

# 720P 4CH Vehicle Mobile DVR

---



2016 MAY V2.0

---



---

## Safety Precautions

Take and review some testing video initially to make sure the images were recorded correctly. Please note that manufacturer, its subsidiaries and affiliates, and its distributors are not liable for consequential damages arising from any malfunction of main device accessory, including memory device that results in the failure of an image to be recorded or to be recorded in a way that is machine readable.

**Before using the product, please ensure that you read the safety precautions described below. Always ensure that the product is used correctly.**

- Please keep device away from children.
- Use only recommended power sources.
- Do not attempt to disassemble, alter or apply heat to the product.
- Avoid dropping or subjecting the product to severe impacts.
- To avoid the risk of injury, do not touch the interior of the product if it has been dropped or otherwise damaged.
- Stop using the product immediately if it emits smoke, a strange smell, or otherwise behaves abnormally.
- Do not use organic solvents such as alcohol, benzene, or thinner to clean the product.
- Do not let the product come into contact with water (e.g. sea water) or other liquids.
- Do not allow liquids or foreign objects to enter the VVR.
- Do not place the VVR near or in direct flame.
- Do not handle the power cord with wet hands.
- Do not use the equipment in a manner that exceeds the rated capacity of the electrical outlet or wiring accessories. Do not use if the power cord or plug are damaged, or not fully plugged into the outlet.
- Do not allow direct or metal objects (such as pins or keys) to contact the terminals or plug.
- Avoid using, placing or storing the product in the humid or dusty areas.

Before using 3G products, please ensure that you read the safety notifications described below.

- Company and user shall not modify certified low power radio frequency device the frequency, increase the power and change the characteristics and functions without permit.
- Use low power radio frequency device shall not affect flight safety and interfere with legal communications; when there is interference happened should be immediately suspended, and improve without interfering may continue to use.
- Legal communication means operation of radio communication in accordance with the provisions of the Telecommunications Act Low-power radio frequency device must endure the interference of legal communications, industrial, scientific and medical radiation wave equipment.

---

# Index

---

A.	Features .....	1
B.	Specification .....	2
C.	Accessories .....	3
D.	Product Exterior.....	4
E.	Power On / Power Off .....	6
F.	IR Remote Controller .....	7
G.	System Interface and Operation .....	8
H.	CARBOX Player on PC Site.....	12
I.	Format/Restore HDD .....	20
J.	3G Internet Setting.....	25
K.	3G Client Remote Monitoring .....	29
L.	Capacity Evaluation of Continuous Recording Storage Device .....	45

## A. Features

1. Support 4CH recording cameras at the same time to record driving images completely.
2. Wide range of power input, suitable for any kinds of vehicles.
3. Auto recording after power supplied.
4. Provide Video output for playing-back mode and operating in mainframe.
5. x4 I/O alarm input, x1 Audio input and x1 Audio output.
6. Built-in G-sensor , automatically detect crush, trig force recording.
7. Built-in WIFI and 3G network, different selection of connecting.
8. H.264 real time compression chip, Higher compression ratio and keep clear resolution.
9. Recording format: 720p used for different demand.
10. Complete Video Record List. Overall quick search event log.
11. Completely record driving video and sound to make sure attribution of responsibility when accident occurred.
12. Provide AVI convert function to users playback on PC.
13. Power management function, Extended record after power off.
14. G-Mouse optional, completely record your driving position and speed.
15. 3G module optional, control driving situation of vehicles anytime.

## B. Specification

Recording Frame	720p/VGA@30FPS/CH 960H/CIF@30FPS/CH	
Display Mode	1CH/4CH	
Simplex Mode	Record/Playback	
Resolution	Display	1280X720 /640X480 960X582 /360X240
	Recording	1280X720 /640X480 960X582 /360X240
HDD	2.5" SATA HDD Removable Case, Max to 1TB	
Backup Device	USB 2.0 Flash Driver, Removable HDD	
Playback	Mode	Time/Date · Events
	Full Screen	Yes
LED Indicator	4 LED (LAN / REC / GPS / Power)	
Signal Loss Detector	Yes	
Buzzer Alarm Output	Yes	
RS485	Yes	
SD	Yes	
GPS	Yes	
G-SENSOR	Yes	
3G	Yes	
WiFi	Yes	
IR	Yes	
Watchdog	Stop, Automatically return to recording mode when power back.	
Built-in Super capacitor	Yes	
Power Supply	(1) DC 8V~32V (2)ACC Extended Recording by setting software.	
Dimension	250mmX174.8mmX69.5mm	
Operate temperature	-20°C~65°C	
Weight	1.85kg(With bracket and HDD )	

\*Version updating is not going to inform, please check the on-going updating information

## C. Accessories

This product contains accessories as below:

