

## **SAC8 User's Guide**

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# **8Ch Car Driving Recorder**



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# Preface

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## Notice

Any unauthorized use of this guide or its contents is prohibited.

The contents may be changed without notice.

The contents of this user guide are comprehensively designed to provide adequate information to set up and operate the purchased device. Please contact DIS if you have any questions or find any omissions.

If you find any missing pages in this users guide, please contact your dealer or DIS for a replacement.

The images and display captures are examples to help you understand this device and may differ from what you may observe.

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# Safety Advice

## 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 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

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.

### 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.

### WARNING:

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

## GPS Reception

It may take between five and thirty minutes to get 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 15 meters and the range error could be more than 100 meters due to environmental conditions like buildings, roadside trees etc.

2. **The temperature range for optimum operation of the GPS receiver in your car is -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.

### Situations where reception may be obstructed.

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 certain types of wireless activated alarms, MP3, CD players, etc. using GPS.
4. If you are using a receiver connected by cable, electric interference can be avoided by simply changing the location of the GPS 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.



**Make sure that the power is turned OFF when attaching or removing HDD,SSD or CF memory. When a power failure occurs during recording, the recording data may be erased.**

# Contents

The Components may be changed without notice.

## Normal Components



Blackbox



Remote control



Remote control Receiver



A/V out

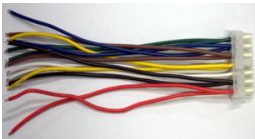


Power cable



HDD Knob

## Options Components



Digital IO Cable



Cameras



GPS Antenna

- ※ The pictures in this manual may differ from the actual product.
- ※ The user manual in order to improve product performance, and are subject to change without notice to users

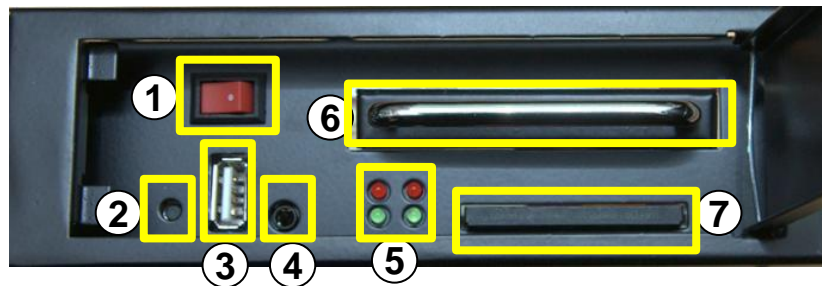
# 1. Introduction

## 1-1. SAC8 Overview

Door Open



Inside of door



Front view



1	Power Switch	Power On/Off
2	Reset Button	Reset as factory default
3	USB 2.0	Upgrade or backup for USB memory
4	Audio Output port	Playback audio
5	LED indicators	Indicate the device 's status with LED
6	SSD/HDD slot	Removable 2.5" SSD/HDD slot
7	CF memory card slot	Removable CF memory card slot
8	Cover Lock	Cover key Lock
9	LED window	Monitor LED status

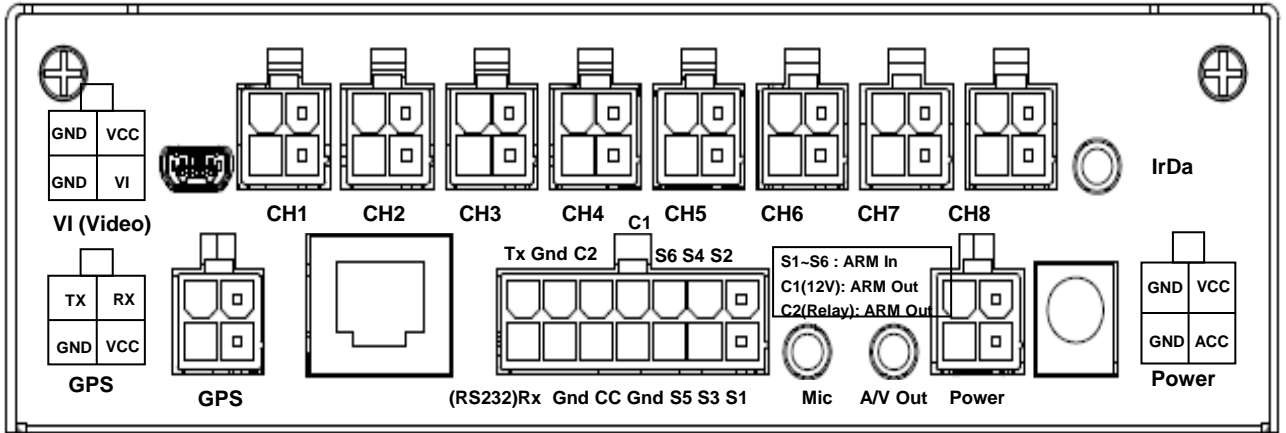
※ The images and display captures are examples to help you understand this device and may differ from what you may observe.

※ The contents may be changed without notice.

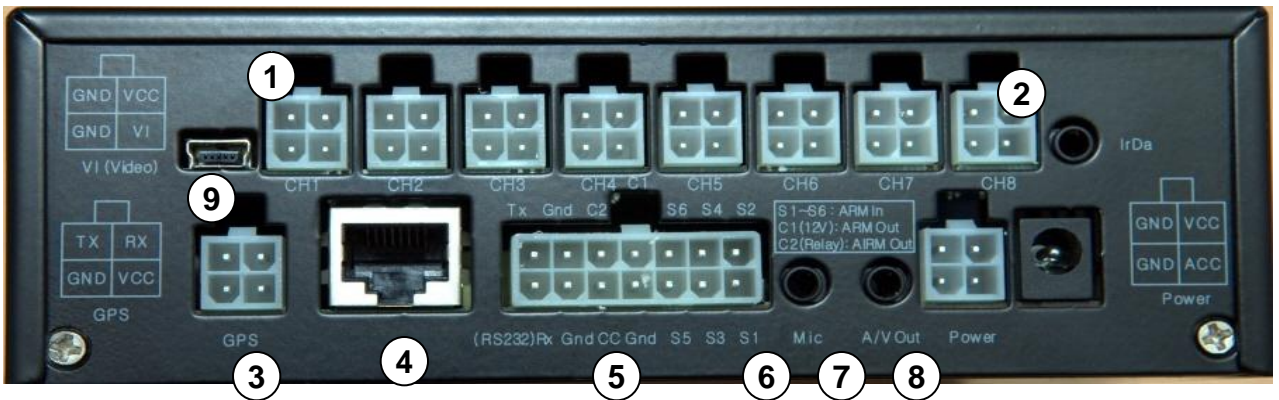
# 1. Introduction

## 1-2. Rear

Rear Diagram



Rear



- 1 Video Input :** Use the car signal cable bundle for this connection. Connect the appropriate car signals to the labeled cables.
- 2 Remote controller receiver :** Receive the signal to execute the external remote controller.
- 3 GPS Port :** Connect external GPS.
- 4 Ethernet connector:** Supports network connection.
- 5 Sensor in/output & Serial port:** Support 6ea of sensor input(S1~S6), 2ea of sensor output(C1~C2) and RS232(Rx,Tx).
- 6 MIC :** Connect the external microphone to record audio.
- 7 A/V out :** Connect the monitor to monitor video or playback.
- 8 Power Connector :** Use the included power cable bundle for this connection.
- 9 Micro USB :** Connect the external usb device.



# 1. Introduction

## 1-3. Remote controller, A/V output pin

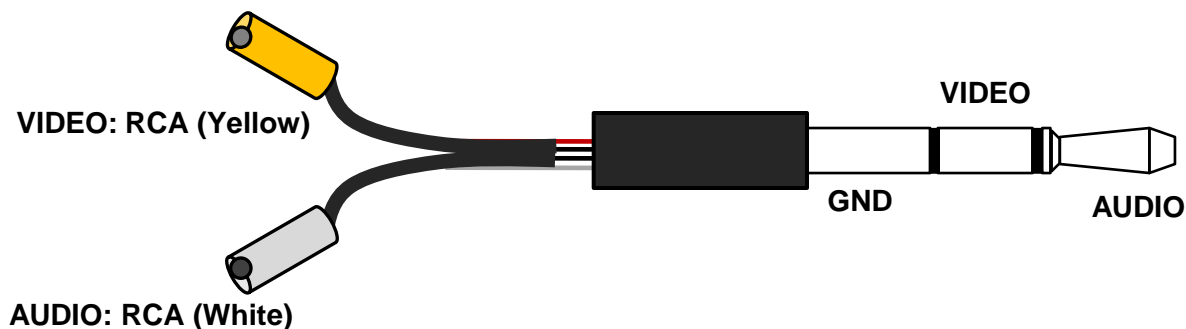
### Remote controller



- **▲▼◀▶ (arrows)** : Used when the focus is moved.
- **OK** : When you choose to enter into a sub-menu or control.
- **MENU** : Menu screen will pop-up.  
It is also used to move to the upper menu.
- **VIEW** : Change the split image screen.
- **Number** : Video channels can be selected.  
Channel selection in the search screen.
- **PWR** : Output to an external monitor On / Off
- **EMER**(Emergency recording) : start recording in situations that require urgent recording

**※ To use the remote control, the remote control receiver is required.**

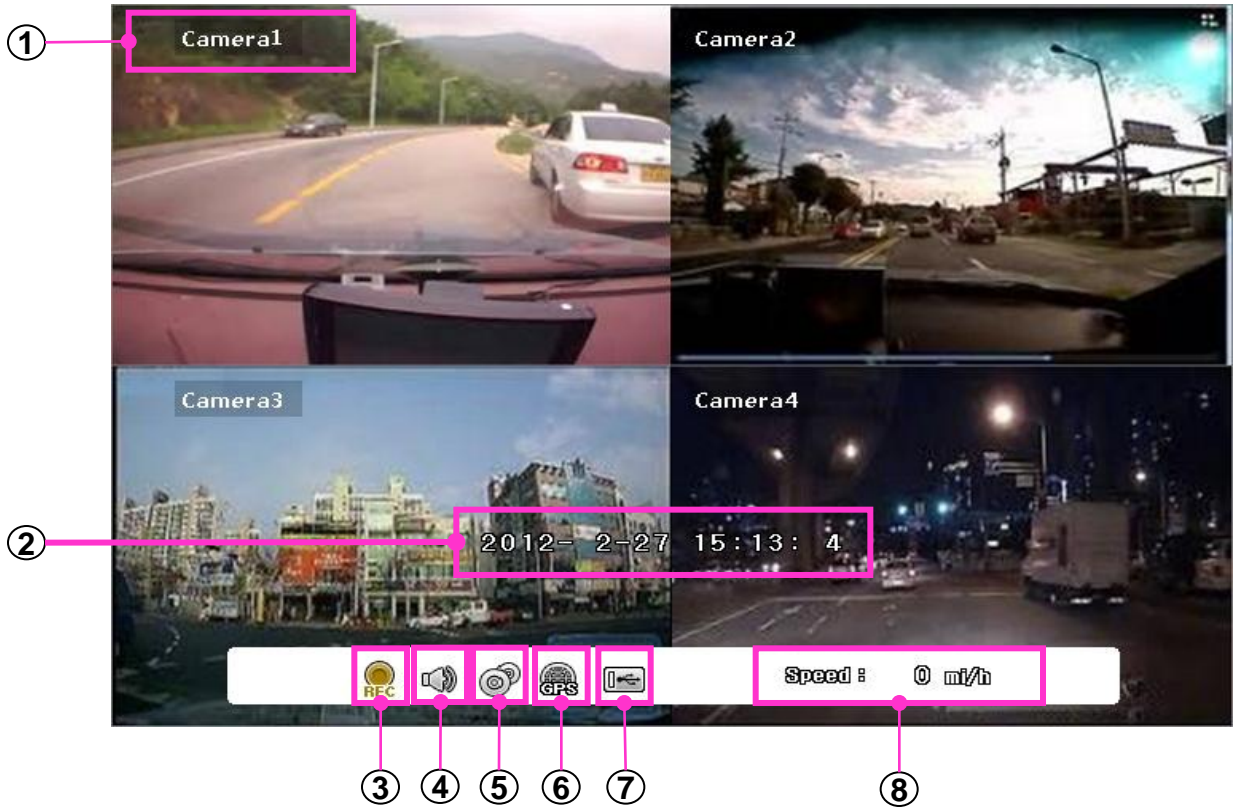
### A/V output cable



# 3. Live Monitoring

## 3-1. Live Display

From the live display, user can monitor as various division and full screen display. Enter the search & setup menu.



