

# 2CH Mobile DVR

## User Manual



DVR



OBD (On-board display unit)  
(optional)



Full HD camera

2018 AUG V1.0

### 2CH DVR



optional

### Full HD Camera



### OBD (On-board display unit)(optional)



※Memory card is excluded, please purchase it separately.

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# Safety Precautions

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Dear Vacron user,

Appreciate for you purchase Vacron products. Please contact your local distributor if you meet any question or need for any assistance. We will offer you complete and in time service via local distributor. However, we still have rights to upgrade software and hardware without any kind notice beforehand. Please read this manual carefully prior to use of this product..

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## Installation Precautions

- Before installation, please insure wires and cables connect correctly.
- Device has to install in a ventilated environment and the installation have to be guided or helped by any professional device installer.
- Please use storage device that recommended by manufacture, and purchase the storage device from official purchase channel.
- Please contact local distributor and technology support service if you have any question and need any help during product usage

## In Use Precautions

- Please avoid any solid or liquid drop into the inner components.
- Please do not disassemble the equipment for warranty issue.  
Please contact local dealers or the manufacturer for prompt service.
- Please remove the battery if remote control keeps idle for quite a long while.
- The equipment best connection is with ground wire in case of outdoor cameras connection or alarm I/O connection. This is to keep the DVR away from static electricity damage.

## Surrounding

- Please have the DVR under recommended temperature and set it away from the sun and heating source.
- Please keep this equipment away from humid surrounding.
- Please keep this equipment away from smoke and dust environment.
- Please avoid strongly collision and do not drop the equipment.
- Please set this equipment in ventilation space, and do not block the ventilator of device.
- Please use device under rated voltage and Amp.
- Please keep flammable objects away from the equipment.

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## A. Product Accessories

Please check every accessory we listed below, make sure everything is included in the product package before use. If you found anything is missing, please contact local distributor.

Note : The product set does not come with memory card, please purchase the memory card separately.

### ■ Standard Set

1. Camera\*2
2. Camera extended cable 2 meter\*1pc+ 1 meter\*1pc
3. Power cable
4. USB WIF dongle
5. Velcro
6. Quick guide manual

### ■ Optional

1. 8/16/32G/64G/128G Class10 above SD card
2. OBD (On-board Display unit)

## B. Features

1. Auto video recording system which has 2 channels with 1080p resolution input and OBD (On-board display unit) which is optional, that goes with Microphone and recording video & audio simultaneously.
2. H.264 image compress technology, which ensures image dose not distorted.
3. Full HD video resolution.
4. Low power consumption and efficient heat dissipation, no build-in Lithium battery to prevent possible danger and heat explosion.
5. Devices start recording automatically when engine is on; device will save file and turn off automatically when engine is off.
6. Built-in supercapacitor, automatically extend video recording time after engine off, ensure all information save in SD card.
7. It goes in emergency lock when incidents occur (should turn the function on) to keep the recording from being overwritten by latest/regular image recording.
8. Built-in WiFi, capable to watch live video, playback and backup files by download APP in IOS or Android system
9. Made in Taiwan

## C. Specifications

### ■ DVR Specifications

Terms		Specifications
1	Inputs	(a) Hisilicon HI3520DV300 · SoC (b) 2 channels in 1080P
2	Resolution	(a) 1080p (b) CH1 30FPS · CH2 30FPS
3	Power	(a) Power consumption 1 A when DC12V input (b) Operating voltage: DC10V ~ DC15.6V (c) Starting voltage requires DC10V or above.
4	Delayed recording	Built-in supercapacitor for power resumed and back up the data back in Micro SD.
5	Temp.	Operating temp. : -20°C-55°C (in open air places) Storage temp. : -40°C-85°C
6	Storage device	Memory card must be Class 10 or above as SDHC/SDXC Micro SD ( as 8GB or above, maximum 128GB)
7	Recording	Automatically recording when power is on
8	Recordings	Videos, dates, times, Audio, G sensor & GPS tracking data. (GPS unit is optional)
9	Storage	Particular file format that goes with dominated video player
10	Sound input	Particular file format that goes with multi-functional display for sound input
11	Time	Embedded perpetual calendar time and automatically corrected when connecting to APP or GPS (optional)

12	Display	Viewing live images by using WiFi connecting to APP and image playback.
13	Output	<p>(a) Blue light as WiFi connection indicator. Light on as when in WiFi connection, light flashing as searching available WiFi, light off as no WiFi available.</p> <p>(b) Red light as CAM1 indicator. Light on as video recording works normally, and light off when without recording any images.</p> <p>(c) Red light as CAM2 indicator. Light on as video recording works normally, and light off when without recording any images.</p>
14	Input	<p>(a) Power input : DC12V</p> <p>(b) Image input: 2 channels in 1080P resolution</p> <p>(c) Display input: MIC input, light indicator control &amp; GPS data input (GPS unit is optional)</p> <p>(d) USB cable: for connecting WiFi dongle</p> <p>(e) Micro SD card slot</p>
15	Remark	(a) Fix the DVR tightly avoiding the device swinging and falling.
16	Note	<p>(a) If conflict with EMI/EMC, it may affect the cameras and cause video image recording unsuccessfully and unconnected.</p> <p>(b) It will come out with EMC problem if production process of SD card changed or adjusted. Our device may not work well with all SD cards that you purchase from other sources and we suggest you to change to SD card model or others if the</p>



		<p>device has EMC problem.</p> <p>(c) If the SD card not formatted by dominated video player, it may forcibly clear all data in the card and start to record in default. It is possibly unable to record without formatting.</p> <p>(d) SD card has limited lifespan; we suggest you to check the video images regularly to make sure it is still workable.</p> <p>(e) It may cause damage to SD card and unable to play video or incomplete images when getting strong impact or vibration and suggest to check video regularly and make backup of data.</p>
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Notes: The product specification is subject to change without prior notice

#### ● Camera specifications

Term	Specifications
Power	DC5V $\pm$ 10% ; 170mA
Resolution	NTSC/PAL Full HD 1920 x 1080
	Max. 30FPS
Image Sensor	1/2.7" CMOS Digital Image Sensor
View Angle	Horizontal:110 ° / Vertical : 90 ° / Diagonal:140°
Lens	3.3mm
Temperature Tolerance	Operation -20°C ~ 60°C (In disclosed space).
	Storing temperature: -40°C ~ 85°C.
Output	Micro-dim connector
Waterproof and dustproof level	IP67

