

SMARTY

DRIVE RECORDER

Drive Partner for your Safety

Installation --- Programming + Viewing User Guide Manual

VER 2.0.1
2nd Edition



- Thank you for purchasing the **SMARTY** Drive Recorder + GPS.
- Please ensure that you read and understand this USER GUIDE before connecting and installing this Recorder.
- Please store this MANUAL in an easily accessible location.

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SAFETY ADVICE



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

Please make sure you follow the safety advice/instructions given in the user guide.

Caution

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

Battery for RTC (Real Time Clock) inside

Caution

**Connect your vehicle's power cable (cigarette jack)
to the product after starting the vehicle.**

The instant over voltage generated when starting up the vehicle may damage the product if it is already connected.

Caution

**Install the product where it does not block driver's visibility
and where there is no airbag installed.** This could cause an
accident or might injure the passengers in case of accident.

Caution

Damages due to production malfunction, loss of data, or other damages occurring while using this product shall not be the responsibility of the manufacturer. Although the product is a device used for recording videos, the product may not save all videos in the case of a malfunction. In the case of an accident, the sensor may not recognize the shock when the impact is light and as a result it may not begin recording automatically.

WARNING:

**TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE
THIS APPLIANCE TO RAIN OR MOISTURE.**

GPS Reception

1. Activate the product in an area without large buildings to improve GPS reception.

The commercial purpose GPS has the average range error of more than (50') 15 meters and the range error could be more than (300') 100 meters due to environmental conditions such as buildings, roadside trees, severe weather, etc.

2. The temperature range for optimum operation of the GPS receiver in your car is (14--122F) -10 ~ 50°C.

3. When using the product for the first time or after a long period (more than three days), it may take a little longer to recognize your current location.

*It may take between five and thirty minutes to get GPS reception.

GPS reception may be impaired under the following circumstances.

- 1) If there is an object at the end of the GPS antenna
- 2) If your vehicle has metallic elements on the windshields
- 3) If equipment generating electromagnetic waves that interfere with the GPS signal is installed in the vehicle e.g.: Other GPS devices such as a certain type of wireless activated alarms, MP3 and CD players and camera alarms using GPS.
- 4) If you are using a receiver connected by cable, electric interference can be avoided by simply changing the location of the receiver (antenna).
- 5) On heavily overcast or cloudy days, if the vehicle is in a covered location such as under a bridge or raised roadway, in a tunnel, an underground roadway or parking area, inside a building or surrounded by high-rise buildings.
- 6) If GPS signal reception is poor, it may take longer to locate your current position when the vehicle is moving than when it is stationary.

CONTENTS

You should have a set of the following items for each **SMARTY** order.

1. **SMARTY** Drive Recorder



2. 2GB SD memory card
(The PC software is on the provided SD card)



3. power cable (cigarette jack)



4. Adhesive wire clips(5pcs)

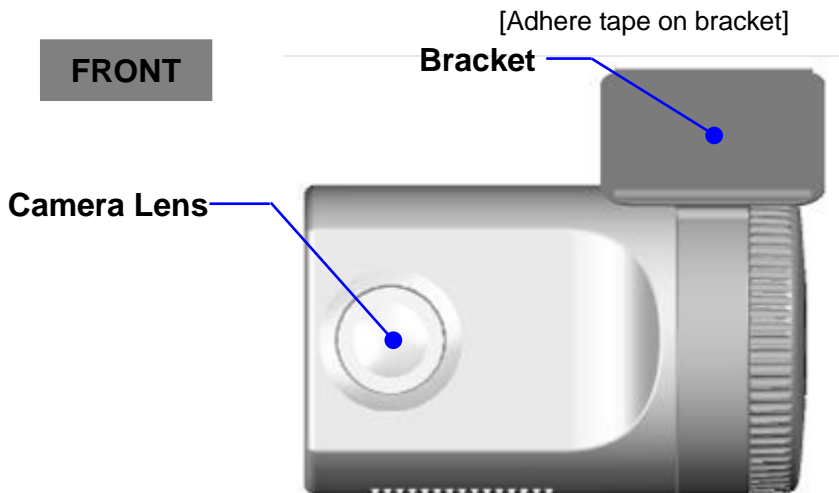


5. 3M adhesive for windshield mounting
(double sided tape 1pc)