- **Standard:**

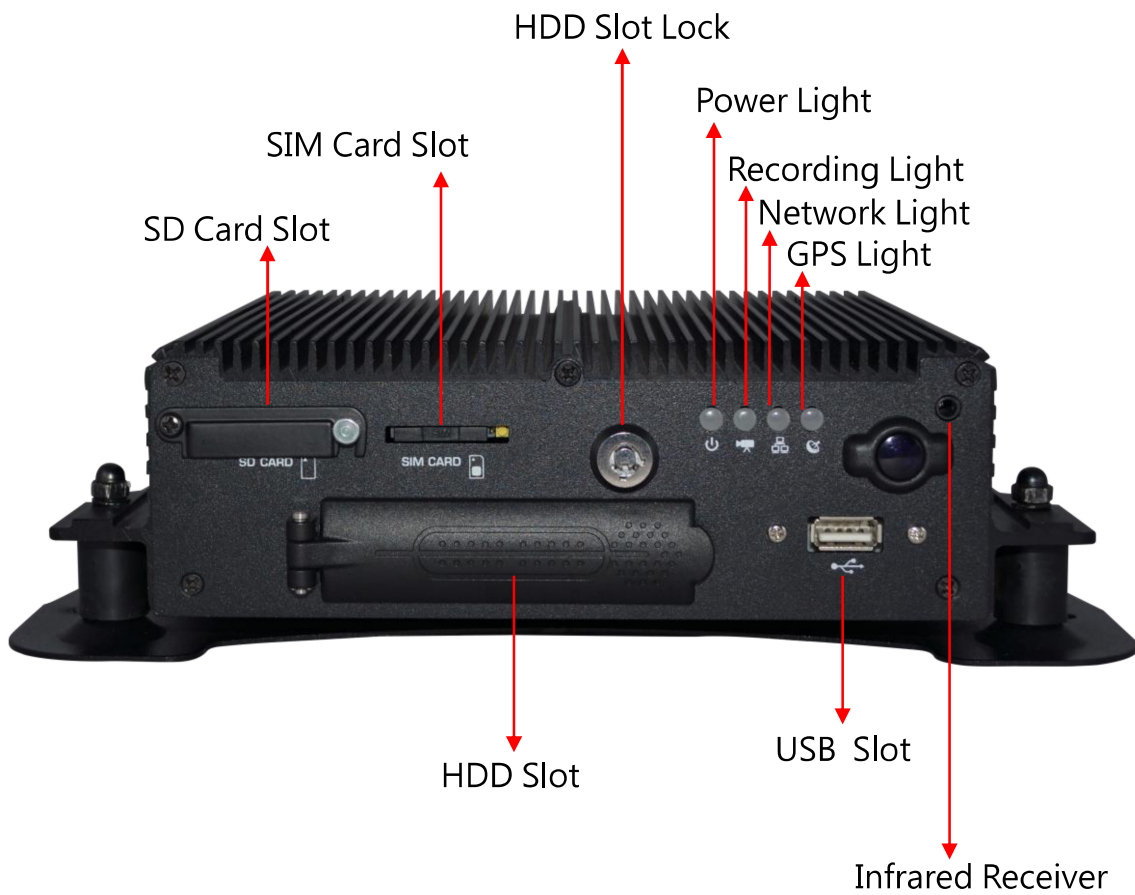
Main Device / Power Cable 6P+5A / ALARM Cable / IR Extension Cord /16P Female-MINIx2 / IR Remote Controller /Network Cable / Software Disc / RS-485 Cable(2 pin)