Notes: The product specification is subject to change without prior notice

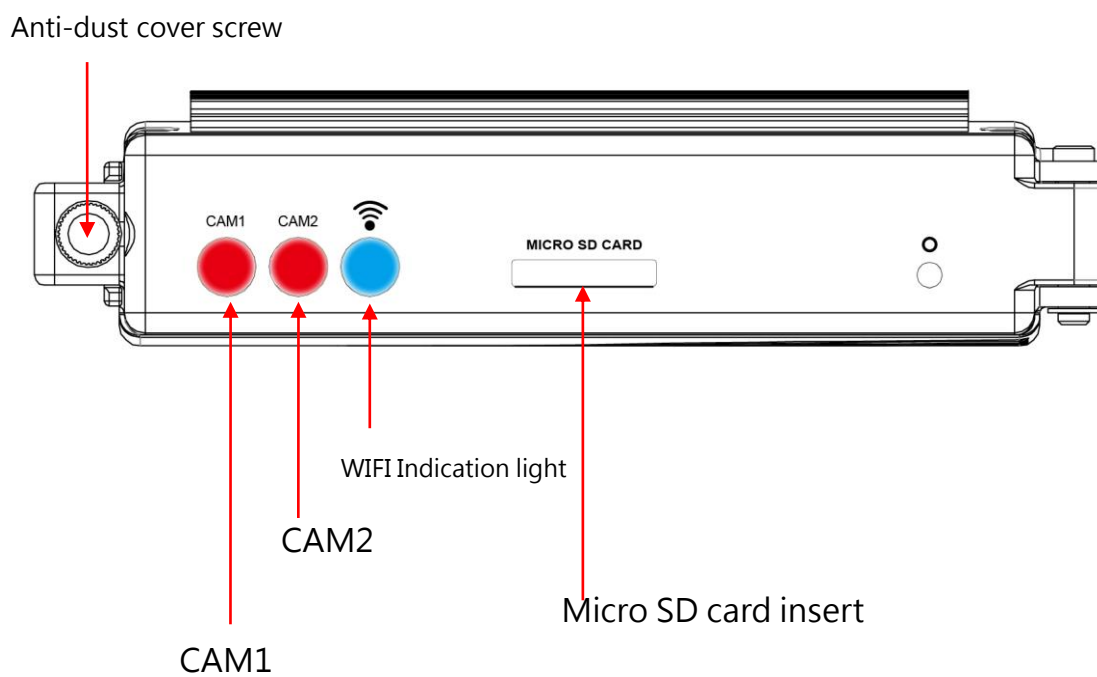
**● OBD specification (optional)**

Term	Specifications
Light	2LED (WIFI 、 REC)
Interrupted detection	Yes
Microphone	Audio input
Waterproof and dustproof level	IP66

Notes: The product specification is subject to change without prior notice

## D. Appearance

### DVR host



## E. SD card installation



- (1). Loosen the screw in counterclockwise and open the transparent plastic cover. Then insert or take out Micro SD memory card.
- (2). Please refer to other indication for SD card formatting & recovery in separate sheet.

**Attention**

1. Suggest using class 10, 8GB above SDHC/SDXC Micro SD Card
2. Before using the memory disk, please format the disk first by using the software player. If not, device will automatically erase all data in the memory disk before recording.
3. To ensure recording quality, please do not use adapter card with Micro SD card. Doing so may lead to bad connection due to shock and vibration.
4. All memory disks have limited lifespan. Please regularly watch videos on PC and check the memory disk to ensure proper functioning.
5. Collision and vibration may cause SD card defective and result intermittent recording, please check data and backup file periodically.
6. When insert the new memory card to the host, the device will format the memory card, and beginning to record after approx. 2 second.
7. After SD card formatted by device or PC player, 8G, 16G, 32G, 64G or 128G SD card all showing 80.5MB storage space under Windows system, other storage space as hidden files, user have to play video records by professional player that offered by manufacturer. The restore SD card also have to use the manufacturer player refer to format/restore memory card chapter.
8. When any accident happen, please remove SD card and set it as writing protection condition, for avoid record being over writing or tampering.

## F. Cable Installation

- DVR cables



- (1) Power cable connector
- (2) Camera 1 cable connector
- (3) Camera 2 cable connector
- (4) OBD cable connector
- (5) WiFi dongle connector

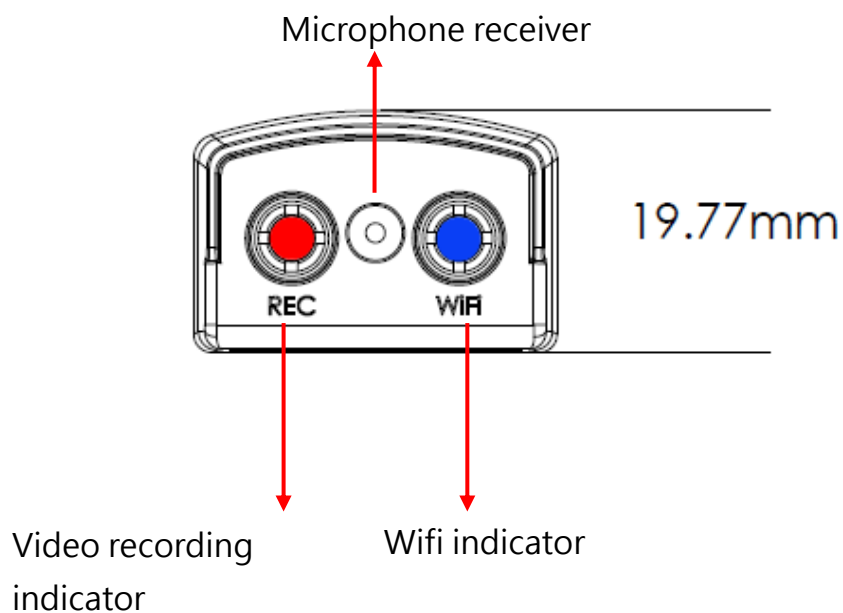
Note: This device needs to be equipped with exclusive camera

- Power cables



- (a) Ignition cable (Red): connecting to the switch controller for power on/off from Positive Pole of backup battery or connecting to motorcycle ACC.
- (b) Ground cable(black): connecting with negative pole

- OBD (optional) unit : mm



## G. Installation diagram

### ● Installation on motorcycle ( For example)



#### Attention

- (a) For installation by none-technician, please use tapes instead of boring tools to avoid damaging the electrical and gasoline system.
- (b) Suggest to use soft tubes to cover the cables as to endures high heat and extend reliability.
- (c) For safety, switch off ignition before installation, and please keep away from gasoline pipeline and tank.
- (d) Do not use adapter card with Micro SD card. This is may lead to bad



