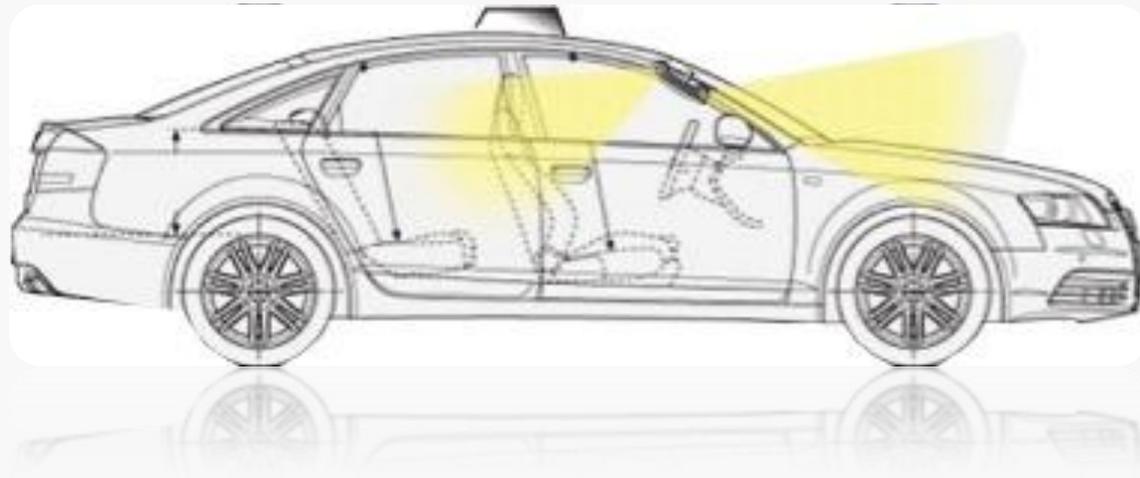


USER'S MANUAL

(SDR-5000WF)



VER 2.0

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1. Introduction and features of product

This product is a product to help to analyze causes of accident by storing front direction images/rear direction images/voices in inside of the car at the time of car accident or occurrence of impact with Black Box product for vehicle to store images and voices in front and rear direction.

Features

- If external camera or rear camera is connected, it stores in 2 channels in front and rear directions. Now you can store accident of rear side.
- You can record desired screen at your own option with 360-degree-revolving stand.
- You can store not only anytime store, event store and forced store but also record even during parking in order to strengthen security function.

Functions

- Store at all times: Images in front and rear directions are continuously recorded as long as electric power is inputted.
- Event store: If you have a sense of shock set, or when you click the Save button on the video that three minutes later, this event will go to the folder.
- Store to monitor parking: Always connect the power before and after the operation is detected automatically each 15 seconds (30 seconds) is recorded.
Parking mode after 5 days after the power is Off.
Regular supply of vehicles is less than the 10.5V power is Off
- Backup store: Last file can be recorded by internal backup function even though electric power is disconnected.
- Image output: Images are shown in real time during installation and operation by VIDEO OUT function
- Play images: Images can be played on navigation with moving picture function.
(But, some navigation may not be compatible.)
- Exclusive viewer: Amount of impact, speed, location, etc. at the time of accident can be analyzed through exclusive viewer in computer.
And they can be viewed in the general image replay program through conversion mode.
- Drive record store: Date/time/driving distance during driving are recorded, driven route can be traced through viewer.

2. Cautions in use

Cautions for safety are to prevent accidents or risks in advance using product safely and correctly and must be observed. We are not responsible for any problem occurred if it is used in violation of those written in user manual.

Warning : Violation of instructions may cause serious injuries or death.

If this product is wet by water, do not put it in the heating instrument (Stove, electronic range, etc.) to dry it. It may cause explosion or deformation or fault. In this case free service may not be provided.

Do not use chemical detergent (Benzene, thinner, alcohol, etc.) to clean this product. It may cause fire.

Do not disassemble at your own, and do not apply impact on it.
If this product is damaged due to disassemble or impact then free service may not be provided.

※ **Connect the option camera straight after you unplug the power cable to connect your console please.**

Cautions: Violation of instructions may cause light injury or damage to product.

Install It correctly according to user manual.

It may cause not to work or erroneous operation, if it blocks the sight of driver, it may cause accident.

Caution against reflection objects such as navigation or high pass, etc.

