This manual should be read before the product is activated.
For Safety purposes, users are advised to correctly operate the product according to this manual

CAR Black Box System

M1 User Manual (Ver 1.0 EG)

Contents

Product overview ____ 03

Notice for safety ____ 04

Package contents ____ 06

Name of each Part ____ 07

Specification ____ 08

Installing Instructions ____ 09

Function of each part ____ 11

- Button, LED, Voice guide
- Operation Function
- Preparation Recording
- Video Recording and Playing
- Using SD CARD
- Format in the condition of SD Card Error
- Update Instruction
- Voice Recording Setting
- Manual Event Recording

Explanation of player ____ 16

- Full screen of player
- play data
- Original Size image
- Link with MAP
- Analysis for G-SENSOR Data
- Print and storing of screen, verification of Version
- Conversion of Speedometer
- Setting

Q&A ____ 22

World Time Zone ____ 24

Warranty Card ____ 25

Product overview

This product is auxiliary system which helps to analyze the cause of vehicle accident with video and voice recording, GPS location information while driving.

Continuous Recording

The product constantly stores video and audio data in driving on a SD CARD. When the amount of recorded data exceeds the capacity of the SD MEMORY, the oldest files get overwritten.

Event Recording

If the impluse sensed by the G-sensor exceeds a specific limit or the user presses the emergency recording button(△),2 minutes video file which is recorded 30 seconds before and after event stored and transferred to the EVENT folder automatically.

Voice recording control

It is possible to set voice recording On/Off for protection of user privacy.

Video and Voice data Playing and Analyzing

The User can play recorded video data and information with using the software provided with the product and analyze velocity, coordinates, time and GPS location easily.
Recorded video file can be played at 640 X 480 (VGA) resolution.

Notice for safety

This chapter contains the information on preventing property damage and inconvenience. It should be read before product activation, and users should be correctly operate the product based on the instructions stated below.

1. Do not use water or volatile chemicals when cleaning the inside of the car or the product. This increases the risk of product damage, fire, and electric shock.

2. Avoid causing the product severe impact and immersing it in a foreign substance. This increases the risk of product damage, fire and electric shock.

3. Refer all servicing to qualified service personnel. We take no responsibility for any damage or problems caused by arbitrarily repairing or modifying the product.

4. Only in normal conditions can the user obtain proper video image. If the user is in a tunnel or is driving at night video recording cannot work properly. Intense backlights also affect the image quality of the video.

5. Window tinting can also affect video quality. Users should check the recorded imagery before operating the product, if their cars have tinted windows.

6. Do not relocate the product arbitrarily. This may cause GPS communication error.

Notice for safety

7. Do not manipulate or stare at the product while driving. This increases the risk of automobile accidents.

8. Secure clear vision for camera. Contact with foreign materials or covering of the lens may cause abnormal video recording.

9. Only use the cable provided and automobile electric power, as instructed.
   If not, this may cause product damage, fire, and electric shock.

10. Do not cover the product when using other electric devices. This may cause GPS communication failure.

11. When the cable is damaged by an accident, replace the electric power cable with a new one.
    When the product malfunctions or smoke is detected, stop using the product immediately and consult service personnel through the agency.

12. Remove dust in the cigar lighter socket periodically, for it may result in a fire hazard.
    Check frequently whether the productis installed firmly.

