

1080P 4-Channel/8-Channel Vehicle Monitoring DVR System



2018 MAY V2.0

(WIFI / 4G / G-MOUSE Optional)



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

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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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

ITEM	DESCRIPTION	
Model	4CH DVR	8CH DVR
TV System	NTSC/PAL	
OS	Embedded Linux	
Video Input	4CH Input	8 CH Input
Camera Power Output	4 x 12V / 750mA	8 x 12V / 750mA
Video Output	VGA/CVBS alternative channel output	
Audio Input	X2 Audio Input (x1 stand-by)	
Audio Output	x1 Audio Output	
Alarm I/O	x6 Alarm Input (x2 stand-by) / x2 Alarm Output (x1 stand-by)	
User Interface	GUI ICON CONTROL	
Languages	English Tread/Simplified Chinese	
Recording FPS	1080P@4CH 720P@4CH D1@4CH	1080P@8CH 720P @8CH D1@8CH
Display Mode	1, 4, & 9	
Simplex Mode	Record/Playback	
Rerecording Resolution	1920 x 1080 1280 x 720 720 x 480	1920 x 1080 1280 x 720 720 x 480
Back Up Storage	2.5" SATA Hard Disk Drive · SD card	
Quick Search	Mode	Time/Date · Event
	Full Screen	Yes
LED Indicator	4 LED (LAN · REC · GPS · Power)	
Signal Loss Detector	Yes	
Buzzer Alarm Output	Yes	

GPS	Yes, Optional G-Mouse Required
G-SENSOR	Yes
3G/4G	Yes Optional 3G Module Required
WIFI	Yes Optional Wi-Fi Module Required
SD	Yes
RS232	Yes
IR	Yes
Gold capacitor	Built-in 10F, delayed power outage by about 5 seconds
System Monitoring	Automatic reboot after unexpected power shutdown
Power	(1) DC 8V~36V (2)ACC ACC Off set via Player
Dimension	250mm x 174.8mm x 69.5mm
Operate temperature	-20°C~65°C
Weight	1.85kg(Including bracket & Hard Disk Drive)

(Note 1) Please select your own storage device, SD card is recommended to use 8G ~ 256G class10 or over, 2.5 "hard disk recommended capacity is up to 4TB.

(Note 2) Product specifications are subject to change without notice.

C. Product Accessories

This product contains the following accessories

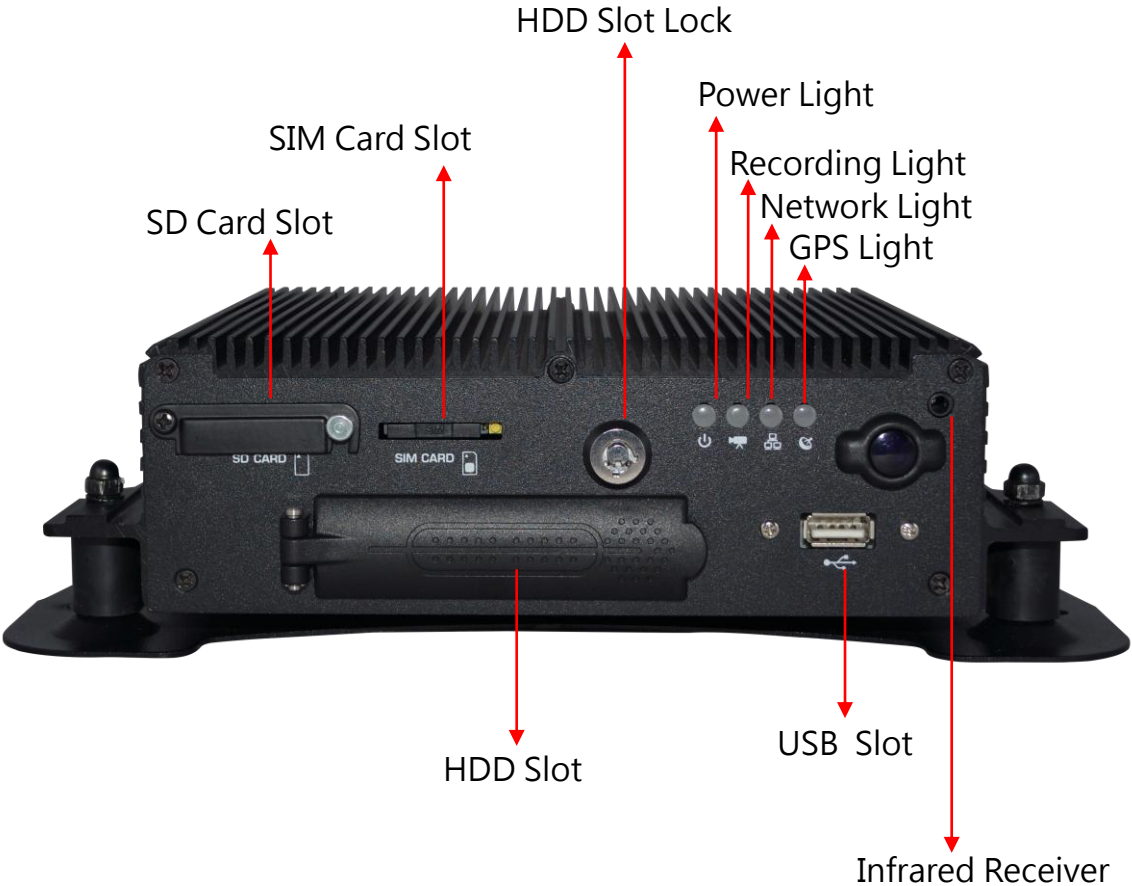
1. Main Device
2. Power Cable 6P+5A
3. ALARM Cable
4. IR Extension Cord
5. 16P Female-MINI x2
6. IR Remote Control
7. Video and network cable
8. Software Disc
9. RS-232 Cable(2 pin)
10. Quick Manual