Screen is reflected from glass of vehicle and it interferes to input images. In this case quality of image may be degraded.

When It Is Installed, stick It strongly with both side tapes.

If not, the position may be changed due to long time use or vibration of vehicle, in this case the performance may be degraded.

The glass of vehicle in front of lens shall be always maintained clean.

If images are not imputed correctly due to foreign materials, etc., normal driving images may not be recorded.

Restrain to install and manipulate the product during driving.

Manipulation of product during driving of car may cause accident, therefore manipulation may be conducted only after parking vehicle at safety place if required.

Be careful to use SD card.

Not-guaranteed SD card may not be normally recorded. And insert or take out SD card only after stopped engine.

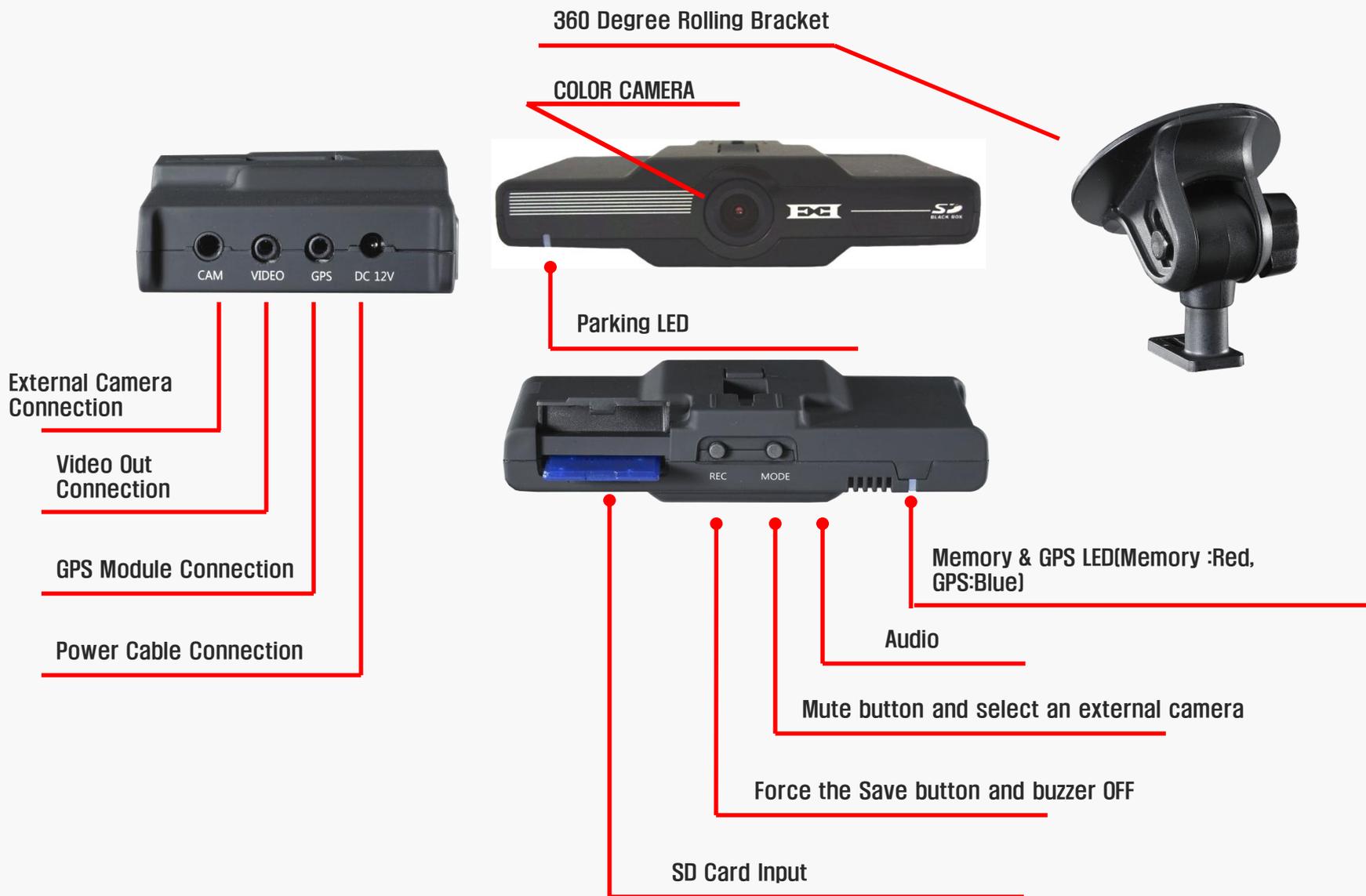
3. Name and function of each part

Button	Operations	Status	LED Display	Buzz Tones
-	Apply power	Bootling completion after starting	Blue and red LEDs are lit for 2 seconds.	Pee~ long tone
-	Update	After completion of update through SD card, re-operate with REC button.	Blue and Red LED at the end of a succession of alternately flashing Blue and Red LED lit Stay	Short Pee Pee –at the time of starting. Short Pee Pee –at the time of end.
-	Cigar Jack's power off	After power goes off, set power goes off after store images for 2 seconds using backup battery	-	-
-	GPS input	GPS operation	GREEN LED blinks.	-
REC Button	Press the REC button briefly	Save a force event start (3 min) video go to the Events folder	During the Red LED fast flash storage (GREEN LED flashes when connected to GPS)	A short beep at the beginning of storage Later after a short beep (1)
	Press and hold the REC button for 3 seconds <->	Buzzer OFF	-	Switching, a short beep
MODE Button	Press and hold MODE button for 3 seconds <->	Mute	Red LED (GPS connection GREEN LED) very slowly (3 seconds) flashes.	Switching, a short beep
	Press shortly the MODE button 3 times <->	Optional camera VIDEO OUT	-	Switching, a short beep

Note. After completing the update, please be sure that the REC button. Otherwise, the update does not.

