

# 4-Channel/8-Channel Vehicle Monitoring DVR System

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2018 MAY V2.0

(WIFI / 4G / G-MOUSE Optional)

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\* Rights reserved for the manufacturer to manual revision. Operation MENU changes subject to the display from the product.

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## PRECAUTION

Please try recording and playback for sure of product in good condition. Manufacturer, dealers and the subsidiary are not committed to the faulty out of improper memory cards.

**Please read precautions below for sure of proper operation.**

- Please keep the equipment off the kids and the infants.
- Please use regulated power supply.
- Please keep the electronic components in non-disclosure, original and good ventilation condition.
- Keep the equipment from drop or hit.
- To avoid injury, keep your hands away from the inner parts in case of drop or damage.
- Stop using in case of smoke, smell or things unusual from the equipment.
- Do not use organic solvents such as alcohol, benzene, or paint thinner to clean the product
- Do not let any liquid or foreign material enter the machine
- Do not touch the power cord with wet hands
- Do not use this equipment for power outlets or wiring accessories that exceed the specified voltage. Do not use a damaged power cord or plug, or it is not fully plugged into a power outlet
- Avoid contact with metal objects (such as needles or keys) or stains by terminals or plugs
- Avoid using, placing, or storing the product in wet or dusty areas

**Before using the 3G/4G product, make sure you have read the following safety precautions**

- Low-power radio frequency motors of type-approved certification, without permission, companies, trade names, or users are not allowed to change frequencies, increase power, or change characteristics and functions of the original design
- The use of low-power radio frequency motors must not affect flight safety or interfere with legitimate communications. When interference is detected, they should be immediately disabled and improved until no interference can occur.
- Legal communications in the preceding paragraph refer to radio communications that are operated under the telecommunications law. Low-power radio frequency motors have to withstand the interference of legitimate communications or radio waves in industrial, scientific and medical applications.

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# CONTENT

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- A. Product Feature ..... 1
- B. Specifications ..... 3
- C. Product Accessories ..... 7
- D. Appearance ..... 8
- E. Boot and Shutdown ..... 12
- F. Remote Control ..... 13
- G. System interface and operation ..... 14
- H. Computer Player ..... 19
- I. Format/Restore Hard Disk ..... 28
- J. 4G Network settings ..... 33

## A. Product Feature

1. Can support 4 channels and 8 channels of video at the same time, allowing you to completely record driving images
2. Wide power input design, suitable for all kinds of vehicles ◦
3. Support dual SD card video storage
4. Automatic instant video recording after startup, which is more convenient to use
5. AV terminal video output, external screen, and directly on the host side for operation and playback
6. Equipped with 6 sets of alarm input (2 sets of standby), 2 sets of alarm output (1 set of spare), 1 set of alarm output, 1 set of sound input, 1 set of sound output
7. Equipped with G-sensor function, it can automatically detect the impact and trigger forced video to make your driving more secure
8. Image compression format H.264, providing higher compression ratio, but the picture quality is still clear
9. Video format: Support 1080P, 720P, D1 formats, can be used according to different needs
10. Complete and reliable image record list, making it easier to search for image records
11. It can completely record the image and sound during driving to ensure the responsibility of accidents
12. Provide AVI conversion function, allowing users to play directly on general home computers
13. Power management function, can delay shutdown after turning off, let you have the function of the monitor at the same time
14. Built-in super capacitor, flameout automatically delayed video, ensure that data is written to the memory card
15. Can be used with G-Mouse to fully record your driving position and driving speed
16. Can be used with 4G module, so you can monitor the car at any time ◦



## B. Specifications

### 4CH DVR

Item	Description	
Video signal format	NTSC/PAL	
OS	Embedded Linux	
Video input number	4CH Input 1080P / 720P / D1	
Camera power output	x4 12V / 750mA	
Video output	x1 Channel output	
Audio input number	1 Channel input	
Audio output number	x1 Channel output	
Alarm I/O	x6 Sensor input (x2 Reserved) x2 Alarm output x1Reserved)	
Control interface	GUI	
Language support	multi-lingual interface (English · Traditional Chinese · Simplified Chinese)	
Recording Format	1080P@4CH / 720P@4CH/D1@4CH	
Display mode	Single screen / Quad split / Nine split	
Simplex mode	Recording/Playback	
Recording Resolution	1920 x 1080 /1280 x 720 / 720 x 480	
Storage Media	Dual SD Cards (8G~128G Recommended)	
Search	Mode	Time/Date/Event
	Full Screen	Yes

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Indication Lights	3 LED (LAN · REC/Power · GPS)
Video Loss Detection	Yes
Beeper	Yes
GPS	G-MOUSE (Optional)
G-SENSOR	Yes
4G	Yes (Optional)
WiFi Dongle	WiFi Adapter (Optional)
IR Remote Control	Yes
Super Capacitor	5F Built in
Watch Dog	Recovery Recording after Power Failure
Power Regulation	(1) DC 8V~32V (2) ACC Power off delay set by software (3) DC 12V OUT

## 8CH DVR

Item	Description	
Video signal format	NTSC/PAL	
OS	Embedded Linux	
Video input number	x8 CH input 1080P/720P/D1	
Camera power output	x8 12V / 750mA	
Video output	x1Channel Output	
Audio input number	1 Channel input	
Audio output number	1 Channel output	
Alarm I/O	x6 Sensor input (x2 Reserved) x2 Alarm output x1Reserved)	
Control interface	GUI	
Language support	multi-lingual interface (English 、 Traditional Chinese 、 Simplified Chinese)	
Recording Format	1080P@8CH / 720P@8CH/D1@8CH	
Display mode	Single screen / Quad split / Nine split	
Simplex mode	Recording/Playback	
Recording Resolution	1920 x 1080 /1280 x 720 / 720 x 480	
Storage Media	Dual SD Cards (8G~128G Recommended)	
Search	Mode	Time/Date/Event
	Full Screen	Yes
Indication Lights	3 LED (LAN 、 REC/Power 、 GPS)	

Video Loss Detection	Yes
Beeper	Yes
GPS	G-MOUSE (Optional)
G-SENSOR	Yes
4G	Yes (Optional)
WiFi Dongle	WiFi Adapter (Optional)
IR Remote Control	Yes
Super Capacitor	5F Built in
Watch Dog	Recovery Recording after Power Failure
Power Regulation	(1) DC 8V~32V (2) ACC Power off delay set by software (3) DC 12V OUT