- **Optional**

3G Module / WiFi Antenna / G-Mouse

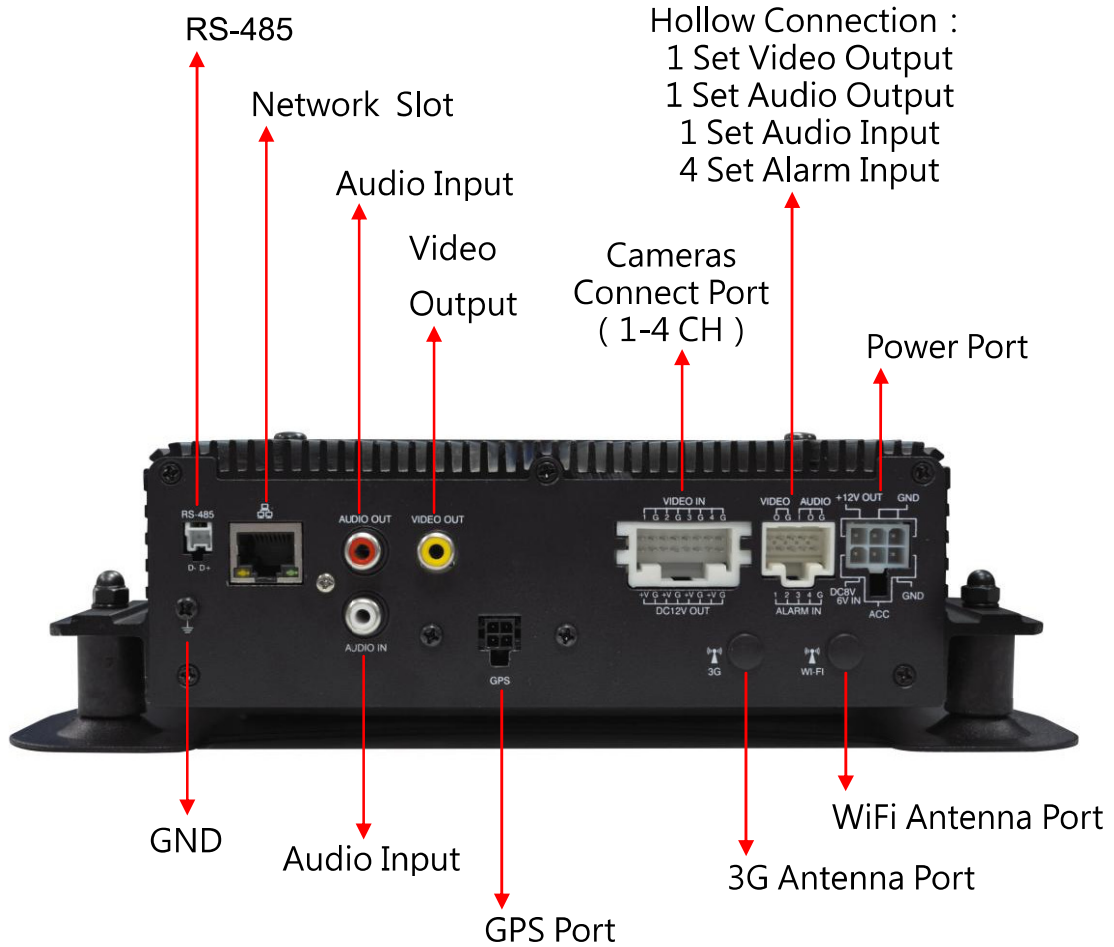
## D. Product Exterior

### Front Panel

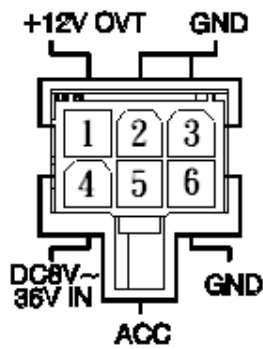




**REAR PANEL**



● Power Port



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(-)

## E. Power On / Power Off



### (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(Orange 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.
  - Light Flashing speed · means event recording.

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


## F. IR Remote Controller

Vehicle DVR can be operated through two methods: IR remote controller and PC software application.

- ◆ Through IR Remote controller instruction



Buttons Instruction			
No.	Function Description	No.	Function Description
1	1CH Screen Display	7	Confirm Button
2	Force Recording Button	8	Backward (Not Working)
3	4CH Screen Display	9	Forward
4	Mute	10	Playback · Play
5	Menu	11	Pause
6	Arrow	12	Stop · Left

	<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>
---	---

## G. System Interface and Operation

### ◆ Live Monitoring Mode Display









Live Monitoring Mode-  
4 Split Display (1~4Ch)

#### (1) Display Description:

- Press Ch1~Ch4 button or select on menu for single display.
- Press quad split screen button for 4Ch display.
- Press menu button to enter menu option.
- Press play button to enter playback mode.

#### (2) Icon Description:

- : Recording
- : GPS Connecting
- : Voice Recording On
- : Event Recording On
- : 3G Connection On
- : Alarm Triggered

## ◆ OSD Menu Operation and Parameters Setup Description

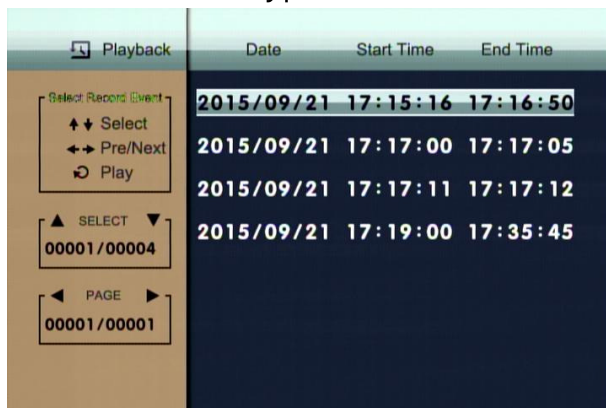
Recording Setting	Recording Frame	NTSC	720P	5-30 fps
			VGA	5-30 fps
	PAL	720P	5-25 fps	
		VGA	5-25 fps	
Resolution	Normal	Better	High	
Video Setting	Select 1~4CH to adjust Bright, Contrast and Color			
Time Setting	The time setting will be automatically calibrated by GPS signal. If no GPS signal, time and date can be set manually.			
GPS Setting	Select show speed and speed unit setting on live view display or Not.			
Plate Number Setting	Input range : A~Z and 0~9			
Working Mode	<ol style="list-style-type: none"> <li>1. Setup channel mode when system starts.</li> <li>2. Select extensional time after ACC Off</li> <li>3. Sound recording ON/OFF</li> </ol>			
Alarm Setting	Setup the mode after alarm triggered.			
System Protection	<ol style="list-style-type: none"> <li>1. Low voltage protection(triggered at ACC mode)</li> <li>2. Notice of HDD protecting.</li> </ol>			
3G Network	3G function ON/OFF · show setting information at present(Optional)			
G-Sensor Setting	Once the function is activated, when the car collision happened, 『Force Recording』 mode will be automatically triggered, to prevent complete recording event not be overwritten.			
Lens Setup	720P/D1			
Data Backup	Select necessary files to backup.			
Restore Default	After restore default setting, machine will be restarted and cleaned original setting.			
Format HDD	Recording data will also be formatted at same time			
Firmware Update	Save the firmware update program into USB device and use USB device to update firmware. When update firmware please keep power supply. It will restart automatically after finishing update.			

