VACRON
ADVANCES IN SECURITY SOLUTIONS

FULL HD 5 Megapixel
Vehicle Video Recorder User Manual

2013 JAN V2.0

Index

A. Feature Description

■ Built-in Full HD 5M CMOS Sensor. Viewing angle approx. 105 degrees.

■ Suitable for all types of vehicles use. Small Design, Easy Installation。

■ Equipped with 3 inch TFT LCD screen to make the adjustment of recording angle easily; also providing photo shooting manually.

■ During playback of video footage and photo, the built-in screen direction sensor will detect screen side.

■ Video record outside driving conditions and audio record inside the vehicle simultaneously.

■ SD card Class 10 or above recommend. MAX to 32GB

■ G-sensor sensitivity can be adjusted according to vehicles and road situations. When detecting a strong shock, system will start emergency recording and keep the files without being overwritten.

■ Motion detection recording function during car stopping (External power source is needed)

■ GPS and Image data are recorded and playable on client software.

■ Lane Departure Warning System, to warn the driver with the beeper during driving off-lane.

■ Speeding Warning Function.

B. Specification

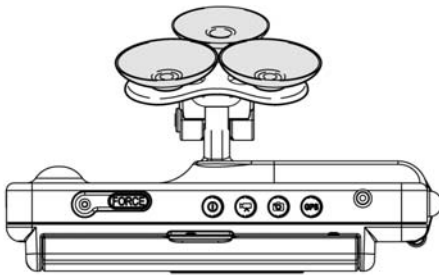| Items	Description
Chipset	Ambarella H.264 image compression chip
Sensor Device	Full HD 5M CMOS Sensor
View Angle	Approx. 105 degrees
Display	LCD 3 inch 4:3 monitor
Voltage	Start at 5V±5%；650mA (5V/1A Power Adaptor)
Operating Temperature	-10℃ ~ +70℃
Storage Device	For the performance issue, use SanDisk SD card Class 10 or above read/write speed 15MB/s recommend. (min capacity 4G, Max 32G)
Recording Frame and Content	1920x1080（Full HD1080P / 30F）；1280x720 (HD720P / 30F). Auto recording when power up system.
	Maximum Recording frame: 30fps (NTSC/PAL)
Camera Mode	Resolution 3M, 5M, 8M
	Photo Shooting by Manually/ G-Sensor/ Timer
Recording Content	Date, Time, Image, Sound, G-Sensor data , GPS data
Recording Format	Specific format for exclusive player (Recording Mode)
Microphone	Built-in Dual High Sensitivity Microphone.
Time Setup	Auto-calibrating by GPS signals. If GPS is not available, the built-in clock will be used.
G-Sensor	Built in Internal 3D G-Sensor

C. Accessories

■ Standard:
  1. 5V cigarette Power adapter   2. Remote controller
  3. Product Disc   4. Suction cup bracket
  5. Bracket holder   6. Quick user guide
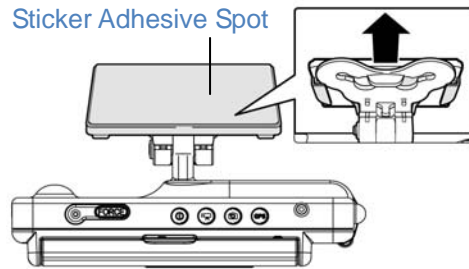■ Optional:
  1. 16G _Class 10 SD card
  2. 5M RCA Video output cable

D. Schematic Diagram of The Installation Steps

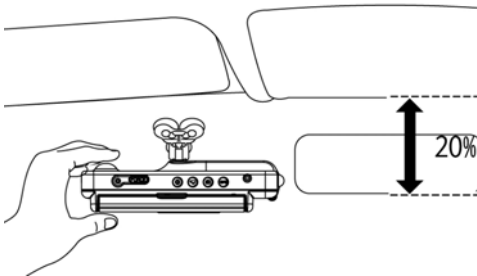1. To install the device on the windshield by "Suction Cups" or "Stick-Holder" Type

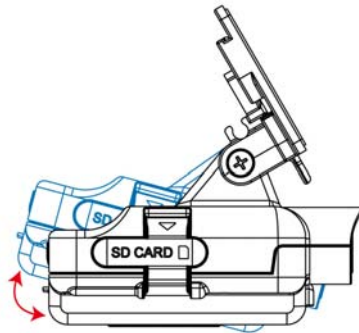Sticker Adhesive Spot

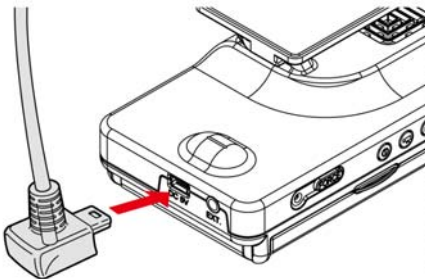Suction Cups Type   Stick-Holder Type

2. The best position to install the device on the windshield
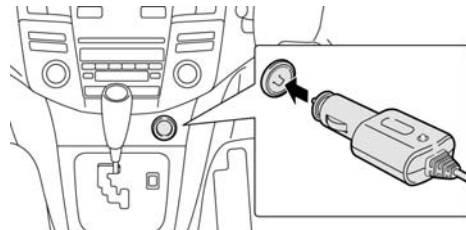
3. To adjust the recording angle properly

20%

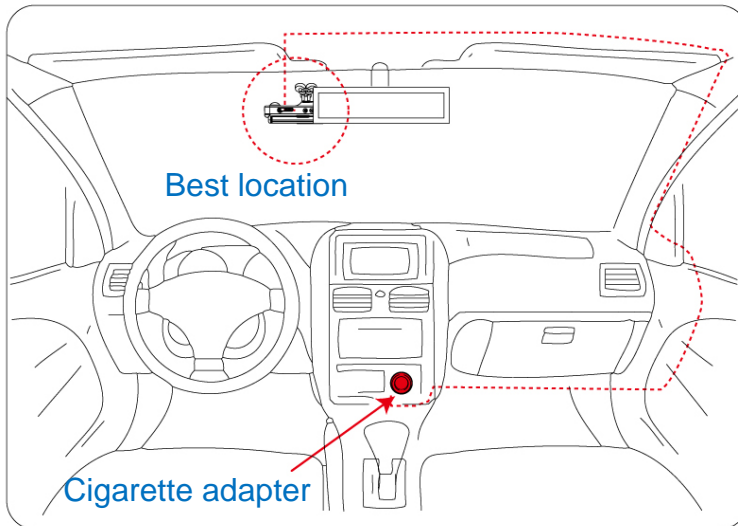SD CARD

4. Plug in DC5V Power Supply

5. Plug in the Cigarette Charger

6. VVR installation


Best location

Cigarette adapter

Description：

(a) GPS positioning speed will be affected by weather, window films, etc. Windows film may contain metal substances and have impact on GPS positioning.

(b) Indicator Lighting Mode- Day and Night mode/Auto Detection.

(c) Mini-USB Port reserved for USB PC Link.

⚠ Notice

(1). This device should be installed in the area where the windshield will be able to be cleaned.