**Note #1** SD card is not included in the offer. Of 8G ~ 128G class 10 recommended.

**Note #2** Product specifications are subject to change without notice ◦

## C. Product Accessories

This product contains the following accessories

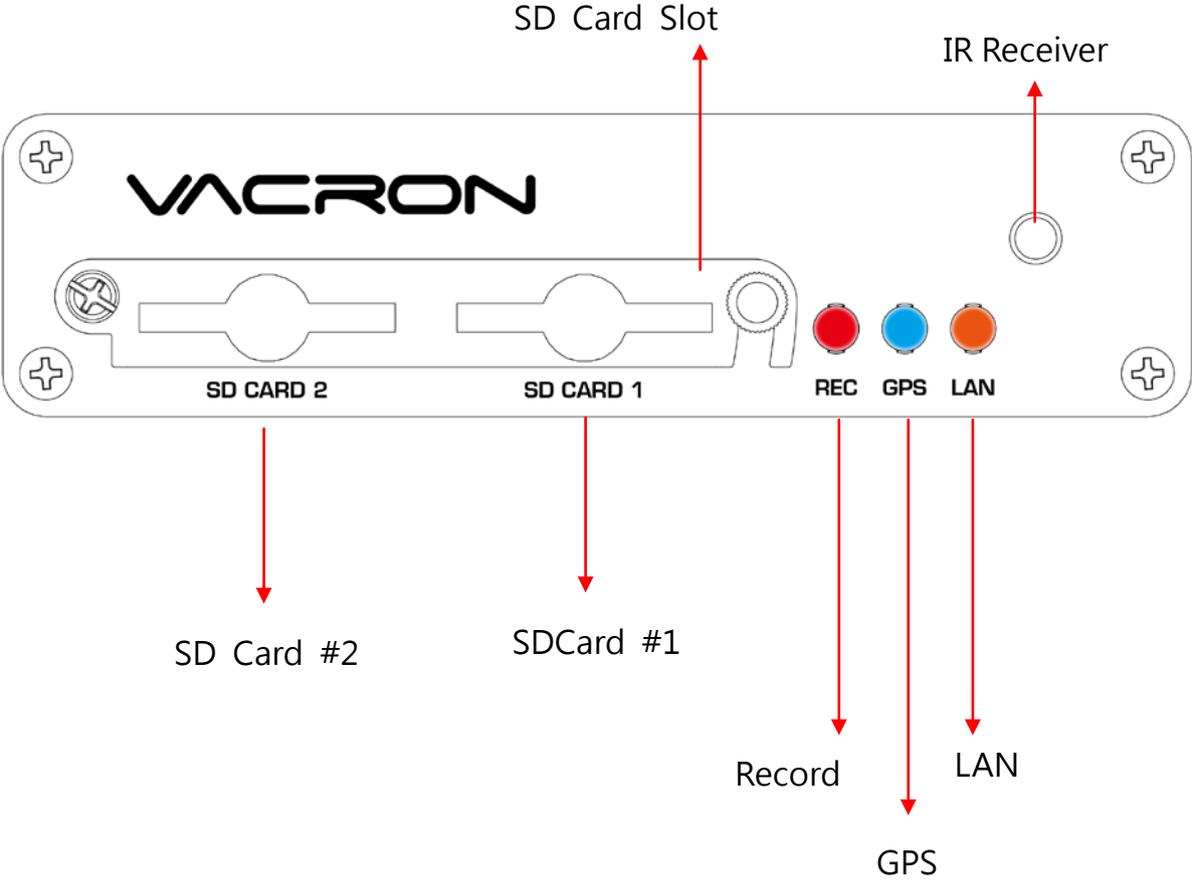
1. Quick User Guide
2. CD ROM
3. Power Cable
4. ALARM Connection
5. IR Extension Cable
6. Remote Control Battery in
7. Velcro - A Pairs

With optional accessories

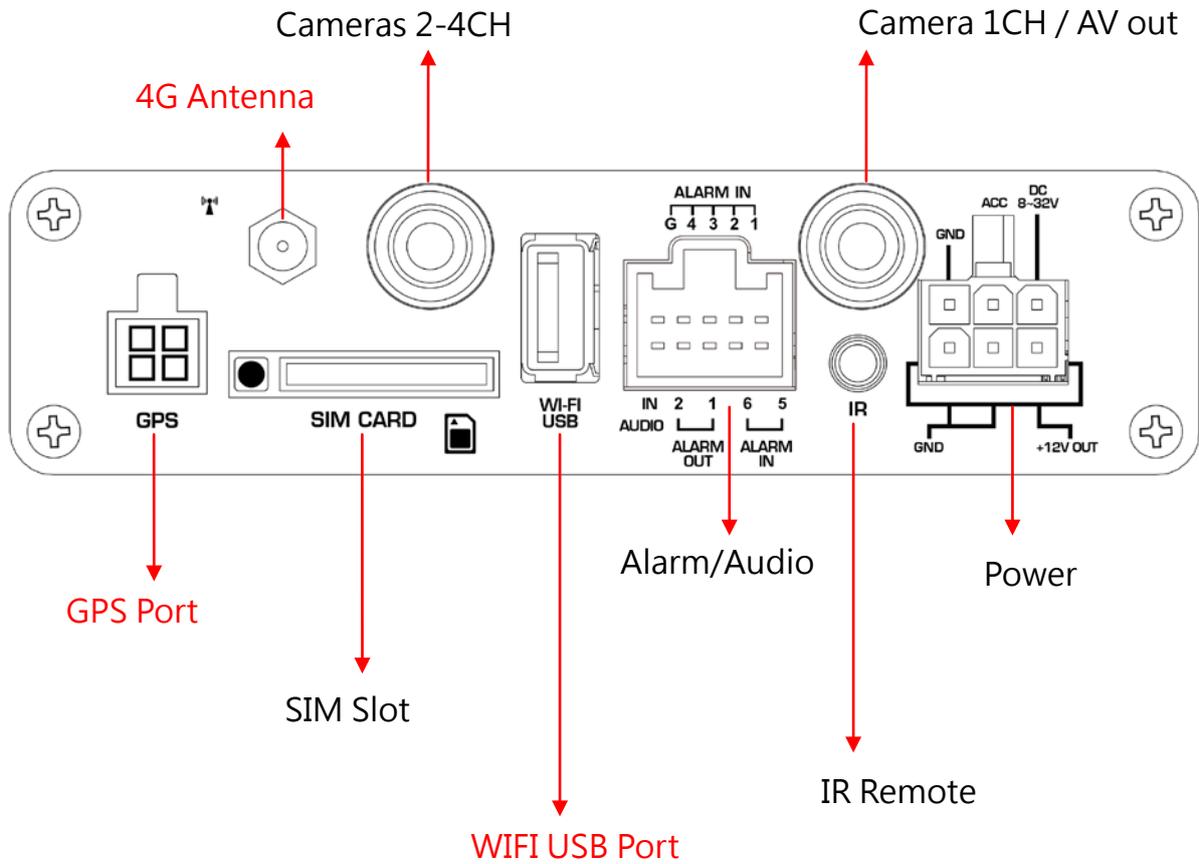
1. 4G Adapter/4G Antenna(Optional)
2. SD Memory Card(Optional)
3. G-MOUSE(Optional)
4. On Vehicle Microphone(Optional)
5. Camera Connection Cable 5 Meter/10 Meter/15Meter(TBD)