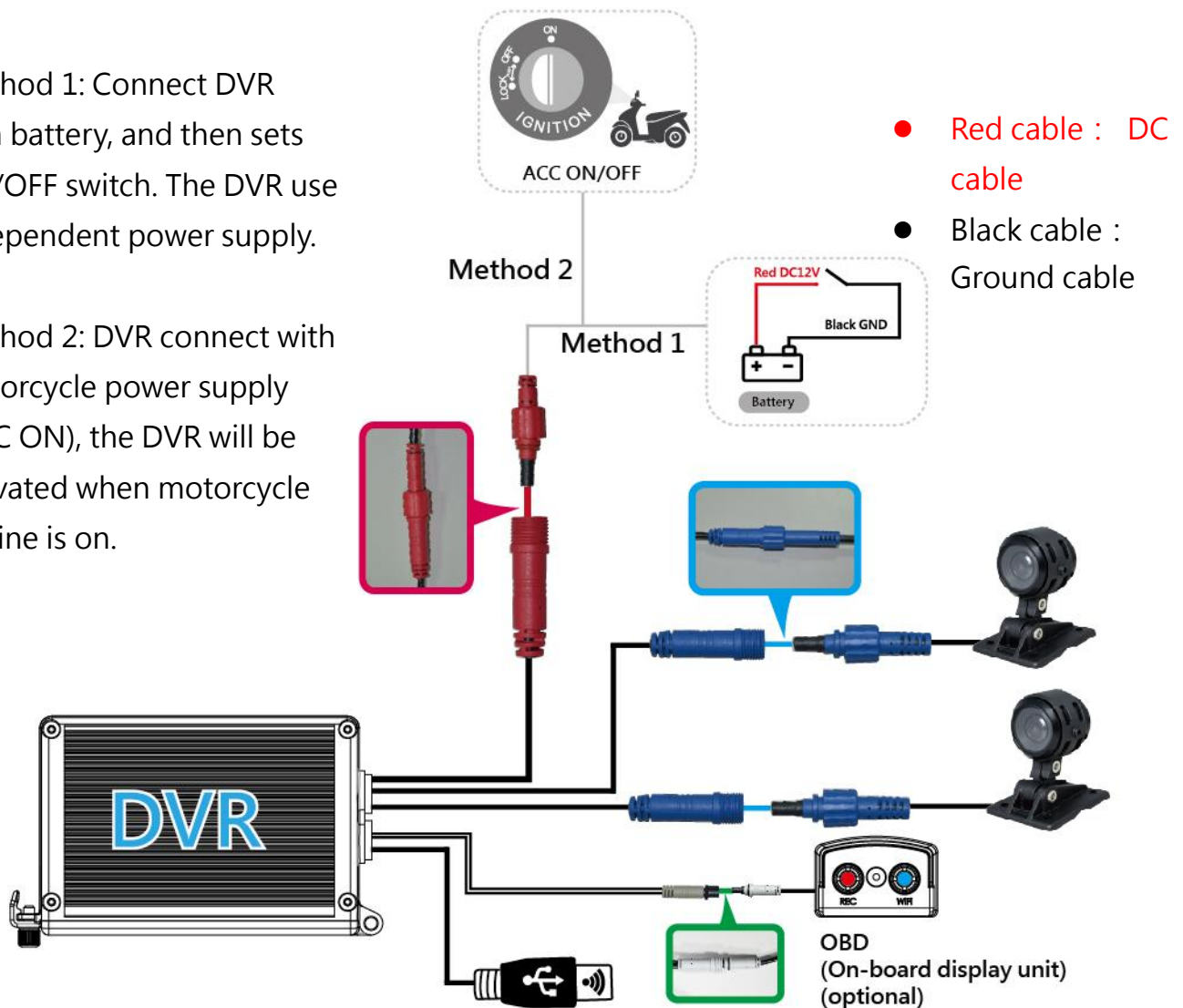
connection due to shock and vibration.

- (e) Before inserting wires through holes, temporarily wrap the terminal with tape to prevent bad connection from accumulated dirt or debris.
- (f) Tightly seal all electrical connection with tape to prevent loose connection or leak leaking to the connection.
- (g) Connect the power behind the key ignition and fuse (not directly to the vehicle battery) to avoid depleting the battery.
- (h) Suggest installing it in car storage trunk or unexposed areas to reduce impact by forces, which may cause damages to the device and image losses.

## • DVR installation diagram

Method 1: Connect DVR with battery, and then sets ON/OFF switch. The DVR use independent power supply.

Method 2: DVR connect with motorcycle power supply (ACC ON), the DVR will be activated when motorcycle engine is on.



### Attention

- It is recommended install the device inside the trunk, because the host does not have waterproof cover. Install the waterproof OBD at visible location (optional)
- Some vehicle is not certificated by electromagnetic interference, may interfere the operation of DVR, causes unusual loss connection error.
- Wash the connecter with alcohol if the connecter has silt, dust,

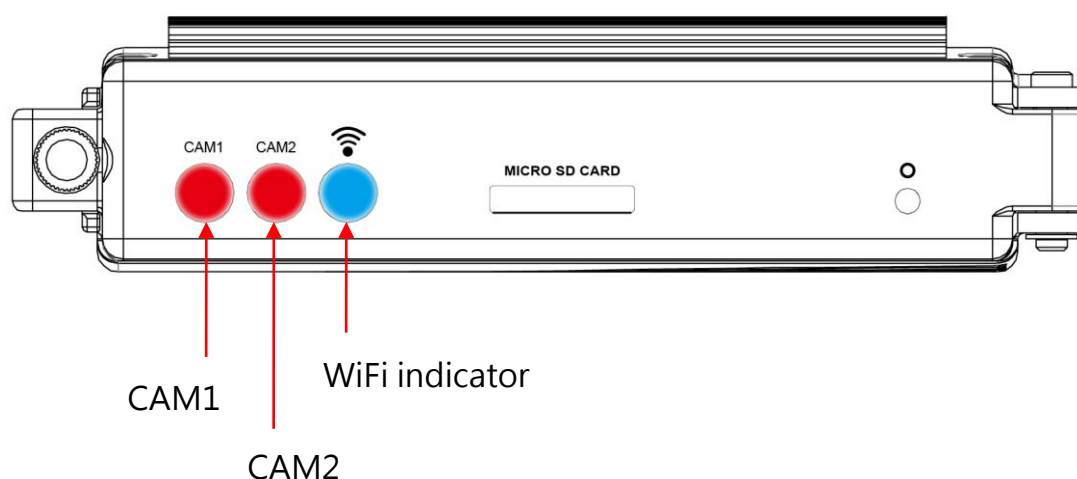
grease and so on. Prevent the recording error that cause by poor signal.

- (d) Memory card may have compatibility issue due to manufacture process change or adjustment. This device does not guarantee can compatibility with all current memory cards. Change memory card mode if user meet the compatibility issue.
- (e) The device has standby current power, to avoid draining the battery, remove power connect if user does not use device for a long time. Pay attention to adjust device time when user reconnects device power.
- (f) Before using the memory disk, please format the disk first by using the software player. If not, device will automatically erase all data in the memory disk before recording.
- (g) Memory card has limit lifespan, please regularly watch videos on PC and check the memory disk to ensure proper functioning.
- (h) Collision and vibration may cause SD card defective and result intermittent recording, please check data and backup file periodically.
- (i) When accident happen, please remove SD card and set it as write protection condition, for avoid record being over writing or tampering.
- (j) For avoid power connect error, turn off device power before install or remove camera

## H. Boot/Recording

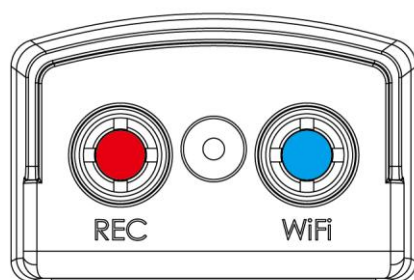
### ■ Boot/Recording

Device boots after power on and wait approx. 20-30 sec. **Red** light will constantly bright after power on, and then system starts to record when REC red light is flashing.



### ■ Indicator:

- CAM1 indication light: as red light, if light off, no cameras detected. If light in flashing, it starts recording. In rapid flashing as triggered for recording instant events.
- CAM2 indication light: as red light, if light off, no cameras detected. If light in flashing, it starts recording. In rapid flashing as triggered for recording instant events.
- WiFi indication light: as blue light. Light off as no WiFi dongle detected. Light on as connecting to WiFi.



(optional)

■ Display signal indicator

- REC indicator: as Red light. Light off as 1 CH or 2 CH camera undetected. In flashing as in recording. In rapid flashing, as events trigger recording.
- WiFi indicator: as blue light. Light off as WiFi dongle undetected. Light on as connecting to WiFi.

■ Shut down/ stop

The DVR will keep recording 3 seconds after power off, at this point, system will write the buffer back to SD card. In addition, after all light turn off, user can remove SD card and get all video files from it.

