
Digital Video Recorder

4ch AHD Mobile DVR

User Manual

Version 1.4



2017.3.30

WARNINGS, CAUTION & COPYRIGHT

WARNINGS

Reduce the risk of fire or electric shock. And do not expose this product to rain.

Do not insert any metallic object through ventilation grills.

| CAUTION | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |
| The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to presence of insinuated “dangerous voltage” within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons | The exclamation point within an equilateral rhombus is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying product. |
| RISK OF ELECTRIC SHOCK DO NOT OPEN | |
| TO REDUCE TE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE | |

USER OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES COIPCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNAL. ULTRAK SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURREENT LAWS AND STATUTES.

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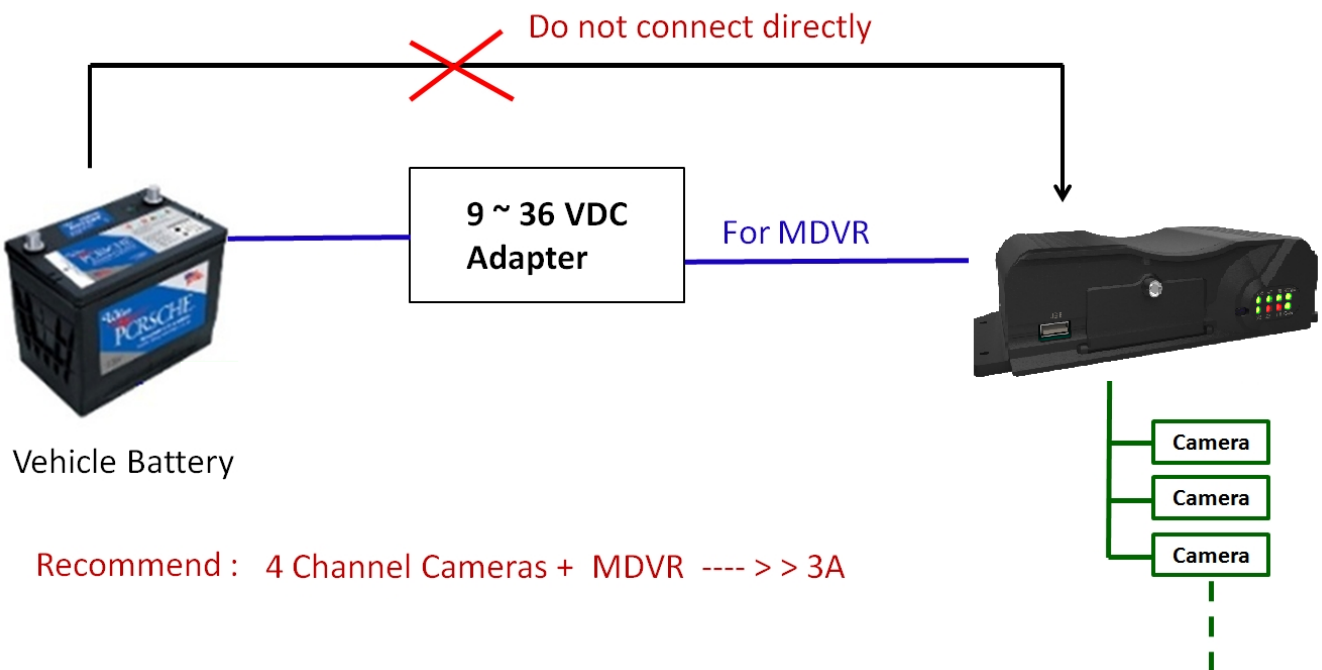
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1. Overview

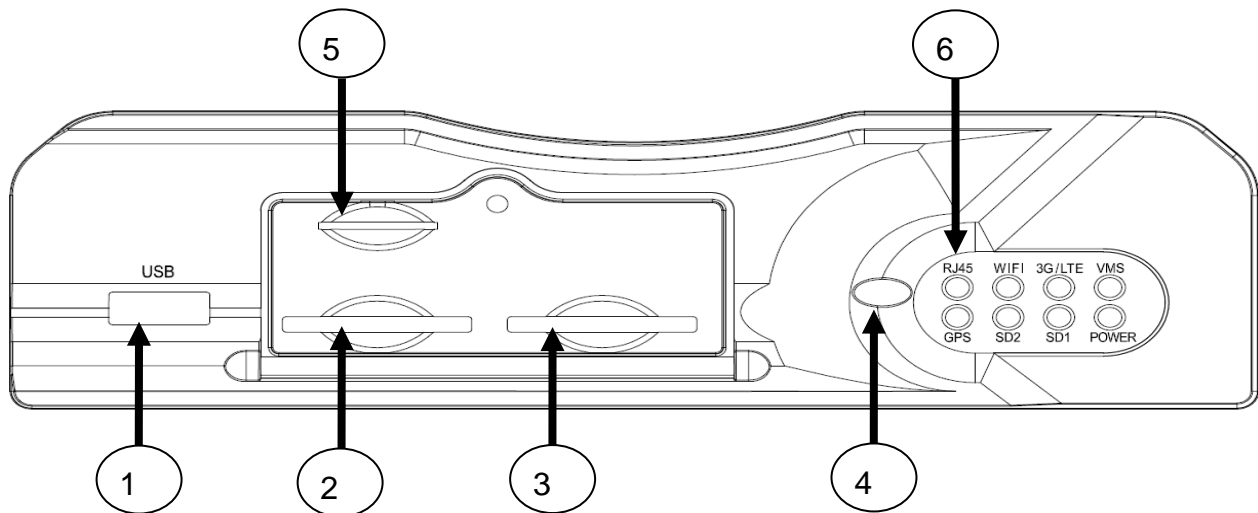
- 1) The apparatus should not be exposed to dripping or splashing water and that no objects filled with Liquids, such as vases, should be placed on the apparatus.
- 2) CAUTION - Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
- 3) The apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earth connection.
- 4) The batteries installed should not be exposed to excessive heat such as sunshine, fire or the like.
- 5) The plug or appliance coupler shall remain readily operable for the purpose of disconnection from the mains.



Note: The diagram does not support turn off engine then keep record function

2. Hardware Overview

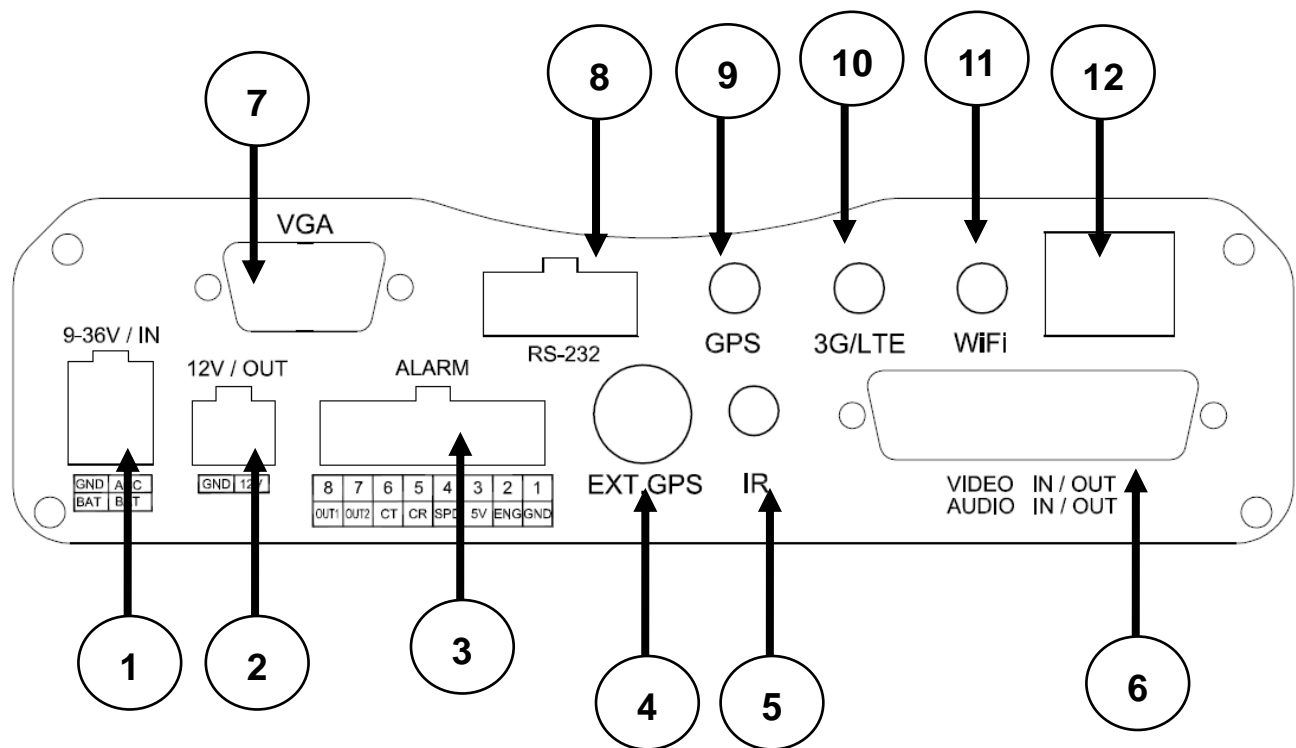
2.1 Front panel



Front panel Interface

| Item | Name | Explanations |
|------|----------------------|-----------------------------------------------------|
| 1 | USB Backup | To backup recorded data file on USB drive. |
| 2 | SD2 Slot | Save the data of record video. |
| 3 | SD1 Slot | Save the data of record video |
| 4 | IR Receiver | Receives the signal sent out by the remote control. |
| 5 | Sim card slot | Support 3G / LTE Sim card. |
| 6 | Status len | RJ45 |
| | | WIFI |
| | | 3G/LTE |
| | | VMS Server Connect |
| | | GPS |
| | | SD2 |
| | | SD1 |
| | | POWER |

2.2 Back panel

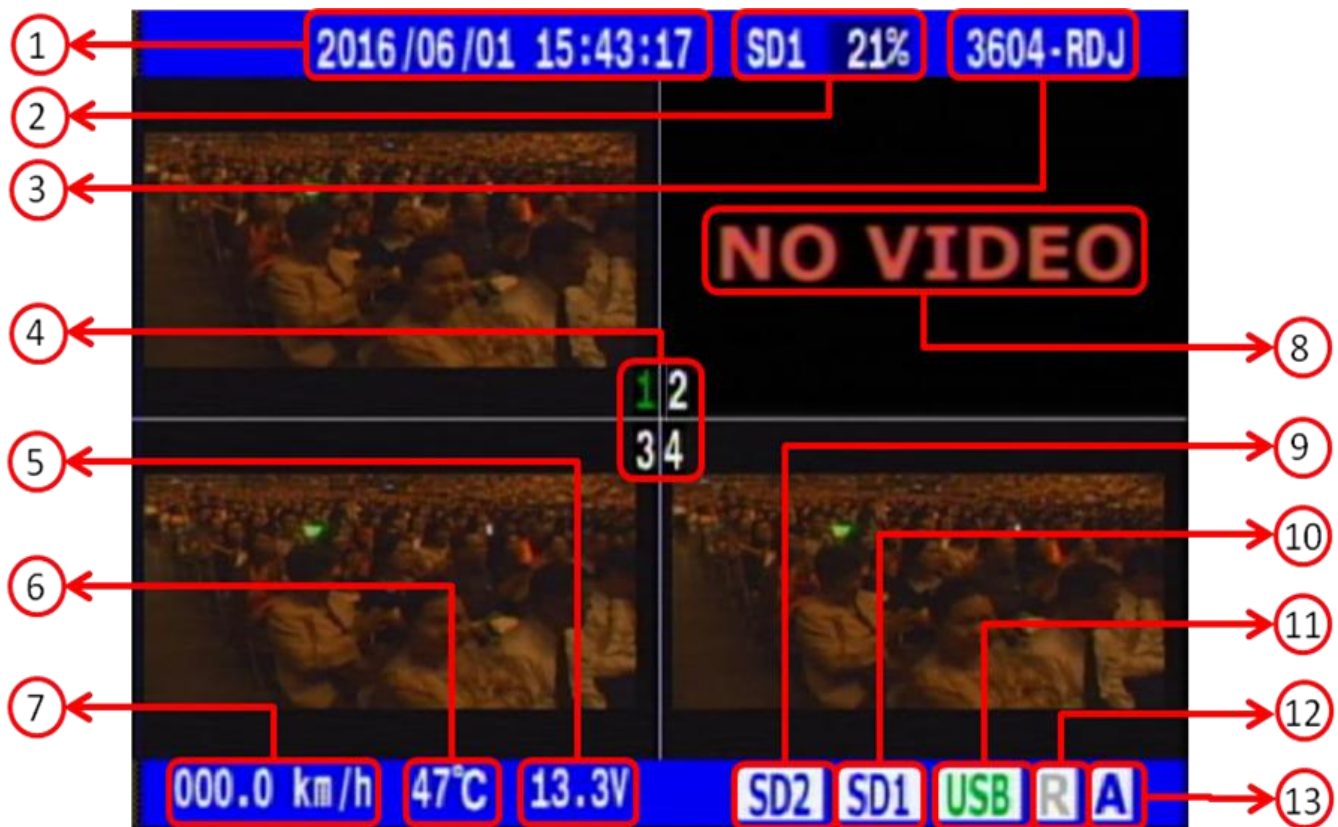


Back panel Interface

| Item | Name | Explanations |
|------|----------------------------|-----------------------------------------------------------|
| 1 | POWER Input | Support 9~36V Input Power . |
| 2 | POWER Output | Support 12V / 2A output Power for external device.. |
| 3 | Alarm In / Out | Support 8CH Alarm in, 2CH Relay out, Car speed cable. |
| 4 | GPS Antenna | Support GPS, GLONASS... etc interface (G-Mouse) . . |
| 5 | IR Extension port | Receive IR signal to operate MDVR from remote controller. |
| 6 | VIDEO / AUDIO IN | 4CH Video in, 2CH Audio in / 1 Video out, 1 Audio out. |
| 7 | VGA Out | Connect external Monitor. |
| 8 | RS-485 & Sensor | Connect RS-485, TPMS...etc. |
| 9 | Internal GPS | Provide VGA interface to make Video out. |
| 10 | 3G / LTE Antenna | 3G aerial port for receiving 3G data. |
| 11 | WIFI Antenna | Build-in WIFI module to recive data by antenna |
| 12 | Ethernet Port | RJ45 Terminal for internet connection. |

2.3 Monitor Display Illustration

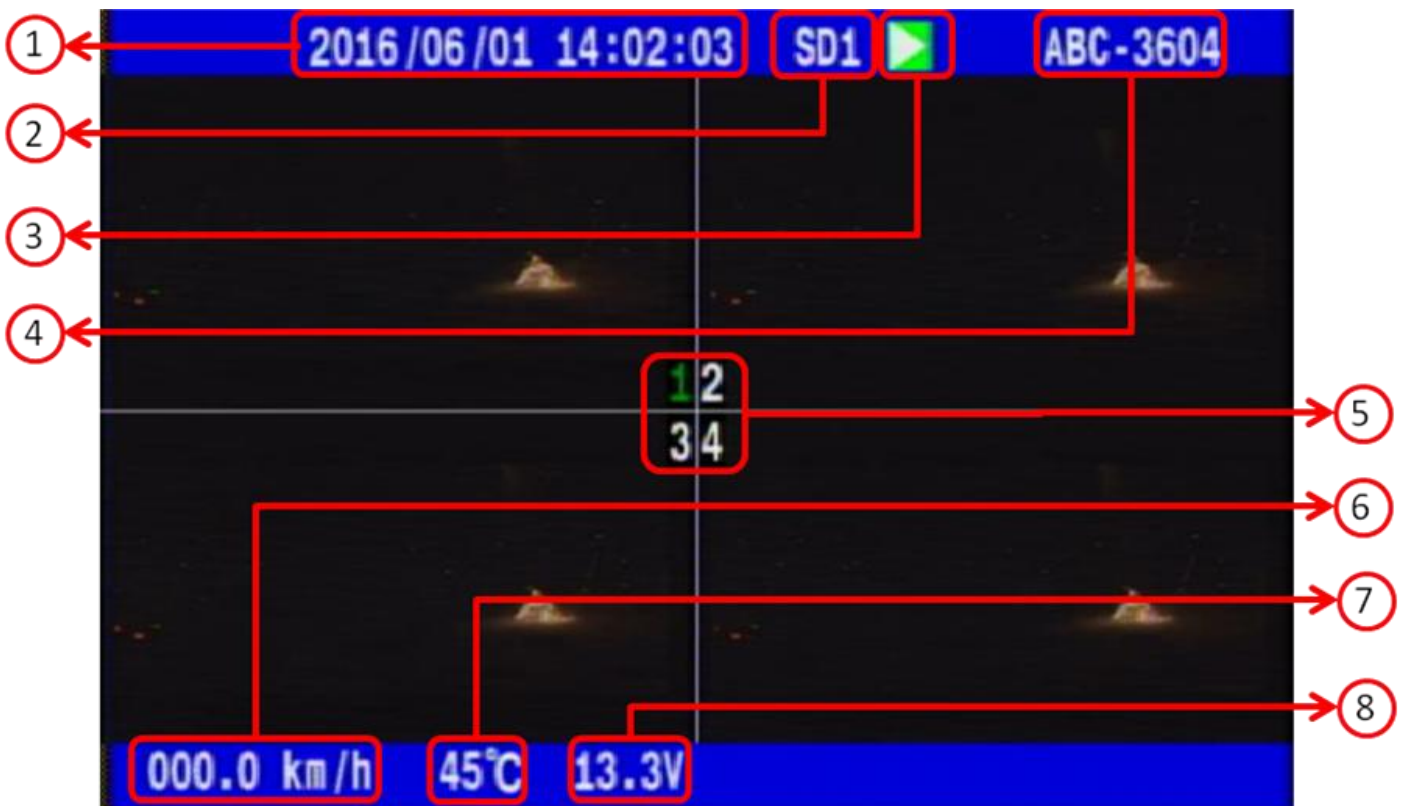
2.3.1 Monitor Mode



| MONITOR Screen Display illustration | | |
|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item | Name | Explanation |
| 1 | Date/Time | Current system Date/Time |
| 2 | Record Percentage | None record : Backcolor ---- >> colorless. Overwrite record : Light side ---- >> show "R". |
| 3 | License Number | Car Identification (Less than 8 digit) |
| 4 | Camera No. | Video input number. CH1 and CH2 also display status with Audio in. Channe 1 and 2 are includ status of audio out. If icon 1 showing "Green" ---- >> voice out via first channel. ● User could use remote controller (F1 、 F2 、 F3) to switch audio out channel. |
| 5 | Power detection | Display and detecte voltage of Power input. |
| 6 | Temperature | Vendor action Temperature currently |

| | | |
|----|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | Car Speed | Real-time car speed |
| 8 | VIDEO LOSS | The display alarm with Camera signal loss. |
| 9 | SD2 Status | Blue SD2 - detected hard drive , Red SD2 - hard drive error , Gray SD2 - system has not detected hard drive. |
| 10 | SD1 Status | Blue SD1 - detected SD card , Red SD1 - SD card error , Gray SD1 mean system has not detected SD card , Orange SD1 - SD card in the write-protected state.(Lock "switch) |
| 11 | USB Drive Status | Blue USB - drive detected , Gray USB - drive none detected. , Green USB - drive include upgrade firmware. |
| 12 | Relay Out | Gray R - none relay out triggered , Green R - relay out triggered. |
| 13 | Alarm In | Blue A - none alarm triggered , Red A - alarm triggered. |

2.3.2 Playback Mode



| PLAYBACK Screen Display illustration | | |
|--------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| Item | Name | Explanation |
| 1 | System Date/time | System Date by File was recording date/time. |
| 2 | Record Location | Display video info save location currently |
| 3 | Playback Speed | Currently playback status. System support X1、X2、X4、X8、X16、X32、X64、X128 forward and X2、X4、X8、X16、X32、X64、X128 backward . |
| 4 | Camera No. | Camera's video number on system. |
| 5 | Car ID | Car Identity name. |
| 6 | Car speed | Car speed by playback |
| 7 | Temperature | Temperature with MDVR working. |
| 8 | Power detect | Display power inputer voltage currently |

2.3.3 Settings Mode



Setting Screen Display Illustration

| Item | Name | Explanation |
|------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | PLAYBACK | Select Quick search 、 Event search 、 Time search mode for data selection 、 playback or Backup selection function. |
| 2 | DISPLAY | Setup on/off information with system status on monitor . as like “system time” 、 car speed 、 HDD status....etc |
| 3 | CAMERA | Adjust the image display for each video channel. (ex: Brightness 、 Contrast 、 Hue 、 Shade) |
| 4 | ALARM | Setup alarm trigger condition 、 action types and duration. |
| 5 | RECORD | Setup the recording quality for each channel. (ex: GPS 、 car speed 、 sensors and sound recording functions 、 Engine off record settings) |
| 6 | SYSTEM | Setup system parameter and other about connect external device. |

2.3 Basic Operation Installation

Press the mobile DVR **MENU** Button on front panel -

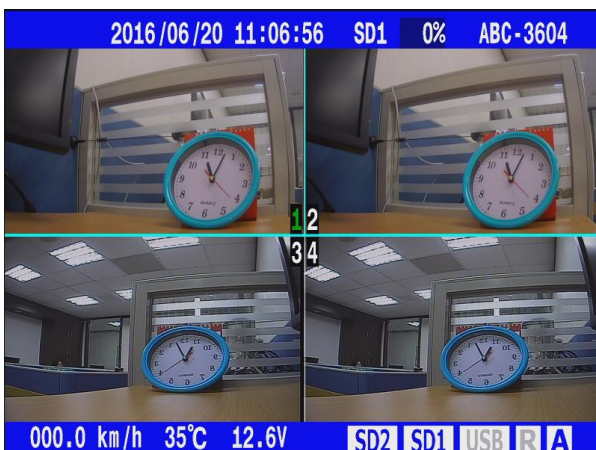
Shown in the monitor, press the “MENU” button located in the front panel of the DVR to find the main “SETTING” display mode. The main “SETTING” mode offers 6 kinds of sub-modes.

DIRECTION Button:



By pressing on the direction button, you can select the required item.

In the PTZ control mode , this button supports the movement function (upper, lower, right or left).



- The Menu button also functions as the ESC function. By pressing the “MENU” button in the sub-mode, the display on the monitor will return to the previous page and save all modification.



ENTER Button :

The enter button acts as the confirmation button. In the main menu page, after selecting the required settings category, press the enter button to bring the display page to the settings sub category page.



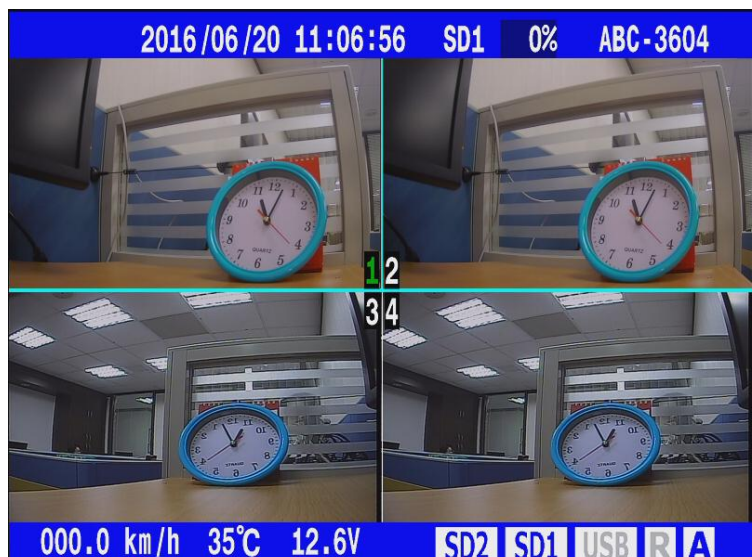
Normally Press button to select setting options.

At PTZ mode, Press the direction button he will execute viewing angle the camera function.



QUAD Button :

At the monitor view, press this button to change the viewing mode. Every time you press the QUAD button once, the display mode changes to the image below:



Channel Button : ①②③④

Press the Channel button to select the display view of each individual camera.