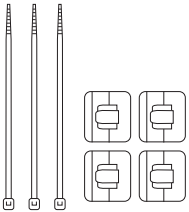
Package contents

Basic Components

Body

Cradle

Power Cable



Installing Supplements

SD CARD

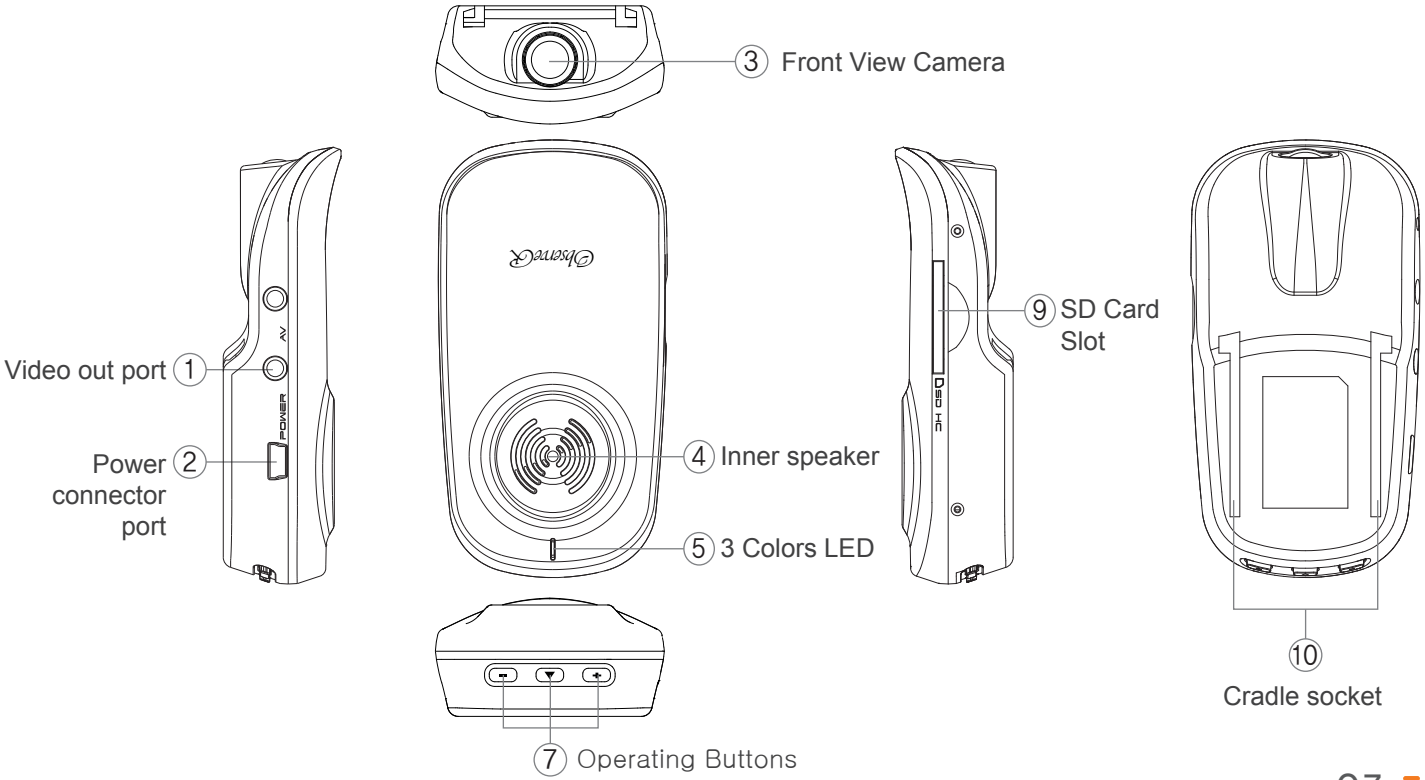
PDF Manual

Optional Accessories (Sold separately)

1. External Monitor connecting cable
2. Connecting cable for constant power supply
3. Subsidiary Battery for constant power supply (4,000mA, 8000mA)

- Please contact sales representative or dealer for purchasing the optional accessories.
- The optional accessories can be changed by the situation of company.

Name of each Part



Specification

|Specification|

ITEM		SPECIFICATION
Camera		1.3M Pixel
Resolution		640 x 480
Video Quality	Driving Mode	High
	Parking Mode	Low
Video		MAX 20fps
Voice Recording		Internal Mic
Voice Guiding		Internal Speaker
Event Recording	Auto	G-Sensor (3 Axis)
	Manual	EMR Buttion (△)
GPS		SIRF-III
Storage		SD CARD (1~32GB)
Power		DC12V~DC24V

|Saving Time|

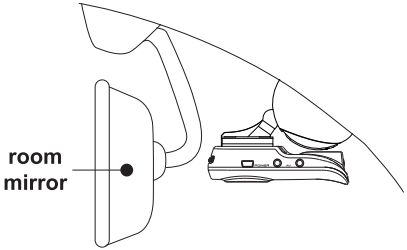
SD Card Capacity	Constant Recording	Event Recording
2GB	90min.	30min.
4GB	180min.	60min.
8GB	360min.	120min.
16GB	720min.	240min.
32GB	1440min.	480min.