With optional accessories

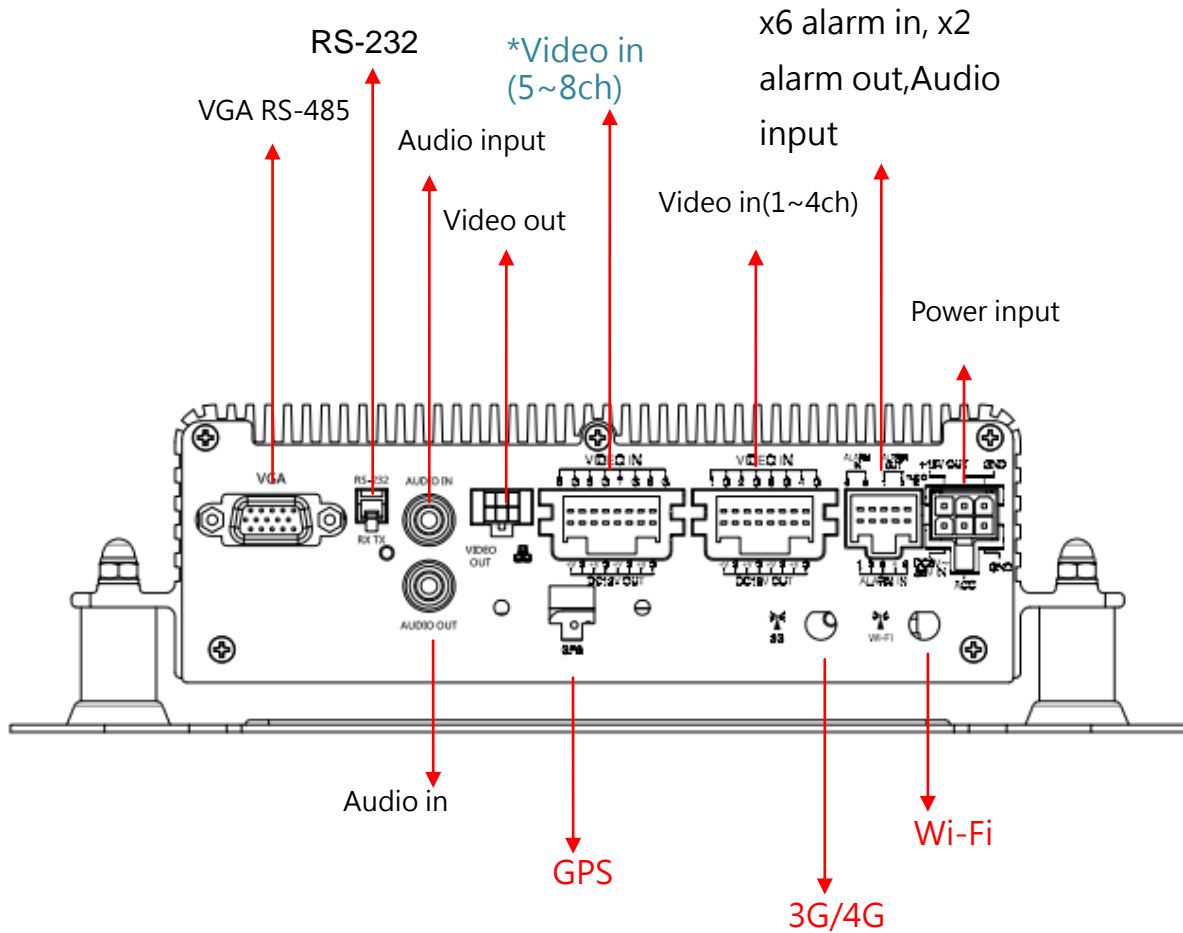
1. 4G Adapter/4G Antenna(Optional)
2. SD card (suggested to use 8G ~ 256G class 10 or over)
3. 2.5" HDD (suggested capacity is up to 4TB)
4. G-MOUSE(Optional)
5. On Vehicle Microphone(Optional)
6. Camera Connection Cable 5 Meter/10 Meter/15Meter(TBD)

D. Appearance

4CHDVR / 8CH DVR Facial Panel



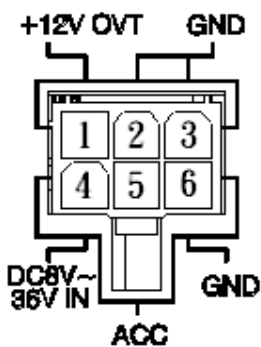
DVR Rear Panel



※ With 8CH DVR

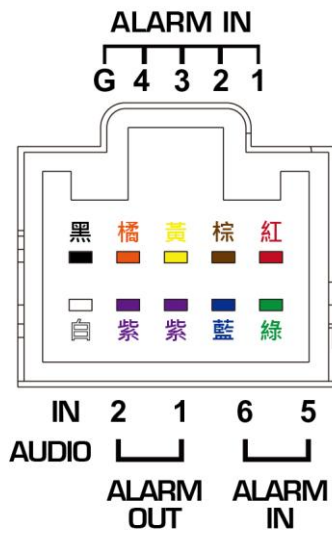
※ GPS / 4G / WiFi Option

● Pin Define Power Connector



1. DC+12V Output
2. Signal & DC grounding
3. Signal & DC grounding
4. DC8~36V IN Vehicle Power(+)
5. ACC Control
6. GNDP Vehicle Power(-)

- 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) Power On

Put HDD into HDD slot and closet HDD slot lock, then turn on the power and it will take approximately 30 seconds. When lights start flashing as the recording is in progress.

(2) Power Off

Turn off the power; please wait for 10 seconds until super capacitor without electric. Then take the HDD out and playback the recording files in computer.

(3) Light Indicator

- Power Light(Green Light) :
Light Off · means no power/power off.
Light On · means power supply normally.
- GPS Light(Blue Light) :
Light Off · means GPS is not ready.
Light On · means GPS is locating position.
- Network Light(Blue Light) :
Light Off · means network disconnected.
Light On · means network connected.
- Recording Light(Red Light) :
Light Off · means non-recording.
Light Flashing · means recording.

※ When Light Fast Flash · means Force recording is caused by manual or G-Sensor

(Remark: While using playback function in DVR, it cannot take live recording at the same time.)


F. Remote Control

Remote control playback and computer playback are available.