## ◆ Playback Mode

Live screen on the device or on PC

### ● On the Device

- (1) Click play button on the remote control during live monitoring mode, to enter playback page.
- (2) To select search type then click enter button, to enter playback list



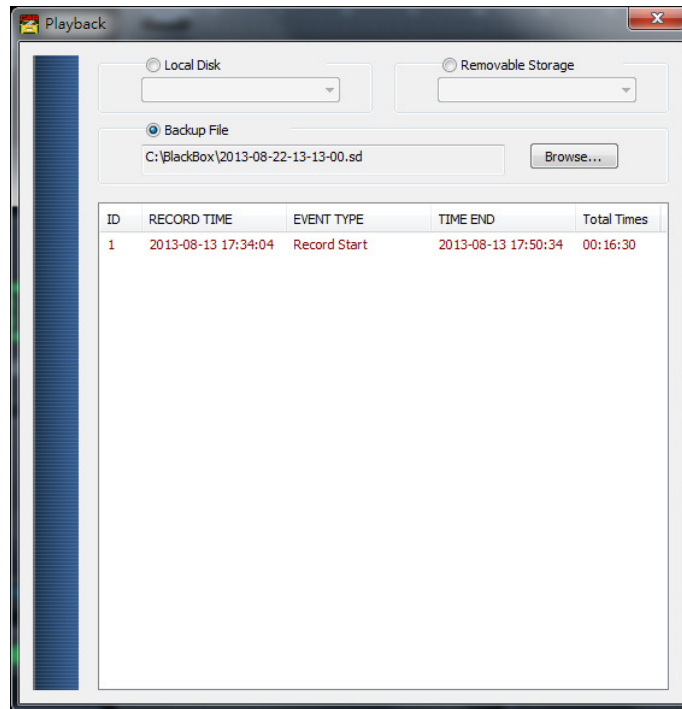
- (3) To select the playback file, then click enter button to enter the playback video file.

### ● Playback on PC: To enter playback by unplug and read HDD

- (1) To read the HDD with saving data on PC, then run the player software CarBox2.exe.

- (2) Click "Playback" , to open playlist menu.

- (3) Select HDD, the video files will be shown in the playlist, Click the video file to play.



Playback List Display

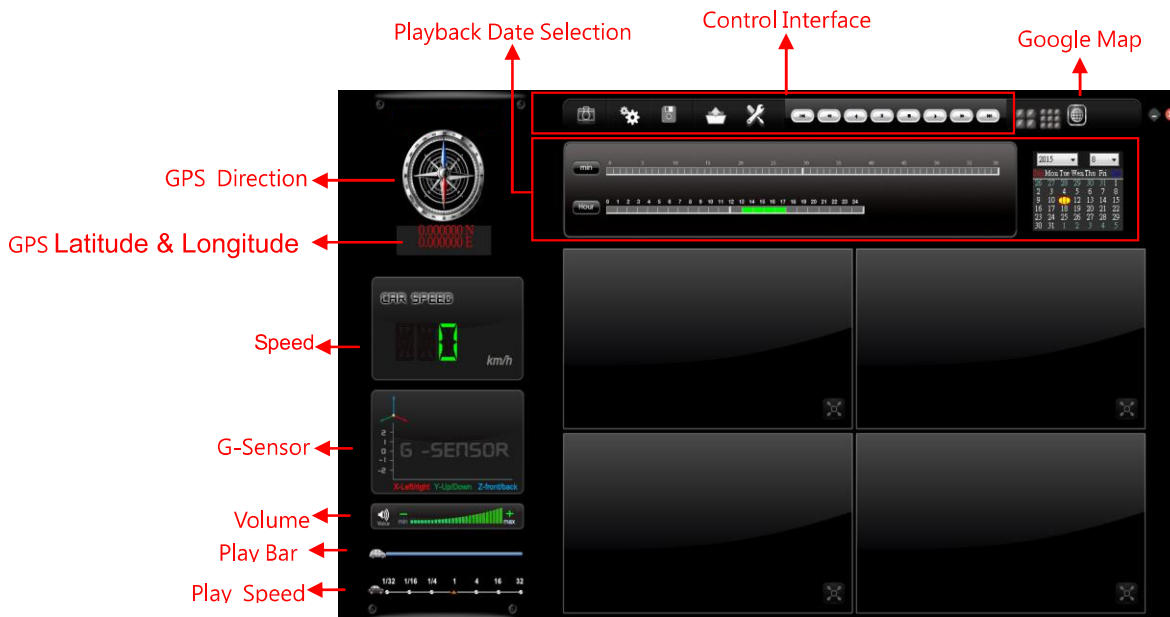
(Remark:If the playback list cannot be read in Win7 system. Solution: click right button and execute CARBOX as Administer identity. )

## H. CARBOX Player on PC Site

Execute player software CarBox2.exe .






★**Caution:** It needs to install DirectX 9.0 or above before running CarBox2 software.

- Operating Instruction











### (1). Control Interface Description




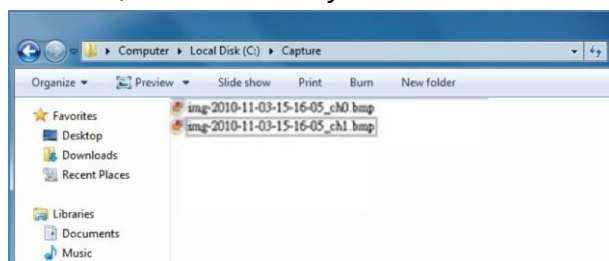
	Snapshot: Capture the footage screen.
	Configuration
	Disk Backup: Select backup location to save files.
	Playback: Select files in HDD or PC to playback.
	Tool, HDD format, language setting.



