

Digital Video Recorder

User manual (Ver 1.1)

Observer



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.



MEMO



Product overview

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.

This product is a video recording application that helps to investigate the reasons behind collisions, impact, and sudden acceleration accidents through video/voice recording, and GPS location storing. The user can play the recorded scenes on a PC, using the provided player software.



[Constant recording function]

The product constantly stores front view videos, voice, GPS location, and time information on a SD card. When the amount of recorded data exceeds the capacity of the SD memory, the oldest files get overwritten.



[Event recording function]

If the impulse sensed by the G-sensor exceeds a specific limit, or the user presses the emergency recording button, the video file containing 15 seconds of data prior to the event and 15 seconds into the event is automatically stored and transferred to the EVENT MOVIE folder.



[Video and Voice Data Playing and Analyzing Function]

The user can play recorded video and information, using the software provided with the product, and easily analyze velocity, coordinates, time, and GPS location. Recorded video files can be played at a maximum VGA of 640 x 480 pixels.

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Notice for safety

This product is designed and produced for recording front video/sound and rear(optional) video. But we can not warrant that this product record all video/sound in any situation.

We are not liable for any kind of damages occurred by data loss or disabled product.

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.

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.



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



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.



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



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



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



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



Secure clear vision for both the front and rear view camera. Contact with foreign materials or covering of the lens may cause abnormal video recording.



Make sure to check the capacity of the SD card and keep the number of recorded files from exceeding the limit. If not, video images cannot be stored, even when the user presses the emergency button.



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



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



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.



Package contents

Basic Components



Body



Cradle



Power Cable



SD card



SD Card
Reader



Installing
Supplements



Manual

Optional Accessories (Sold separately)



External
Camera



Portable
Charger



External Monitor
Connecting Cable



TOP CASE



Please contact sales representative
or dealer for purchasing the options.



The options can be changed by the
situation.

Name of each part



No.	Name	Function
1	Front view camera	A camera for front view video recording
2	UP(+)/DOWN(-) button	Buttons for adjusting the voice guide volume level
3	EMR button	Buttons for constant recording
4	Power / Recording LED	Power ON : Violet , Constant recording : Blue , EMR recording : Red
5	Internal speaker	A speaker for operating status and voice output
6	Power connector port	A port for connecting power cable
7	SD Card slot	A slot for inserting SD card
8	Cradle socket	A socket for cradle mounting
9	External camera port	A port for connecting external camera
10	Video out port	A port to connect external monitor for outbound video

Specification

Item	Specication	
Camera	CMOS Image Sensor	
Video	640 x 480 @ 24fps (2Ch.)	
Audio	Internal Mic.	
GPS	Internal GPS Module	
Event	G - sensor(3 - Axis), EMR Button	
Memory	SD Memory (1G ~ 16GB)	
Power	Board	DC 5V
	Power	DC 12V ~ DC24V

SD Card Capacity	Constant + Event Saving time		Event Saving time	
	Front camera	Front + External camer	Front camera	Front+External camera
1GB	75 min.	57 min.	24 min.	12 min.
2GB	150 min.	118 min.	48 min.	24 min.
4GB	300 min.	247 min.	96 min.	48 min.
8GB	600 min.	475 min.	192 min.	96 min.
16GB	1200 min.	800 min.	200 min.	100 min.



If an SD card other than the exclusive one is used, normal operations and video recording cannot be guaranteed

Operation Function

	LED	Voice Guide	One Tone Guide
Power ON	Violet Lighting	Starting the Car DVR	Beep once
Before GPS receiving	Blue Light Blinking	None	None
After GPS Receiving	Blue Lighting	The receiving of user location information is completed	Beep once
Power OFF	Violet Lighting	Ending Sound	Beep Twice
Present Time	Blue Lighting	Ex) 10 p.m - It is 10 p.m	None
Press Internal Emergency Switch Press EXT Emergency Switch G-Sensor Triggered	Red Lighting	None	None
Starting Update	Violet Lighting	It is download mode	Beep once
Finishing Update	Blue Light OFF	Storing is completed	Beep Twice
SD Card Missing	Red Light Blinking	Please insert SD card	Beep 8 times
Front View Camera Disorder	Red Light Blinking	Front view camera is malfunctioning	Beep once, then beep again
Rear View Camera Disorder	Red Light Blinking	Rear view camera is malfunctioning	Beep once, then beep twice
GPS Disorder	Red Light Blinking	GPS is malfunctioning	Beep once, then beep 3 times
G-Sensor Disorder	Red Light Blinking	G-Sensor is malfunctioning	Beep once, then beep 4 times
SD Card Reading Error	Red Light Blinking	SD card cannot be read	Beep 8 times
Rear view Camera Operation Setting Error	Red Lighting	Beep long 8 times	Beep 8 times