### D. Appearance

#### 4CHDVR / 8CH DVR Facial Panel

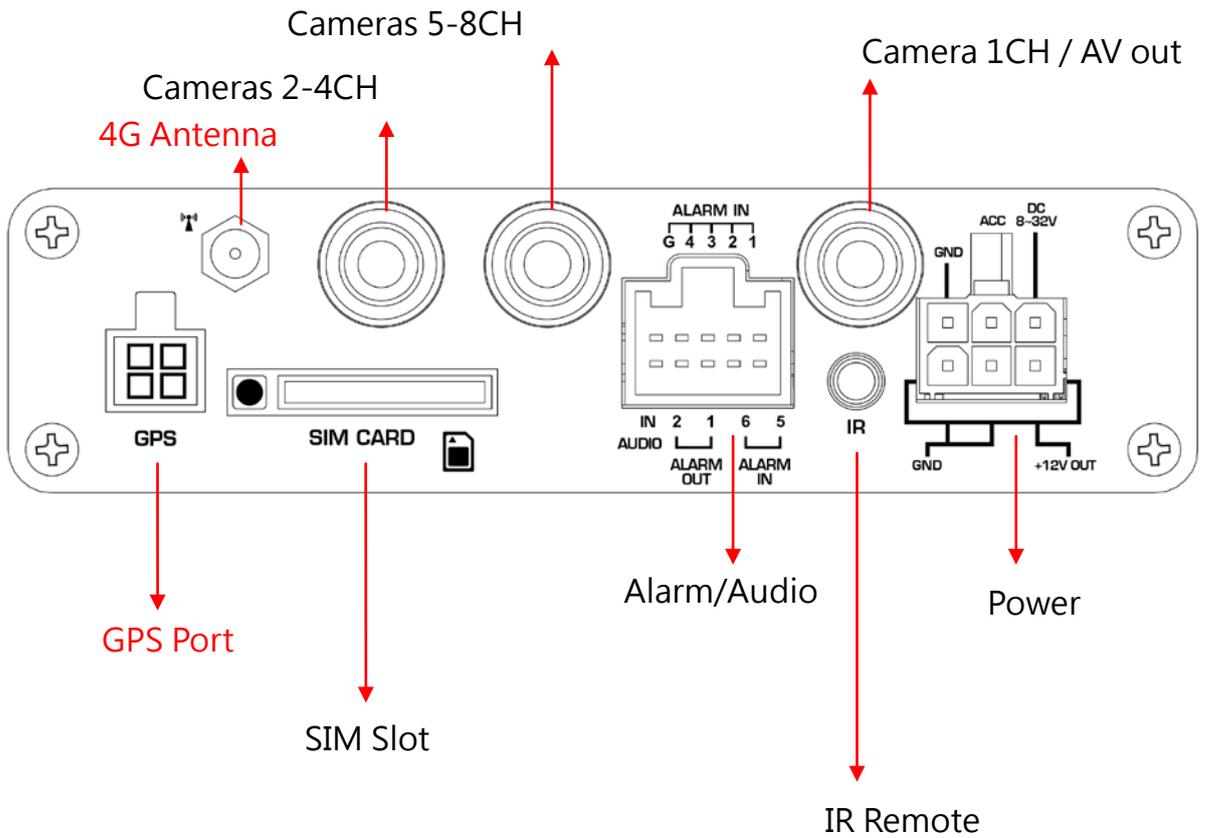


### 4CH DVR Rear Panel



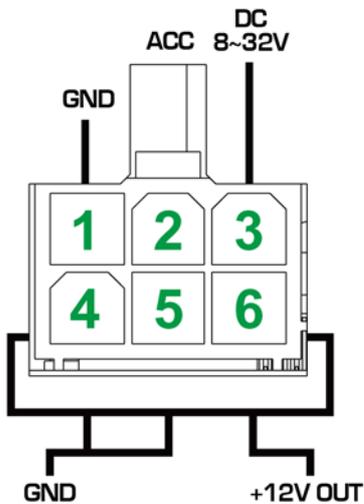
★ GPS / 4G / WiFi Option

**8CH DVR Rear Panel**



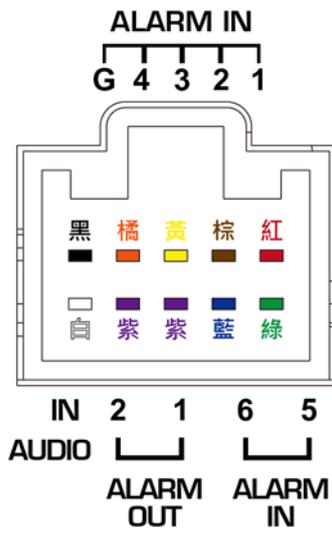
★ GPS / 4G / WiFi Optional

● Power Port



1. GNDP Vehicle Ground Wire(Negative)
2. ACC Start Control
3. DC8~32V IN Vehicle Power IN(Positive)
4. Signal and others DC Ground
5. Signal and others DC Ground
6. DC+12V Output

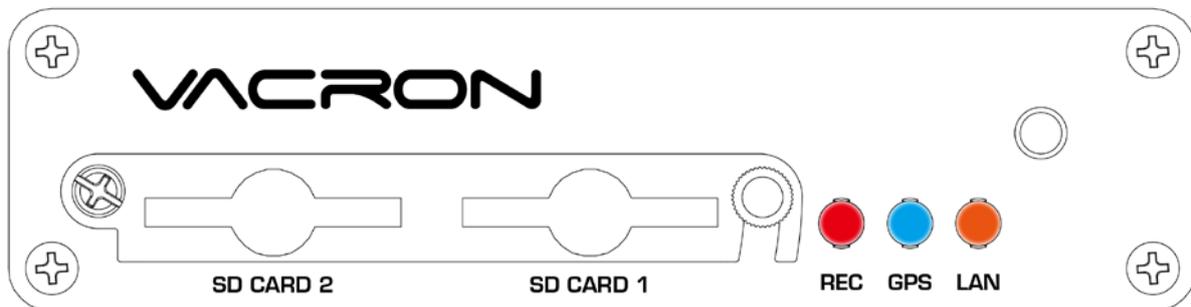
- Alarm/Audio Port



ALARM IN				
G BLK	4 ORG	3 YLW	2 BRN	1 RED

AUDIO	ALARM OUT		ALARM IN	
AUDIO WHITE	2 PL Reserved	1 PL	6 BLU Reserved	5 GRN Reserved

## E. Boot and Shutdown



### (1) Boot

Insert the SD card into the SD card slot on the local end, lock the dust lock, and then turn on the power. After about 30 seconds, the light will turn on and the boot will be completed. ◦

### (2) Shutdown

After turning off the power, wait about 5 seconds. After the super capacitor is fully discharged, the SD card can be removed at this time, and the video file can be read from the computer. ◦

### (3) Indicator Lights

- **REC Indicator(Red Light)**
  - No flicker, indicating not recording
  - Lights flashed off, indicating recording
  - The light flashes quickly, indicating that the trigger event was recorded ◦
- **GPS Indicator(Blue Light)**
  - No lights, indicating GPS is not positioned
  - Constant light indicates GPS positioning completed
- **LAN Indicator (Orange Light)**
  - No lights, indicating that the network is not connected
  - The light is on, indicating that the network is connected

### (4) SD Card

When both cards are empty cards, the recording priority is SD1. If there is video data in the SD card, the latest video file data is preferred.

( Note : If the playback function is used on the local player, simultaneous recording cannot be performed ◦ )

## F. Remote Control

Remote control playback and computer playback are available.

◆ Remote control operation

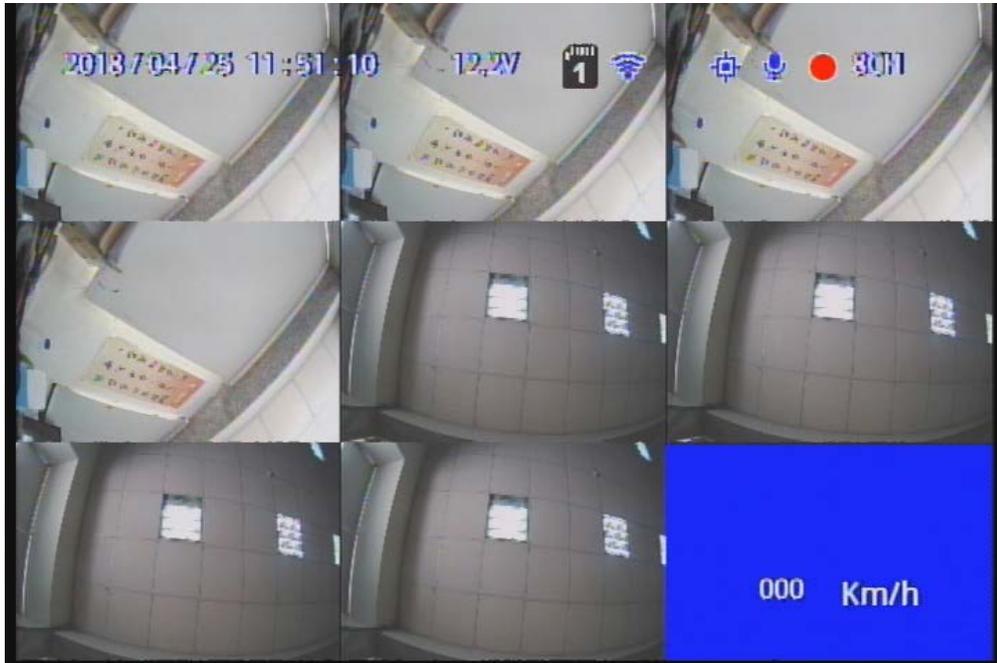


Remote control button introduction			
Item	Description	Item	Description
1	Split screen display	7	Enter
2	Force recording	8	Reverse
3	Quad full-screen display	9	Fast forward function
4	Speaker mute button	10	Playback mode, play button
5	Menu	11	Pause
6	Navigation	12	Stop and Exit

	<p>Remote control inspection</p> <ul style="list-style-type: none"> <li>● Check the battery' s positive and negative polarity.</li> <li>● Check the battery if run out.</li> <li>● Check the sensor of remote control if be obscured.</li> <li>● Check if there are fluorescent lamps are used nearby.</li> </ul>
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## G. System interface and operation

### ◆ Live view display



Live View Display

#### (1) Screen operation guide line

- To make channel 1~4 single-channel display, switch between display by menu selection or remote control
- To display quad screen, press the button quad
- To open the menu press the menu button
- To play mode press the play button

#### (2) Illustration

- : Indicates video recording
- : Indicates GPS positioned
- : Indicates audio recording
- : Indicates event recorded
- : Indicates Internet connected

