

WSG-IOOO USER'S MANUAL



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Part 1 Features

WSG-1000 is a multi-functional GPS receiver for outdoor activities (hereinafter "WSG-1000"). It integrates high sensitivity GPS receiver, Bluetooth, Altimeter, Barometer, Thermometer, Electronic Compass, also provides not only a large LCD display showing various instant information but also the data logger supporting the off-line tracking acting like the in-flight black box. The various features of the WSG-1000 make it the best companion for sport and recreation.

- WSG-1000 built-in u-blox GPS IC ATR0625.
- · Maximum 16 channels can be acquisitioned quickly.
- Internal SBAS decoder is built-in, so the SBAS signals could be received without any extra hardware.
- Support NMEA 0183 v2.3 data output.
- · Waterproof ideal for outdoor activities.
- Flexible design aimed for Automotive/Marine/personal Navigation, Fleet management, AVL, Tracking and topography purpose.
- Altimeter, Thermograph, Barometer are supported.
- · Electronic compass is supported.
- Support Track Back Navigation, Calendar, Astronomy Information, Journey Data, My Training, Track Data.
- Bluetooth integrated, the transmission range is 10 meters.
 (Option)
- Integrate TimeMachine X for downloading log data, editing the spots (for Track Back Navigation), setting device.....etc.
- Continual work for about 20 hours in Pure Log Mode.
- It recorded in a rotational order. The earliest (oldest) data will replaced by the latest (newest) one when memory space is full.

Part 2 Safety Notes

- The Global Positioning System (GPS) is operated by the United States government. Its accuracy may varies depending on special conditions (area at war or if it is blocked). Any control by USA will affect this system and its accuracy.
- For traffic safety, we strongly suggest that you don't operate the controls of the WSG-1000 while you are riding or driving.
- GPS performance is affected when satellite coverage is degraded as near a high-building, in the tunnel or under a cover.
- Personal replacement of components and re-structuring of this is prohibited and may result in loss of legal usage.
- Operation of this device is strictly prohibited in highly explosive environment such mining, in-flight or other unauthorized area against use of this.
- Do not store the WSG-1000 where prolonged exposure to temperature and humidity extremes may occur as permanent damage may result.
- Return to original dealer immediately if it emits strange smell or fume.
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Part 3 <u>Unit Overview</u>



Part 4 System Guide

Setting Mode: Set items of Language, Log Mode, LCD Contrast, Backlight, Unit, Factory Reset, GPS Datum and Speed Warning.

Switch Mode: Switch on/off following items, including Power, Bluetooth, Logger, Buzzer, Auto Power Save and Pure Log Mode.

Main Mode: Provide below functions, including Calendar, Rover, GPS(Satellite), Electronic Compass, Altimeter, Astronomy, Navigation, My Training, System Information and Page List.

Menu Structure

	System Menu	Language	[Chinese] [English]
	Log Mode	Log Mode	[User Mode] [Walk Mode]
	Menu		[Bike Mode] [Motor Mode]
	Contrast Menu	Contrast	
		Adjustment	
	Back Light Menu	Time	[Always On] [Always Off]
			[5 Sec.] [10Sec.] [15Sec.]
Setting			[30Sec.] [45Sec.]
		Period	[0~255Min.]
Mode	Unit Menu	Length/Distance	[Metric] [Imperial]
		Temperature	[Celsius] [Fahrenheit]
	Factory Reset	Back to factory	
	Menu	default	
	GPS Datum	GPS Datum	[Select the GPS Datum
	Menu	GPS Datum	WGS84, WGS72]
	Warning Menu	Max. Speed	[0:10:20:30:1000
	vvarming Wenu =		km/hour]
	Return to the	Return to the	
	Main Mode	Main Mode	

Switch Mode	Power Menu 🖤	[Off] The device would be power on by pressing and holding the middle button when it is power off.
	Bluetooth Menu 🖤	[Enable] [Disable] (Bluetooth function is optional.)
	Logger Menu 🖤	[Enable] [Disable]
	Buzzer Menu 🖤	[Enable] [Disable]
	Auto Power Save Menu 🖤	[Enable] [Disable]
	Pure Log Mode Menu	[Enter]
	Return to the Main Mode V	Return to the Main Mode

