

860Lite PersonalMate GPS

User's Manual



V1.0

Table of Contents

Chapter 1 Before you begin	4
1.1 Note and Warning	4
1.2 Introduction	5
1.3 Features	5
1.4 Applications	6
1.5 Appearance	6
1.6 Power Switch and Push Button	7
1.7 LED Display	9
1.8 Vibration sensor for Smart Log	10
Chapter 2 Getting Started	11
2.1 Checking the package content	11
2.2 Getting Started	12
2.3 Helpful Tips	13
Chapter 3 How to configure your GPS Record?	15
3.1 Driver Installation	15
3.2 GpsView software	15
3.2.1 Connect USB cable between GPS and laptop	15
3.2.2 Execute GpsView Program	16
3.2.3 Download AGPS	17
Chapter 4 Using Mileage Logger software	20
4.1 Execute and install software utility Mileage Logger	21
4.2 Google Earth	21
4.3 Software Utility --- Mileage Logger	22
Appendix	23

Appendix A. Specifications	23
Appendix B. loqr GPS Photo	25
Appendix C. Certification	26
Appendix D. Warranty Information	28

Chapter 1 Before you begin

1.1 Note and Warning

- 860Lite uses + Lithium-ion battery. If 860Lite is used in temperature lower than -20°C or higher than 60°C , its battery charging capability will decrease. Please leave the 860Lite far from heat or high temperature environment. In addition, do not expose your 860Lite in temperature higher than $140^{\circ}\text{F}/60^{\circ}\text{C}$. If you do not follow these rules, the battery inside 860Lite may overheat, explode or burn itself, and this will lead to very serious damage. The + Lithium-Ion battery inside the 860Lite should be recycled.
- While in the hospital, turning off the 860Lite is recommended. It may interfere with medical equipments which use radio frequency.
- For safety, keep the 860Lite and all accessories out of children's reach.
- The manufacturer assumes no responsibility for any damages and loss resulting from the use of this manual, or from deletion of data as a result of malfunction, dead battery, or from misuse of the product in any way.
- Use only the supplied and approved accessories. Unauthorized accessories, modifications or attachments could damage the 860Lite, 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 860Lite yourself. Unauthorized hacking may damage the unit, and void your warranty.

1.2 Introduction

This 860Lite is a keychain GPS which features an all-in-one, cost-effective portable GPS logging solution. With its on-board memory, it allows you to log your routes. You can also record a POI (Points of interest) by a slide-to-push button. Adding special encryption function, it could protect your device log data from stolen. Through user-friendly Mileage Logger software, you can manage your trip expenses and mileage reimbursements more easily than before. Also Mileage Logger can export trip records to a Microsoft Excel file (CSV format) for further analysis. This GPS Logger is small and robust, ideal to carry everywhere for applications such as route tracking, business trip recording or fleet management.

1.3 Features

1. Dual mode for both data recording and smart log
2. User can record data by setting the interval of time /distance / speed
3. Slide-to-push button to record POI (Point of Interest)
4. ID/Password encryption to protect your personal data
5. Up to 12 hrs operation time
6. Log up to 125,000 waypoints
7. Semi indoor
8. AGPS available
9. Vibration sensor for power saving
10. Fuzzy Auto on/off
11. Support wired GPS receiver function
12. Mileage Logger s/w to manage trip expenses & reimbursements

1.4 Applications

- Record your travels
- Manage business trip expense
- Concerned about one's driving behavior
- Record Point of Interest by a Slide-to-push button
- Geo-photo

1.5 Appearance



1. DC jack (mini USB type)
2. Mode switch (Power off/ 1Hz Log/ Smart Log)
3. Smart Log LED (Blue)
4. GPS status LED (Orange)
5. Log & POI LED (Red)
6. Battery status LED (Red / Green)
7. Slide-to-push POI button

1.6 Power Switch and Push Button



Power off (Right)



1Hz Log mode (Middle)



Smart Log mode (Left)



Slide-to-push button





Power Switch	
Right (Off)	Power off
Middle (1Hz Log)	Log mode Enabled
Left (Smart Log)	Smart Log function Enabled
Slide-to-push button	
Push button	Slide and push POI button to log points of interest, LED will quickly blink 3 times.