	Previous File: Play previous video.
	Previous Frame: Backwind previous frame in Pause situation.
	Save as SD files, Video backwind play.
	Pause: Pause playing video
	Stop: Stop playing video
	Play: Play pause video
	Next Frame: Forward next frame in pause situation.
	Next file: Play next video

#### ◆ Snapshot

Screen shoot: Click the  icon, to capture the footage screen. The Image will be save as .bmp file format. Player will show the backup folder automatically. The default directory is the Snapshot folder. (Under the Player installation folder).

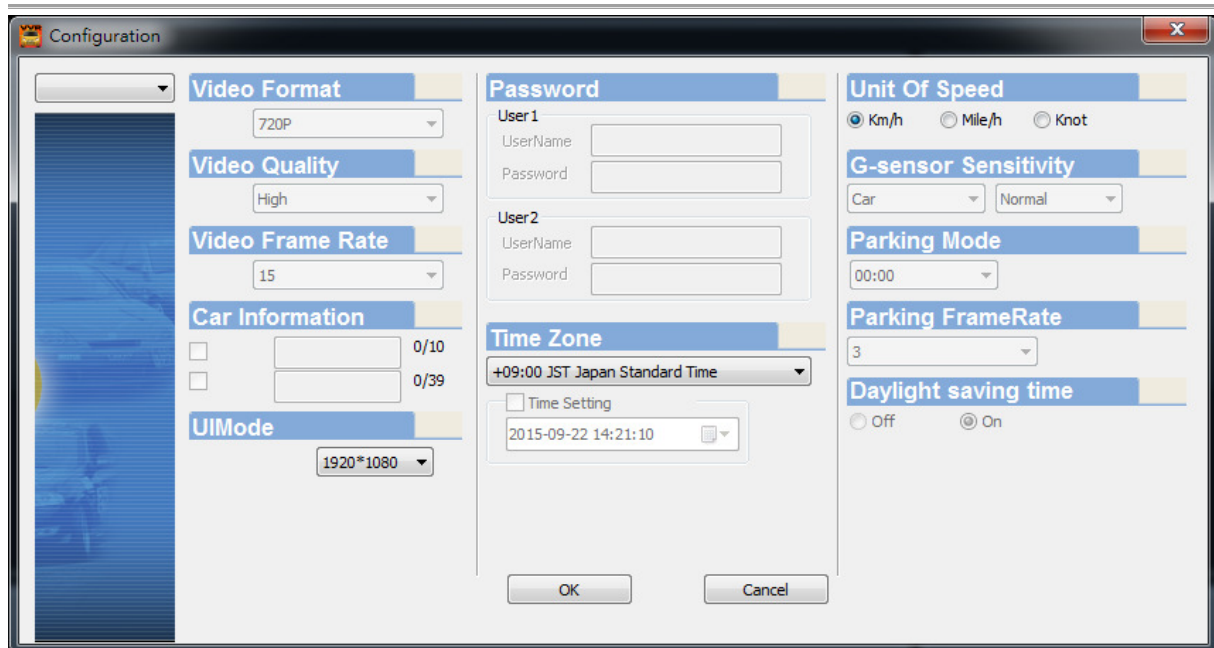


#### ◆ Configuration

: Setup the HDD Setting.

Before execute this function, please insert the HDD device into your computer. When finish all setting and click 『Save』, all the setting will save to the HDD device. When you insert the HDD device into your DVR, the DVR will read the setting and follow the setting to start recording.

Remark: Using SATA convert USB Cable Device to read HDD on PC.



Resolution	720P and VGA
Video Quality	Choose the resolution: High / Normal / Low
Video Frame Rate	Set the fps from 5 to 30
Car information	Car License, Driver (For Company car, Taxi, or fleet)
UI Mode	Setup Player Size.
Password	<p>Encrypt the HDD device to prevent others who not permitted to access the HDD device. String length: 15 character. After setting the password, all actions, like Playback footage, setting, format HDD device, need the password.</p> <p>★ Note : Upper character and lower is different.</p>
Time Zone	GMT setting, to adjust the time zone.
Unit of Speed	Set the speed unit Km/hr Mile/hr Knot
G-sensor Sensitivity	G-sensor sensitivity setting mode Sensitivity setting : (Min/Low/Normal/High/Max)
Parking Mode	Setup Extend Recording Time after Engine off
Parking Frame Rate	Setup Extend Recording Frame after Engine off

