

TripMate850

User's Manual



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Rev. 08

Note and Warning

- **TripMate850 uses AAA battery*2. If TripMate850 is used in temperature lower than -10°C or higher than 60°C, the battery capability will decrease. Please leave TripMate850 far from heat or high temperature environment. In addition, do not expose your TripMate850 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, turn off TripMate850 is recommended. Like other common equipments do, wireless GPS receiver may also interfere medical equipments which use radio frequency.**
- **Remove batteries from TripMate850 when not using it for a long period of time.**
- **Keep TripMate850 and all accessories out of small children's reach for safety caution.**
- **We assume no responsibility for any damage 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 TripMate850, and may violate regulations governing radio devices.**
- **Use a dry, clean soft cloth to clean your TripMate850. Do not use harsh cleaning solvents, chemicals, or strong detergents.**
- **Do not attempt to open TripMate850 by yourself. Unauthorized hacking may damage the unit, and void your warranty.**

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Chapter1. Before you begin

1.1 Introduction

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 TripMate850 includes a one inch LCD, as the real time, moving speed, distance measurement and position information, all of the message always can be shown on the screen. Through user friendly software utility, it can combine your pictures and record routes, and 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

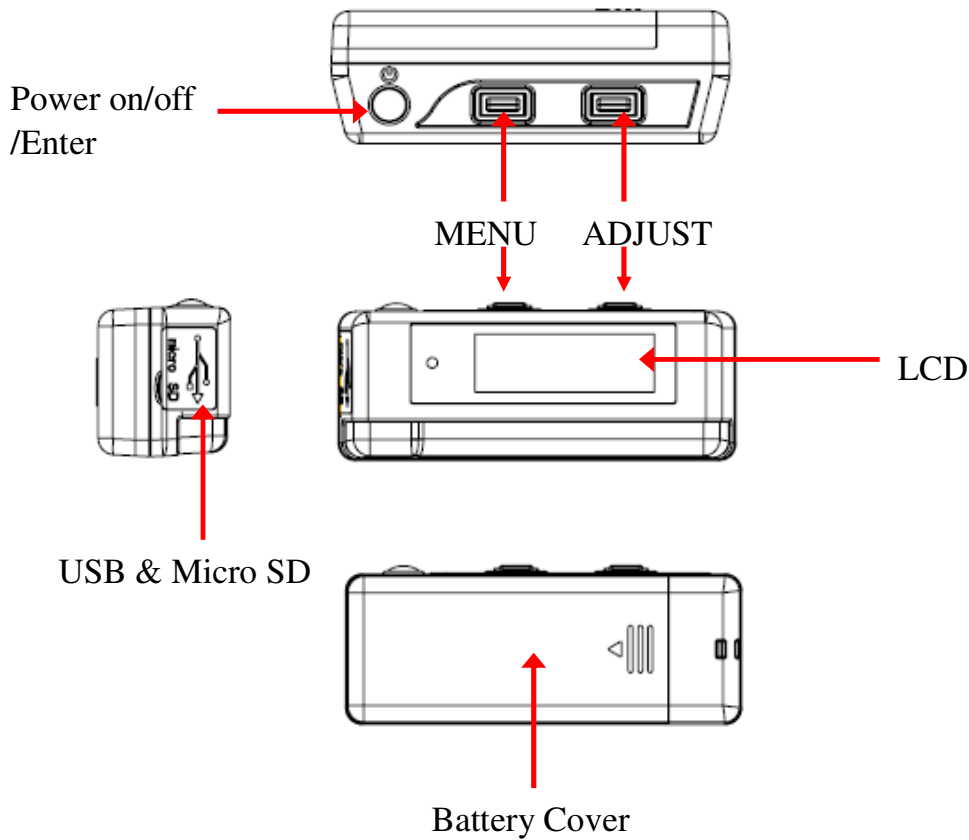
- ⊙ MTK 3329 chip
- ⊙ Smart log function
- ⊙ Receiver & data logger dual function design
- ⊙ Vibration sensor for power saving
- ⊙ Micro SD card for unlimited storage
- ⊙ Powered by AAA battery*2

1.3 Specifications

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: 0.1m/s
	<3m CEP(50%) without SA(horizontal DGPS(WAAS,EGNOS,MSAS): 2.5m		DGPS(WAAS,EGNOS,MSAS): 0.05m/s
Timing Accuracy	50ns RMS	Acceleration	Without aid: <4g
			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	Up to 12 hours	Battery	AAA battery*2
I/O			
Baudrate	115200 bps	Protocol	NMEA 0183 v3.01
LCD			
Size	28 x 8.5mm	Pixel	128 x 32 pixel
Environment			
Operation Temperature	-10° to 50°		
Interface			
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
Others			
Weight (g)	57.5g(with battery)	Dimension	72*27x25mm
	36.5g(without battery)	NMEA	GGA,GSA,GSV,RMC

1.4 Buttons and Description



1.5 Accessories

Congratulations on your purchase of the TripMate850. Before you start using TripMate850, please make sure if your package includes the following items. If any item is damaged or missing, please contact your dealer at once.