- “SanDisk” is the most compatible SD CARD for the product.
  SD CARD compatible with the product can be allowed,
  but using different SD CARD may result in product malfuction.
  In such cases, the user responsible for the problems
- There can be error of saving time according to external
  environmental and the image condition which is stored.

Installing Instructions

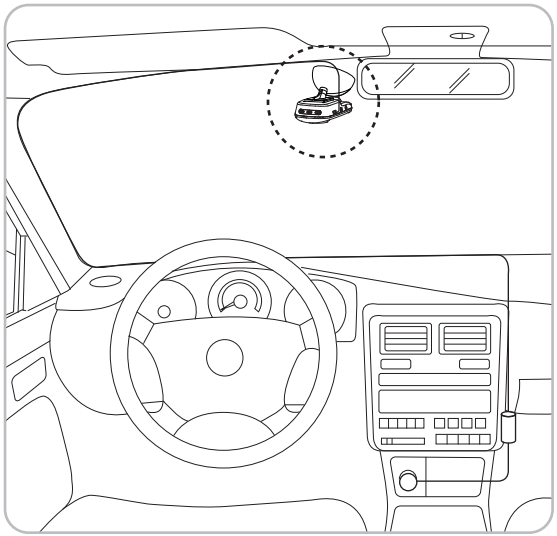
Install after turning the engine off. Locate the product where GPS signals are received well.
Secure a clear vision for the front camera, where it is not covered by the hood.
Adjust the angle of the body to secure horizontal and vertical positioning.

Install as instructed



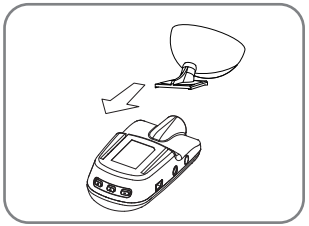
1. Avoid installing the product on a heating line.
   It may cause damage to the heating line when demounted.
2. Remove foreign substances from the attaching area and dust cleary with a dried cloth before attaching the product

- Please be prudent to control angle of mount cradle. If you inflict a unresonable force, cradle can be damaged



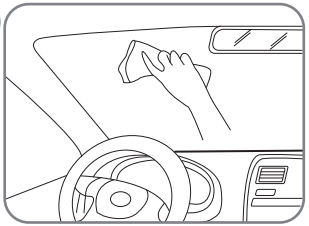
Installing Instructions

1



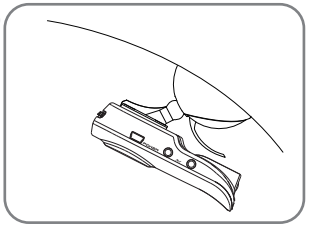
Mounted on holder like a drawing to the body.

2



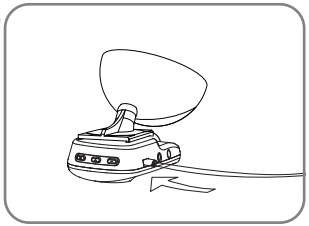
Remove all foreign materials on the window where the product will be attached to.

3



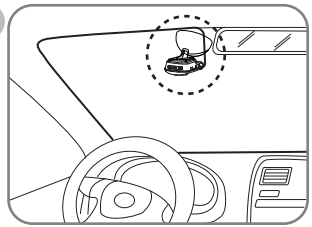
After in order for the holder's direction does toward a down, securely attach the product with adhering closely to the glass window.

4



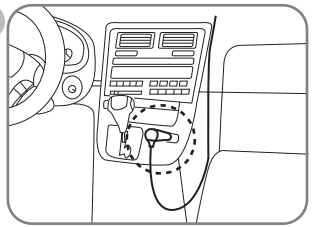
After connecting the cable to the body's right side with the power cable, pull out the cable upward.