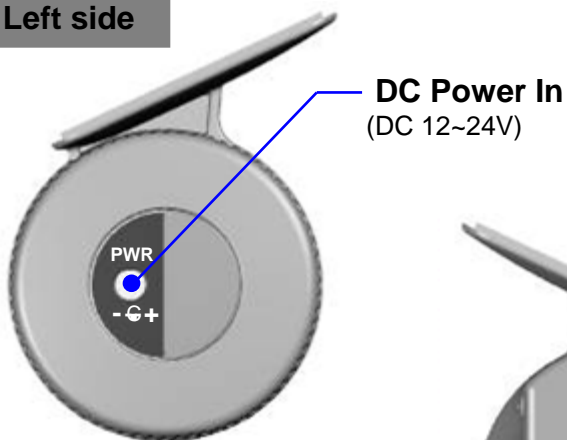


INTRODUCTION

FRONT

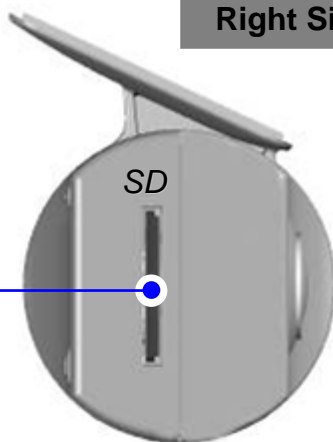


Left side



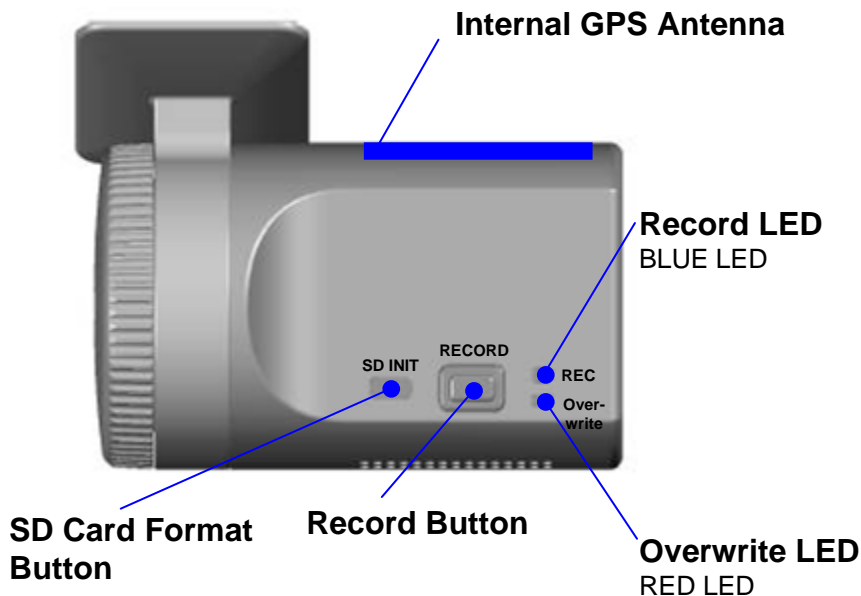
Right Side

SD Memory Card Slot



INTRODUCTION

BACK



Note: Formatting [initializing] SD memory card can be done using SD INIT button. However we recommend formatting the SD card using the PC Viewer software at the PC.



INSTALLATION

Park your vehicle on a flat level surface.

Turn engine off before installing the **SMARTY** Drive Recorder

- 1. Insert the SD memory card into the SD card slot.
Please make sure to disconnect the power cable when inserting or ejecting the SD memory card.**
- 2. Attach the Drive Recorder using the provided double sided tape. The surface must be clean and dry before you install. We recommended to install the product behind the rear view mirror on the front windshield.**



[Attachment notes] Adhesive tape will not stick well with dust or oil, etc. Warm temperatures are best (above 30 degrees centigrade) when applying tape.



INSTALLATION

- 3. Adjust camera view. Make sure the lens has an unobstructed view. Check from outside the vehicle to check the camera angle.**



Arrange the power cord neatly alongside of the windshield and door pillar trim. Use the provided wire splice clips as seen in the picture on left.

- 4. Drive Recorder unit requires a continuous 12~24volt power source from the vehicle. Plug in the power. The provided power cord cable route should be from the left side of the Drive Recorder towards your power source.**




Caution

When the impact is light, such as a minor bump in the road, the G-sensor may not recognize the impact and as a result it may not begin recording automatically. Test and set your own G-sensor level for your vehicle (see page 27).

FUNCTION

Automatic start

Connect your vehicle's power cord to the Drive Recorder after starting the vehicle. The Drive Recorder will automatically power up. (Use the provided power cord.)

 **Notice** : The unit will not start recording immediately after power on. It takes up to 1 minute for the built-in power backup system to charge. Thereafter, the internal flash memory will be ready to record.

Event record (when Record Method set as “Event record”)

The event recording will be automatically started by G-sensor. G-sensor sensitivity can be set in the “Settings” section of the PC Viewer. Each event file contains 15 seconds prior & 5 seconds post event (adjustable).

Manual record (when Record Method set as “Event record”)


Press the [RECORD] button to begin recording manually. Each manual file contains 15 seconds prior to activation & 5 seconds post activation.

Continuous record (when Record Method set as “Normal record”)

The continuous recording will automatically start after the unit powers on. Drive Recorder doesn't make a separate event file during the continuous recording but It will mark the Event area by G-sensor or Record button in the video file, which can be easily searched for during playback.

SD Memory Card Format

Remove the power first. Press the [SD INIT] button and hold. Then connect the power for initialization. Once complete, all video & log files will be deleted and the configurations will default to the factory settings.

 **Note** : PC Viewer software is pre-loaded on the SD card. Please ensure you have installed the software to your PC before you format the card.

Built-in power backup (Super Capacitor)

When power to the unit is interrupted, Drive Recorder the last file using the internal Super Capacitor.

BLUE LED (RECORD)

The blue LED means the power is on. The blue LED flashes during recording.

RED LED (OVERWRITE)

The red LED will be turned on when files are being overwritten.

Buzzer

“Beep” sound will occur when recording starts (this can be turned off in the settings menu on the PC viewer, if required). This also signals any system error.

OPERATION

When Record Method is set as “Event record”

1. Connect your vehicle’s power cable to the Drive Recorder after starting the vehicle.
2. Blue LED & Red LED will be slowly blinking simultaneously and then Blue LED will remain on. Blue LED light means Drive Recorder is now ready for the event recording.
3. The event recording will automatically begin by G-sensor with one short “Beep” sound.
4. The manual recording will start by pressing the [RECORD] button.

Note: Multiple impacts coverage (i.e. in the case of a vehicle rollover) Flash memory captures the video data from the second impact even as the first impact is still occurring. It will start writing immediately after the first recording is finished.