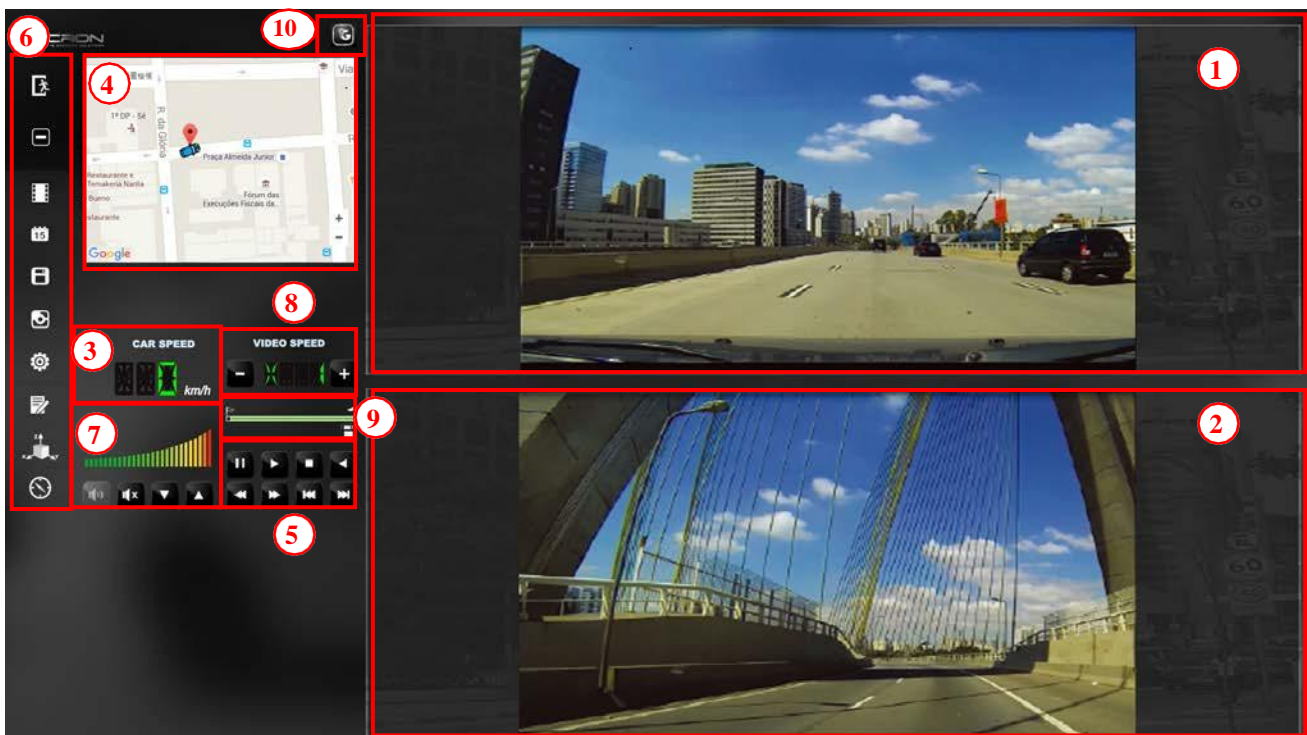
## I. PC Player

Run the player software by pressing , player o as following

### ◎\* Notes:











- (a) To do this, the software should be installed DirectX 9.0 or above.
- (b) Support OS: WINDOWS 7,8,10, does not support MAC OS.
- (c) The recommended hardware requirements: i3 above grade 2.7GHZ,  
RAM: 4G or more, more preferably independent display card.

### 1. Viewer interface











1	CAM1
2	CAM2
3	MPH
4	Google Map / File list
5	Play controller
6	Function controller
7	Volume
8	Play speed
9	Time bar/ File mark
10	Available for Google map key

## 2. Function control interface

	Close
	Minimal window
	Select and playback file
	Calendar
	Backup
	Screen shot
	Setting
	Tool box, for format SD card, language
	G-sensor
	Compass

## 3. Play & Setting Icon Instruction

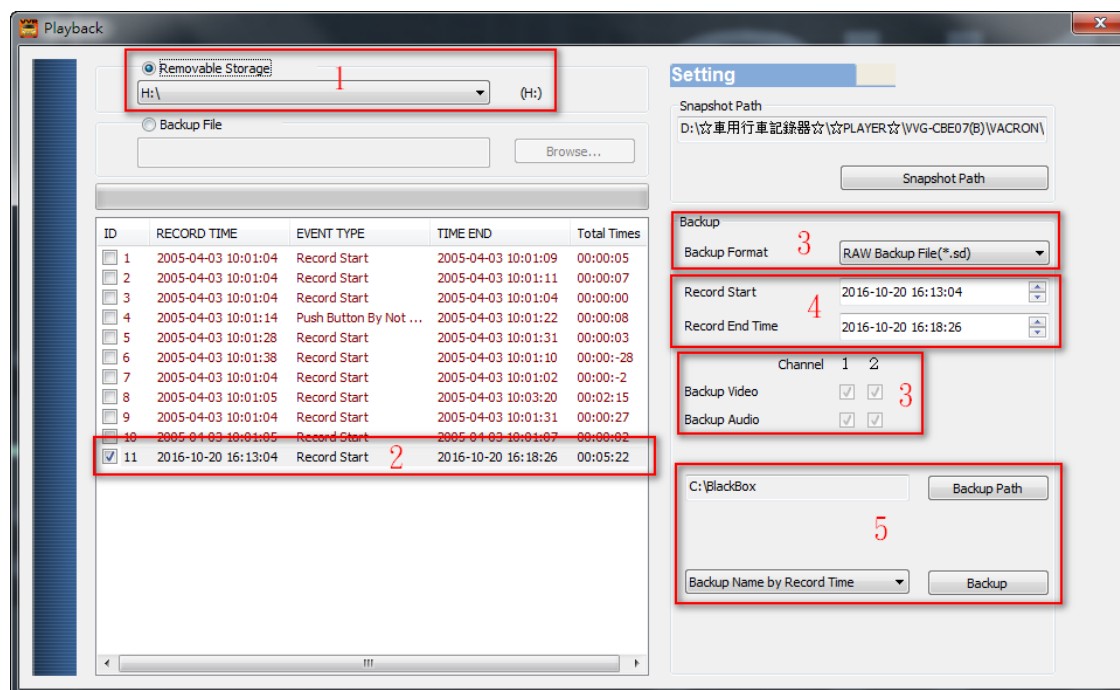
	Previous file		Stop
	Previous frame		Play
	Backward		Next frame
	Pause		Next file



## J. Data Backup

Save data from SD card to PC or other device.