5



Power cable to the passenger (or driver) in the direction of put cleaned.

6



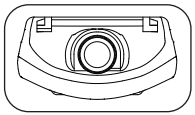
Connect the power cable plug to the cigarette lighter socket.

Check installation

Be sure the power light is ON. When starting up the eigine. If power light does not light up, check the connection between parts. Remove dust or foreign substances near the cigarette lighter socket.

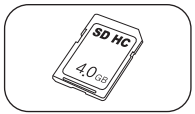
Function of each part

| Button, LED, Voice guide |



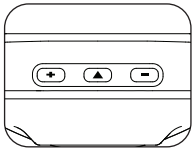
Front Camera

Front view camera should be fixed horizontally. Periodically clean the lens for clear video image.
Use a soft cloth to clean the lens in order to avoid lens damage



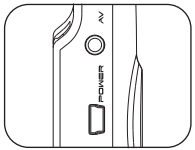
SD CARD

Disconnect the power cable or turn off the engine, before inserting or removing the SD CARD.
When using an SD CARD that was not supplied with the product, the user should format it as FAT32, download and copy the provided program on it, and set the TIME ZONE in PLAYER setting menu



UP(+) / DOWN(-) / EMERGENCY(△) Button

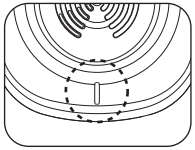
Use these buttons for setting each function.



POWER Connection and A/V OUT Port

- A/V OUT : It is possble to check real time image by connecting product with external monitor.
- Power input : By connecting the provided power cable to the cigarette lighter socket, the product is supplied with electric power

* When the provided power cable is lost or damaged, do not use unqualified power cables.
  Make sure to immediately contact the service agency. Using unqualified cables may cause fatal damage to the product.



Indicate LED

- Violet LED Light : The first Power Supplying, Shut off Power Supplying
- Blue LED Light : Constant recording in the condition of receving stable GPS signals
- Blue LED Blinking : Constant recording in the condition of receving instable GPS signals
- RED LED Light : Emergency recording • RED LED Blinking : Error

Function of each part

Operation Function

STATUS	BUTTON	LED	Voice Guide (One Tone Guide)
POWER ON	N/A	Violet LED Lighting	Starting CAR DVR
Before receiving GPS signal	N/A	Blue LED Light Blinking(Recording Mode)	N/A
After receiving GPS signal	N/A	Blue LED Lighting (Recording Mode)	GPS data is succefully transmitted
POWER OFF	N/A	Violet LED Lighting	Stoping the CAR DVR
SD CARD MISSING	N/A	RED LED Lighting–〉Alert status	Please insert SD memory card
SD CARD ERROR	N/A	RED LED Lighting–〉Alert status	Unable to read SD memory card
User format SD CARD	Pressing (△) button for more than 3 seconds when turn on product	RED LED Lighting–〉Alert status	Do you want to format SD memory card?
	–〉 (–) Button	RED LED Lighting–〉Reboot	SD memory card will be formatted
	–〉 (+) Button	RED LED Lighting–〉Reboot	SD memory card will not be formatted
Voice Recording OFF	Pressing a (+) Button for more than 3 seconds	Violet LED Blinking–〉Recording mode	Voice recording stopped (After beep sound twice)
Voice Recording ON	Pressing a (+) Button for more than 3 seconds	Violet LED Blinking–〉Recordinf mode	Voice recording started (After beep sound twice)
F/W upgrade	If SD CARD has a New update file (bsac.bin, mcode.bin) upgrade is proceeded automatically	RED LED Blinking–〉Reboot	Update mode
Volume control	UP(+), DOWN(-) Button 3 step (1second)	Recording Mode	(Beep sound once)
Emergency recording	N/A(G-sensor working)	RED LED Blinking–〉Recording Mode	N/A
	Pressing (△) Button for 1 second	RED LED Blinking–〉Recording Mode	N/A

– Operation Function can be changed by updated specification

Function of each part

Preparation Recording

1. If the power cable is connected, after inserting SD CARD in the body, the violet LED lights.
2. Video Recording starts with “Starting CAR DVR” voice guide after connecting the power cable.
3. GPS receiving starts after blue LED Lights ON with “GPS data is successfully transmitted” voice guide.