- ⊙ Mini USB cable x1
- ⊙ AAA battery x2
- ⊙ Quick start guide x1
- ⊙ Strap x1
- ⊙ Micro SD card 1G x1 (inside the TripMate850)

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

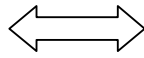
Chapter2. Getting Started

2.1 Turn on/off TripMate850

Before you start to use TripMate850 to log data, please check if Micro SD card is inside the TripMate850.

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

POWER OFF



POWER ON

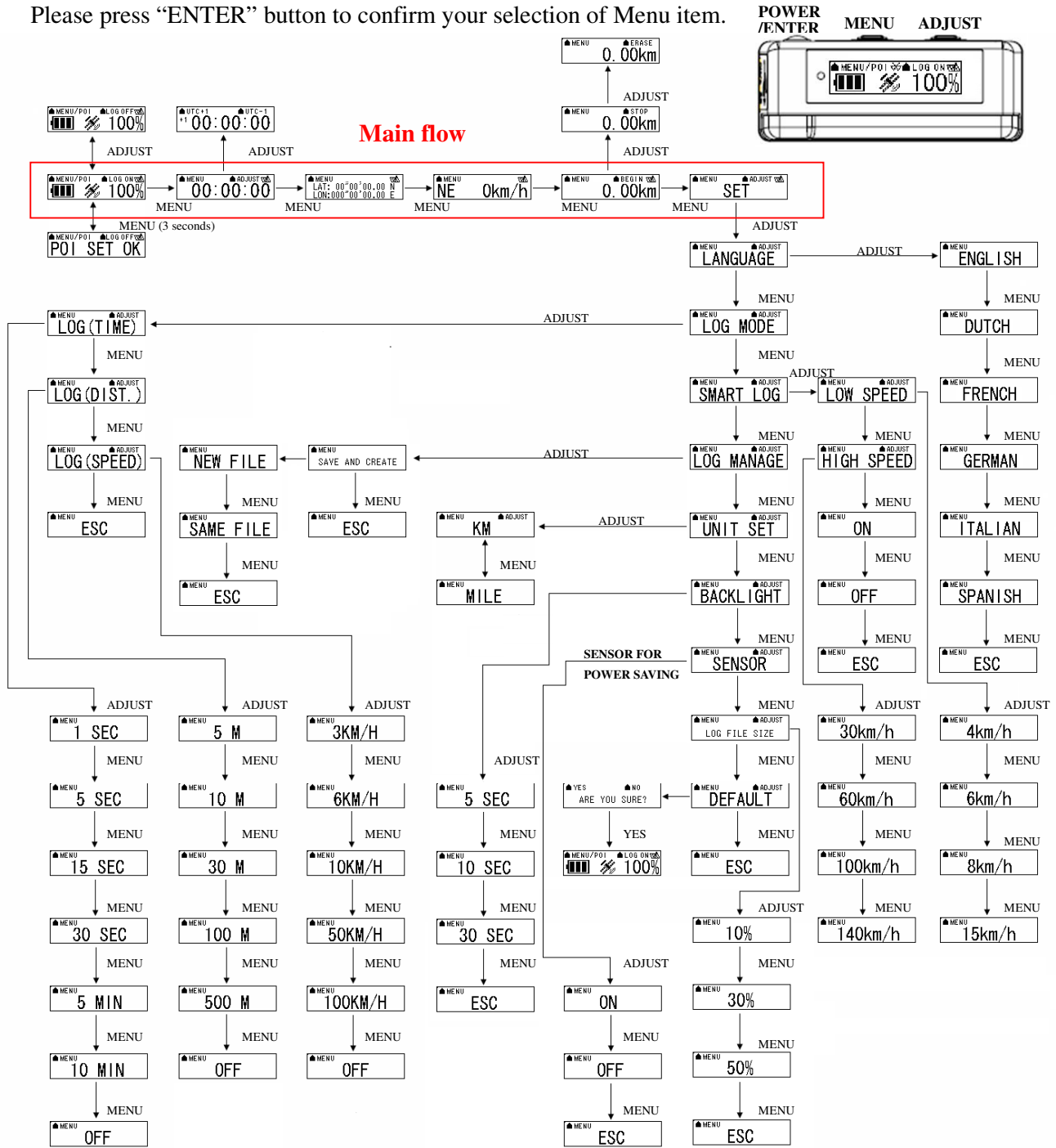


2.2 Main Flow

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

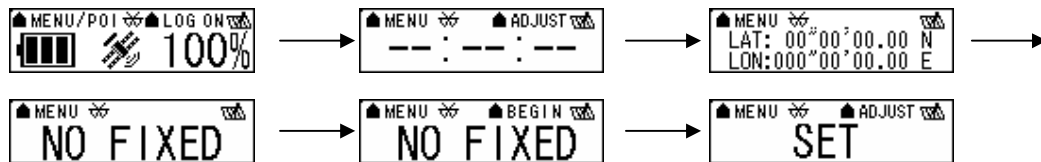
2.3 Flow Diagram

Please press “ENTER” button to confirm your selection of Menu item.



For detail information, please see functional description in section 2.5.

When TripMate850 does not have location fix, the screen will show below image.



If there is no Micro SD card inside the TripMate850, the device will not be able to store logged data. The screen will show below image.



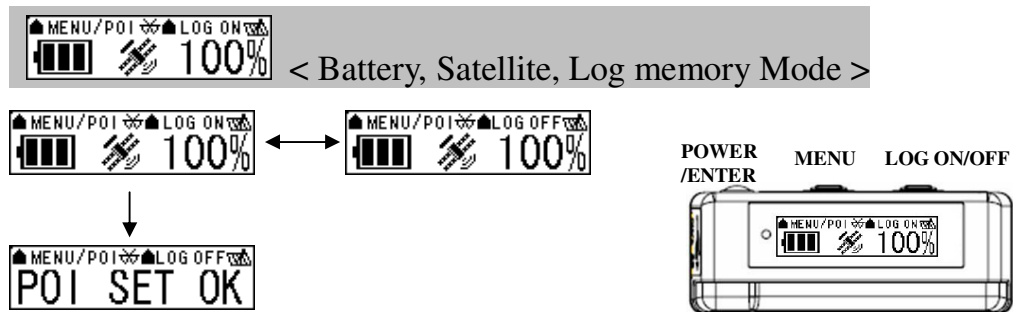
[Note] TripMate850 can be used as a mass storage device with Micro SD card inside.

2.4 ICON Introduction

Symbol	Category	Status	Function
	LOG	On	Device is not in log mode yet.
		Blinking	In LOG mode.
	BLUETOOTH	Off	Not yet connected to any Bluetooth device.
		Blinking	Bluetooth is connected for data transmission.
	SATELLITE	On	Acquiring satellite signal, GPS position not fixed.
		Blinking	GPS position fixed, ready for smart phone navigation.
	BATTERY	On	The battery capacity is full.
	BATTERY	On	Low battery.
	SMART LOG	On	Start smart log function.