Mode	Operations	Status	Buzz Tones	LED Display
Always mode	ACC Power ON	Cigar jack power cable available	Blue LED off, Red LED ON	Switching, a short beep
Parking Mode	ACC power OFF	FUSE 3-pole cable connecting Apply (Cigar jack for the power cable can not be used)	Blue LED ON, Red LED off	Switching, a short beep

3-1. Name and Function of SDR-5000WF



3-2 UPGRADE

1. Firmware upgrade file is copied to the SD card.
2. The file name is app.bin, SD card must be placed in the top-level folder.
3. Above the set turned off, insert the SD card.
4. Is the power to set. The upgrade is performed automatically.
5. Upgrade to ring the buzzer beep sound starts during the upgrade process that turns RED and BLUE LED will be lit.

Buzzer sounds a short beep sounds, the upgrade will be closed.

RED and BLUE LED maintains a lit.

6. Upgrade to the end, then, REC button to upgrade the software to re-work.
Remove and put the power to re-work.

Note. When power is turned OFF during the upgrade does not work, you can set.

4. Components

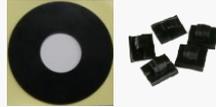
B
A
S
I
C



Body



Cigar Jack



Adhesion Tape



Manual

O
P
T
I
O
N



External Camera



GPS Module



Video Cable



Add' Camera Cable



Card Reader

The components can change among the supply and demand at discretion

5. Installation

Cautions

- ◆ Installation shall be conducted on flat place under the condition of engine of vehicle stopped.

Parts required for installation are packed in the box of product, check and learn how to install them and then install them in accordance with designated sequence.

- ◆ Be careful not to install it on the places to interfere driver' s sight.
- ◆ If cables are hidden then it looks beautiful and clean and safety is higher.
- ◆ Glass in front of installation shall be maintained cleanly.

5-1. Installation for vehicle

1



After selecting place of installation, glass in front of installation shall be well cleaned.

2



Remove skin of sticky tape of the stand.

3



Attach it on the desired place.

4



Connect external camera, GPS module, VIDEO OUT cable.

5



Connect cigar cable to DC port.

6



Connect electric power and arrange cables hidden.