## ◆ OSD menu operation and setting instructions:

Camera type	Two channels a group free to choose the camera signal source of 1080P · 720P · D1 ( Selecting error will have no image )
Image settings	FPS: 5-15 FPS Picture quality: Normal, better, best
Image adjustment	brightness, contrast, color adjustment
Channel settings	Image output mode to set the normal mode, mirror mode, flip mode, flip mirror mode, and determine whether to write to the storage device
time setting	When there is a GPS signal, the system will correct it according to the set time zone. If there is no GPS signal, you can set the date and time by yourself. °
GPS setting	current speed and speed unit settings in the live screen
Plate settings.	Enterable text range : A~Z & 0~9
Operating mode	1. Set the channel mode of the system at startup 2. Audio Recording ON/OFF 3. Recording duration after ACC off
Alarm Settings	Alarm trigger mode
System protection	1. Low voltage protection triggered in ACC mode 2. Disk protection tips
4G Network	4G ON/OFF and display the current setting information (this function is optional)

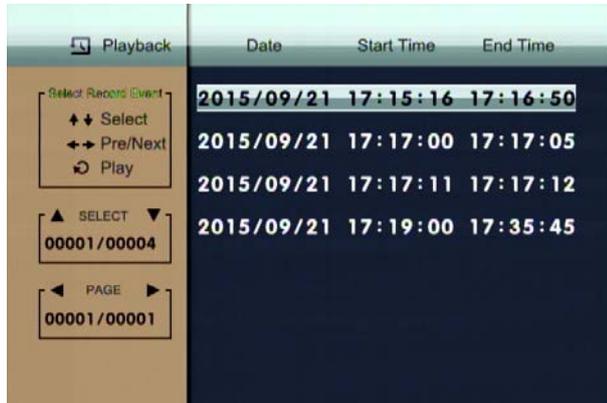
G Sensor Settings	When this function is enabled, when the vehicle is subjected to a certain degree of collision, automatic forced recording will be triggered to completely record the accident scene.
SD card operating mode	Backup: SD2 is a spare option. When an SD1 disk is abnormal, the system will change to SD2 to store video data. expansion : SD1 and SD2 will loop recording when expansion mode is selected .
NTSC/PAL	Select the corresponding system according to the local environment
Language switching	Switching Traditional Chinese, Simplified Chinese, and English.
Restore default	After restoring the factory settings, the machine will reboot and clear the original settings
Format hard disk	After formatting the hard disk, the footage will be deleted.
Firmware update	The firmware update program is stored in the SD card and the firmware is updated by the device. Keep power on during firmware update. After the update is completed, it will automatically reboot. (If both SD cards are inserted, SD1 is mainly used to update the storage location)

## ◆ Playback mode

Local playback and computer playback

### ● Local playback

- (1) Press the Play button in live view mode to enter the playback page
- (2) Select search and press enter to enter the file list



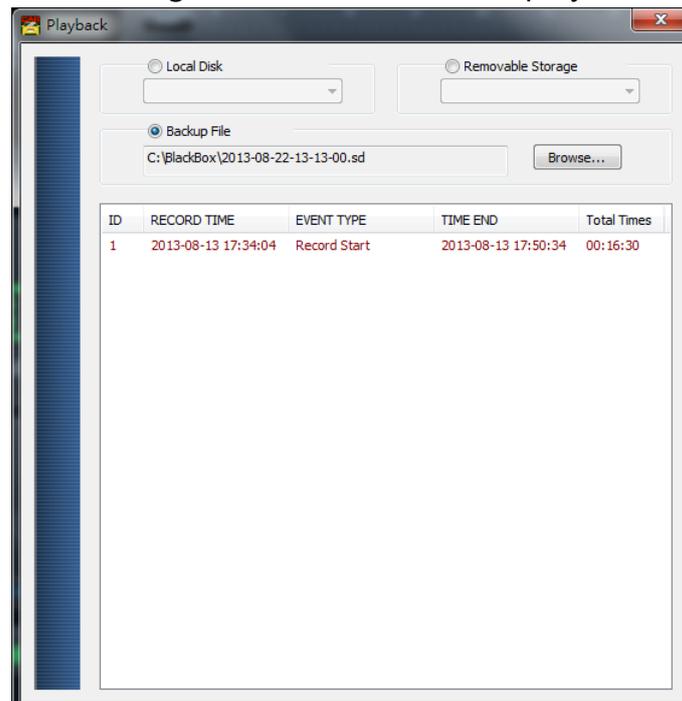
Select the file to played back, press the enter key to enter playback

### ● Computer playback: Read the hard disk for playback

- (1) The hard disk that contains the video file is read by the computer and then the playback software CarBox2.exe is executed.

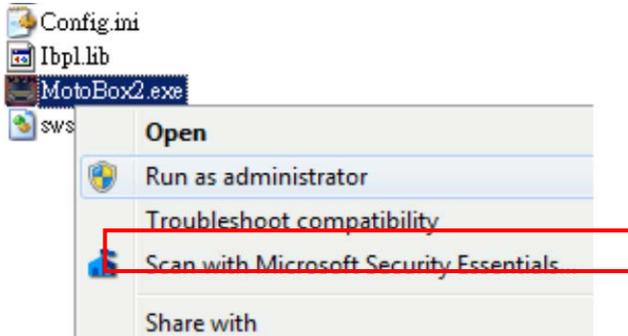
- (2) Click the icon  to enter playback mode

- (3) After selecting the hard disk, the file list will appear, and the playback will start according to the video file to be played.



## 錄影清單

(Note: In use of WIN7 OS, if it is not possible to read the video list. Solution: Right click on the CARBOX icon and execute the player as the system administrator)

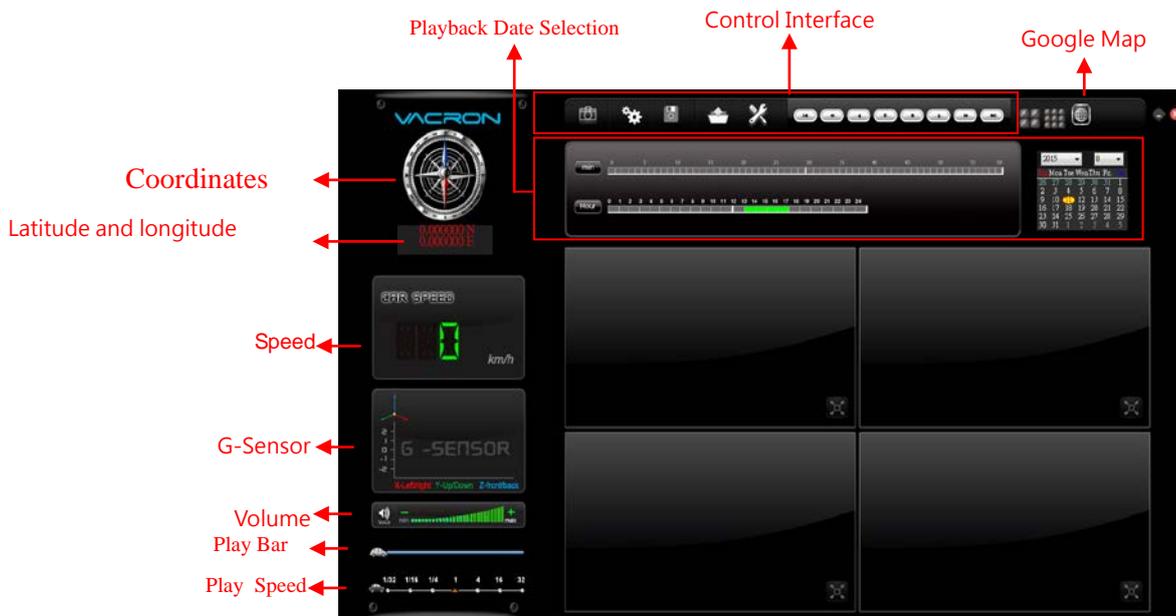


## H. Computer Player

Run the player software CarBox2.exe  , interface as the figure below

★Note: DirectX 9.0 or above is required.