Main Mode	Calendar Page	Monthly Calendar Perpetual Calendar Time Zone Setting
	Rover Page 🕏	Rotational Information Display Speed \ Distance \ Total Time Display Speed \ Course \ Altimeter Display Speed \ Max. Speed \ Max. Height Display Speed \ Temperature \ Time Display Speed \ Move Time \ Stop Time Display Speed \ Average Speed \ Height Rise Display Reset the Speed and Journey

	Satellite Page	Sky View GPS Signal Status GPS Information GPS Cold Start and Hot Start
	Compass Page	Compass Indicator (by Heading Mode) GPS Direction Indicator (by Direction Mode) The Intensity of Magnetic Field & Compass Calibration.
	Altimeter Page 4	Current Altitude \ Pressure \ Temperature The Diagram of Previous Altitude Data The Diagram of Previous Pressure Data The Diagram of Previous Temperature Data Altimeter Calibration
	Astronomy Page	Sunrise Time Sunset Time Sun Azimuth and Elevation The Dynamic Indicator of Direction of the Sun Monthly Phase of the Moon
	Navigation Page	Real Time Spot (Mark) Navigator Real Time Spot (Mark) Information Spot (Mark) operation menu
	Training Page 1	Five Training Status Distance Training

Time Training

Average Speed Training

		Max. Speed Training Max. Height Training Set Distance Objective Set Time Objective Set Average Speed Objective Set Max. Speed Objective Set Max. Height Objective
Int	formation Page	Logger Recorded Information Device Information Journey Previous Data
Pa	age List ☑	Enter Page List to Enable or Disable above pages Enable or Disable the Calendar Page Enable or Disable the Rover Page Enable or Disable the Satellite Page Enable or Disable the Compass Page Enable or Disable the Altimeter Page Enable or Disable the Astronomy Page Enable or Disable the Navigation Page Enable or Disable the Training Page Enable or Disable the Information Page

Part 5 <u>User's guide</u>

Button Instruction



Illustration



In the status bar:

- 1. The page number and index.
- 2. The icon of the page.
- 3. Time.
- 4. GPS positioning status
- 5. The indicator of Logger and Bluetooth (Bluetooth is Optional.)
- 6. Battery indicator.

Enter the Setting Mode:

Press and hold the left button anytime .



Enter Switch Mode:

Press and hold the middle buttonanytime



Back to Main Mode: Press and hold the right button

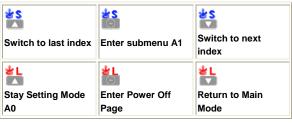
anytime . (The system will auto-return to the Main Mode without any operation in 5 seconds unless and until it is in the Main Mode.)

Start a new log (track) or Push To Log: Press and hold the right button when the WSG-1000 stays in each main index (A0, B0, C0, D0, E0, F0, G0, H0, I0, J0) in the Main Mode for entering "Push To Log" and "Start New Log".

Setting Mode:

INDEX : A0 ♥
System Menu

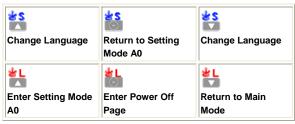




INDEX : A1 ♥

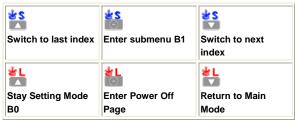
System Menu: Language: [Traditional Chinese] [English]











INDEX : B1 ♥

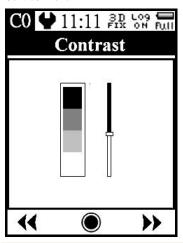
Log Mode Menu : [User Mode] [Walk Mode] [Bike Mode]
[Motor Mode]

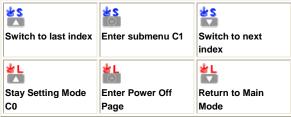


About "User Mode", you can change some setting to fulfill your need by TimeMachineX.
PS. Before setting, you have to install TimeMachineX and connect with it.