◆ Remote control operation

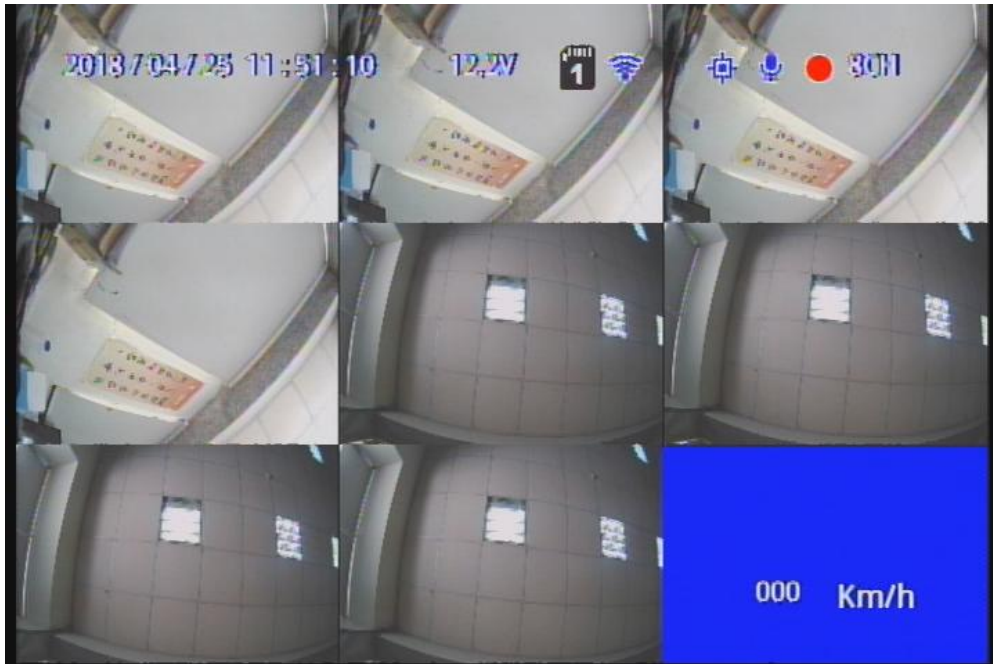


Remote control button introduction			
Item	Description	Item	Description
1	Split screen display	7	Enter
2	Force recording	8	Reverse
3	Quad full-screen display	9	Fast forward function
4	Speaker mute button	10	Playback mode, play button
5	Menu	11	Pause
6	Navigation	12	Stop and Exit

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

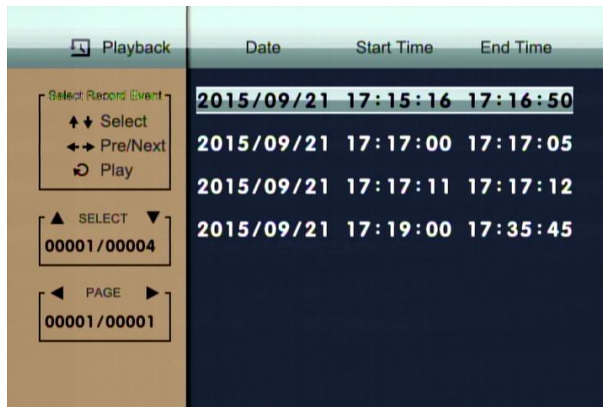
Single backup	Select single data backup to USB flash drive device
Back up for whole day	Select one-day data backup to USB flash drive device
Video output	Output through the corresponding VGA or CVBS video terminal
SD card operating mode	Backup: SD2 is a spare option. When an SD1 disk is abnormal, the 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



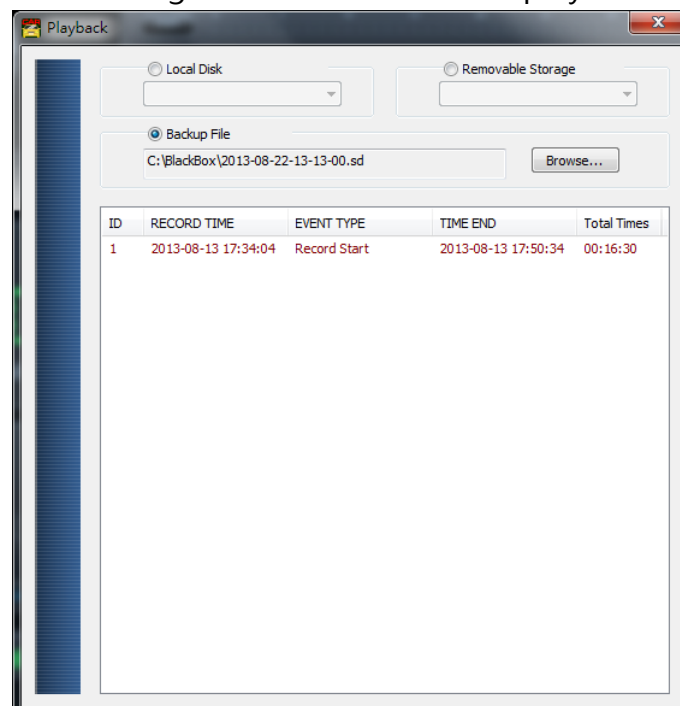
Select the file to played back, press the enter key to enter playback

● Computer playback: Read the hard disk for playback

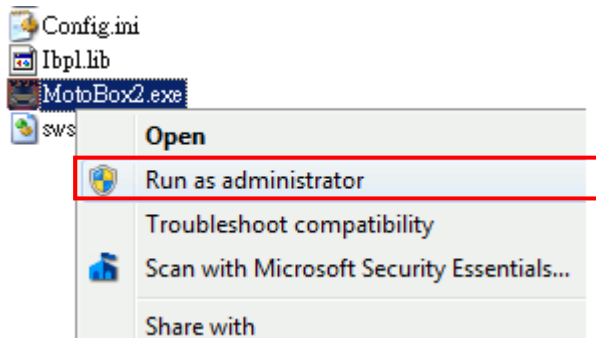
- (1) The hard disk that contains the video file is read by the computer and then the playback software CarBox2.exe is executed.

- (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.



