



User Manual

ROADSCAN PRO

DRIVE RECORDER DE series
V 1.26

My Driving Recorder!

- ▶ VEDR (Video Event Data Recorder)
- ▶ Continuous Recording
- ▶ DT (Digital Tachometer)

[This product is the VEDR system for vehicles.]

- We do not take responsibility for the malfunction and accident caused by inappropriate use, mounting and alteration.
- Please check [purchase date, store] on the warranty certificate, and obtain the certificate from the save.
- Read this user manual and warranty certificate thoroughly to use it correctly, and keep it well to read if and when needed.
- ▶ Software provided by this product is designed to operate on the PC with Windows XP/Vista installed.
- ▶ There may be some difference in the product information provided in this manual and the actual product depending on the subsequent update.

Table of contents

***Product guide**

1. Caution during use -----	4
2. Verification of components -----	6
3. Names of each part -----	7
4. VEDR function -----	8
5. Continuous Recording Function -----	10
6. DT Function -----	11
7. Button's function -----	12
8. Guide on LED Display and Buzzer Sound -----	13
9. Product Upgrade -----	15
10. Google Map Use -----	15

*** Software guide**

1. Software Installation -----	16
2. Login -----	19
3. Description of Software Screen -----	19
4. Function and Description of Button -----	20
5. Description of Data Information Display -----	30
6. How to download and play data -----	31
7. Acceleration data interpretation method -----	33
8. Impact assessment graph -----	34
9. Description of DT Mode Window -----	34

***Installation guide**

1. Caution during installation -----	35
2. Mounting -----	36
3. Mounting sequence -----	37
4. Wiring Guide -----	39

***Before suspecting malfunction-----40**

***Product specs and operation environment -----41**

***Warranty policy -----42**

This guide ensures user's safety and helps to use the product properly. Read carefully and use carefully.

- 1) Do not separate, fix or alter. Accident may result due to abnormal operation, and user may not be entitled to free service if and when product malfunction is caused by user's fault.
- 2) Do not spray water directly to clean up the vehicle's interior. This may cause the product to malfunction and cause fire and electric shock. Avoid contact with chemicals or cleansers since they may alter the surface, damaging the interior of the device.
- 3) Excessive shock or insertion of alien substance is prevented. Excessive force, shock or insertion of alien substance such as beverage may cause malfunction. Thus, be careful about this point.
- 4) If and when alien substance or sticker present in front of the product's lens blocks the view, image may not be filmed properly. Therefore, be cautious of cleanness at the front part of the main body clean. Moreover, other products placed near the product may be visible by reflecting against the mirror. Therefore, do not place other product near the installed product.
- 5) When installed for the first time, device may not operate properly when the location is moved even when it operated normally. Therefore, mount sturdy during installation. Do not move or shock the device by using excessive force after installation is completed.
- 6) Image may be saved with different angle when the device's angle is changed due to long time use, or when exposed to severe vibration when driving on dirt road. Adjust to the original angle while stopped on flat road.
- 7) Be especially careful since watching the product or maneuvering it while driving may cause accident.
- 8) Be careful to avoid excessive shock and contact with humidity and salinity, and be careful since malfunction may result when product is subjected to pressure or shock after product mounting due to the twisting of the location.

9) VEDR data may not be recorded during accident with lower than specific acceleration shock level. Be careful of this point. (Refer to VEDR function)

10) This product's VEDR data may not be effective in court. Please be aware of this point.

11) Product may be upgraded after launch to add on more functions and to increase customer convenience.

12) Time is re-set automatically depending on the GPS time information.

13) The supplied SD Card has a limited life time so you are to replace the SD Card by a new one after long term use. Using the Roadscan Pro constant in Continuous Recording mode results in the shortest SD Card life time. VEDR Recording mode provides the longest SD Card life time.

14) This device is designed to pass the EU and US EMI standard. However, distance between device and broadcasting reception antenna should be at least 10 cm since there may be intervention with other device.

15) All rights to this product's hardware, software and data belong to the manufacturer. Unauthorized copying, processing and distribution may be subjected to compensation for damage according to the civil law or to criminal punishment according to the Intellectual Property Right Protection and Management Law.

16) Do not separate SD Card from main body when power is on and during data storing. It may cause a fault.
Only insert or remove the SD Card when the Power is off.

17) It might not be operated on some SD Cards. Please purchase and use recommended SD Cards only.

2. Verification of components

[Check to see whether all the components included in the following diagram are included.]

- 1) Main body
- 2) SD Card (Including User Manual and Software)
- 3) SD Card Reader
- 4) External Switch
- 5) Cable Mount



Main body



SD Card



SD Card Reader



External Switch



Cable Mount

3. Names of each part

Main body is comprised of the module that processes and assesses status on the camera, current image and situation with the internal CPU.

>>Name of main body's each part is shown on the following diagram.



Camera lens

[Front]



Head Fixing Button

SD Card insertion part

LED
POWER/SD_CARD/GPS

MIC

FN BUTTON

REC BUTTON

[Rear]

4. VEDR function

NOTICE : The VEDR mode is disabled during Continuous Recording mode. To enter the VEDR mode user must press the FN button once. VEDR mode starts. By pressing FN button again the VEDR mode stops and the Continuous Recording mode re-starts . If no SD-card is installed , the Roadscan enters automatically the VEDR mode, Continuous Recording mode is disabled.

[Event Recording]

When impact is felt by the vehicle, this device detects the shock automatically, and records the image on a real time basis before 15sec. /after 15 sec. an accident. At the same time, the device records information related to time and vehicle's 3-axis acceleration data, GPS location information and speed information etc.

Impact results in case of vehicle accident, sudden braking, sudden curve, irregular road surface, and impact to the main body and it is possible to adjust impact level. When the impact level is low, recording takes place frequently as the device detects even the minor braking. Storing does not take place often when the impact level is high, but this in turn may not record minor collision.

Saved accident data are stored into the internal Flash Memory and downloaded to SD Card for about 10 seconds. After data download, accident images are preserved within the internal Flash Memory as it is. If SD Card is not inserted and data are stored in the internal Memory, you can insert SD Card and press FN button for 3 seconds to all of contents of Flash Memory to SD Card.

[Manual recording function]

This is the function that records image regardless of impact level. Press on the REC button located at the back of the main body to record image of setup before / after time, acceleration, and GPS location speed information. Using this function when image is not recorded due to minor collision enables you to record the data.

When you press External Switch, it has the same effect.

[Stable image storing function using back-up power]

In the case of large accident, there is a potential that power will be severed. However, accident image is saved safely even when power is severed thanks to the built-in back-up power located in the main body. At this time, however, image is recorded up to the point when power is severed for safe image of accident storing, and does not record data afterwards. Moreover, frames per second of the image may be lower than the normal frames per second.