		Off	Shut down smart log function.

2.5 Functional description

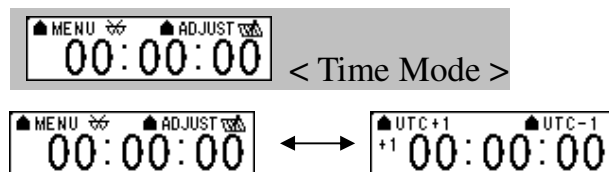
2.5.1 Battery, Satellite, Log memory Mode



Function	Button	Detail Description
START LOG	LOG ON > ENTER	When you want to start log data, please check the upper right hand corner of the screen which is staying in “LOG ON”, and then please press “ENTER” button. The log icon will blink 1 time / per second.

STOP LOG	LOG OFF > ENTER	After you turn on the TripMate850, the screen will show log memory from 0% to 100%. When log memory increase to 100%, the TripMate850 will stop logging. If you want to stop logging data, please press “LOG ON/OFF” button to “LOG OFF” and then press “POWER” button.
POI (point of interest)	MENU/POI	Press “MENU/POI” button for 3 seconds, the TripMate850 will record POI and show “POI SET OK”. When you record POI, please make sure satellite icon is blinking (GPS position is fixed).
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.2 Time Mode



Function	Button	Detail Description
TIME ADJUSTMNET	ADJUST > UTC+1 or UTC-1 > ENTER	The time mode uses UTC time which receives from GPS ephemeris. You can set local time manually. After you press “ADJUST” button, the screen will show “UTC+1” and “UTC-1”. When the time is adjusted successfully, please press “ENTER” button.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.3 Position Mode




Function	Button	Detail Description
POSITION INFORMATION	NONE	When the GPS position is fixed, the TripMate850 will show the latitude and longitude information on the screen.
NEXT SECTION	MENU	Press “MENU” button to next section.