(2). Formatting SD card on the device before beginning to use.

(3). Set time zone and timing on OSD, or auto-calibrating by GPS.

(4). NTSC or PAL setting through OSD.

(5). Electricity consumption: 650mA. If power supplied by PC, please use Y Type USB Cable.
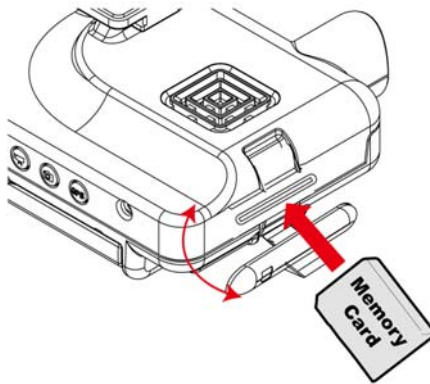
E. Product Function Introduction
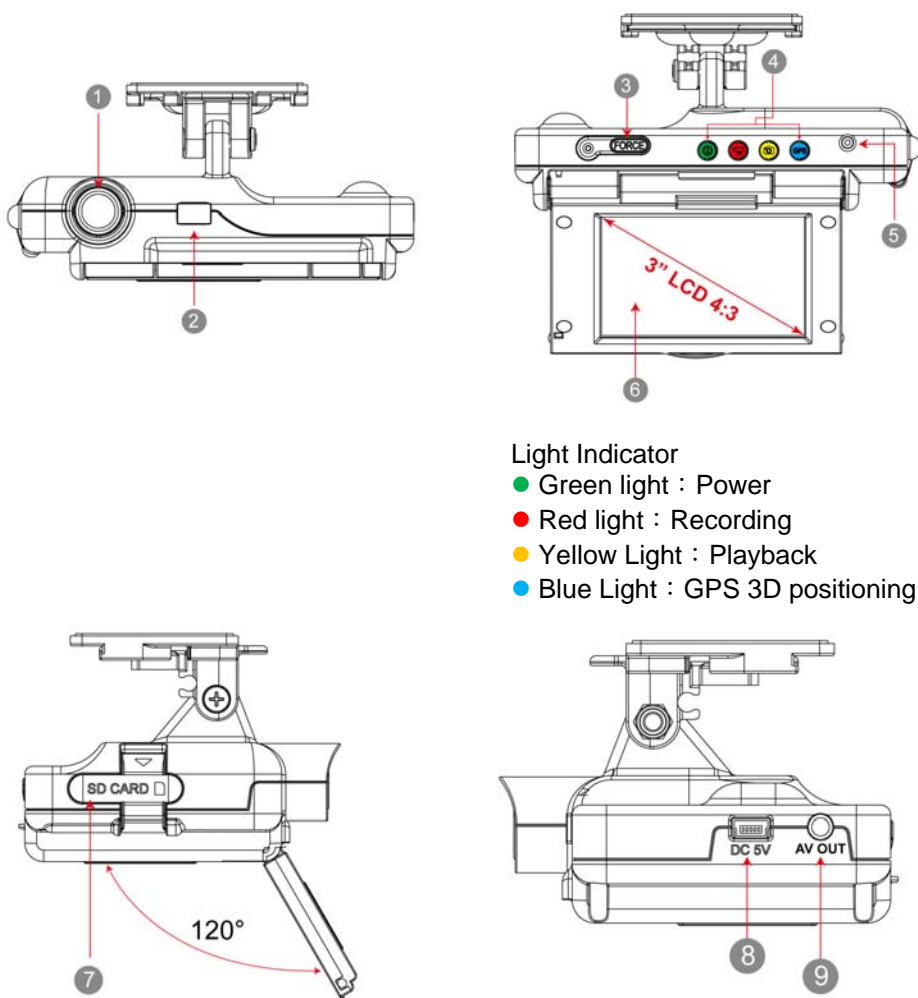
Light Indicator
● Green light：Power
● Red light：Recording
● Yellow Light：Playback
● Blue Light：GPS 3D positioning

1. Lens
2. USB cover /
   Reserved for USB PC Link
3. Force recording
4. Indicator
5. IR Receiver

6. Screen
7. SD card Slot
8. DC5V
9. AV OUT

F. SD Card Installation

(1). Open SD card cover on the device to insert of remove SD card.

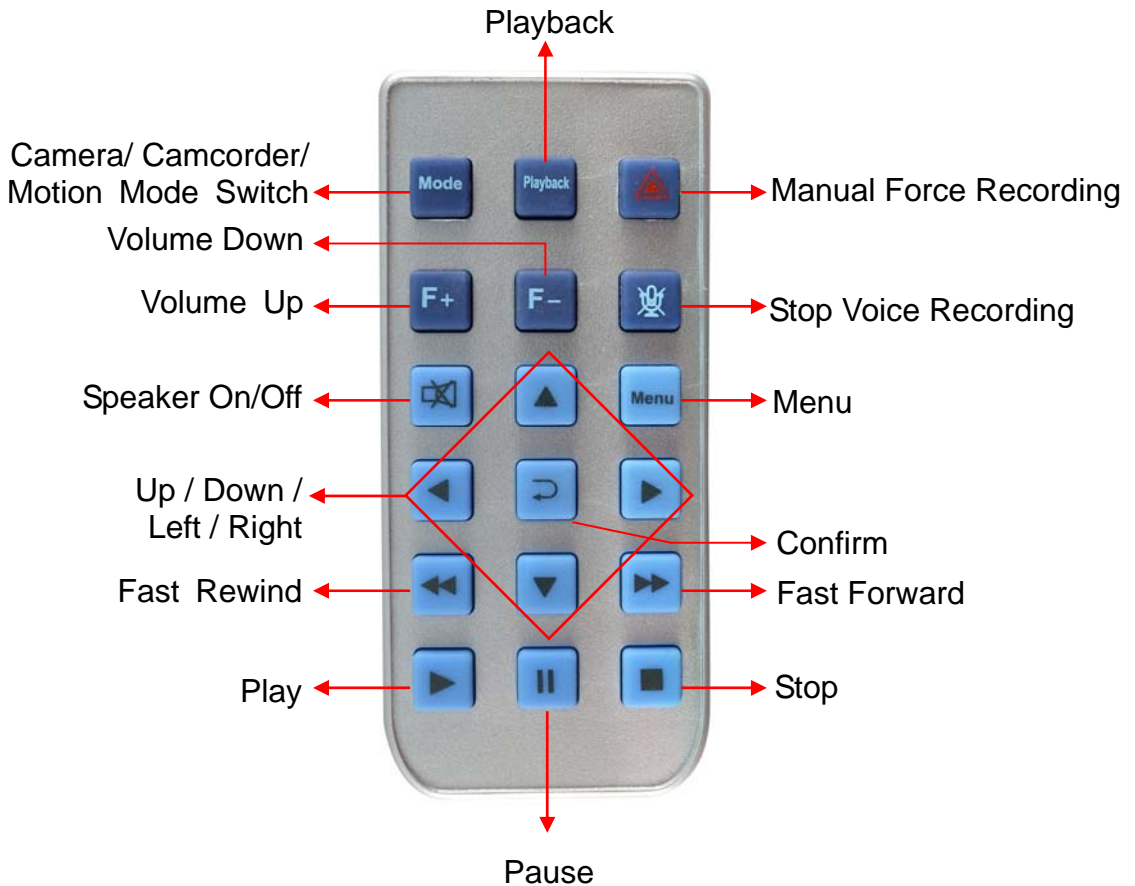(2). Format memory card; please refer to the other chapter "Formatting memory card" for more detail.