- ① **Camera Name** : Indicate the camera's name.
- ② **Date & Time** : Indicate the date and time.
- ③ **Recording Icon** : Indicate the recording status as icon



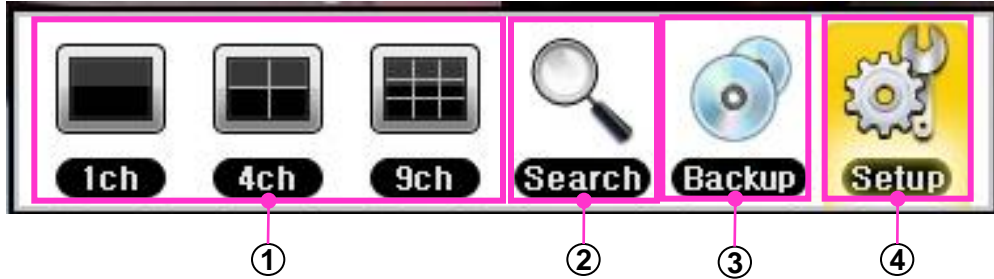
Orange	Continuous Rec
Blue	Motion Rec
Dark Green	Sensor Rec
Yellow	Previous Rec
Purple	Impact Rec
Green	Instant Rec
Gray	Video Loss

- ④ **Audio Record** : Indicate the audio recording status.
- ⑤ **Backup** : Indicate the backup status.
- ⑥ **GPS** : Indicate the GPS reception status.
- ⑦ **USB** : Indicate the status of USB memory.
- ⑧ **Speed signal** : Indicate the vehicle's speed.

# 3. Live Monitoring

## 3-2. Menu

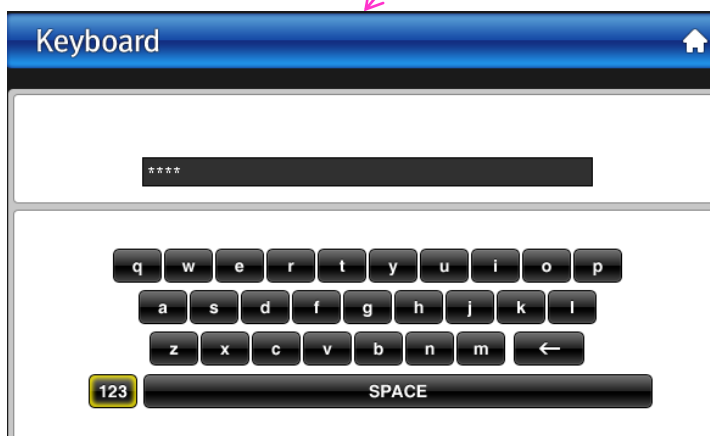
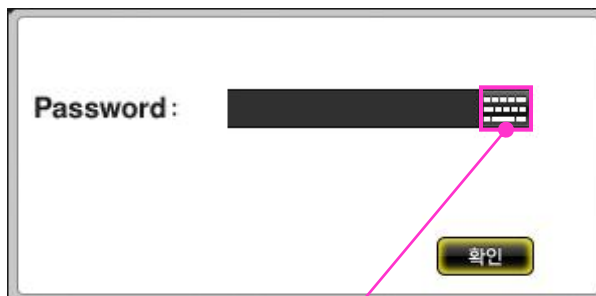
Access the menu from live window.



- ① **Screen layout split** : Show channels into 1, 4, 9 split s.
- ② **Playback** : Enter the playback window.
- ③ **Backup** : Enter the backup window.
- ④ **Setup** : Enter the system setup window after input the password.

### < Password Input >

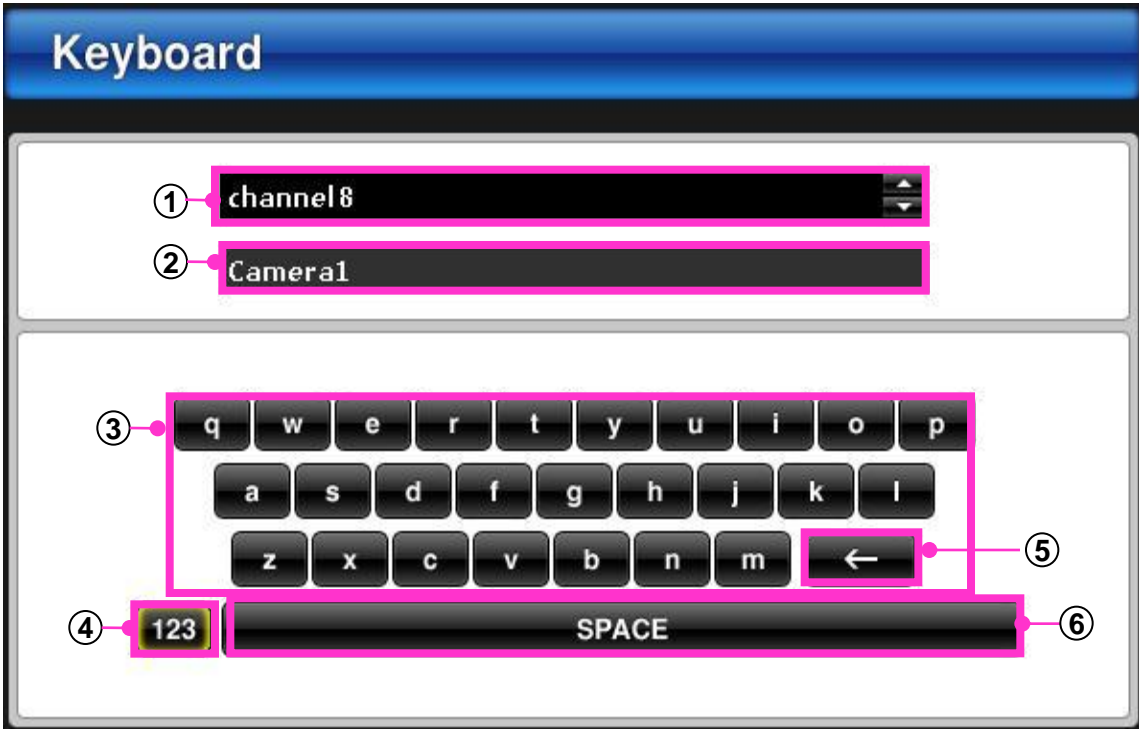
Using remote controller's numeric button or virtual keyboard, input the password. The password can be changed by going to [Setup -> SYSTEM -> PASSWORD].



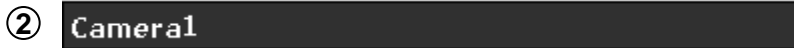
# 4. System Setup

## 4-1. Virtual Keyboard

Using virtual keyboard, enable to input alphabet and numbers.



Enable to change the camera name.



The name change of the camera (default Camera 1~ 8)



Using the remote control's 'enter' key, input "a~z"



Enable to change the alphabet and number key



Delete key



Space key

# 4. System Setup

## 4-2. Input the password

Input the password to login the system.



### ① Password

Only if the password set up, password window will be appeared.



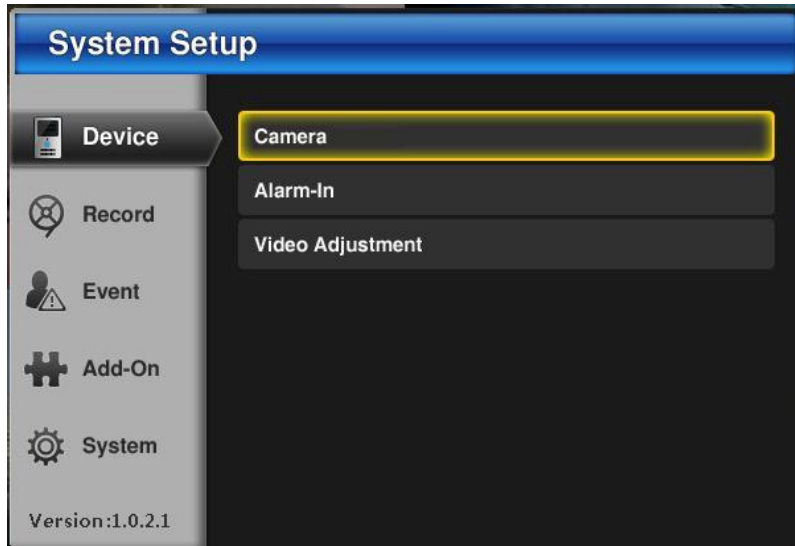
Using virtual keyboard, password can be typed.

Click 'Ok' to enter the next step.

# 4. System Setup

## 4-3. Device

### 4-3-1. Camera Setup



Set up for enabling/disabling the camera and camera's name.



#### ① Enable the camera

set up for enabling/disabling cameras.

**ON** : Enable the camera.

**OFF** : Disabling the camera.

#### ② Camera Name

Change the camera title.

Using virtual keyboard, set up the camera title.

# 4. System Setup

## 4-3. Device

### 4-3-2. Sensor input

Setup for sensor. Max 6ea of sensor can be set up.



#### ① Sensor Name

Set up for sensor name using virtual keyboard.

#### ② Sensor type

**Normal Open** : Alarm can be triggered when the signal becomes CLOSED.

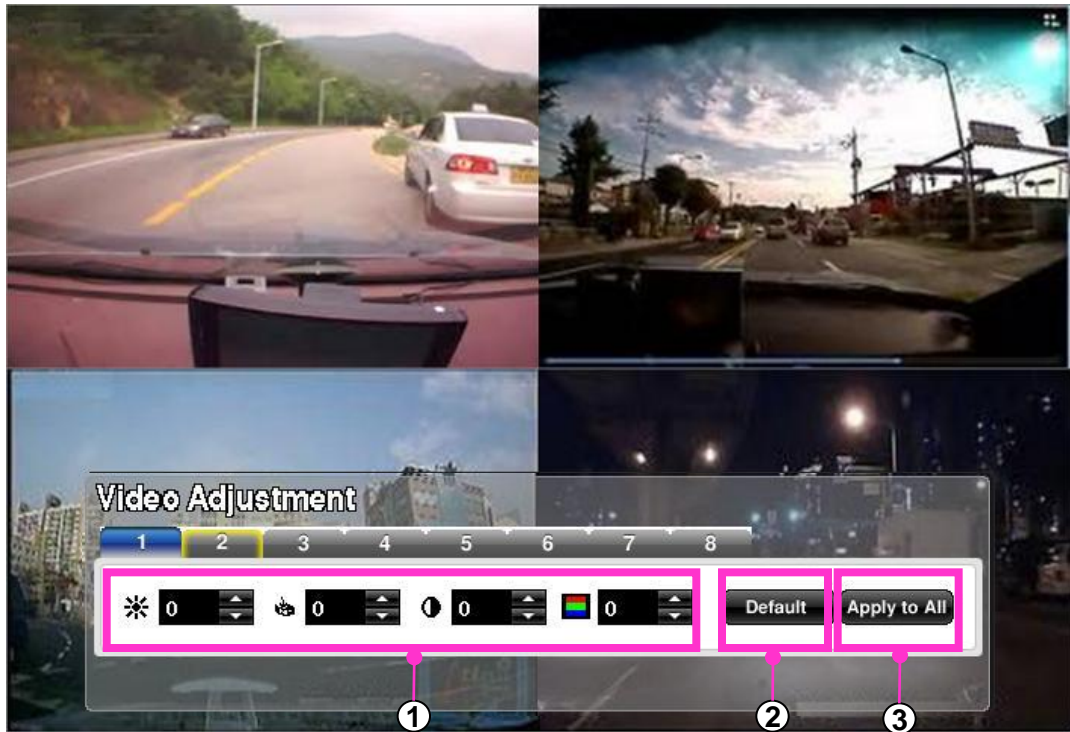
**Normal Close** : Alarm is triggered when the signal becomes OPEN.

# 4. System Setup

## 4-3. Device


### 4-3-3. Video image setup


Cameras' brightness, saturation, Contrast and tone.





#### ① Video Adjustment

Each camera's display can be set up individually.

 **Brightness** : Set up the brightness. ( -20 ~ 20 )

 **Saturation** : Set up the saturation. ( -20 ~ 20 )

 **Contrast** : Set up the contrast. ( -20 ~ 20 )

 **Tone**: Setup the tone. ( -20 ~ 20 )

#### ② Default

Reset to default

#### ③ Apply to All

Apply the current set up parameter to all the other channels.

