND FILE CLOSE	ADJUST > MENU (TO LOG OFF) > ENTER > YES	When you stay in "LOG OFF", please press "ENTER" button, the screen will show "STOP & FILE CLOSE". You can select yes or no to determine whether stop log.
Go back to setting mode	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the 850 will back to Setting Mode.

## 2.5.6.5 Unit Set



FUNCTION	BUTTON	Detail Description
Unit setting	ADJUST	Press “ADJUST” button, you can select km or mile unit for the 850.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

## 2.5.6.6 Default Set



FUNCTION	BUTTON	Detail Description
Recover to default	ADJUST > YES or NO	If you select “YES”, the 850 will recover to default setting and back to Battery, Satellite, Log memory Mode. And you select “NO”, the 850 will back to “DEFAULT”.
NEXT SECTION	MENU	Please press “MENU” button go to next section.
Go back to setting mode	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the 850 will back to Setting Mode.
NEXT SECTION	MENU	Please press “MENU” button go to next section.

## 2.5.7 Connecting your handheld device with 850

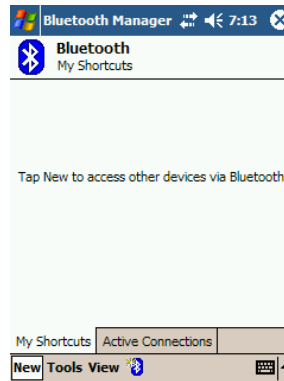
Please refer to the user manual of PDA to enable the Bluetooth connectivity.

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



Start -> Bluetooth Manager

-->



New

**A. Open “Bluetooth Manager” on your pocket pc, and establish a new connection.**



Explore A Bluetooth device  
->Next

-->



Tap 850 GPS

**B. Explore a Bluetooth device, and find the “850”**



Passkey 0000 (if your PDA asks for the passkey)

### C. (Optional)



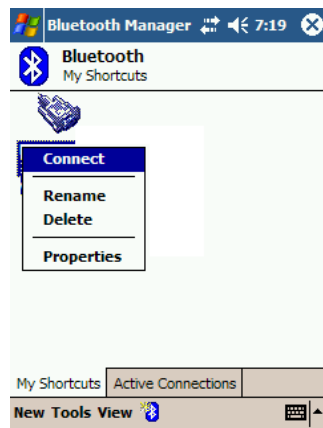
Select SPP slave->Next

-->



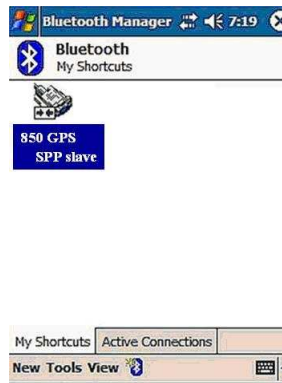
Finish

### D. Connect to Serial Port Profile (SPP) Slave



Tap and Hold 850: SPP slave,  
Connect

-->



Done

### E. Finish Bluetooth Manager Setup

## **1. Loading your GPS mapping or routing software**

You should have mapping software on your PDA/ Smartphone/ laptop or you need to install it before using the 850 for navigation.

## **2. Starting the application**

Select the correct COM port & baud rate within the application.

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.



## 2.6 Helpful Tips

- It's better to turn off the 850 when you don't use it, or the serial Flash's life can't last long.
- Some vehicles having heavy metallic sun protecting coating on windshields may affect GPS signal receptions
- Driving in and around high buildings may affect GPS signal receptions.
- Driving in tunnels or indoor park may affect signal receptions.
- 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.
- Low battery of a PDA or of an 850 may affect signal receptions.
- Please check the correct “COM” and “Baudrate” of your PDA.
- 850 output data updates every second, therefore the actual position and the position shown in your map may have slight time delay. This may happen when you drive at higher speed or make a turn around a corner.
- Note that 850 may not work indoors where it can not see the sky.
- For the 1<sup>st</sup> time you use the 850, it will take 1 to 3 minutes to obtain the satellite constellation information and fix your position, this is called “Cold Start”. If you replace the battery, 850 will do Cold Start again.
- If your 850 can't fix your position for more than 20 minutes, we suggest you change to another spot with open space and then try again.