When Record Method set as “Normal record”

1. Connect your vehicle’s power cable to the Drive Recorder after starting the vehicle.
2. Blue LED & Red LED will be slowly blinking simultaneously and then the Blue LED will remain on and flash every 5seconds.
3. Blue LED light flashing every 5 seconds means Drive Recorder is now recording continuously.
4. The continuous recording (normal recording) will automatically begin just after power on.
5. The manual recording that started by pressing the [RECORD] button or the event recording by G-sensor make a event making in the continuous recording file.

Taking out the SD memory card

Turn off the power and then check the BLUE LED light. Once the LED light is off, it is safe to take out the SD memory card.

Inserting the SD memory card

Turn off the power and then check the BLUE LED light. Once the LED light is off, insert the SD memory card.

System Error Buzzer

“Beep” “Beep” sound will occur and the BLUE & RED LED light will blink simultaneously when there is a system error or SD card is not inserted. [Check the SD memory card when this occurs. To solve the problem, initialize the SD card or replace the SD card.]

Drive Recorder PC Viewer Guide



[PC SYSTEM REQUIREMENT]

Recommended PC specifications for PC Viewer software

OS	Windows 2000, Windows XP Windows Vista, Windows 7
CPU	Pentium4 2.6GHz or higher
RAM	512MB or higher
Interface	SD Memory Card Reader
HDD Free space	Install 20MB or higher Backup 2GB or higher
Display	1,024 x 768 pixel/High Color(16bit) or higher

If the PC does not meet the minimum system requirement, the PC Viewer may not function properly.

INSTALLING PROCEDURES

PC Viewer software is on the provided SD card.

1. Connect the SD card into your PC (if your computer does not have and SD card slot use the USB SD card reader) and open the “My Computer”
2. Right-click the “DRIVEREC1” drive and select [Open]
3. Double click [SETUP.EXE] at [pcsw] folder.
4. Select the language and then follow the dialog box.



5. The “PCViewer” icon will be displayed on your desktop.



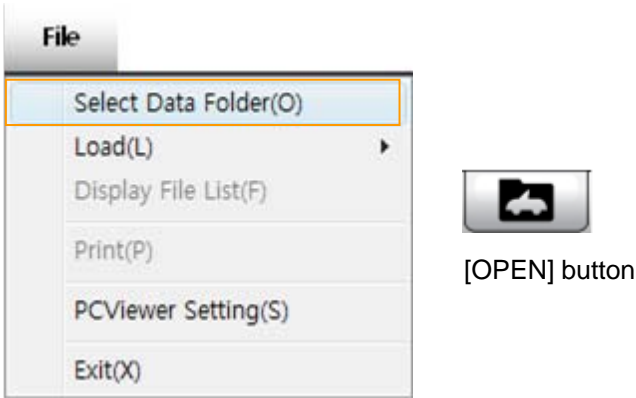
※ NOTE: To Un-install the “PC Viewer”

Open the “Control Panel”

Select [Remove Program] and remove [PC Viewer Drive Recorder]

Connect SD memory card

1. Connect SD memory card into the SD card reader.
2. Run “PC Viewer Drive Recorder”
3. Select [File] and then click “Select Data Folder” or Click [OPEN] button



4. Select SD memory card folder at the folder select window.

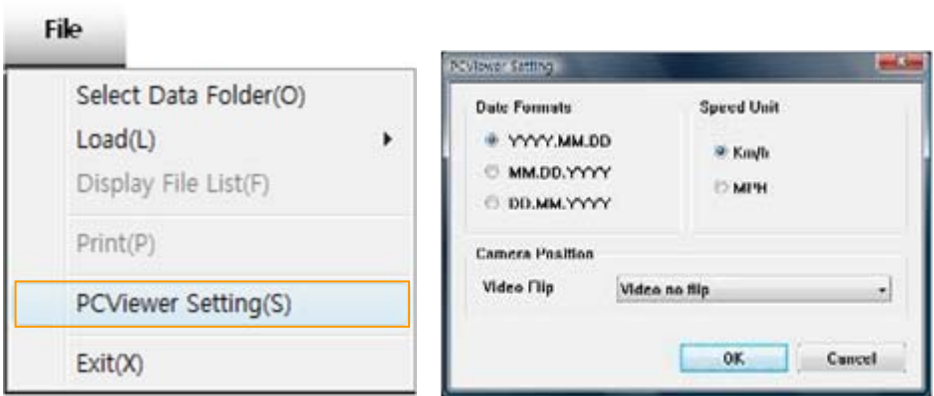


or



PC Viewer Setting

This setting is for the PC Viewer itself.
To set the Drive Recorder , refer to page 25.



The 'date' formats and 'speed' unit will be set automatically according to the PC Windows setting. However it can be changed with this PC viewer setting menu.



Normal Video



Left/right flip



Up/down flip

Select file for playback

When Record Method set as “Event record”

Check the event

No.	EVENT File	Type
<input type="checkbox"/> 5	2009.01.07 06:46:00	G-Sensor
<input type="checkbox"/> 6	2009.01.07 06:46:34	G-Sensor
<input type="checkbox"/> 6	2009.01.07 22:51:57	G-Sensor
<input type="checkbox"/> 7	2009.01.07 06:48:07	G-Sensor
<input type="checkbox"/> 10	2009.01.07 22:44:17	G-Sensor
<input type="checkbox"/> 11	2009.01.07 22:45:10	Switch
<input type="checkbox"/> 12	2009.01.07 22:46:48	Switch
<input type="checkbox"/> 13	2009.01.07 22:48:09	Switch
<input type="checkbox"/> 14	2009.01.07 22:50:18	Switch
<input type="checkbox"/> 15	2009.01.07 22:51:11	G-Sensor