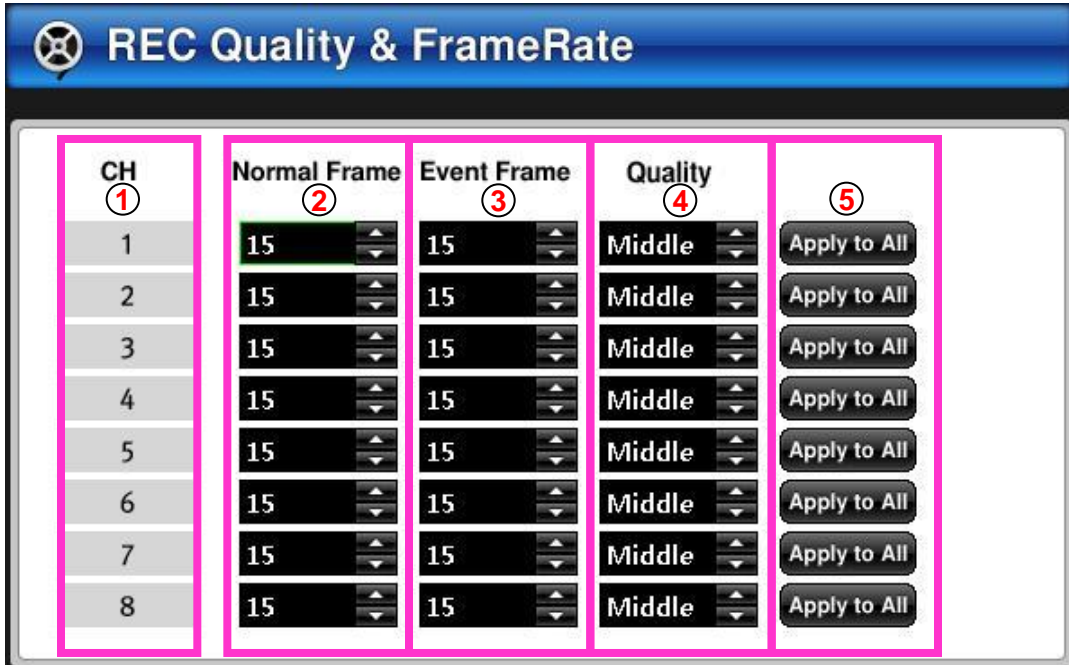


# 4. System Setup

## 4-4. Recording

### 4-4-1. Recording Setup

Set up for resolution, frame and video quality.



① **Channel**

Indicate the camera's channel number.

② **Normal Frame**

Set up for normal recording.

**NTSC** : 1 ~ 30 (For 8ch, 120fps can be recorded in total.)

**PAL** : 1 ~ 28 (For 8ch, 100fps can be recorded in total.)

③ **Event Frame**

Set up for event recording.

**NTSC** : 1 ~ 30 (For 8ch, 120fps can be recorded in total.)

**PAL** : 1 ~ 28 (For 8ch, 100fps can be recorded in total.)

④ **Recording Quality**

Set up for recording quality as highest , middle and low.

⑤ **Apply all**

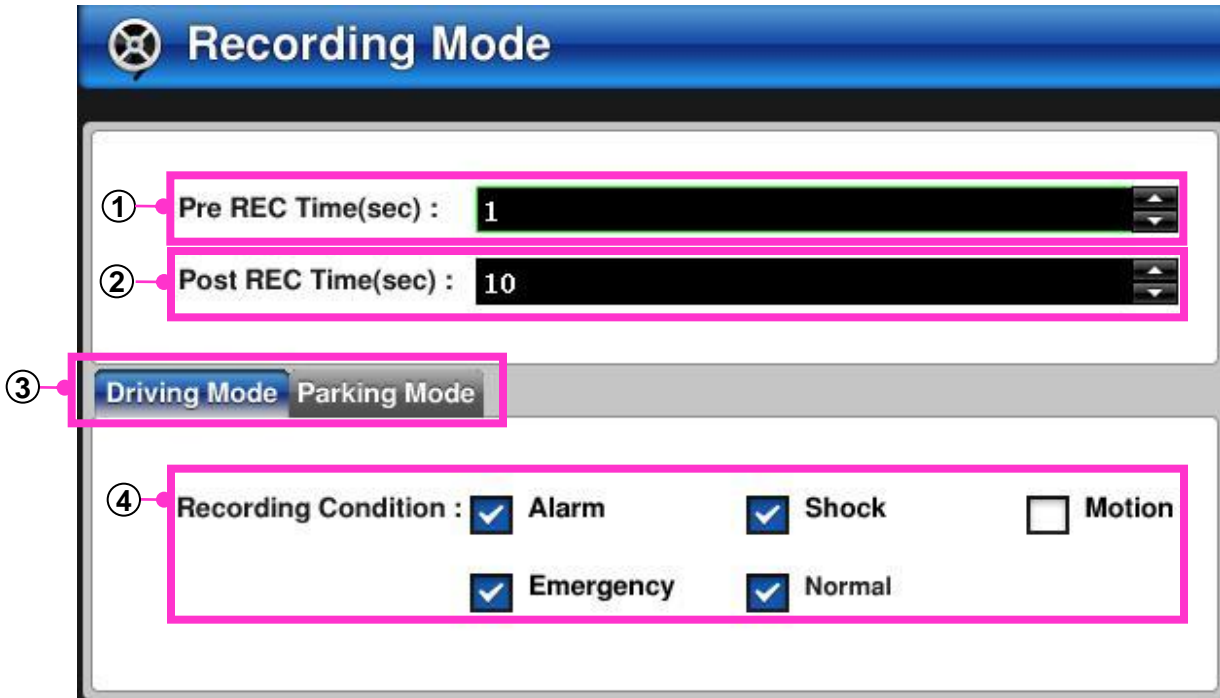
From the one of channel set up parameter, apply to other channels.

# 4. System Setup

## 4-4. Recording

### 4-4-2. Recording mode

Setup for recording mode.



#### ① Pre recording

Depending on the set seconds: (1~10sec), for every event there will be the set amount of pre-recorded data.

#### ② Post recording

- Depending on the set seconds: " 3~ 60 ", for every event there will be the set amount of post-recorded data.

#### ③ Driving mode / Parking mode

**Driving mode** : event recording set up while driving.

**Parking mode** : event recording set up while parking.

#### ④ Recording Condition

**Alarm recording** : Setup for sensor recording.

**Impact recording** : Setup for impact recording.

**Motion recording** : Setup for motion recording.

**Emergency recording**: Setup for emergency recording.

**Normal recording** : Setup for normal recording.

# 4. System Setup

## 4-5. Event

### 4-5-1. Motion detection setup

Setup for motion detection. Camera's sensitivity and usage can be set up.



#### ① Enabling motion detection.

Enable/Disable the motion detection.

motion detection recording the sensor output is are linked with the event.

#### ② Sensitivity

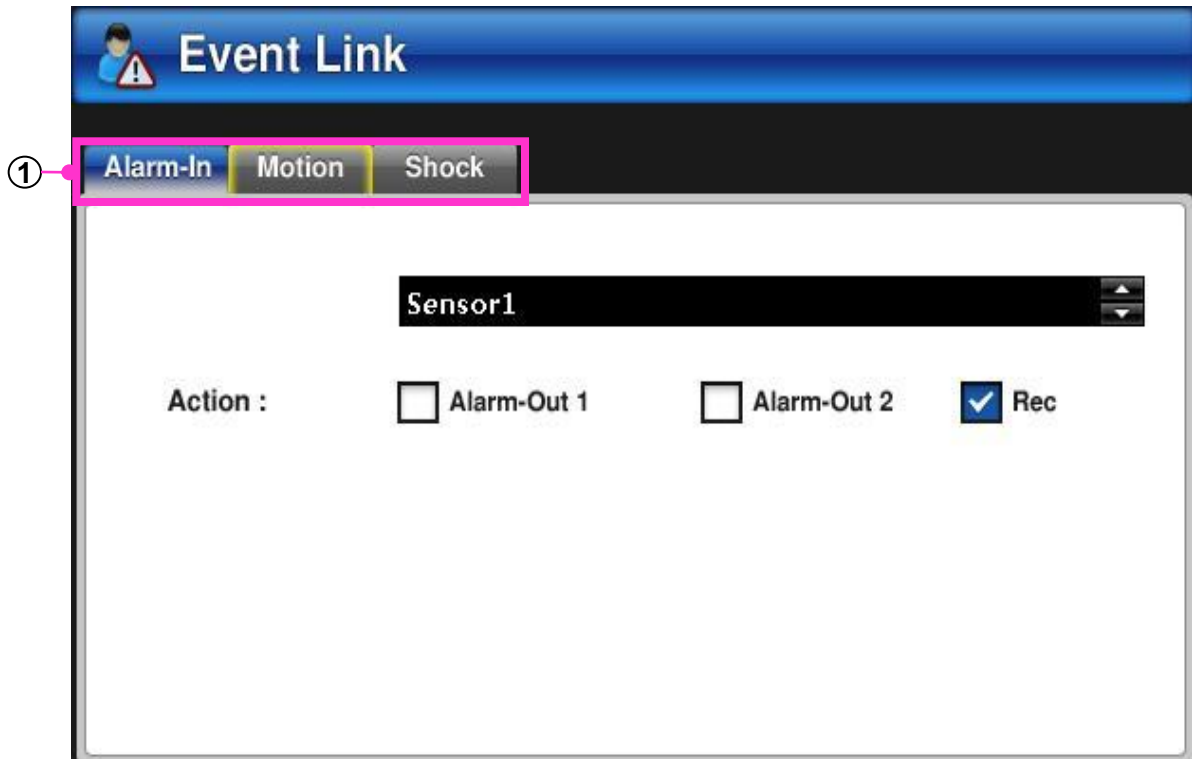
Set up for sensitiy of motion detection. ( 1 ~ 3 )  
3 is most sensitive.

# 4. System setup

## 4-5. Event

### 4-5-2. Event setup

Set up how DVR operates with sensor, motion detection and impact.



#### ① Sensor, Motion detection, Impact

**Sensor:** With sensor, enabling sensor output 1, output 2 or recording

**Motion detection :** with motion detected, enabling sensor output 1, output 2 or recording

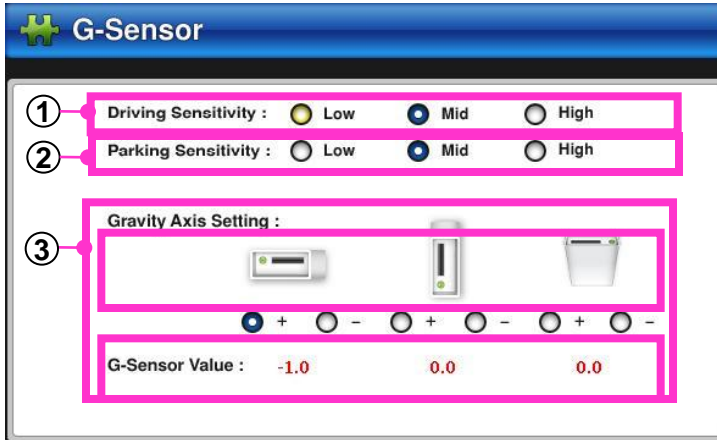
**Impact detection :** with impact detected, enabling sensor output 1, output 2 or recording.

# 4. System setup

## 4-6. Additional feature

### 4-6-1. G sensor setup

Set up for G-sensor's sensitivity.



#### ① Sensitivity while driving

Low is dull and highest is sensitive.

#### ② Sensitivity while parking

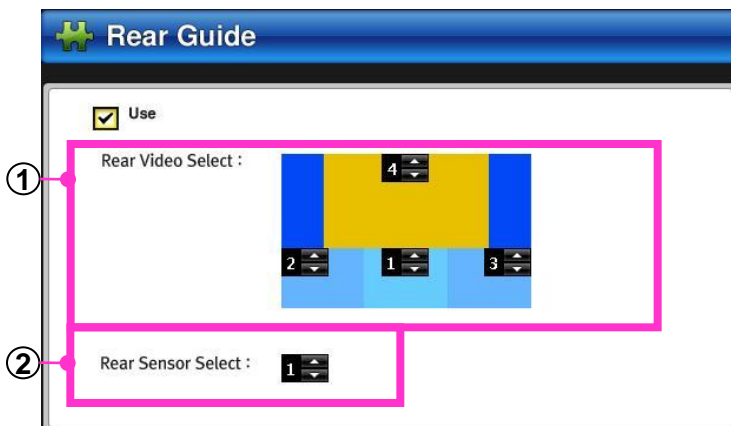
Low is dull and highest is sensitive.

#### ③ Set up for gravity axis

Dvr can be malfunction due to G-sensor's malfunction if gravity axis is not set up properly. Set up the gravity axis properly.

### 4-6-2. Setup for rear guide

Set up for rear side's image and sensor.



#### ① Select for rear signal.

Setup the position for the camera which is connected with rear side's gear.

#### ② Rear Sensor setup

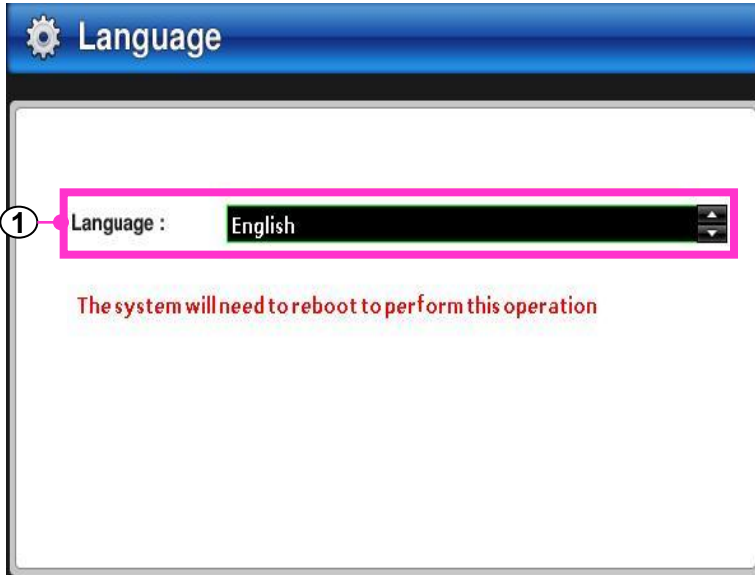
Set up the sensor number which is connected with rear gear.