Remark: Memory Card is optional

⚠ **Warning**

(1). Recommend Memory Card "SanDisk" or "Transcend" Class 10 or above. (Minimum of 4GB)

(2). If the memory card is not formatted by our exclusive player, the device will automatically erase all the data inside of the memory card after inserting it, start recording at default setting.

(3). Please don't convert Micro SD to SD card to begin recording, to avoid the damage during recording.

(4). Since memory cards have the writing endurance situation, we recommend to inspect the memory card and use pc for playback regularly, to ensure that the memory card can read and write

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G. Remote Controller Description

Playback

Camera/ Camcorder/
Motion Mode Switch ←   → Manual Force Recording

Volume Down ←

Volume Up ←   → Stop Voice Recording

Speaker On/Off ←   → Menu

Up / Down /
Left / Right ←

      → Confirm

Fast Rewind ←   → Fast Forward

Play ←   → Stop

Pause

H. Operation Setting

1. OSD List Menu

■ Setup Menu

Setup	Setup	Setup
Language ABC	Alarm speed	Effect
Date / Time	TV standard	Sensor SEN
Time Zone	Frequency Hz	Format
Unit Of Speed km/h	Mic. OFF/ON	Default
Show speed	WH Balance	

| 1/3 | 2/3 | 3/3 |

■ Camcorder Menu   ■ Camera Menu

Camcorder	Camera
Resolution 1080P30	Resolution 5M
Quality	Capture Mode NOR
G sensor	Cap. Period
Capture Mode	G sensor

■ LDWS Menu   ■ Motion Menu

LDWS	Motion
LDWS OFF/ON	Motion type
LDWS cal	Motion spot zone
LDWS sensitive	Spot size
	Motion sensitive
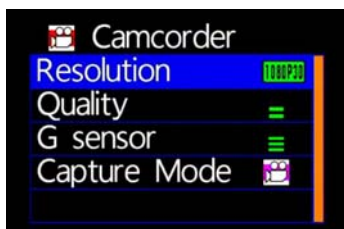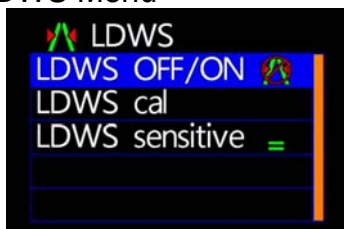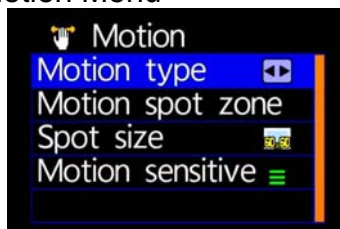
■ Please use IR controller to select function

List Function	Key on IR Controller
List Moving	◀ ▶ [LEFT OR RIGHT]
Bar Moving	▲ ▼ [UP OR DOWN]
Confirmation	⊃ [CONFIRM]
Go to Previous Menu or Main Menu	Menu [MENU]

2.   Setup Menu
◆ Language Setting

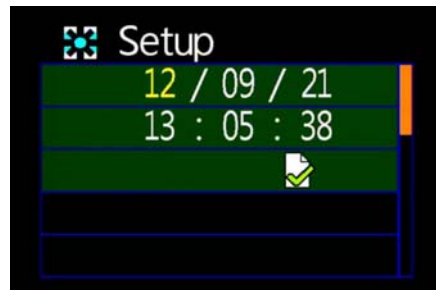|	
Setup	**Setup**
Language ABC	English ABC
Date / Time	Date / Time
Time Zone	Time Zone
Unit Of Speed km/h	Unit Of Speed km/h
Show speed	Show speed

★English / French / German / Italian / Japanese / Korean / Portuguese / Russian / Traditional Chinese / Spanish / Simplified Chinese / Turkish / Dutch…etc
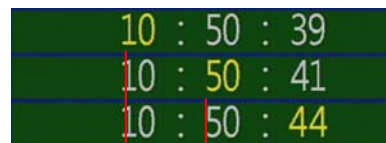
◆ Date/Time Setting

Setup	**Setup**
Language ABC	12 / 09 / 21
Date / Time	13 : 05 : 38
Time Zone	
Unit Of Speed km/h	
Show speed	

LIST FUNCTION	▲ ▼ [UP/DOWN]
LIST MOVING	◄ ► + ↵ + ▲ ▼ [R/L]+[CONFIRMATION]+[UP/DOWN]
CONFIRMATION	↵ [CONFIRM]
Go to Previous Menu	Menu [MENU]
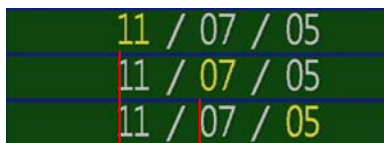
11 / 07 / 05			10 : 50 : 39		
11 / 07 / 05			10 : 50 : 41		
11 / 07 / 05			10 : 50 : 44		
Y	M	D	H	M	S

★Year: Last digits of year (11 means 2011).
  Hour: 24 hour.

◆ Time Zone Setting

Setup		Setup	
Language	ABC	Language	ABC
Date / Time	🕐	Date / Time	🕐
Time Zone	🌐	UTC +8 🌐	
Unit Of Speed	km/h	Unit Of Speed	km/h
Show speed	✅	Show speed	✅

★Select time zone as specific area

◆ Unit On Speed Setting

Setup		Setup	
Language	ABC	Language	ABC
Date / Time	🕐	Date / Time	🕐
Time Zone	🌐	Time Zone	🌐
Unit Of Speed	km/h	km/h mph	
Show speed	✅	Show speed	✅

★km/h(kilometer) or mph(knot)

◆ Show Speed Setting

Setup		Setup	
Language	ABC	Language	ABC
Date / Time	🕐	Date / Time	🕐
Time Zone	🌐	Time Zone	🌐
Unit Of Speed	km/h	Unit Of Speed	km/h
Show speed	✅	❌ ✅	

★Cancel / Open

◆ Speed Alarm Setting

Setup		Setup	
Alarm speed	🔴	Alarm off	🔴
TV standard	TV	TV standard	TV
Frequency	Hz	Frequency	Hz
Mic. OFF/ON	🎤	Mic. OFF/ON	🎤
WH Balance	🌥A	WH Balance	🌥A

★Cancel / 40 Kmh / 45 Kmh / … / 195 Kmh / 200 Kmh for example

◆ TV Standard Setting

Setup	
Alarm speed	🔴
TV standard	📺
Frequency	**Hz**
Mic. OFF/ON	🎤
WH Balance	🔆A

Setup	
Alarm speed	🔴
NTSC PAL	
Frequency	**Hz**
Mic. OFF/ON	🎤
WH Balance	🔆A

★NTSC / PAL

◆ Light Frequency Setting

Setup	
Alarm speed	🔴
TV standard	📺
Frequency	**Hz**
Mic. OFF/ON	🎤
WH Balance	🔆A

Setup	
Alarm speed	🔴
TV standard	📺
50Hz 60Hz	
Mic. OFF/ON	🎤
WH Balance	🔆A

★50Hz / 60Hz

★Light frequency flashes as electricity frequency, causing specific light wavelength which is sensed by eyes. General speaking, the higher of light frequency, the brighter of environment around eyes.