Installing Instructions



Install after turning the engine off.

Locate the product where satellite signals are received well.

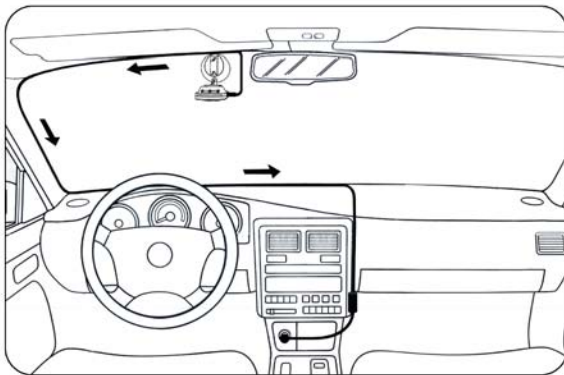
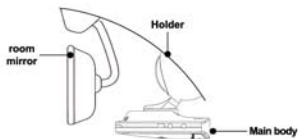
Secure a clear vision for the front camera, where it is not covered by the hood.

Adjust the angle of the body to secure horizontal and vertical positioning.

Install as instructed

Avoid installing the product on a heating line.
It may cause damage to the heating line when demounted.

Remove foreign substances from the attaching
area and dust clearly with a dried cloth before
attaching the product.





Mounted on holder like a drawing to the body.



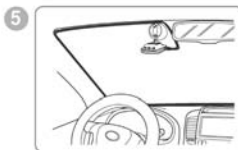
Remove all foreign materials on the window where the product will be attached to.



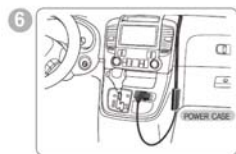
Securely attach the product to the window.



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



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



Connect the power cable plug to the cigarette lighter socket.

Check installation

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



Instructions for safety

Do not install the product or change sound volume while driving, in order to prevent traffic accidents from occurring. Do not use product in dangerous conditions where smoke or a burning smell is detected. In such cases, deactivate the product and contact an agency. Remove dust in the cigar lighter socket periodically, for it may result in a fire hazard. Check frequently whether the product is installed firmly. If the product falls from its place, it may injure passengers or cause damage to the product. (Be sure to read and observe the following instructions)

⚠ We do not guarantee any damage caused by an accident or carelessness. Operate the product properly considering that the user responsible for it.

Before operation

[Preparations]

- 1.If the power cable is connected, after inserting SD card in the body, the violet LED lights.
 - 2.Video recording starts with the "Recording starting." voice guide, in 20 seconds after connecting the power cable.
 - 3.GPS receiving starts with the "Receiving the customer's location information is done." voice guide, after the blue LED lights.
-

[Video Recording and Playing in Driving]

- 1.When the amount of recorded data exceeds the capacity of the SD memory during constant and event recording , the oldest files get overwritten.
Ex) If the event video recording time exceeds the capacity of the SD card, the first file among event video files is overwritten.
- 2.Violet LED lights when the user turns off the engine or disconnects the power cable from the cigarette lighter socket. After the yellow 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.
- 3.Connect the SD card to a PC, using the memory card reader. The user can then play the stored video file with the exclusive program embedded in the SD card.

[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 cards 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.



- If SDHC2.0 is not compatible with the PC, use a separate USB reader that supports SDHC2.0.
- Periodically format the SD card in order to prevent errors and to use it for a long time. (Recommended)
- Configure SD card after formatting, 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.

Functions of each part



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 as GMT+09:00 in PLAYER Setting menu.