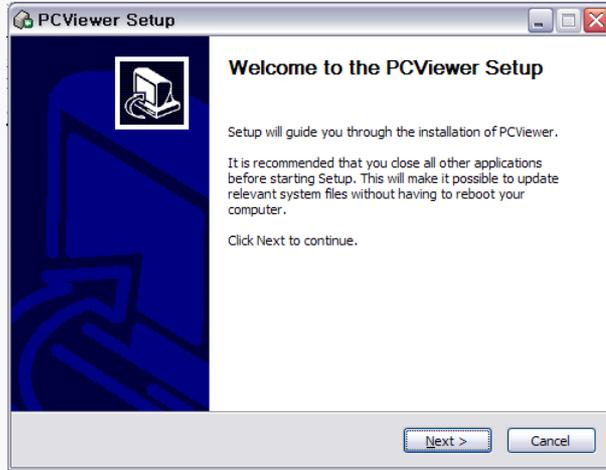
7



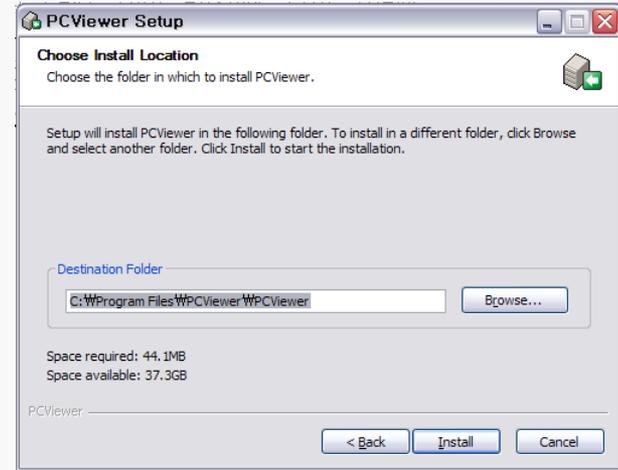
Check whether it works normally through LED and buzzer tone. It is more convenient to install it watching screen.

6. Installation of Viewer

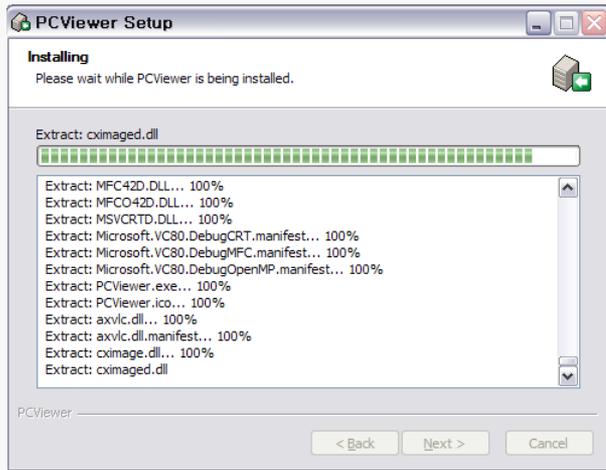
If it push as below, the installing finish after play the Black Box viewer (PCViewer.exe)



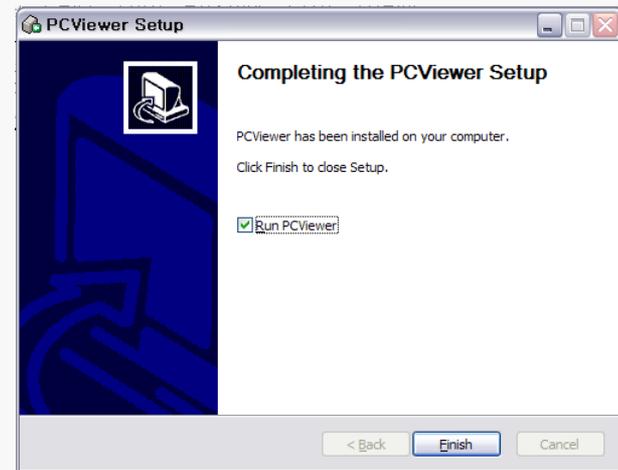
1



3



2



4

7. Execution and Removal of Viewer

1. Select of basic monitor of window or start menu for window ,
Confirm with installed the “PCViewer” as below;
1. Practice of “PCViewer”
2. If the “Remove PCViewer” push and then viewer remove



[Basic monitor
Contracted Icon]



[Viewing of start program
reserved]

8. Description of Viewer Main Screen

1. Description for viewer parts

The screenshot shows a software interface for a vehicle viewer. It features two main video feeds at the top: a 'Front Viewer' on the left and a 'Rear Viewer' on the right. Below the videos is a control panel with a play/pause button, a progress bar, and playback controls. A speedometer is positioned in the center, showing a speed of 7 km/h. To the left of the speedometer is a 'Speed/Acceleration Graph' with a y-axis from -2.0G to 2.0G and a blue line graph. To the right is a 'File List' table with columns for NO., DATE, TIME, TYPE, and FILE NAME. The bottom of the screen has a navigation bar with icons for Preferences, Speedometer, and File Control. A yellow dashed box highlights the bottom navigation bar, and a blue dashed box highlights the speedometer and graph area.