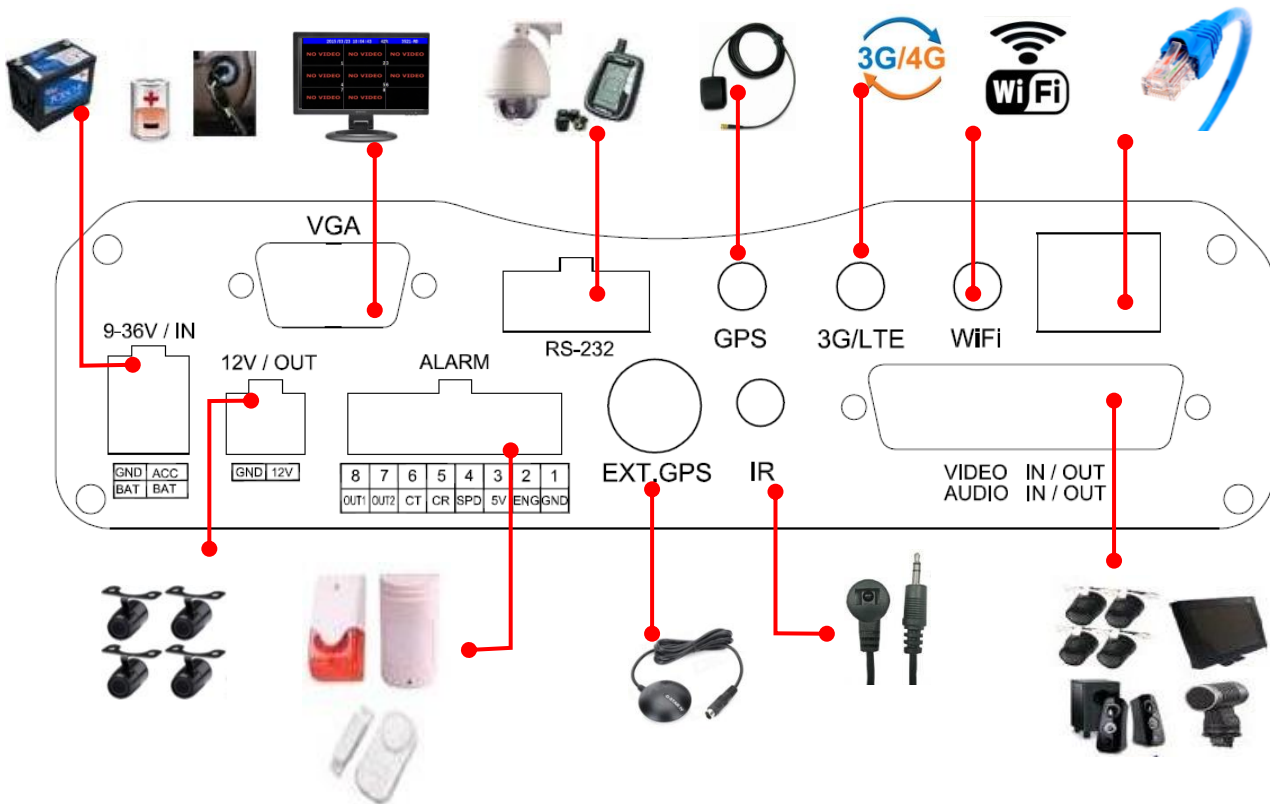


3. Installation

The installation should be done by professional engineer or systems integrators to implement this project.

3.1 Basic Installation

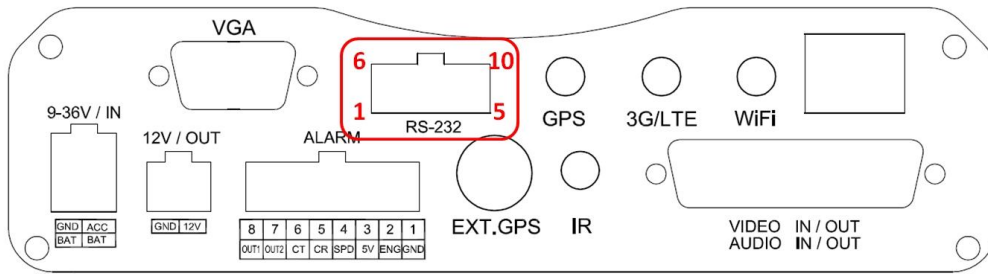
Please refer to the diagram below to connect the various external equipments as follows.



For 4CH DVR, operation of the Power output is voltage export DC 12V.

There external equipments shown on the above diagram are just for reference.

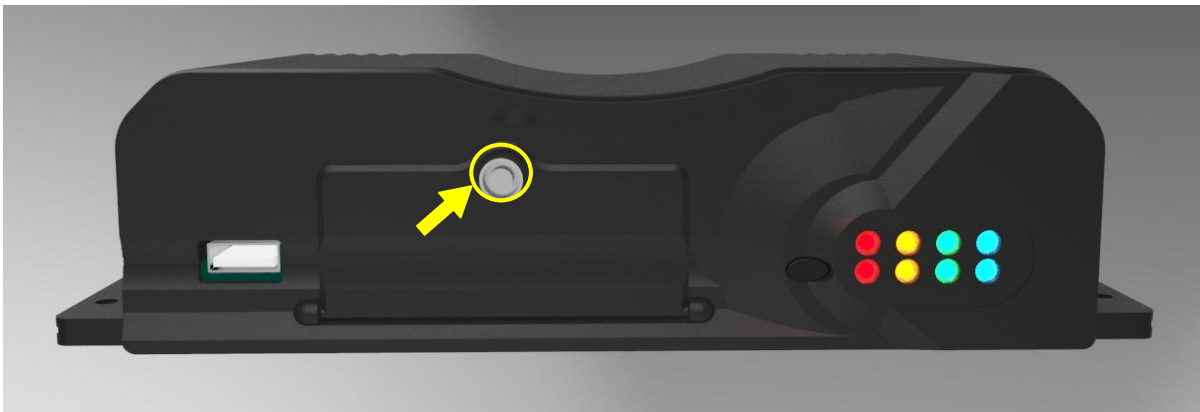
3.2 RS232 pin define :



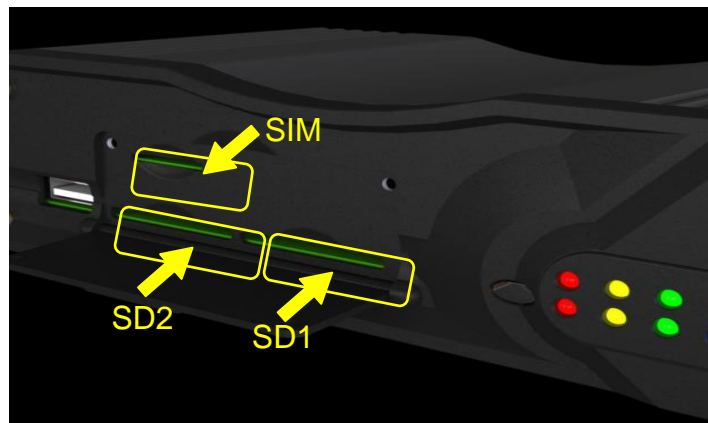
| | | | | |
|----------|----------|----------|----------|-----------|
| <u>6</u> | <u>7</u> | <u>8</u> | <u>9</u> | <u>10</u> |
| DC 5V | RS485+ | RS485- | GND | GND |
| <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
| TTL_TX | TTL_RX | RS232_TX | RS232_RX | GND |

3.3 SD Card Install

Step 1. Use component Key to open the Locker of SD card and Sim card slot.

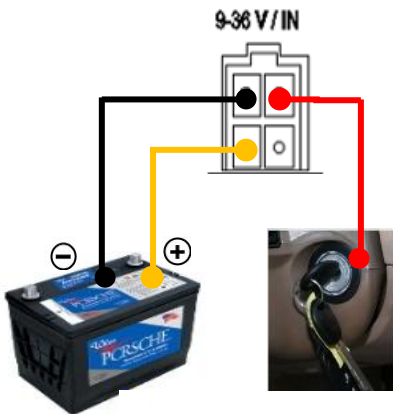


Step 2. Refer the picture to install Sim card and SD card as below:



3.4 POWER

The power consumption of 4CH AHD MADVR is 4.8W under connecting HDD without network function.



※Note:

Enable to keep recording under engine switch off.(Defaults)

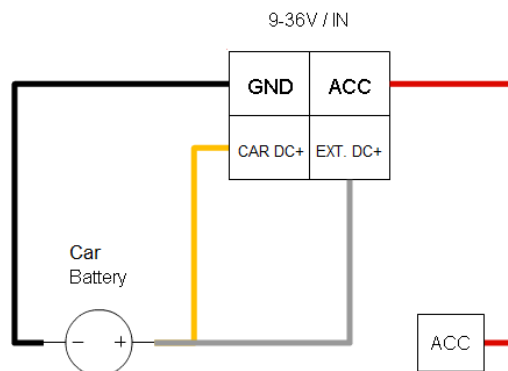
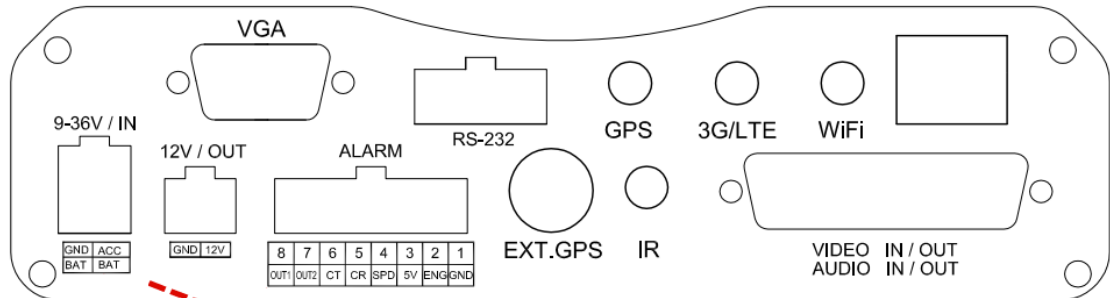
MDVR power cable connect with a car :

Red line connect “ACC+”, Yellow line connect “Battery”.

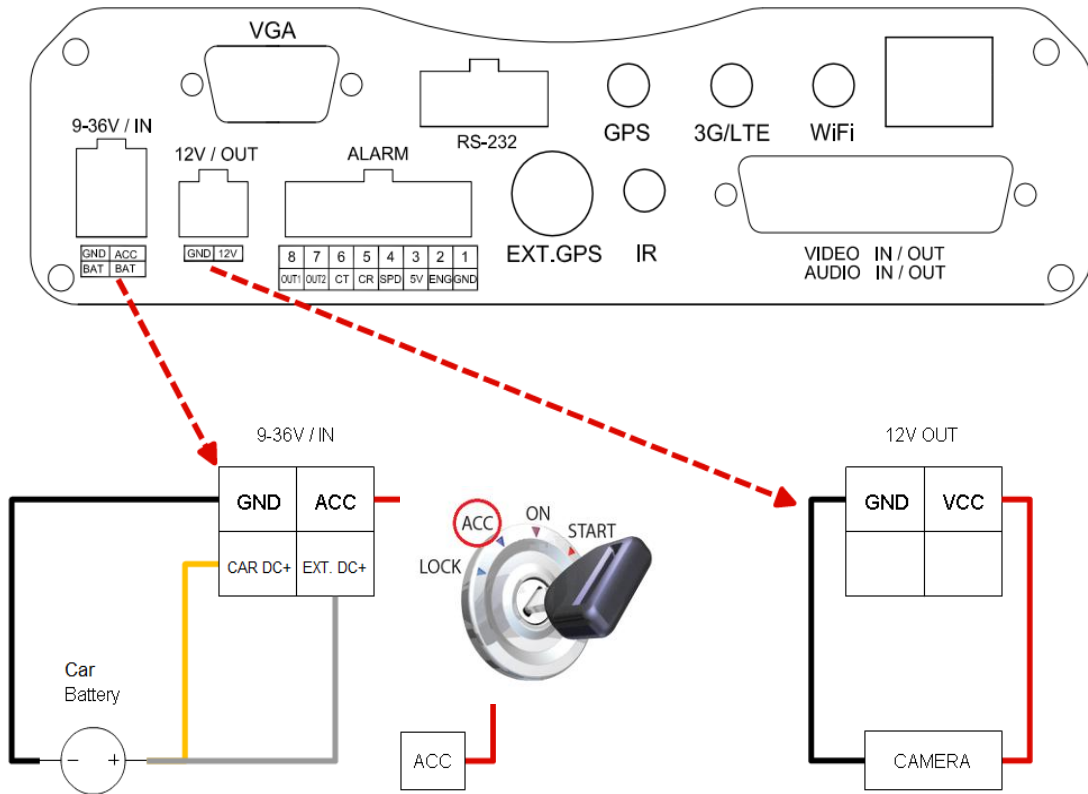
Disable the above function:

Combine Red 、 Yellow Line to connect “ACC+” .

3.4.1 Avication connect mode –



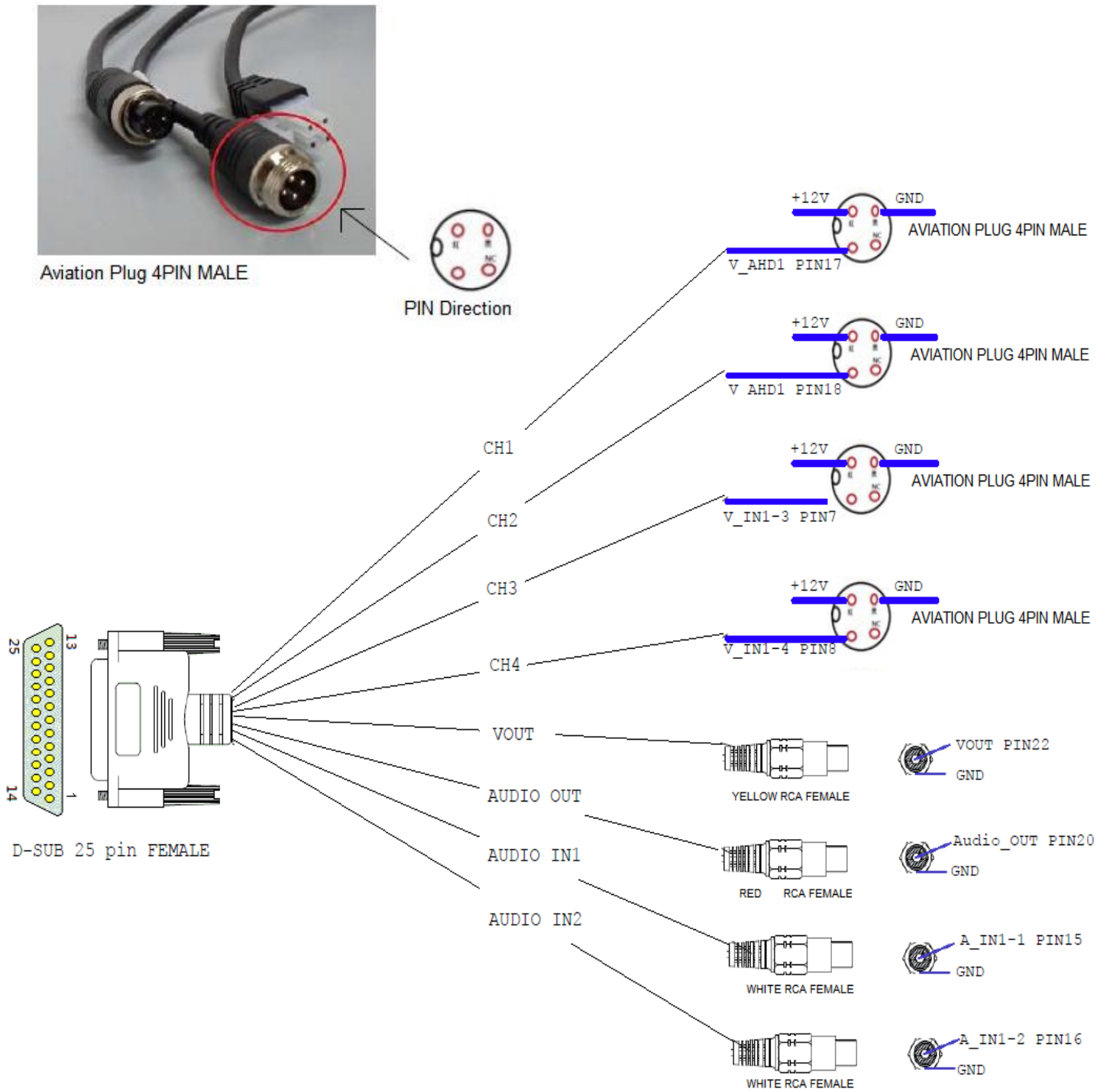
3.4.2 BNC connect mode –



3.5 VIDEO IN

3.5.1 Aviation plug VIDEO IN

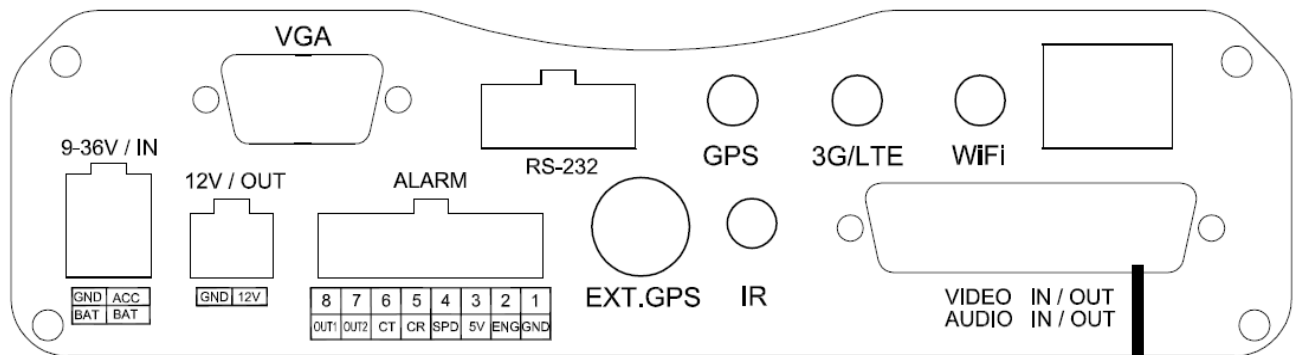
The video cable support aviation plug 4 PIN female camera.
Before you connect camera please check the PIN define



| D-SUB 25 PIN | NAME | |
|--------------|-----------|--|
| 1 | +12V | |
| 2 | +12V | |
| 3 | +12V | |
| 4 | +12V | |
| 5 | V IN1-1 | |
| 6 | V IN1-2 | |
| 7 | V IN1-3 | |
| 8 | V IN1-4 | |
| 9 | GND | |
| 10 | V IN2-1 | |
| 11 | V IN2-2 | |
| 12 | V IN2-3 | |
| 13 | V IN2-4 | |
| 14 | GND | |
| 15 | A IN1-1 | |
| 16 | A IN1-2 | |
| 17 | V AHD1 | |
| 18 | V_AHD2 | |
| 19 | GND | |
| 20 | Audio OUT | |
| 21 | GND | |
| 22 | VOUT | |
| 23 | | |
| 24 | GND | |
| 25 | GND | |

3.6 AUDIO IN -

The MDVR support two channel audio signal input that through RCA interface.



F connector(male) – RCA(male)



2.1 mm DC jack (12V DC)

Microphone

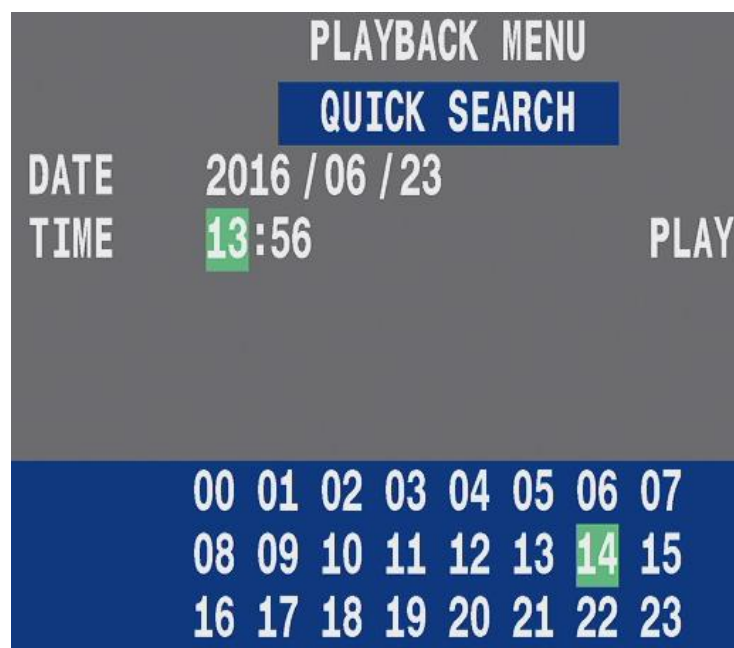
4. Function Settings

4.1 PLAYBACK

The “PLAYBACK” menu has 4 kinds of sub-modes for user's to choose (quick search 、event search 、time search and backup).

4.1.1 QUICK SEARCH

This function is used when the user knows the particular playback time of the video recording. For the quick search, the user can directly select the date (YY/MM/DD) and time (HR: MINS) and then press PLAY for the playback. Use the “ENTER” button and “DIRECTION” button to move the cursor to select date and time for the playback of the selected recording. To start the playback selection, press the “ENTER” button. Press the “MENU” button to exit playback.



4.1.2 EVENT SEARCH

When the vehicel engine has switch on, system would start the recording function automatically.

The event's occurrence is displayed along with the date and time detail for the user's convenience in the playback menu option.

In the event search function, the user can see all the system recorded events list. The user can select the event using the up and down direction button or pressing the right and left button to change pages. After selection, press enter to view the recorded video event.

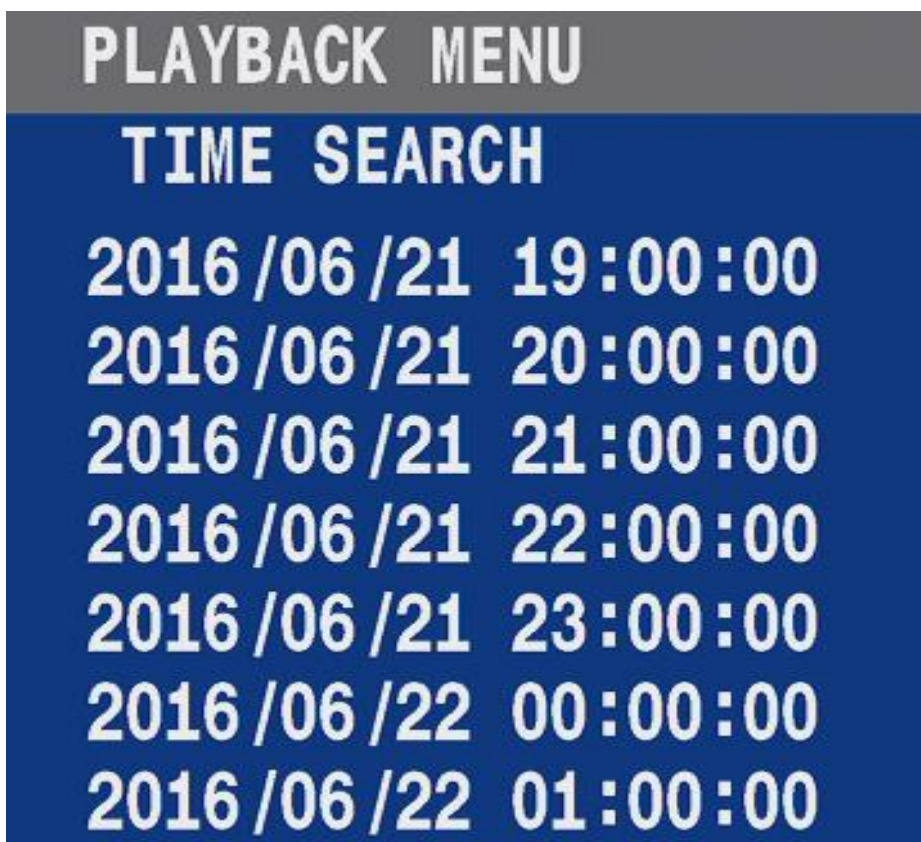
| Event Search Playback Code Name Illustration | | |
|----------------------------------------------|-----------|---------------------------------|
| Item | Code Name | Explanation |
| 1 | P | Power On |
| 2 | O | Power Off |
| 3 | F | HDD Format |
| 4 | T | Unusual Tire pressure detected |
| 5 | C | Driving overspeed |
| 6 | Gn | G Sensor , n=Direction(x,y,z) |
| 7 | Vn | Video Loss , n=Channel |
| 8 | An | Alarm is triggered , n=Alarm In |
| 9 | Rn | Relay Acutation , n=Channel |
| 10 | J | System's Time Adjusted |
| 11 | RS | Video resolution adjustment |
| 12 | OR | Operator system reboot |

| PLAYBACK MENU | | |
|---------------|------------|----------|
| EVENT SEARCH | | |
| V3 | 2016/06/20 | 09:59:15 |
| O | 2016/06/20 | 10:19:57 |
| P | 2016/06/20 | 10:59:25 |
| O | 2016/06/20 | 11:02:33 |
| P | 2016/06/20 | 11:04:31 |
| V2 | 2016/06/20 | 11:05:04 |
| A1 | 2016/06/20 | 11:34:10 |
| A2 | 2016/06/20 | 11:34:40 |

4.1.3 TIME SEARCH

The Function for the Time search is different from that of the Quick search. In quick search, the user directly inputs the known Date and time for playback option. While in time search setting, whenever the car engine starts, the system automatically starts recording after 30 seconds. This is set as the starting recording time point (code name P). After reaching the integral point of each hour, the system will automatically set up an hourly time point (no code name) making it convenient for data search and video playback.