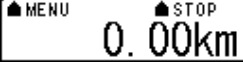
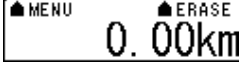
2.5.4 Speed & Direction Mode



Function	Button	Detail Description
SPEED AND DIRECTION	NONE	In this mode, the TripMate850 will indicate current speed and direction on the screen.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.5 Distance Measurement Mode

 < Distance measurement Mode >

 →  → 

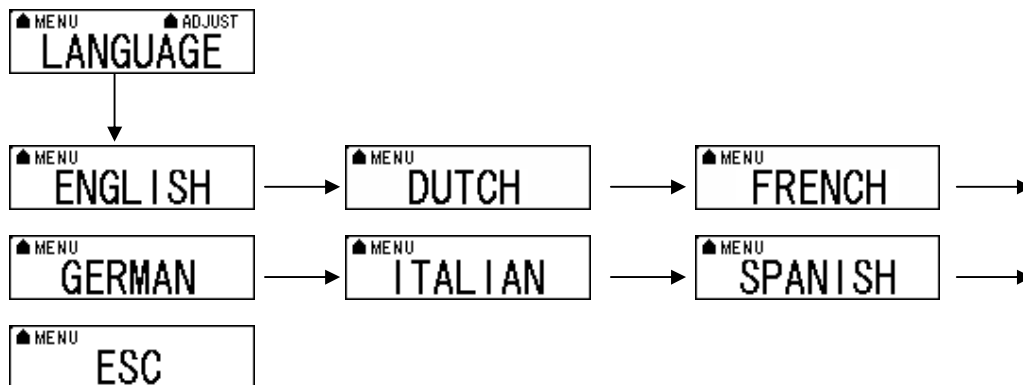
Function	Button	Detail Description
Begin distance measurement	BEGIN > ENTER	Select "BEGIN", "STOP", or "ERASE" in the same button. When you make sure your selection, please press "ENTER" button.
Stop distance measurement	STOP > ENTER	Select "BEGIN", "STOP", or "ERASE" in the same button. When you make sure your selection, please press "ENTER" button.
Erase data	ERASE > ENTER	Select "BEGIN", "STOP", or "ERASE" in the same button. When you make sure your selection, please press "ENTER" button.
NEXT SECTION	MENU	Press "MENU" button to next section.

2.5.6 Setting Mode

 < Setting Mode >

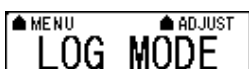
Function	Button	Detail Description
FURTHER SET	ADJUST	Press "ADJUST" button to go to option of the setting mode. In "SET" mode, there are "LANGUAGE", "LOG MODE", "SMART LOG", "LOG MANAGE", "UNIT SET", "BACKLIGHT", "SENSOR", "LOG FILE SIZE", and "DEFAULT", which allow you for further setting.
NEXT SECTION	MENU	Press "MENU" button to next section.

2.5.6.1 Several Language Setting

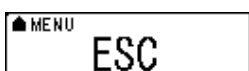


Function	Button	Detail Description
LANGUAGE SETTING	ADJUST > MENU (TO YOUR LANGUAGE) > ENTER	Please press “ADJUST” button, and then press “MENU” button to select several language selections. When you make sure your selection, please press “ENTER” button.
NEXT SECTION	MENU	Press “MENU” button to next section.
Go back to language	MENU (TO ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the TripMate850 will go back to “LANGUAGE” mode.

2.5.6.2 Log Mode Setting



In log mode, you can set log criteria by time, distance or speed. Please press “ADJUST” button and then press “MENU” button to select different setting of log criteria. When you make sure your selection, please press “ENTER” button to save the log criteria.