Front Viewer

Rear Viewer

Play Control

Speed/Acceleration Graph

File Time/Max.Impulse /Latitude/Longitude

NO.	DATE	TIME	TYPE	FILE NAME
001	2009-12-03	08:47:42	Always	C:\W\Documer

File List

Speedometer

Preferences

File Control

9. Description of viewer button 1

1. Program version information 
It displays program version information and copyright information
2. Minimizing button 
It minimizes viewer with taskbar
3. End of viewer 
It ends viewer
4. Pause of play 
It pause files in playing
5. Play 
It starts to play the file selected in the list
6. Stop to play 
It stops the file under playing

9-1. Description of viewer button 2

7. **Map screen capture** 

It stores map screen domain into bmp file
8. **Image capture** 

It stores specific screen of front and rear images in playing into jpg file
9. **Print of image screen** 

It prints out specific screen of front and rear images in playing on printer
10. **Moving at multiple speeds** 

It can adjust playing speed in 1/8, 1/4, 1/2, 1, 2, 4, 8 times speed
11. **Volume control** 

It controls volume ranging 0~10
12. **Acceleration and speed graph** 

It shows acceleration and speed graph respectively with toggled button

9-2. Description of viewer button 3

13. Video mode/driving record mode



With toggling button, it shows image or information for driving records respectively

14. Setting file password



It sets password of recording file. It can set after connecting SD card to computer

15. Store after removing password of file



Store it after removing password of file which was set

Password shall be remembered then the password can be removed

16. Setting viewer environment



Set environment of viewer and then store

17. Setting environment of black box



Set environment of black box and then store in SD. It can set after connecting SD card to computer

18. Viewing map screen



It shows on map the location of image being presently played

9-3. Description of viewer button 4

19. Opening file 

Select image file. Multiple files can be selected with mouse with shift key or control key pressed

20. Search in details 

It is used to select certain files of specific date

21. Download of SD data 

It downloads data stored in SD to computer

22. Delete list items 

Delete selected items in the list. However, actual data is not deleted from store unit

23. Delete all list items 

It deletes all items in the list. Actual data is not deleted from store unit

10. Setting file password

- ◆ Purpose of encoding file : Recoded images are encoded in order for other persons not to watch the images, if images once encoded then those encoded images can not be seen with general image players, however, it can be replayed with exclusive player.



◆ Password setting sequence of black box file

1. Take out SD card from black box device and connect it to computer

2. Select button on  main screen of viewer

It takes from a few seconds to about 1 minute to search SD card according to computer. The screen shown as in the side indicates to recognize SD card normally

3. Password setting store folder is a folder to set automatically, input the same password at password blank and password confirmation blank. Password shall be inputted 4~6 digits with combination of English alphabet and figures

11. Setting viewer condition

- ◆ **Setting viewer environment:** If environment of viewer itself is set and stored, then it can be replayed to meet personal requirements

Each item of following viewer environment setting diagram is described

Setup Viewer

Data Download Folder: C:\#BlackBox\#SD

Screen Capture Folder: C:\#BlackBox\#CAPTURE

Password Decryption Folder: C:\#BlackBox\#DECRYPTION

Language: ENGLISH

Setup Map Display

Mark Route: Off On

Display Interval: 3 Seconds

1. Select --button on  viewer main screen
2. **Folder to be downloaded SD data :** It designates in which folder in the computer shall be stored the data in SD card
3. **Screen capture folder :** It designates folder to store image screen or map screen
4. **Store folder after decoding password :** Folder to store is designated after decoding the encoded file
5. **Selections of language :** Select language to use among multi-languages (Korean, English, Japanese)
6. **Display moving route :** Select to display driving route on the map by marking
7. **Interval to display route :** Designate interval to display driving route on the map

12. Setting black box condition

- ◆ **Setting black box environment** : Set and manage in viewer those which are difficult to set in black box itself

Setup BlackBox

Driver:

License Number:

Setup Impact

Fast Setup Manual Setup

X: Y: Z:

Recording Frame Rate:

File Encryption: Off On

Mute Function: Off On

Buzzer Sound: Off On

Set BlackBox Time:

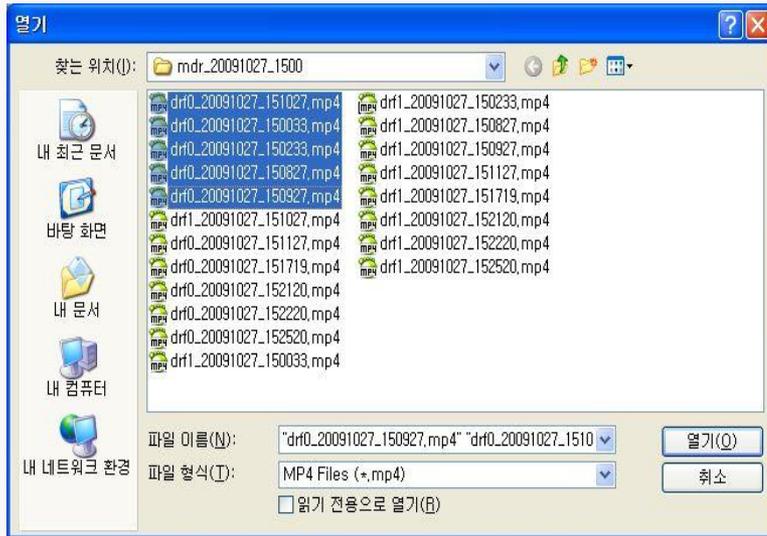
Time Zone:

1. Take out SD card in the black box device and connect it to computer
2. Select button on  main screen of viewer
3. **Driver/car number** : It is very useful function in management when using separate SD card for each driver
4. **Setting amount of Impact** : Designate the strength to record event when impact occurred
 - 4.1 **Quick setting** : Select among normal/dull/sensitive
 - 4.2 **Manual setting** : Select X, Y, Z values between 0.0~2.0

The value is the bigger the duller, and is the smaller the less sensitive
5. **Recording frame** : It designates to store how many frames per second. The bigger of the size of frame is the better picture quality, however, the capacity is big therefore number of files to be stored in SD becomes smaller
6. **Setting file password** : Select whether to use password for the file. The value set by password setting button becomes password, and if you forget the password then you can not play the file
5. **Use of mute** : Select mute (Switch off sound) function

13. Open and play of file

- ◆ **Open and play files:** If black box files are opened in specific folder, they go automatically into file list and start automatically to play. If you want to play specific file, select file in file list and then select play button



1. Take out SD card in the black box device and connect it to computer

2. Select --button on  main screen of viewer

3. SD After selection of “drive” in SD card, select one of following folders, and then select a file as shown on left picture.
If you want to select multiple files, select them with mouse with control key or shift key pressed

3.1 Black Box Folder : The folder containing files stored at all times

3.2 Event Folder : The folder to be stored when impact occurred

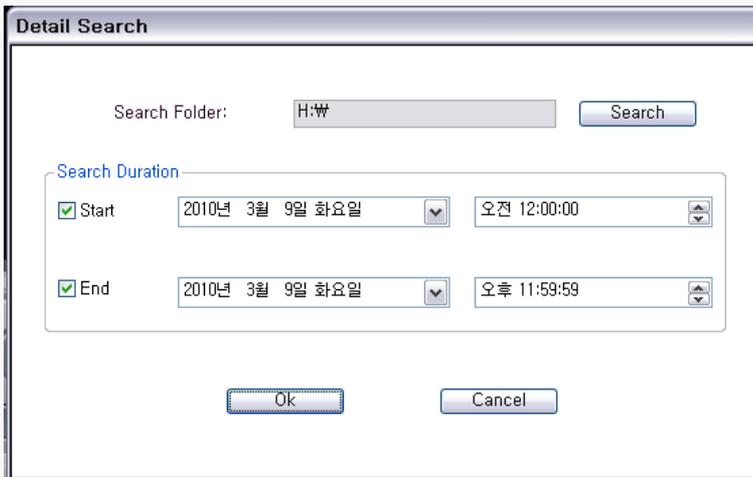
3.3 Parking Folder : The folder to be stored when parked