- Operation Interface



(1). Tools

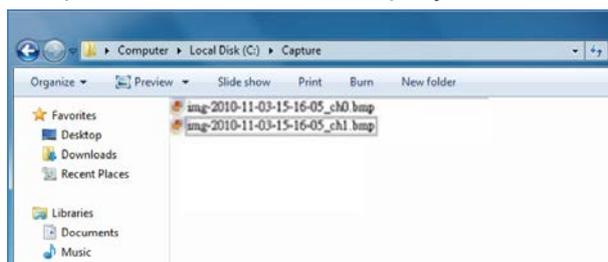


	snapshot: Capture and save the picture as a picture file
	Configuration: Set machine related settings
	Start backup: Select the path to be backed up for file storage
	Playback : Select a video file stored on a hard disk or computer to play it
	Format: Hard disk formatting, language

	setting
	Previous : Play the previous video
	Previous frame: Move the movie to the previous frame while paused
	<b>Sd file format storage. The video is played backward</b>
	Pause: pause the video in play
	Stop: Stop the playing video
	Play: Play paused videos
	Next frame: In the paused state, move the video to the next frame
	Next video: Play the next video

#### ◆ Snapshot

Snapshot: click the icon  . The system will capture the video on screen . And store in bmp file. After the storage is complete, the backup folder will be automatically displayed. The default link is Snapshot data under the player folder °



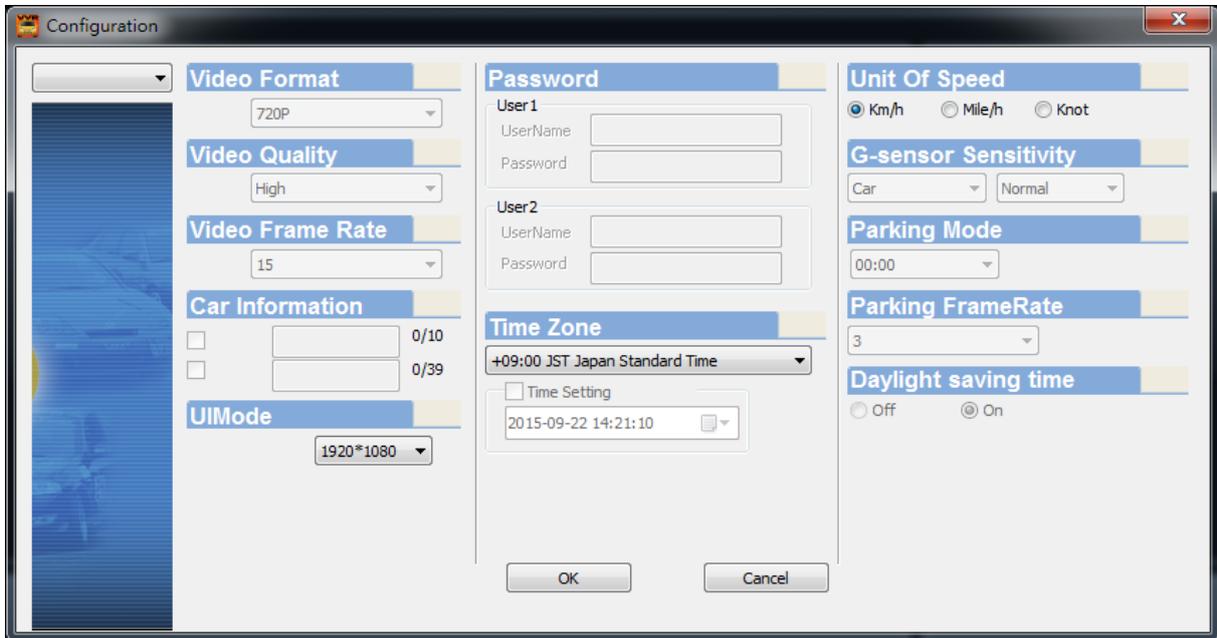
#### ◆ Configuration

 : Hard disk format setting

Please use a computer to read the hard disk before recording. After executing the computer program, you can set video format and other related settings. °

After the setting is complete, save it, insert the hard disk into the host, and record according to the format set by the user °

**Note:** To use a computer to read the hard disk, use the SATA to USB cable device to read directly from the USB.



Video Quality	Recording resolution of high, normal, and low selection
Video Frame Rate	Resolution setting range: 5~30 fps
Car Information	Enter the license plate number or driver's name. (applicable to company cars, taxis and fleet)
UIMode	Set the size of the player
Password	<p>This feature encrypts the hard disk to prevent others from accessing any data. Set the password to 15 characters. Use the file, setting, and format the disk after entering the password to enter the password.</p> <p>★ Note: Set the password to pay attention to the font and capital, and keep the password properly to avoid forgetting the password.</p>
Time Zone	Adjust time zone to display according to Greenwich Measure
Unit of Speed	<p>Set the speed unit to display</p> <p>Km/h</p> <p>Mile/h</p>

	Knot
G-sensor Sensitivity	G-sensor mode and Sensitivity Settings
Daylight saving time	Applicable to countries implementing daylight saving time zones

◆ Backup

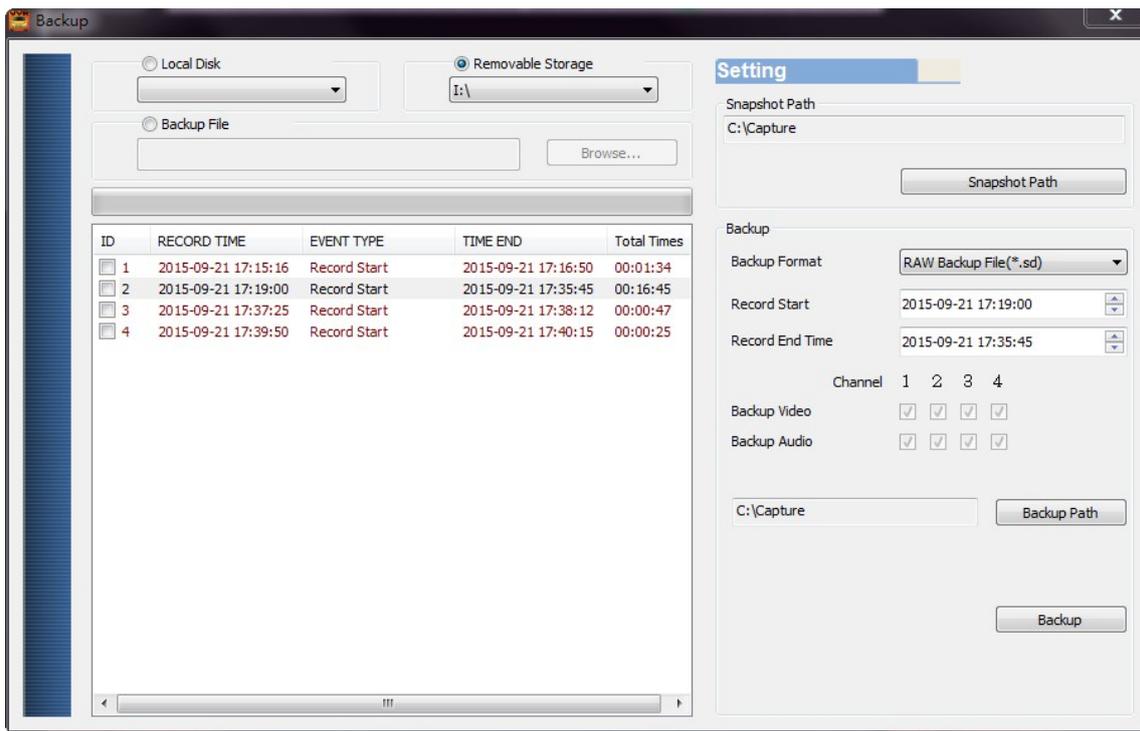


: Start Backup

Store video data on your hard drive on your computer for easy playback



Click The disk backup will appear as below, start backup menu screen



Step 1. Select the hard disk that contains the video file

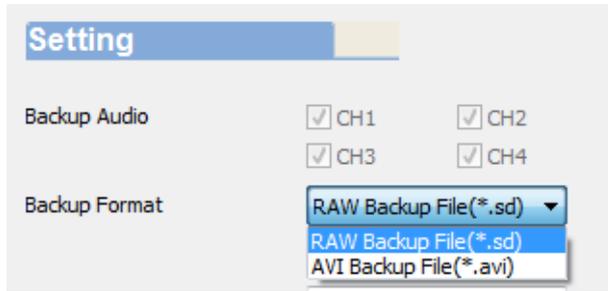


Step 2. Select the hard disk video file to

backup

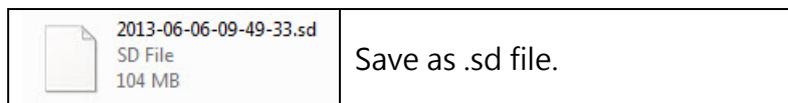
ID	RECORD TIME	EVENT TYPE	TIME END	Total Times
1	2015-09-21 17:15:16	Record Start	2015-09-21 17:16:50	00:01:34
2	2015-09-21 17:19:00	Record Start	2015-09-21 17:35:45	00:16:45
3	2015-09-21 17:37:25	Record Start	2015-09-21 17:38:12	00:00:47
4	2015-09-21 17:39:50	Record Start	2015-09-21 17:40:15	00:00:25