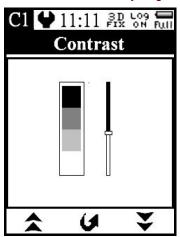


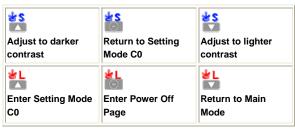




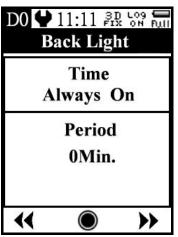
INDEX : C1 ♥

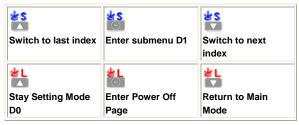
Contrast Menu: Enter for adjusting the contrast status





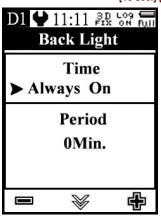


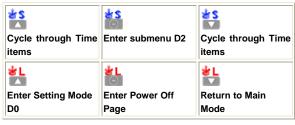


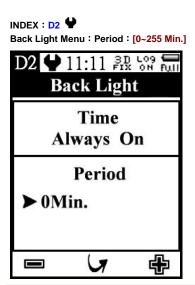


INDEX : D1 ♥

Back Light Menu: Time: [Always On] [Always Off] [5 sec.] [10 sec.] [15 sec.] [30 sec.] [45 sec.]

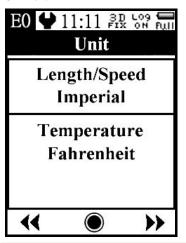






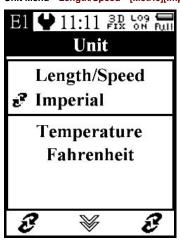






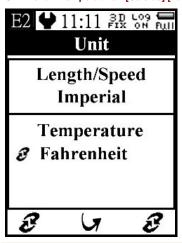


INDEX : E1 ♥
Unit Menu : Length/Speed : [Metric][Imperial]





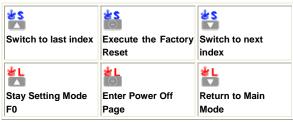
INDEX : E2 ♥
Unit Menu : Temperature : [Celsius] [Fahrenheit]



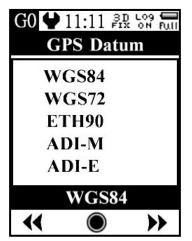










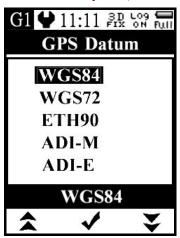


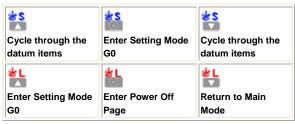
GPS Datum: The different GPS Datum will lead to different GPS output signals. You can select one which is compatible with your navigation software.





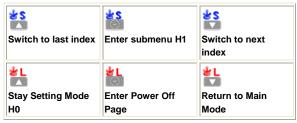
GPS Datum Menu : [WGS84, WGS72......]







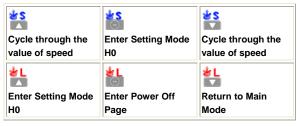




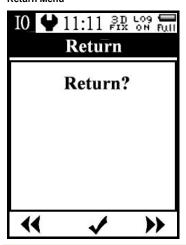
INDEX : H1 ♥

Set Warning: Max. Speed: [0:10:20:30:.....1000 KMH] or [0:6:12:18:.....621 MPH]





INDEX : 10 ♥
Return Menu

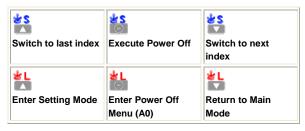




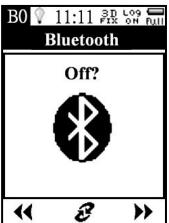
Switch Mode:

INDEX : A0 ♥
Power Off Menu

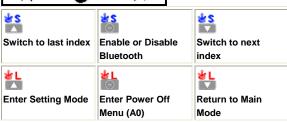




INDEX : B0 ♥
Bluetooth Menu



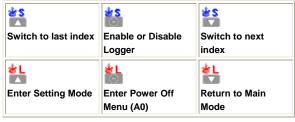
P.S Bluetooth function is optional.



Logger Menu



P.S Press and hold the right button under the Main Mode pages (A0 \ B0 \ C0....) can enter the menu for "Push To Log" or "Start New Log", unless you don't enable the Logger function.



INDEX : D0 ♥





INDEX : E0 ♥

Auto Power Save Menu



Auto Power Save:
When the "Auto Power
Save" function be
enabled, the WSG1000 will enter "Pure
Log Mode" i.e. the
LCD display will be
shut off for power
saving, but the record
and logger functions
will be operated as
usual after 60 seconds
without any button
push.