4. Select specific file in the list and then

select ---  button

14. Search and play according to dates

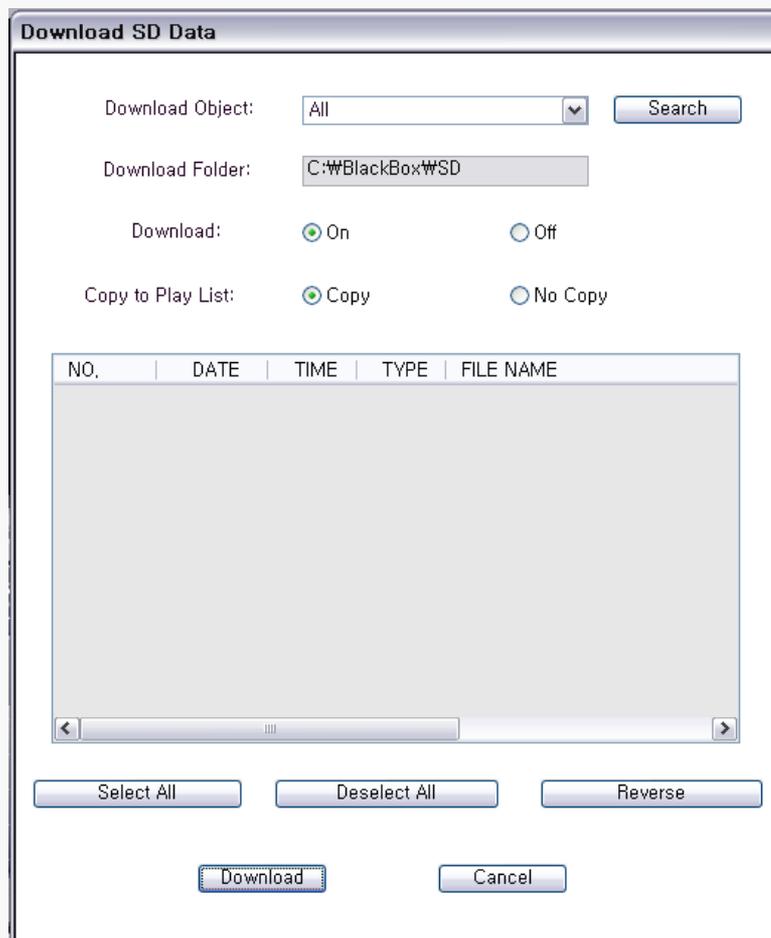
- ◆ **Search per date and play :** If specific date is designated, files in the designated date are searched and inputted into file list and are started to play



1. Take out SD card in the black box device and connect it to computer
2. Select  button on main screen of viewer
3. On the left picture, drive inputted in the SD card is automatically selected. If you want to designate other folder, select it by pressing “Search” button
4. Set search period
5. If OK button is pressed then files within the set period are searched and inputted automatically into file list and then started to play
6. After selection of desired items in the file list, select  button

15. Download SD data

- ◆ **Download SD data:** Download data stored in SD inserted in black box device into specific folder of computer and then keep it



1. Take out SD card in the black box device and then connect it to computer
2. If  button is selected on main screen of viewer, all black box data stored in SD are searched and shown as shown in left picture
3. **Download target :** Select target to download and then press “Search” button then it searches the target and input it into list
4. **Download location :** it stores in “SD data download location” designated in “Setting viewer environment” .
5. **Move to play list:** After download files presently searched, select whether to input into play list of main screen
6. **Download :** It starts to copy data in the file list into designated folder.