Difference between Log and Smart log mode:

1Hz Log	Log function enable (In 1Hz log mode, vibration sensor is disabled)
Smart log	Smart log function enable (In Smart log mode, vibration is enabled)

1.7 LED Display

The 860Lite PersonalMate GPS has four LED lights, one is Vibration sensor LED, the 2nd one is GPS Status LED, the 3rd one is Log / Memory Status LED, the 4th one is Battery Status LED. The status table of LED shows as follows:

Category	SYMBOL	COLOR	STATUS	Function
GPS Status LED		Orange	Always on:	Acquiring satellites, GPS position not fixed
			Quickly Blinking:	GPS position is fixed
Log Status LED		Red	Always on:	The memory space is too low (20% left now)
			Quickly Blinking:	LED blinks 3 times, Points of Interest (POI) is recorded
			Blinking:	Log mode
Battery Status LED		Red	Light On	The battery is too low
		Green	Light On:	The battery is charging
		Green	Light Off	The battery is fully charged
Smart log LED		Blue	Quickly Blinking:	Smart log is acting
			Slowly Blinking:	Sleeping mode
			Light Off	Smart log stops acting

1.8 Vibration sensor for Smart Log

860Lite is equipped with a vibration sensor for smart log function. Which means 860Lite can auto detect if itself is static or dynamic. Through this way, 860Lite will stop logging when it detects it is not moving over 5 minutes. And it will wake up and resume to log automatically when it detects it is moving again.

Chapter 2 Getting Started

2.1 Checking the package content

Congratulations on your purchase of the 860Lite. Before you start using 860Lite, please make sure if your package includes the following items. If any item is damaged or missing, please contact your dealer at once.

- 860Lite PersonalMate GPS x 1
- USB to mini-USB cable x 1
- DC cigarette lighter adapter x 1
- CD Tool x 1 (user manual, software utility, driver)
- Quick start guide x 1

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

*NOTE: The Cigarette Adapter can only be used to charge 860Lite. Please don't make use of it with devices other than 860Lite.

2.2 Getting Started

Please follow the procedure step by step.

Step 1 Charging Your Battery

To charge your 860Lite, you have to plug your USB cable into the power source. Charging time is about 1 hour and you can charge from PC/ Laptop's USB HOST or from cigarette-lighter in car.

For the 1st time you use the 860Lite, please charge battery until it is full. (The green LED is off) The LED that represents the battery is the left-most battery icon (shown in below).



- If the battery LED is red, that means battery power is critically low. Please charge immediately.
- If the battery LED is green, which means battery is charging now.
- If the battery LED is off, which means battery is fully charged.

Step 2 Turning on the power switch (LOG/ Smart log)



Power off

1Hz log mode

Smart log mode

2.3 Helpful Tips

- It's better to turn off the 860Lite 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, 860Lite performs best in open space where it can see clean sky. Also weather will affect GPS reception – rain & snow contribute to worse sensitivity.
- 860Lite 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 860Lite may not work indoors where it can not see the sky.

- For the 1st time you use the 860Lite, it will take 1 to 3 minutes to obtain the satellite constellation information and fix your position, this is called “Cold Start”.
- If your 860Lite can't fix your position for more than 20 minutes, we suggest you change to another spot with open space and then try again.

Chapter 3 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 (115,200bps) to configure GPS.

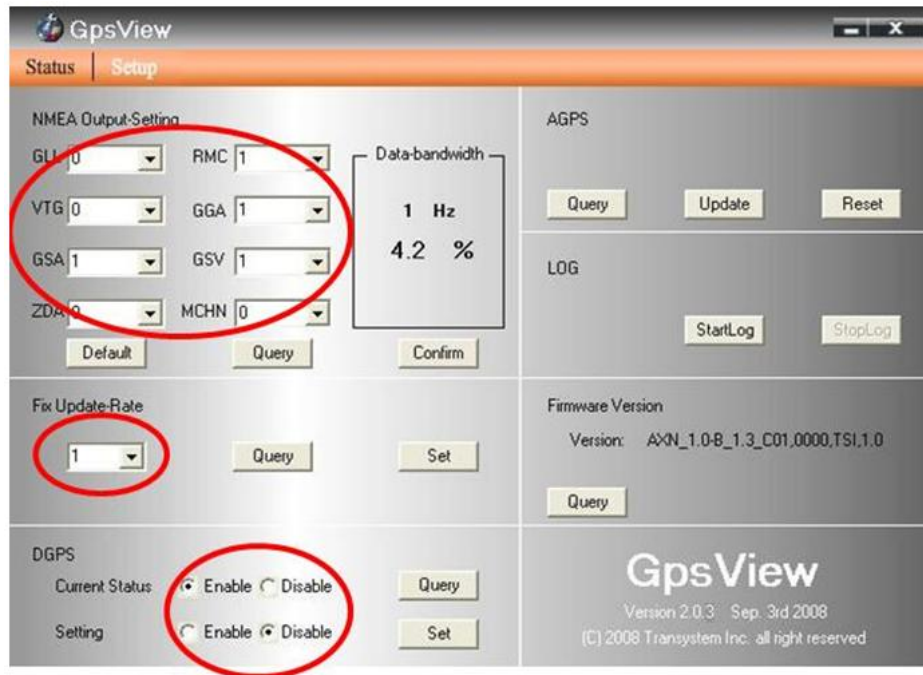
3.2.1 Connect USB cable between GPS and laptop