# 4. System setup

## 4-7. System Setup

### 4-7-1. Language

Select the language.

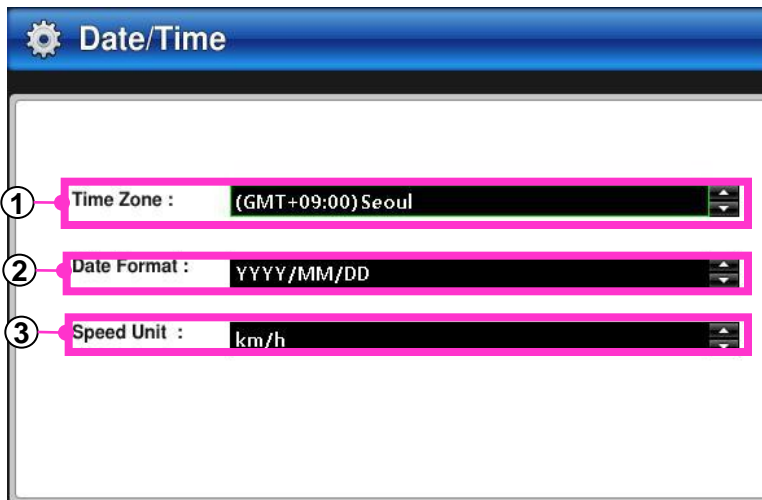


#### ① Select language

Select the language then DVR will restart automatically.

### 4-7-2. Time setup

Set up for time, date and speed unit.



#### ① Standard Time

Set up for standard time using GMT.

#### ② Date format

Select the date and time display format.

YYYY/MM/DD (Asia) , MM/DD/YYYY (America)  
DD/MM/YYYY (Europe)

#### ③ Speed unit

Select the speed display format. (Km/h, mile/h)

# 4. System setup

## 4-7. System Setup

### 4-7-3. Password setup

Setup the password to log in.

The screenshot shows a 'Password' setup window. It features a blue title bar with a gear icon and the text 'Password'. The main area contains three password input fields, each with a pink border and a virtual keyboard icon on the right. The fields are labeled 'Old Password', 'New Password', and 'Confirm Password'. To the left of each field is a circled number: 1 for 'Old Password', 2 for 'New Password', and 3 for 'Confirm Password'. An 'OK' button is positioned at the bottom right of the window.

#### ① Current password

Using virtual keyboard, type the current password.

#### ② New password

Type the new password.

#### ③ Confirm password

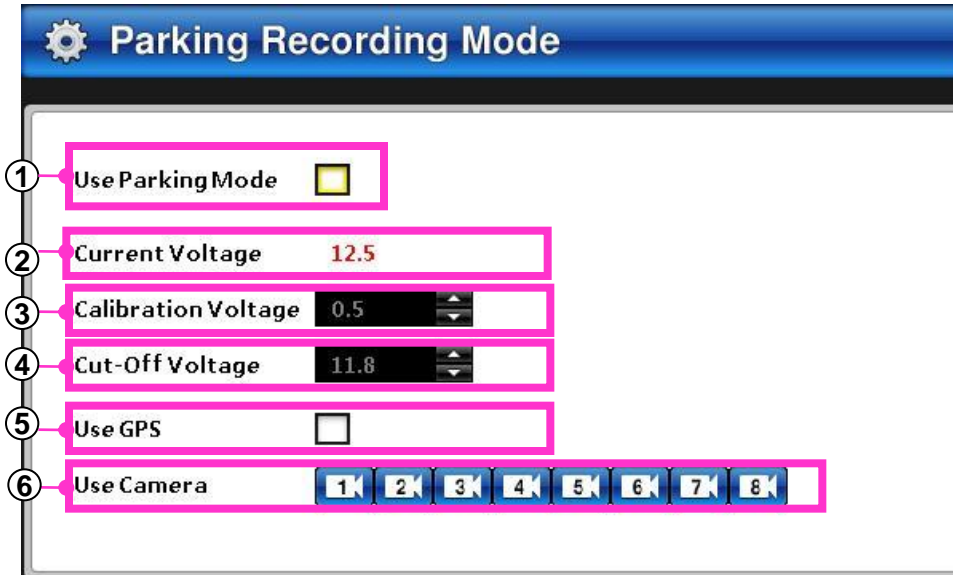
Confirm the new password by typing new password again.

# 4. System Setup

## 4-7. System Setup

### 4-7-4. Parking mode setup

Set up for parking mode.



#### ① Use Parking mode

Select the check box to enable/disable the parking mode.

#### ② Current voltage

Display the current voltage information after power connection.

#### ③ Calibration Voltage

Between the cable and the power boxes, depending on the environment, the actual voltage and the equipment's voltage is different. Set the calibration voltage after checking the equipment's voltage and the current voltage. It's used for clarifying the blocking voltage.

#### ④ Cut-off voltage

Set up for preventing battery's discharge.

#### ⑤ Use GPS

From the parking mode, enable/disable the GPS.

#### ⑥ Use camera

Enabling the camera while parking mode. While parking, by checking the channel, enable the recording camera.

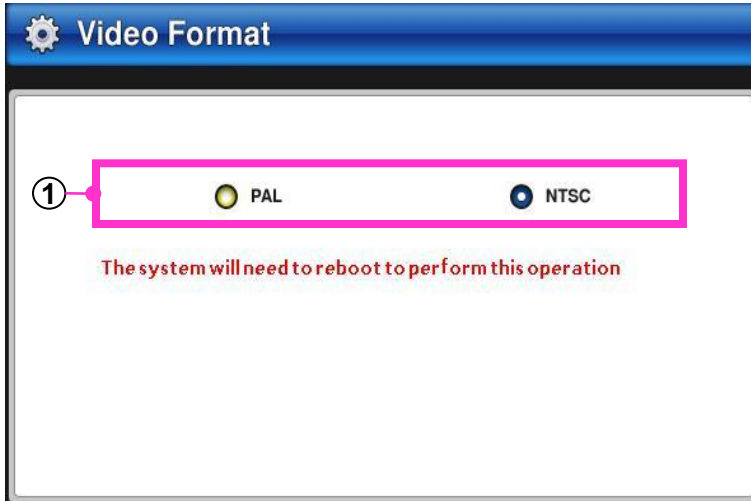


# 4. System setup

## 4-7. System setup

### 4-7-5. Signal type

Select the signal type between PAL and NTSC.



#### ① PAL , NTSC

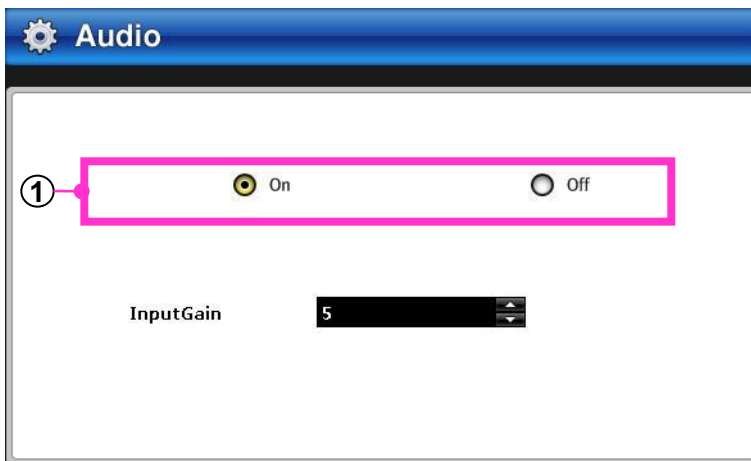
Set up for PAL and NTSC.

Exit the setup menu, DVR will restart automatically.

! To apply the changed signal type, DVR must be restarted.

### 4-7-6. Audio recording setup

Enable/Disable for audio recording.



#### ① Audio recording

Checking 'on', audio will be recorded with video.

# 4. System setup

## 4-7. System setup

### 4-7-7. Disk management

Set up for disk initialization, disk scanning and reset the setup.



#### ① Initialize the disk

Initialize the disk. All data will be deleted.

#### ② Disk scanning

Scanning for logical examination of the disk.

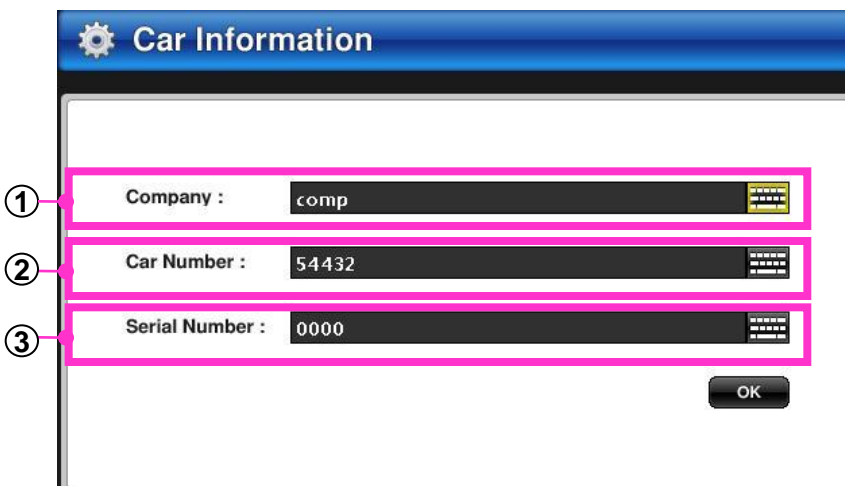
#### ③ Reset to factory default

Reset the configuration to factory default.

### 4-7-8. Set up for vehicle information

Set up for vehicle's information(Company name, Plate number, Serial number).

Vehicle information will be overlaid on the image and recorded.



#### ① Set up company name :

Type the company name

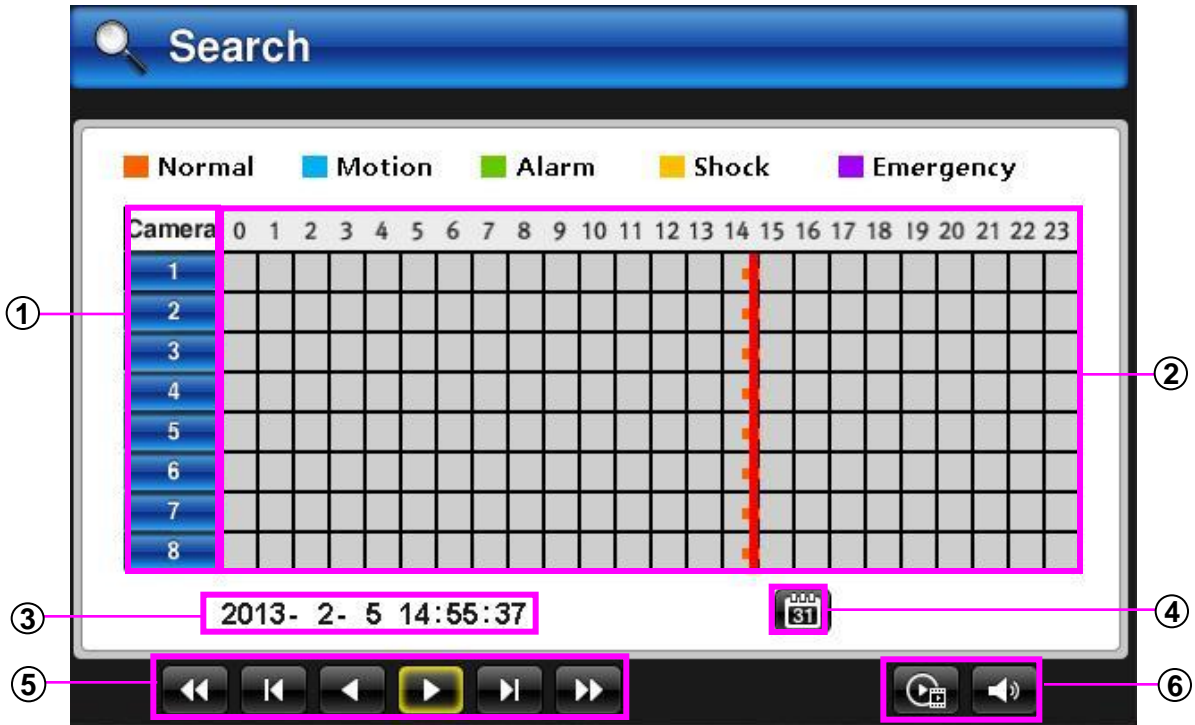
② Car plate number : Type the car's plate number.

③ Serial number : Type the serial number.

# 5. Playback

## 5-1. Playback

The various search functions of this unit can be used to playback the desired video along with audio. Multiple channel can be playback as various speed.



① **Camera** : Select the playback camera. It can be also selected with the remote controller's number key.

② **Time scroll bar**: Indicate the recording data per channel.

③ **Date/Time** :Select the date and time to playback.

④ **Calendar** : Click the calendar to find the recording data.

⑤ **Playback control** : Press to play reverse or normal play.