UP / DOWN Button

The user can adjust the audio volume for the user's convenience. Pressing the UP (+) button increases the volume, while pressing the DOWN (-) button decreases the volume. Use it for setting each function.



Power Connection Port

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 Lights - The First Power Supplying
- Blue LED Lights - Constant Video Recording
- Red LED Lights - Emergency Video Recording
- RED LED Blinking - Error

[Update Instructions]

Copy the update program to the SD card, then insert the card into the product. Turn ON the product by pressing the emergency recording button (EMR). Violet LED will light (take finger off the button). The update will finish according to the following sequence: Violet LED Blinks, Blue LED Lights, LED OFF. Turning the power OFF and ON is required to use the updated function.



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



External Camera IN / Video OUT.

Connect the rear view camera to the IN port.

The user can watch the video image on the external monitor using OUT port.

[Body and External Camera Setting]

Body Camera Mode: Press the UP(+) button for two seconds - The body camera mode is enabled with one beep sound.

Body and External Camera Mode : Press the UP(+) button for two seconds - The body camera and external camera mode is enabled with two beep sounds.

[Body and External Camera Setting for the External Monitor]

Body Camera Mode : Press the DOWN(-) button for two seconds - The body camera mode is enabled with one beep sound.

External Camera Mode: Press the DOWN(-) button for two seconds - The external body camera mode is enabled with two beep sounds.

Using Player

[Minimum Specification for Running Player]

	Min. Spec
CPU	Pentium 4 / 1GHz
Memory	512 MB RAM
OS	Microsoft Windows XP Home Edition
Graphic	DirectX8.1b
HDD	At least 200MB



In the case of Microsoft Windows Vista, run Player in Computer Administrator Mode at least once.

[Explanation of Player]

Connect SD card with PC using memory card reader.










Select the removable disk that is recognized as SD memory.

Double click **PC-VIEWER.exe**, then the screen below will appear on the monitor screen.



No.	Description
1	File list
2	G-sensor Impulse Graph
3	Velocity of Automobile
4	Display latitude and Longitude
5	Play Speed Control
6	Sound Volume Control
7	Internal Camera Display
8	External Camera Display

[Player Buttons]

No.	Sign.	Description.
1		Display the location of the playing image on the map
2		Print the playing image (The image on pressing the button is printed)
3		Save the playing image as picture file (Pause and then save the image)
4		Save the playing video image in the computer
5		Display the Player version
6		Environment Configuration of the Black Box product
7		Delete the entire file list on PLAY LIST
8		Select playable video image file
9		List up the entire playable video images on Play List, by selecting the folder containing the files

 1, 2, 3, and 4 buttons work only while video image playing

Video image is played at the original size

[Video Image Playing Window]



[Video Image Playing Window at the original size (640X480)]



Map Display Function



No.	Name.	Description.
1	Map View Button	Display the location of playing video images on the map image
2	Satellite View Button	Display the location of playing video images on the satellite images
3	Hybrid View Button	Display the location of playing video images on the map and satellite images together
4	+	Zoom in to current location
5	-	Zoom out to current location

Environment configuration and save viewer

[Preferences]

Viewer Setting [X]

1 G-Sensor Control

2 Time Zone Setting

3 Password Setting

4 Number of Vehicle

5 Save

6 Exit

Slider: 둔감 1 2 3 4 민감

Time Zone: GMT + 09:00 [v]

Use Password: ☐

Number of Vehicle:

No.	Name.	Description.
1	G-Sensor Control	Set the sensitivity of the G-Sensor.
2	Time Zone Setting	Set the time for the user. ※ GMT + 09:00 for Korea
3	Password Setting	Set the password for stored data
4	Number of Vehicle	Set the Vehicle Identification Number
5	Save	Save the changed configuration
6	Exit	Do not save the changed configuration

[Image file and Picture Saving]



No.	Name.	Description.
1	Save Directory	Display the image file and picture saving folder
2	Capture/Record Screen	Select and save the Internal and external camera video image
3	Select Directory	Change and select the saving folder
4	Capture/Save	Save the changed configuration
5	Exit	Do not save the changed configuration

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 occurred.

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 warranty does cover expenses for inspecting and repairing the Product due to the damage from negligence, electric power problems, and natural disasters like thunderbolt.

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

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)