Video Recording and Playing

1. When the amount of recorded data exceeds the capacity of the SD memory during constant and event recording, the oldest files get overwritten.
2. If the impluse sensed by G-Sensor exceeds a specific limit or the user presses the emergency button(△), the 2 minutes video file which is recorded 30 seconds before and after event stored and the tranferred to the EVENT folder.
3. When the user turns off the engine or disconnects the power cable from the cigarette lighter socket, violet LED lights and product is off. After the Violet LED is out, remove the SD card from the body. Unless the instructions above are not observed, the problem on storing video image may happen
4. Connect the SD card to a PC, using the memory card reader. The user can then play the stored video file with the normal muti-media program or exclusive program embedded in the SD card.
   The user can check not only image data but find impact and location information through exclusive viewer program.

– We recommend to use a USB reader that supports SDHC2.0

Using SD CARD

Do not use the SD CARD supplied with the product for any other purpose. If the SD CARD is used for another purpose or other files are stored on it, fatal errors may be caused. SD CARDs compatible with the product can be allowed, but using different SD CARD may result in product malfunction. In such cases, the user is responsible for the problems. “SanDISK” is the most compatible SD CARD for the product.

1. If SDHC 2.0 is not compatible with the PC, use a separate USB reader that supports SDHC 2.0
2. Periodically format the SD CARD in order to prevent errors and to use it for a ling time.(Recommendation : 1 time per 15days)
3. Configure SD card after formating, or else the initial loading may take a long time, and the time on the stored video file and the actual time zone may differ.
4. When user turn on the product with pressing (△) button for more than 3 seconds, user can get voice guiding “Do you want to foramt SD Card ?” In this case.
   - Press (-) button : Format SD Card with voice guiding “SD memory card will be formatted”
   - Press (+) button : Do not format SD Card with voice guiding “SD Card will not be formatted”
5. In the condition of formatting SD Card, All data which is stored will be deleted. So, Please back up data definately which user need.

Format in the condition of SD Card Error

1. When hear voice guiding “Unable to read SD memory card”with RED LED blinking, Format SD Card with pressing (△) button. After format is completed, rebooting will be occured.
2. Inspection for the SD Card is needed when errors occur even after rebooting.
3. If hear voice guiding “Unable to read SD memory card”, Please check hold key (Lock button) of SD CARD , too.

Function of each part

Update Instructions

1. Firmware Update
   - Store bsac.bin , mcode.bin (New version) at the top-level directory of SD CARD.
     After inserting SD CARD and turn on the product, RED LED will be light.
     And then, product will reboot after voice guiding “Update mode”and putting out LED light.
2. PC player Update
   - Store new version of player (player.exe, config.sys) at the top-level directory of SD CARD. Insert SD CARD into the product, turn on the product by pressing (+) Button. Update will be proceeded with voice guiding “update mode” and RED LED light.After finishing Update, product will be reboot with putting out LED light.

> - Do not remove the power cable and do not turn the engine Off. Power Off during the update process may cause fatal error.

Voice Recording Setting - Default setting is Voice recording OFF mode

1. Voice recording ON : In the condition of Voice recording OFF, Press (+) Button for more than 3 seconds, Voice recording start with voice guiding after beep sound twice
2. Voice recording OFF : In the condition of Voice recording ON, Press (+) Button for more than 3 seconds, Voice recording stop with voice guiding after beep sound twice.

Manual Event Recoding

If user press EMR buttion for 1 second, the 2 minutes data which is storing will be transfered & stored to the EVENT folder automatically

Explanation of Player

| Full screen of player |

1.Connect SD card with PC using memory card reader.

2.Select the removable disk that is recognized as SD memory.

3.Double click PLAYER.EXE, then the screen below will appear on the monitor screen.