“G-Sensor” means recording was activated by impact

“Switch” means recording was activated by “Record” button

Check all files Button

All

Load

Load Button

When Record Method set as “Normal record”

Check the file

No.	NORMAL File	Duration
<input type="checkbox"/> 2	2009.07.13 13:10:00	10 Min
<input type="checkbox"/> 3	2009.07.13 13:20:00	10 Min
<input type="checkbox"/> 4	2009.07.13 13:30:00	10 Min
<input type="checkbox"/> 5	2009.07.13 13:40:00	4 Min
<input type="checkbox"/> 6	2009.07.14 20:02:38	4 Min
<input type="checkbox"/> 7	2009.07.14 20:07:56	2 Min
<input type="checkbox"/> 8	2009.07.14 20:10:00	10 Min
<input type="checkbox"/> 9	2009.07.14 20:20:00	10 Min
<input type="checkbox"/> 10	2009.07.14 20:30:00	10 Min
<input type="checkbox"/> 11	2009.07.14 20:40:00	10 Min
<input type="checkbox"/> 12	2009.07.14 20:50:00	10 Min
<input type="checkbox"/> 13	2009.07.14 21:00:00	22 Sec
<input type="checkbox"/> 14	2009.07.14 21:14:41	5 Min
<input type="checkbox"/> 15	2009.07.14 21:20:00	2 Min

Recording duration;

Check all files Button

All

Load

Load Button

5. Check the event or normal recorded file from the list using mouse or click [All] button. Then click [Load] button.

File Loading

6. Once you click [Load] button, the [FileList] tab will be changed to the [PlayList] tab as below

When Record Method set as “Event record”

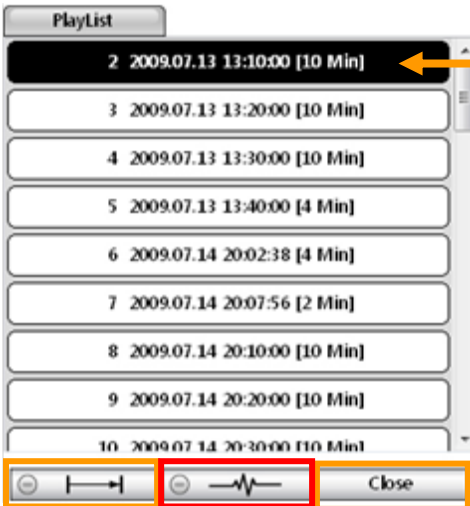


Current file being played

Check here for continuous playback

Return to the [FileList]

When Record Method set as “Normal record”



Current file being played

Check here for continuous playback

Return to the [FileList]

Event data search in the playback file

PLAYBACK SCREEN

When Record Method set as "Event record"

The screenshot shows the Drive Recorder interface in 'Event record' mode. The main video window displays a street scene with a building and a road. A 'PlayList' on the right lists frames with timestamps and 'Switch' buttons. A 'Frame size' callout points to '34 KB' in the bottom left. A 'Frame size' callout points to '631 / 631' in the bottom right. A callout '[POST]: post-recorded frame [PRE]: pre-recorded frame' points to the 'Switch' buttons. A callout 'Check here for continuous playback' points to a play button icon. A callout 'Display frame/Total frames in file' points to the '631 / 631' text. The bottom status bar shows '32 MPH', '0.25', '0.11', '0.15', and coordinates '36°06'30.70"N 115°10'22.18"W'. The date and time are '2010-01-06 16:33:31'.

When Record Method set as "Normal record"

The screenshot shows the Drive Recorder interface in 'Normal record' mode. The main video window displays a street scene with a building. A 'PlayList' on the right lists frames with timestamps and durations (e.g., '10 Min'). A callout 'Event area marking by G-sensor or button (5 seconds per each event)' points to yellow markers on the playback bar. A callout 'Google Map location' points to a red dot on a map. A callout 'Playback position indicator' points to a red dot on the playback bar. The bottom status bar shows '72 MPH', '0.38', '0.14', '0.07', and coordinates '49°23'06.46"N 000°34'13.15"E'. The date and time are '2009-12-28 03:55:08'.

PLAYBACK

7. Click play button for playback.

GPS Speed,
G sensor data & GPS location data

Date & Time

The screenshot shows a playback interface. On the left, a box contains speed and sensor data: 56 Km/h, FR -0.12, LR 0.11, UD 0.07, and coordinates 37°33'17.86"N, 126°56'13.35"E. On the right, a date/time display shows 2009.05.29 FRI 12:43.56. Below these is a playback control bar with buttons for previous, play, and next. A G-sensor graph shows a white bar for moving the playback position. A vertical line marks the current event at 12:43:56. Arrows indicate a 15-second range before and a 5-second range after the event.

Playback speed

Drag & Move the white bar to move the playback position.

Before 15seconds

After 5sec

Event

Playback buttons

X2, 4, 8, 16
Fast Reverse

X0.5, 1
Reverse

X0.5, 1
Play

X2, 4, 8, 16
Fast Forward



Previous
Image

Pause

Next
Image



Single View



4x4 Multi View (Thumb-nail function)



Zoom In G-sensor graph

Reset Zoom

Zoom Out G-sensor graph

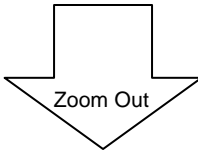
PLAYBACK

NOTE: PC “Hot” Keys

Function	PC keyboard hot buttons
1024x768 mode	Enter Return to the previous mode: Enter
Full screen mode	Alt + Enter Return to the previous mode: Enter
Playback speed control	Ctrl + F 0.5 => 1
Reverse playback speed control	Ctrl + B 0.5 => 1
Pause / Play	Space
Previous Image	→ direction button.
Next Image	← direction button

Google™ map integration

The route taken will be displayed on the Google map at lower right corner of the software.