## Chapter3. How to configure your GPS Record?

The GpsView program only supports the Microsoft Windows based platform.

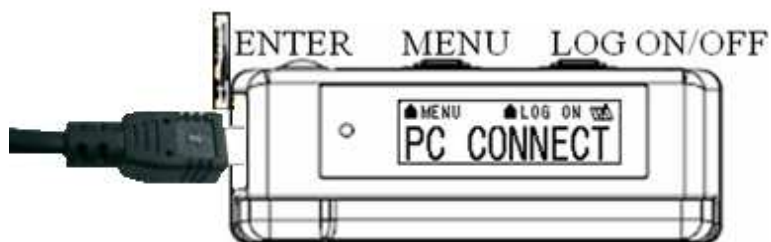
### 3.1 Driver Installation

Before the USB connector plugs in your PC/ Laptop, please have your USB Driver Installation ready. (Install InstallDriver.exe driver for USB port from CD-ROM.)

### 3.2 GpsView software

Open the GpsView software, please select correct COM port and Baud Rate (USB / Bluetooth :115,200bps) to configure GPS.

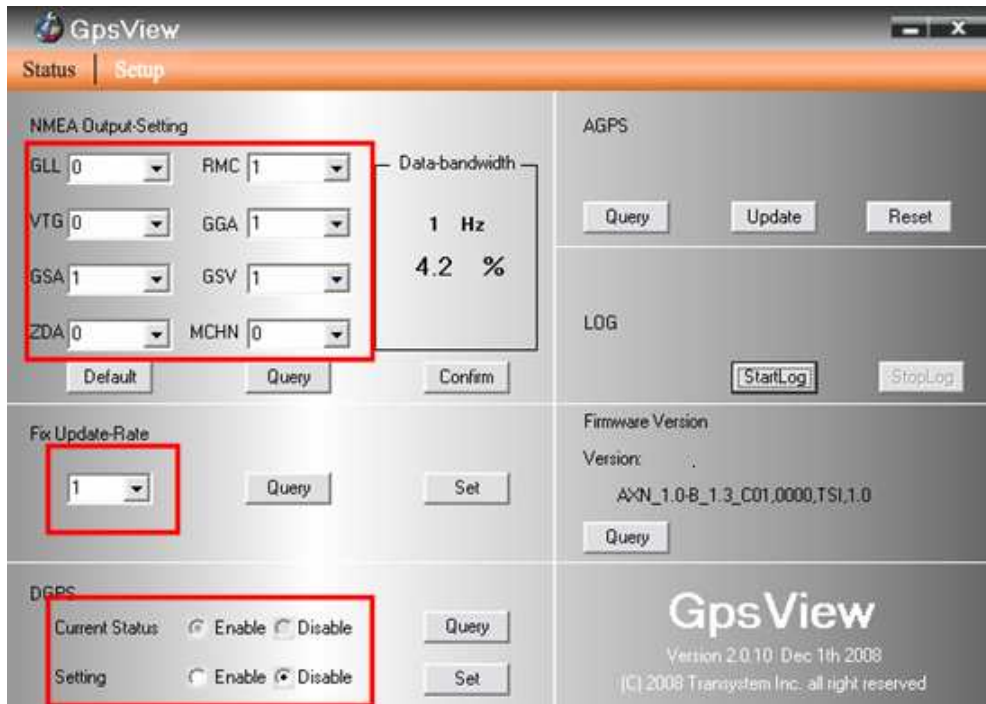
#### 3.2.1 Connect USB cable between GPS and laptop