① Camera Display

② GPS MAP

③ Function Icon

④ Volume, Play speed control

⑤ File list

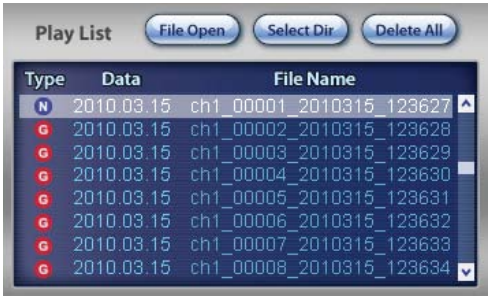
⑥ G-sensor Impulse Graph

⑦ Speed, Direction

Explanation of Player

Play data

1. Select the folder by click [Select Dir] button of the middle of player.
   Data is stored on Movie folder of applicable SD CARD
2. Double click the file, Image will be played



File Open : Open file which user want to check.
Select Dir : Open folder which user want to check.
Delete All : Delete all files list on the Play List
Type : Type of recorded data.
(N Constant Recording, G Event Recording, B Recorded data by pressing (△) Button,
P Parking Mode Recording)
Date : Indicate Date and Time of recorded data
File Name : File name of recorded data.

ch1_00000_00000000_00000000.avi

Division of Data | File order | Year/Month/Date | Hour/Minute/Second

Original Size image

Double click data which is played on Player,
Original Size(640 X 480) will be showed

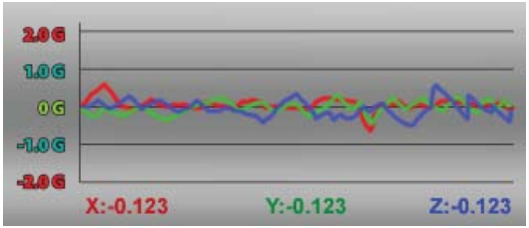
Explanation of Player

| Link with MAP) |

Click button, MAP will be showed and User can check driving routes with GPS location information.

It is possible to be linked with MAP in the time of being conntected internet.
It is impossible to be linked with MAP for DATA which was recorded not getting GPS receiving.
The linking time with MAP can be delayed by speed of internet condition.

| Analysis for G-SENSOR Data |



[G-sensor Graph]

G-sensor check 3-Axis data (X,Y,Z axis) and indicate those data as graphing at Player. It is possible to analyze driving conditions and habits of driver. The changing of graph curve can be differ by type of vehicle and situation of the road surface.