⚠ To see the route & position on the Google map, the GPS data must be recorded with video.

To see the map, the PC must be connected to the Internet.

The playback position will be shown on the map with an arrow. The blue markings show the route taken.


Double click the blue mark to change the video playback position to that point.

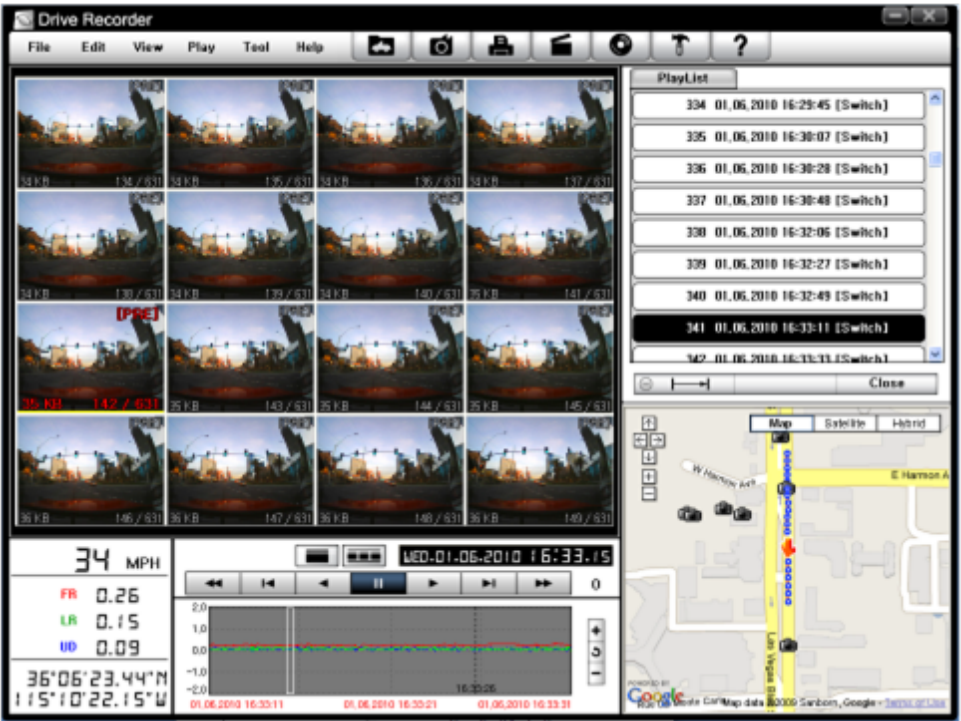
The camera icon indicates that there is a recorded file.

The total camera icons shown will be less than 100, even if there are more than 100 events.

When the unit is set to Normal recording mode, there is no route & camera icon on the map.

Thumb-nail Function

7. Click the  button for 4x4 multi view (Thumb-nail function)



Click the thumbnail image to change the playback position.
Click the right mouse button to go back to single image playback mode.

8. Click [Close] button to quit the playback.



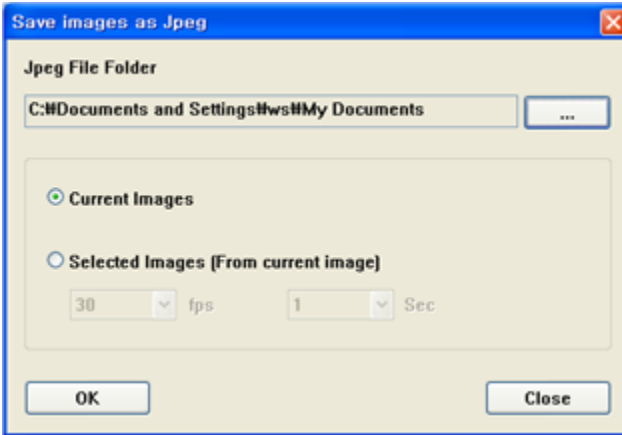
Click [Close] to finish the playback.
Then the [PlayList] window will be changed to the initial status.

Save JPG file & AVI file

9. Pause the playback and click 'Save Image' icon to save a JPEG image.



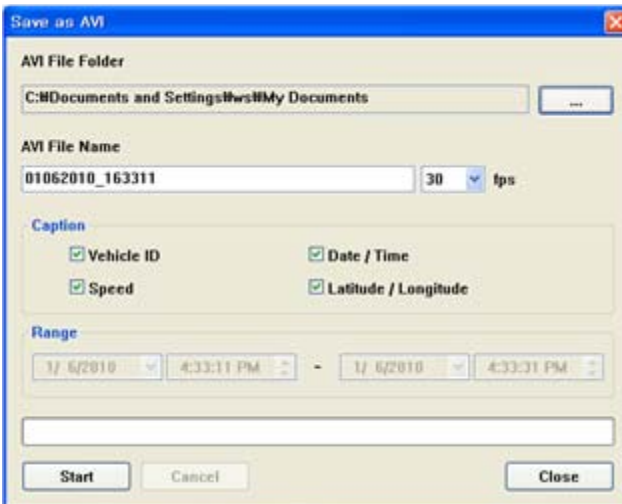
'Save Image' icon



10. Click 'Save AVI' icon to make an AVI video file.



'Save AVI' icon

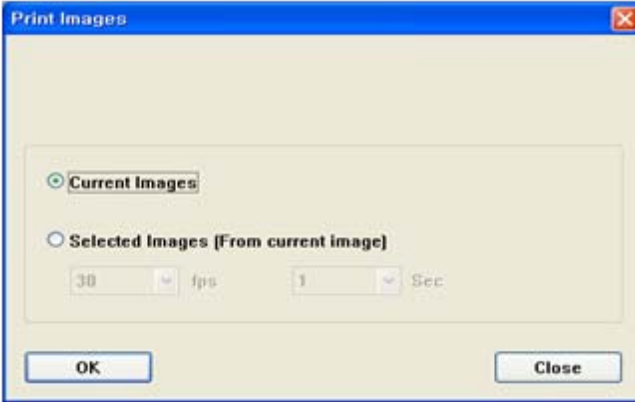


Print Image

11. Pause the playback and click 'Print Image' icon.



Print image icon



Type in the File Name [Print Title] & any comments [Print Comment] using the Keyboard.