To USB port on PC/Laptop

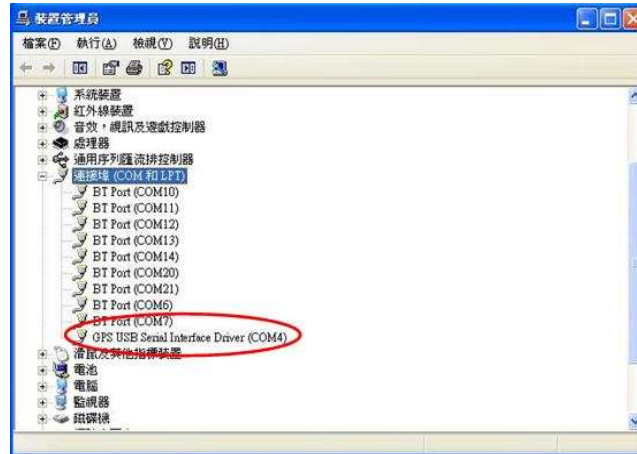
### 3.2.2 Executing GpsView Program

Click “Command” tap. Update Rate 1 ~ 5Hz is user configurable. And still more options for choice of NMEA output, DGPS...etc. all available through pull-down menus.

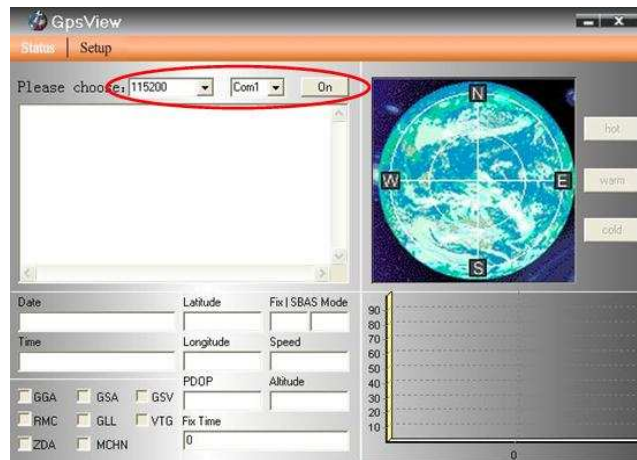


### 3.2.3 Download AGPS

1. Start→Control Panel→System→Hardware→Device Management→Connector ( COM and LPT ) Check Com port position ◦



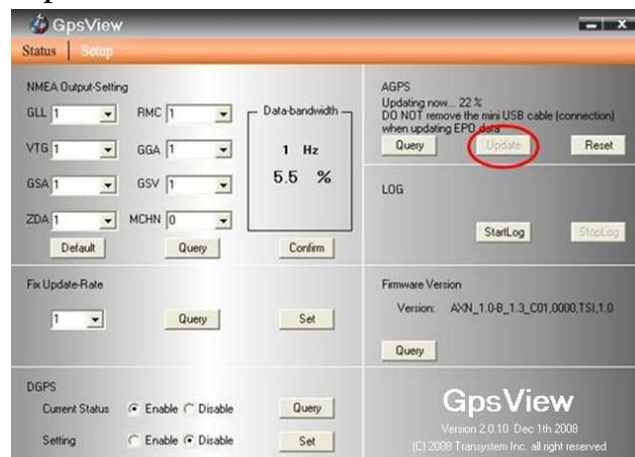
- Open GpsView.exe → Check Baud Rate and Com port → click On



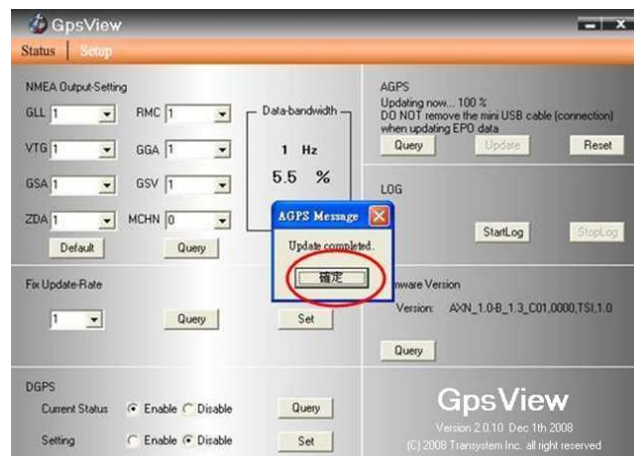
- Choice Setup



#### 4. Choice Update ◦



#### 5. When Updating now...100%, click Enter complete ◦



[Note] When you use GpsView software download AGPS data, it only supports use Bluetooth connect to PC and 850.