[Recording function that uses built-in Flash Memory]

It stores data that occurs due to impact and GPS data to be used for DT using internal Flash Memory regardless to SD Card.

This product stores images and data up to 60 times for 15 seconds before and after an accident (total 30 seconds) to allow check image data using Manager Program mounted on SD Card. (If any accident occurs after 60 times of accident images are stored, the oldest data is deleted and new image is stored in the place.)

[Correct Use of SD Card]

Be sure to insert SD Card first before applying power to the main body.

In addition, be sure to pull out SD Card when power LED is turned off after power is off. If you insert or pull out SD Card during operation of main body, file system may be damaged. If you want to use other SD Card than the one provided when purchasing the product, be sure to use recommended SD Card for normal operation.

[Capacity of SD Card]

Minimum available SD Card is 2G SD Card, of which 1G byte is used for copying internal Flash Memory only.

[Image and Vehicle Data Analysis Function]

It is possible to analyze image and data at that time using provided VEDR software.

[VEDR Impact Level]

It is possible to set up impact level at which the product recognizes that it is an Event.

Stored data are identified and managed as 3 types according to Impact Value that is applied to the vehicle.

Type	Normal Impact	Critical Impact	Recording upon REC button and External Switch
Recording Pattern	Recording upon traffic accident and radical driving	Recording upon large impact	When user presses REC button or External Switch upon necessity
Impact Level Setup Range	0.1G ~ 1.9G	1G ~ 2G	
Initial Impact Level	0.7G	1.1 G	
Remarks	Overwritten	Not overwritten	To manage as same as Normal Impact

5. Continuous Recording Function

When the product is powered on, it starts Continuous Recording automatically after 20 seconds, and when FN button is pressed, it stops Continuous Recording function.

It may use up to 16G SD Card that saves images for 12 hours with high resolution or 25 hours with medium resolution. (See software guideline.) Saved data may be confirmed using software accompanied with SD Card.

6. DT Function

DT function is to store route, time and speed during driving of the vehicle.

DT data can be downloaded to SD Card by pressing FN button for 3seconds.

[Recording Time]

Total recording time of DT is about 30 days when driving for 24 hours a day. Afterward, the oldest data is deleted.

[Speed, Location, Time Recording]

This product stores speed, location and time every 10 seconds when it is connected to GPS.

[Speed]

It shows speed as a graph via speed window so as to allow more accurate analysis of driving record. In addition, it displays speed on the car speed meter panel to allow easy analysis.

[Location]

It shows latitude and longitude as numbers equivalently, but graph display depends on use of Google Map.

When driving route display is enabled: It connects to Google Map to display the current location on Google Map, and when DT data is played, it displays changing location over time. At that moment, Google Map can be expanded or reduced.

When driving route display is not enabled: It displays the entire route as a line.

7. Button's function

[REC button]

It is possible to record image manually by using REC (Record) button. Press on the REC button to record image manually, and image and information is recorded in Flash Memory and move to SD Card automatically.

! Caution

event may not result in the case of minor contact accident or in the case of contact accident involving vehicles that are moving at the same speed. In this case, press on the REC button to record before and after image for the time designated for recording.

[FN Button]

Continuous Recording is automatically started 20 seconds after the product is powered on. When you press FN button, Continuous Recording is stopped, and pressing it again, Continuous Recording is started again.

To transmit event data and DT data stored in the internal Flash Memory to SD Card you must press the FN button for 3 seconds.



8. Guide on LED Display and Buzzer Sound

[Description of LED Display]

LED	Status	Status
POWER	Off	Power off or fault status.
	Blink	Abnormal state on the device.
	On	Operating status with power or battery.
SD-CARD	Off	Status with no SD Card or unrecognized SD Card.
	Blink	Storing images or upgrading device.
	On	SD Card is normally operated.
GPS	Off	GPS communication is not active.
	Blink	GPS communication is available but location is not confirmed.
	On	GPS location is normally confirmed.

[Buzzer Sounds and LED Display upon Operation of Product]

Type	Guide Time	Buzzer Sound	LED Indicator	Remarks
Start	After booting	Beep Beep Beep (Short)	POWER, SD-CARD, and GPS are turned on and off in order.	Normal status
	In charging			
Continuous Recording	Start storage	Beep (Short)	SD-CARD blinks	LED blinks slowly
	In storing		SD-CARD blinks	
	Completed	Beep (Short)	SD-CARD turned on	
Event Recording (Functions only when Continuous Recording is off)	Start storage	Beep Beep	SD-CARD blinks	LED blinks fast
	In storing		SD-CARD blinks	
	Completed	Beep~ (Long)	SD-CARD turned on	
REC Button External Switch (Functions only when Continuous Recording is off)	After pressing button	Beep Beep	SD-CARD blinks	After pressing REC button, storage starts.
	In storing		SD-CARD blinks	
	Completed	Beep~ (Long)	SD-CARD turned on	
Download (Flash Memory -> SD Card) (Functions by pressing the FN button for 3 seconds)	Start	Beep (Short)	SD-CARD blinks	
	In download- ing		SD-CARD blinks	
	Down Completed	Beep Beep	SD-CARD turned on	

9. Product Upgrade

.....
This product may be subject to change of software in the future for the purpose of performance improvement, etc.
.....

Upgrade can be supported through websites of manufacturer and seller and upgrade and installation should be executed by the user personally in principle.

If you want to receive update through visit, please use the customers center of the manufacturer or seller.

◆ How to upgrade the product

- 1) Connect SD Card to PC.
- 2) Copy update file (*.bin) on the website to root of SD Card.
- 3) Insert SD Card to the product and power it on, upgrade is automatically progressed.

10. Google Map Use

Google Map use is provided with charge up to 100 counts. If you want to use it afterwards, connect www.iplk.com to pay charge.

The URL above may be changed upon situation of the company.

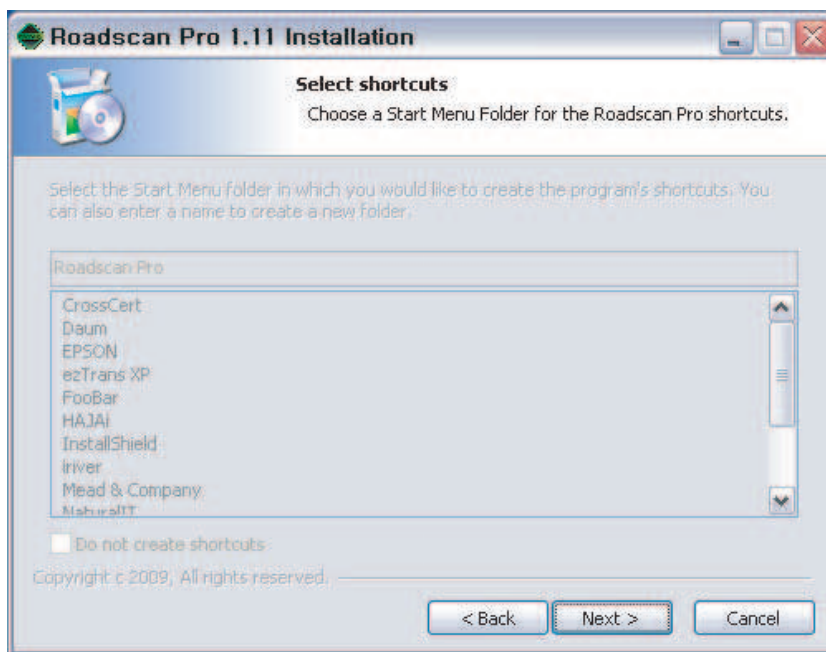
- (1) Connect provided SD Card to PC.
- (2) Open program folder within SD Card.
- (3) Run setup.exe within program folder.
- (4) When a screen is displayed as below, press "Next" button.