The 'Print Comment' window allows up to 7 lines total.

Make a Report

12. Click [Print] button in the 'print preview' window for printing.
The File Name [Print Title], Comment [Print Comment], G-sensor graph & map will be printed on the first page.



Click [2x2] and then click [Print] to print 4 images on one page.

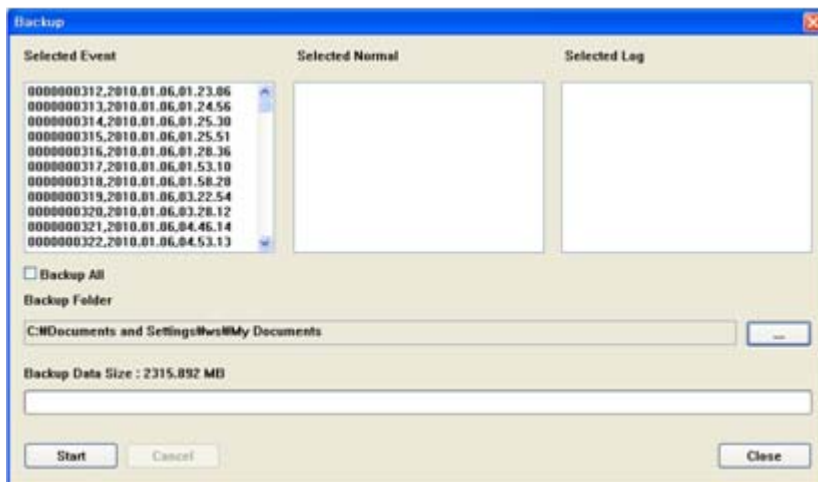


Backup Event/Log files

13. Click [Backup Event/Log files] icon to backup the files to the PC.



[Backup Event/Log files] icon



Select [Event data] or [Normal data] and select [Log data] first, before clicking the [Backup Event/Log files] icon. Then the selected Event or Normal or Log data list is Backed up in Windows.

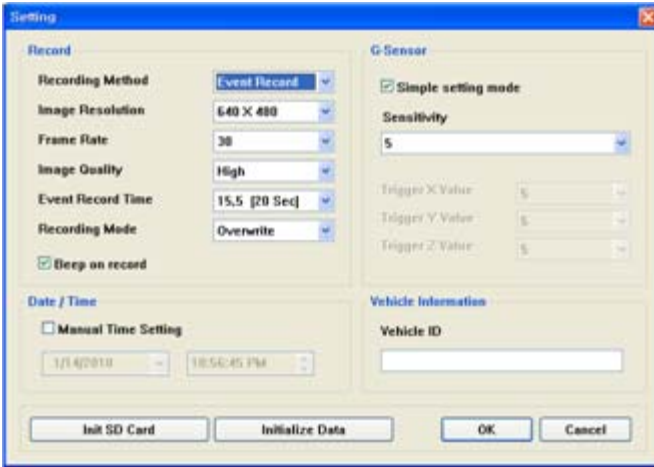
To backup all of the data from the SD card to the PC, check [Backup All]

Setting Drive Recorder

14. Click [Recorder Settings] icon for setup.



[Recorder Settings] icon



Caution

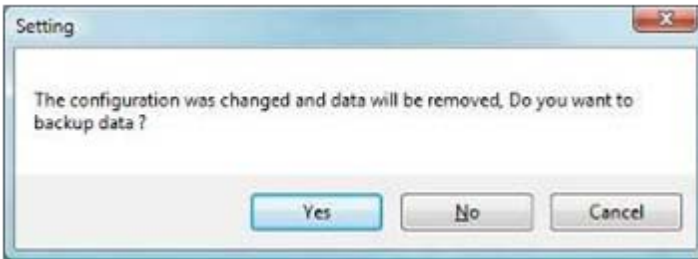
Backup the SD data first, before clicking 'Init SD Card' button. Once done, the old data cannot be recovered.

Recording Method	Event Record (Automatically starts Recording by G-sensor event or Record Button) Normal Record (Automatically starts continuous Recording just after Power on)
Image Resolution	640x480(High), 320x240(Low)
Frame Rate	30 means real-time recording Event Record supports 10, 15, 30 FPS Normal Record supports 1, 5, 10, 15 FPS
Image Quality	High (Large file size, but good picture quality) Low (Small file size, but low picture quality)
Event Record Time	This menu is for Event Record. Pre-record/Post-record time can be set here. *There are 3 options (10/10, 12/8, 15/5) for 30 FPS & 6 options for 15 FPS (20/10, 15/15, 18/12)
Recording Mode	Overwrite (New data overwrites the oldest files when the SD card is full) One time (The recording stops when SD card is full)

Setting Drive Recorder

Beep on record	“Beep” sound ON/OFF when Event recording starts
G-sensor setting	Check simple setting mode and then change the sensitivity. High sensitivity (8 or 9) means recording will be started upon very low impact.
Date/Time	Automatically synchronize with GPS time. However, Manual time setting is also available.
Vehicle ID	Type in your Vehicle ID
Initialize SD card	All data will be deleted and the Drive Recorder settings will be set to factory defaults.
Initialize Data	All data will be deleted.