◆ Microphone Off / On Setting

Setup	
Alarm speed	🔴
TV standard	📺
Frequency	**Hz**
Mic. OFF/ON	🎤
WH Balance	🔆A

Setup	
Alarm speed	🔴
TV standard	📺
Frequency	**Hz**
🚫🎤 🎤	
WH Balance	🔆A

★Off / On

◆ White Balance Setting

Setup		Setup	
Alarm speed	🔴	Alarm speed	🔴
TV standard	TV	TV standard	TV
Frequency	Hz	Frequency	Hz
Mic. OFF/ON	🎤	Mic. OFF/ON	🎤
WH Balance	🅰	🅰 ☀ ☁ 🔆 💡	
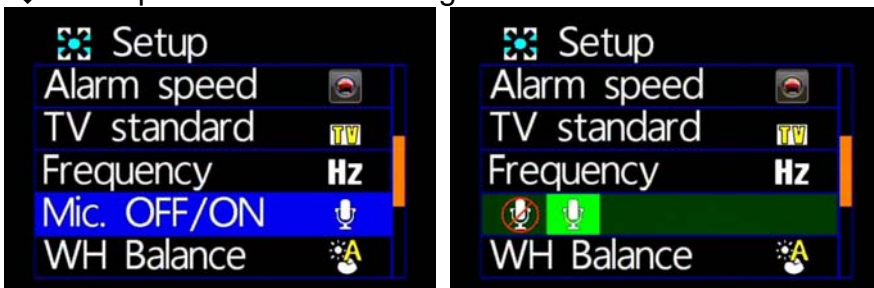
★Automatic / Sunny Day / Cloudy Day / Fluorescent / Incandescent

🅰 ☀ ☁ 🔆 💡	：Automatic
🅰 ☀ ☁ 🔆 💡	：Sunny Day
🅰 ☀ ☁ 🔆 💡	：Cloudy Day
🅰 ☀ ☁ 🔆 💡	：Fluorescent (Yellow Background)
🅰 ☀ ☁ 🔆 💡	: Incandescent (Bright-White Background)
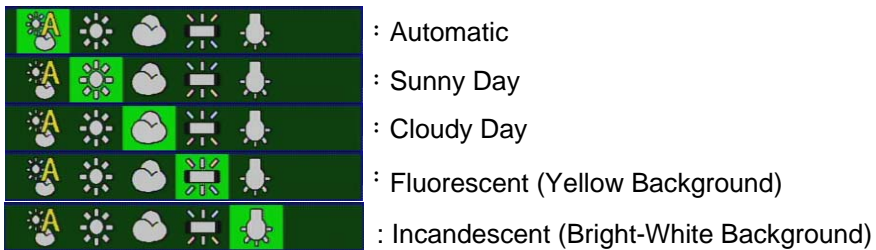
★ "Automatic" is recommended when on-road recording is operating to prevent blur image. "Automatic" is set as default.

Please compare the following pictures which show the specific image under the above 3 "EFFECT" setting.

🅰	Automatic	Default	
☀	Sunny Day		Sunny
☁	Cloudy Day		Cloudy/Dark/Sunset
🔆	Fluorescent		Fluorescent (Yellow Light Background)
💡	Incandescent		Incandescent (White Light Background)

◆ Effect Setting

Setup	**Setup**
Effect	Effect
Sensor SEN	Sensor SEN
Format	Format
Default	Default
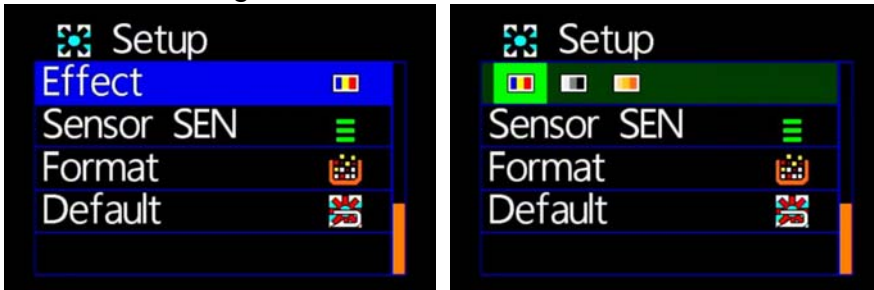
★Color / B&W / Classic

★After "Effect" is set, it is automatically functioned under snap shot or camera operating situation.

Please compare the following pictures which show the specific image under the above five "White Balance" setting.

Illustration	Effect	Picture
	Color	
	B&W	
	Classic	

◆ Sensor Sensitivity Setting

Setup	**Setup**
Effect	Effect
Sensor SEN	Sensor SEN
Format	Format
Default	Default
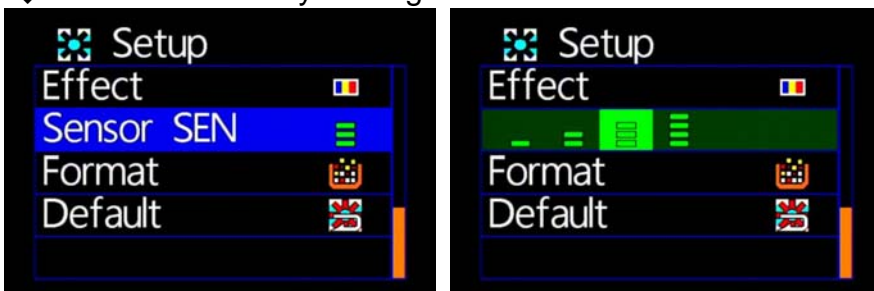
★More stripes appear; More sensitive

★When vehicle drives through darker areas, "sensitivity" decides whether "white balance" is going to be functioned or not. If "sensitivity " is set more sensitive, as vehicle drives into darker areas, " white balance" will automatically be on, and under the situation, it may cause the video image too bright.

◆ Format Setting
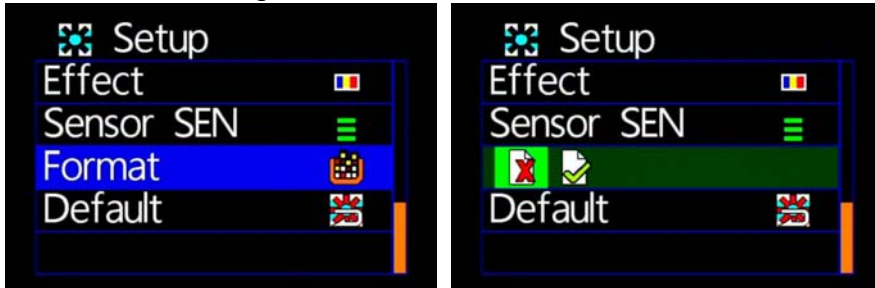
★Cancel / Confirm Formatting

★When selecting "Cancel Formatting", it goes to "Main Menu."
★During formatting, existed data will be erased. Please backup the needed data before the process
★Brand-new SD cards must be formatted before using.