Connect to USB port on PC/Laptop

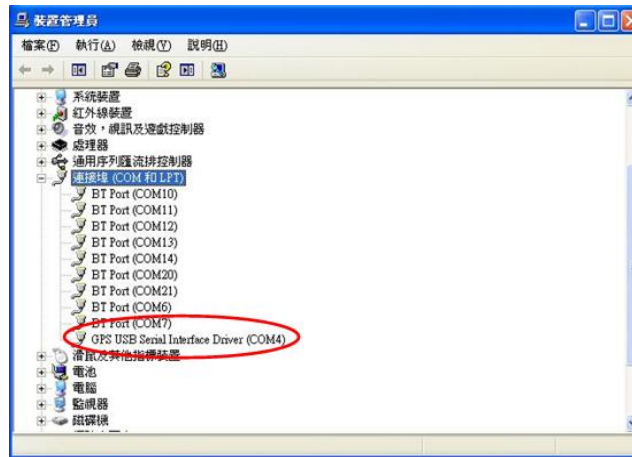
3.2.2 Execute GpsView Program

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.

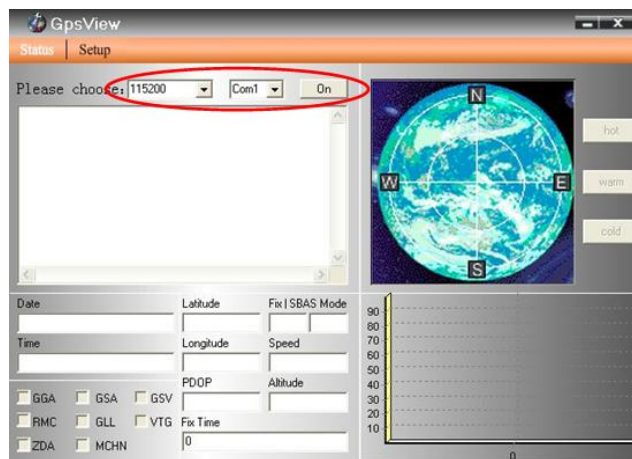


3.2.3 Download AGPS

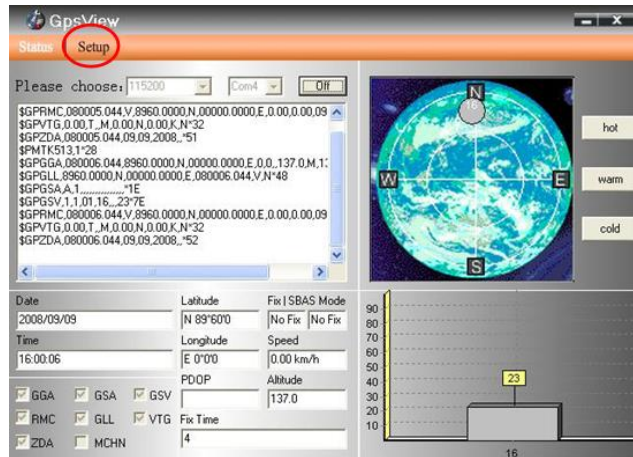
1. Start→Control Panel→System→Hardware→Device Management→Connector (COM and LPT) Check Com port position ◦



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] AGPS has 6 day time limited.