(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)

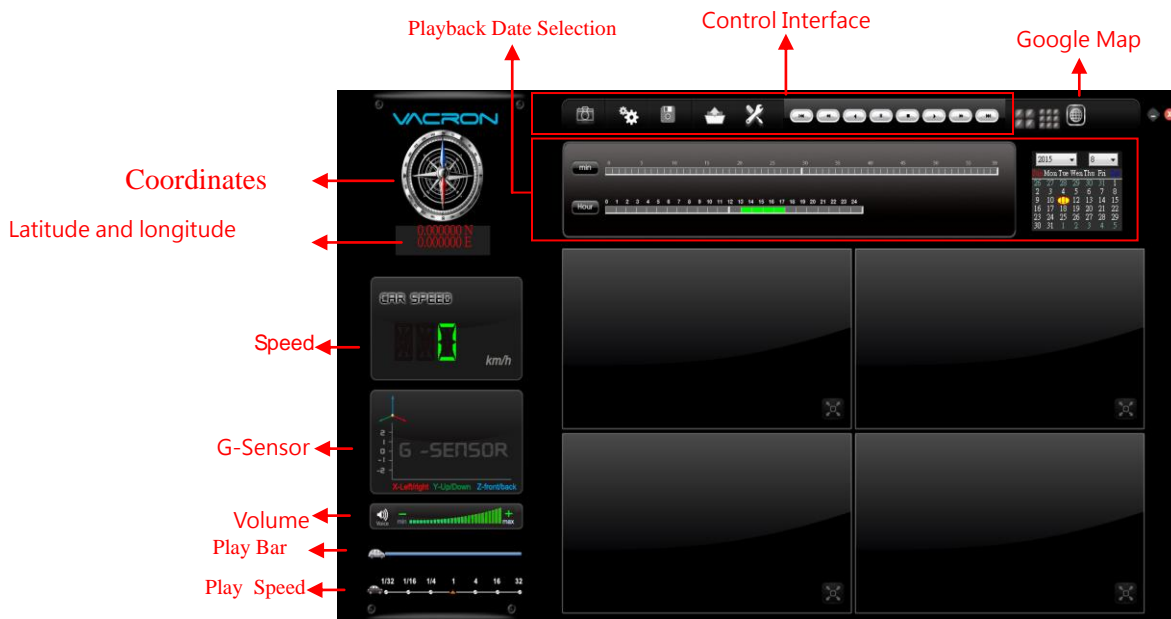


H. Computer Player

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






★Note: DirectX 9.0 or above is required.









- Operation Interface




(1). Tools

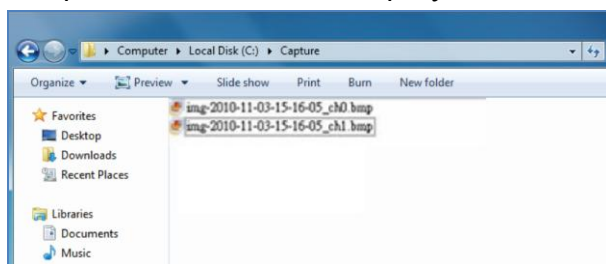


	snapshot: Capture and save the picture as a picture file
	Configuration: Set machine related settings
	Start backup: Select the path to be backed up for file storage
	Playback : Select a video file stored on a hard disk or computer to play it
	Format: Hard disk formatting, language


	setting
	Previous : Play the previous video
	Previous frame: Move the movie to the previous frame while paused
	Sd file format storage. The video is played backward
	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 °