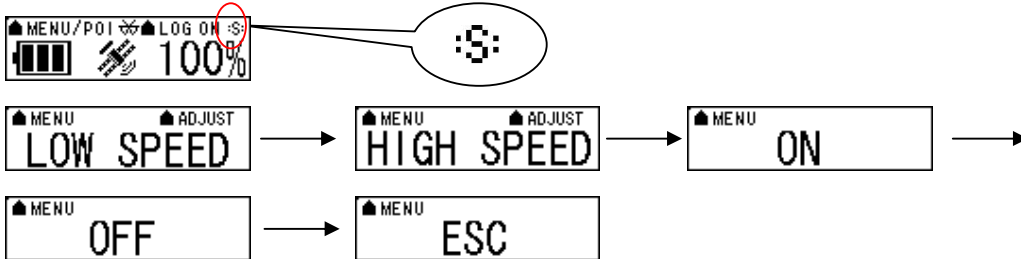


Function	Button	Detail Description
LOG BY TIME	ADJUST > ENTER	In log time mode, the TripMate850 can set log criteria from following options, to log one time every 1 second / 5 seconds / 15 seconds / 30 seconds / 5 minutes / or 10 minutes. When you make sure your selection, please press “ENTER” button.
LOG BY DISTANCE	ADJUST > ENTER	In log distance mode, the TripMate850 can set log criteria from following options, to log one time every 5 meters / 10 meters / 30 meters / 100 meters / or 500 meters. When you make sure your selection, please press “ENTER” button.
LOG BY SPEED	ADJUST > ENTER	In log speed mode, the TripMate850 can set log criteria from following options, to log one time when speed is over than 3km/h / 6km/h / 10km/h / 50km/h / or 100km/h. When you make sure your selection, please press “ENTER” button.
GO BACK TO LOG MODE	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the TripMate850 will go back to “LOG” mode.
NEXT SECTION	MENU	Press “MENU” button to next section.

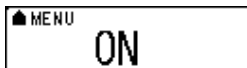
2.5.6.3 Smart Log Setting



When the smart log function is on, the TripMate850 will go into different log manner which depends on speed per hour.



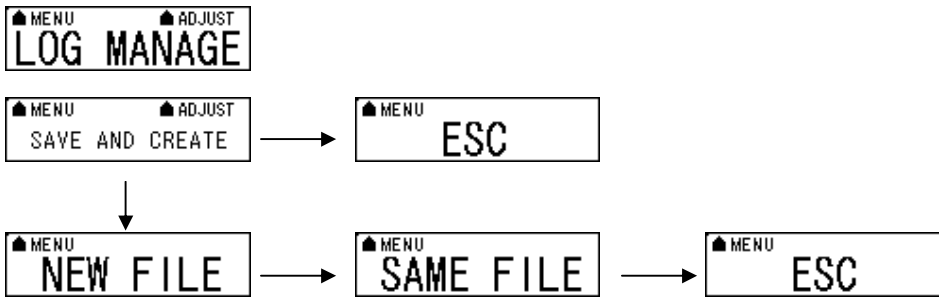
Function	Button	Detail Description
LOW SPEED	MENU (to LOW SPEED) > ADJUST > ENTER	In low speed, please press “ADJUST” button, and then press “MENU” button to select 4km/h, 6km/h, 8km/h, or 15km/h. When you make sure your selection, please press “ENTER” button.
HIGH SPEED	MENU (to HIGH SPEED) > ADJUST > ENTER	In high speed, please press “ADJUST” button, and then press “MENU” button to select 30km/h, 60km/h, 100km/h or 140km/h. When you make sure your selection, please press “ENTER” button.
START SMART LOG FUNCTION	MENU (to ON) > ENTER	When it shows “On” on the screen, press “MENU” button, the TripMate850 will start smart log function. And it will show “s” icon on the upper right hand corner of the screen.
STOP SMART LOG FUNCTION	MENU (to OFF) > ENTER	When it shows “Off” on the screen, press “MENU” button, the TripMate850 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 TripMate850 will go back to “SMART LOG” mode.
NEXT SECTION	MENU	Press “MENU” button to next section.



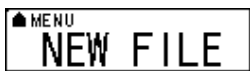

When you select “ON” and then press “ENTER” button, please see below description.

> 6km/h (LOW SPEED)	Log 1 time / per 15 sec
60>Middle SPEED>6km/h	Log 1 time / per 10 sec
60km/h (HIGH SPEED) >	Log 1 time / per 5 sec

2.5.6.4 Log Manage Setting

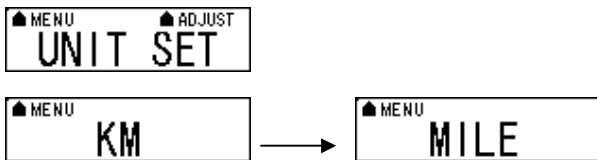


If you want to create a new track, you can press “ADJUST” button to “save and create” function. In “save and create” mode, there are two options:

-  → To save current track and create another track in new file.
 -  → To save current track and create another track in same file.
- And TripMate850 will stop logging.