**Step 3. Select backup data access format**



Backup format :

● SD Format

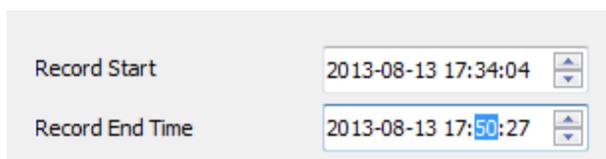


● AVI Format

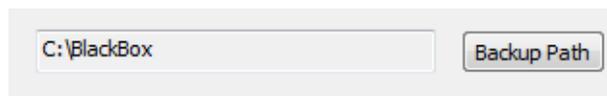


**Note:** Backing up in SD file format, the file format will include the speedometer, position table, latitude and longitude, and G-SENSOR record data. If you back up in \*.avi format, only the video and audio data is available, so it is recommended to use SD format.

**Step 4. Backup the video file according to the requirements and set the required time range**



**Step 5. Select the path to the backup folder**



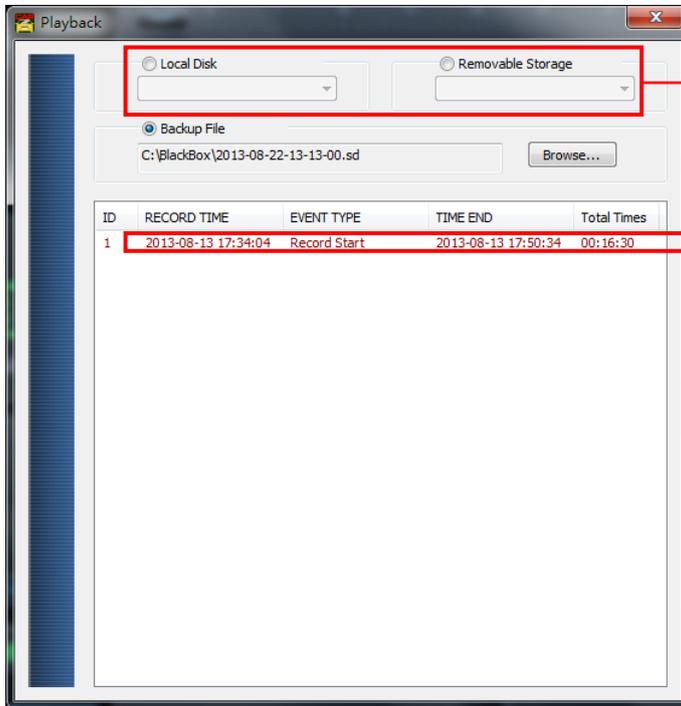
**Step 6. Start the backup**



## ◆ Playback



Playback video: Select a video file stored on a hard disk or computer to play it

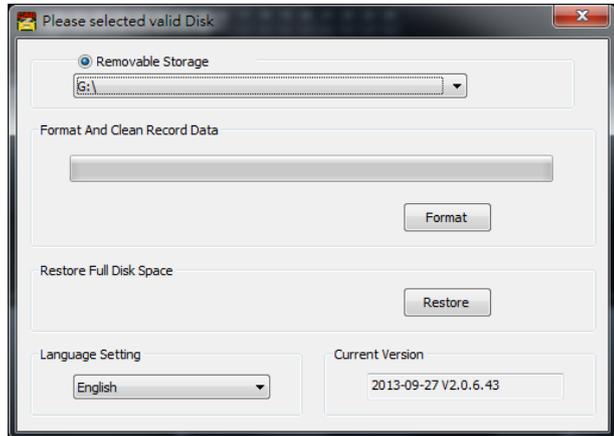


1. SD Card

2. Select the file to play

### ◆ Format

: Format the hard disk. For detailed operation instructions, please refer to the "Format/Restore Hard Disk" instructions.



### (2). GPS Coordinates/latitude and longitude



Coordinate, latitude and longitude: Display driving direction and latitude and longitude, need to display with G-Mouse function °

### (3). G-SENSOR



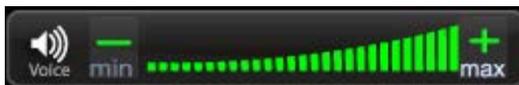
**G-SENSOR** : Gravity Sensing Analysis, When Triggering G-Sensor Forced Video Recording, Data of X, Y, and Z Axis Changes of the Vehicle will display.

**X** : Changes in the left and right levels of the sensor body.

**Y** : Changes in front and rear levels of the sensing body.

**Z** : Inducing changes in the body.

(4). Volume



Volume Control Tool: Use the left mouse button to click + or - to adjust the volume.

(5). Play Bar



Play Bar: Left and right can be used to move the player car, quickly select the playback time.

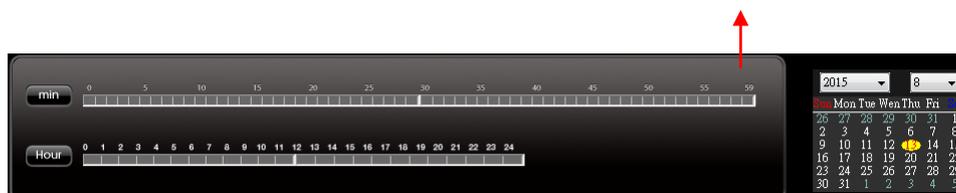
(6). Play Speed



Play Speed: Adjustable 2x~16x fast playback, and 1/2x~1/16x slow playback

(7). Playback Date Selection

Date Search



Playback Date Selection: Divide by date and time to show the video file time on the hard disk.

## I. Format/Restore Hard Disk

- **Format the hard disk**

### Why format the hard disk??

When the storage format of the hard disk is different from the storage format required by the computer, the hard disk must be formatted first. After the hard disk sold or used in the market, the formatting operation must be performed first.

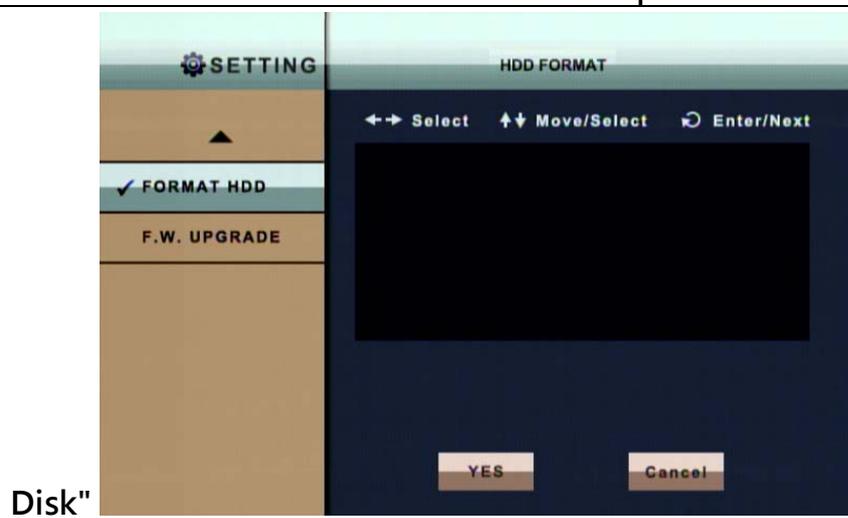
※ Before formatting, please note if there is important data in the hard disk not backup yet.