Select the Time Search option and press ENTER. The list of all the system recorded videos will be displayed. Use the Left and Right direction button to flip pages or use the up and down direction button to select the system recorded video files in the list. After selection, press enter to start the playback function.



4.1.4 BACKUP

Plug in USB drive to MDVR then make sure **USB** icon change color to blue, this mean the system already detected the USB drive.

On **PLAYBACK MENU**, to implement of the followings steps :

1. Select the section with recorded time.
2. Select Video channel.
3. Select backup option (**.DVR** or **.MOV**) and press **ENTER** to execute back up.

Backup (.DVR) : The backup file must be played by private media player.

Backup (.MOV) : The backup file can be played by normal media player
(such as QuickTime \ KMplayer....)

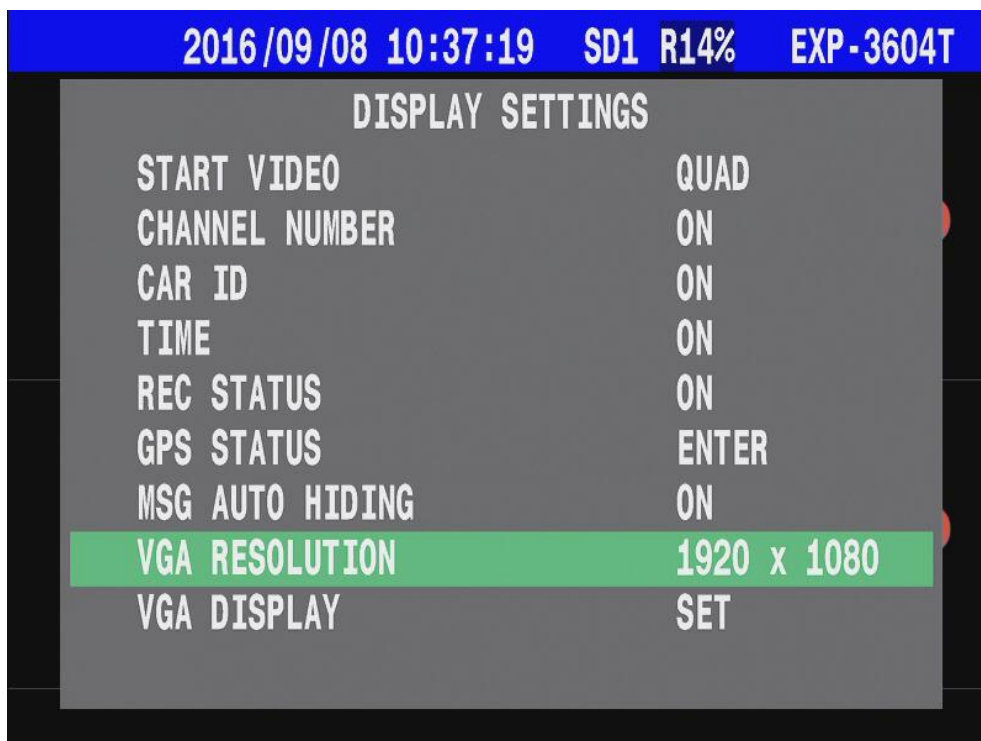
Note : The .MOV data length must be less than 30 minutes.



4.2 DISPLAY

“DISPLAY” icon to enter the Display setting. This setting is mainly used to set the preferred display mode on the monitor once the DVR is activated. If the GPS reception antenna is connected, then the GPS will show the current operating state.

To operate this setting, use the Up and Down Direction button to select the required function and Left and Right button to adjust the function.



| Screen Display illustration | | |
|-----------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| Item | Name | Explanation |
| 1 | Start Video | After system boot up, main screen will show spilit frame that in accordance with the settings (CH1 ~ CH4, Quad, 9Split). |
| 2 | Channel Number | Show the Camera's channel number , Select On or Off |
| 3 | CAR ID | Shows the Car's Licence plate number , Select On or Off ◦ |
| 4 | Time | Shows the System's Date and Time , Select On or Off ◦ |
| 5 | REC Status | Shows the Video Recording percentage and current recording state , Select On or Off ◦ |
| 6 | GPS Status | GPS Antenna connection then system will show the current GPS status information. |
| 7 | Auto Hid MSG | After 30 sec , below message frame would hide automatically. |
| 8 | VGA Resolution | For various kinds of monitor, System provides 8 kind of resolution settings. |
| 9 | VGA Display | Adjustment effect of video out on monitor. |

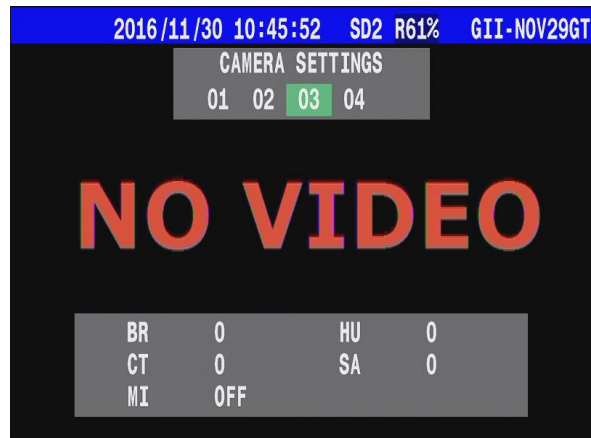
4.3 CAMERA

The main function for this setting is to let the user adjust the specific detail of every single camera image. The main adjustments the user can set include Brightness (**BR**), Hue (**HU**), Contrast (**CT**) or Shade (**SA**).

Press the left and right direction button to select the channel which needs to be adjusted.

Press **Enter** to adjust video with selected channel.

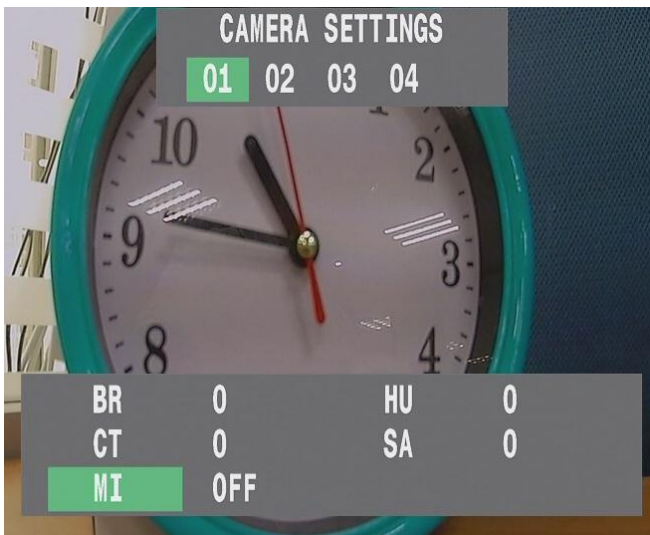




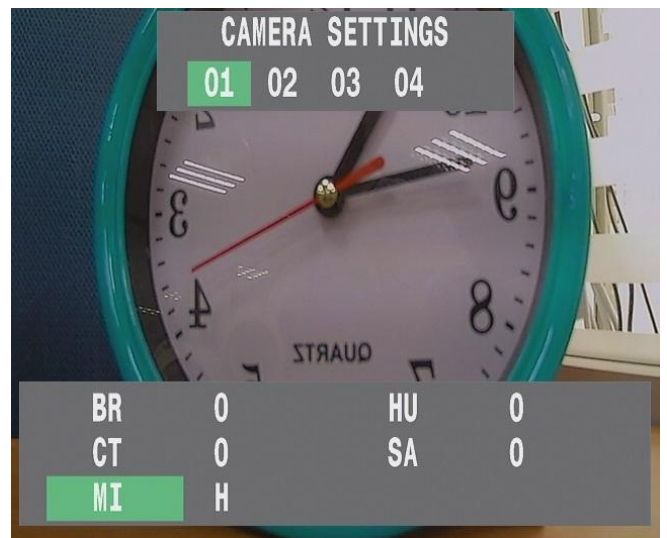
4.3.1 Flip

The Flip feature lets you turn the image upside down.

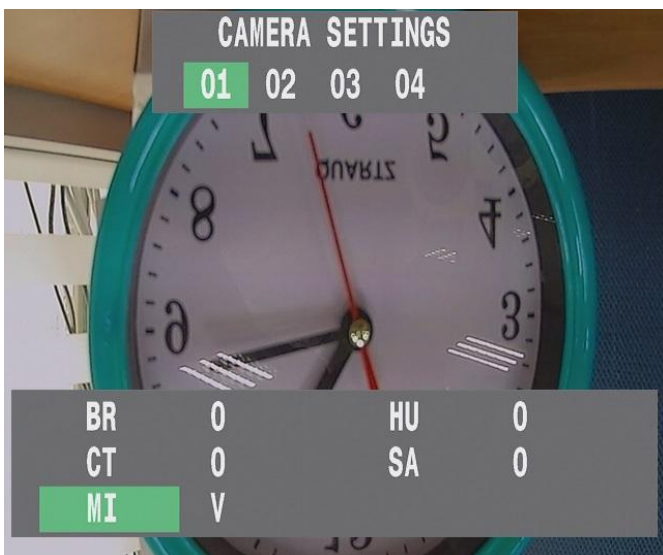
This is useful if you have your camera mounted upside down on a ceiling and do not want to rotate it physically.



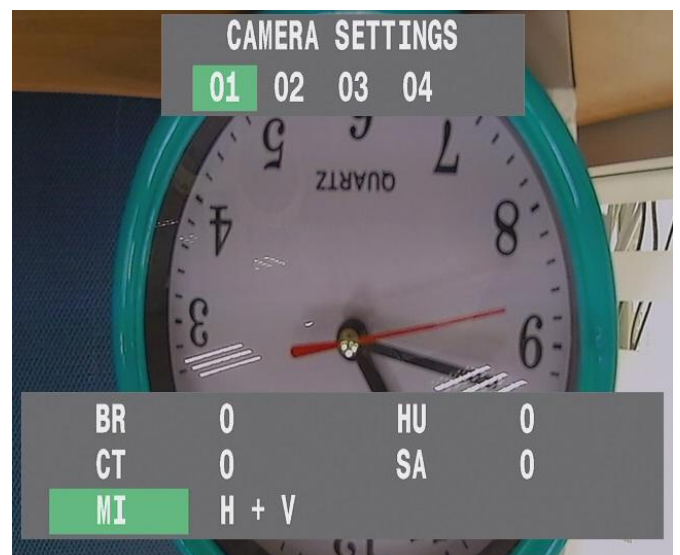
* Normal



* Mirro ---- >> H



* Mirro ---- >> V



* Mirro ---- >> H + V

4.4 ALARM

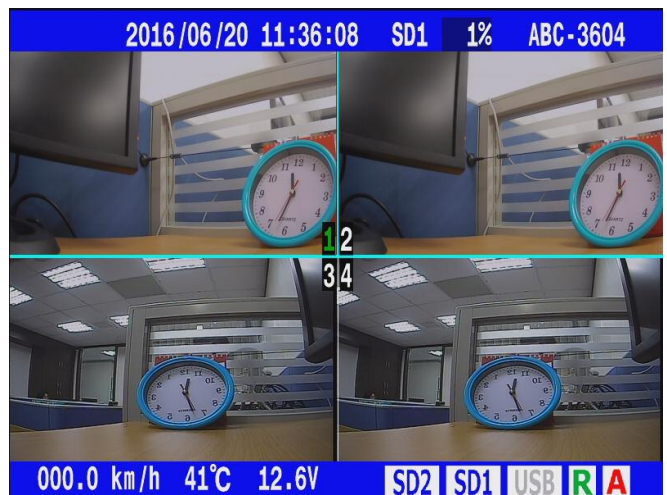
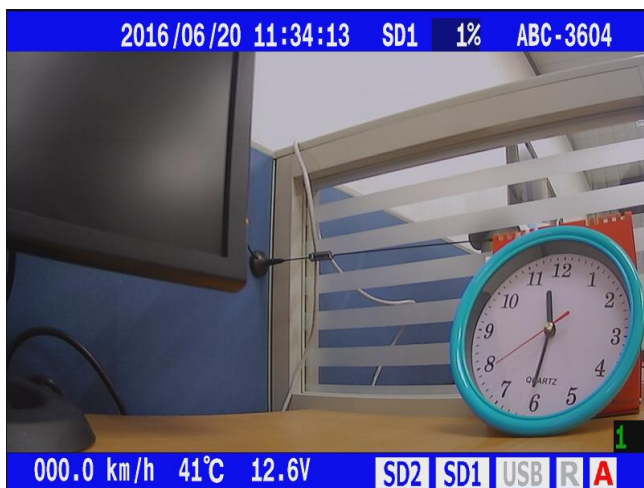
The main function for alarm settings is used on MDVR combining external detection equipment.

The back panel “ alarm in ”port 1 、 2 、 3 、 4... were to be associated with ALARM SETTINGS 01 、 02 、 03 、 04.... Etc.

- **ACTION / POPUP** : That was to be associated with Camera channel simultaneously.
Ex: ALARM SETTINGS “ 01 ” -- >> “ POPUP ” ;
When “ 01 ” alarm trigger, then CH01 video will show on screen.
- **ACTION / OUT1 (OUT2)** : That were to be associated with Alarm signal output simultaneously.
Ex: ALARM SETTINGS “ 01 ” -- >> “ OUT1 ” ; when “ 01 ” alarm trigger, then system will pass signal to external equipment (such as Warning Light or Door switch) via “Alarm OUT1” port.

* When Alarm in event trigger has occurred, Alarm icon will swap color to Red.

* Then Alarm out event trigger has occur, Relay icon will swap color to Green.



- TRIGGER SIGNAL / HIGH : The Alarm be triggered when system has received voltage over 5.0V.
- TRIGGER SIGNAL / LOW : The Alarm is triggered when electric potential from 5.0V drop to 0V.



| ALARM SETTINGS illustration | | |
|-----------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------|
| Item | Name | Explanation |
| 1 | ACTION | At Alarm trigger, system provide Action settings, The optioned object : POPUP 、 BEEP 、 OUT1 、 OUT2... etc. |
| 2 | DWELL TIME | The dwelling time for each alarm ring can be set as from 5 ~ 60 seconds or keep when remain active. |
| 3 | TRIGGER SIGNAL | Setup triggered of external alarm voltage (depend on <u>HIGH</u> active / <u>LOW</u> active). |

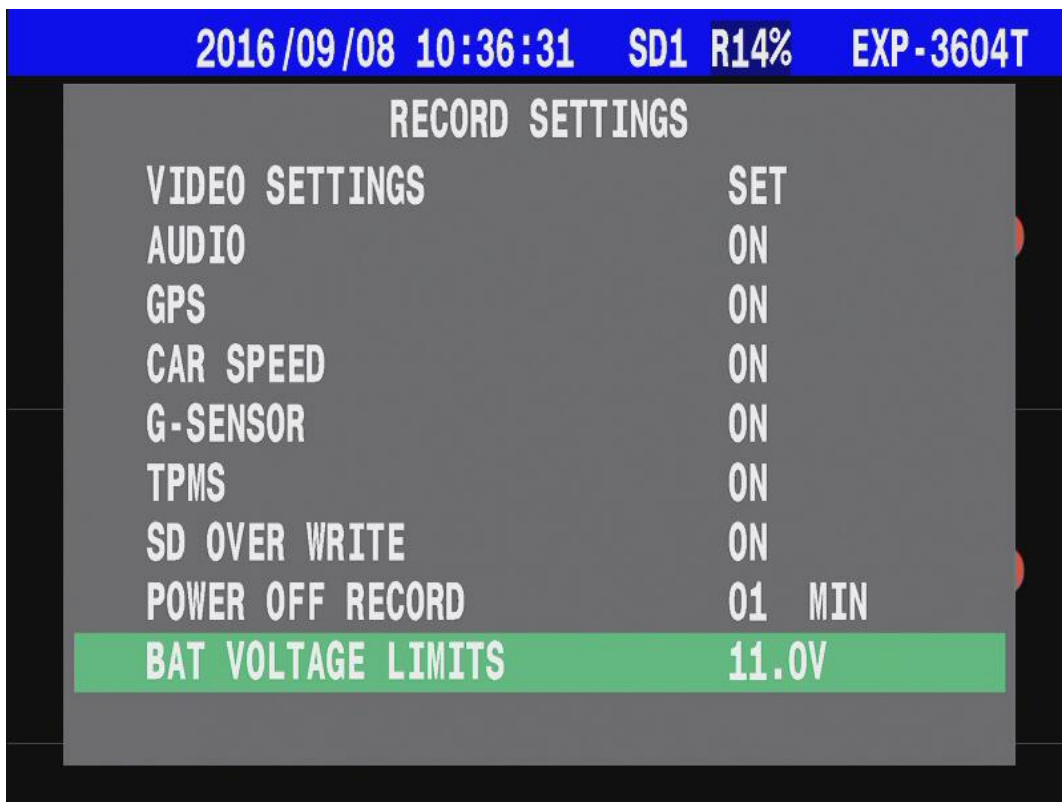
4.5 RECORD

The main function for the record setting is to select either ON or OFF for the information of the various functions like Audio, GPS, Car Speed, G-Sensor, TPMS and SD overwrite during the recording stage.

After the car stops and the engine is switched off, the user can set the POWER OFF RECORD

To carry on recording for:

- 1 to 720 minutes after which the system will automatically shutdown.



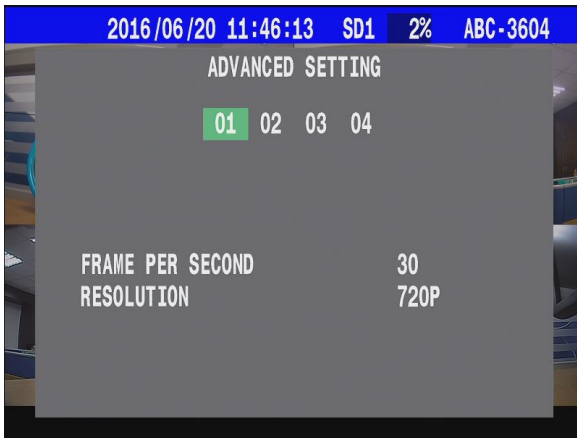
| RECORD SETTINGS | | |
|------------------------|--------------------|----------------------------------------------------------------------------------------------------|
| ITEM | Name | Explanation |
| 1 | VIDEO SETTINGS | The system provides Multiple types of resolution to select. (CIF 、 Half -D1 、 D1 、 960H 、 720P). |
| 2 | AUDIO | Setting ON / OFF feature with record audio from external audio input device (microphone). |
| 3 | GPS | Setting ON / OFF feature with record data from GPS. |
| 4 | CAR SPEED | Setting ON / OFF feature with record data from CAR SPEED. |
| 5 | G SENSOR | Setting ON / OFF feature with record data from G SENSOR. |
| 6 | TPMS | Setting ON/OFF feature with record data from TPMS |
| 7 | SD OVER WRITE | The SD card capacity overload, then system will overwrite old data. |
| 8 | POWER OFF RECORD | After vehicle executes ACC off, System would keep record during time. |
| 9 | BAT VOLTAGE LIMITS | If system detecte voltage is less than the settings, that would shutdown. |

4.5.1 VIDEO SETTINGS

The System provides 4 kind of default settings of Resolution and fps and advanced setting. A user could adjust it according to actual situations.



- On ADVANCED SETTING, user can set each video channel by oneself.



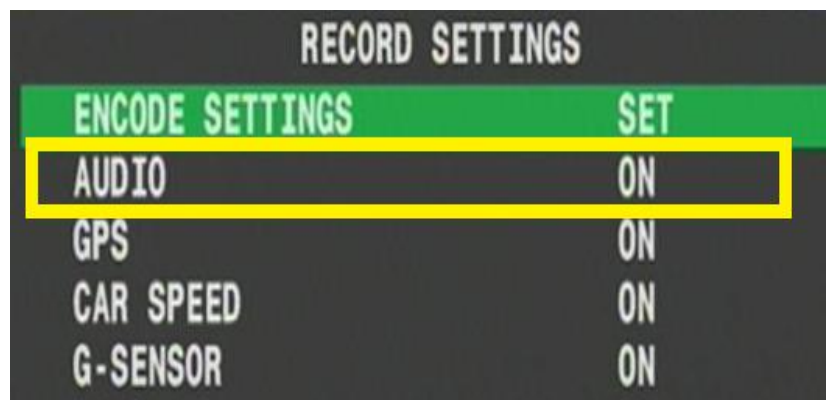
Note !

System CH1 \ CH2 support Signal with AHD 720P camera and 720P resolution record, But if VIDEO SETTINGS select 960H or CIF...etc (non-720P camera) even MDVR install AHD Camera, the recorded resolution will still 960H....

4.5.2 AUDIO

System supports 2way audio input;

Before system executes audio record please make sure audio 1/2 cable are both already connected your microphone.



4.5.3 POWER OFF RECORD

After vehicle switch to ACC off situation, System would follow the settings to keep record.

4.5.4 BAT VOLTAGE LIMITS

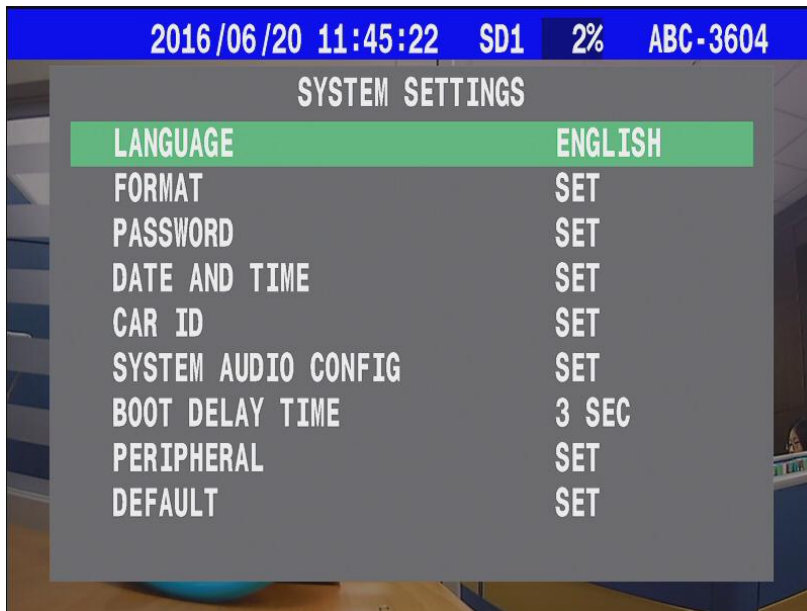
The System provides low battery voltage protected on **ACC off** stage, user can setting limit value 11.0 ~ 24.0 V.

Once system detect the input voltage is lower than settings, the MDVR would suspend power off record function then shutdown.

| RECORD SETTINGS | |
|---------------------------|--------------|
| VIDEO SETTINGS | SET |
| AUDIO | ON |
| GPS | ON |
| CAR SPEED | ON |
| G-SENSOR | ON |
| TPMS | ON |
| SD OVER WRITE | ON |
| POWER OFF RECORD | 01 MIN |
| BAT VOLTAGE LIMITS | 24.0V |

4.6 SYSTEM

The main function for the System Setting is to set the System's Language, Time, Password Protection, Disk management (format), External Peripherals ...etc.

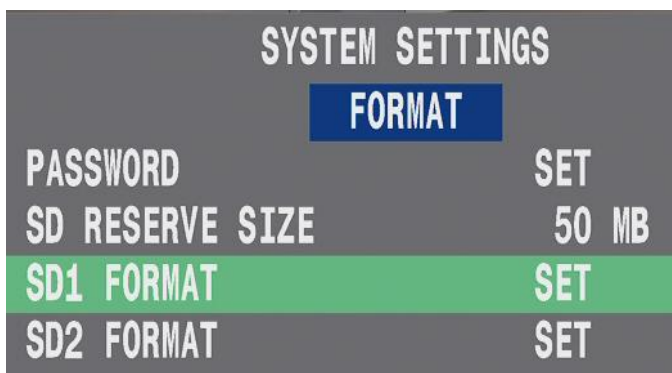


4.6.1 LANGUAGE

Currently, the system supports seven kinds of language option : Traditional Chinese 、 English 、 Russian 、 Simplified Chinese 、 Japanese 、 French 、 Spanish.