- (5) When a screen is displayed as below, press "Next" button.



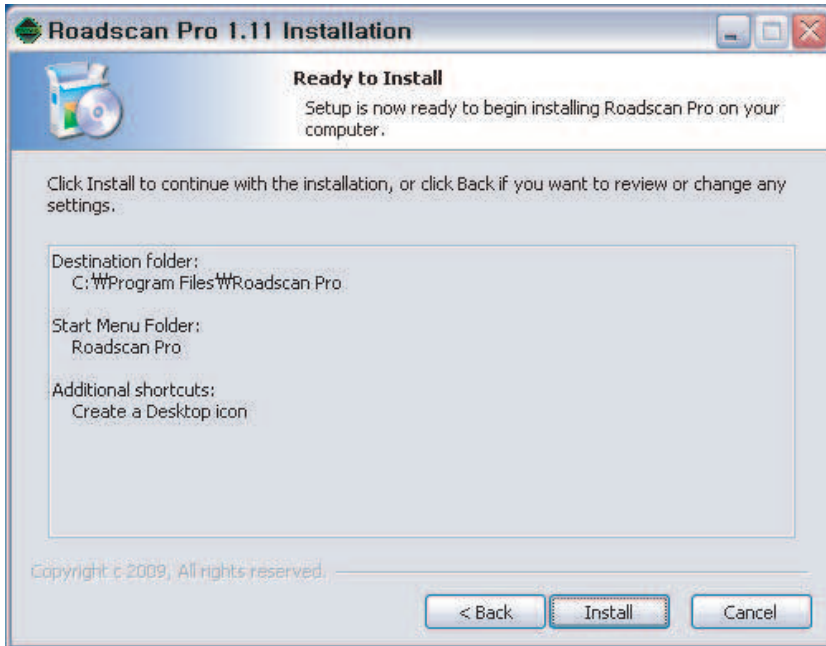
(6) When a screen is displayed as below, press “Next” button.



(7) When a screen is displayed as below, press “Next” button.



(8) When a screen is displayed as below, press “Install” button.

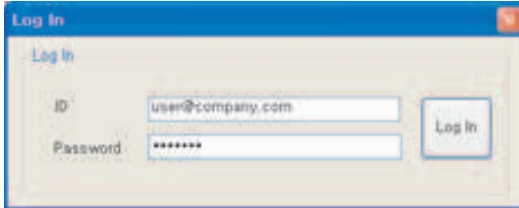


(9) When program installation is completed, a screen is displayed as below. Press “Finish” button to end installation.



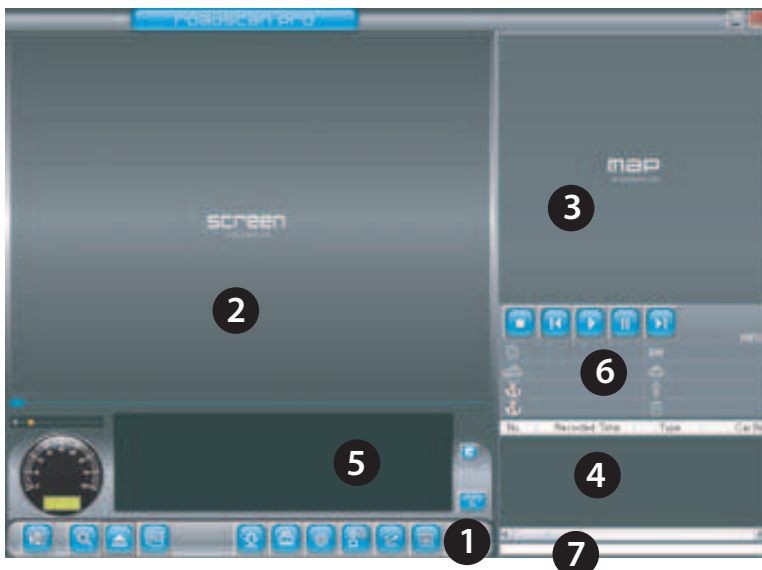
2. Login

In order to use Google Map, it is required to enter provided ID and Password.



Use 6 character ID code, not email address
Use 6 character PW code.

3. Description of Software Screen



(1) Menu Button

→It includes functions such as File View, Download, Device Setup, etc.

(2) Display Window

→ It displays images of Event data or DT data.

(3) Google Map

→It shows location information of data via Google Map.

(4) File List Window

→It displays a list of searched files or directly opened files.

(5) Graph Display window

→It displays acceleration data, impact data and speed data in sequence.

(6) Driving Information Display Window

→It displays time information, location information, acceleration information, driver information, etc. of data.

(7) Progress Bar

→It displays progressing rate when executing download or other functions.

4. Function and Description of Button

(1) Mode Change

: It allows displaying VEDR data and DT data alternately.

When you press the button, display mode changes to VEDR display mode and DT display mode alternatively. At the moment, shape of button is also changed.

Button for VEDR Display Mode ►



Button for DT Mode ►



(2) Search Open



: Function that opens file by leveraging search function.

The following screen appears when the Search Button is clicked on.

Search

Set Search Folder

Search Condition

☐ From 2009/04/28 Tue

☐ To 2009/04/28 Tue

☐ Car No. KA1234

☐ Driver Name OZUSANG

☐ Management No. No111

OK Cancel

Sets up the search folder.
Screen where user can select folder is indicated when the button is pressed on.

Search condition for recorded date.

Search condition for user setup values.

Notice !!