## ◆ Backup

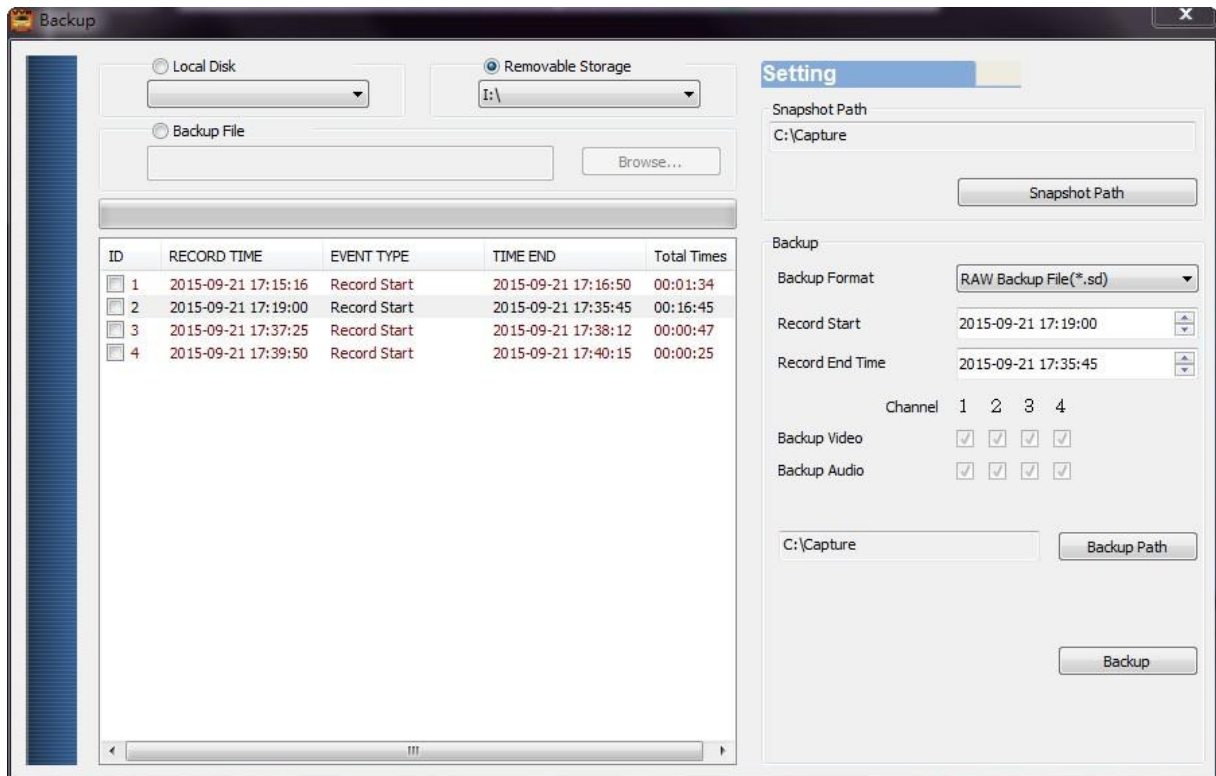


Backup folder: Choose the folder that backup file will save.

Backup the footage on the HDD device to your computer for data backup.



Select icon to start the backup function as the following :



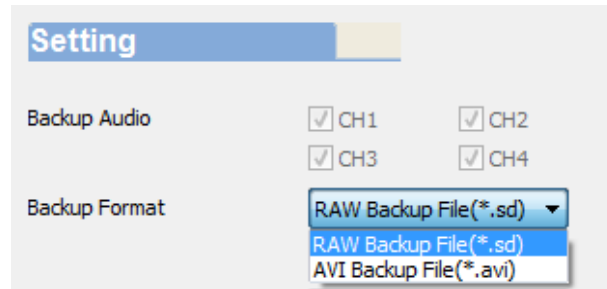
Step1. Choose the Local Disk, Removable Storage or Backup File.



Step2. Choose the file you want to backup on the HDD device.

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

### Step3.Choose backup file format.




Backup Format :

- SD Format

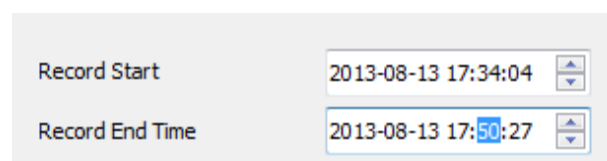
 2013-06-06-09-49-33.sd SD File 104 MB	Save as .sd file.
---	-------------------

- AVI Format

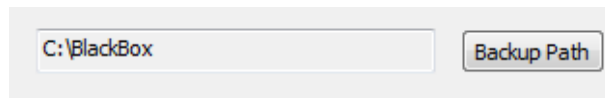
 2013-06-06-09-50-56-CHN01 00:00:30 55.2 MB	Save as .avi file.
--	--------------------

**Note :** \*.sd format file contain image/ speed/ location and G-SENSOR data. \*.avi format only can backup the video and audio. We recommend you backup as \*.sd format.

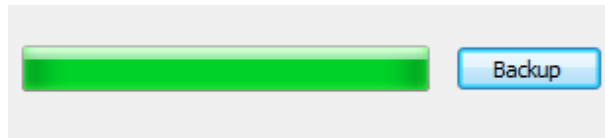
Step4.You also can choose a period to backup the footage during the period



Step5.Choose the backup folder.



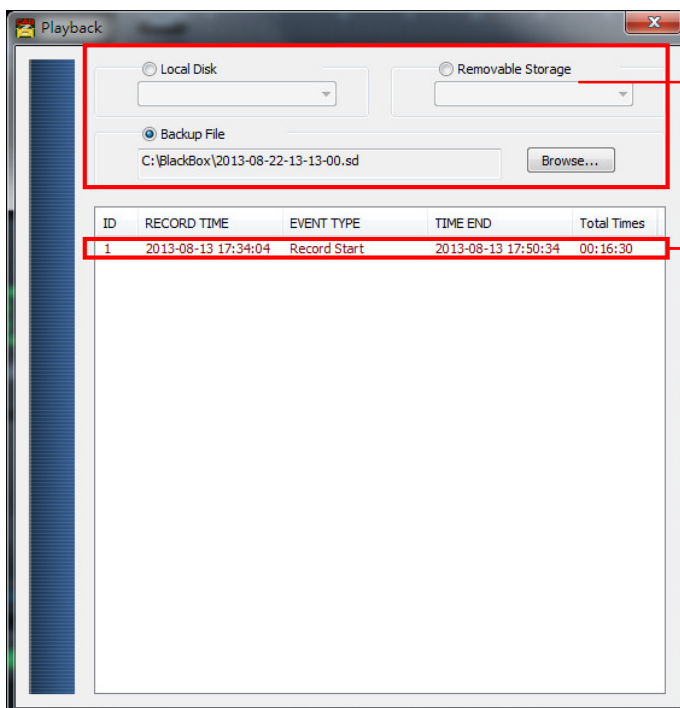
Step6.Start to backup.