⑥ **Playback speed control / Audio volume control** :Playback the recording data as fast or slowly using playback speed control button. Audio volume can be controlled with audio volume button.

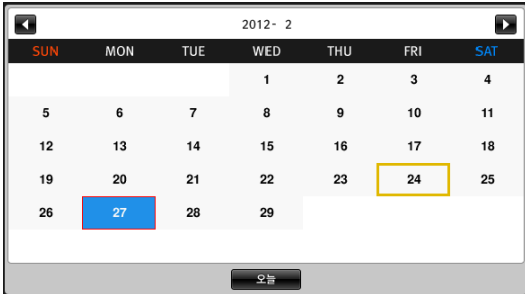
- Playback sped : 1/32X, 1/16X, 1/8X, 1/4X, 1/2 X, 1 X, 2 X, 4 X, 8 X, 16 X, 32 X

- Audio volume : 0 ~ 100 %

# 5. Playback

## 5-2. Set the year, month, date to playback

Using calendar, move to the desired date and time. Select the date that the recording was enabled.

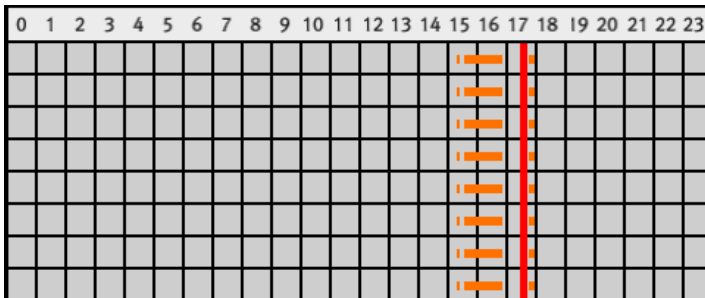


1. With the remote controllers arrow key, move the focus to calendar button.
2. Push 'OK' button.
3. With the remote controllers arrow key, select the recording enabled date and push 'OK'.

4. Click ◀ ▶ to move next or previous month.
5. Move to today using 'TODAY' button.
6. Move to playback menu using remote controller's MENU key.

## 5-3. Time scroll bar

Recording data shown on the time graph will be displayed in different colors depending on the recording type.



1. With the remote controllers arrow key, move the focus to time scroll bar.
2. Push ◀ ▶ button to move the desired time.

3. Select the date and time then push 'OK'. With the remote controllers arrow key, change the date and time.

2012- 2-27 17:38:59

4. Push 'OK' to move other position.

**Recording status**

Orange	Continuous recording
Blue	Motion recording
Dark Green	Sensor recording
Yellow	Impact recording

Purple	Emergency recording
Green	Previous recording
Gray	Video loss or no recording

# 5. Playback

## 5-4. Playback Control

Press the 'Play' button to playback the data.



1. From the playback menu, using remote controller's arrow key, move the focus to camera button.
2. Push 'OK' to select the camera which will be playback.(or push the number button to select/unselect the camera.
3. Set the playback speed with the remote controller's arrow key and OK.
4. Set the audio volume with the remote controller's arrow key and OK.

5. Move the position to playback control. Playback the image reversely or normally.

6. Play the recording data.

7. To pause the play, push 'Stop' button after MENU key.








8. To change the playback speed, push MENU button then set the playback speed.

9. To change the audio volume, push MENU button then set the audio volume with audio volume button.

# Audio is available from a full channel split and normal 1X playback.

# To move to previous menu, push the MENU button of the remote controller.

< Playback control button >

	Jumps to the beginning of the current data recorded on the same date.
	1 frame reverse playback
	Reverse playback
	Pause
	Normal Playback
	1 frame normal playback
	Jumps to the last of the current data recorded on the same date.

# 5. Playback

## 5-5. Split mode setup



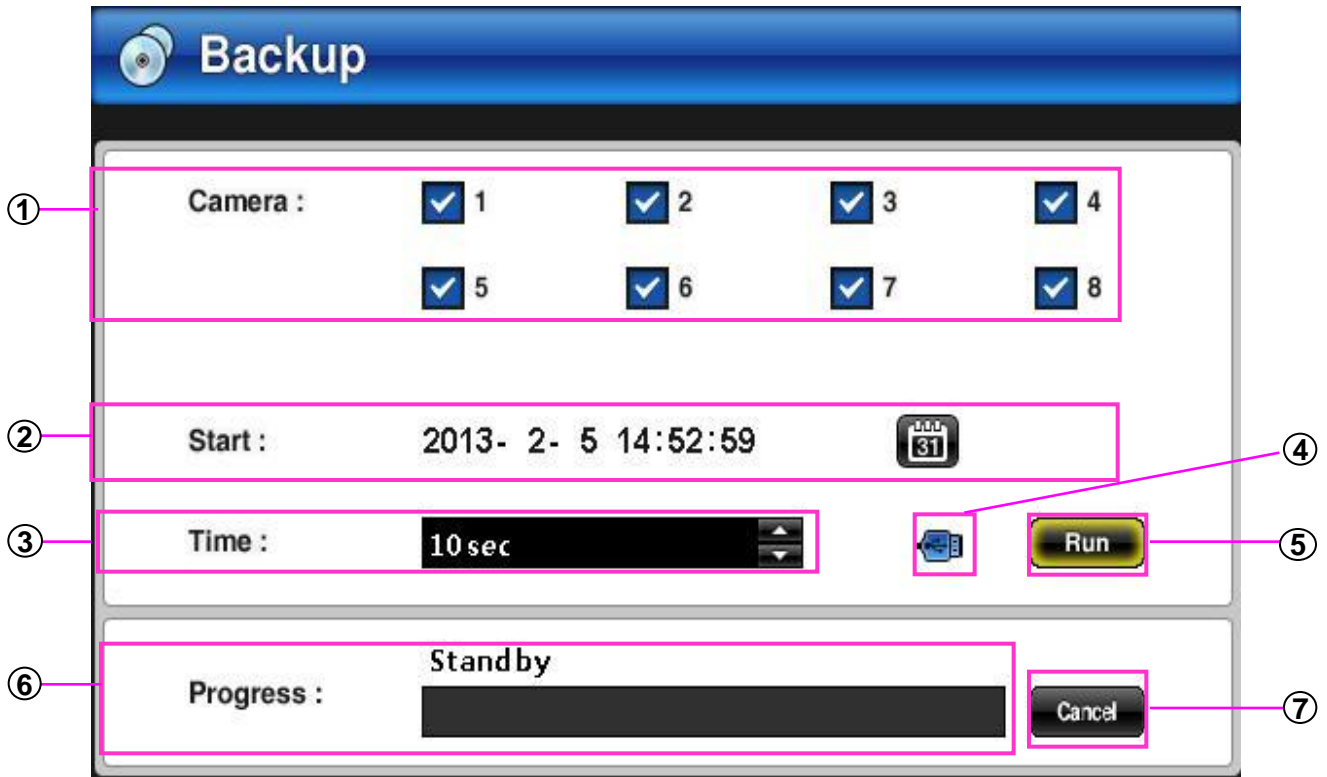
1. Except the selected channel playback.
2. Select the screen to display the split screens.
3. To view a full screen while playback, push the number to select the desired channel.
4. To view as split screen, push the number again.

# 6. Back up

## 6-1. Back up

The recorded image can be back up into SSD, HDD, CF memory as AVI file.

(Refer: PC viewer back up. Page 43)

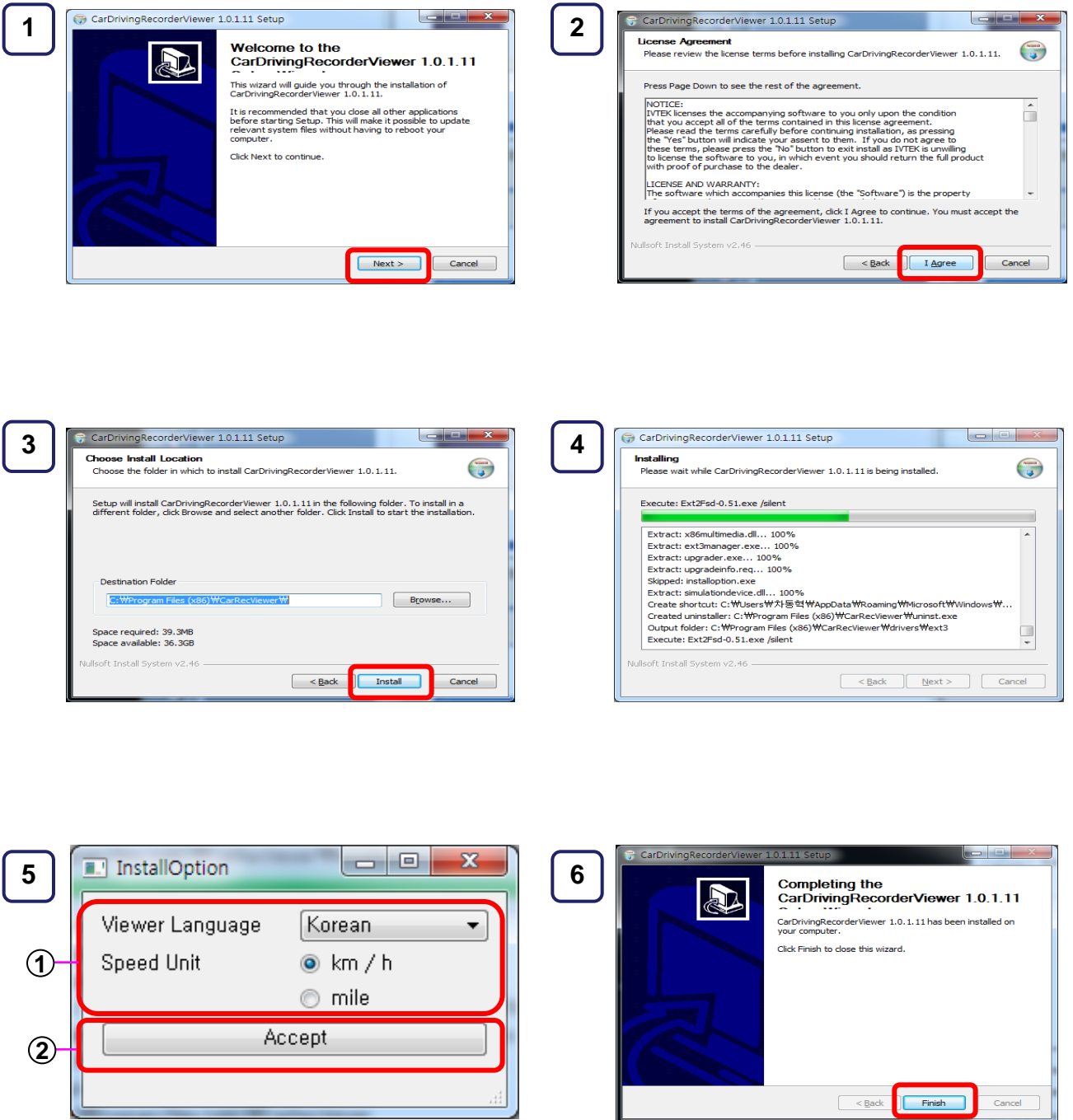


- ① **Camera :** Select the camera for back up. By pushing the number button of remote controller, select/unselect cameras.
- ② **Start Time :** Set up the back up time from the calendar.
- ③ **Back up period :**  
Set up the period for back up. Clicking [∨] and [∧] button, set up for back up period. (10sec, 1~10min)
- ④ **USB Status :** Indicate the USB's connection status. Only if the USB is connected, back up can be enabled.
- ⑤ **Back up :** Select the camera, set the time and period. Start back up by pushing 'ok' button from the remote controller.
- ⑥ **Status :** Indicate the back up status.
- ⑦ **Cancel :** Cancel the backup.

# 7. Viewer

## 7-1. Installation for viewer/Playback the image

Run the execution file to install the viewer.



① Select the language and speed unit.

② Change the speed unit. Then click "accept".





# 7. Viewer

## 7-1. Installation for viewer/Playback the image

Dismantle SSD/HDD/CF card from SAC8 and check the image from the PC.

### 1. Dismantle (SSD /HDD) for playback the image.



- ① Unlock the device using key.
- ② Pull out the removable (SSD / HDD) cartridge to dismantle.
- ③ Status of dismantled HDD

※ Make sure the power has turned off.

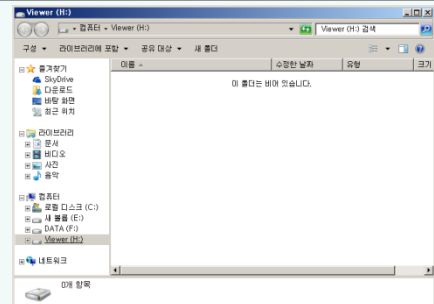
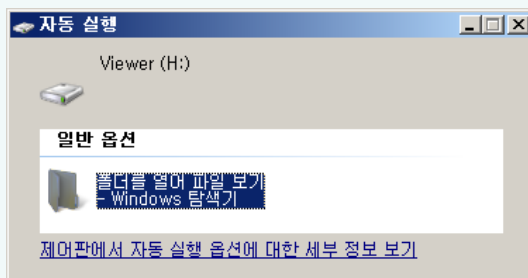
### 2. Connect the recording device(SSD /HDD) with PC



- ① Connect the recording device(SSD / HDD) with SATA to USB cable
- ② Connect the USB to PC

※ Make sure to use the bundle cable.