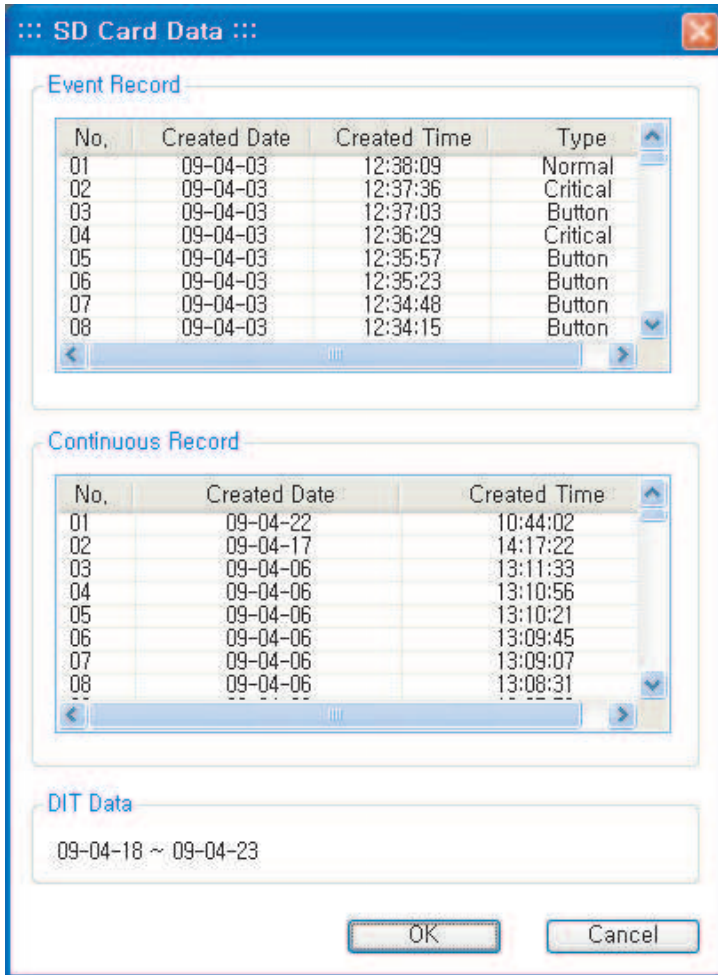
When OK button is pressed while only folder is designated as shown on the above screen, all the data files in the folder are searched to indicate on the database screen on the right. (Possible to search up to 10,000)

- 1) To search by date, designate the start and ending date on the date dialog box, and check on the box on the left side and then press on the OK button. Check on one box to search with one date alone.
(In the DT Mode, search is conducted with the day when driving started as a standard.)
- 2) To search by impact value, input minimum and maximum values, and then check the box on the left, pressing the OK button afterwards.
Input one value to search with only one impact value.
(Use only on the VEDR Mode, while it is meaningless in the DT Mode)
- 3) To search by impact speed value, input minimum and maximum values. Then, check the box on the left, and press on the OK button.
Input one value if you wish to search with only one impact speed value.
(Use only on the VEDR Mode, while it is meaningless in the DT Mode)
- 4) Car number, driver name and management number can select saved value with User setup. Press on the OK button after checking the box on the left.
- 5) All conditions can be searched with AND conditions.

(3) SD Card Open



: It lists all of images within SD Card.



(4) File Open



: Function to open file that can open various files all at once.
(maximum of 10,000)

(5) Download



: This is the function that downloads main body's SD Card's data to a PC. Use Card reader to download main body's data to a PC. To download, press on the download button while SD Card is connected to a PC, and the following Dialog box appears.

Management Info

Serial No.	NEO_001
Car No.	24-5678
Driver Name	Jacky
Management	M001

Event Record

No.	Created Date	Created Time	Type
<input checked="" type="checkbox"/> 01	09-04-03	12:38:09	Normal
<input checked="" type="checkbox"/> 02	09-04-03	12:37:36	Critical
<input checked="" type="checkbox"/> 03	09-04-03	12:37:03	Button
<input checked="" type="checkbox"/> 04	09-04-03	12:36:29	Critical
<input checked="" type="checkbox"/> 05	09-04-03	12:35:57	Button

Select All Deselect All

Continuous Record

No.	Created Date	Created Time
<input checked="" type="checkbox"/> 01	09-04-22	10:44:02
<input checked="" type="checkbox"/> 02	09-04-17	14:17:22
<input checked="" type="checkbox"/> 03	09-04-06	13:11:33
<input checked="" type="checkbox"/> 04	09-04-06	13:10:56
<input checked="" type="checkbox"/> 05	09-04-06	13:10:21

Select All Deselect All

DIT Data

☒ Download DIT data.

OK Cancel

Check on the check box on the left side of the data that you want to download among the saved data.

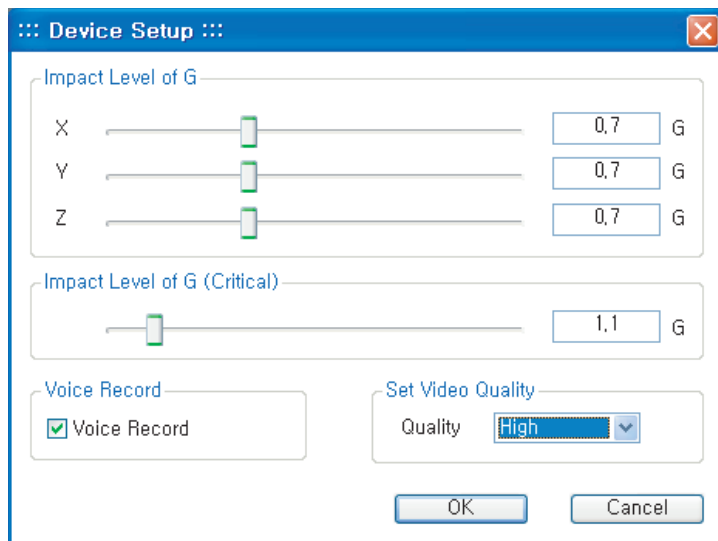
Press on the OK button on the dialog box after checking.

(6) Print



: prints the current screen as is.

(7) Device Setup



It stores settings of the device into SD Card.

It allows setting up Impact Level, resolution, audio storage, etc.

[Impact Level]

If the product receives impact value larger than the impact level setting, it stores data automatically.

If you want to record the image data less frequently, select higher value of G.

It is possible to setup impact level by each X, Y, Z axes. Impact level is saved when the OK button is clicked on after moving the bar to the desired number.

X-axis => vehicle's front and rear direction

Y-axis => vehicle's left and right direction

Z-axis => vehicle's upper and lower direction

[Voice Recording]

Audio Storage function may be turned On/Off.

If you do not want audio storage, please release Voice Recording On/Off check box.

(8) User Setup



Management Settings

Serial No.

Car No.

Driver Name

Management No.

Serial No.	Car No.	Driver Name	Management No.
NEO_001	24-5578	Jacky	M001
NEO_017	12-9876	Kim	M002
NEO_018	T35-7774	John	M003

Environment Settings

Speed: Google Map: Overspeed:

☒ Reload last work at startup

Environment Settings that enable Management Settings and environment setup that makes it possible to manage with vehicle number, driver's name and management number when it comes to each serial number.

After vehicle number is registered, it is downloaded to the vehicle number folder when it comes to the setup serial number, and it is downloaded to the serial number folder when it comes to the serial number that is not setup.