4.6.2 FORMAT

In the “SD FORMAT” setting mode, when you select it, the screen will display an alarm message “Format SD NOW ? ” select “Yes” and system will start the SD card format process and clear all previously stored information. Be careful when operating this function.

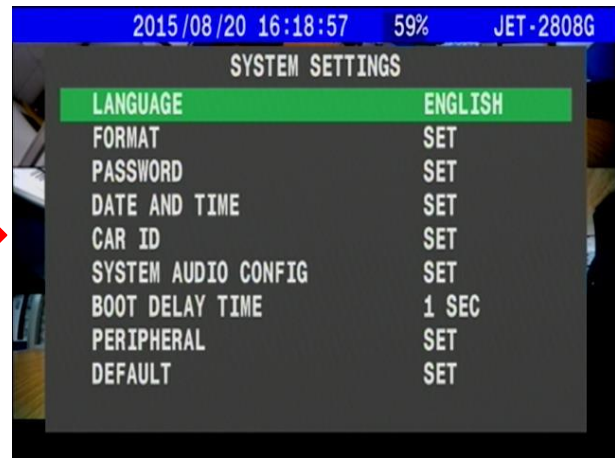


We would recommend setting the password function so as to protect HDD data.

To Enable the password function, the system will request 1~6 characters (combine operation of either uppercase letter or number).

Once the password is verified and passed, the user does not want to format the hard drive.

Please select “No” and the system will exit and move back to the previous settings page.



4.6.3 PASSWORD

The main function for the password is to increase the DVR's security. After setting the password, The user can return to the current video image.

When password function was enable then user can press the MENU button to enter the system setting page, the system will ask for the require password.

That were avoid people to malicious change the settings which resulting in data loss.

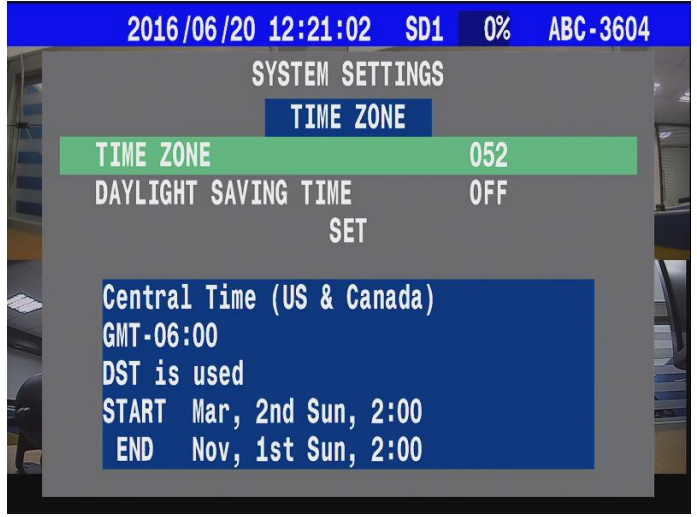
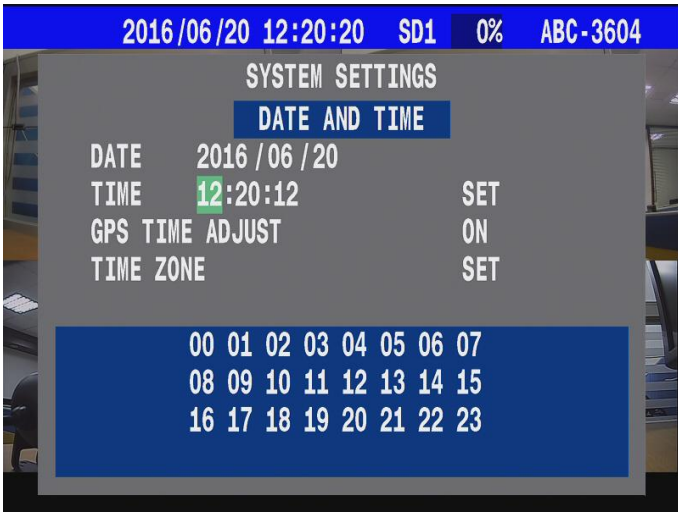
Password should be not more than 6 characters (Combination of either uppercase letters or numbers)



4.6.4 DATE AND TIME

The Date and Time setting relates to the recorded data so when system switches on, please confirm it again.

System can also adjust time by manual setting , GPS or Time zone.



4.6.5 CAR ID

System can display CAR ID on main screen that usually edit according to license plate.

This is helpful to video identify and Vehicle Management effectively

For CAR ID, the user can input a total of 11 characters (capital English letter and numerals).

Once you have input the car ID, press ENTER to apply.



4.6.6 SYSTEM AUDIO CONFIG

4.1.2.1 4.6.6.1 BUZZER

The DVR has a built-in buzzer. When the MDVR is switched on, the alarm is triggered, video loss or pressing button that the buzzer would beep sound.

The user can select to switch this function.

4.1.2.2 4.6.6.2 LIVE AUDIO

System support 2 ways audio input that connect microphone or other audio devices, this implement real time voice output via Audio out directly.

Audio out feature must connect speaker or other with voice out equipment to work.

User can select the audio source deliver voice to the audio out equipment from one of the CH1 Audio, CH2 Audio or Audio off.



- Also Users can use the remote control to switch the sound output state

Ⓡ1 : CH01 Audio

Ⓡ2 : CH02 Audio

Ⓡ3 : Audio OFF.

4.1.2.3 4.6.6.3 VOICE ALARM

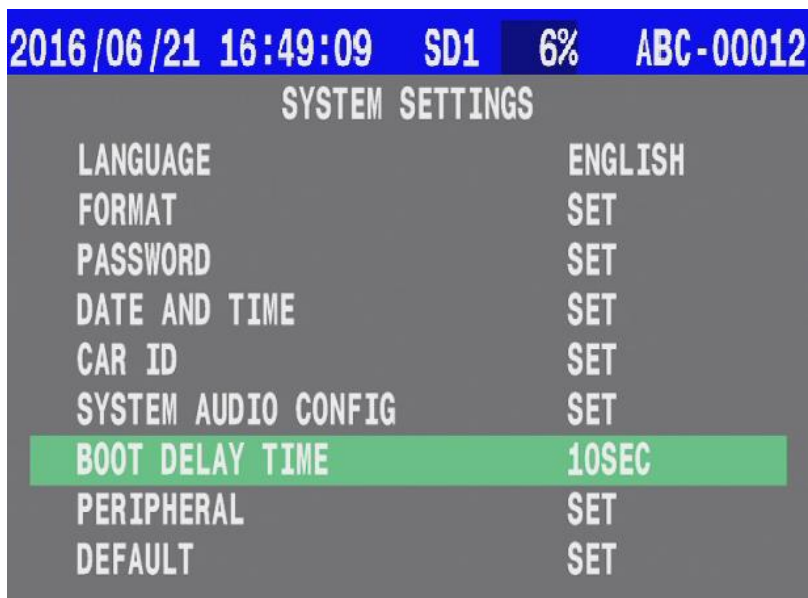
This is the DVR built-in voice alarm function. When an alarm event occurs, the DVR will send out a speech warning informing the user about the event. This alarm is sent out from the Audio Out port at the back panel. The user can either set the voice alert ON or OFF.

4.6.7 BOOT DELAY TIME

The main function for the boot delay time is to protect the DVR's components.

When Vehicle boot up, this would cause a voltage surge which might cause damage to the machine.

After the engine is switch on only when the vehicle is on to steady state and the MDVR can be boot, this avoids damage of voltage surge.



4.6.8 PERIPHERAL

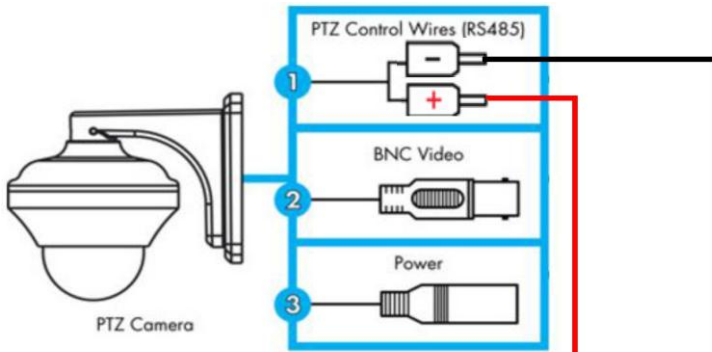
The MDVR can select to be arranged with G sensor, TPMS - tire pressure monitoring system, car speed sensor peripheral equipments. The DVR can set to receive and record the peripheral equipments statistical data. When the stored data is connected to a computer, using our AP software, all the statistical data during the car's course is shown on the playback. This is for better analysis of the driving state of the car.

The system accepts PTZ camera connection and operation though RS485 interface.



4.1.2.4 4.6.8.1 PTZ

The MDVR passes through RS-485 to connect to the PTZ camera. Currently it supports PELCO-P / PELCO-D protocol setting, and can set the transmission signal per second transfer rate.

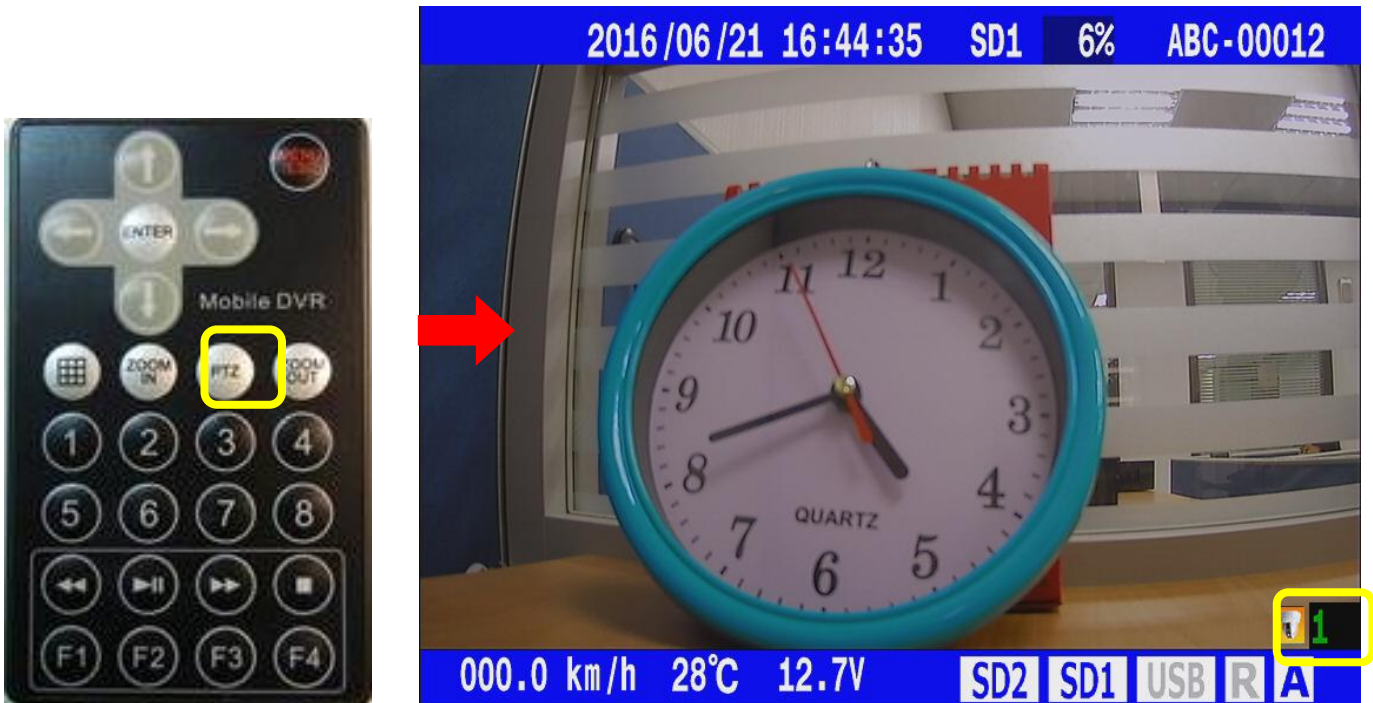


| | | | | |
|-----------|-----------|-----------|-----------|------------|
| <u>6.</u> | <u>7.</u> | <u>8.</u> | <u>9.</u> | <u>10.</u> |
| DC 5V. | RS485+. | RS485-. | GND. | GND. |
| <u>1.</u> | <u>2.</u> | <u>3.</u> | <u>4.</u> | <u>5.</u> |
| TTL_TX. | TTL_RX. | RS232_TX. | RS232_RX. | GND. |

Swapping the video channel to full screen then pressing PTZ button by remote controller.

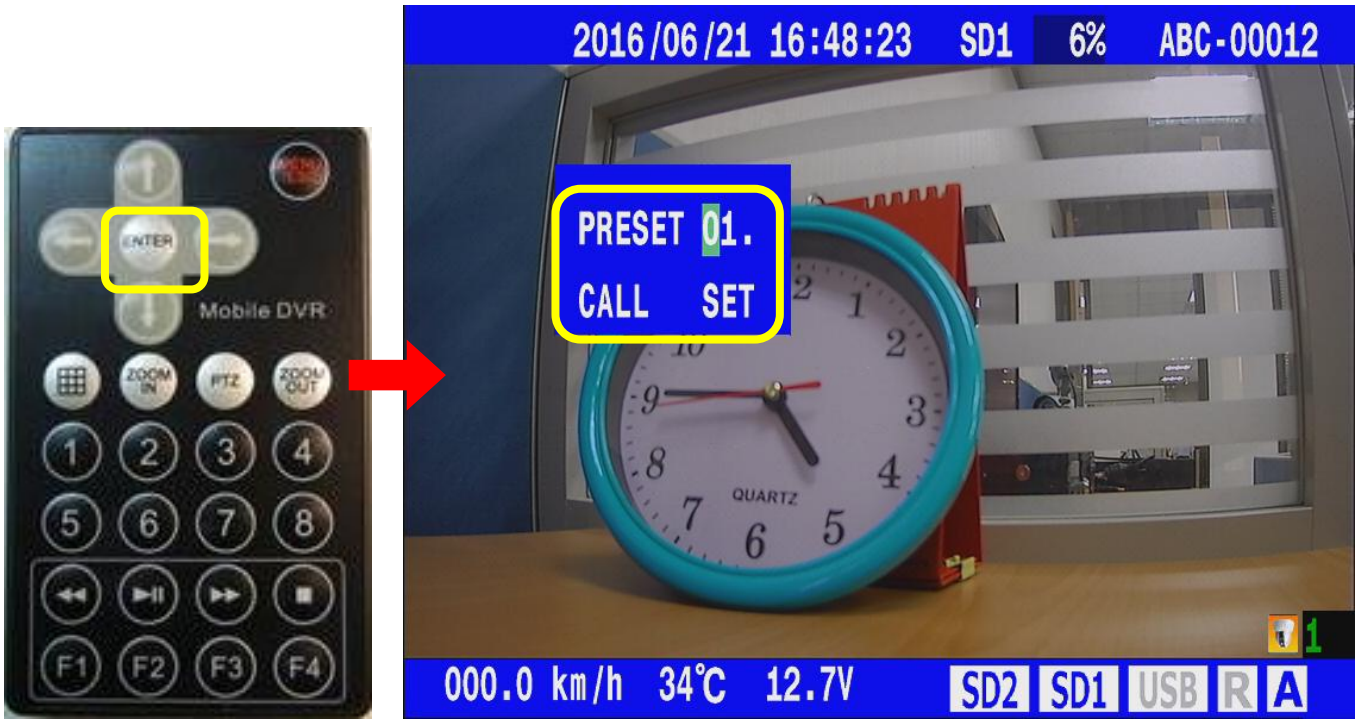
At the moment system would show PTZ camera icon on the left of video number.

This mean system stays in PTZ mode, which can control it.



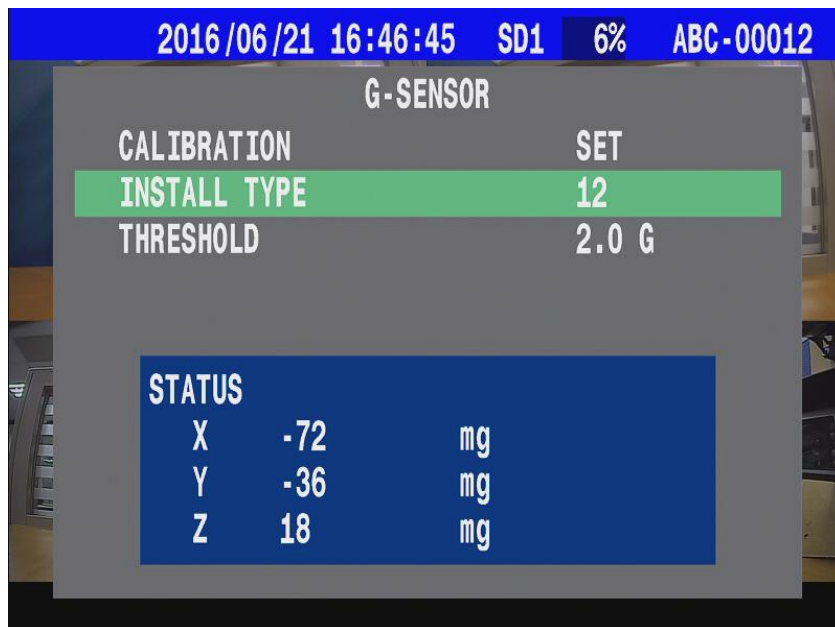
System support control the PTZ Viewing direction via a remote controller's direction button.

To press **ENTER** it can show settings UI for PTZ of origin location.



4.1.2.5 4.6.8.2 G sensor

The G-Sensor function is used to detect the vibrations generated in the moving vehicle. After the MDVR receives the sensor data along with the images, they are stored in the HDD. When the HDD is connected to a computer, the G-Sensor graphical image data is displayed in accordance to the stored information using the software included in the package.



Calibration :

To adjust the Install Type setting, please take a look at the 4 kinds of Installation Type photos shown for your reference in the next page.

Please find the photo which closely resembles the actual installation and press “SET” for confirmation.

Threshold :

When system receives data of overload from G sensor it will record event automatically.

G sensor status :

G-sensor would display Axial X 、 Y 、 Z status at once on screen.

G sensor type :

The system provides 12 selections for the various installed positions; please locate the photo below which best represents the actual installed position of the DVR. The correct install type should be selected, in order for the G-sensor to detect the correct statistical data.

The photos shown below are the different position types for the user’s reference.

Note: With the car head facing the front, please adjust the install type in accordance to the actual installed position.

Type 1



Type 2



Type 3



Type 12



Type 4



Type 11



Type 5



Type 10



Type 6



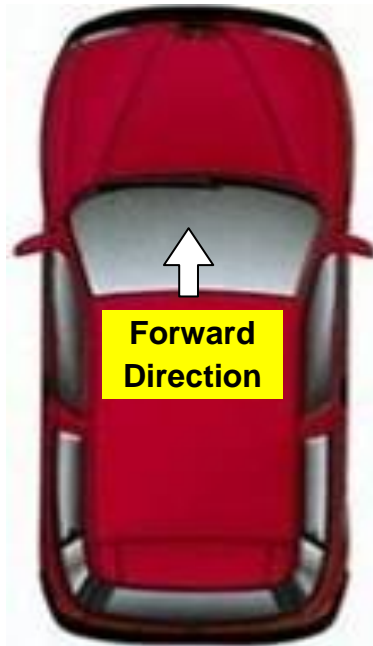
Type 9



Type 8

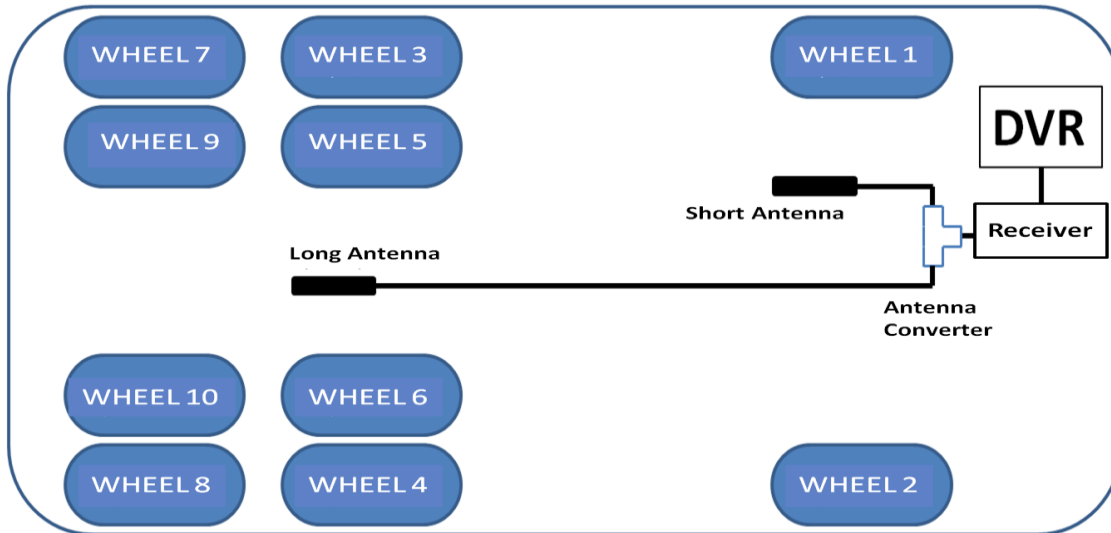


Type 7



4.1.2.6 4.6.8.3 TPMS (Optional)

Installing the TPMS is helpful to detect tire pressure and the system can set warning limits. When system receive signal with abnormal tire pressure, an audio message will be send to driver. TPMS cable include (5V / TXL / RXL / GND) that receiver will be able to connect to 10 tire sensor then install diagram as following :



* Step of Install :

Install launcher with tire pressure.



Install receiver's Long and short antenna



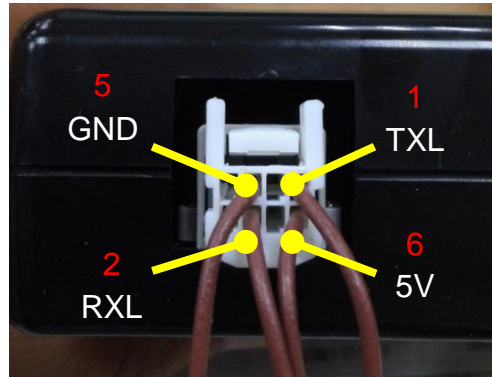
Another side of antenna that SMA connector to connect type of adaptors.



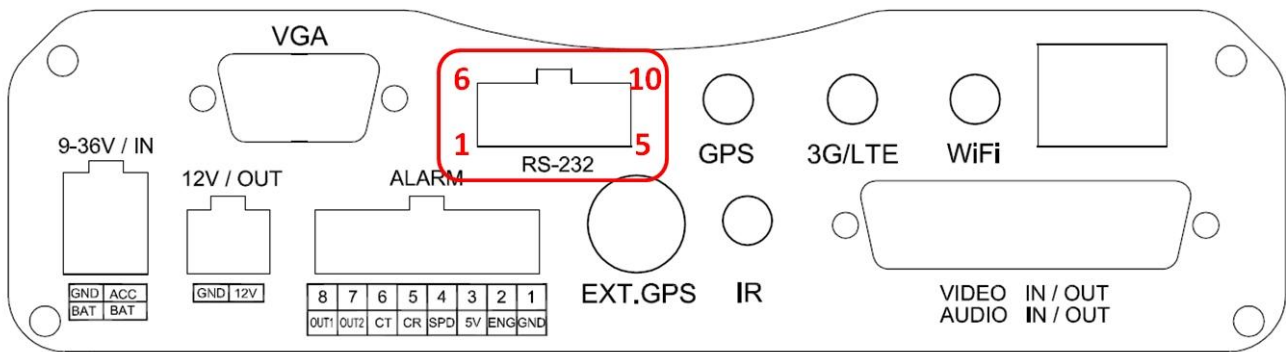
Connect antenna signal module.