⚠ Caution When the record settings are changed, all recorded data in SD card will be deleted.



Select Backup [YES] or [NO] before all of the recorded data is deleted.

Drive Recorder Settings

G-Sensor

Simple setting mode

Sensitivity

5

Trigger X Value 5

Trigger Y Value 5

Trigger Z Value 5

G-Sensor setting

If G-sensor sensitivity value is high (i.e. 8 or 9), it is very sensitive, and will detect even a light impact or light turn. If G-sensor sensitivity value is too low (1 or 2), it might **not** detect a notable incident.

So, sensitivity should be set in consideration of a vehicle's suspension, weight (mass), and also the road condition.

Date / Time

Manual Time Setting

2009-02-09

오후 3:34:13

The Drive Recorder has internal GPS supporting the automatic GPS Time Synchronize function. The time recording is done based on UTC on the Drive Recorder and automatically converts to the local time at the PC according to the PC time zone setting when using the PC Viewer.

NEW SD Memory card initializing should be done using Tool menu.

Tool

Device Setting(D)

SD Initialize(S)

Eject SD Card(E)

Save AVI(T)

Save Jpeg(J)

Backup(B)

STEP1. Insert new SD memory card into the PC.

STEP2. Run the "PC Viewer"

STEP3. Select [Tool] and then click [SD Initialize]

We recommend the [SD initialize] at least once per month to prevent the Drive Recorder from any software errors.

LOG FILE PLAYBACK

16. Select [LOG] windows and then check the log from the log list using your mouse or click [Check All] button. Then click [Load] button.

Log data

Log data will be recorded during driving even if there are no events. The total log data size is no more than 60MB. The log data overwrites the oldest data when 60MB is reached. Using this log data, we can use the data sorting function which helps to find a specific data (i.e. recorded speeds higher than 80mph, specific G sensor values, etc).

The screenshot shows the Drive Recorder application interface. The main window is divided into several sections:

- Top Left:** A video feed showing a street scene at night. Below it, text indicates "42 KB" and "419 / 631".
- Top Center:** A table with columns "No.", "DATE TIME", and "Event T...". The first row shows "01.06.2010 16:28:11" and "Switch".
- Top Right:** A "LOG" window showing a list of log files with columns "No.", "LOG File", and "Duration".
- Center:** A "Search Log" dialog box with a "Search" button and input fields for "GPS Speed over point" (set to 60 MPH), "G-Sensor X Value" (set to 0.40), "G-Sensor Y Value" (set to 0.40), and "G-Sensor Z Value" (set to 0.40). Red arrows point to the "Search" button and the input fields, with labels "Search button" and "Input sorting data".
- Bottom Left:** A "G-sensor graph" showing three data series (red, green, blue) over time. A red arrow points to the graph with the label "G-sensor graph".
- Bottom Center:** A speedometer showing "32 MPH" and a digital clock showing "WED.01.06.2010 16:40:13".
- Bottom Right:** A map showing the current location on a street grid.

GPS speed, G sensor X value, G sensor Y value, G sensor Z value, can be checked first on the small check box at right side of each value. And then input data for data sorting.

If there is recorded video data, [Switch] or [G Sensor] mark will be displayed on list.

G sensor **X RED** value: Front & Back (i.e. Quick brake or Quick Start)

G sensor **Y GREEN** value: Left & Right or side--side (i.e. Quick Turn)

G sensor **Z BLUE** value: Up & Down (i.e. speed bump or pot hole depression)

SPECIFICATION

Image sensor	1/4" CMOS Digital Sensor 310K pixels
Angle of View	170 ° (horizontal : 131° vertical : 96 °) *optional 90° lens available
Video resolution	640*480, 320*240
Frames per second	30 frames
Recording	Continuous By impact, By emergency button.
Recording time	2GB (37minutes~ 36hours) 16GB (7hours~167hours)
GPS	Internal GPS
G-Sensor	Internal 3-axis G-sensor
Memory	2GB SD memory card (supports from 2GB to 32GB SDHC)
RTC	Internal battery
Buzzer	Recording start, error
LED	2 LED (Record, Overwrite)
Supper Capacitor	Enable recording last file and shut down
PC software	PC Viewer
Power input	12V / 24V (cigarette plug)
Power consumption	3.6W
Size/Weight	80 mm X 50 Ø , 100g
Operation Temp.	-10°C~50°C

Recording/Storage Time Table

Resolution	Quality	Size	FPS	2GB	4GB	8GB	16GB
640x480	HIGH	40K B	1	555 min	1408 min	3115 min	109 hour
			5	111 min	282 min	623 min	22 hour
			10	55 min	141 min	311 min	11 hour
			15	37 min	94 min	208 min	7 hour
	LOW	20K B	1	1109 min	2816 min	6229 min	167 hour
			5	222 min	563 min	1246 min	44 hour
			10	111 min	282 min	623 min	22 hour
			15	74 min	188 min	415 min	15 hour
320X240	HIGH	15K B	1	1479 min	3755 min	8306 min	167 hour
			5	296 min	751 min	1661 min	58 hour
			10	148 min	375 min	831 min	29 hour
			15	99 min	250 min	554 min	19 hour
	LOW	10K B	1	2219 min	5632 min	10000 min	167 hour
			5	444 min	1126 min	2492 min	87 hour
			10	222 min	563 min	1246 min	44 hour
			15	148 min	375 min	831 min	29 hour

NOTE: Limitation of the event file number

The total number of recorded files must be less than 1,000.