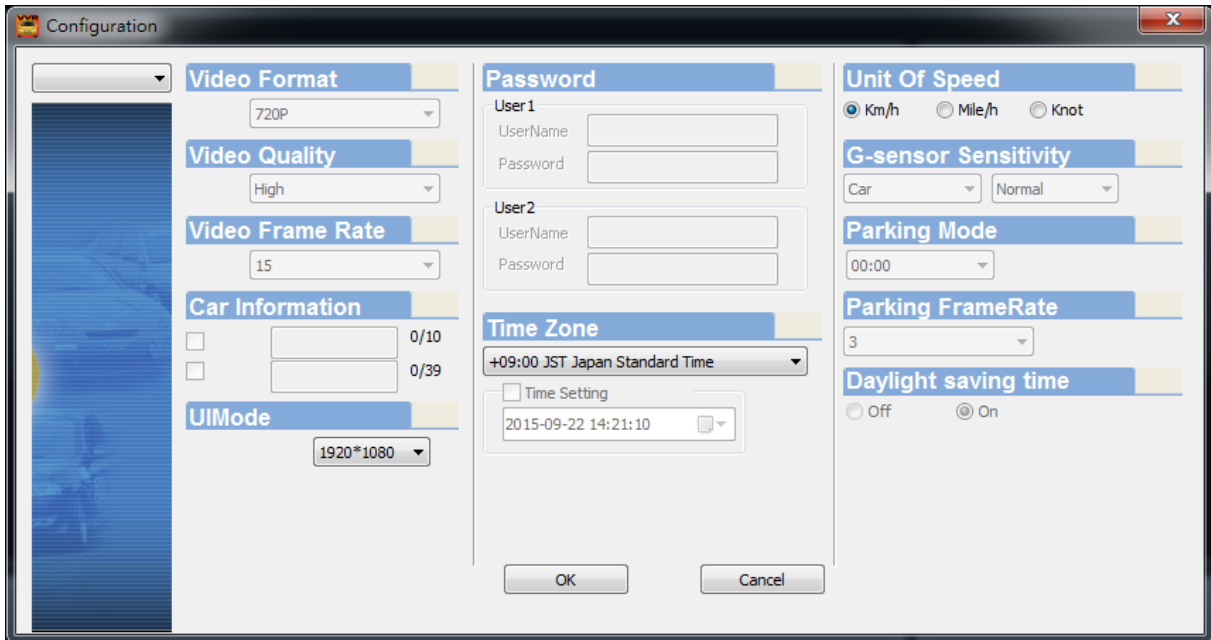
◆ Configuration

 : 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

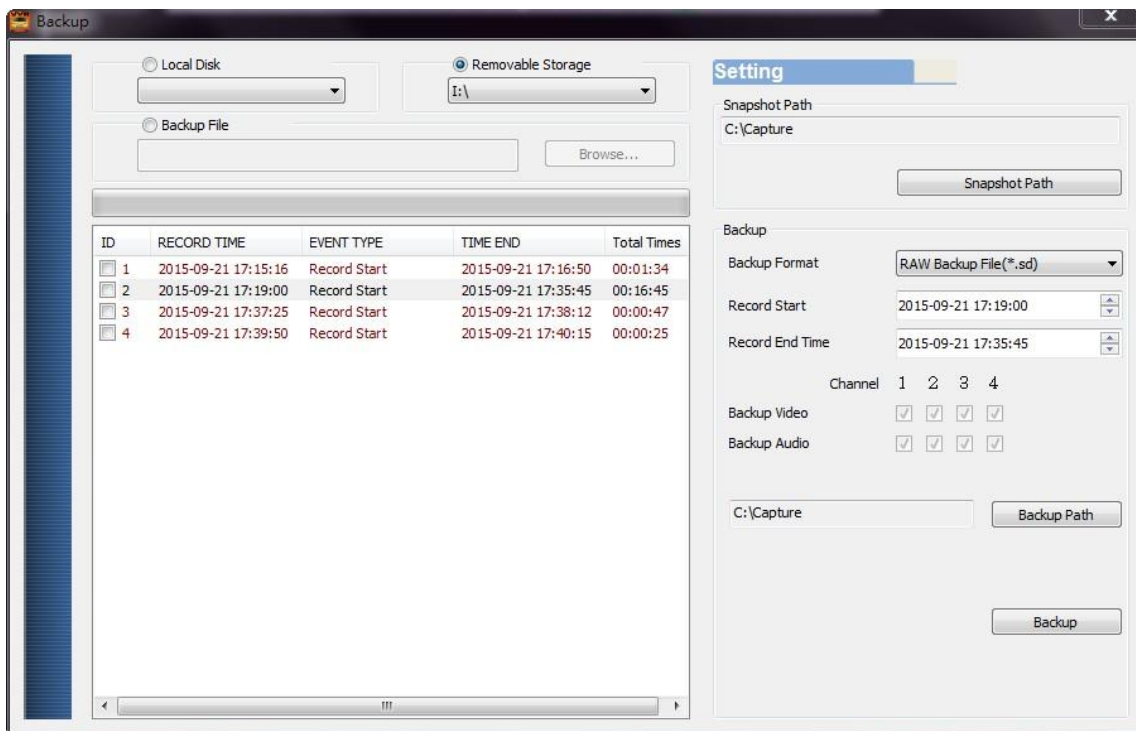


: Start Backup

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



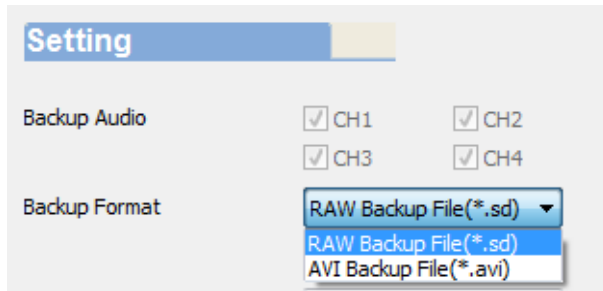
Step 1. Select the hard disk that contains the video file



Step 2. Select the hard disk video file to backup

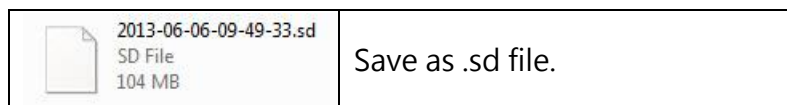
ID	RECORD TIME	EVENT TYPE	TIME END	Total Times
1	2015-09-21 17:15:16	Record Start	2015-09-21 17:16:50	00:01:34
2	2015-09-21 17:19:00	Record Start	2015-09-21 17:35:45	00:16:45
3	2015-09-21 17:37:25	Record Start	2015-09-21 17:38:12	00:00:47
4	2015-09-21 17:39:50	Record Start	2015-09-21 17:40:15	00:00:25

Step 3. Select backup data access format

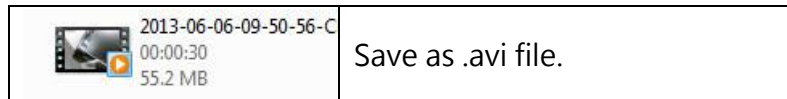


Backup format :

● SD Format

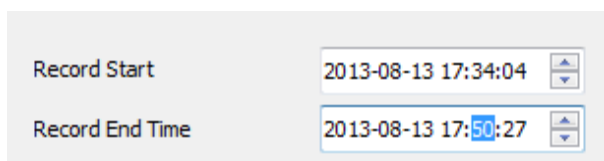


● AVI Format

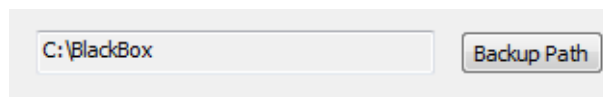


Note: Backing up in SD file format, the file format will include the speedometer, position table, latitude and longitude, and G-SENSOR record data. If you back up in *.avi format, only the video and audio data is available, so it is recommended to use SD format.

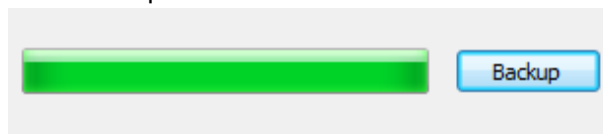
Step 4. Backup the video file according to the requirements and set the required time range