### ◆ Playback



Playback the footage: Choose the file in HDD device or in the computer to playback.



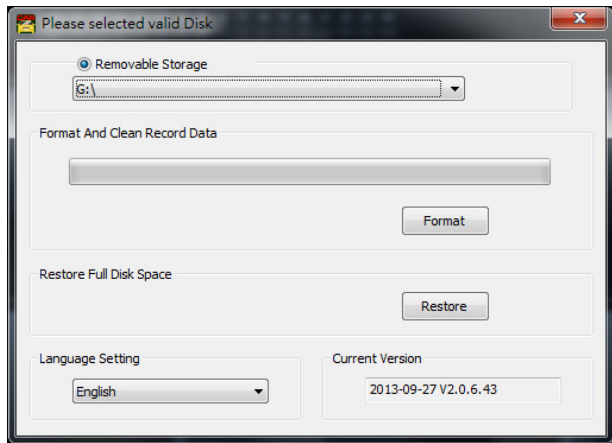
1. Choose the Local Disk, Removable Storage or Backup File

2. Choose the file

### ◆ Format



Format: Format the storage and Restore the storage format to windows format. Language setting, Firmware version. For Format and restore storage, please reference the next item.



## (2). GPS Latitude & Longitude Coordinates



GPS Latitude & Longitude Coordinates : Display driving location and latitude & longitude with G-mouse ( Optional)

## (3). G-SENSOR



G-SENSOR :

X: The G-force from left & right of the car.

Y: The G-force from front & back of the car.

Z: The G-force from upside & downside of the car

## (4). Volume Control



Volume BAR: Click the left button of mouse control to adjust the volume degree.

## (5). Video Search



Video Searching : You can use the mouse to drag the bar to search the video quickly.

## (6). Play Speed:



Play Speed: Support 2x, 4x 8x fast forwarding and -1/2x, -1/4x -1/8x slow play mode.

## (7). Playback Date Selection

Quick switching by minutes

Date Search

 The interface for date selection includes two time selection sliders on the left and a calendar on the right. The top slider is labeled 'min' and ranges from 0 to 59. The bottom slider is labeled 'Hour' and ranges from 0 to 24. The calendar shows the month of August 2015, with the 14th highlighted. Red arrows point from the text labels to the corresponding parts of the interface.
 

Selecting by Hours/Minutes (24-hours)

## I. Format/Restore HDD

### ● Format HDD

Q: When should you format the HDD?

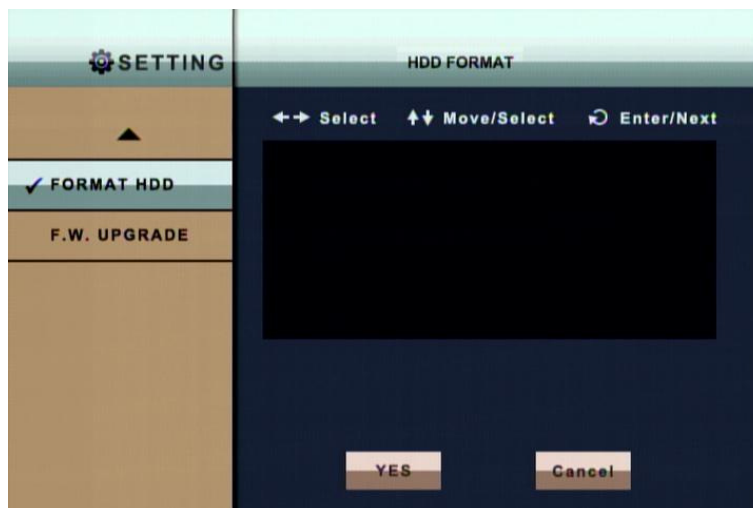
A: For brand new HDD or an used HDD which is used in other equipment before, it should be formatted before using. °

※ Before format please backup the important data in your HDD.

#### Format HDD by Device or PC.

##### (1) Format by Device

Step 1: Use remote controller to enter DVR menu and choose Format Disk.




Step 2: Select "Yes" and Click "Enter" to start formatting.

Step 3: When the screen back to LIVE mode, the formatting is completed.