## Chapter 4 Using Photo Tagger software

### 4.1. Execute and install software utility Photo Tagger

Complete GPS Photo Tagger and USB drivers installation (Refer to CD)

### 4.2. Google Earth

If your computer is not yet installed with Google Earth. Google Earth has a free download version, go download it from the internet first. For more information, please visit <http://earth.google.com/>.

### 4.3. Software Utility --- 850

For further function to use the Photo Tagger software in detail, please refer to Photo Tagger user manual:

Photo Tagger software > Help > User Manual

To use a mini-USB cable to connect the 850 to your PC, you have to power on the 850 unit. Please keep in mind to switch to LOG mode while using Photo Tagger software.

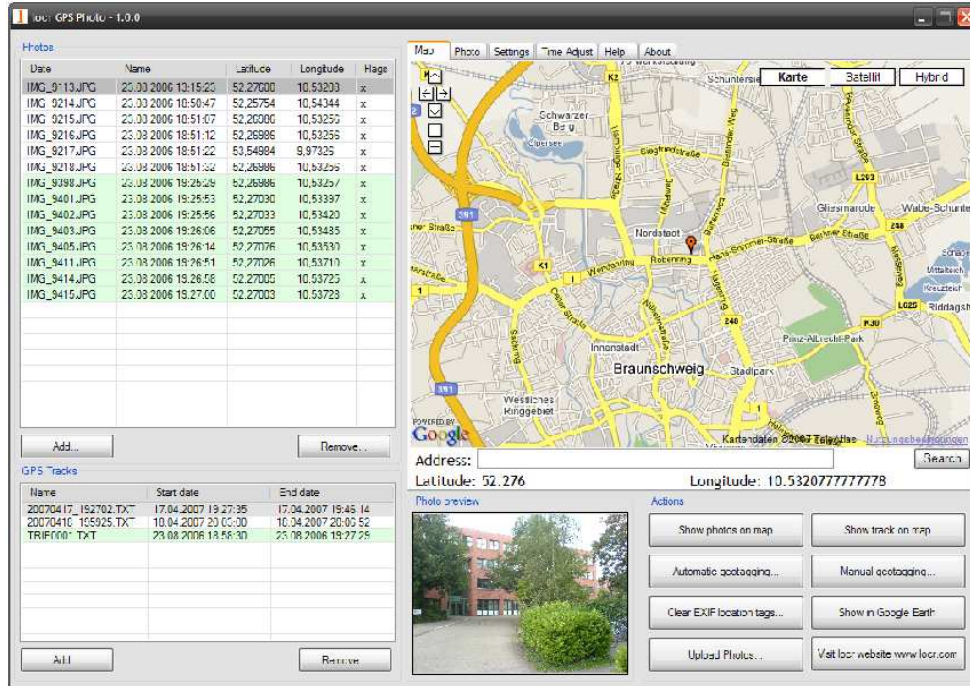
## **Appendix**

### **Appendix A. Locr GPS Photo**

With 850 and locr GPS Photo software, users are allowed to import geotagging adds information to photos. The position (latitude/ longitude) then be written into the EXIF header for the further application. Also, locr GPS Photo can integrated travel log and digital photos by date/ time to show photos on the map directly.

Please find the installation file for Windows XP/ Vista in CD tool, or go to <http://www.locr.com> for further information.





## **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 interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

**CAUTION:**

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

**RF exposure warning**

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance."

## CE Notices

# CE 0984 Ⓢ

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 89/336/EEC.

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.