### 3. Connect the PC



- ① Connect the PC with recording device(SSD / HDD).
- ② From the file viewer, the recorded file is not visible due to the security purpose. It can only be detected from the viewer..

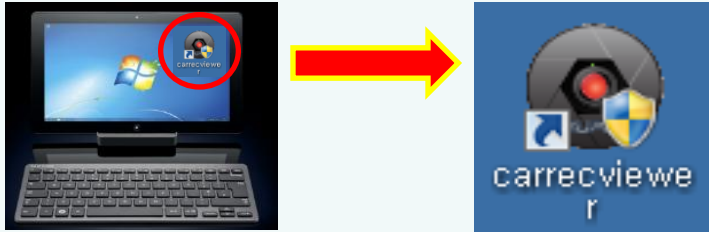
※ To check the image, install the viewer first.(Refer:35 Page)

# 7. Viewer

## 7-1. Installation for viewer/Playback the image

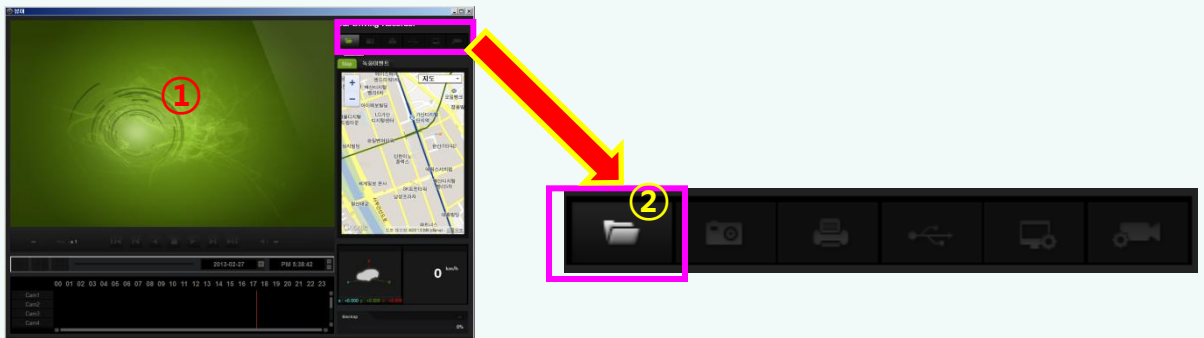
Dismantle SSD/HDD/CF card from SAC8 and check the image from the PC.

### 4. Run the PC Viewer

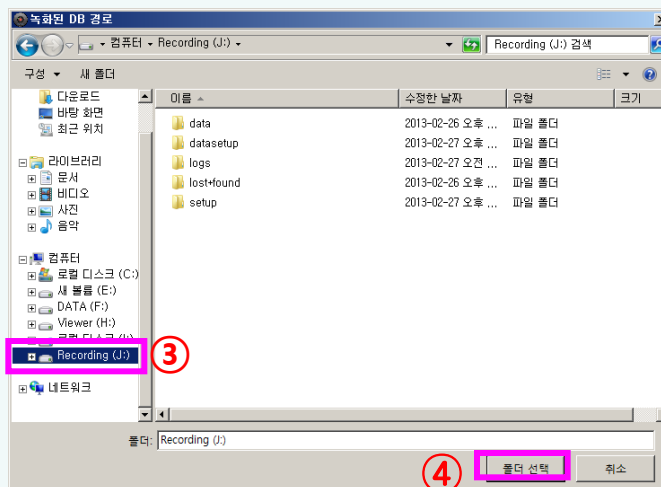


- ① By double-clicking the viewer icon, execute the viewer as administrator.
- ② Click 'allow' if the security window is appeared.

### 5. Checking the driver from the PC viewer



- ① Showing the viewer program
- ② Open the recording DB



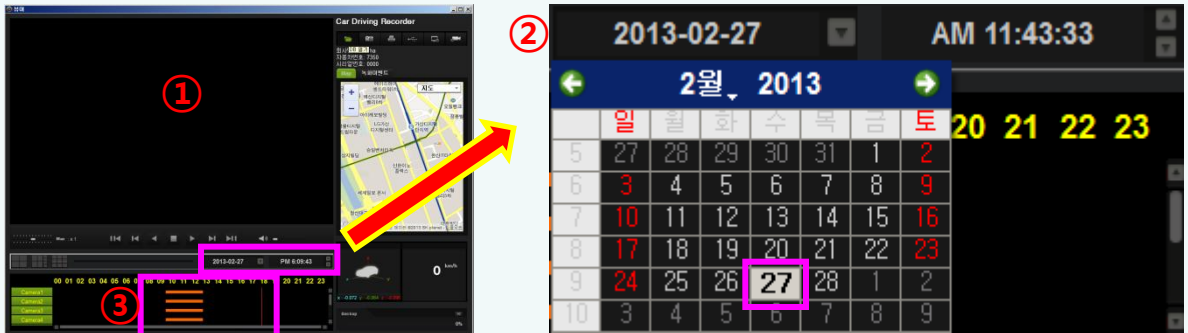
- ③ Click the recording folder from the windows. [Computer -> Recording(eg: F: , G: , J: ) ]
- ④ Click the folder.

# 7. Viewer

## 7-1. Installation for viewer/Playback the image

Run the execution file to install the viewer.

### 6. Run the PC viewer



- ① Initial Viewer window.
- ② Select "Date". (The last recording date will be indicated.)
- ③ Select "Time" and "Min".

Orange	Continuous recording
Blue	Motion recording
Dark Green	Sensor recording
Yellow	Impact recording

Purple	Emergency recording
Green	Previous recording
Gray	Video loss or no recording

- ④ Click playback button



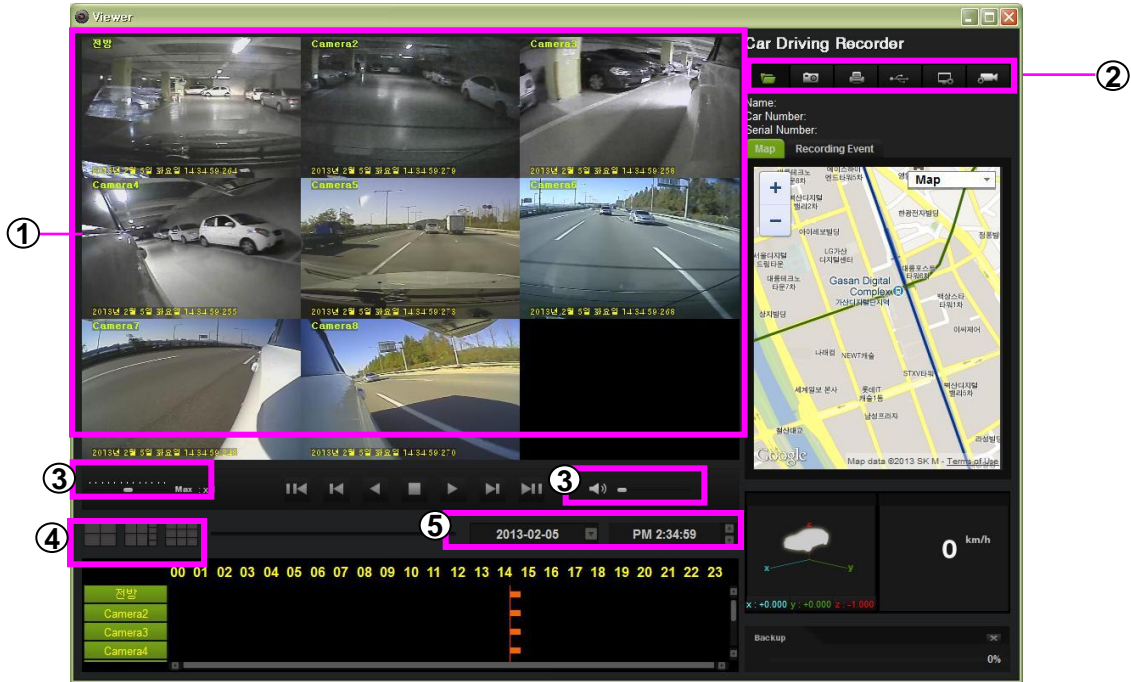
- ⑤ GPS information will be appeared while playback.

※ GPS is available with internet connection.

# 7. Viewer

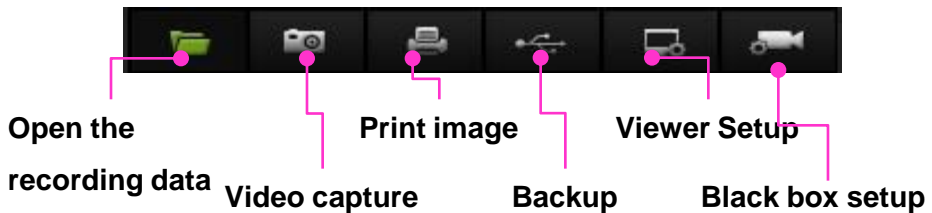
## 7-2. Configuration of the viewer (1)

The provided PC Viewer must be used to access the recorded data, including all video and audio data. Once accessed, the video and audio data may be converted into an AVI file.



① **Video Playback Screen** : Playback the recorded image.

② **Menu** : Open the recording data, capture, print, back up, viewer setup, black box set up and exit.



③ **Play back speed/Audio volume** :  
Select the playback speed and control the volume.

- Playback speed : 1/32 X, 1/16 X, 1/8 X, 1/4 X, 1/2 X, 1 X, 2 X, 4 X, 8 X, 16 X, 32 X, MAX
- Audio Volume : 0 ~ 100 %, Mute

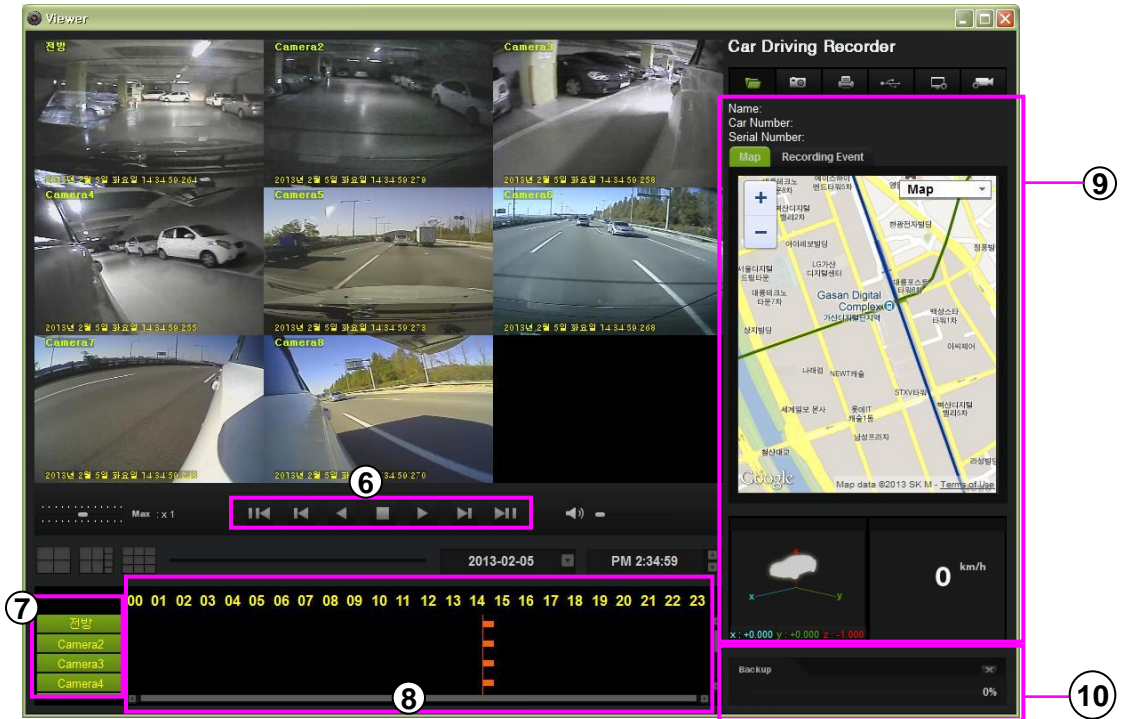
④ **Layout selection** : Split into 4/8/9 selection.



⑤ **Playback date** : Select the date and time for playback.

# 7. Viewer

## 7-2. Configuration of the viewer (1)



⑥ **Playback control** : Playback the recorded image.

	The initial data
	1 frame reverse playback
	Reverse playback
	Stop

	Playback
	1 frame playback
	The last data

⑦ **Camera** : Select the camera

⑧ **Time slide bar** : Enlarge the time slot as 4 steps. By sliding the time slide bar on the bottom for more precise changes.