◆ Default Setting
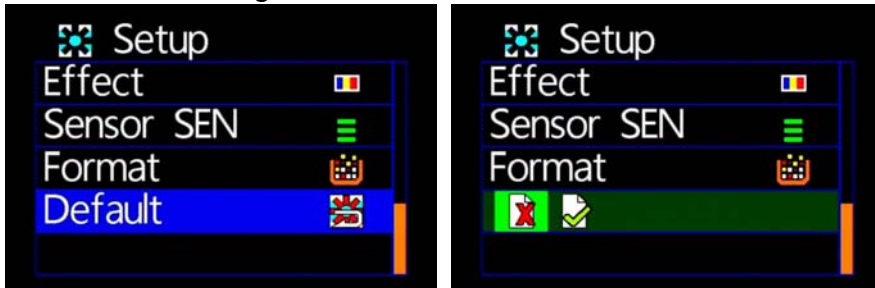
★Cancel Factory Default Setting / Confirm Factory Default Setting

★When selecting "Default", it goes to "Main Menu".
★When going to "Default", it will automatically go to factory default setting. For changing further setting, please go to main menu.

3.　Camcorder Menu

◆　Resolution Setting
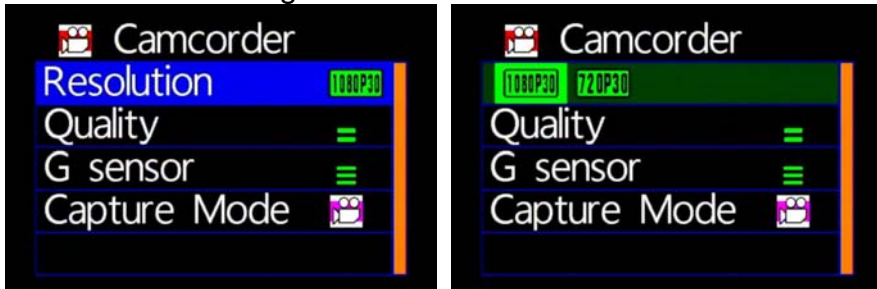
★ 2 resolution: 1080P(30) / 720P(30)

◆　Quality Setting
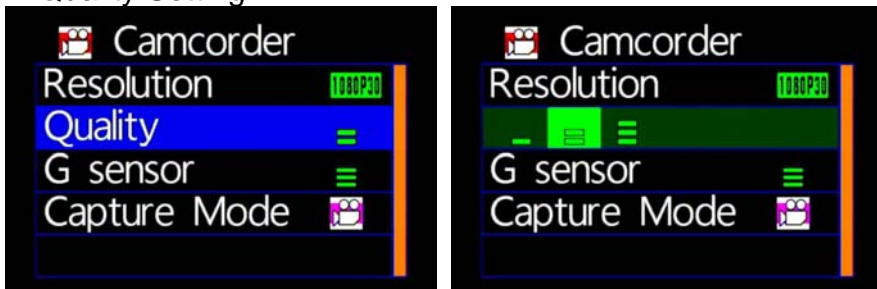
★Notice: More stripes appear; more video resolution does

◆　G-Sensor Setting
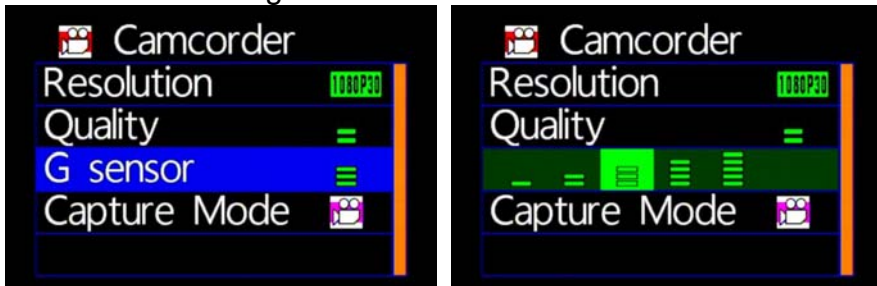
★NOTICE: More Stripes; More Sensitivity to trigger G-sensor easily for forced recording.

★Each time for triggering force recording, it will be automatically saving 3 more minutes before and after the accident.

◆   Capture Mode Setting

: Motion mode / : Normal mode

★During Motion mode, it will be switched to normal recording
   mode after restart

★To start the function of motion and LDWS recording, please
   turn on this.

4.   Camera Menu

◆   Resolution Setting

★3 Resolution modes: 3M/ 5M/ 8M

◆   Capture Mode Setting

★NOR: Normal, G-S: G Sensor mode, three continuous snapshots

◆ Capture Frequency Setting

★Normal / 30sec /1 minute/5 minutes /30minutes

◆ G-sensor Setting

★Notice: Higher sensitive of G-sensor, Easier to trigger forcing video recording.
After force recording is triggered, 3 consecutive pictures will be taken
automatically.

5. LDWS Menu

◆ LDWS setting

★ LDWS on / LDWS off

◆ LDWS Calibration
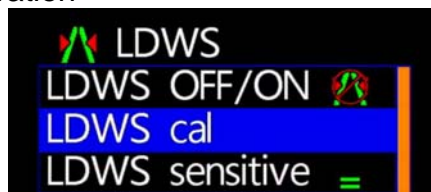
Setting LDWS：
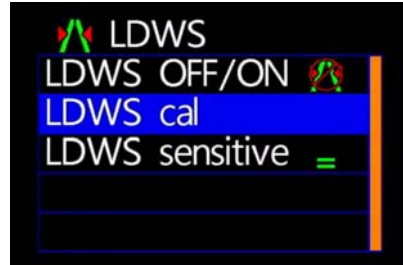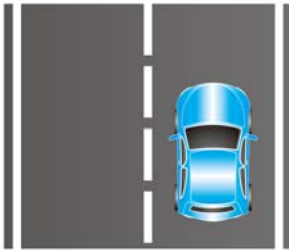
1. Drive the vehicle on the middle of the road

2. Open "LDWS" and select " LDWS confirmation"

3. Use the keys of ▲▼ ◄► on remote controller to adjust the " CROSS" in the exact middle of the road. If setting fails, " Can't get Lane" will be appeared. Use ⊃ to change horizontal line.

4. Use the keys of ▲▼◄► on remote controller to adjust horizontal line above engine cover. When the line can be recognized by VVR, "Lane Lock" will appear.