Tire pressure receive module with DVR sheet define as following :

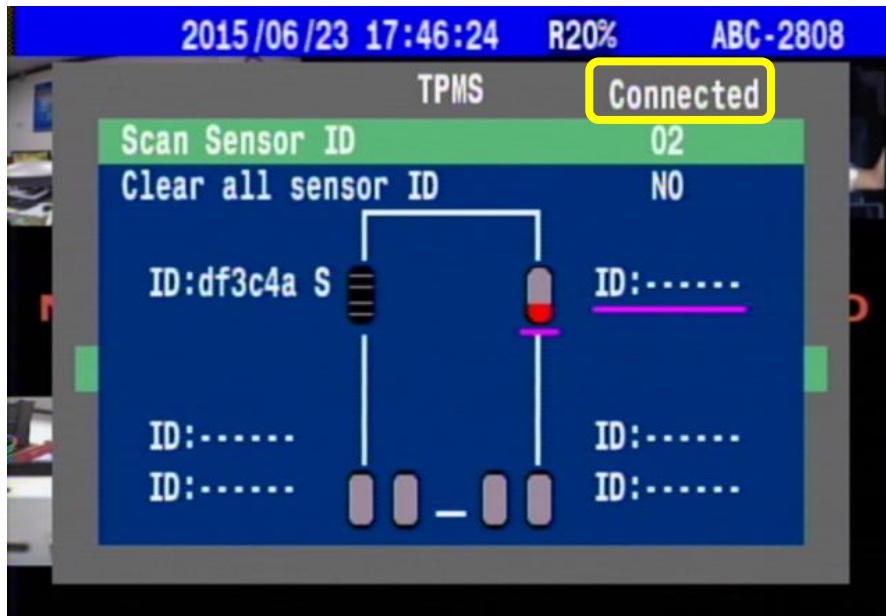


| | | | | |
|----------|----------|----------|----------|-----------|
| <u>6</u> | <u>7</u> | <u>8</u> | <u>9</u> | <u>10</u> |
| DC 5V | RS485+ | RS485- | GND | GND |
| <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
| TTL_TX | TTL_RX | RS232_TX | RS232_RX | GND |



Enter TPMS Settings page and make sure all is connected.

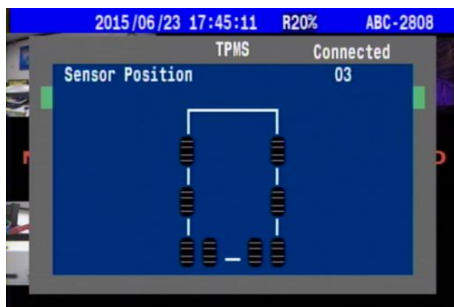
After check TPMS be connected, enter launcher setting page and select module of wheel numbers.



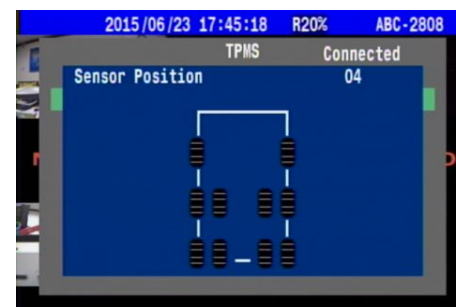
Mode 01 (4 Wheels)



Mode 02 (6 Wheels)



Mode 03 (8 Wheels)



Mode 04 (10 Wheels)

Single Wheel and double Wheel of event alarm :



Low pressure Alarm

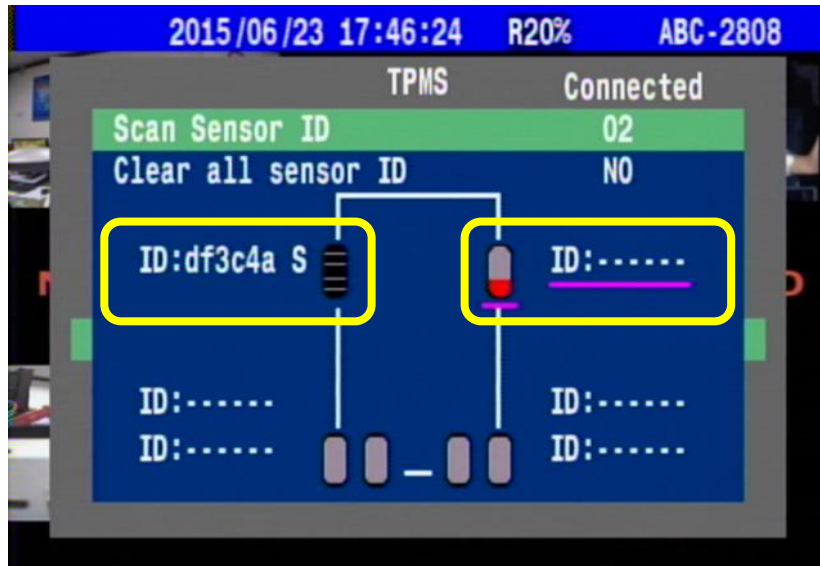


HIGH pressure Alarm





Over temperature Alarm

Launchers of reset to settings :



● Alarm Windows Icon explain :

| | | | |
|-------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------|----------------------|
|  | Normal |  | No signal |
|  | Pressure over HIGH |  | Did not receive data |
|  | Pressure over Low |  | Low battery |
|  | Temperature over High | | |

4.1.2.7 4.6.8.4 Car speed

This function is to detect the Car's speed. The accelerator speed cable can be connected to a Hertz device and it can instantly synchronise the records of the car's speed in the DVR. The car speed can also be detected from the in-built GPS receiver on the DVR. The user can set the maximum speed limit of the vehicle. Once when the vehicle over speeds, the system will automatically send out voice message notifying the driver of the condition and an event data record is also generated in order to facilitate the information's access by the user in future inquiries



Speed Device

Select the speed device. It can either be a GPS device or speed line cable for the standard record.

Line Type

If you select the speed line, for the actual car speed reading you need to check the actual value /2 or /4 in accordance to the speed line device.

Display Unit

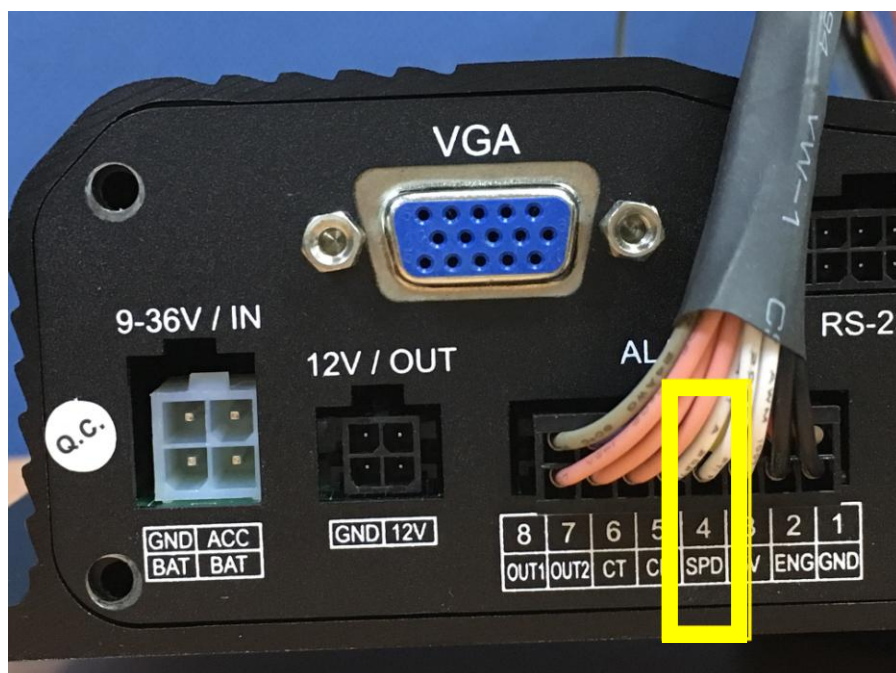
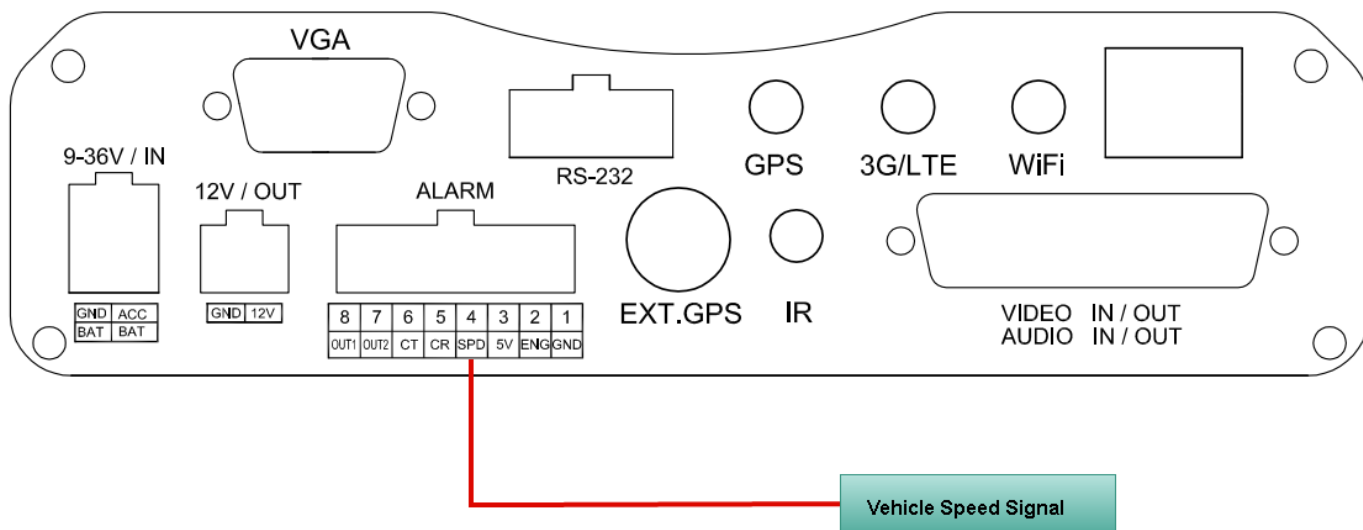
Km or mile can be choosing.

Speed Limit

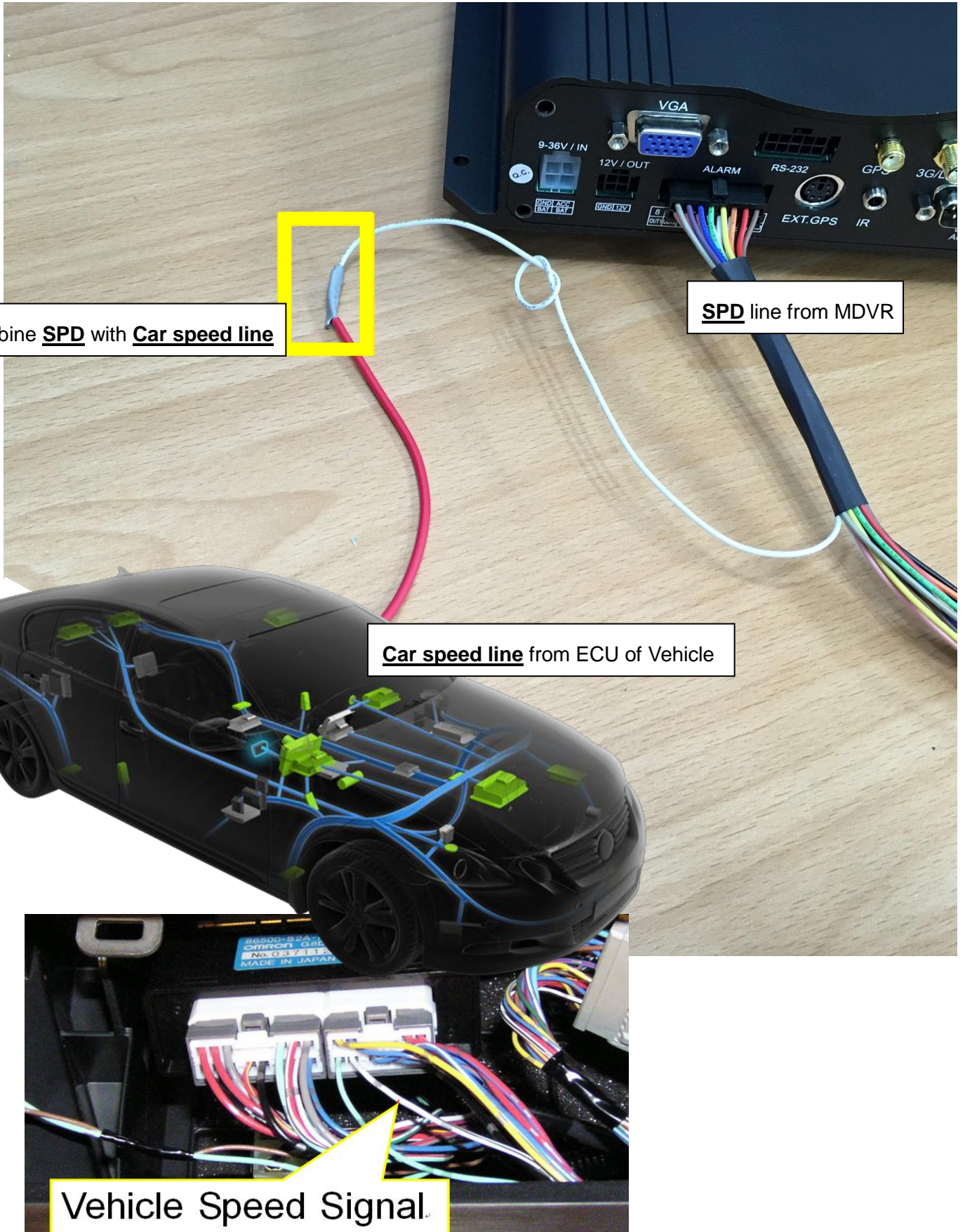
Set the maximum speed limit, when over speed the system will send voice messages notifying the driver.

Speed Line install

- [Car speed cable connection diagram I](#)

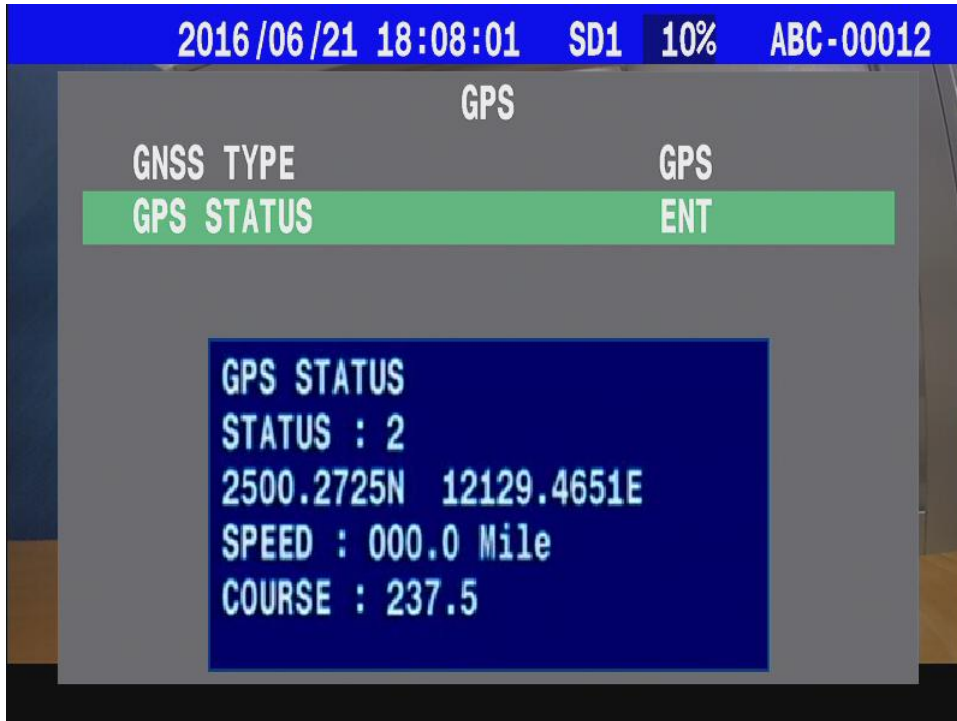


● Cars speed cable connection diagram II



4.1.2.8 4.6.8.5 GPS

The GPS function is used to log vehicle location and also support time adjustment by that. The MDVR has support GPS and GLONASS system then display real-time GPS information on monitor.



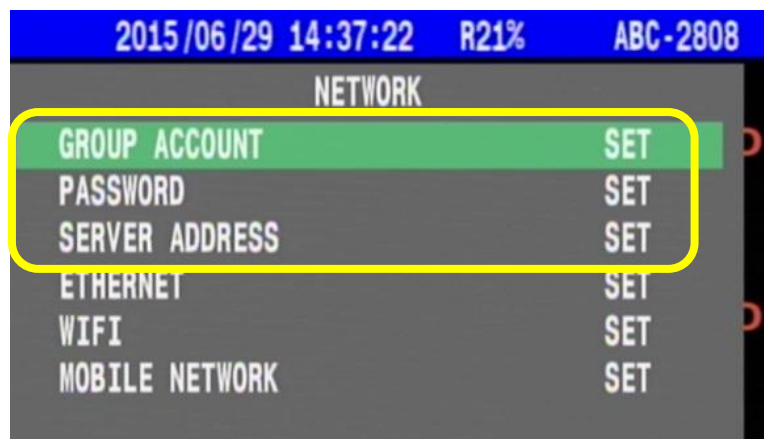
4.1.2.9 4.6.8.6 Network

MDVR supports network mode : Ethernet 、WIFI 、3.75G 、4G.

- **ACCOUNT SETTINGS** :

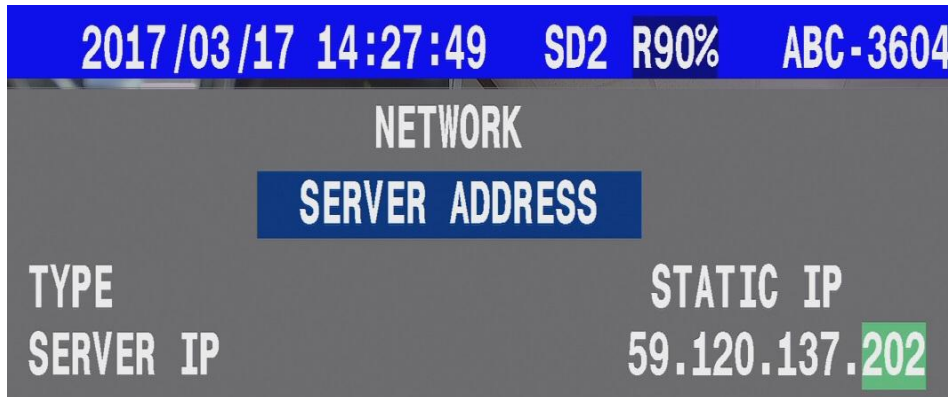
There is used to access VMS CarGisPlayer with safety certification, user need to get SERVER ADDRESS (static ip or domain name) from ISP.

The MDVR parameters of GROUP ACCOUNT / PASSWORD must same with VMS CarGisPlayer settings.



● **SERVER ADDRESS** :

* TYPE: STATIC IP

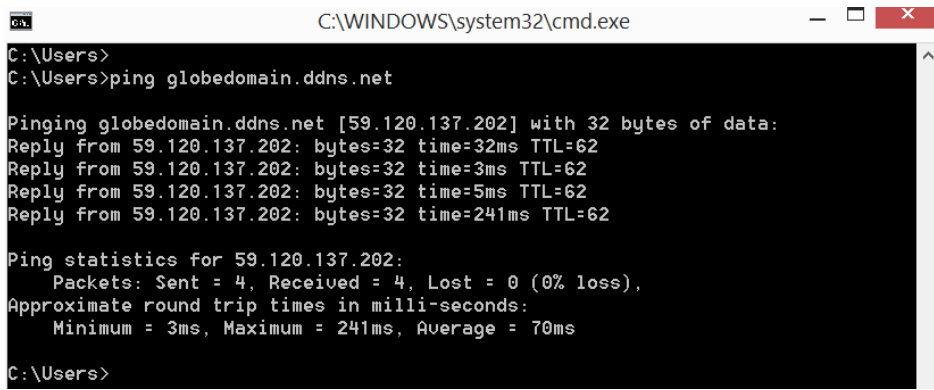


* TYPE: DOMAIN NAME

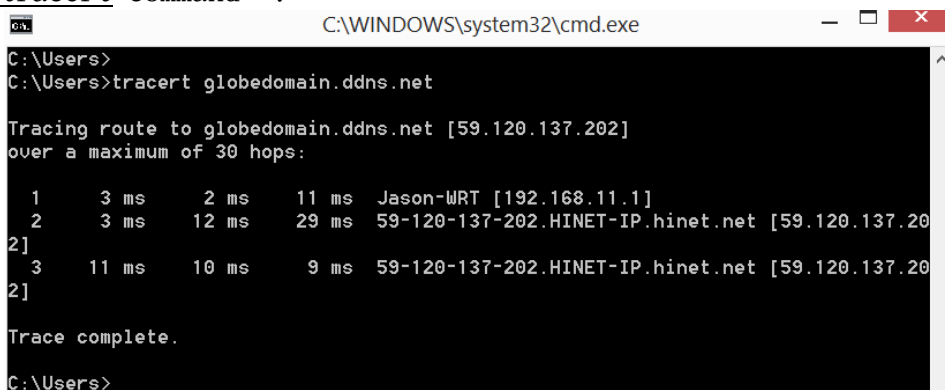
Before setup server IP-address by Domain name type, please register a domain name account on your DDNS server (ex. <https://www.noip.com/>) then to make sure the domain name is available.

P.S. User can use 2 method to make sure the availability of Domain name.

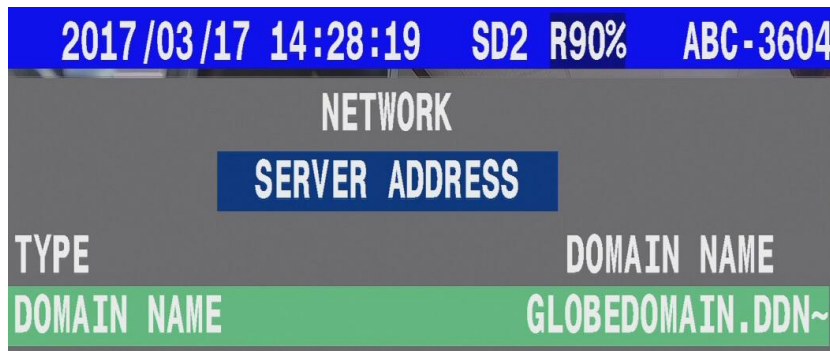
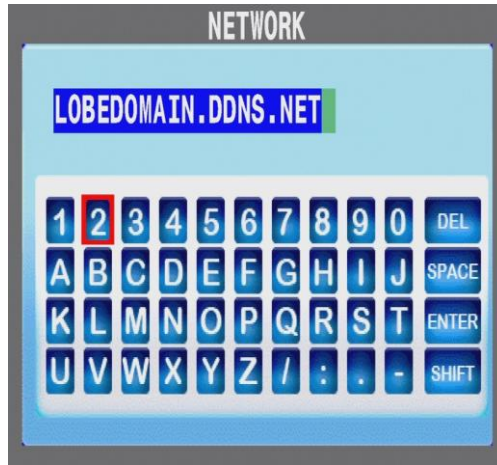
1. ping command :



2. tracert command :



- Enter your domain name
Ex. globedomain.ddns.net



- After the setting complete, user can back to main screen then check status with VMS CarGisPlayer linking. If status bar has display server icon (as yellow frame shown) that means VMS connect successfully.



ETHERNET :

- * Before user setup and execute network function Ethernet(RJ45),

Please follow the parameters of VMS server to set account as below :

1. GROUP ACCOUNT
2. PASSWORD
3. SERVER ADDRESS

(1) Enter MENU → select **SYSTEM** → **PERIPHERAL** → **NETWORK**



1. * GROUP ACCOUNT : **ABC**
2. * PASSWORD : **12345678**
3. * SERVER ADDRESS :
59.120.137.202

| 2016/10/19 15:35:27 SD1 R33% GII- | |
|-----------------------------------|-------|
| NETWORK | |
| GROUP ACCOUNT | SET |
| PASSWORD | SET |
| SERVER ADDRESS | SET |
| BROADCAST INTERVAL | 1 SEC |
| ETHERNET | SET |
| WIFI | SET |
| MOBILE NETWORK | SET |



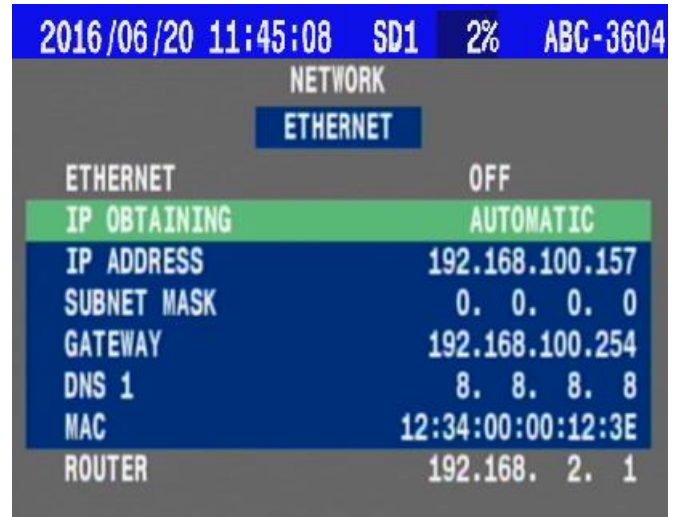
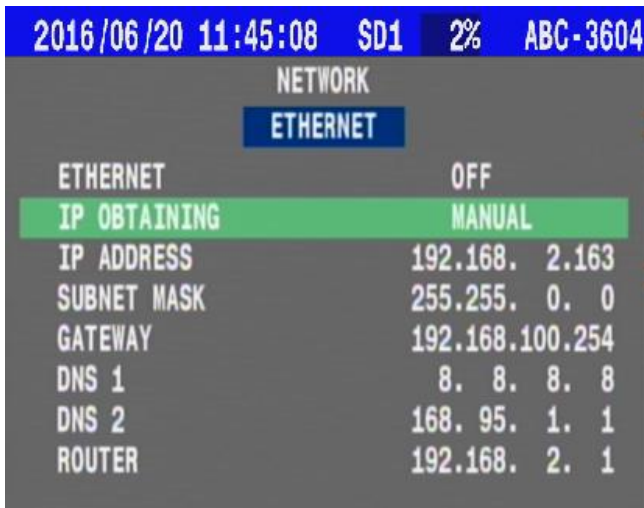
- Connect with switch via RJ45 cable.