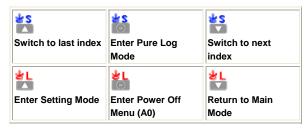


INDEX : F0 ♥

Pure Log Mode Menu

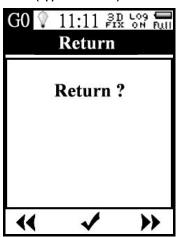


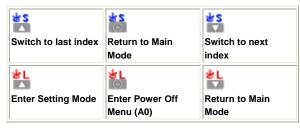
Pure Log Mode:
When you enter Pure
Log Mode, the LCD
display will be shut off
for power saving, but
all record and logger
functions will be
operated as usual.



INDEX : G0 ♥

Return (Application Mode) Menu



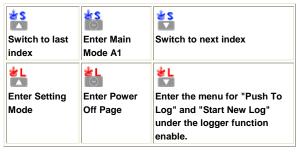


Main Mode:

INDEX : A0

Calendar Page: The calendar for this month





INDEX : A1

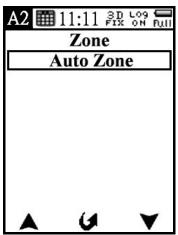
Calendar Page: Refer to Perpetual Calendar

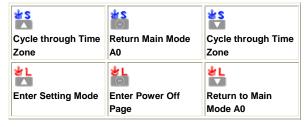




INDEX : A2

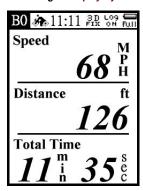
Calendar Page: Time Zone Setting





INDEX : BO

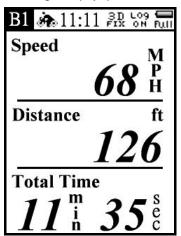
Rover Page: Display Cyclic Information

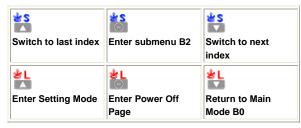


Switch to last index	Enter submenu B1	Switch to next index
Enter Setting Mode	Enter Power Off Page	Enter the menu for "Push To Log" and "Start New Log" under the logger function enable.

INDEX : B1

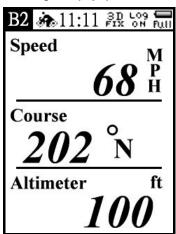
Rover Page: Display Speed · Distance · Total Time

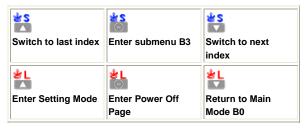




INDEX : B2

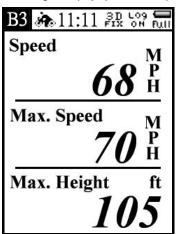
Rover Page: Display Speed . Course . Altimeter

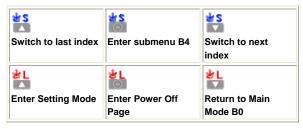




INDEX: B3

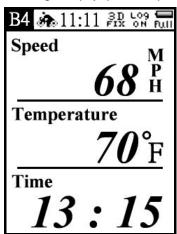
Rover Page: Display Speed \cdot Max. Speed \cdot Max. Height

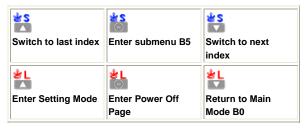




INDEX: B4

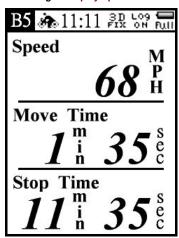
 $\textbf{Rover Page: Display Speed \cdot Temperature \cdot Time}$

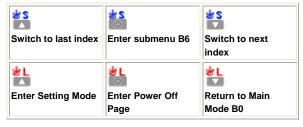




INDEX: B5

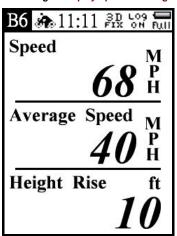
Rover Page: Display Speed • Move Time • Stop Time

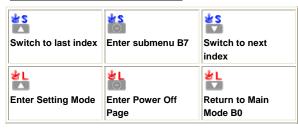




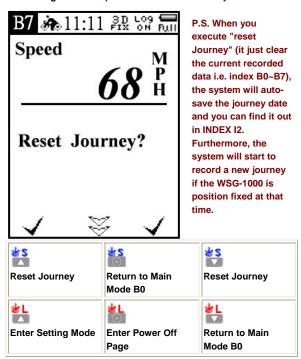
INDEX : B6

Rover Page : Display Speed ${\bf \cdot}$ Average Speed ${\bf \cdot}$ Height Rise



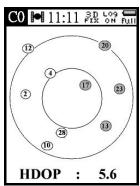


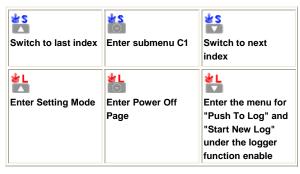
Rover Page: Reset Speed and record of Journey