Step 5. Select the path to the backup folder



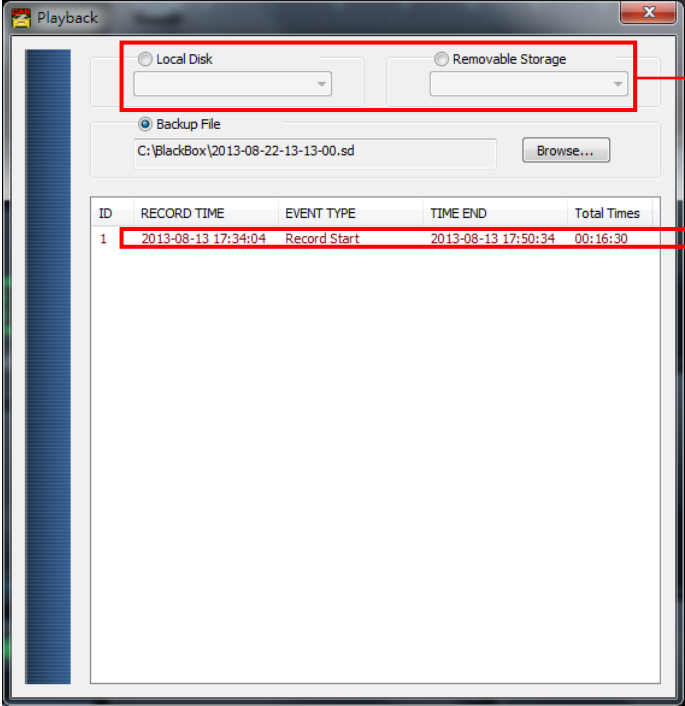
Step 6. Start the backup



◆ **Playback**




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

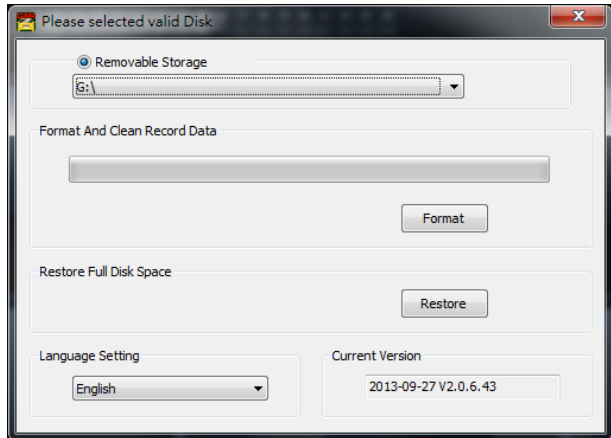


1. SD Card

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.

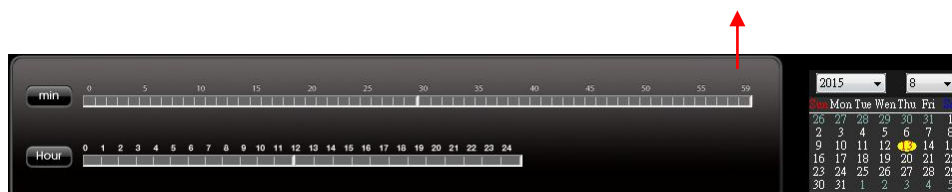
(6). Play Speed



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.

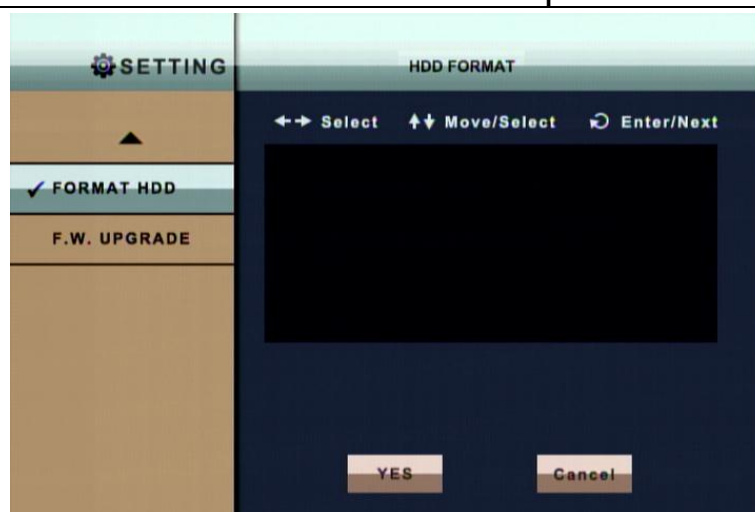
※ Before formatting, please note if there is important data in the hard disk not backup yet.

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 Disk"



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

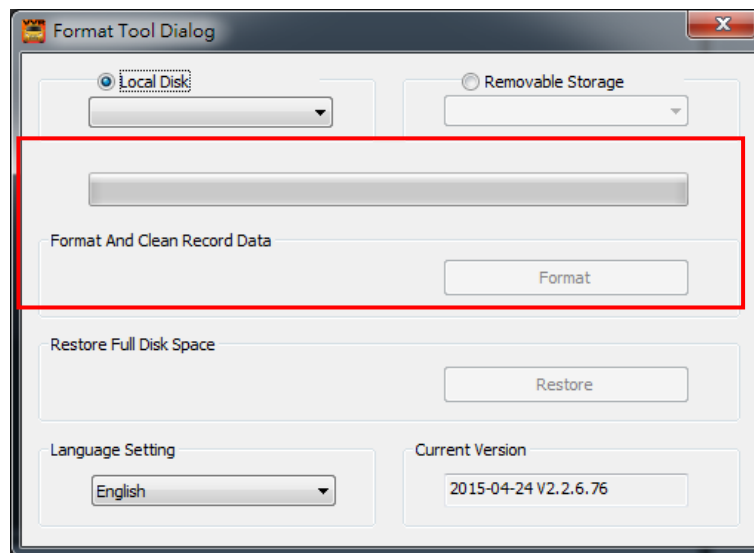
The computer performs the formatting of the hard disk as follows:

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.

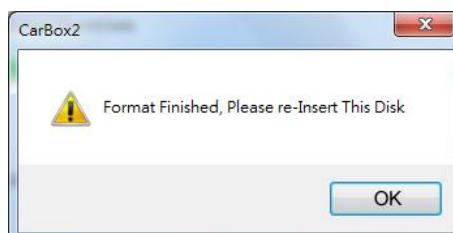
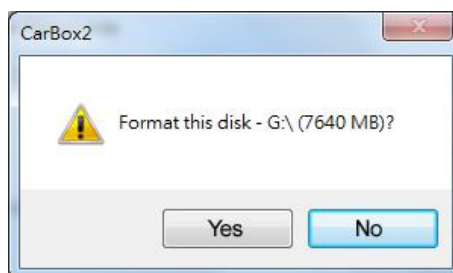
Step 2. Click  Enter format tool menu