Explanation of Player

| Print and storing of screen, verification of Version |

1. Click button in the middle of player,
   It is possible to print or store screen image.

2. Click buttion in the middle of player,
   It is possible to verify the version of player.

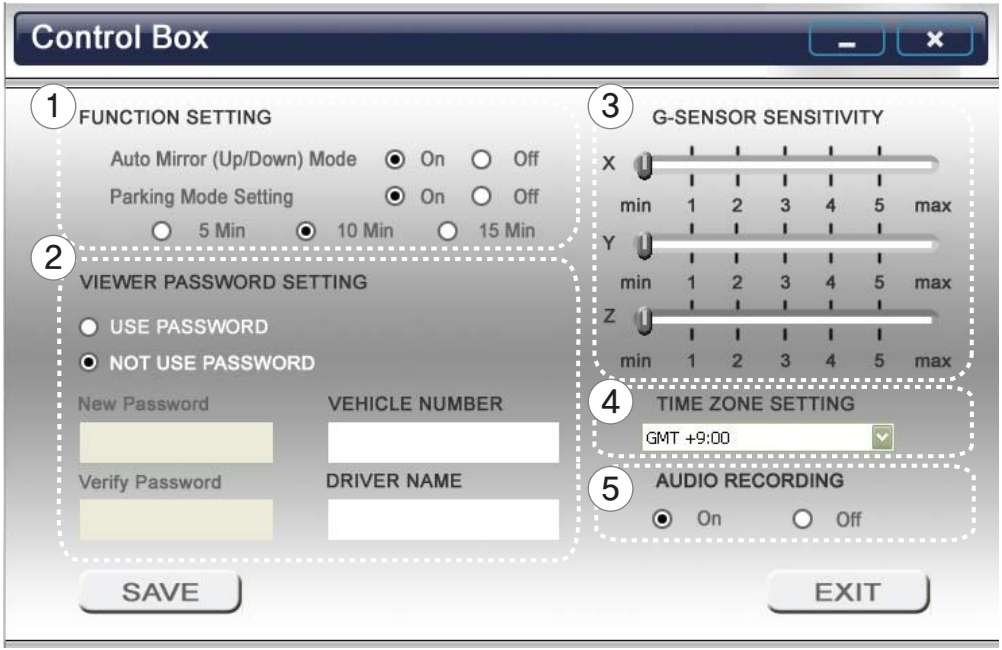
Double Click

| Conversion of Speedometer |

Double click Speedometer in the down part of right side of player, two type of speed unit is available.

Setting

Pressing button in the middle of player, User can print or store data which is playing.



Explanation of Player

1. SD Card Format
   - Periodically format the SD CARD in order to prevent errors and to use it for a long time. (Recommended : 1 time per 15days)
2. Time setting
   - Sets the time of user's nation. (EX> KOREAN TIME : GMT+09:00)
3. User's Password setting
   - Password : 4 digit
   - VEHICLE NUMBER : 4 digit
   - DRIVER NAME : 15 letters with only English.
4. G-SENSOR setting
   - It is possible to control of sensitivity for impacting perception quantity. (X,Y,Z each 7 step)
5. Function setting
   - Auto Mirror ON/OFF
   - Parking Mode ON/OFF
     * 5min : Conversion to the parking Mode after 5 min Vehicle is parked
     * 10min : Conversion to the parking Mode after 10 min Vehicle is parked
     * 15min : Conversion to the parking Mode after 15 min Vehicle is parked

* Parking Mode ?
  - Parking Mode extends the saving time by reducing video quality, When user want to use the product as survillance purpose during parking.

* It is possilbe to be changed of function according to version of firmware and product tools.

Q&A

Q. Is it possible to install product on the any position?
A. We recommend to install product head on where does not become the disruption in range of vision of driver.

Q. Checking method whether the product works properly or not.
A. Starting engine firstly, Please check LED light on and record data for a while.
After then, please confirm recorded data on P/C.

Q. When start engine, there is no LED light on the product.
A. If the power does not light on, Check the connection between parts. Remove dust or foreign substances near the cigarette lighter socket. When start engine, power voltage can be instable.
Recomment to re-connect power cable to cigarette lighter socket.

Q. Is it possible to see realtime recording video by connecting an Navigation or Vehicle TV ?
A. It is possible to see realtime recording video by connecting with RCA cable through AV-OUT port on the product(Video cable is optional accessory).
We do not guarantee that video cable can be compatible with all kinds of Navigation or vehicle TV.

Q. Voice recording ON. (Default setting is Voice Recording OFF)
A. It is possble to set voice recording ON by pressing (+) button on the product.

Q&A

Q. To delete recorded data
A. It is possble to format data on P/C or product.

Q. When vehicle battery is shut off by accident impacts, Is it possible to store data
A. It is possible to store data for more 5~10 seconds, eventhough vehicle battery is shut off.