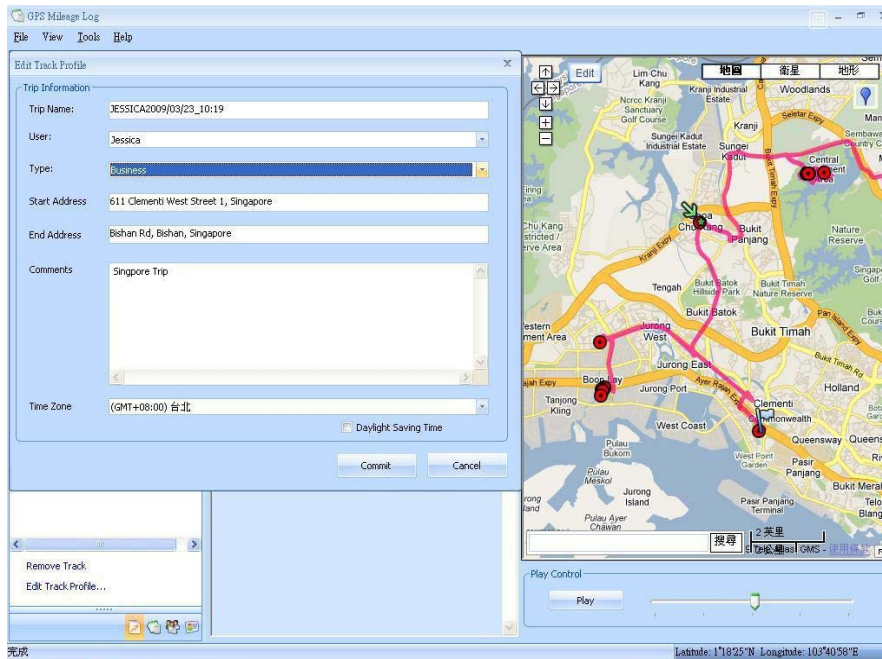
Chapter 4 Using Mileage Logger software

Mileage Logger software is a great helper to deal with trip expenses for you. Through this user-friendly utility, you can manage your trip expenses and mileage reimbursements more easily than before. Since the IRS (Internal Revenue Service) has several standard mileage rates for business, medical, and charity-related driving, Mileage Logger can automatically calculate expense of diverse trip type for you, such as business, charity, commute, medical and personal trip. It also can export the mileage report to a Microsoft Excel file (CSV format) for IRS mileage tax management purpose or for further analysis. Furthermore, a company can monitor its employees' business expenses and control budgets through these mileage records.

The screenshot shows the OPE Mileage Log software interface. The main window displays a report of mileage records for the year 2009. The report includes a table with columns for Start Time, Start Address, End Address, End Time, Mileage, Reimbursement, Trip Time, Type, and Comment. The records are sorted by date, showing various trips with their respective details. A dialog box for setting reimbursement rates is also visible, with fields for Business, Charity, Commute, Medical, Personal, and Other rates. The status bar at the bottom shows a total mileage of 204.3 mi, a reimbursement of \$74.70, a total trip time of 59hr+46min, and 7 trips.

Start Time	Start Address	End Address	End Time	Mileage	Reimbursement	Trip Time	Type	Comment
2009/03/23 10:19	611 Clements West Street 1, Sui, Bishan Rd, Bishan, Singapore		2009/03/23 21:37	47.6 mi	\$26.17	11hr 18min	Business	Jesica
2009/03/24 18:32	8 Raffles Ave, City, Singapore	109 Clements Rd, Singapore	2009/03/24 22:49	9.5 mi	\$2.29	04hr 17min	Medical	Jesica
2009/03/25 10:01	152 W Coast Rd, Singapore	612 Clements West Street 1, Sui	2009/03/25 22:29	29.6 mi	\$5.92	12hr 28min	Personal	Abel
2009/03/26 11:28	Clement Rd, Clement, Singap	109 Clements Rd, Singapore	2009/03/26 22:30	52.0 mi	\$26.98	11hr 52min	Business	Allen
2009/03/27 10:51	610 Clements West Street 1, Sui, 49 Beech Rd, Singapore		2009/03/27 14:22	22.6 mi	\$4.52	03hr 31min	Personal	Eric
2009/03/27 15:33	8 Raffles Ave, City, Singapore	109 Clements Rd, Singapore	2009/03/27 18:19	12.0 mi	\$2.87	02hr 46min	Medical	Karen
2009/03/27 21:21	252 N Bridge Rd, Singapore	70 Pranggi Central, Singapore	2009/03/28 11:39	31.1 mi	\$4.35	14hr 18min	Charity	Karen

Mileage Report



Track and trip information

4.1 Execute and install software utility Mileage Logger

Complete Mileage Logger and USB driver 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 on the internet first. For more information, please visit <http://earth.google.com/>

4.3 Software Utility --- Mileage Logger

For further function to use the Mileage Logger software in detail, please refer to Mileage Logger users manual:

Mileage Logger software > Help > Users Manual

Please use mini-USB cable to connect the 860Lite to your PC/Laptop, you have to power on the 860Lite. Please keep in mind to switch to “LOG mode” (1Hz log mode or Smart log mode) while using Mileage Logger software with 860Lite.