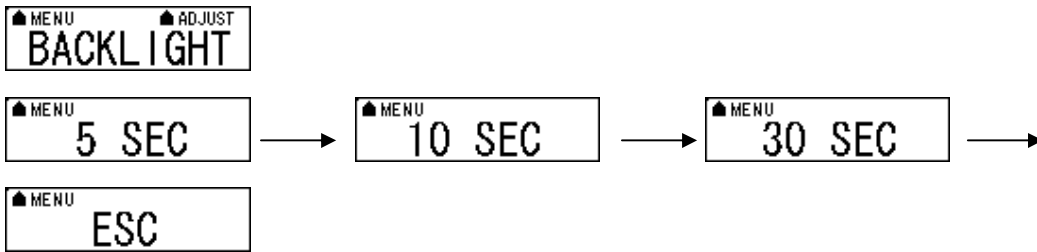
Function	Button	Detail Description
Create new track and save in new file.	ADJUST > ADJUST (to NEW FILE) > ENTER	In “SAVE AND CREATE” mode, please press “ADJUST” button, it will show “NEW FILE”, if you want to save current track and create another track in new file., please press “ENTER” button.
Create new track and save in same file & stop logging	ADJUST > ADJUST > MENU (to SAME FILE) > ENTER	In “SAME FILE” mode, if you want to save current track and create another track in same file, please press “ENTER” button. And also TripMate850 will stop logging.
Go back to LOG MANAGE	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the TripMate850 will go back to “LOG MANAGE” mode.

2.5.6.5 Unit Set



Function	Button	Detail Description
Unit setting	ADJUST > MENU (to KM or MILE) > ENTER	In “Unit setting” mode, please press “ADJUST” button, and then press “MENU” button to select “km” or “mile” as unit of measurement for the TripMate850. When you make sure your selection, please press “ENTER” button, and the TripMate850 will go back to “Unit setting” mode.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.6.6 Backlight Set



Function	Button	Detail Description
Backlight setting	ADJUST > MENU (to 5 SEC, 10 SEC or 30 SEC) > ENTER	Please press “ADJUST” button and then press “MENU” button to select time-out setting for backlight. You can set backlight time-out in 5 sec / 10 sec / or 30 sec. When you make sure your selection, please press “ENTER” button, and the TripMate850 will go back to “Backlight” setting mode.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.6.7 Sensor Set



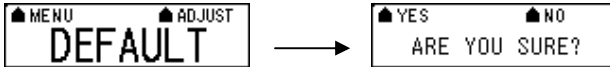
Function	Button	Detail Description
Vibration sensor setting	ADJUST > MANU (to ON or OFF) > ENTER	Please press “ADJUST” button and then press “MENU” button to select “On” or “Off” for vibration sensor setting. When you make sure your selection, please press “ENTER” button. When you enable the sensor function, without moving the TripMate850 for ten minutes, the device will go into power saving mode, shut down screen and stop logging data. After you move the TripMate850, it will start log again.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.6.8 Log File Size Set



Function	Button	Detail Description
Memory size setting	ADJUST > MANU (to 10%, 30% or 50%) > ENTER	Please press “ADJUST” button and then press “MENU” button for selection. You can set 10%, 30% or 50% of total memory size for storing log data. When you make sure your selection, please press “ENTER” button.
NEXT SECTION	MENU	Press “MENU” button to next section.

2.5.6.9 Default Set

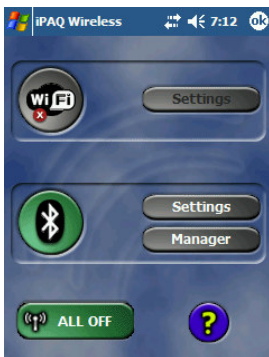


Function	Button	Detail Description
Recover to default	ADJUST > YES or NO	Please press “ADJUST” button and it will show “Are you sure?”, if you select “YES”, the TripMate850 will recover to default setting and go back to Battery, Satellite, Log memory mode. If you select “NO”, the TripMate850 will go back to “DEFAULT” mode.
NEXT SECTION	MENU	Press “MENU” button to next section.
Go back to setting mode	MENU (to ESC)> ENTER	When you jump to “ESC” and then press “ENTER” button, the TripMate850 will go back to “Setting” Mode.
NEXT SECTION	MENU	Press “MENU” button to next section.

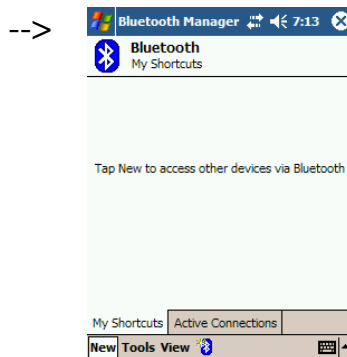
2.5.7 Connecting with your handheld device

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

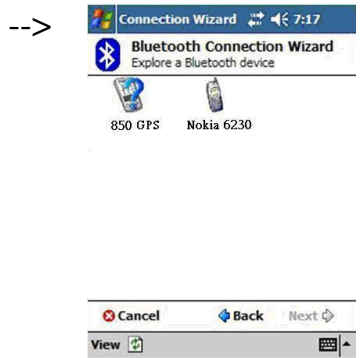


New

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 GPS”



Passkey 0000 (if your PDA asks for the passkey)