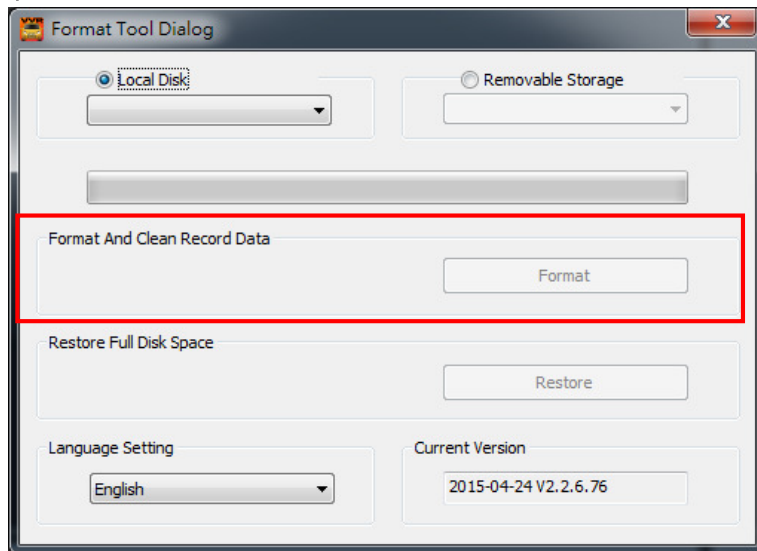
##### (2) Format On PC

Step 1: Connect the storage device / hard disk to PC. Execute the CarBox2.exe software

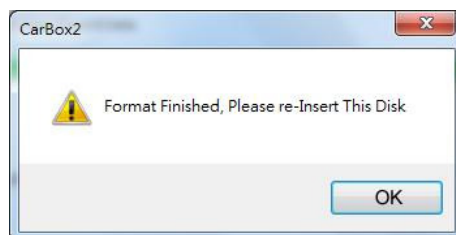
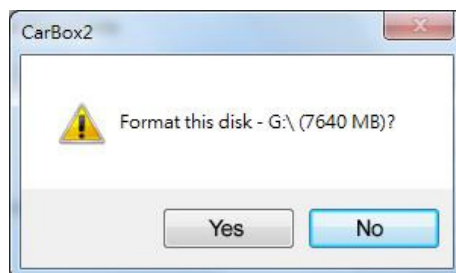


Step 2: Click  icon to enter format tool menu.

Step 3: Click "Format" button.



Step 4: Click "Yes"



(After format, re-plug the storage device, then you can set up related parameters and save. After setting, Install the HDD into the DVR and it can start to work.)

- **Restore HDD**


Q. When you need to restore the Storage?

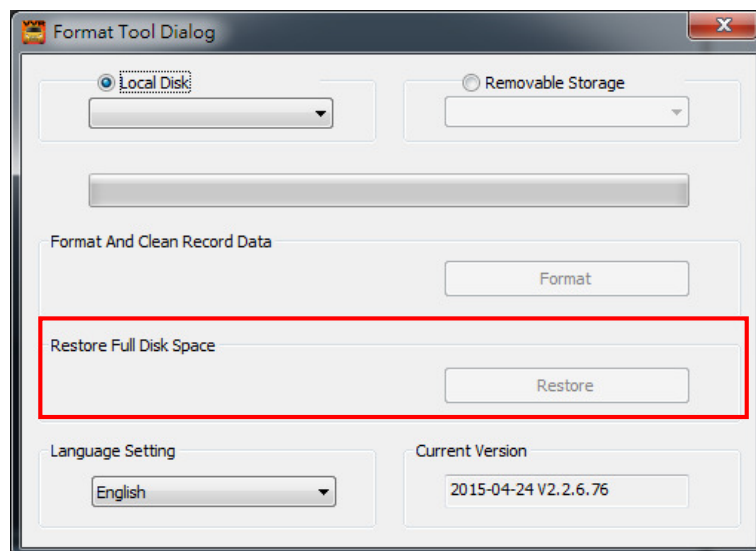
A. If the storage device(HDD) will be used in other purpose., please back-up record footages to PC firstly and then restore it.

※Before Restore please backup the important data in your HDD.

(1) Restore the Storage on PC Player

Step 1: Connect the storage device (hard disk) to PC. Execute CarBox.exe

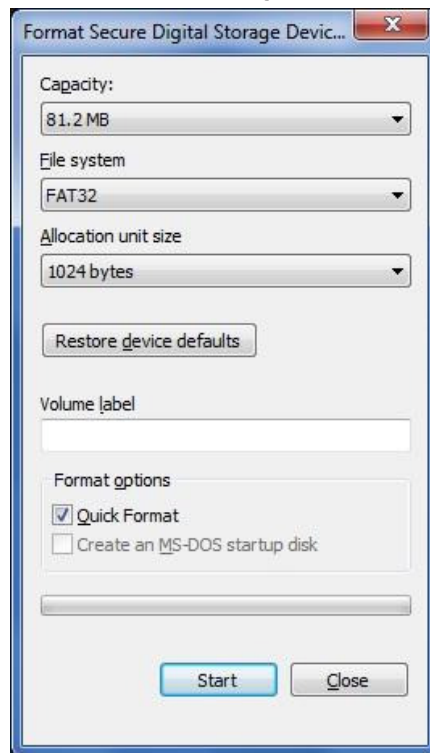
Step 2: Click  icon, choose the Storage, then press 『Restore』



Step 3: The following window will pop up, Click 『Yes』 to start restore the Storage.



Step4. Now system will pop up the window to proceed the format procedure, please choose 『Quick format』, then click 『Start』.



Step5. Click 『Yes』 to start formatting the Storage



Step6. Click "OK" to finish restore HDD device.



Step7.After finished, press 『OK』。Then the Storage format is normal windows format.