[Management Settings]

***How to input Management Settings**

- (1) Click on the Add button after inputting Serial No., Car No., Driver Name and Management No.
At this time, at least one value among serial number, vehicle number, driver's name and management number must be input.
- (2) Press on the saving button after confirming that the value is added onto the list.

***How to delete setup Management Settings**

- (1) Click on the serial number to delete setup value on the list.
- (2) Click on the Delete button.
- (3) Click on the Save button after verifying deletion from the list.

[Environment Settings]

-Speed setup

KPH is selected when the unit of vehicle's speed is km/h, and MPH in the case of mile/h.

-Google Map ON/OFF

Select OFF when Google Map is not used.

Map usage Count does not increase from the subsequent execution when FF is selected.

-Reload last work at startup

Check "Reload last work at startup" and press on the saving button. Then, if software is executed again after software is ended, data file prior to ending is indicated on the File List.

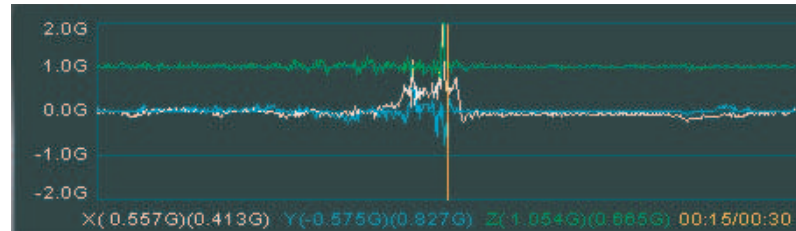
-Overspeed Setup

It is standard speed to be used to calculate Overspeed on DT mode.

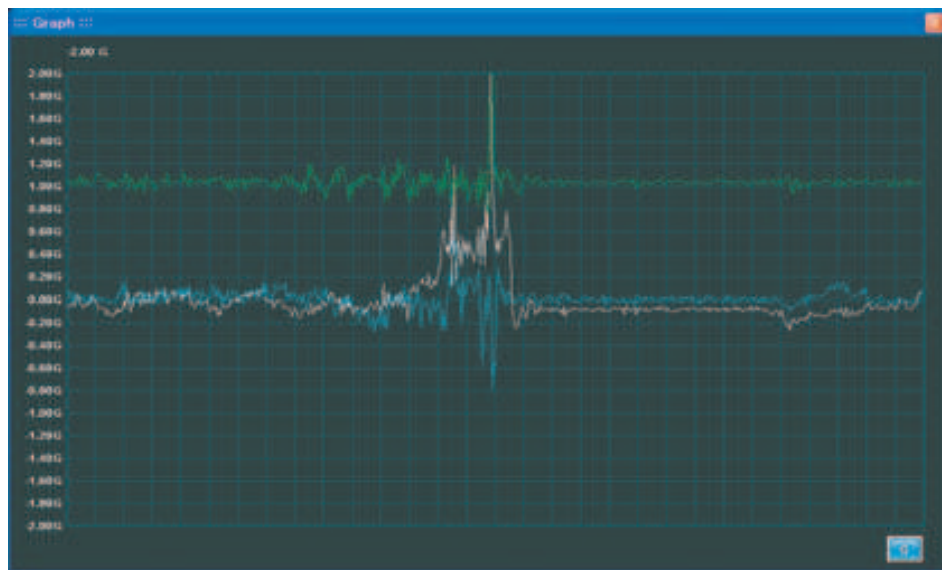
(9) Graph Display





Displays the acceleration data and the impact data, speed data in detail.







Open file and click "Graph Display" button, the below screen will be displayed.



Graph indication can be converted to Acceleration, Impact and Velocity sequentially.

Click  button => The button will be changed to  and displays the impact data.

Click  button => The button will be changed to  and displays the speed data.

Click  button => The button will be changed to  and displays the acceleration data.

(10) About Software



Shows the version of software and your registered serial number.

(11) Play Buttons



Play the video display continuously.



Pause the video display and initialize the video display.



Pause the video display.



Show previous frame.



Show next frame.

(12) Auxiliary Buttons



Graph indication conversion button

This is the function that can convert Graph indication, and it is possible to convert Acceleration, Impact and Speed in sequence.



: Acceleration data indication



: Impact data indication



: Speed indication



Drive Route Drawing Button

It displays route on Google Map, that can operate on DT mode only.

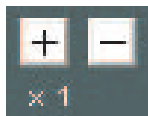
It displays driving points (up to 1000 points) with driving record storage interval value to set up location information of the driving data.



Drive Route Delete Button


This is the function that deletes path when path is indicated on the map.


Driving Record Playing Speed Setup



DT playing speed setup

This is the function that sets up the speed to increase/decrease speed of play on the DT mode.

Increases speed up to 4 compact disk access time to $x 1 \rightarrow x 2 \rightarrow x 3 \rightarrow x 4$ when  is pressed on

Decreases speed up to 4 compact disk access time to $x 1 \rightarrow x 1/2 \rightarrow x 1/3 \rightarrow x 1/4$ when  is pressed on.

This function operates only when play button is pressed on.

5. Description of Data Information Display



To display recording time of the current image frame



To display maximum impact of the current file (only under VEDR display mode)



To display latitude out of location information for the current image frame



To display longitude out of location information for the current image frame



To display production information of the current file



To display vehicle number of the current file (only when it is registered with user setup)



To display driver name of the current file (only when it is registered with user setup)



To display management number of the current file (only when it is registered with user setup)



To display start and end dates of driving of the current file (only under DT mode)

6. How to download and play data

1) Connect SD Card having device data to PC.

2) After executing software, click Download button.



3) Click confirm button of the Download button.

4) When download is completed, click File Open button.



5) Open downloaded data file.

6) Click Play button.



7) It is possible to display downloaded data as shown on a window below.



8) In order to display DT data, click "Mode Change" button.



9) As the button changes to , it is switched over to DT display window.



10) Click File Open button.



11) Open downloaded driving record data file.