(2) Press \Rightarrow on remote control to select ” **ETHERNET** ”



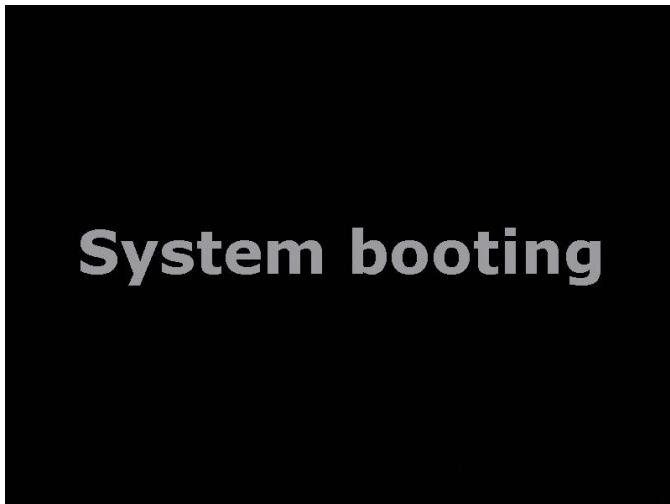
| 2016/10/19 15:35:24 SD1 R33% GII | |
|----------------------------------|------------|
| NETWORK | |
| GROUP ACCOUNT | SET |
| PASSWORD | SET |
| SERVER ADDRESS | SET |
| BROADCAST INTERVAL | 1 SEC |
| ETHERNET | SET |
| WIFI | SET |
| MOBILE NETWORK | SET |

(3) Chooses type to **MANUAL** / **AUTOMATIC** then system would get IP address from **DHCP** server.



(4) Back to main screen then reboot the MDVR.

(5) system will display the sign “RJ45” and “IP address” on main screen.



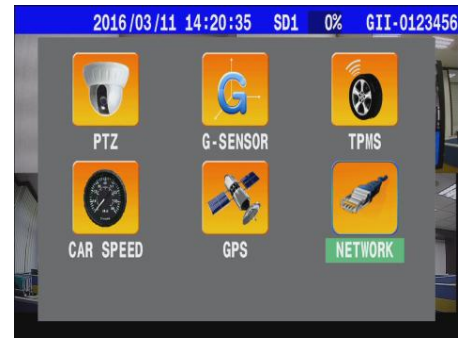
WIFI :


The MDVR has Build-in WIFI module to connect wireless AP.

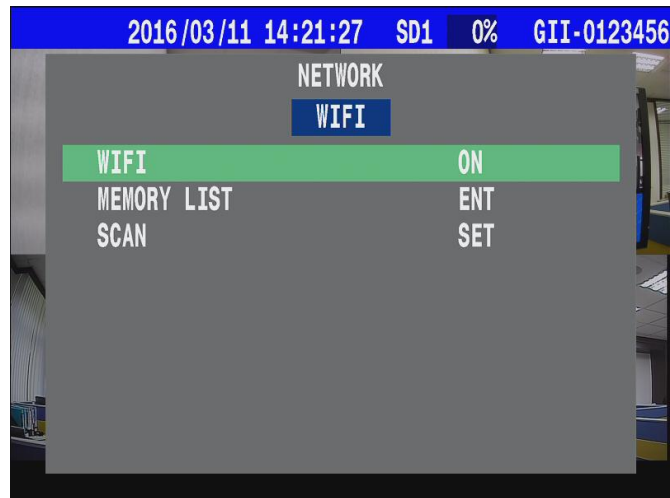
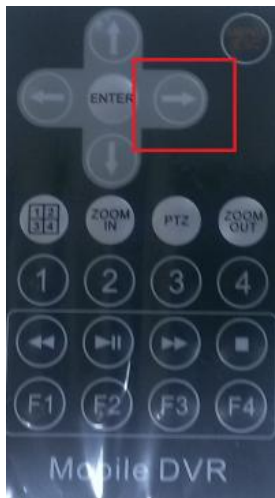
Once the connection has been success, system will record account information of AP server to make next connection easilly.

- WIFI encryption has support WPA2 only.

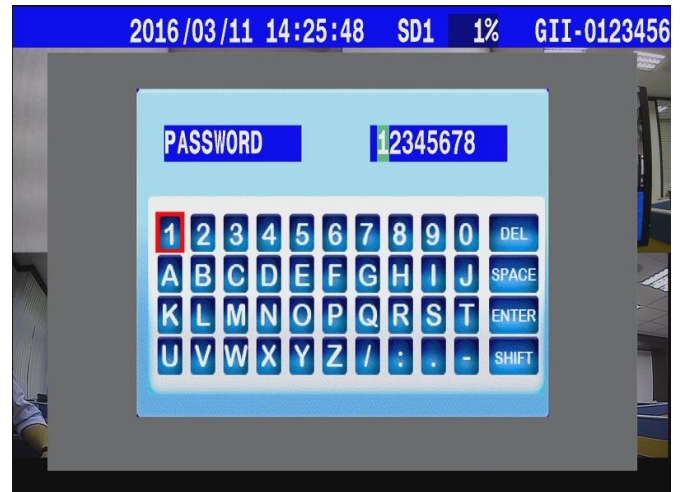
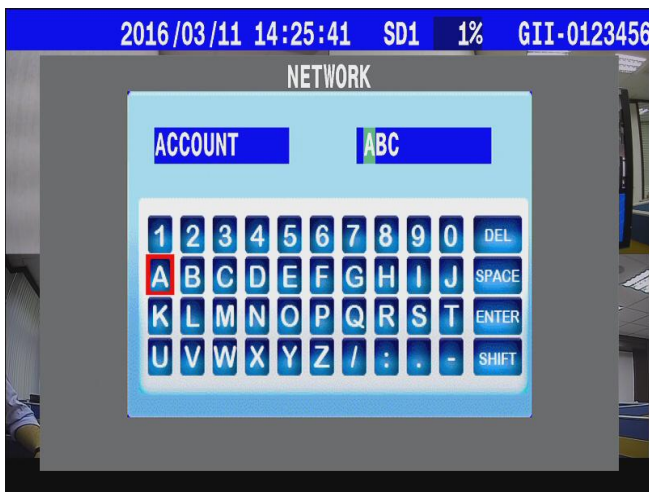
(1) Enter MENU → select SYSTEM → PERIPHERAL → NETWORK



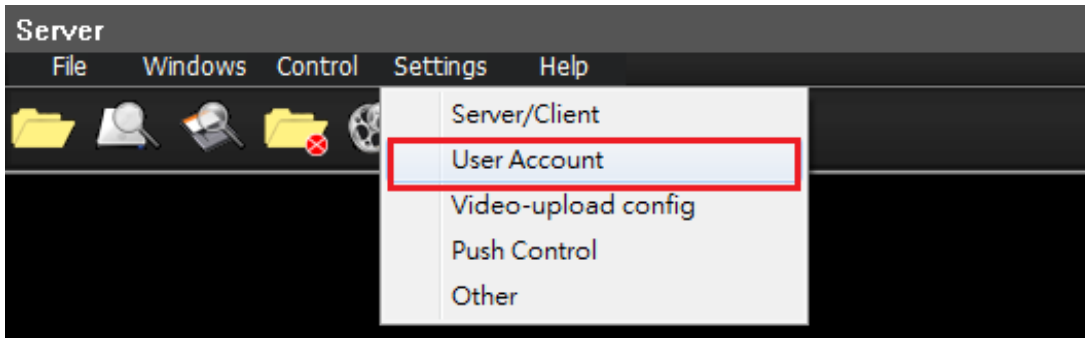
(2) Press  on remote control to enable WIFI mode



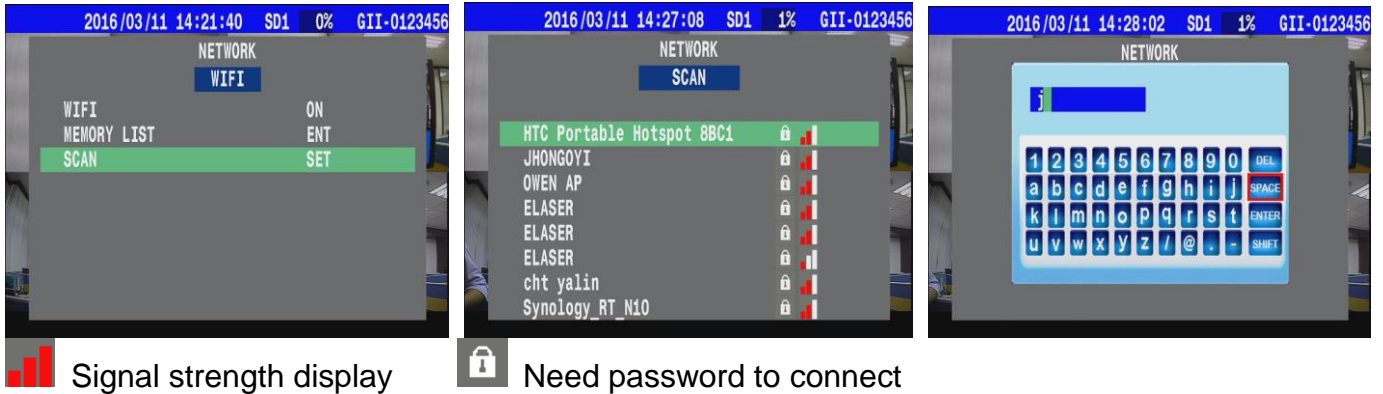
(3) Set "ACCOUNT" & "PASSWORD".



- Reminder : ACCOUNT & PASSWORD must synchronize with AP: user account.

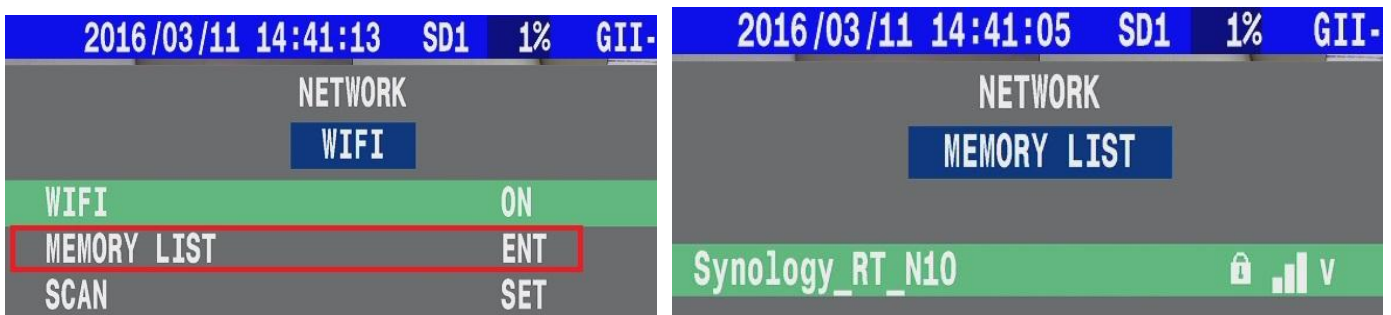


(4) Scan” all the signal base stations to choose the wifi you want.(It takes few mins)



You can also select “**MEMORY LIST** “ to connect WIFI.

This one listed all record you used. (ex:ASUS-60-5 ... / Max: 8 options)



(5) Setting Complete. →You will see the sign **WIFI** and “IP address”

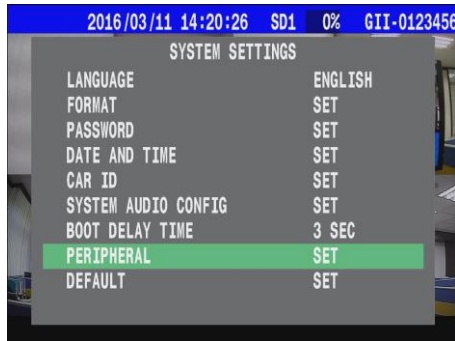



MOBILE NETWORK :

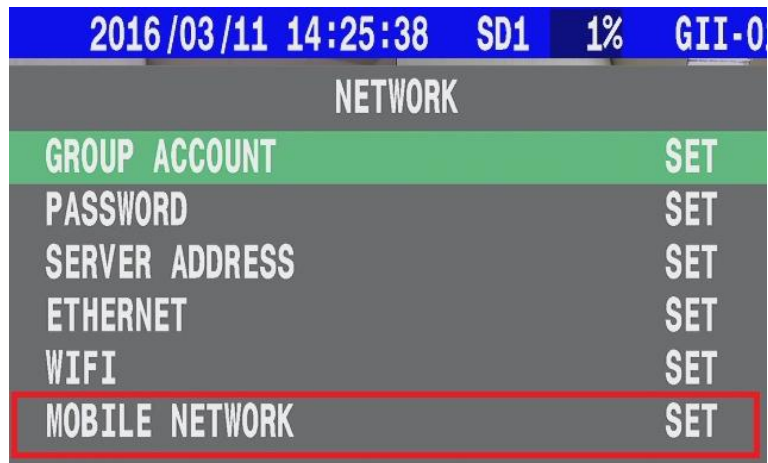
Setting parameters of ISP (such as APN · DIAL NUMBER · PIN... tc). after Sim card had installed then system boot up.



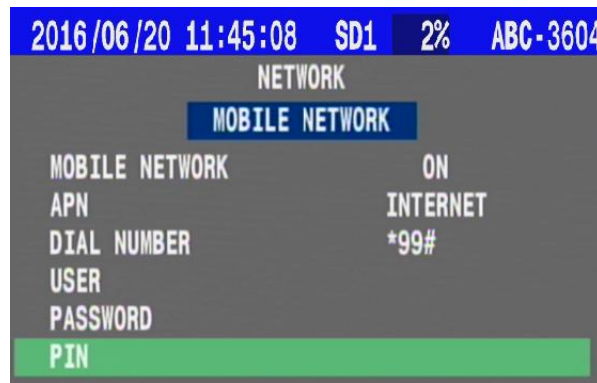
(1) Enter MENU → select **SYSTEM** → **PERIPHERAL** → **NETWORK**



(2) Press  on remote control to select " **MOBILE NETWORK** "

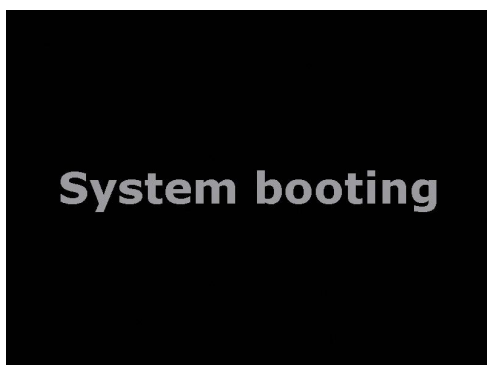


(3) Please select **MOBILE NETWORK** → set the detail parameters depend on your country.



(4) Reboot the MDVR.

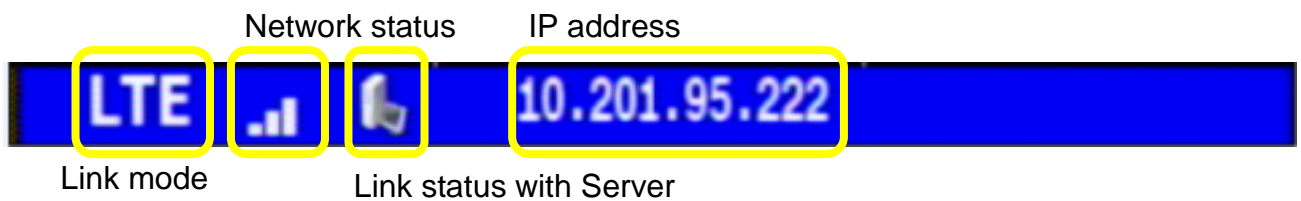
(5) You will see the sign "G", "CAR ID" and "IP address" on screen.



● 4G/LTE Bandwidth Scope -

| Applicable Area | Taiwan | America / Europe | China |
|-----------------|------------------------------------------|------------------------------------------|----------------------------------|
| Bandwidth | FDD -LTE B1/B2/B3/B5/B7/B8/B28 | FDD -LTE B1/B2/B3/B5/B7/B8/B20 | FDD -LTE B1/B3/B5/B8 |
| | TDD-LTE B38/B39/B40/B41 | TDD-LTE B38/B40 | TDD-LTE B38/B39/B40/B41 |
| | HSPA+/WCDMA 900/850/1800/1900/2100MHz | HSPA+/WCDMA 900/850/1800/1900/2100MHz | HSPA+/WCDMA 900/850/2100MHz |
| | GSM/GPRS/EDGE 850/900/1800/1900MHz | GSM/GPRS/EDGE 850/900/1800/1900MHz | GSM/GPRS/EDGE 850/900/1800MHz |
| | Dual-and TD-SCDMA B34/B39 | | Dual-and TD-SCDMA B34/B39 |
| | | | EVDO/CDMA:BC0 |
| Certificat | ROHS / CTA / CCC / CE / FCC | | |

- When VMS had connected successfully, system would display linking information on status bar that include link type、signal status、Server connect status and IP address.... etc.



4.6.9 DEFAULT

The User selected System's Language, Car ID, Password and Format Password are some of the settings which are not affected by this Default - system restore function. Other user customized functions will all be set to default.



4.6.10 REBOOT

5. Firmware Upgrade

1. MDVR upgrade firmware there must need the following one:

(1) uxxxxx_V1.3.4_2016-09-30.upg

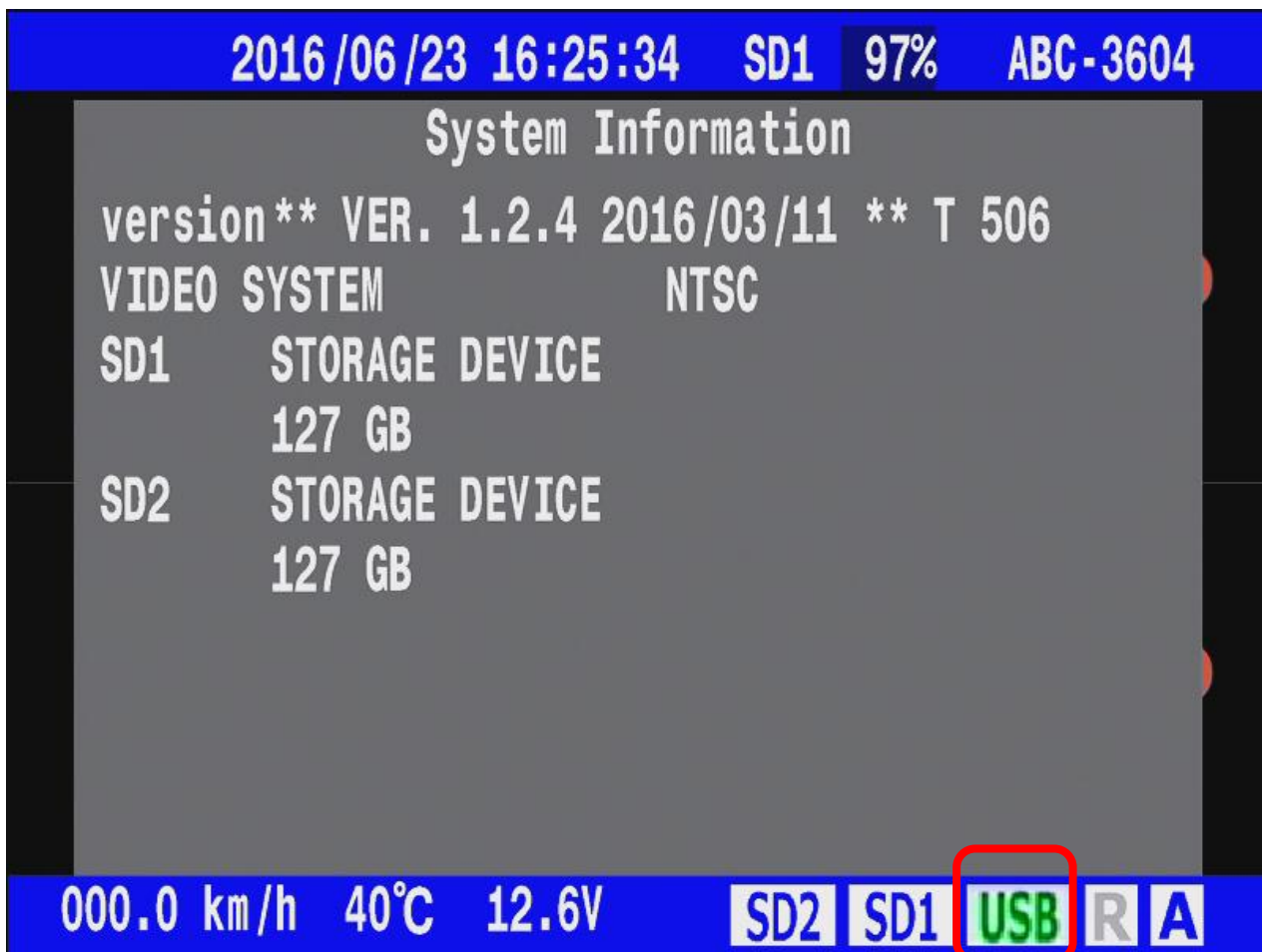
(2) kernel.36xx

* Sometimes the firmware upgrade that need include item(2) kernel, if there are include kernel, system should be update twice.

2. Copy and paste firmware files to the root directory of a removable USB drive.

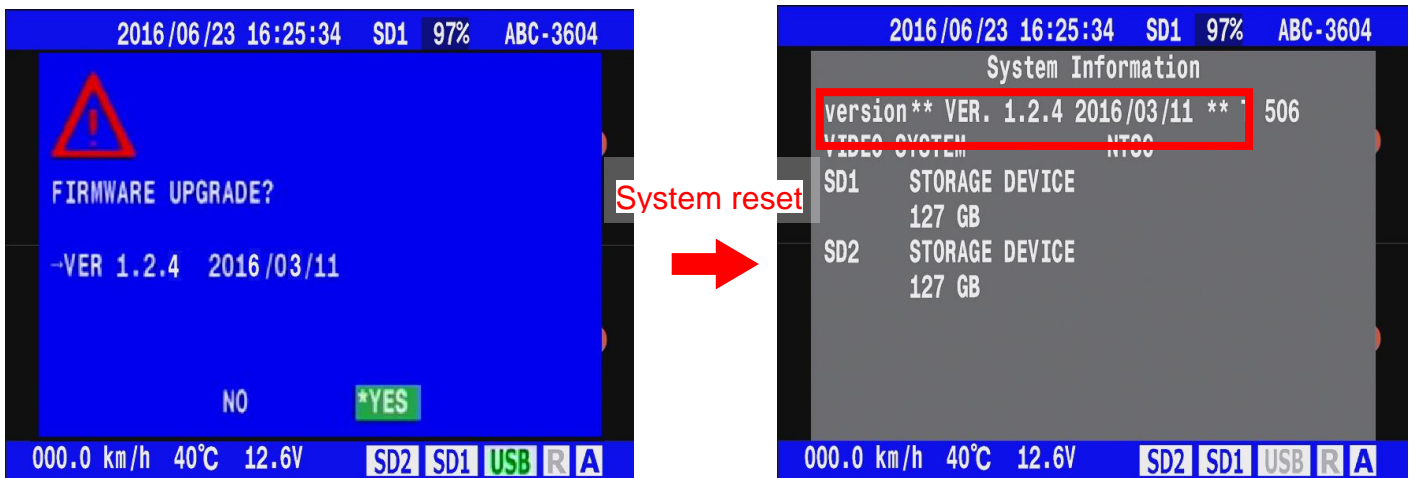
3. Take the removable USB drive which has the three files and connect to the USB port of the MDVR.