5. Please wait for few seconds in order for the device to be calibrated after the key ▲"Force Video" is pressed.

6. After calibration is completed, "calibration success!!" will appear in GREEN color, then press Menu "menu"

◆ LDWS Sensitive Setting

★ More Stripes, More Sensitivity

6. Motion Menu

◆ Motion Type Setting
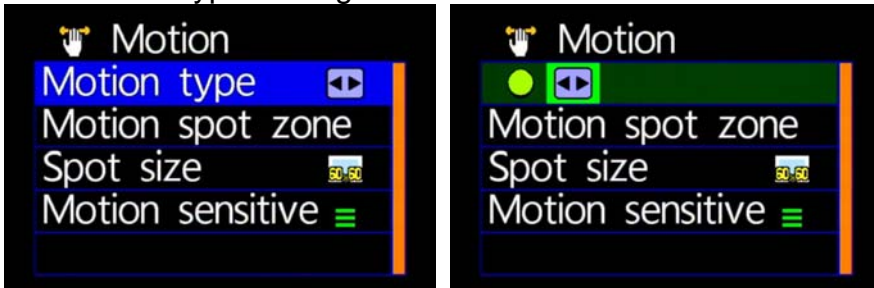
★ ● : Constant Motion Recording.

★ ◀▶ :Full Screen Motion Recording. (For this setting,

it is not necessary to setup the motion detection areas)

◆ Motion Sport Zone Setting
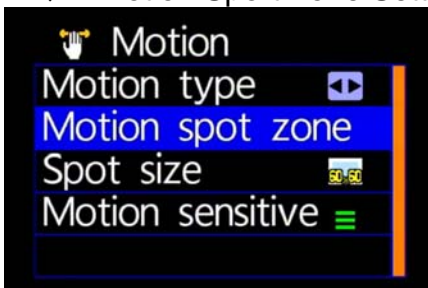
★Use remote controller to sense the movement location
★When setup for constant motion recording mode,
please select the designated areas for motion detection.

◆ Spot Size Setting
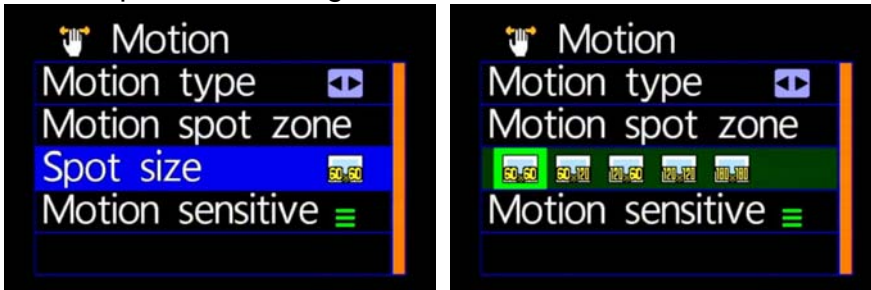
★Sizes: 60x60 / 60x120 / 120x60 / 120x120 / 180x180

◆ Motion Sensitivity Setting

★More Stripes, More Sensitivity

I. Playback

1. Direct playback on machine side
Build-in accelerometer, the system automatically determine the level of the screen visualization, and make the screen self-rotated to normal position.

2. Video modes
Press " Playback" on remote controller into Playback modes. Select the timing of the video by pressing "Play"
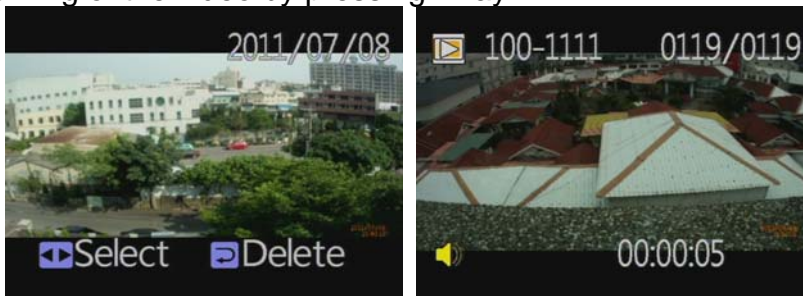
◆ **Playback settings - Deleting a single file**
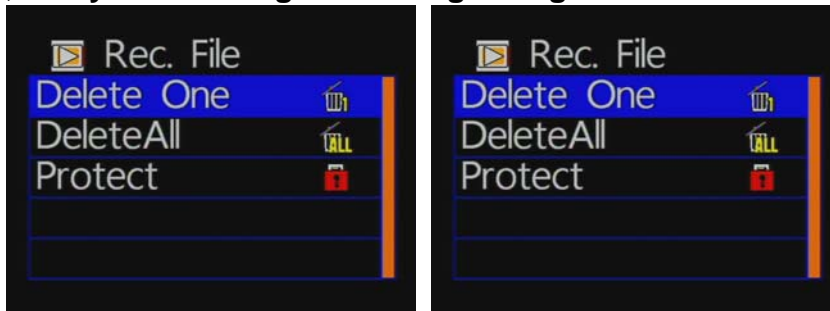
★ You must disable the protection function first in order to process the deleting procedures.

◆ **Playback settings- Delete All**
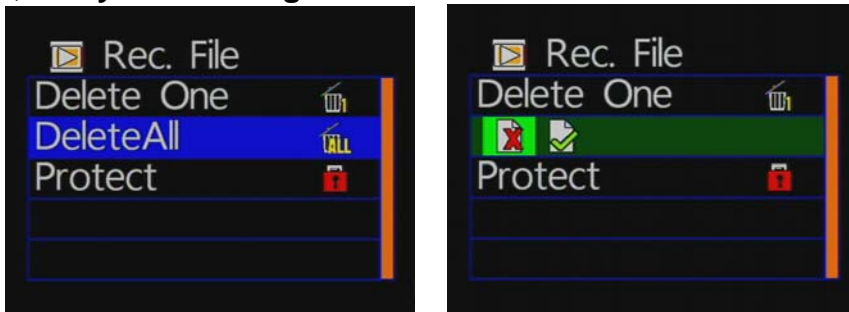
★ You must disable the protection function first in order to process the deleting procedures.