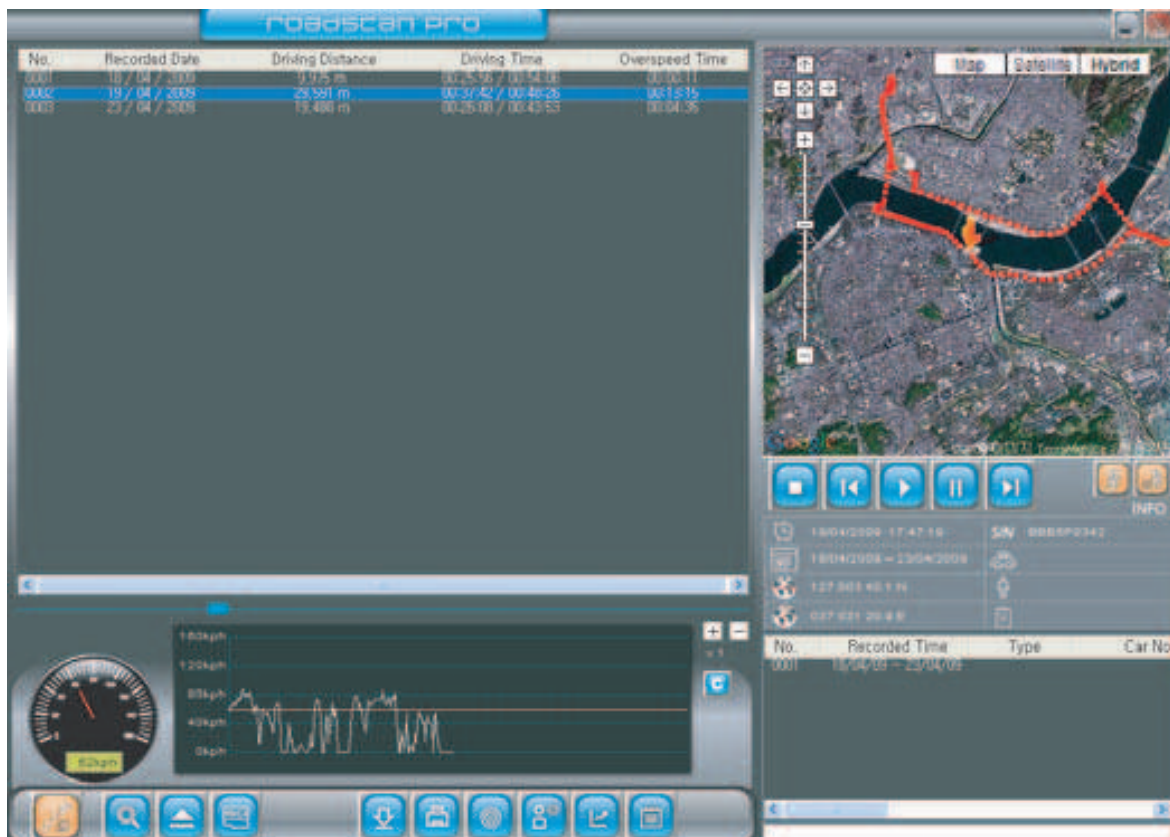
12) Click Play button.



13) It is possible to display downloaded DT data as shown on a window below.



In order to display travel route, click "Travel Route Drawing" button.

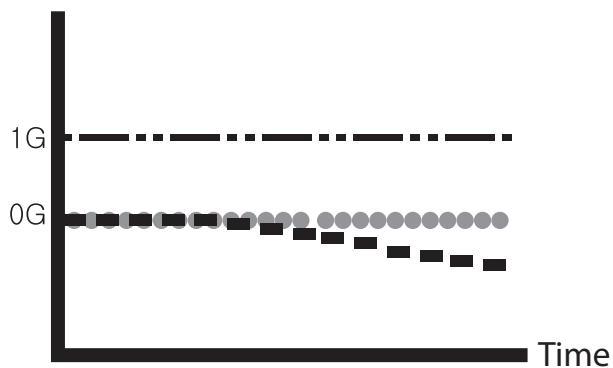


7. Acceleration data interpretation method

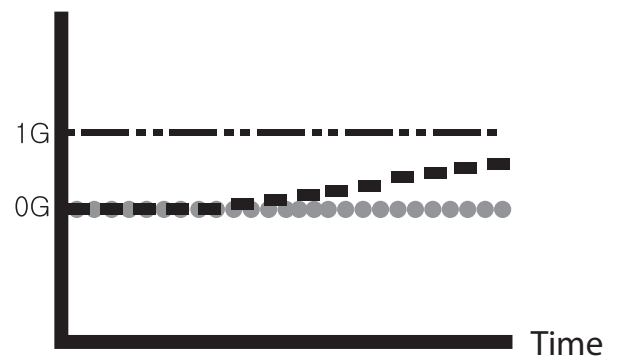
The following includes various data interpretation examples. User can confirm the data using the following method, and can analyze the type of accident.



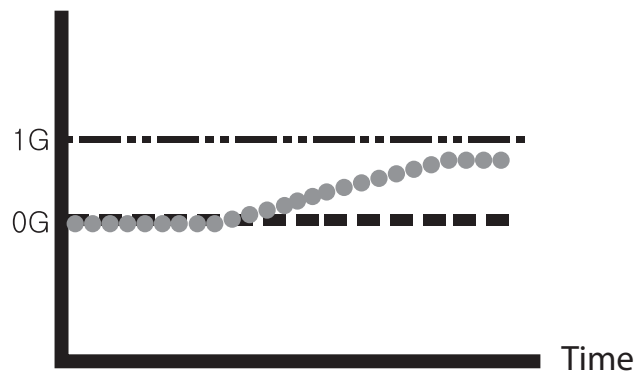
[Stop State]



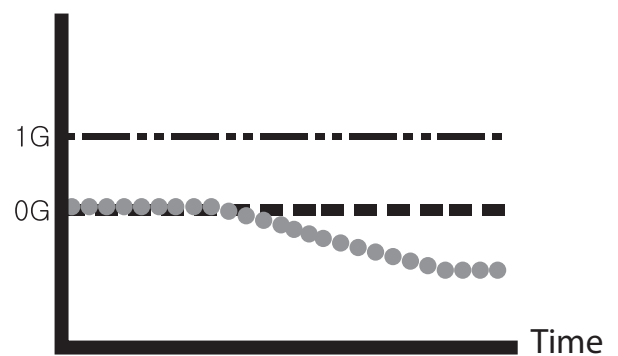
[Acceleration]



[Brake State]