16. Viewing driving records

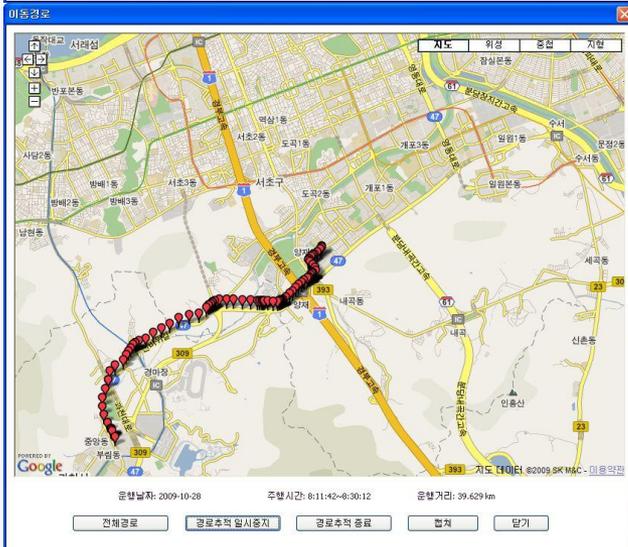
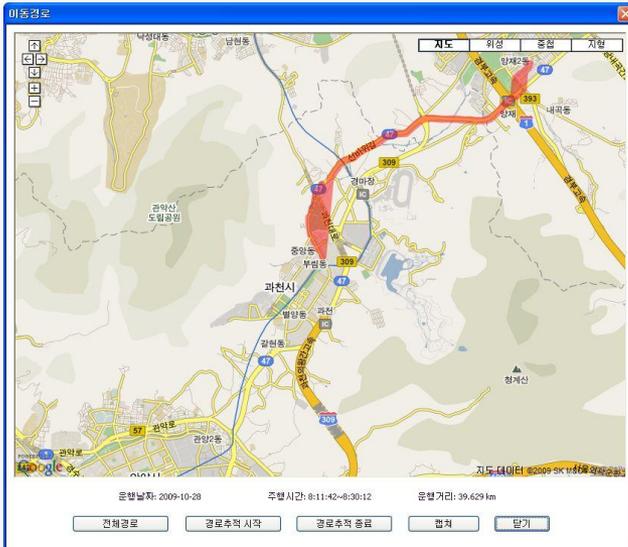
- ◆ **Viewing driving record** : You can see information of driven records for maximum one month, and they are arranged according to dates and inputted automatically into drive record list



1. Take out SD card in the black box device and then connect it to computer
2. Select ---  button in the main screen of viewer, then it is changed into drive record mode, button is toggled with ---  button
3. As shown in left picture: Press “Drive record file open” button, select extension “dat” files in setup folder of SD card, they are arranged by dates and inputted into drive record list
4. After selection of “View map screen” button, if specific item in “Drive record list” is selected, location of drive start point is indicated on the map as shown on left picture. However, if GPS is not received then the location cannot be normally indicated.
5. Select “View of drive move route” button. This function will be described in next page

17. Viewing driving route

- ◆ Viewing driven moved route: Driven moved route can be shown on map per each date. Overall route can be displayed with line at a time, moved route can be shown tracing route



1. **Overall route:** If “Driven moved route view” button is selected on this screen, as shown on left upper picture, overall route moved during the day is shown on the map with a line
2. **Start to trace route:** If this button is tapped, as shown on left lower picture, it continuously moves marking driven route
3. **Pause to trace route:** If this button is tapped during tracing route, tracing is paused for a short time
4. **End to trace route:** It ends to trace route.
5. **Capture:** The map shown at present time is stored on computer
6. **Close:** Close moved route screen and moves to main screen.

18. Specification

- ◆ Power : DC12V ~ DC24V
- ◆ Power Consumption : Max. 4W
- ◆ Camera : Color C-MOS Camera, 110 Degree
- ◆ Recording Frame : 10,16,24,30/Sec
- ◆ Memory Pixel : 640 x 480 Pixel
- ◆ Audio : Included Mic
- ◆ Rec. Memory Card : From SDHC 2 GB to 32GB
- ◆ Size : 102 x 53 x 29 mm
- ◆ Operating Temperature : -20°C ~ 70°C
- ◆ Custody Temperature : -40°C ~ 85°C
- ◆ Viewer OS : Windows XP / Windows Vista
- ◆ Viewer Monitor : More than 960 x 820

※ product external appearance and specification etc. can be changed without previous notice for product improvement.

19. Warranty

Warranty			
Description		Model	
Buying Date		Serial No	
Buying Agent		Insurance Period	

Warranty Service

- Manufacture guarantees warranty service for our manufactured products according to consumer compensation regulations.
- Warranty service shall be provide by manufacture or designated partners on user's request for warranty service for this product.
- Compensation notice shall be made within 7 office days after the registration of the request and the compensation process will finish within 14 office days.
- Warranty period for this product is 2 years after the purchase date.

Free after service

- Free A/S is provided in case of defects in the product itself within 1 year after purchase date(Warranty period).
In the case of an unknown purchase date on the warranty service document, warranty period will be 1 month in addition to the production date according to the serial number of the manufacture date on the box of the product.