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

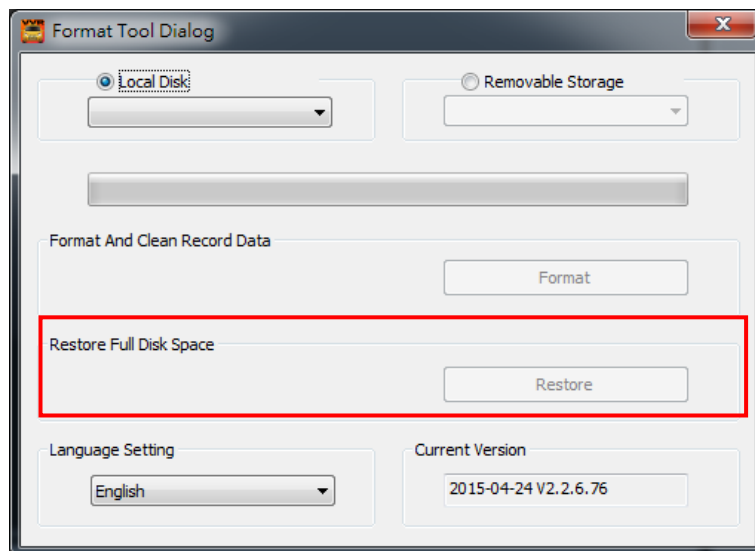
(1) Hard drive restore

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

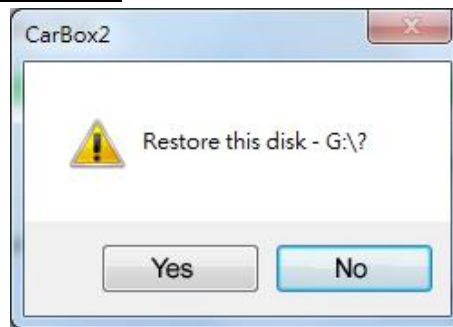
CarBox2.exe

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

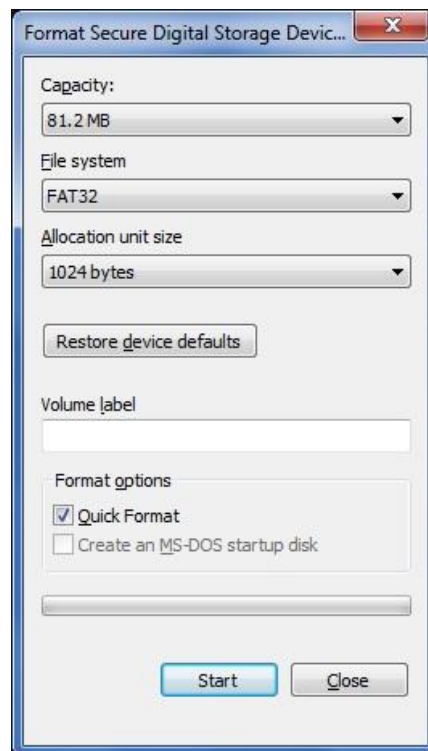


Step 3. At this point, "Restore this disk" will display. Press "Yes" to

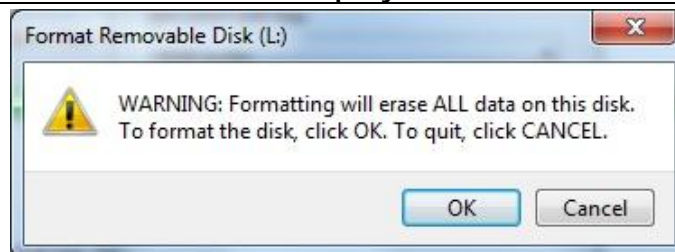
restore the hard disk. ◦



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



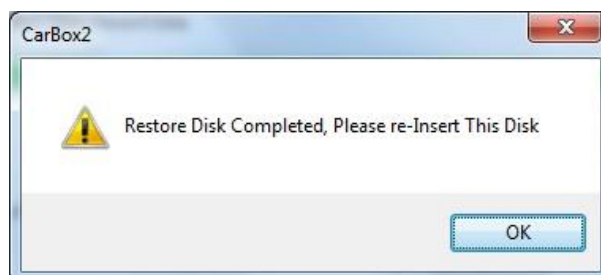
Step 5. "Restore this disk" will display. Press "OK" to format it. ◦



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

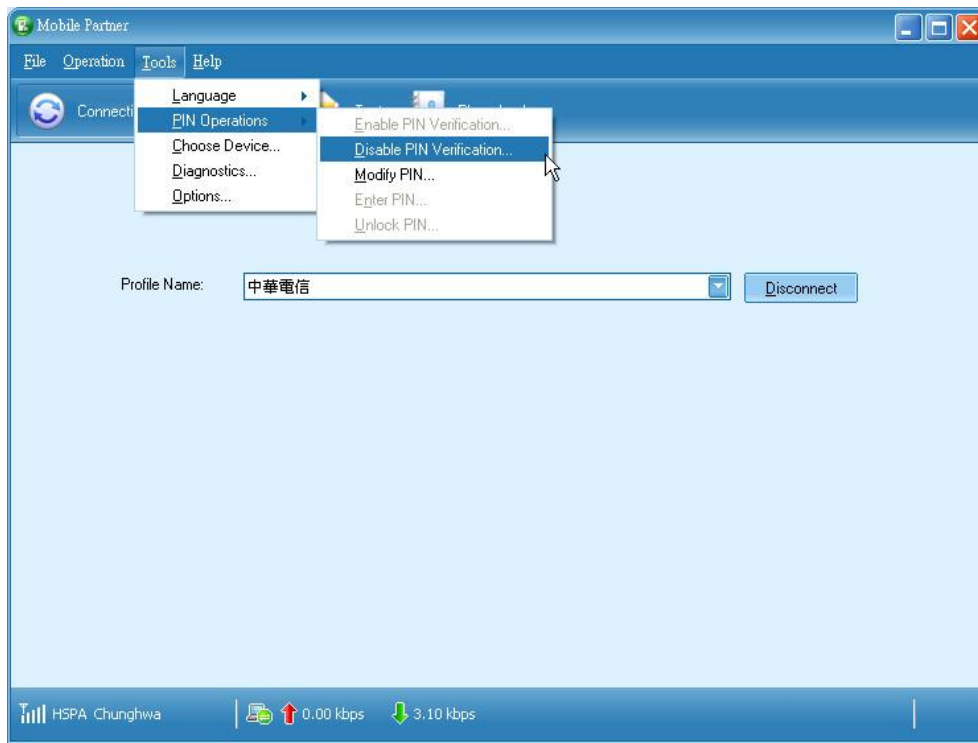
PIN protection must be turned off. The steps are as follows: °