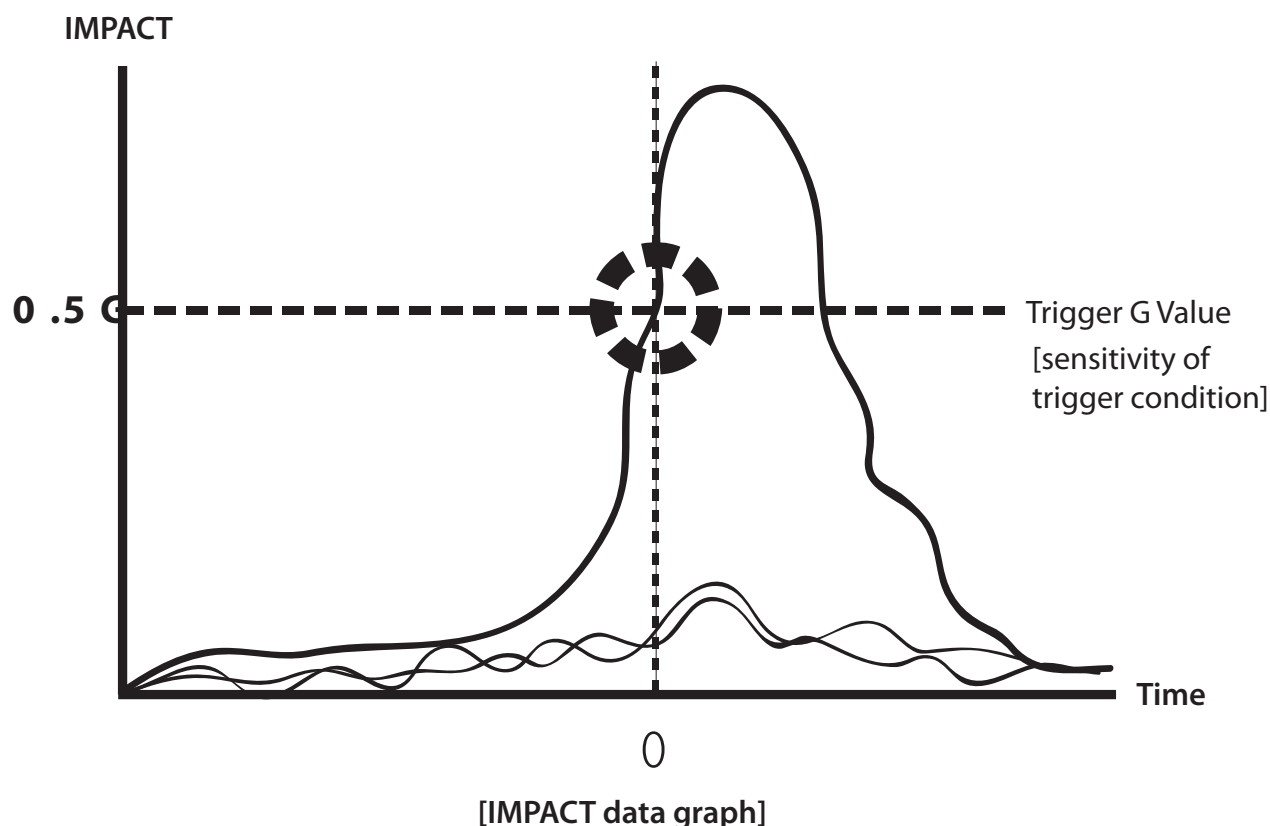
[Right Turn State]



[Left Turn State]

8. Impact assessment graph

If the IMPACT value of one record is greater than the trigger G value, then the system is triggered, and an image-and-data set is recorded into memory.



9. Description of DT Mode Window

When you open a file on DT mode, driving records are displayed by date on the top left corner of the window. Driving Distance indicates daily driving distance, and Driving Time displays actual driving time / travelling time. In addition, Overspeed Time indicates driving time at higher speed than standard speed set by user setup .

1. Caution during installation

Installation guide

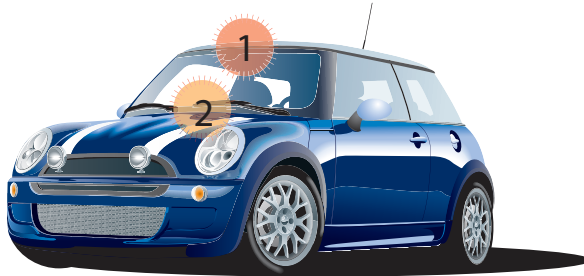
※ Prior to installation, check whether contents of the product are included, and mount according to the set procedure after understanding the contents of the installation guide.

- 1) During product installation, even when the lever of transmission is set for the N level, it is necessary to mount on the ground surface on a perpendicular manner at a flat place where the vehicle does not move to either front or rear.
- 2) Select location for mounting that does not block driver's view at the mirror located in front of the vehicle.
- 3) When main body is mounted, check whether location is one that does not limit the room mirror's movement, and select a location that is not intervened even when room mirror is maneuvered.
- 4) Clean the mirror at the location where adhesion will take place by using dry cloth prior to attaching onto vehicle.
- 5) When installing vehicle, install so that other safety devices in the vehicle are not affected.
- 6) When vehicle's power is input, check whether LED and buzzer sound come off. (Check LED indication and buzzer sound guide)
- 7) The above mentioned product records the image data input from the camera.

2. Mounting

When vehicle is moving or stopped or when contact accident or collision results, this product records the before and after of the accident into image. At the same time, this product records vehicle's acceleration

※ Basic mounting location of the product is top or bottom of front window of the vehicle. Attach the product on the position where safe driving is not obstructed.



- 1) Top Mount: Advantageous for securing visual field of the driver.
- 2) Bottom Mount: In case a navigation device is mounted at the center of the vehicle, it allows better image at night.

※ Install at a location devoid of intervention when maneuvering room mirror. Mount at a distance so that it does not fall into the range of room mirror operation since intervention may result when room mirror is maneuvered by driver or passenger.

3. Mounting sequence

※ Product's basic mounting location is located at the upper part of the center of the vehicle's front mirror. This location is the front part of the room mirror in the case of the passenger car. Attach the part with the tape attached onto the mirror, and adjust the angle so that it becomes perpendicular to the ground surface to complete the mounting.

Step 1) Take out the cover of the two-sided tape attached on the main body.

Step 2) Place the main body at the vehicle's center.

Step 3) Press button front/rear angle so that the main body mounted on the front glass to be right angle.

Step 4) When adjustment is completed, release the button to check if it is fixed.

Step 5) Connect power with power cable.

Step 6) Connect External Switch. It is possible to use External Switch to save Event Data on emergency. Attach External Switch on the desired location.

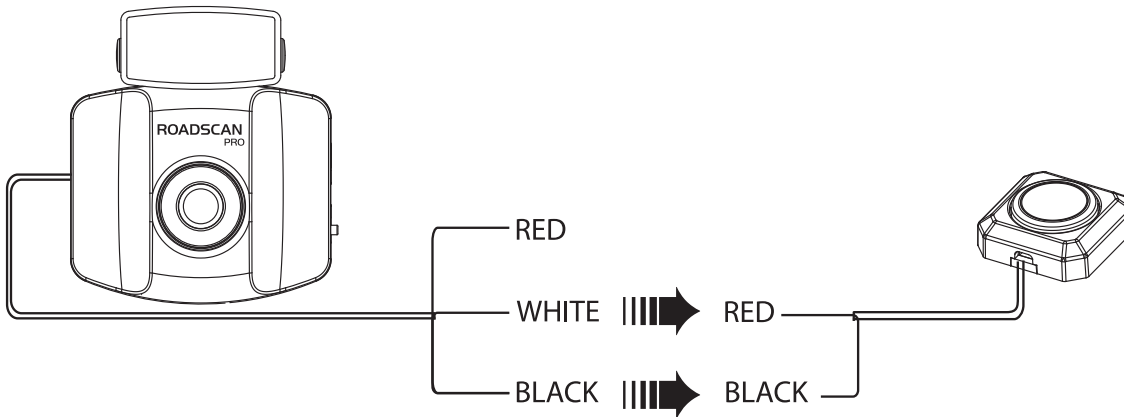
Step 7) When Beep Beep Beep (short sound) sounds after connecting power, POWER, SD-CARD and GPS LEDs turn on for 20 seconds and SD Card LED blinks, mounting is normally completed. GPS LED may blinks for the time being according to ambient situation.