◆ Playback file setting-protect

Notice: When an icon of lock is appear, this specific video data is protected.
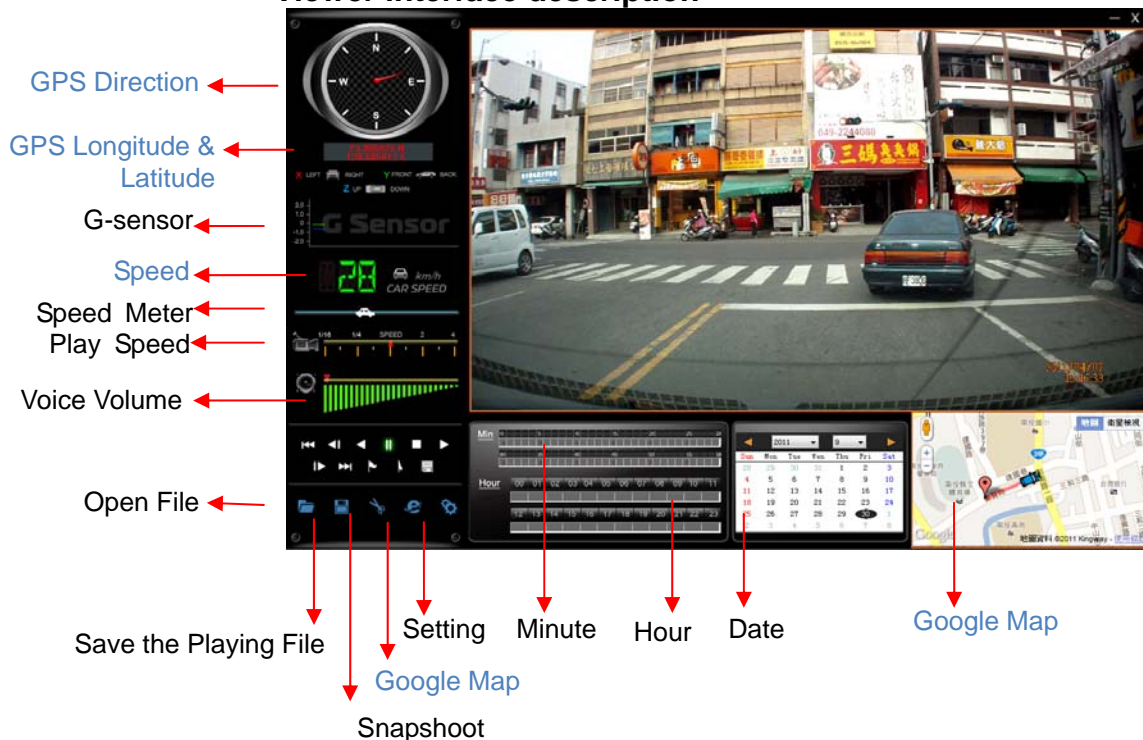
3. Snapshot playback

Press " Playback" on remote controller under Snapshot mode.
Select the timing of snapshot pictures.

Rotation	⊃ [Confirm] key
Next	◀ ▶ [R/L]key
Zoom	▲ ▼ [U/D]key

◆ Photo playback settings-Delete one

★ You must disable the protection function first in order to process the deleting procedures.

◆ Photo playback settings-Delete All

★You must disable the protection function first in order to process the deleting procedures.

◆ **Photo playback settings-protect**
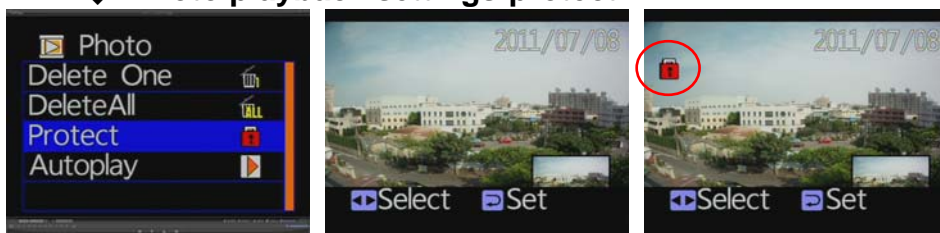
Notice: When an icon of lock is appear, this specific video data is protected.

◆ **Photo playback settings-Autoplay**

Each Snapshot will display in every 5 seconds. Press "Menu" for stop.

J. Software operating instruction

1. Remove SD card from card slot of host side
2. Put the SD card to the card reader
3. Connect card reader to the USB port of PC side

4. Choose the file to play: Execute "TransportStream.exe" ,
   which is located in the product CD folder, Screen shown as
   below. Choose "Open the document" , and choose the file of
   memory card or hard disc and then click "Play key" for
   playback.

◎Note: To perform this software, please install Direct X 9.0 or
   above.

Viewer interface description

GPS Direction

GPS Longitude & Latitude

G-sensor

Speed

Speed Meter

Play Speed

Voice Volume

Open File

Save the Playing File

Snapshoot

Google Map

Setting   Minute   Hour   Date

Google Map

★ GPS direction & Coordinate, Speed and Google Map should match up specific
   models within GPS function.

1. Operating Interface Description:

1	⏮	Return to last file key
2	◀❚	Forward playback
3	◀	Playback key
4	❚❚	Pause key Go to next file key
5	◼	Stop key
6	▶	Play key
7	❚▶	Forward playback
8	▶❚	Rearward playback
9	⚑	Mark starting point of back up file
10	⚑	Mark ending point of back up file
11	🖫	Backup the marking file
12	📂	Open document, select the file to play
13	🖫	Backup the current playing file
14	✂	Snapshoot tool
15	🅮	Google map
16	⚙	Configuration, Set machine-related settings

2. Player Interface Description:
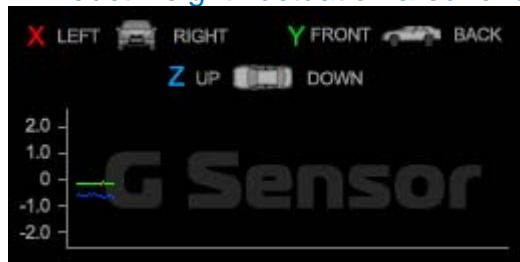- Show latitude and longitude position

- G-sensor : Impact sensor analyzer, forced saving the accident video before and after 1 to 3 minutes, not covered by other new files, protect the integrity of the incident video.
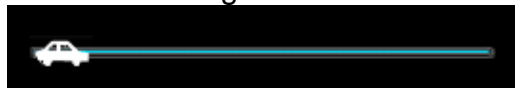
  X: Induct about level of vehicles moving

Y: Induct around level of vehicles moving
Z: Induct Height fluctuation around level of vehicles moving

■ Play BAR
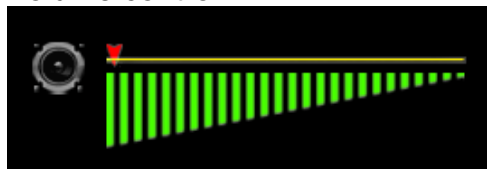Press left button of mouse and move around to pull BAR with fast-moving.

■ Driving Speed

■ Playback speed
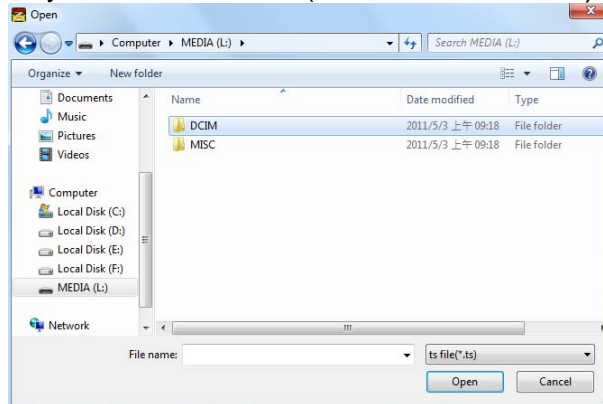Fast forward with 2 times or 4 times, and playback with 0.25 times, 0.0625 times.
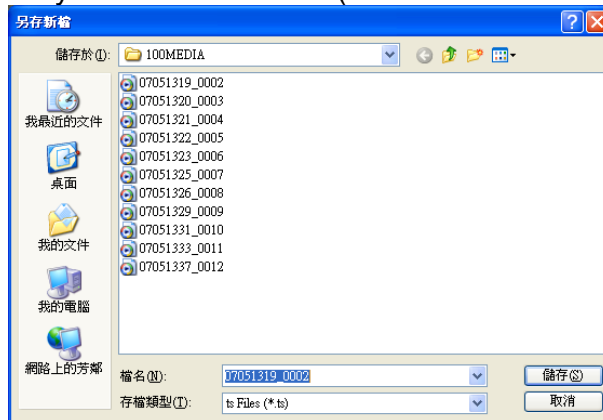