⑨ **Driving information** : These screens can be displayed their location, speed, impact sensitivity and the vehicle's information

⑩ **Back up status and Stop** : Indicate the backup status or stop .

**Recording status**

Orange	Continuous recording
Blue	Motion recording
Dark Green	Sensor recording
Yellow	Impact recording

Purple	Emergency recording
Green	Previous recording
Gray	Video loss or no recording

# 7. Viewer

## 7-2. Configuration of the viewer (2)

Motion, Sensor, Impact and emergency event recording can be playback



**11** Event recording playback : Indicate the event recording item.

Motion	Event for motion detection
Sensor	Event for sensor detection
Impact	Event for impact sensor
Emergency	Event for emergency signal
Previous	Pre-event recording

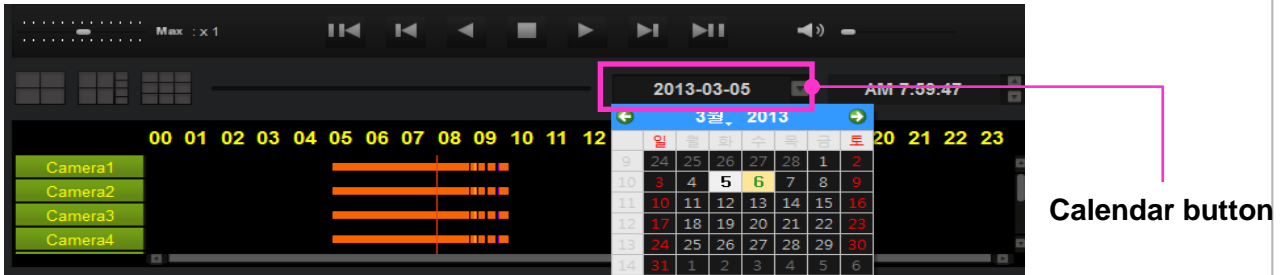
# 7. Viewer

## 7-3. Normal recording playback

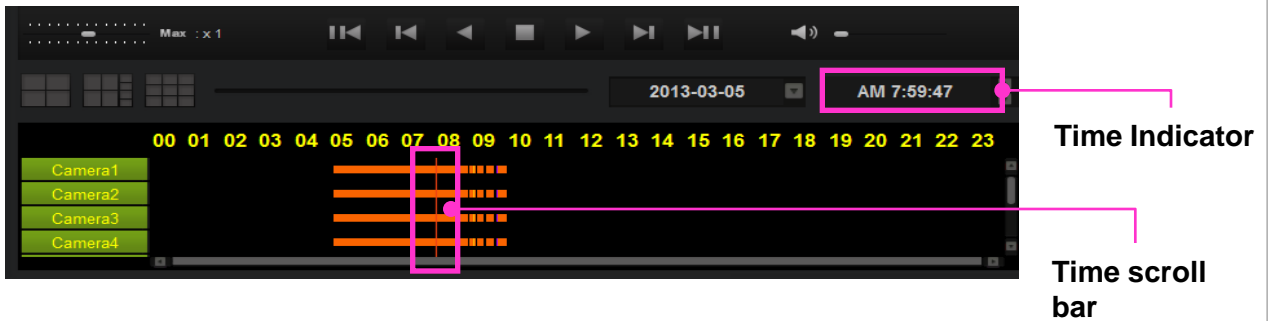
### 7-3-1. Select the playback date and time

Select the date and time to move to playback.

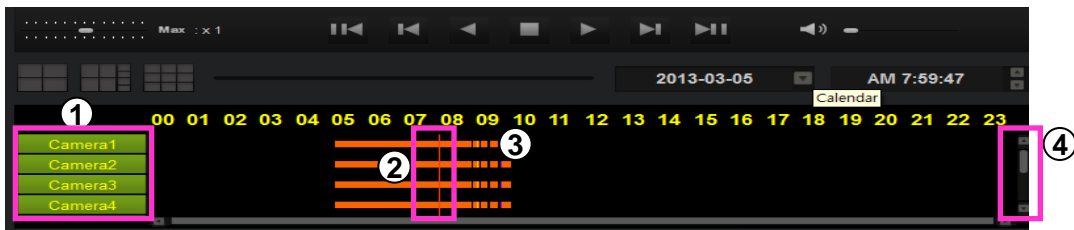
1. By clicking the calendar button, pop up the calendar window.  
Using ◀ ▶ button, move to the date which has recording data.



2. Using scroll bar, move to the desired time to playback.



### 7-3-2. Time scroll bar



- ① **Camera** : Select the camera number.
- ② **Time scroll bar** : By scrolling the bar, move to the exact time to playback.
- ③ **Recording Type** : Recording data shown on the time graph will be displayed in different colors depending on the recording type.  
Orange(Continuous recording), Blue(motion recording) Dark green(sensor recording), Yellow(Impact recording), Purple(emergency recording), Green(Previous recording), Gray(Video loss or no recording)
- ④ **Scroll bar** : To playback 5~8 channel, move scroll down.

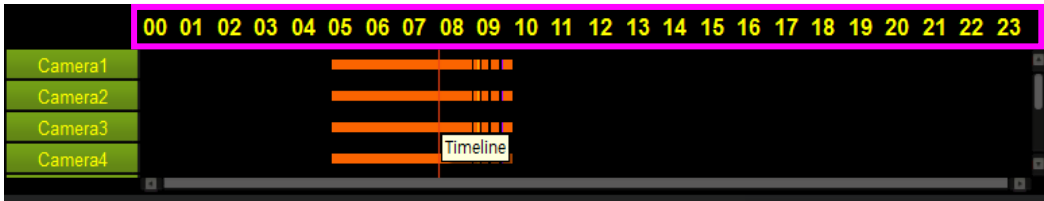
# 7. Viewer

## 7-3. Normal recording playback

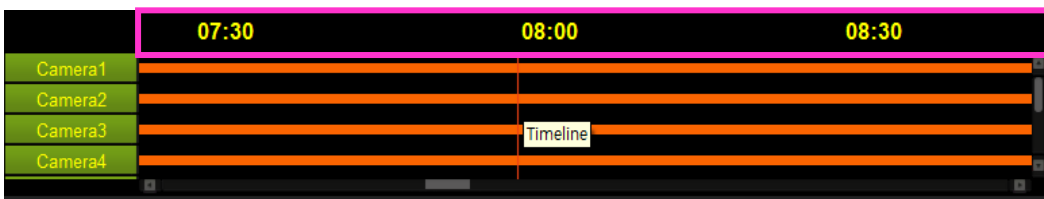
### 7-3-3. Time scroll bar usage

#### a. Time graph zoom in

1. Click the left side of the mouse on time graph.

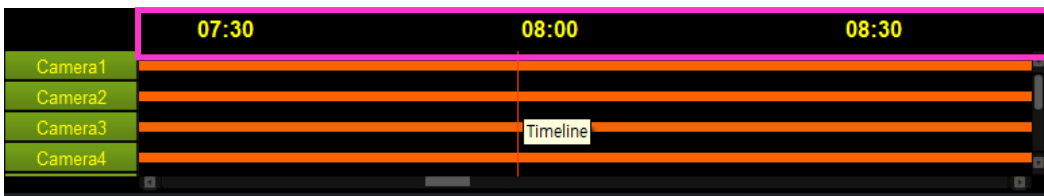


2. Time graph will be zoomed by multiple clicking.

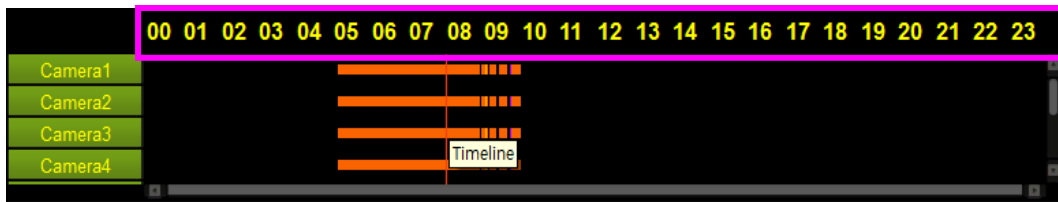


#### b. Time graph zoom out

1. Click the right side of the mouse on time graph.



2. Time graph will be zoomed out by multiple clicking.



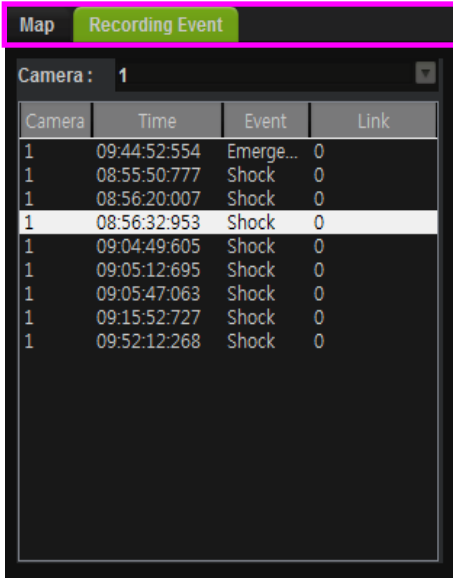


# 7. Viewer

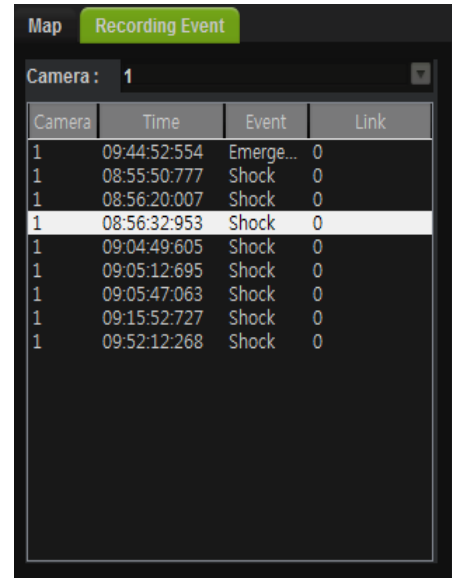
## 7-4. Event search

Indicate all events – motion, sensor, impact or emergency in the event list. Double click to playback the event recording data.

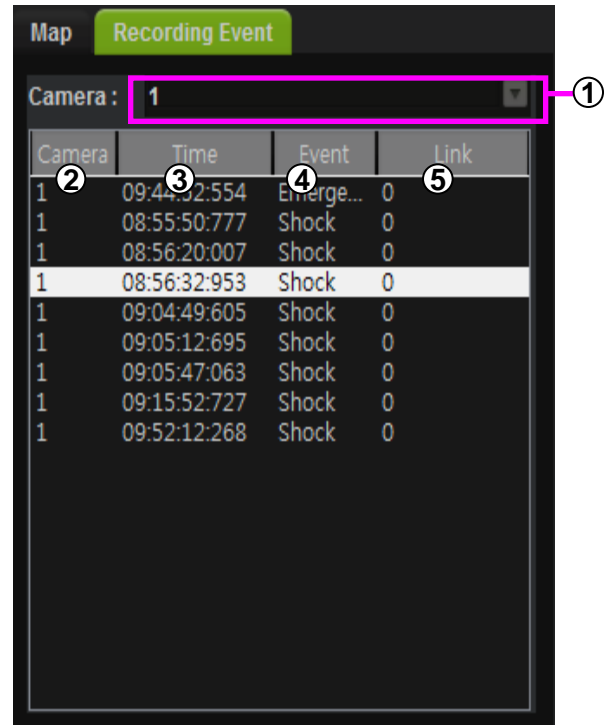
1. To search the event, click on the tab.  
" Recording Event"



2. If you double-click the event list, the video will be playback



- ① **Camera :**  
Select the camera number to playback
- ② **Camera information :**  
Indicate the event recording channel.
- ③ **Time :**  
Event recording started time.
- ④ **Events :**  
Showing the event type.
- ⑤ **Link Information :**  
Events camera channel.



# 7. Viewer

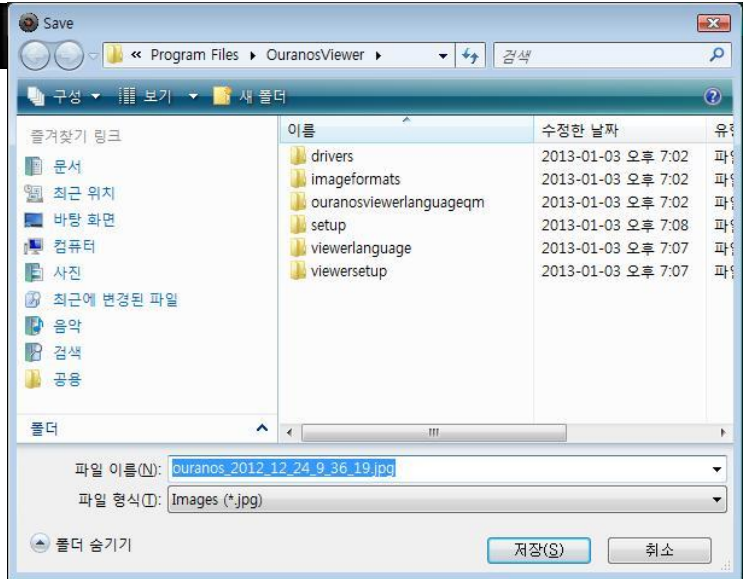
## 7-5. Capture

Capture the image while playback. It can work the playback pause.