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):2.5m
Velocity Accuracy*	Without aid: 0.1m/s
	DGPS (WAAS,EGNOS,MSAS):0.05m/s
Acceleration*	Without aid:<4g, DGPS (WAAS,EGNOS,MSAS):<4g
Timing Accuracy*	50 ns RMS
Reacquisition Time*	<1s
Hot start*	1.5s
Warm start*	34s
Cold start*	35s
AGPS*	<15s
Sensitivity*	Acquisition:-148dBm Max., Tracking:-165dBm Max.
Update*	1Hz
Dynamic	

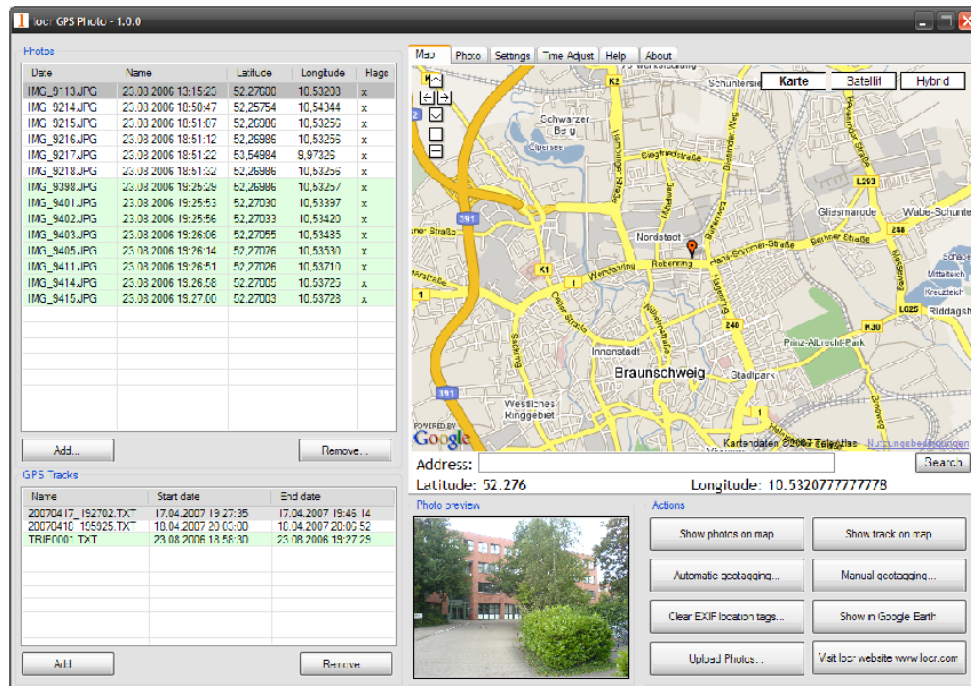
Altitude*	Maximum 18,000m
Velocity*	Maximum 515m/s
Acceleration*	Maximum 4g
Power	
Input Voltage	Vin : 5.0V±5%
I/O	
Available Baud Rates	115200 bps
Protocols	NMEA 0183 v3.01
Environment	
Operating Temperature	-10°C ~ +60°C
Storage Temperature	-20°C ~ +85°C
Charging	0°C ~ +45°C
USB Bridge	
Standard	Fully compliant with USB2.0
Full – speed	12Mbps
Dimension	49 x 38 x 16 mm
Weight	32 g
Data Log	
125,000 waypoints or more	
Log GPS data	
Record POI by slide-to-push button	
Users can configure log criteria by time /distance / speed limit through utility	

***Citation of MTK original chipset spec.**

Appendix B. locr GPS Photo

With 860Lite 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 CD tool, or go to <http://www.locr.com> for further information.



Appendix C. 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.

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 D. 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 about products which have been improperly used, abused, damaged due to accident or natural disaster, or damaged due to unauthorized uninstallation, repair or modification.