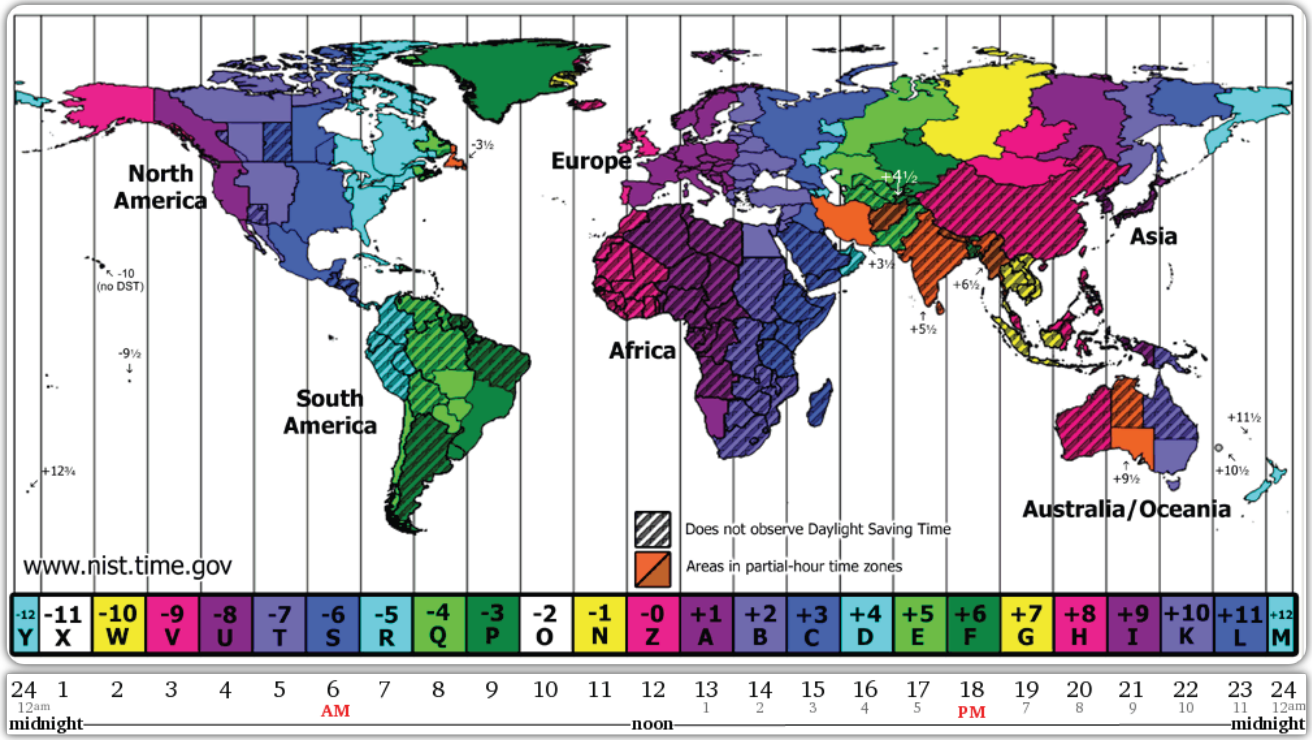
Q. SD Card Error
A. We recommend to buy legitimate SD MEMORY CARD of our company.

Q. The product is damaged by accident
A. If the product is damaged by strong shock in accident, Please do not use.
Storing data can be impossible by potential error.

Q. Recorded images are foggy and not clear.
A. Clean the camera lens or remove all foreign materials on the window for clear image

Q. To extend recording times.
A. The product can store data on the SD CARD up to 32GB. We recommend to buy legitimate large storage SD MEMORY CARD of our company.

World Time None



Warranty Card

Thank you for your purchase of the product. In case of malfunction,
Users will be compensated according to the company's damage regulations.
Contact an agency or dealer, when a malfunction has occured

[Warranty]

* The product is warranted to you for a period of one year from the date of original purchase.
* This warranty does not apply to the equipment beyond company control such as the SD CARD.
* This products pass through strict quality control and inspection process is built.
* If the warranty period has elapsed or it is judged to be some service charge needed, these causes cost charge.
* All accessories except main body is consumables.
* In the following conditions, some service fee can be charged or A/S can be denied even within warranty period.
  - Carelessness malfunctions
  - Degradation or alteration products for other purposes
  - Natural calamities (Fire, Earthquake, Flood etc.)
  - Damage or failure caused by the impact
  - Not authorized company with our A/S center
  - caused by waterlogging

[Refund and Exchange policy]

* Refund and exchange are available within 14 days since the original date of purchase.
* If you want to refund the product, send it back in its original packaging and box. Make sure the product is in its original condition. If the original packaging and box have been altered, refund is not available. (Except for refunds due to a fatal defect of the product itself)
* Shipping cost is on the customer. (Except for refunds due to a fatal defect of the product itself)

Product Name		Model Name	
Product Number		Date of Purchase	
Customer Name		Customer Phone Number	
Address			
Store Name		Phone Number	

* Caution : When sales product, please fill in customer name and date of purchase clause necessarily.