If the Drive Recorder records more than 1,000 files, there is a possibility that the booting time will be longer than 1 minute. Therefore, the number of files are limited to a maximum of 1,000.

As a result, the maximum recording time is 167hours, regardless of SD card size.(1,000 files x 10min = 10,000min = 167hours)

Technical Support & Warranty

TECHNICAL SUPPORT

For Technical Support, please contact KEYROLLER, LLC. 813-877-4500 EST or info@keyroller.com

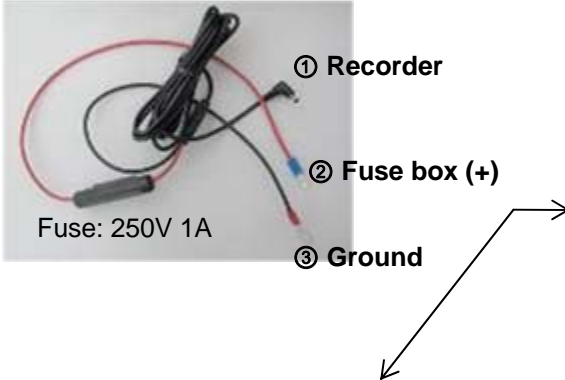
LIMITED WARRANTY

SMARTY is supplied with a 1 year warranty. The Warranty excludes products that have been misused, (including accidental damage) and damage caused by normal wear and tear. In the unlikely event that you encounter a problem with this product, it should be returned to KEYROLLER after calling and receiving an RMA # for the return of the product for warranty evaluation.

Optional Accessory (Permanent Power Cable)

Model name: DPWR-100

The permanent power supply cable will allow you to hard wire the Drive Recorder series to the fuse box of your vehicle.



Connect (+) to the reserve fuse. It should be connected to an ignition circuit.



The ground cable should be connected to car chassis.

APPENDIX (Upgrade)

First, upgrade the Drive Recorder main unit.

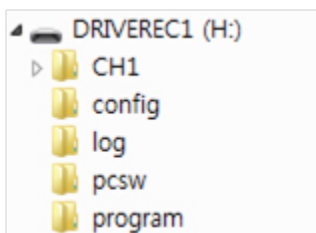
Second, install new PC viewer software on your PC.

Third, initialize the SD card using new PC viewer software.

[NOTE] To get the firmware/software upgrade, please contact your local distributor.

1. Preparing Firmware

Create folder entitled “program” on the SD root folder as seen below:



Copy “BX1000_X.X.X.bin” file in to the SD card [program] folder.

2. Upgrade the Smart Black Box unit

Insert the prepared SD card into the Smart Black Box and turn on the power.

The Blue & Red LED will be quickly blink while the unit is upgrading. It will also “Beep” continuously, Upgrading the unit usually takes about 2 to 3 minutes.

Warning: Do not turn off the power during upgrading. If the upgrade fails, the Drive Recorder unit should be returned to your local distributor.

Once the upgrading is finished, the unit will automatically power off and then back on.

If the Drive Recorder records as normal, you can turn off the power.

Insert the SD card into your PC and initialize it using the upgraded software (See page 35) once you have successfully tested the unit.

APPENDIX (Upgrade)

3. Uninstall the old version PC Viewer from the PC

PC Windows [Start] => [Control panel]
And uninstall [PCViewer]

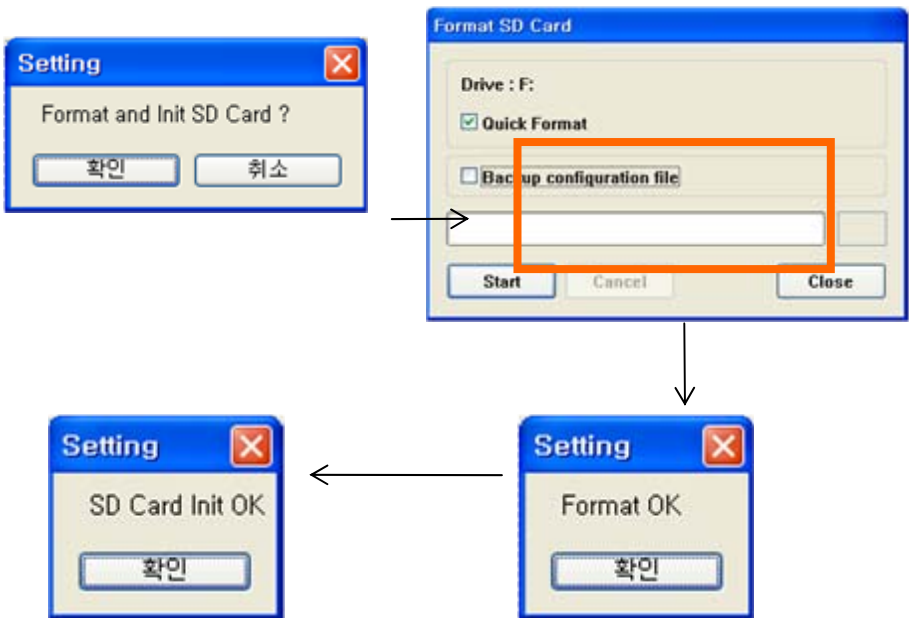
4. Install the new PC Viewer

Run setup.exe and install the new "PC Viewer X.X.X.X"

Note: After installation of the new PC Viewer, initialize the SD card. The new software will automatically be copied to [pcsw] folder on the SD card.

To initialize the SD card.

Run the 'PC Viewer' software and select [Tool] > [SD initialize] or go to the settings menu and click "Initialize SD card"



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