The format of the hard disk can be divided into local format and computer format

#### (1) local format

The local computer performs the formatting of the hard disk as follows:

#### Step 1. Use remote control to enter menu and press "Format



#### Step 2. Select and press "OK" for hard disk formatting

Step 3. When the screen returns to menu , the hard disk formatting is completed

## (2) computer format

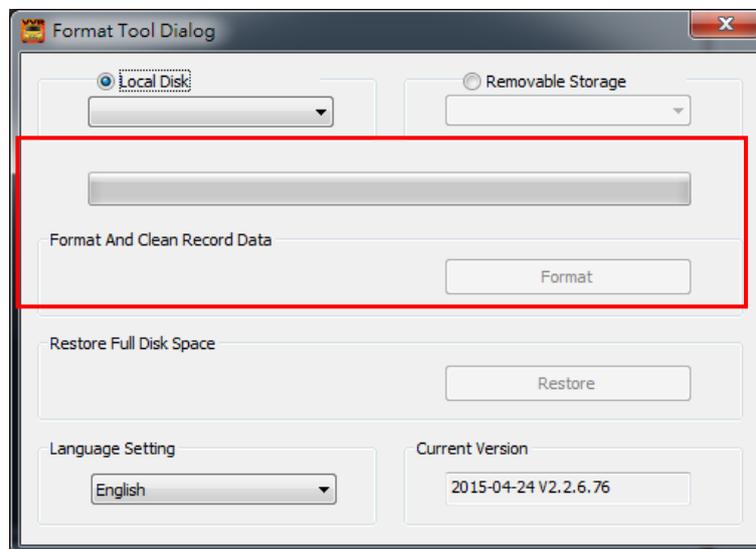
The computer performs the formatting of the hard disk as follows:

Step 1. After removing the hard disk from the computer, use the computer to read the hard disk, and then execute the computer-side playback software CarBox2.exe.

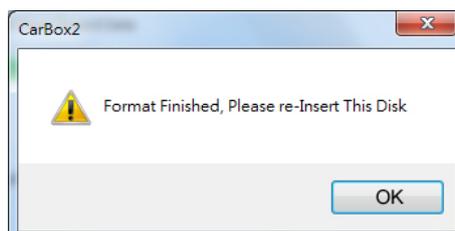
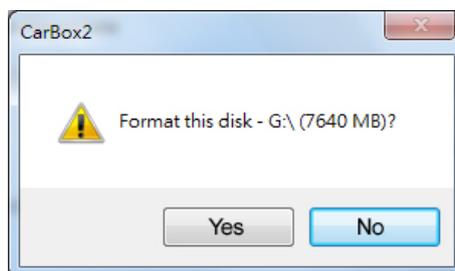
Step 2. Click  Enter format tool menu

Select the corresponding storage device

Step 3. Click Format icon



**Step 4. Select "Yes"**



- (After formatting, please insert the hard disk into your computer and you can make related settings for the hard disk. After the setting is completed, insert the hard disk into this unit to start recording.)
- **Restore Hard Drive**

#### Why restore hard drive??

When the hard disk after the host computer is used is moved to other storage applications, the hard disk must be restored before it can be used for general storage purposes.

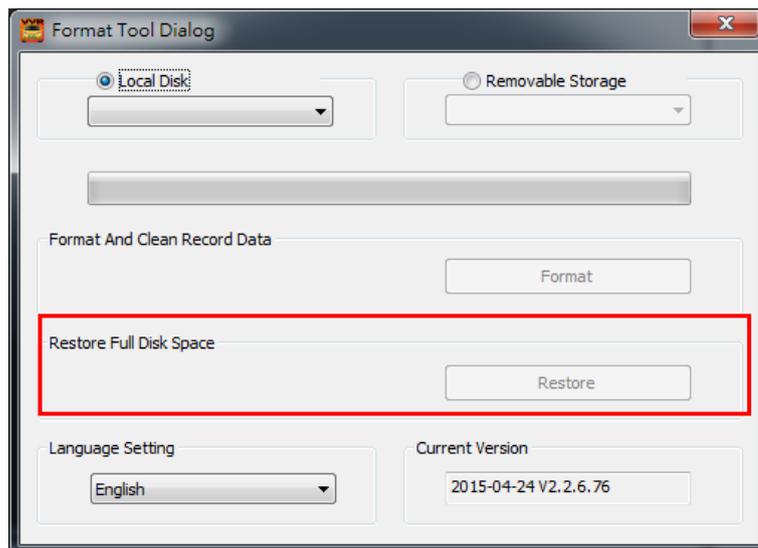
※Before performing the restore action, please note that if there is any important data on the hard disk not backup yet

#### (1) Hard drive restore

Hard disk restore steps are as follows:

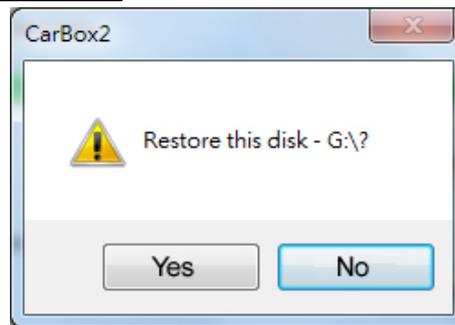
Step 1. After removing the hard disk from this unit, use a computer to read the hard disk and execute the software CarBox2.exe

Step 2. click  Select the memory card, then click the "restore" icon

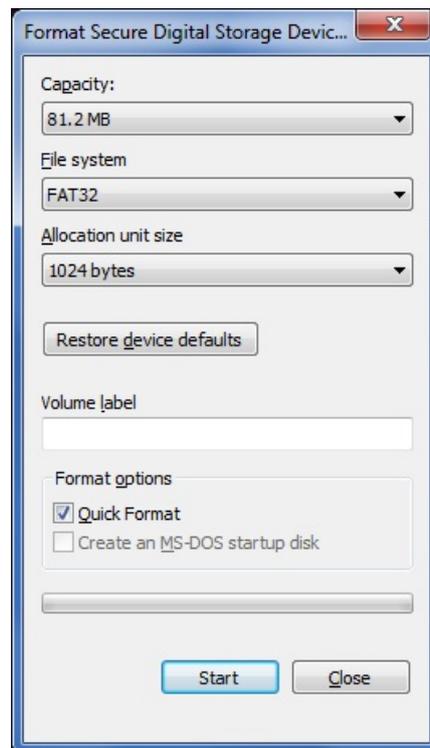


Step 3. At this point, "Restore this disk" will display. Press "Yes" to

restore the hard disk. °



Step 4. system pops up the format window, check "Quick Format" and press start.



Step 5. "Restore this disk" will display. Press "OK" to format it. °

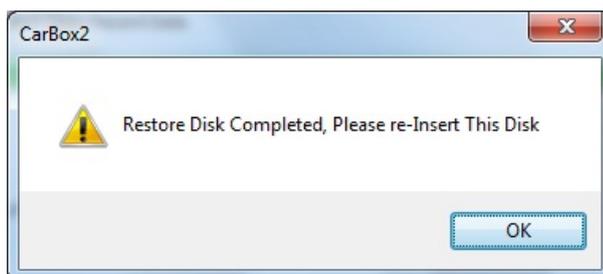


Step 6. After format completed, "Format completed" will be display.  
Press "OK" and close format disk



window.

Step 7. After the completion, "Disk Restore Successful" will display. Press "OK" .