INDEX : CO

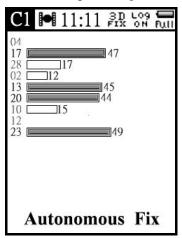
GPS Satellite Page : Satellite Sky View

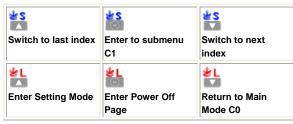




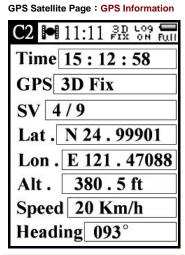


GPS Satellite Page : GPS Signal Status





INDEX : C2







GPS Satellite Page: GPS Cold Start & Hot Start



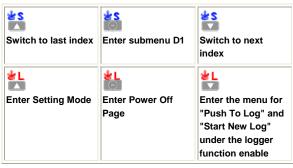




Compass Page: Electronic Compass Indicator (By Heading

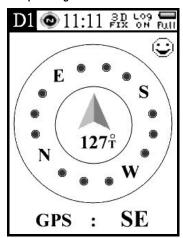
Mode)

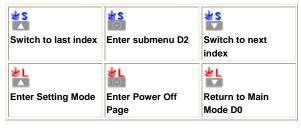




INDEX : D1

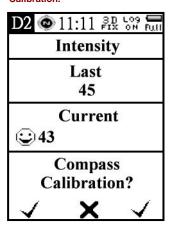
Compass Page: GPS Direction Indicator (By Direction Mode)



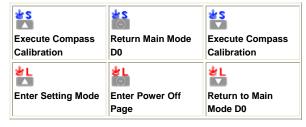




Compass Page: The Intensity of Magnetic Field & Compass Calibration.

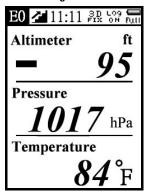


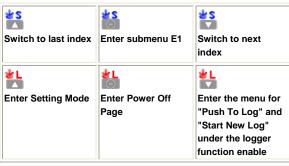
Last (magnetic field intensity): It is the data for last compass calibration. Current (magnetic field intensity): It is the current data for compass calibration. P.S. The Compass Calibration is suggested when the current data is better (the lower value is the higher accuracy is). The default value is 65534, it will show up before any calibration.)



INDEX : E0 🚄

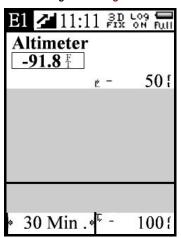
Altimeter Page : Current Altimeter • Pressure • Temperature

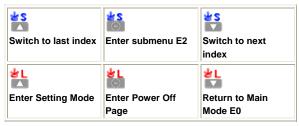




INDEX : E1

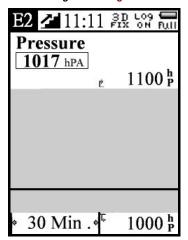
Altimeter Page: The Diagram of Previous Altitude Data

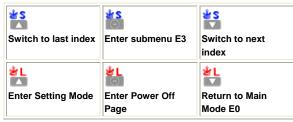






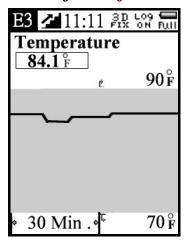
Altimeter Page: The Diagram of Previous Pressure Data

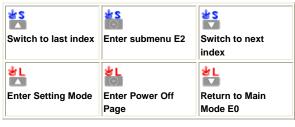




INDEX : E3

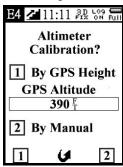
Altimeter Page: The Diagram of Previous Temperature Data

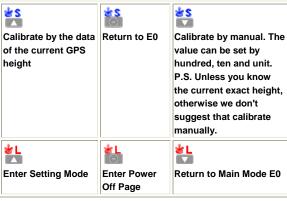




INDEX : E4 🚄

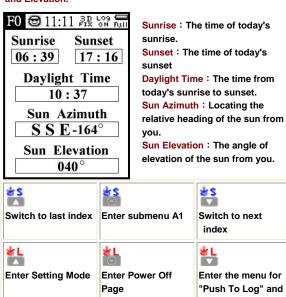
Altimeter Page : Altimeter Calibration







Astronomy Page : Sunrise Time ${}^{\backprime}$ Sunset Time ${}^{\backprime}$ Sun Azimuth and Elevation.