C. (Optional)

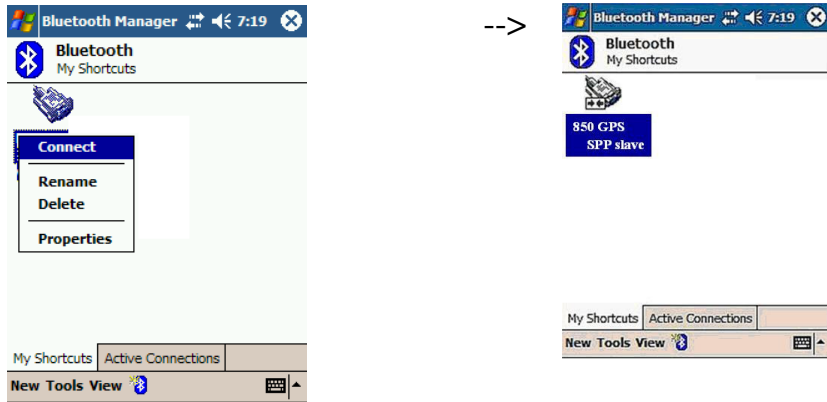


Select SPP slave->Next



Finish

D. Connect to Serial Port Profile (SPP) Slave



Tap and Hold 850 GPS
: 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 TripMate850 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 TripMate850 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 parking may affect signal reception.
- 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 PDA or TripMate850 may affect signal reception.
- Please check the correct “COM” and “Baud rate” of your PDA.
- TripMate850 output data 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 high speed or make a turn around a corner.
- TripMate850 may not work indoors where it can not see the sky.
- For the 1st time you use TripMate850, 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, TripMate850 will do Cold Start again.
- If your TripMate850 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?

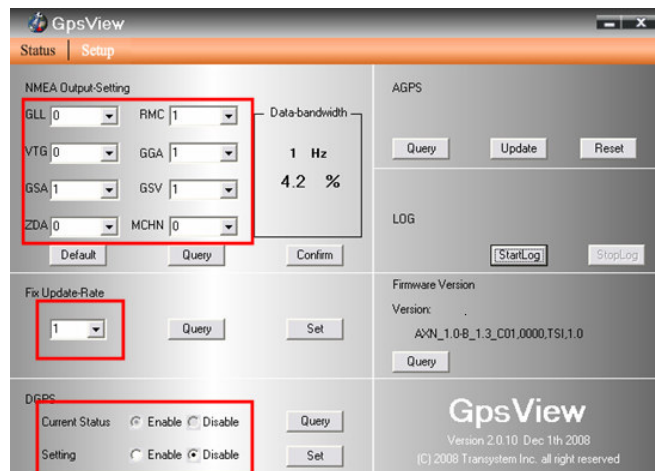
The GpsView program only supports the Microsoft Windows based platform. Before you start to use GpsView software, it only supports use of Bluetooth connection between your PC and TripMate850.

3.1 GpsView software

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

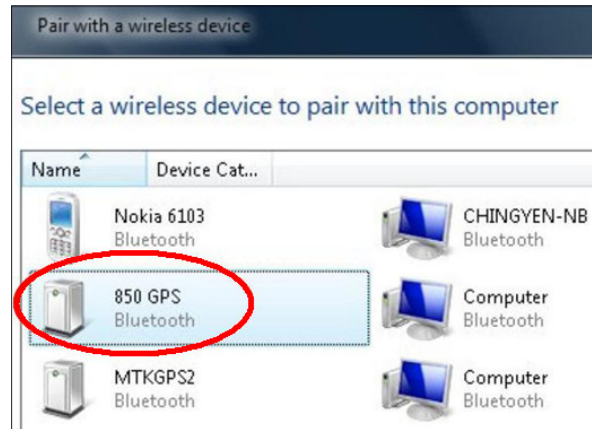
3.1.1 Using GpsView Program

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.