## J. 4G Network settings

### (1) SIM card Setting

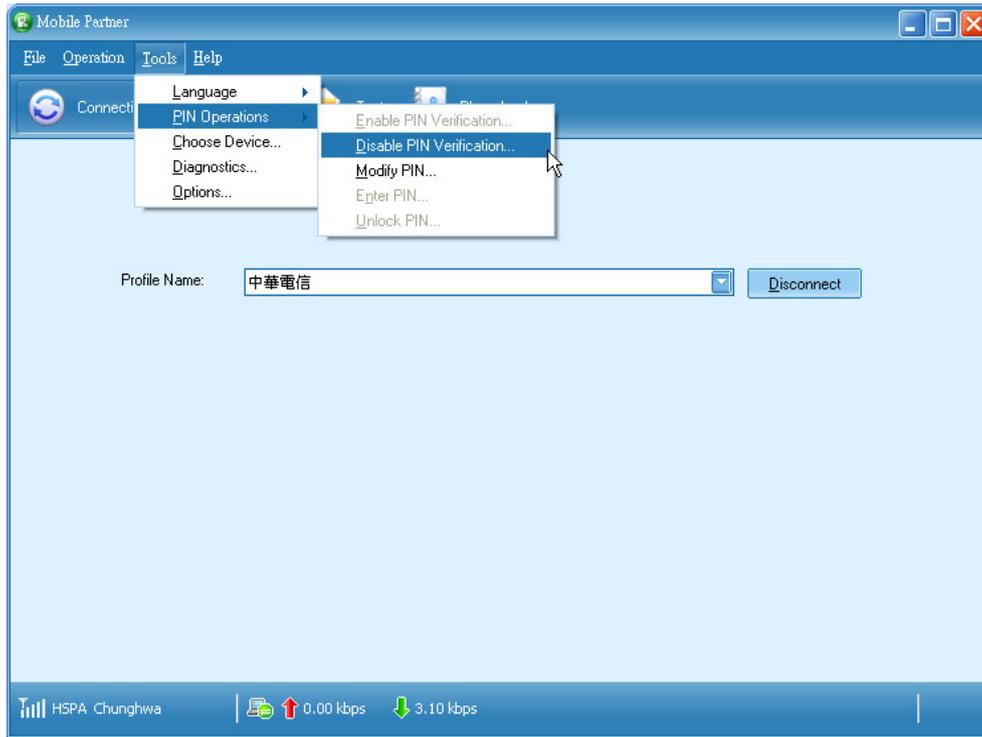
PIN protection must be turned off. The steps are as follows: °

( The following uses HUAWEI's CHT-E180 model 3.5G USB wireless network adapter as an example. )

**Step 1. After installing the 4G network card on the SIM card, connect the 4G network card to the computer and the system will automatically execute the Mobile Partner. °**



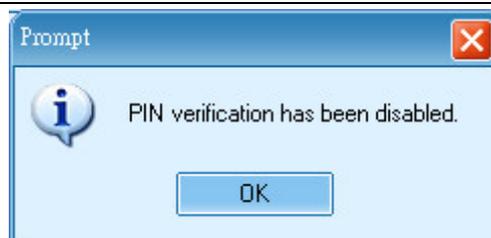
**Step 2. When the program opens, go to Tools → PIN Operation → Disable PIN Verification.**



**Step 3. Enter the correct PIN, Chungwa Telecom default is**



**Step 4. Confirm PIN, cancellation PIN code completed.**

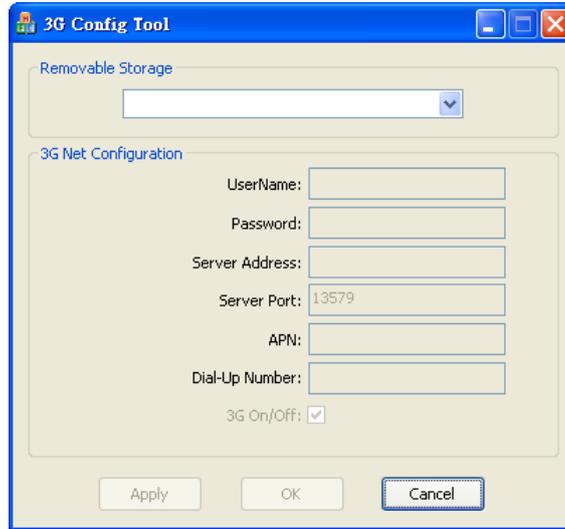


(2) **Step 5. After completing the above actions, insert the SIM card into the SIM card slot on this unit and turn on the power before connecting.**

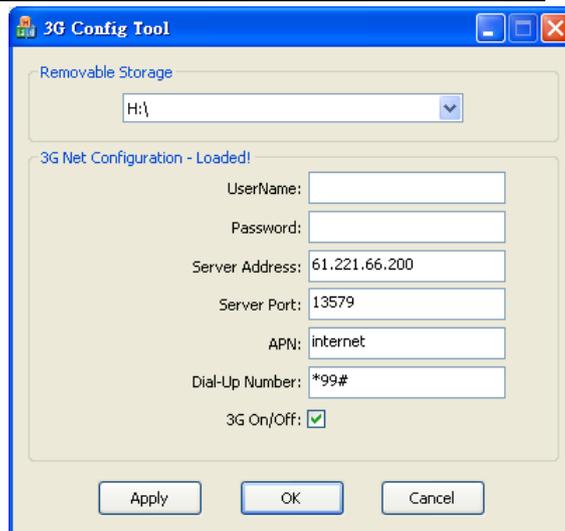
(3) 3G-Network setting

Set the relevant parameters of this machine 3G-Network °

**Step 1. First open**  **following page will open.**



**Step 2. Then insert the SD card into the computer, select the SD card disk, and enter the relevant parameter settings.** °



Setting parameters	
Removable Storage	SD Source of device
UserName	User name (generally no setting)
Password	User name (generally no setting)
Server Address	Server IP address
Server Port	Server Port default 13579

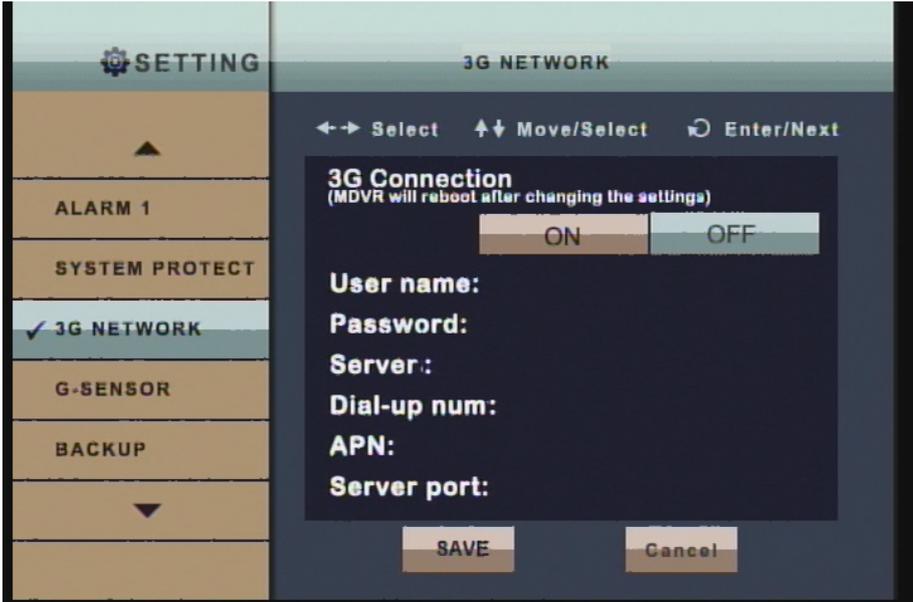
APN	4G Network access point name (Default is APN used by Taiwanese telecom operators. If other areas need to use, please consult with APN used by local telecom operators.)
Dial-Up Number	4G dial-up connection setting (The default is the dial-up connection code used by Taiwanese telecom operators. If you need to use in other areas, please consult the dial-up connection settings used by local telecommunications operators.)
3G On/Off	4G Connection function switch (Check on behalf of open, not checked on behalf of closed)

Step 3. Input complete, click OK to save. Then click on the location of the drive to see if the file already exists. (The file name is net3g.ncf)



Step 4. Then install the SD card into the DVR's SD1 port and restart the unit. After booting; If you successfully update the parameters, after about 10 seconds after entering the system, it will automatically restart.

Step 5. After the automatic reboot, enter the 3G/4G network page in the main menu to confirm that the parameters have been modified successfully.



(When the update is completed, the information will show the current Internet information about the 3G/4G module.)



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