Use PC player and click  to enter backup interface:



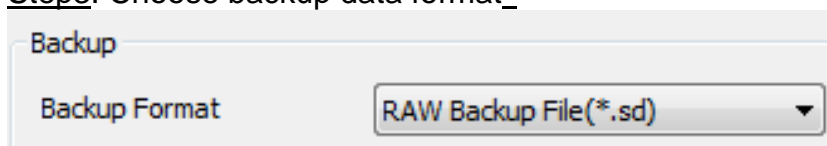
Step1. Choose SD card source:



Step2. Choose backup files\_


<input type="checkbox"/>	9	2005-04-03 10:01:04	Record Start	2005-04-03 10:01:31	00:00:27
<input type="checkbox"/>	10	2005-04-03 10:01:05	Record Start	2005-04-03 10:01:07	00:00:02
<input checked="" type="checkbox"/>	11	2016-10-20 16:13:04	Record Start	2016-10-20 16:18:26	00:05:22

Step3. Choose backup data format\_




Data format :

(1) SD card original format (RAW)





 2014-05-27-18-10-03.sd	RAW file *.sd
--	---------------

(2) AVI Format (\*.avi)

 2014-05-27-18-11-07-Cam1.avi	Cam1 and Cam 2, *.avi file
--	----------------------------

Note: it is recommend backup to memory card in original format, the format will be containing GPS latitude and longitude, speed, recorded data such as G-SENSOR, if the backup date in \*.AVI

Step4. Select the backup beginning time point

Record Start	2016-10-20 16:13:04	 
Record End Time	2016-10-20 16:18:26	 

Step5. Select the path and start to backup

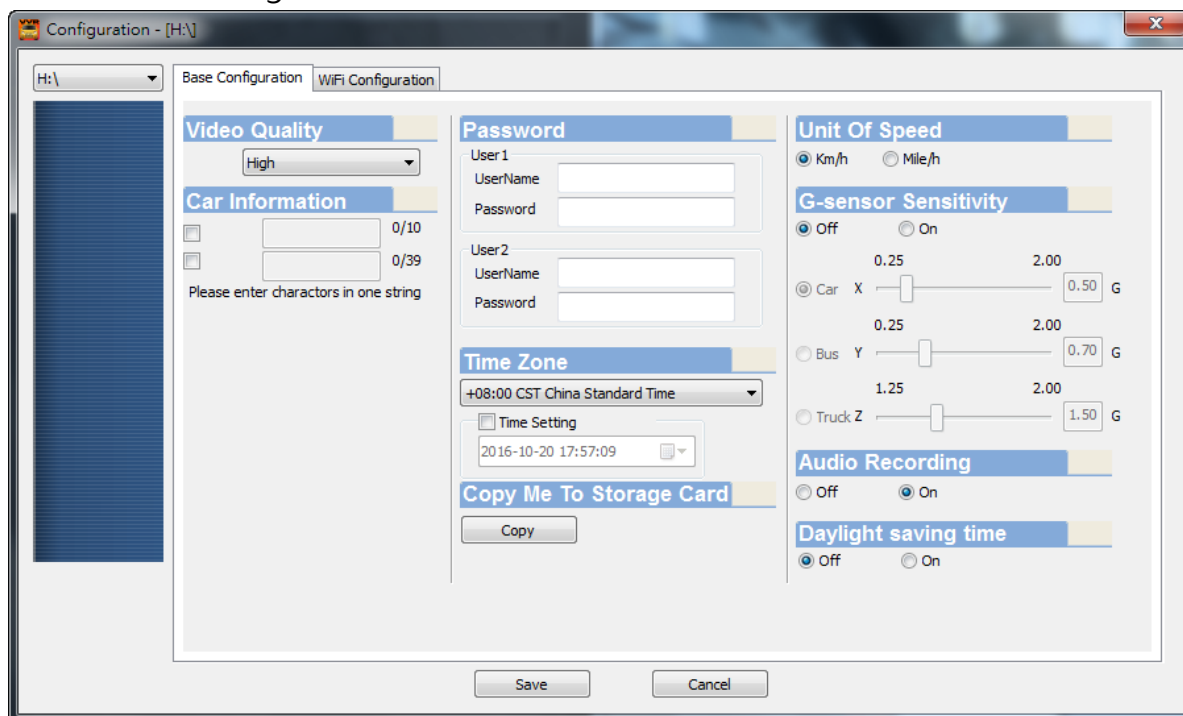
C:\BlackBox	Backup Path
Backup Name by Record Time ▼	Backup

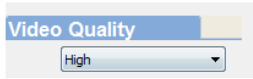
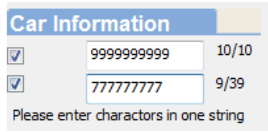
## K. SD card

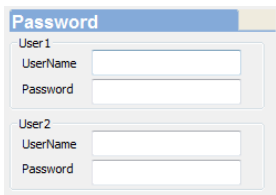
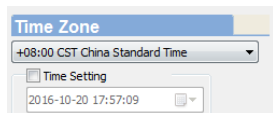
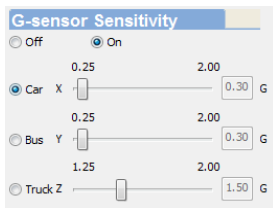
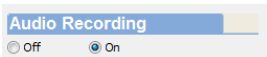
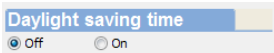
Before recording, insert SD Card into card reader, and then insert the card reader to USB slot in PC, launch player and setting record format and displaying mode. After setting successfully, remove and insert SD card back to DVR.

Click  on the player to do the setting:

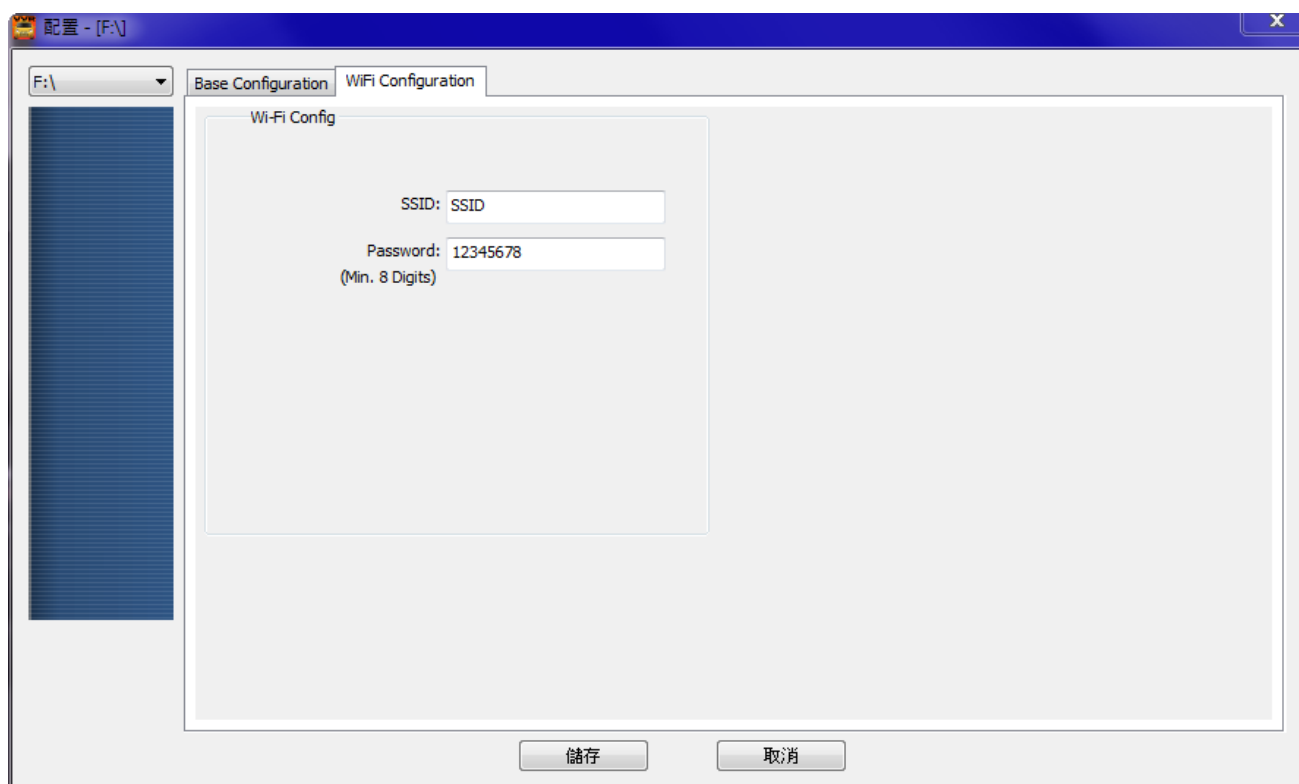
### 1. Base Configuration



1	Video format		Select the video quality: High/ Normal / Low
2	Vehicle information		The license plate number information can be inputted here, the film is easy to identify which vehicle is to record video record (only English letter and number acceptable.) (only English letter and number acceptable.)