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

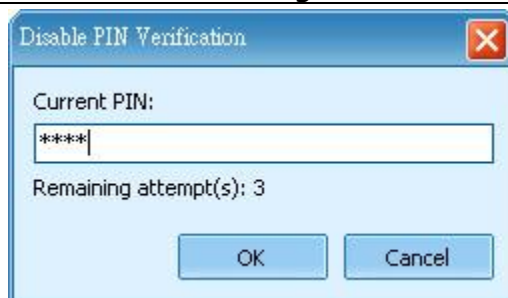
Step 1. After installing the 4G network card on the SIM card, connect the 4G network card to the computer and the system will automatically execute the Mobile Partner. °



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



Step 3. Enter the correct PIN, Chunghwa Telecom default is 0000

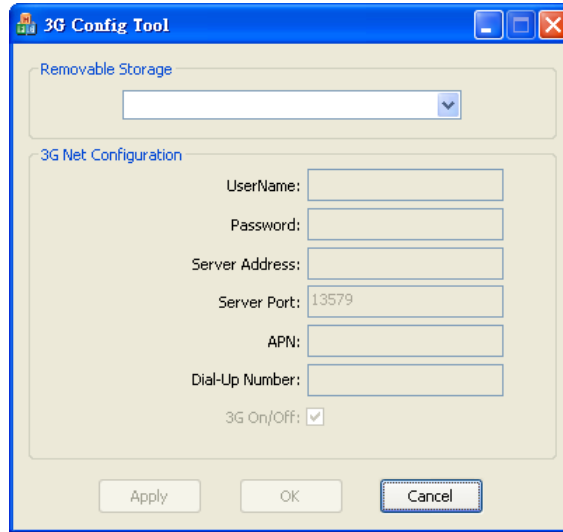


Step 4. Confirm PIN, cancellation PIN code completed.

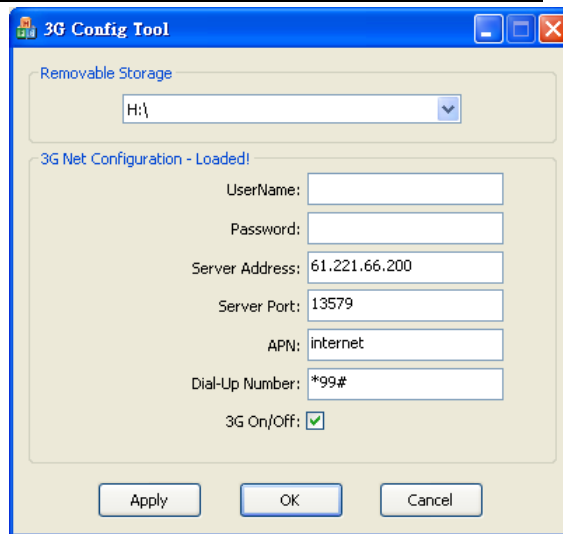


- (2) **Step 5. After completing the above actions, insert the SIM card into the SIM card slot on this unit and turn on the power before connecting.**
- (3) 3G-Network setting
Set the relevant parameters of this machine 3G-Network ◦

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



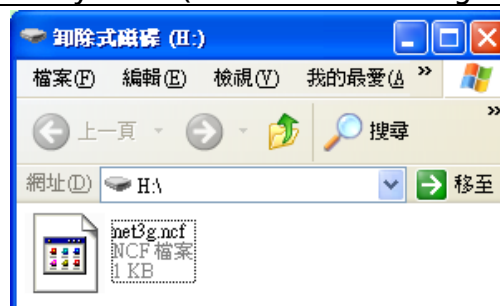
Step 2. Then insert the SD card into the computer, select the SD card disk, and enter the relevant parameter settings. °



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

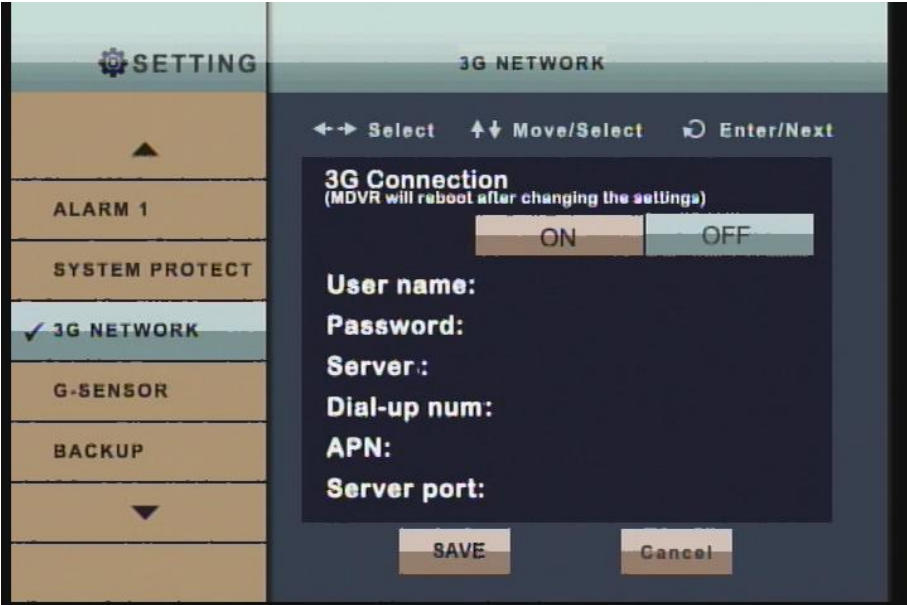
APN	4G Network access point name (Default is APN used by Taiwanese telecom operators. If other areas need to use, please consult with APN used by local telecom operators.)
Dial-Up Number	4G dial-up connection setting (The default is the dial-up connection code used by Taiwanese telecom operators. If 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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