4. Confirm the USB drive connection which is ready for update by checking the monitor display for the USB icon that will change to green.



5. IR remote control, press the down button (⏴)

The monitor display will show an information dialog box inquiring whether you want to upgrade the Firmware.

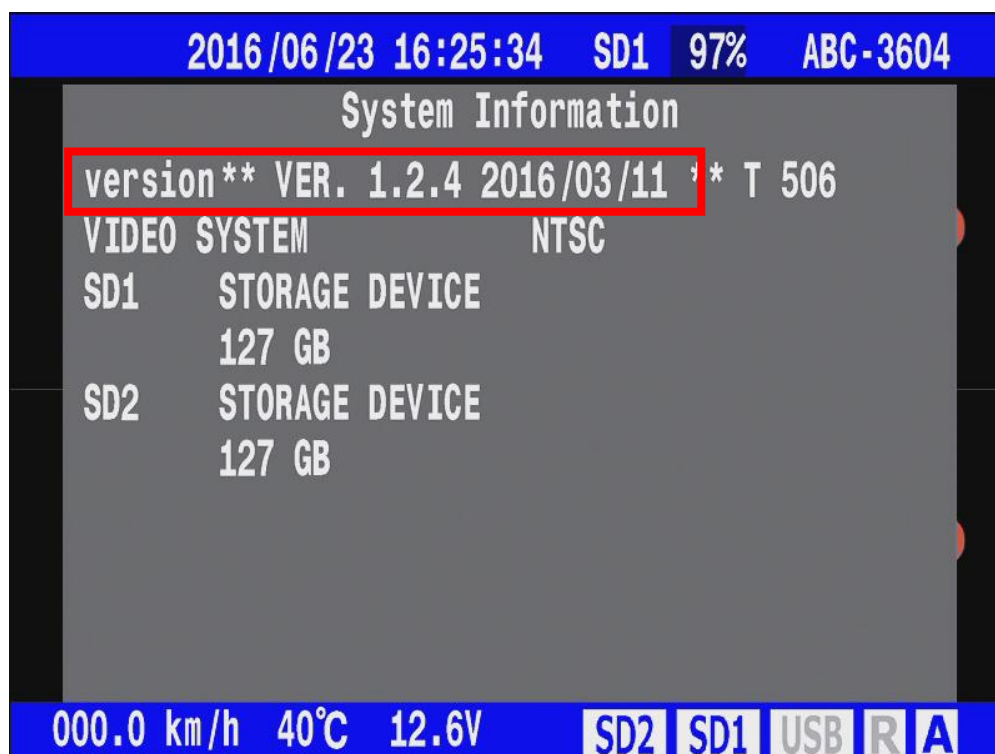


Note: Before firmware upgrade had finish, please do not take out the removable USB drive.

● Query Firmware version and system information:

On Real-time monitor mode, press up button (⏵) of Remote controller to call System info page.

The System information page would shows the Firmware version 、 The capacity of a hard disk drive 、 Ethernet MAC and information.

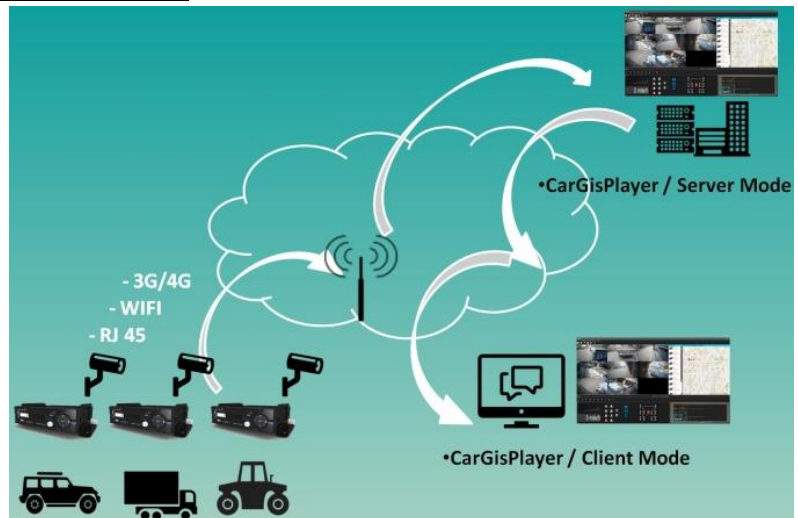


6. Cargisplayer introduction

6.1 Overview

- (1) PC for Server mode – Main management center
- (2) Laptop or additional PC for Client mode if user needs.
- (3) Set up MDVR forward data to VMS Server.

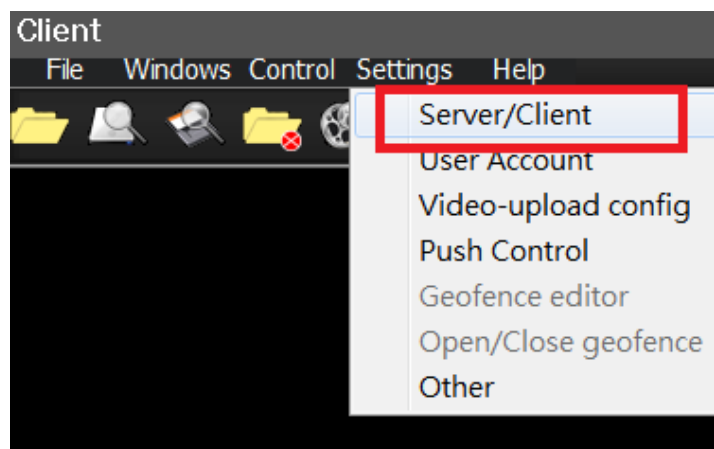
*Download CarGisPlayer from CD.



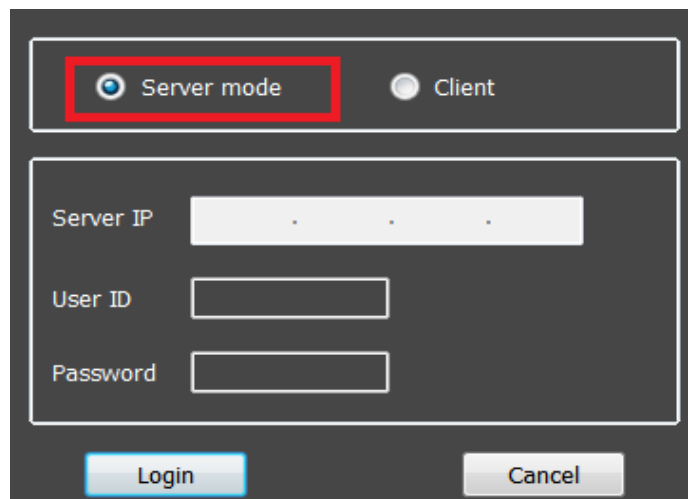
6.2 position

6.2.1 Server mode setup

- (1) Select “Settings” → “Server/client”.

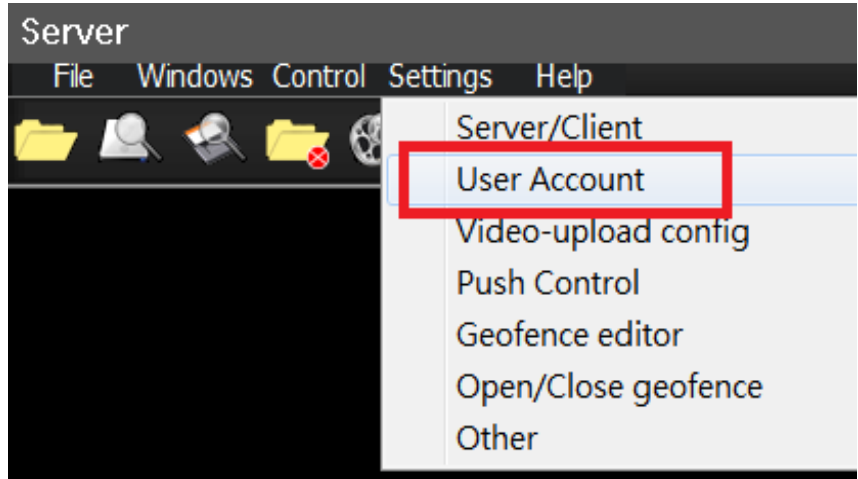


- (2) Select “Server Mode” , then click “Login”.

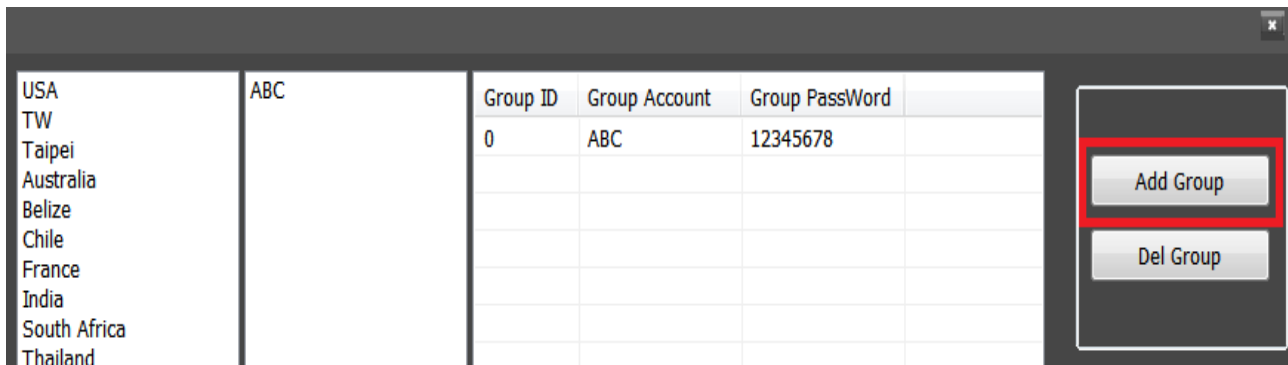


(3) Select "settings" → "User account" → "Add GROUP", create new account.
(same with MDVR settings)

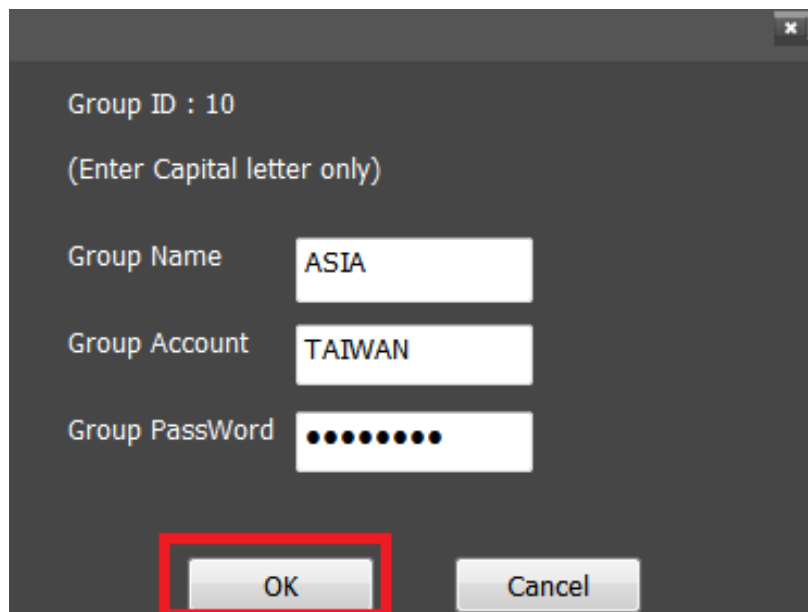
Step1. Select " User Account "



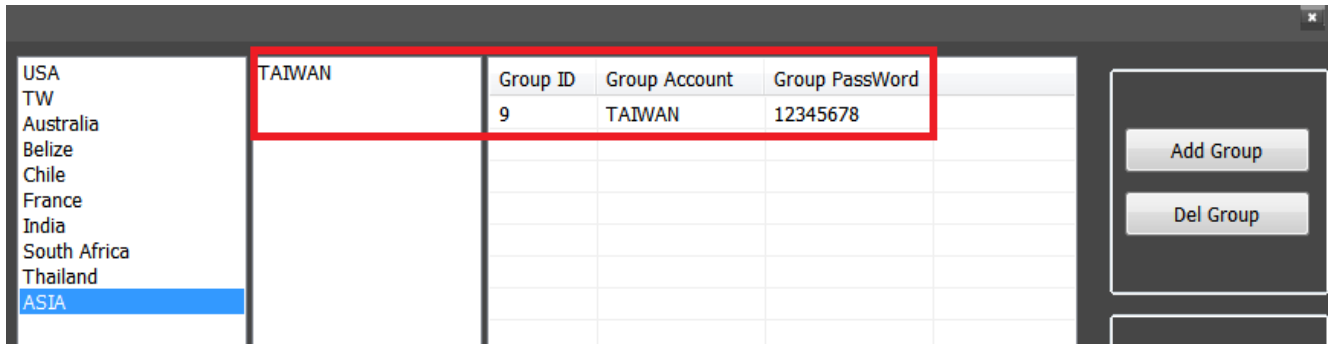
Step2. Click " Add Group "



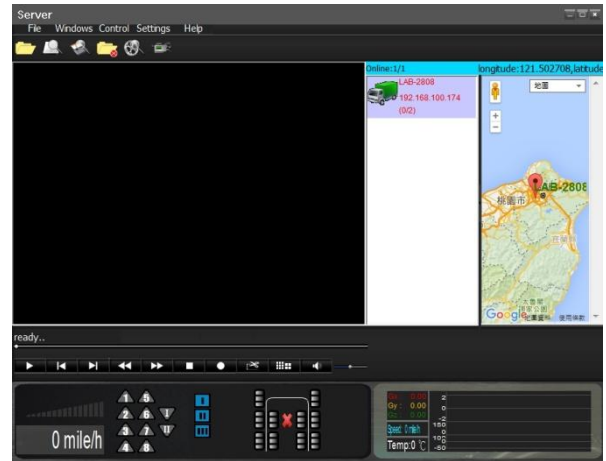
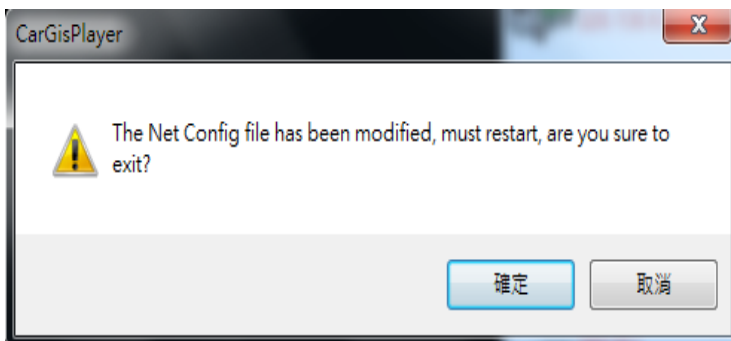
Step3. Create Account.



Step4. Check settings.

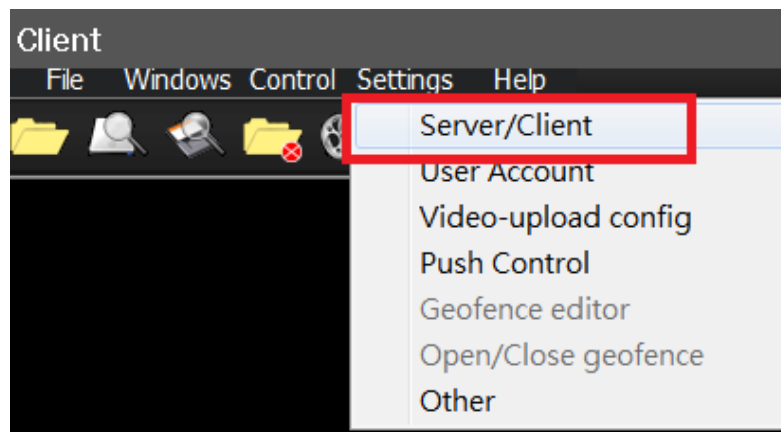


(4) Restart AP.

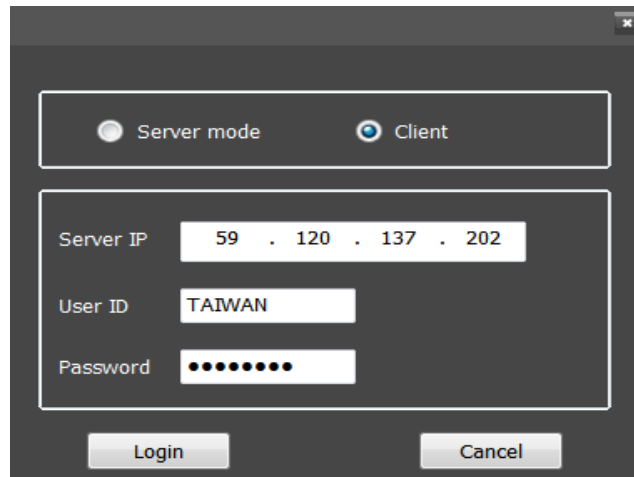


6.2.2 Client mode setup

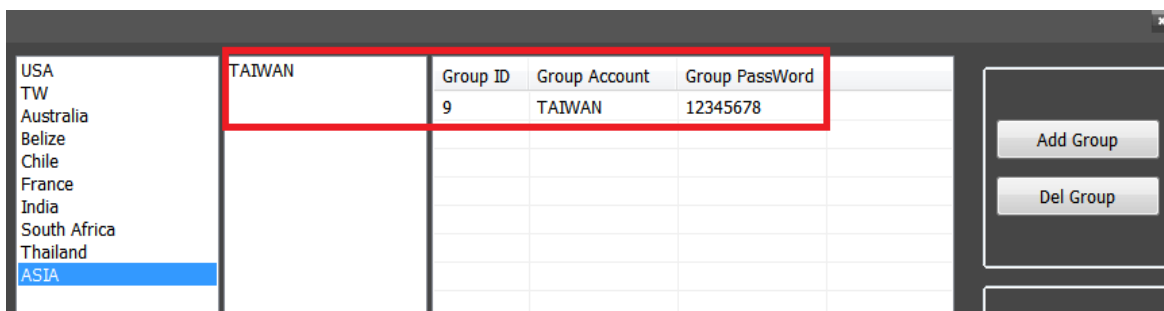
(1) Select "Settings" → "Server/client".



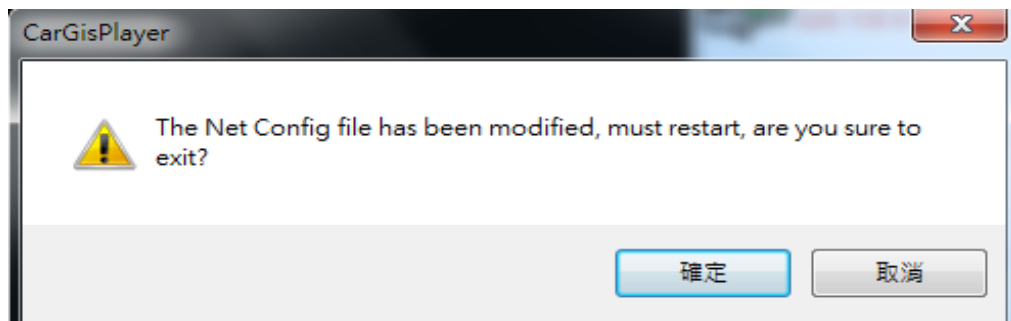
(2) Select "Client Mode" → input "Sever IP", "User ID" and "Password" then "Login"
These information have to check above Server mode (3) Step 4



Example for Server mode (3) Step 4

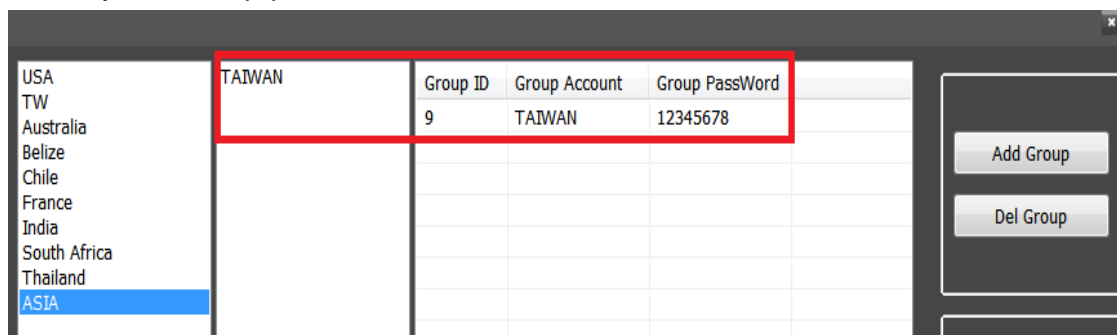


(4) Restart AP.



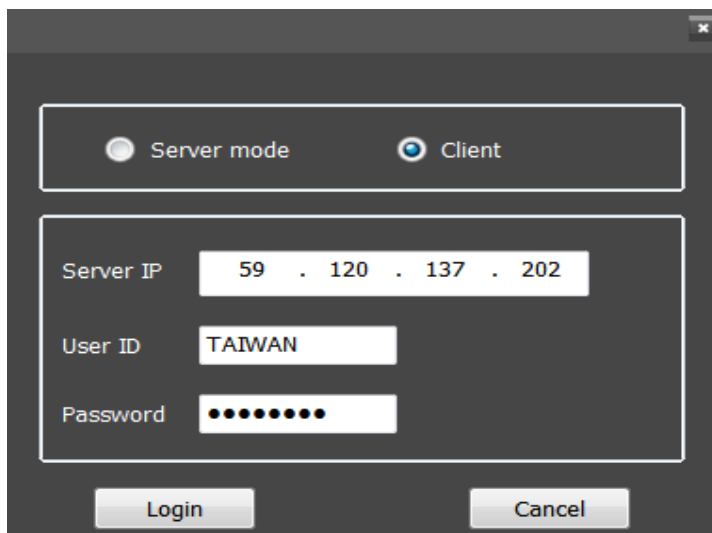
(1) Check account parameter :

In sever mode , Select “settings” → “User account” ,select Specified group.
Remember your Group parameter.

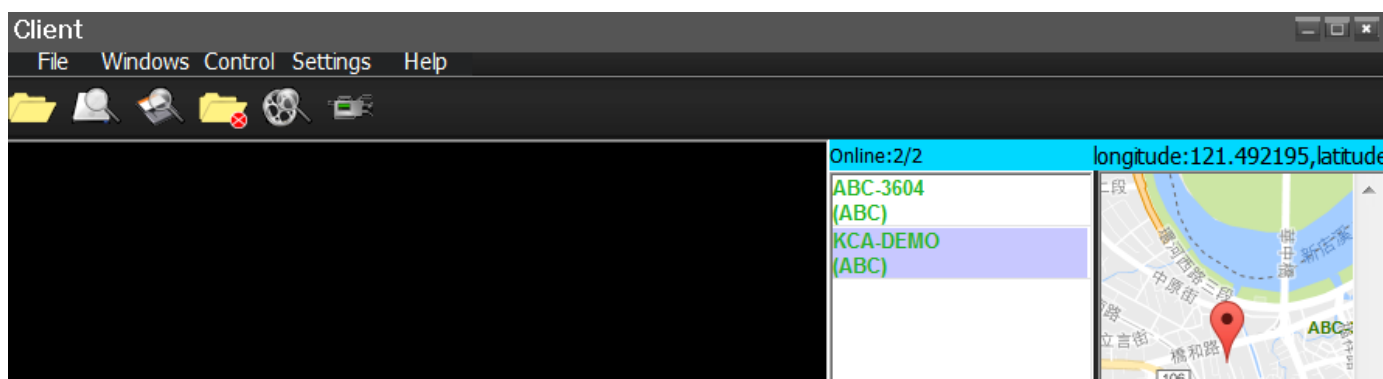
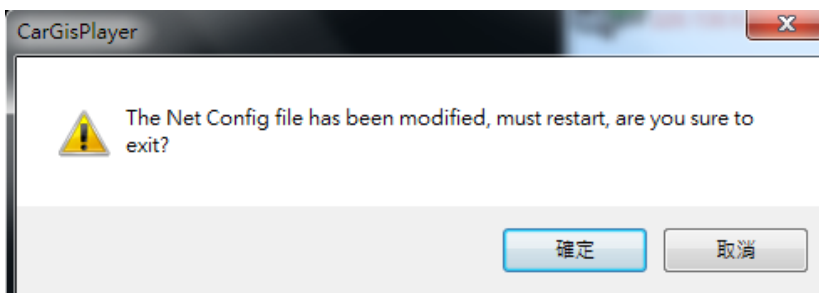


(2) Setup account parameter :

Select "Client Mode", input "Sever IP", "User ID" and "Password"
(same with MDVR settings and "Specified group settings by server)
, then click "Login".