■ Volume control

■ Select the file to playback

Select " Open the document" 📂, and then choose the file of memory card or hard disc. (The file format is *.ts)
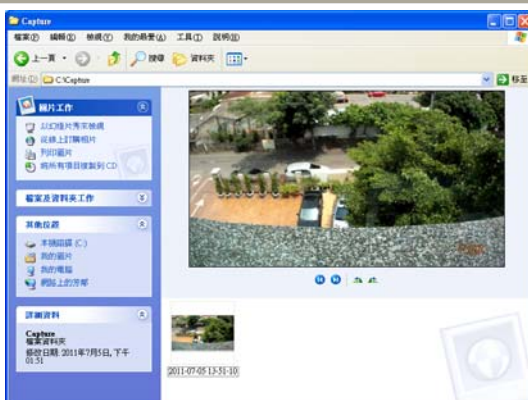

■ 💾 Save the playing file

Select "Save the playing file" 💾, and then choose the file of memory card or hard disc. (The file format is *.ts)

■ ✂ Snapshoot Tool

Play record from SD card first and then use Snapshoot tool to capture the screen. When select ✂ Snapshoot tool, it will appear the following window. (The picture of display screen will save in capture storage folder path.)

■ Google Map

Click ![e] and then appear the window of Google Map to view the tracking of Vehicle. (This function needs to connect Internet.)

■ ![icon] Related settings

Software version related information and SD card data storage settings.

(a) Storage path of Snapshot: the location to save images in the computer

(b) Language: select language settings of playback software. (The settings will work after re-open the software)
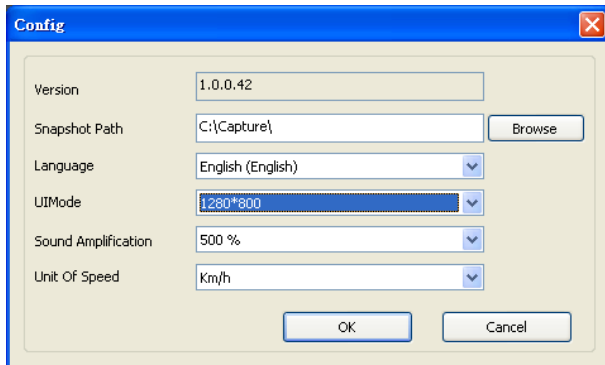
(c) The mode of User Interface: Set the display mode of host. (To change the configuration option, it must insert SD card into the Vehicle Video Recorder). It provides 3 different resolutions for selecting: 960x600, 1280x800, 1920x1080.

(d) Sound Amplification: max. 10 times

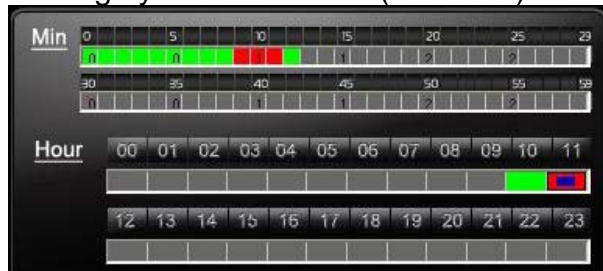(e) Unit of Speed: Km/h, Mile/h, Knot

■ **Playback date selection**

● Quick switching by minutes

Click the minutes table to change the recording footage immediately.

● Selecting by Hours/Minutes (24-hours)

After select the "Date" with Gray-brown color, on Hour/Minutes table will display Red/Green color.
Green: normal record
Red: force record

- Selecting by date

Launch the Player, click the "open" to select the file or path of storage. Then on date table with Gray-brown color indicate the recording footage.

K. **Formatting memory card**

When should you need to format the SD card?
When you purchase a new SD card, you have to format it for vehicle video recorder to record properly.

Procedures for new SD card formatted as follows:

1. Insert SD card into the SD slot of Vehicle Video Recorder and then open the menu. Find the format option and then begin to format SD card.

2. Connect power cable to machine, use remote controller to enter index menu and select format operation.

Formatting Steps：

Step 1	Step 2	Step 3
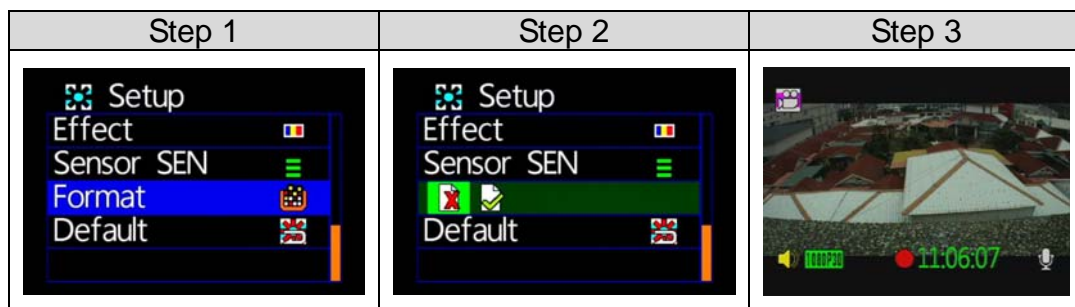
3. After formatting is completed, leave the index menu and back to live screen. Then the SD card formatting is done and ready to use.

L. Record Time Estimation (based on constant record mode with 8GB card)

＊The chart of estimated record time listed below is for reference only.
The length of time recorded can be varied due to variation in image size may be somewhat different.

Video Format (NTSC / PAL)		
Resolution / Video Quality	1080P30	720P30
High	110 Min	115 Min
Normal	115 Min	135 Min
Low	135 Min	155 Min

M. Appendix: The Indication of Bright and Dark Spot of LCD

Q: What is Bright/Dark Spot?

A :   • Bright Spot: At dark background, we found the abnormal bright spots, we called those spot are "Bright Spot"

• Dark Spot: At multiple color background (excluded dark background), we found the abnormal dark spot, we called those spot are "Dark Spot"

Q: The indication of Bright and Dark Spot

(a) There is no bright spot allowed in Area A, only single dark spot or none is allowed.

(b) The maximum amount of bright spots and dark spots allowed in Area B are two of each.

(c) The max total amount of bright and dark spots in Area A and B are three or under

1/4	1/2	1/4	
B	B	B	1/4
B	A	B	1/2
B	B	B	1/4

The Diagram of Area A and B

⚠️ **Notcie**

(1).   There is 30 days exchanges refer to the indication of bright and dark.

(2).   Please keep the receipt and contact your local dealer for exchanging merchandise.

(3).   The maximum valid date is 30 days.

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