Save as jpg or png



<Refer 36 page>.

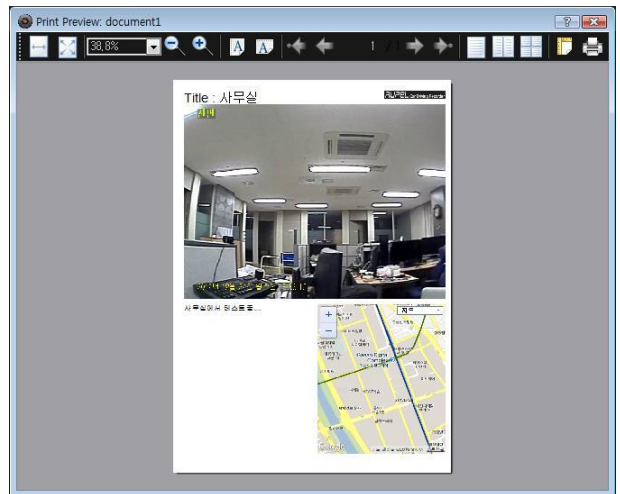
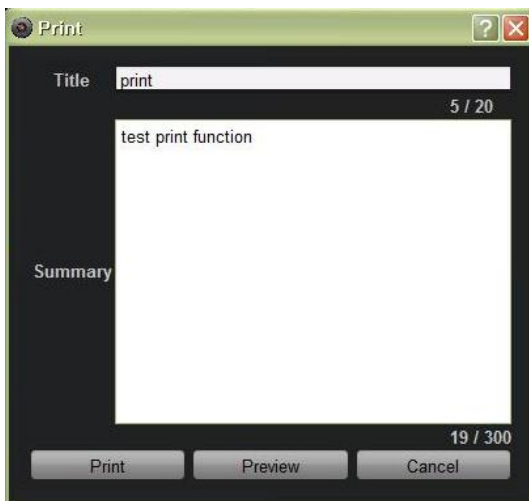


## 7-6. Print the image

Print the image while pause status.



<Refer 36 page>.



Type the title and contents.

Preview the image which will be printed out.

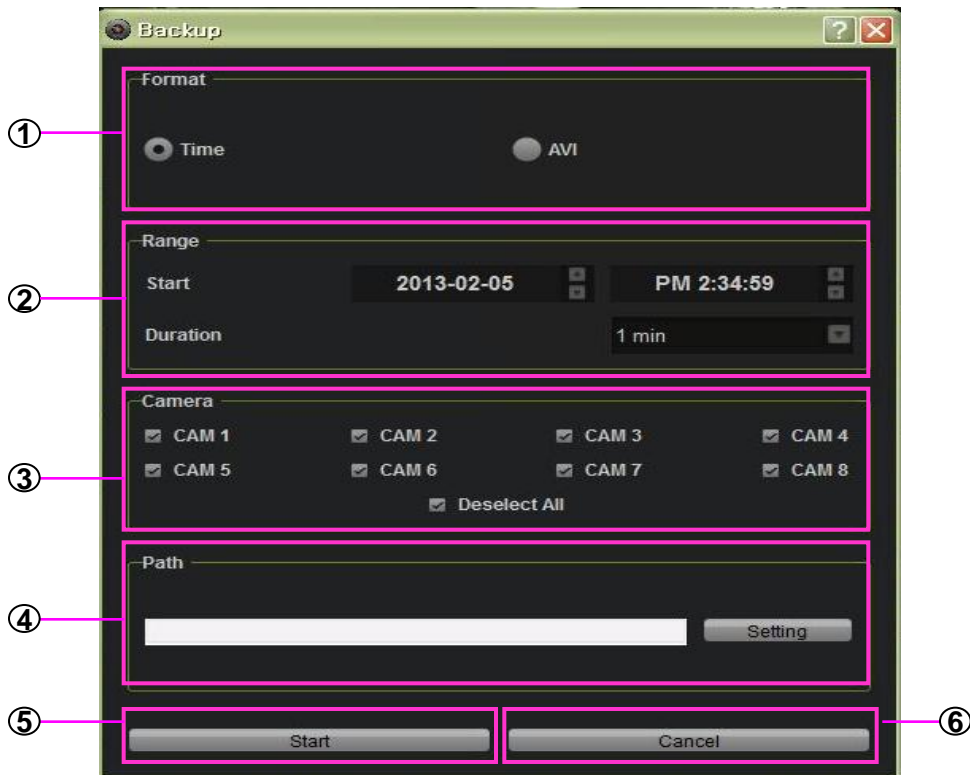
# 7. Viewer

## 7-7. Backup

Backup the recorded image into another HDD or USB memory.



<Refer 36 page>.



① **Backup type** : Select the backup type.

a. **Time setup** : Back up as the recording data file.

This backup file can be playback from the viewer only.

b. **AVI** : Backup as AVI file

② **Backup time setup** : Setup the time and date for backup.

a. **Start** : Select the date and time for starting backup.

b. **Period** : Select the period for backup. (10sec, 1~10min)

③ **Camera** : Select the camera for backup.

④ **Path** : Select the path for recording file.

⑤ **Start backup** : Select camera, time and date then execute the backup

⑥ **Cancel** : Cancel the backup.

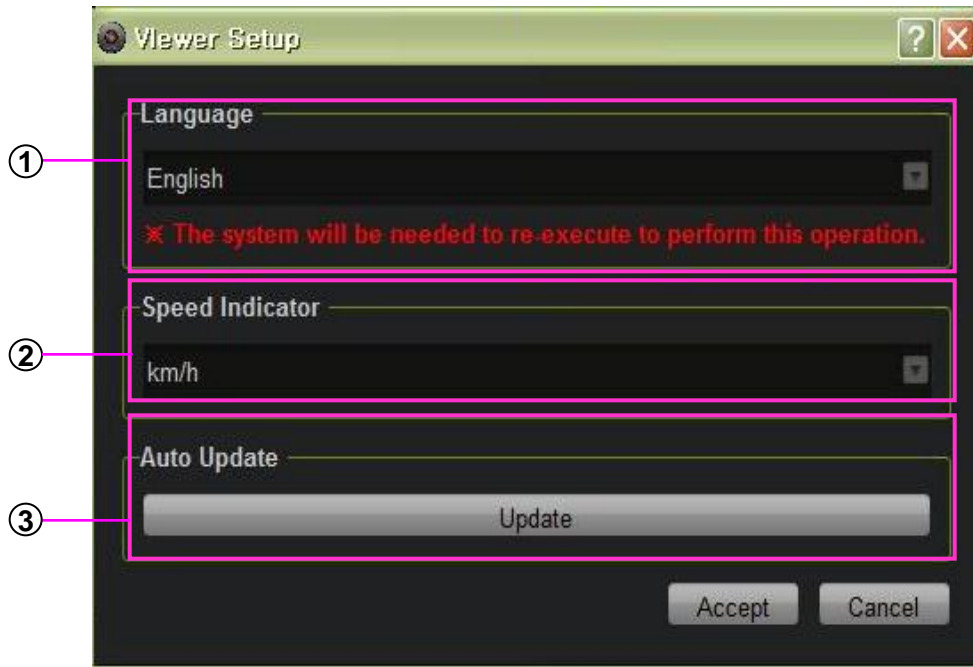
# 7. Viewer

## 7-8. Viewer setup

Set up for viewer's language, speed unit and update.



<Refer 36 page>.



- ① **Language setup** : Select the language. DVR should be restarted
- ② **Speed unit setup** : Select the speed unit( Km/h , Mile/h ).
- ③ **Update** : Update the latest firmware.

# 7. Viewer

## 7-9. DVR setup

Set up for DVR's configuration.

This configuration can be uploaded with SSD, HDD, CF CARD and USB)



Detailed settings, refer to the manual of the main unit.

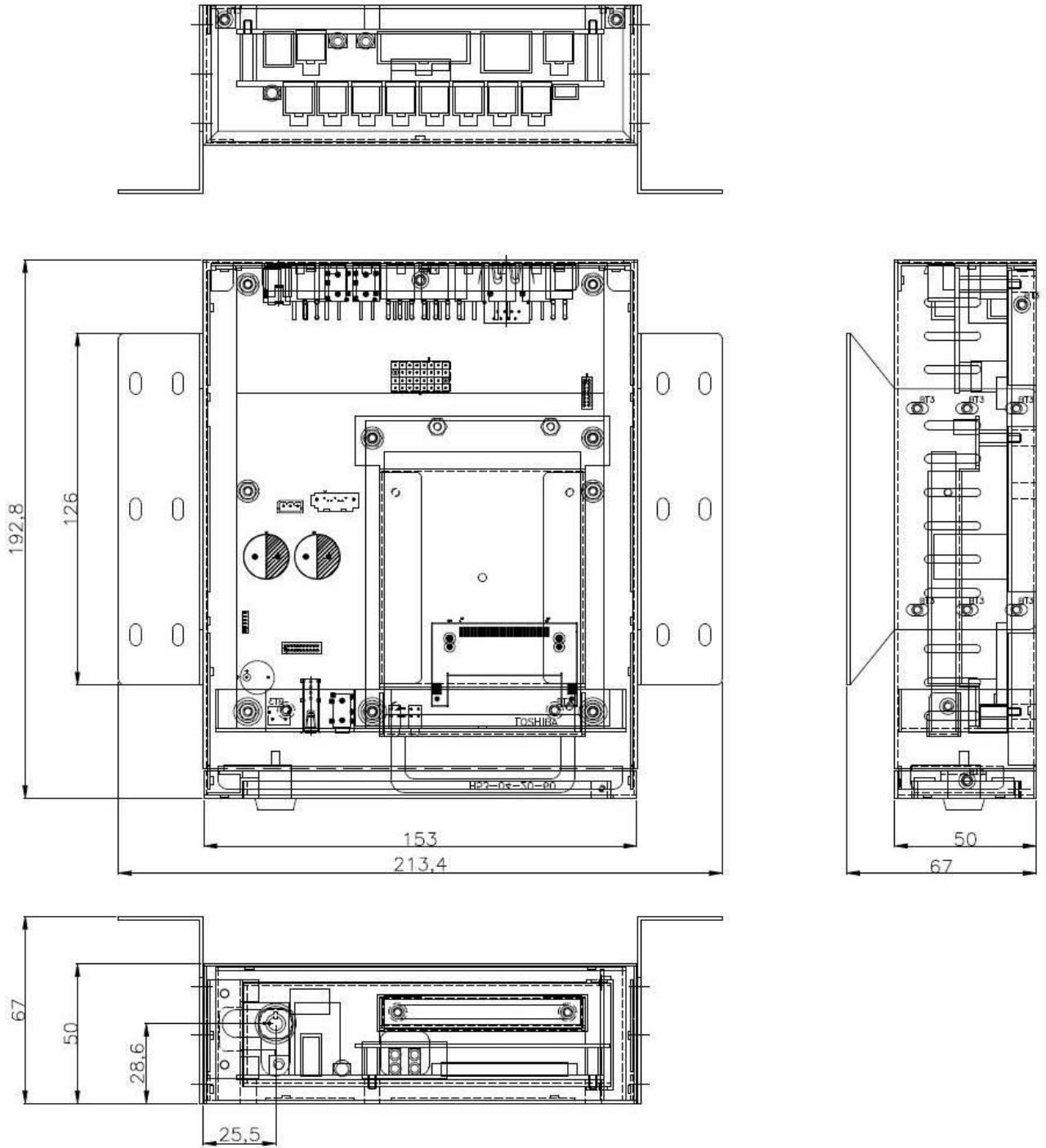
# 8. Appendix

## 8-1. Specifications

- Camera Input : 27K ~ 41K Pixel
- Recording resolution : 720 x 480 (D1)
- Recording frame : Max 120 fps @ 720 x 480
- Impact sensor : 3 axis impact sensor
- GPS : External GPS (G-mouse type)
- Recording Type : Continuous / Event (Impact/Sensor/Motion) / Emergency
- Compression : H.264 (Mpeg 4 part 10)
- Recording device : 2.5inch SSD/HDD, CF memory
- A/V out : Playback or live display
- USB port : Recording data back up
- External receiver : Remote control receiver
- Audio input : External Mic
- Sensor input/output : 6/2
- Serial I/F : RS-232
- Power : DC 12V~36V

# 8. Supplement

## 8-2. Dimensions



# Technical Support & Warranty

## TECHNICAL SUPPORT

For Technical Support, please contact your local distributor.

## LIMITED WARRANTY

This product is supplied with 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 the place of purchase.

## Optional Item (Safe Power Cable)

### Model name: SPWR-1

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



The safe power supply cable will automatically cut off the battery power when battery voltage dropped below 12V or 24V.



Connect (+) to the fuse box.  
It should be connected to an battery circuit.



**The ground cable should be connected to car chassis.**





# SAC SERIES

Drive Partner for your Safety