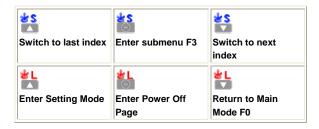


"Start New Log" under the logger function enable INDEX : F1F2

Astronomy Page: The Dynamic Indicator of Direction of the

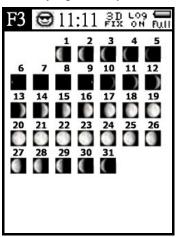


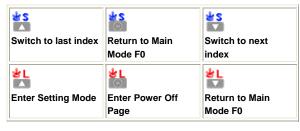




INDEX : F3

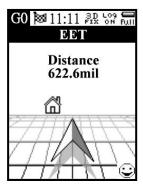
Astronomy Page: Monthly Phase of the Moon

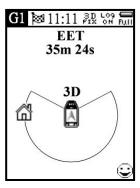


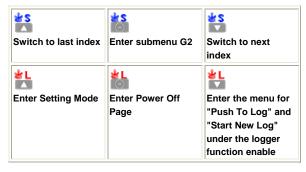


INDEX: GOG1

Navigation Page: Real Time Spot (Mark) Navigation



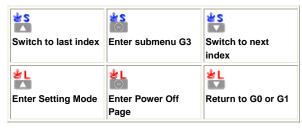






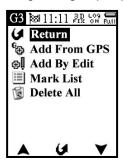
Navigation Page: Real Time Spot Information



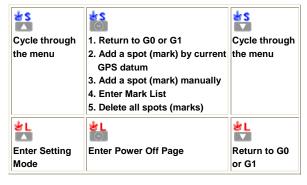




Navigation Page: Spot Operation Menu

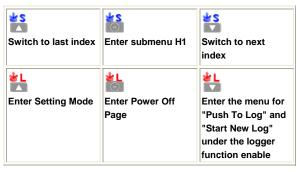


Regarding adding a spot (mark), not only adding by the device itself (by current GPS datum or manually) but also importing by TimeMacine X. P.S. Please be aware that if you want to keep the existing spots (marks), you have to export all spots to TimeMachine X from the device(WSG-1000) first, edit the additional spot and then import back to the device, otherwise the existing spots will be replaced.



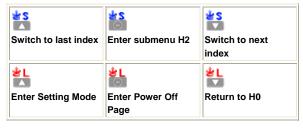
Training Page: Five Training Statuses





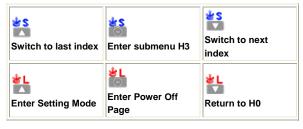
Training Page: Distance Training





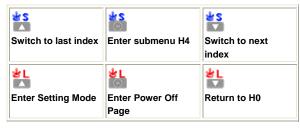
Training Page: Time Training





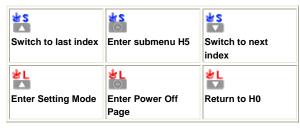
Training Page: Average Speed Training





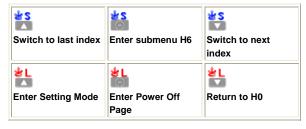
Training Page: Max. Speed Training





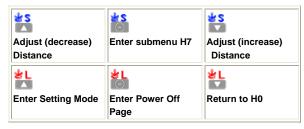
Training Page: Max. Height Training



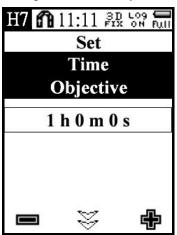


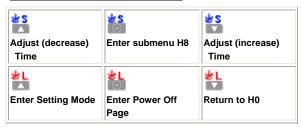
Training Page: Set Distance Objective



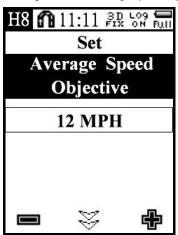


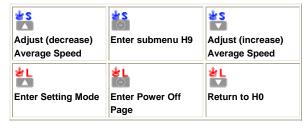
Training Menu : Set Time Objective



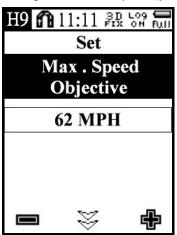


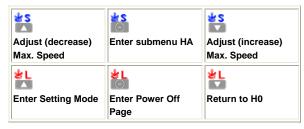
Training Menu: Set Average Speed Objective