3	Password		<p>Encrypted memory card for preventing other people get any information from this card. Set a password to 15 characters limited, for example 123456789123456</p> <p>After setting the password, it is required to enter password to access the playback file, setting, formatting memory card.</p> <p>★ Note: Please confirm the font case and record the password to avoid password forgetting.</p>
4	Time zone		GMT (GPS automatic time correction)
6	G-sensor Sensitivity		Set for detecting the strength of vehicle collision, and condition to lead G-sensor sensitivity trigger and force recording.
7	Audio Recording		Audio recording. On: start audio recording / Off: stop audio recording
8	Daylight Saving Time		Set the daylight saving time : OFF/ON

## 2. Base Configuration

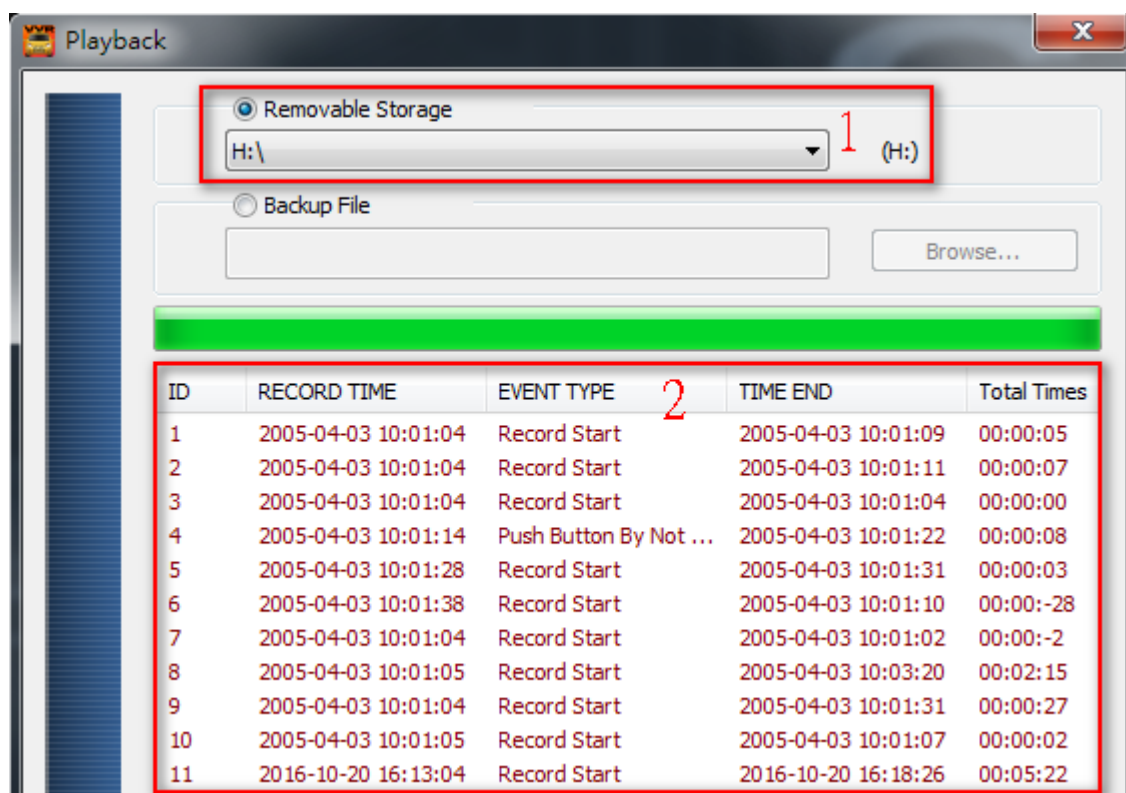


- (1) Set up SSID default password as SSID, 12345678
- (2) Create new password, as least 8 digits.

## L. Playback files


### 3. Playback on PC


Click  to enter playback mode

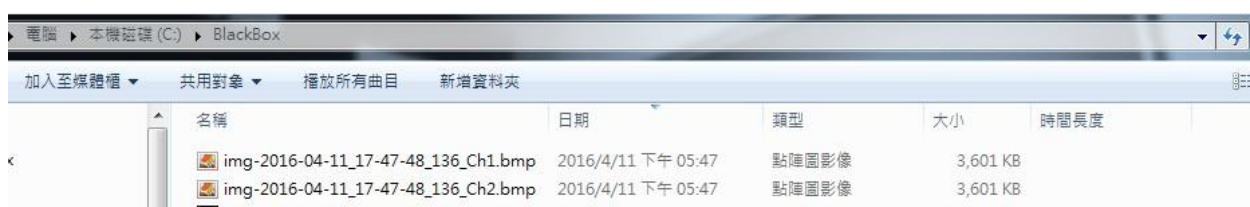
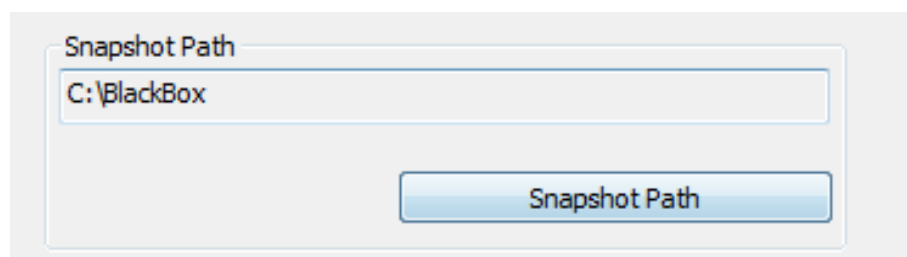


- (1). Select the path of the memory disk or a backup file on the hard disk.
- (2). Double click on the desired footage to play the file.

## M. Screenshot tool

User can take a screenshot of the current frame by pressing 

Screenshot image will be saved at C: /Black Box, user can enter  to set image path. Data format is \*.bmp



## N. Format / Restore SD card

Q1. When do user need to format SD card ?

When user uses brand new SD card, please format it before use.

★Note: This recording system cannot delete some specific video file, please backup video files that you need first before formatting.



Q2. When does user have to restore SD card ?