※ Please be care about Room Mirror.

Notice!!

User can connect "Secret emergency button" with Roadscan Pro by cabling as below.

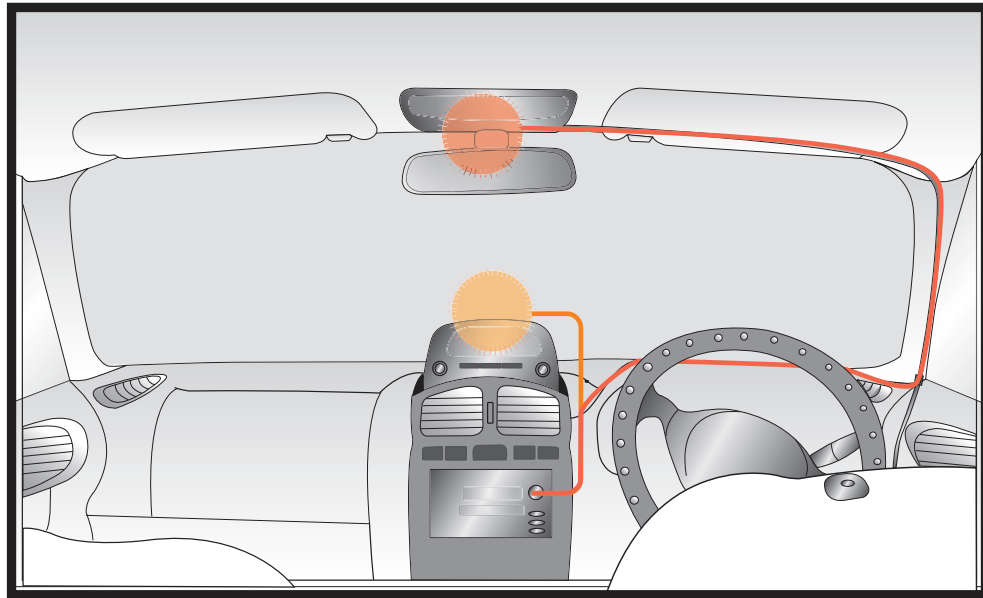


FUNTION	CABLE
(+)VCC	RED
SWITCH (Trigger)	WHITE
(-)GND	BLACK

FUNTION	CABLE
SWITCH (Trigger)	RED
(-)GND	BLACK

4. Wiring Guide

This product supplies power by connecting to the vehicle with power cable. To arrange power cable, it is possible to use the mount that is provided to arrange the power cable.



※ How to use the mount



1. Eliminate the sticker located at the rear of the mount, and attach onto desired location.



2. Fit in the power cable onto the attached mount

Before suspecting malfunction

- 1) When image cannot be recorded,
 - 1-1) Check whether there is SD Card in the main body.
 - 1-2) Check whether it is SD Card provided by our company. Ordinary SD Card may not record.
 - 1-3) recording may have failed due to the failed impact detection depending on the acceleration impact level.
(! Caution) In this case, image is recorded using the moment when the manual recording button was pressed on as the standard.
- 2) Recorded image may not display everything depending on the distance with the number plate of the vehicle in front, lighting, and vehicle's speed.
- 3) Placing bright object or object that emit light in front of the vehicle's front glass, makes it difficult to see as the object may reflect against the glass, especially at night.
- 4) GPS signal may not be received due to the blocking of the signal at underground parking lot, tunnel and skyscrapers, and valleys and large trees.
- 5) In case audio is not stored, please confirm if audio storage button is checked on the software program.
- 6) When the quality of image is not good
Check whether main body's lens is contaminated, and clean with cloth for eyeglasses.
- 7) When the image is faced excessively towards the sky or the ground.
Check whether main body is facing vehicle's front part, and adjust perpendicular to the ground surface.
- 8) When main body's POWER LED is turned off
 - 8-1) Check whether main body's power cable is connected properly.
 - 8-2) Pull out SD Card from the main body and power on, or format SD Card and power on again.
- 9) If you pull out SD Card in storage from carelessness, the product may have an error but it can be used again by formatting SD Card.
- 10) If there is no image on the software, please contact the seller.



Product specs and operation environment



Normal operation voltage	12V, 24V
Minimum operation voltage	9V
Maximum operation voltage	32V
Maximum power consumption amount	3W
Operating temperature	-20 degrees ~70 degrees
Preserving temperature	-40 degrees ~85 degrees
Camera Type	Color CMOS Camera
Maximum Camera Pixel	350K
Actual Camera Pixel	320K
Average number of images recorded	24 Frame / second
Lowest intensity of illumination for operation	1 lux
Lens angle	120 degrees
Image recording resolution	640 x 480
GPS	Installed in Main Body
Size	91x88x40 mm
Weight	120 g

Minimum operation PC environment for Roadscan Pro Manager:

OS : Windows XP, Vista

RAM : 256 MB RAM

HardDisk capacity : 32MB

At least CPU Pentium4 1.5GHz recommended

◆ Warranty regulation

1. We fix your product for free when malfunction results even when the product was used normally within the warranty period (for one year from the day of purchase).
2. Attach warranty certificate when you requested repair during warranty period and attach warranty certificate onto product. Then, request repair at the store where you purchased the product.
3. The following cases require you to pay for repair even during warranty period.
 - (a) When malfunction is caused by user's mistake.
 - (b) Malfunction and damage caused during transport, movement and fall after product is purchased
 - (c) Malfunction and damage caused by fire, earthquake, flood, pollution, abnormal voltage, and use of power besides the designated (voltage *frequency) and other natural calamities
 - (d) When there is no clause in the warranty certificate
 - (e) When the clause in the warranty certificate is not included or modified
4. Warranty certificate is effective only for use at the nation where user purchased the product.

- Regarding warranty and A/S

- ◎ Warranty period is for one year from the day of purchase.
Make sure to pick up warranty certificate (it is printed on this manual) from the store and check whether 「day of purchase and store」 are included.
Read it carefully and keep it well.
 - ◎ When requesting repair, check wiring state and whether there is malfunction caused by maneuvering method. Continue to repair when there is a problem.
- During warranty period: Attach warranty certificate and take it to the store where you purchased the product. We will repair based on the contents of the warranty certificate.
- When warranty period has expired: Consult with the store where you purchased the product. When product function is maintained due to repair, we can repair for a charge according to the customer's desire.



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