Training Menu: Set Max. Speed Objective

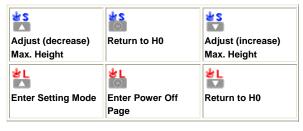




INDEX : HA

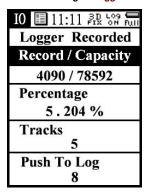
Training Menu: Set Max. Height Objective

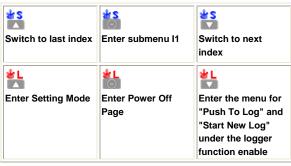




INDEX : 10

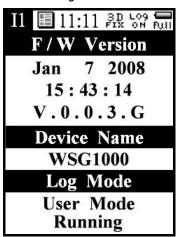
Information Page: Logger Recorded Information

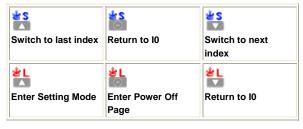




INDEX : 11

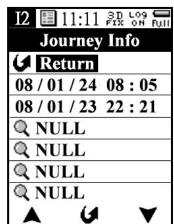
Information Page : Device Information



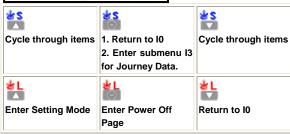


INDEX : 12

Information Page: Journey Previous Data



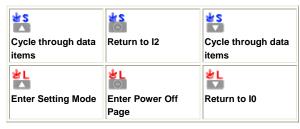
P.S The time shown on this page is the initial position fixed time of this journey.



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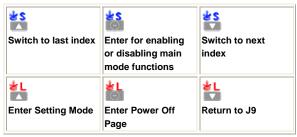
Information Page: Journey Info





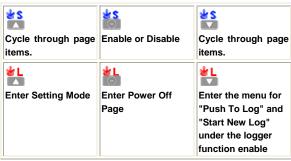
Page List: Enable or Disable the Main Mode Functions (above pages).





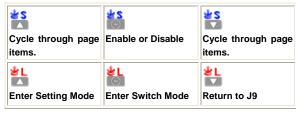
Page List: Enable or Disable the Calendar Page





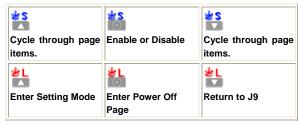
Page List: Enable or Disable the Rover Page





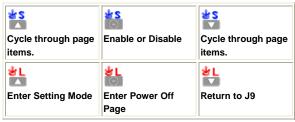
Page List: Enable or Disable the Satellite Page





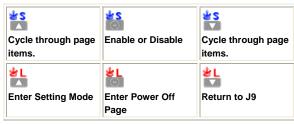
Page List: Enable or Disable the Compass Page





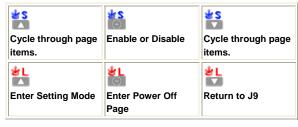
Page List: Enable or Disable the Altimeter Page





Page List: Enable or Disable the Astronomy Page





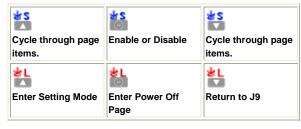
Page List: Enable or Disable the Navigation Page





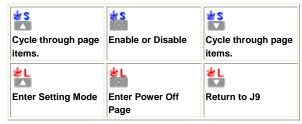
Page List: Enable or Disable the Training Page





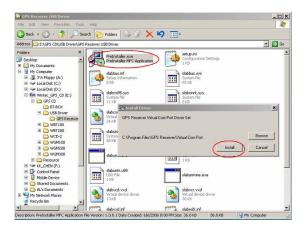
Page List: Enable or Disable the Information Page





Part 6 USB driver installation guide

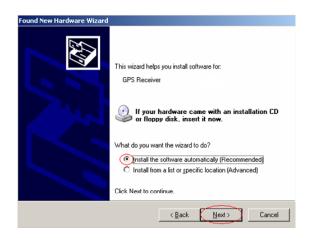
1 . Execute installation and click "Install".



2 · Installation is done when this screen displays.