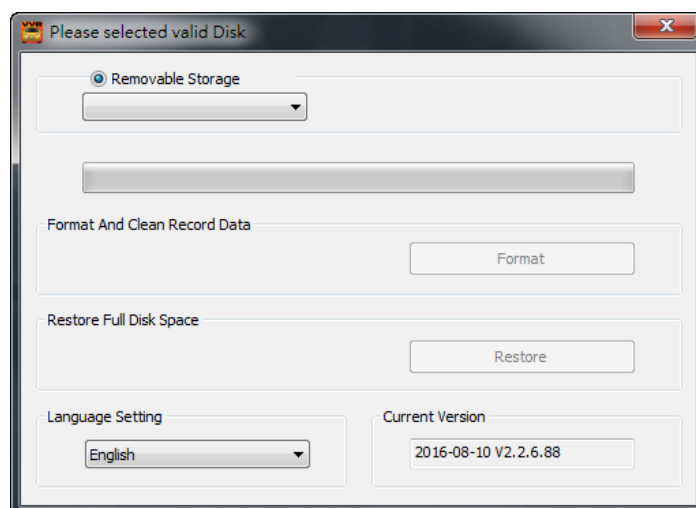
If you want to repurpose the memory disk for other uses (e.g. for computer or digital camera), you need to restore the disk first. All recorded data will be erased from the disk.



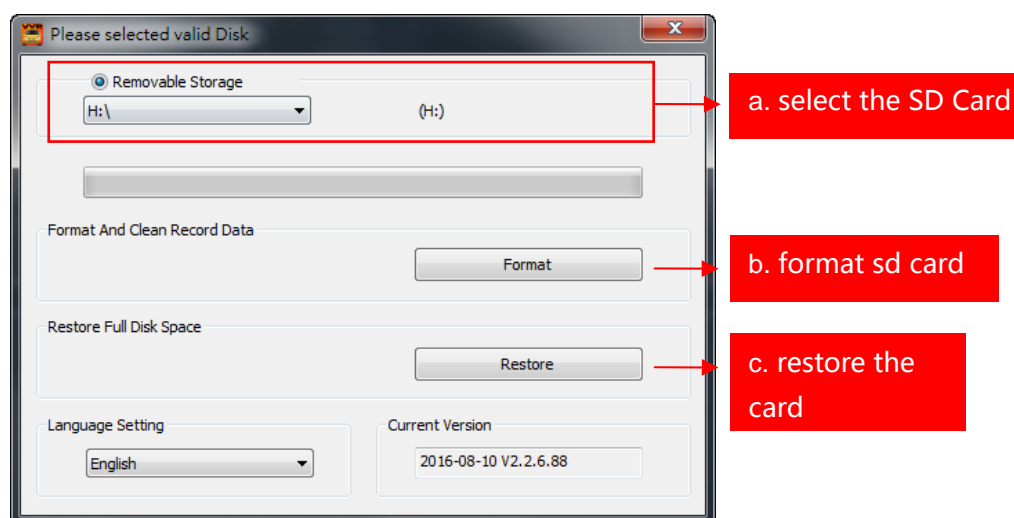


### Q3. How to format/restore SD cards?

- (1). Put the SD card into a card reader, and then plug the card reader into your computer USB slot.
- (2). Play software , click  to enter formatting tool.



- (3). Select memory card position and choose format or restore SD card as user' s requirement.



- (4). After SD card be formatted or restored, it can be used as user' s requirement.

## O. WiFi connection

### (a) 、QR Code download :

VACRON MOTO FOR IOS



VACRON MOTO FOR ANDROID

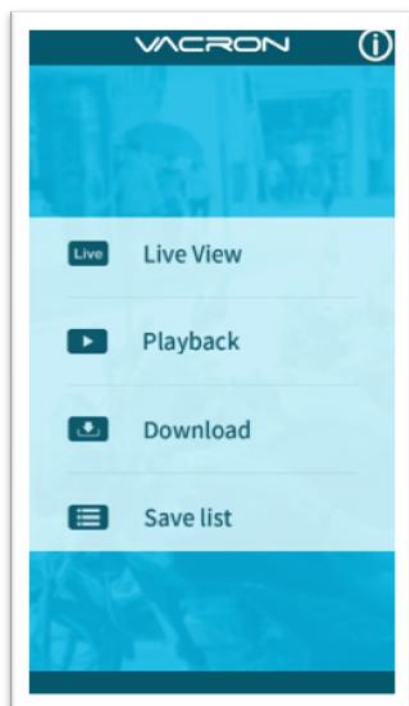


### (b) 、Android:

1. Visit Google play store, search for " VACRON MOTO " and download
2. WLAN connection, type in 「 DIRECT-SSID-XXXXXXas user ID, password as 「 12345678.」
3. Open "VACRON MOTO" , watch real time video record by selecting real time video
4. Select 「 Playback:」Capable play all video files that storages in SD card.
5. Select 「 Download Video files,」capable download video by date, time and channel for 1 minute.
6. Click "Save Record": Capable watch all records, Instant Record, Playback Record, and Downloaded Record.

7. Click " Video fragment ": watch the video fragment during play real time and playback video

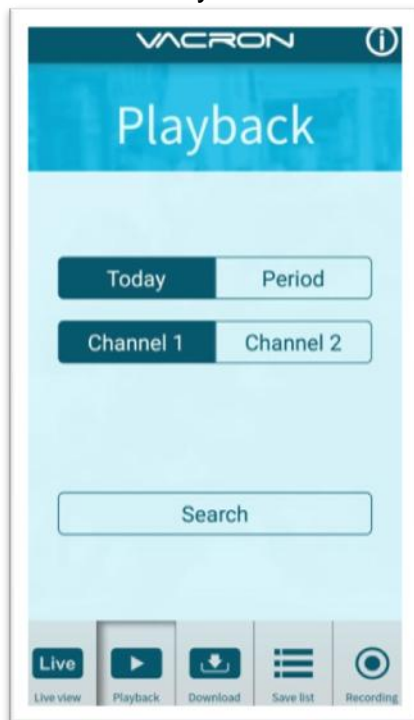
APP main menu



Real time image



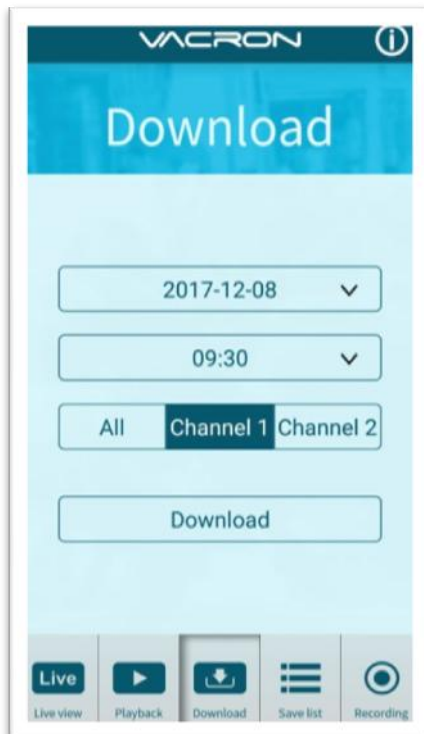
### Playback



#### Playback:

1. Today: choose channel 1 or channel 2, and then press Search button, it will show all video files that record in today. Select and playback any video record as your request.
2. Custom : Choose channel1 or channel2, at meanwhile, setting date and time period, press search, it will show all video records that record during this range, select and playback any video record as your request.