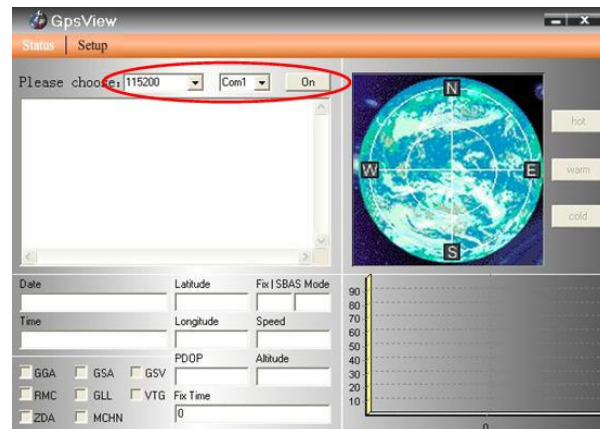


3.1.2 Download AGPS

1. Build a Bluetooth connection between your PC and TripMat850 → Check Com Port



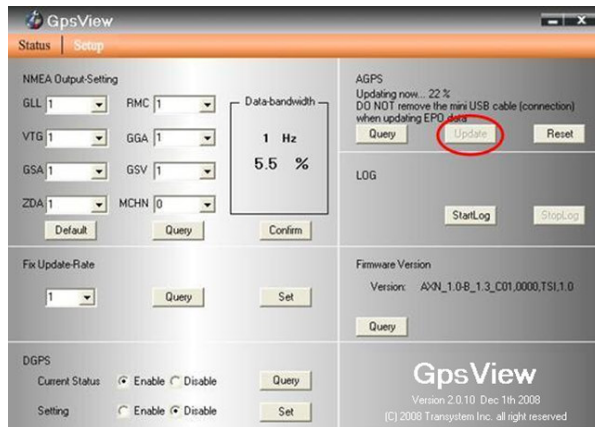
2. Open GpsView.exe → Check Baud Rate and Com port → click “On”



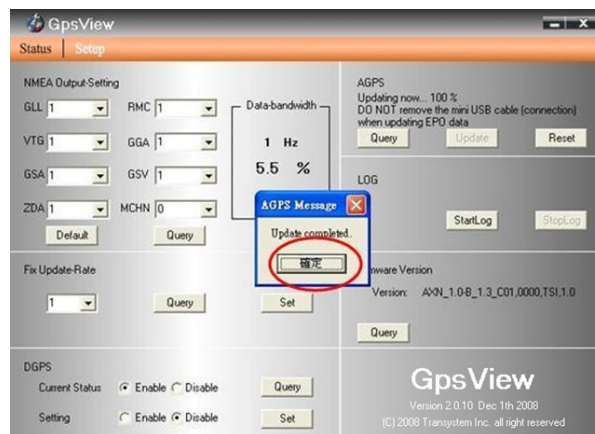
3. Choose “Setup”



4. Choose “Update” to download AGPS data



5. When Updating now...100% → click “Enter” to complete



[Note] When you use GpsView software to download AGPS data, it only supports use Bluetooth connection between your PC and TripMate850. AGPS data has six days time limited.

Chapter4. Using Photo Tagger software

4.1 Execute and install software utility Photo Tagger

Complete GPS Photo Tagger installation

4.2 Google Earth

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

4.3 Software Utility - TripMate850

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

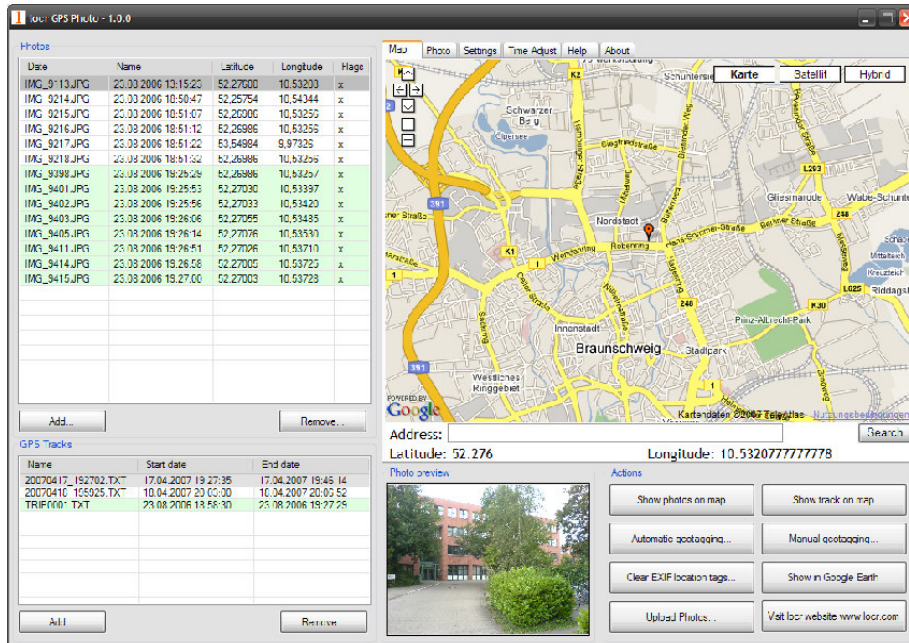
Photo Tagger software > Help > User Manual

To use a mini-USB cable to connect the TripMate850 to your PC, you have to power on the TripMate850 unit.

Appendix A. Locr GPS Photo

With TripMate850 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 integrate 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 Micro SD card, or go to <http://www.locr.com> for further information.



Appendix B. Certification

FCC Notice

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.

CE Notice

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.