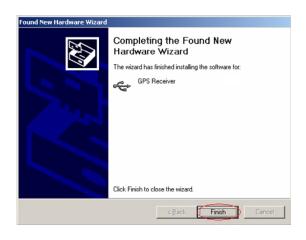
3 Use USB cord to connect G-Trender to the USB port of computer. Computer will automatically check it and seek driver software by itself. If PC asks for "device manager" for adding the new USB device following USB device connection, take the procedure below. Click "next".



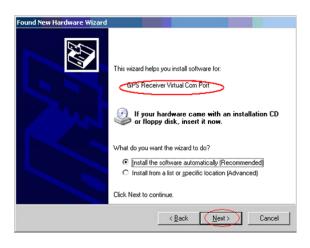
4 · If the screen display as below. Click "continue anyway".



5 · Installation completed.



6 · Immediately afterwards, PC will ask again to install "GPS Receiver Virtual Com Port" driver. Click "next".



7 · Installation completed.



8 To check the installation status, go to the "device manager". As in the illustration (marked in red circle), the USB driver is correctly installed to PC. The illustration also shows USB being transferred to Com Port assigned as COM4. In the future, whenever the USB device is connected to USB port on the computer, the COM 4 acts as the interface for data communication.



Part 6 Connecting with Pocket PC

Use of this with Pocket PC for location check.

Turn G-Trender Bluetooth device Power on and then create

Bluetooth connection with Pocket PC.

Bluetooth connection to Pocket PC.

 Tap the Bluetooth icon on Pocket PC's taskbar to view the Bluetooth menu. Tap the "Turn Bluetooth ON" to enable Bluetooth.



2、 Tap the Bluetooth icon again and select the "Bluetooth Manager".



3. From Bluetooth Manager toolbar, tap "New" to search for any other Bluetooth devices in its vicinity.



4、 Tap "Explore a Bluetooth device" to view Bluetooth devices services and create a shortcut to them. Click "Next" to continue.



5. Tap "G-Trender" icon to view the device services.



6、Select "SPP slave" services and tap "Next" to create a shortcut to it.



7、 Tap "Finish" to complete the procedure.



8. From the "My Shortcuts" tab, tap the "G-Trender: SPP slave" icon and select the "Connect" option to connect it.



9. When a connection is successfully established, the shortcut icon will turn to green color.



Part 7 Trouble shooting

- The GPS signal will become weak under the following conditions.
- If the vehicle enters the tunnel. The GPS signal transmits linearly down to earth and its signal is blocked out in this situation
- GPS satellite coverage gets poor because of high-rise building or thick forest. Even though G-Trender can receive reflected weak GPS signal, the data might be less accurate.
- The sun shade in the vehicle can partially block out GPS signal and effect good reception. The GPS satellite is under control of USA and the accuracy might vary depending on some special purpose (especially when manipulated by USA).
- It is a normal situation when GPS data displayed by the receiver device shows a big difference from real position because of unstable atmospheric condition which causes GPS axis to drift from actual map axis occasionally.
- Some navigation software can only decode latitude/longitude from NMEA0183 provided by logger. No altitude information is available and therefore it cannot define vehicle's position whether that is over or under the bridge.
- After successful positioning of G-Trender, if it is moved to another area of 500 km away it cannot be easily repositioned. This is because the firstly recorded data

- (position, time and number of satellites acquisitioned) is different from the new area. It will need longer time for repositioning.
- When the power LED flashes red, the battery is critically low and needs re-charging. If it is not recharged within 30~100 min, G-Trender will stop to work to prevent total exhaust of power.
- PIN code will be requested after Bluetooth connection initiates between GPS and Pocket PC. Enter code as 0000.
- Avoid placing 2 GPS devices too close during positioning.
- Bluetooth connection takes 5 seconds for self-check. Each time the device is switched on; it needs 5 seconds before connection.
- It is normal if the Bluetooth coverage might become short sometimes due to environmental interferences.
- USB driver must be installed first before connecting the device to the USB port of computer. Make sure of the right Com Port being used.
- If disconnection between Pocket PC and GPS is done in a abnormal way, Pocket PC will halt. Try to disconnect Bluetooth connection in a standard method.
- If the G-Trender is found to work abnormally because of wrong procedure, reset it by taking off the battery. It will have factory default without effecting pre-set program. At the factory default, GPS reception begins in a warm start mode and its position may take longer time.
- If G-Trender is used for navigation but found unworkable after connection is done. Make sure the format of NMEA0183 that the software used match up G-Trender export format.