### File download



#### File Download

1. Select date, time point, and channel to download video file (choose suitable channel for different device, it cannot download file when you choose incorrect channel for your device.)
2. Press download to download video file, the complete download time length depends on file size. Normally, it takes approx. 1 to 2 minutes, the download format as MP4.

## Save list



## Save list

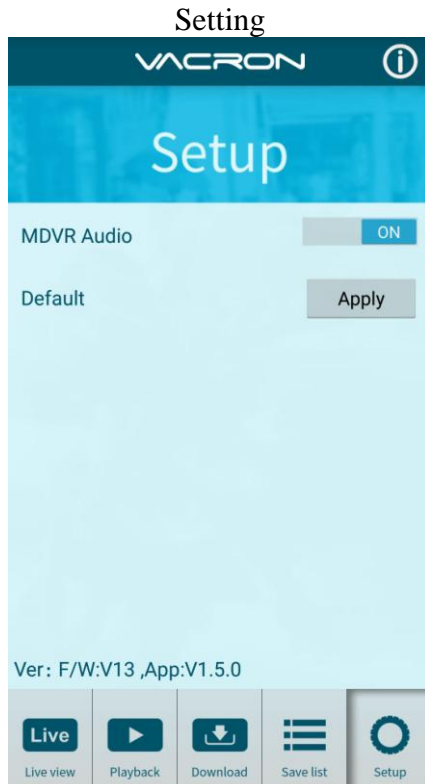
1. All records: press and playback all downloaded records, which include video clip of real time video, playback video, download image.
2. Real time: video fragment of real time video record, the file name ending with "L" .
3. Playback: video fragment of playback video record, file name ending with " PB" .
4. Download: file name ending with " D"

## Video fragment



## Video fragment:

1. Press "Video fragment" during play real time video, the system will save a video fragment as MP4 format.
2. Press "Video fragment" during playback video records, the system will save a video fragment as MP4 format.



#### Setting:

1. Select microphone On/Off.( Require use with OBD)
2. Reset to default: After initiate resetting, the device will restore to the factory default setting, reboot itself and begin to record.

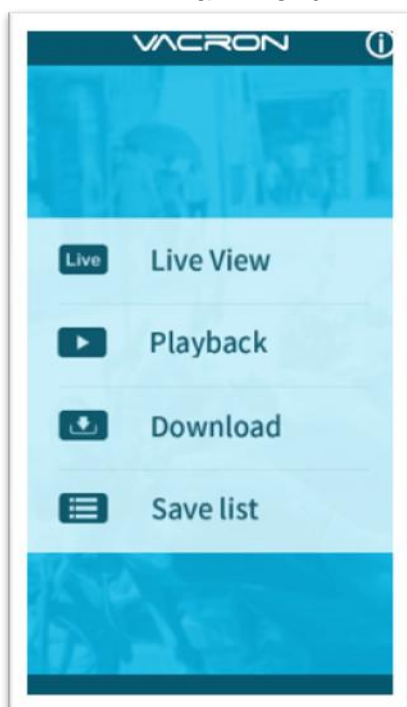
#### Version :

1. F/W: Display the device current version
2. App: Display APP current version

## (c) 、IOS

1. Search and download “VACRON MOTO” in Apple store.
2. WLAN connection, type in 「DIRECT-SSID-XXXXXX」as user ID, password as 「12345678」.
3. Open “VACRON MOTO”, watch real time video record by selecting real time video
4. Select 「Playback」:Capable play all video files that storage in SD card.
5. Select 「Download Video files」,capable download video by date, time and channel for 1 minute.
6. Click "Save Record": Capable watch all records, Instant Record, Playback Record, and Downloaded Record.
7. Select 「Setting」:Capable turn On/Off microphone.
8. Select 「Snapshot」:Capable take snapshot.

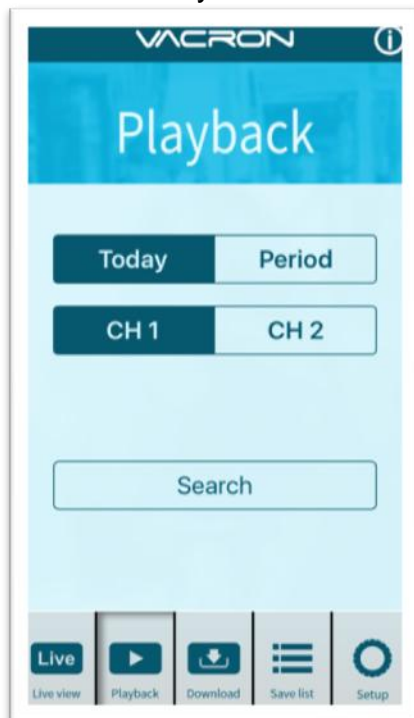
APP main menu



Real time image



## Playback



## Playback:

1. Today: choose channel 1 or channel 2, and then press Search button, it will show all video files that record in today. Select and playback any video record as your request.
2. Custom : Choose channel1 or channel2, at meanwhile, setting date and time period, press search, it will show all video record that record during this range, select and playback any video record as your request.

## File download



## File Download

1. Select date, time point, and channel to download video file (choose suitable channel for different device, it cannot download file when you choose incorrect channel for your device.)
2. Press download to download video file, the complete download time length depends on file size. Normally, it takes approx. 1 to 2 minutes, the download format as MP4.



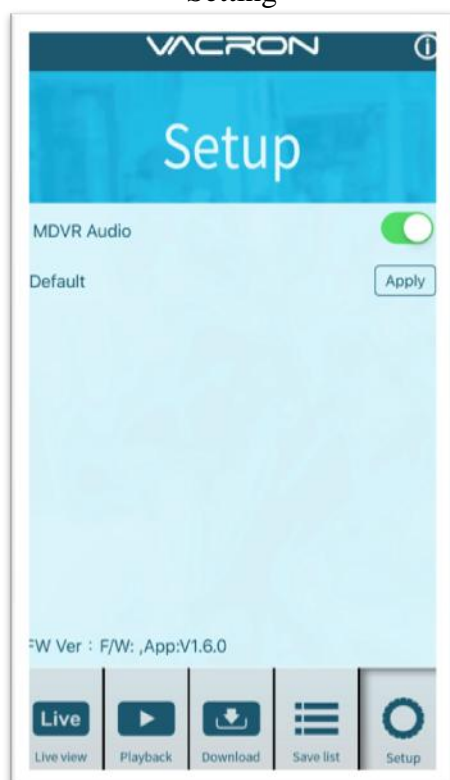
## Save list



## Save list

1. All records: press and playback all downloaded records, which include video clip of real time video, playback video, download image.
2. Real time: video fragment of real time video record, the file name ending with "L" .
3. Playback: video fragment of playback video record, file name ending with " PB" .
4. Download: file name ending with " D"

## Setting



## Setting:

1. Select microphone On/Off.( Require use with OBD)
2. Reset to default: After initiate resetting, the device will restore to the factory default setting, reboot itself and begin to record.

## Version :

1. F/W: Display the device current version
2. App: Display APP current version

**Attention**

1. Live image may be delay caused by wireless signal connection error.
2. Remote control only use for records that storage in device, record cannot be searched when the SD card had been overwritten.
3. Remember to close the WiFi connect with device after operation
4. It is recommended to check regularly with the use of the Laptop player to play the video. Make sure the video system maintain normal operations if OBD is not installed.



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Please go on Vacron website for more information

<http://www.vacron.com>

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