(3) Restart AP.



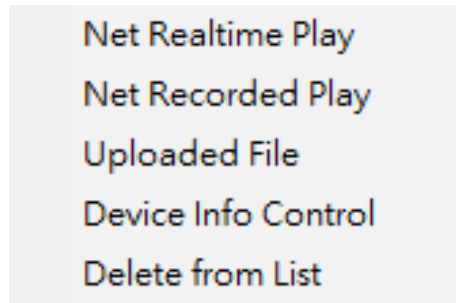
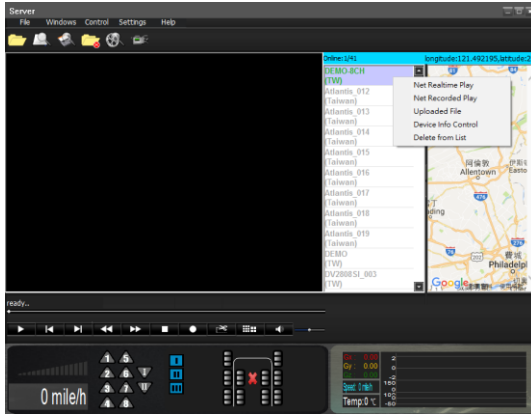
Important Notice

Package protocol use often involves difficulties in the networks with firewalls and NAT.
Before the VMS start work, please check the port was opened on the firewall as below:

PORT : 1200~1210, 2200~2210, 3300~3310.

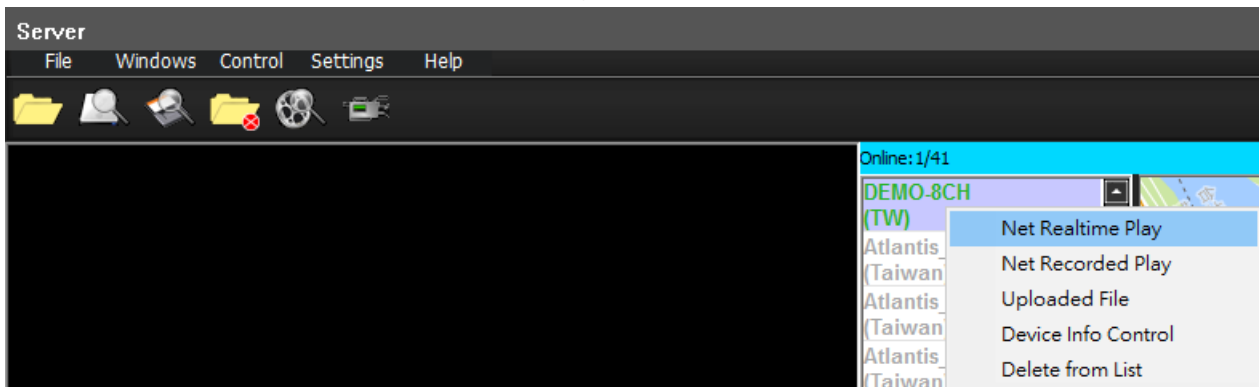
6.3 Net recording operation

After MDVR online, move array to Car ID and click right on MDVR List To process (Net Realtime Play, Net Recorded Play, Upload File, Device Info Control, Delete from List) Server can remote process the vehicle infomation.

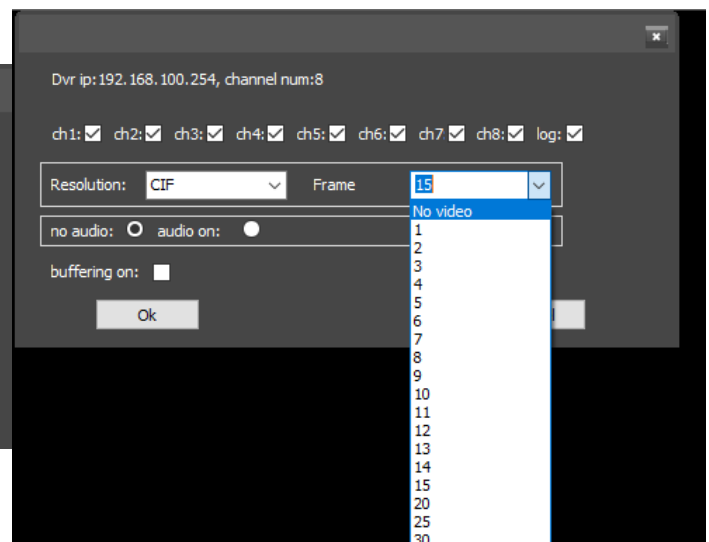
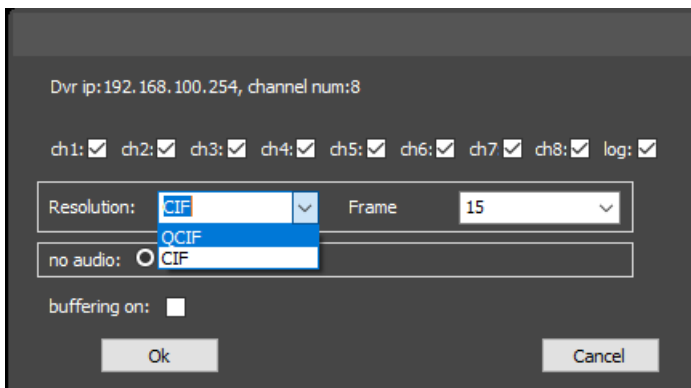


6.3.1 Net Realtime Play

Execute Net Realtime Play, system can get live video and sensor parameters.

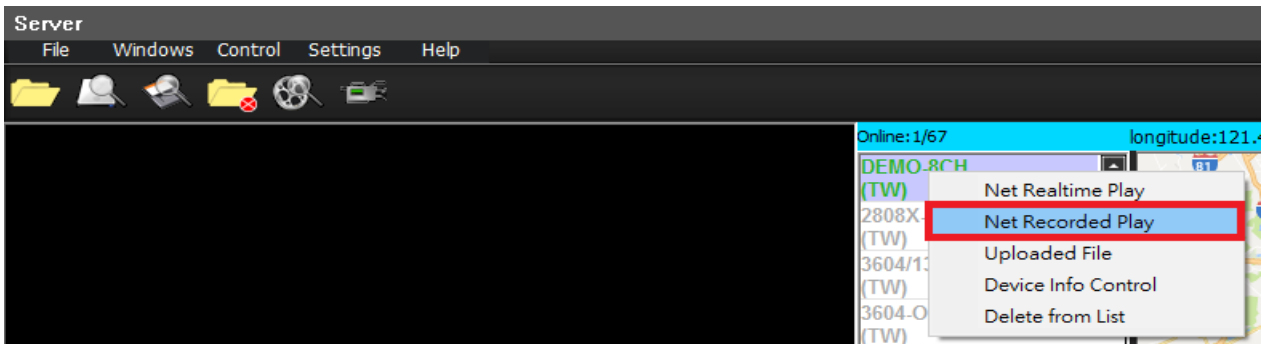


- For different network bandwidth environments, user can set different resolution to keep the smooth realtime display.

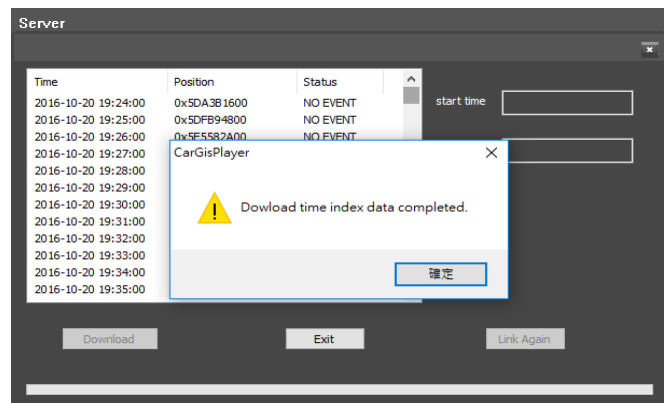
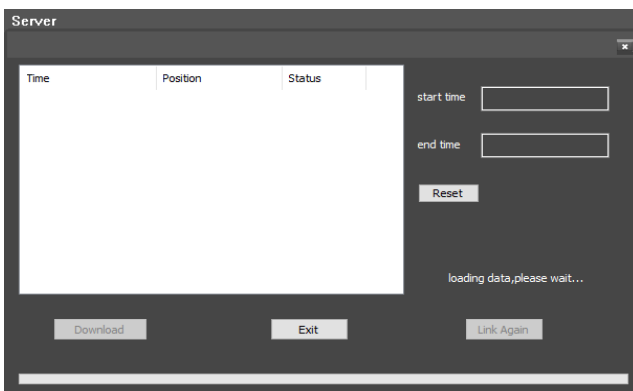


6.3.2 Net Recorded Play

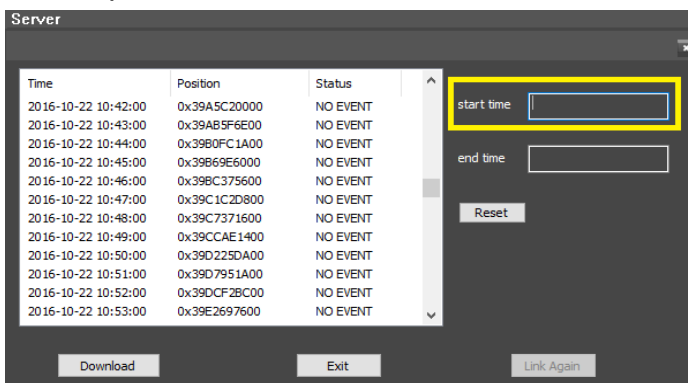
The system supports remote backup, user can remote download the section of video through RJ45, WIFI 3G/4G Network.



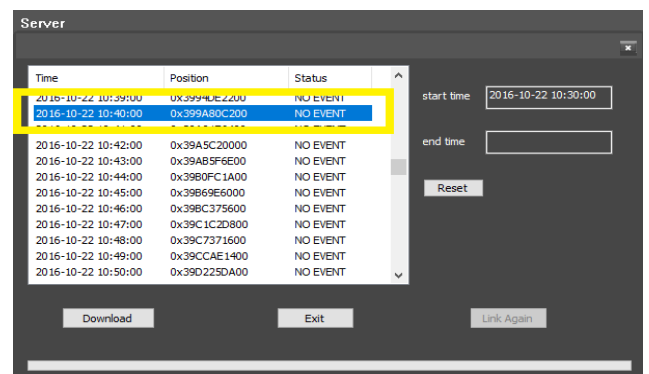
Step 1. After click Net Recorded Play, apply the notification message.



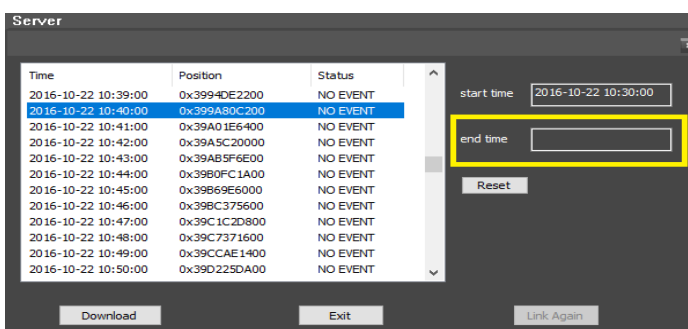
Step2. Click start time frame first.



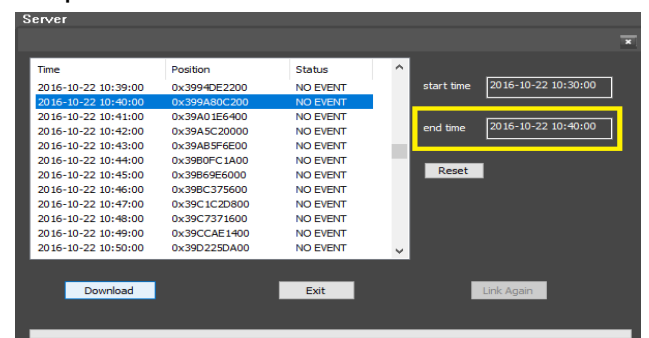
Step3. Select start time on left frame.



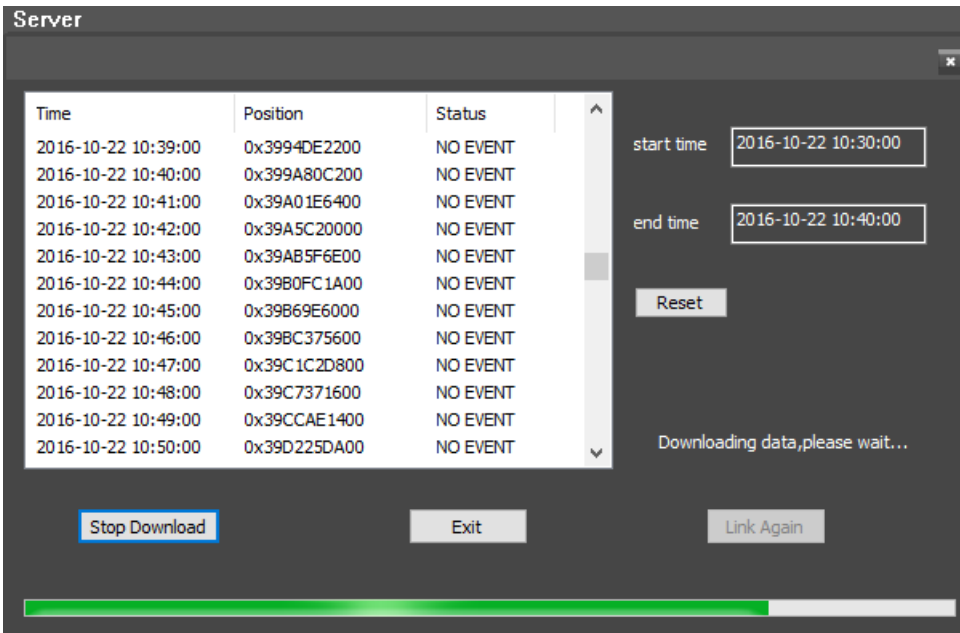
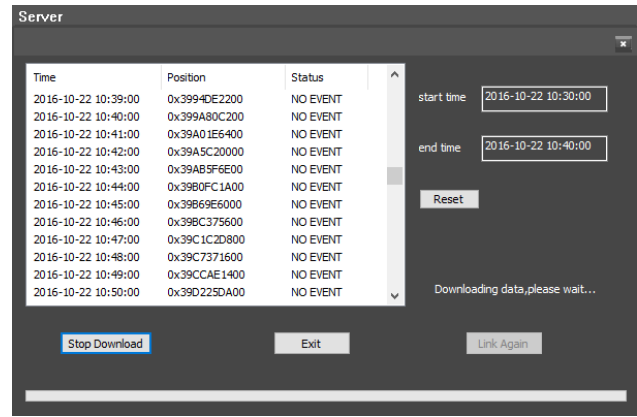
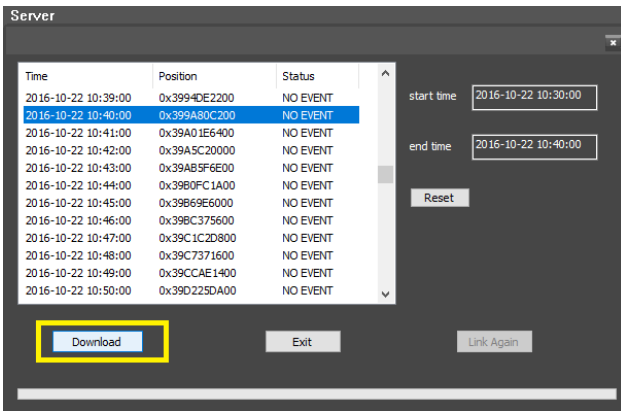
Step4. Click end time frame first.



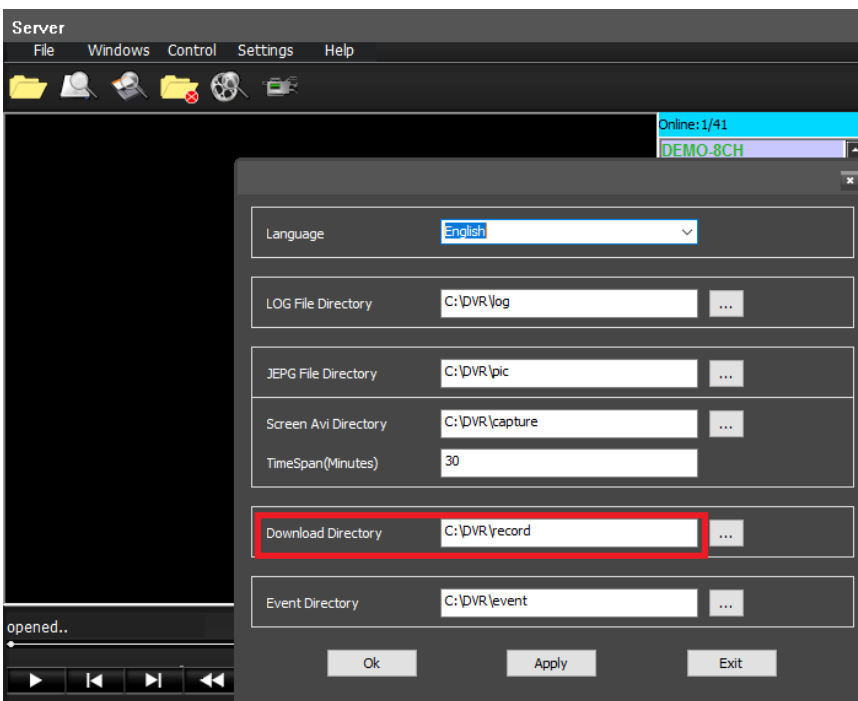
Step5. Select end time on left frame.



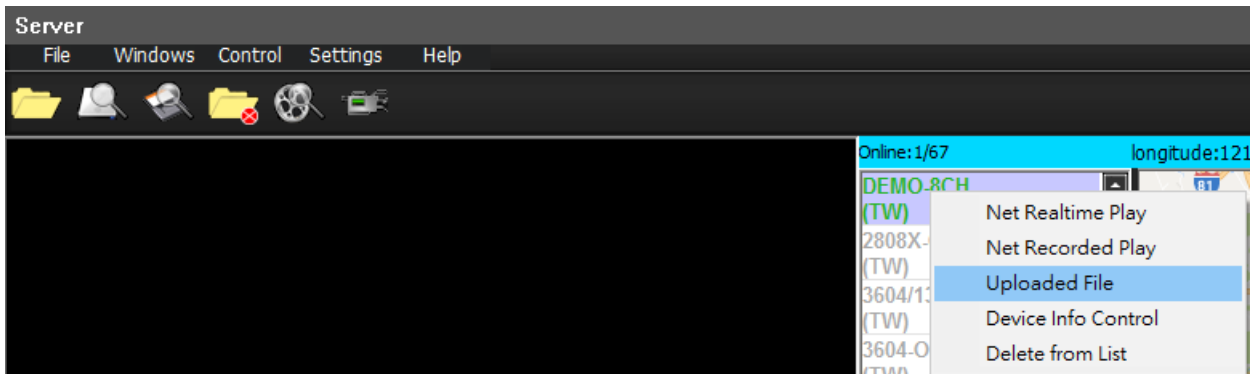
Step6. Click Download button.



- Enter Setting/Other/ Download Directory then check path of download file.



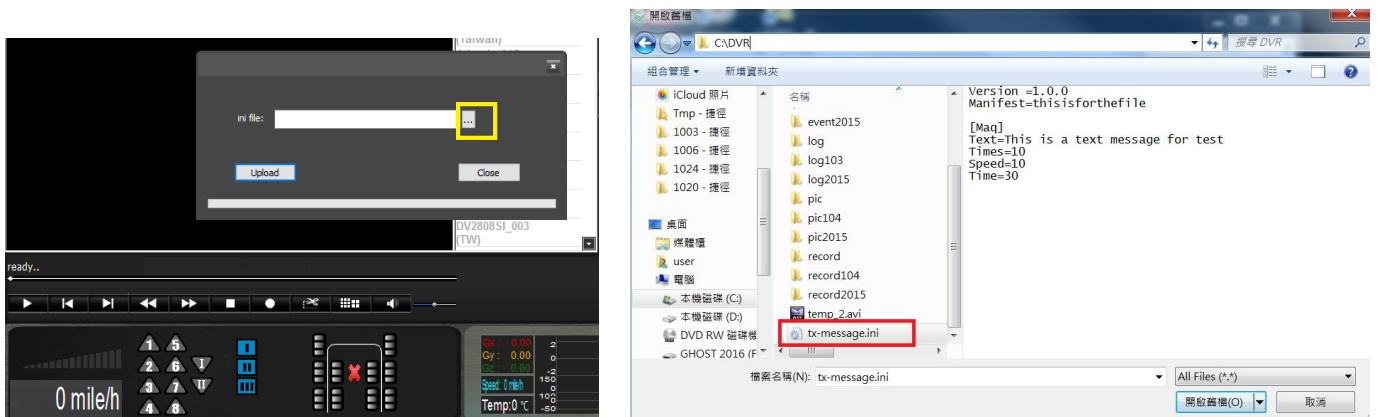
6.3.3 Uploaded File



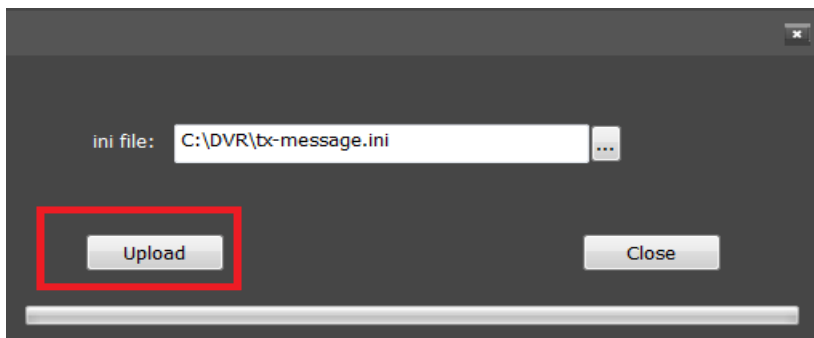
Step1. Edit ini file (tx-message.ini) then entry your message on Text row (Text =xxxx).



Step2. Click ini file then assign file (tx-message.ini).

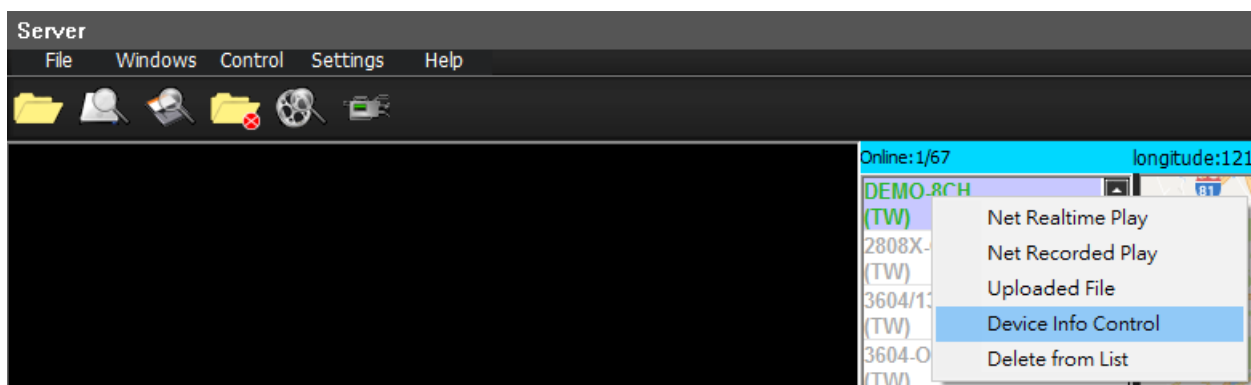


Step3. Press Upload button to send message.

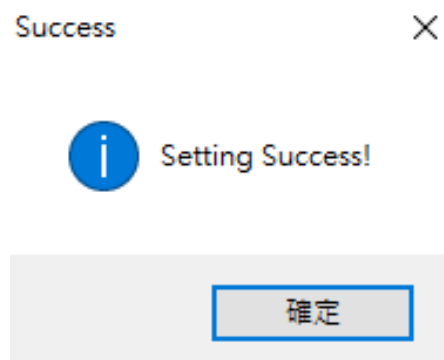
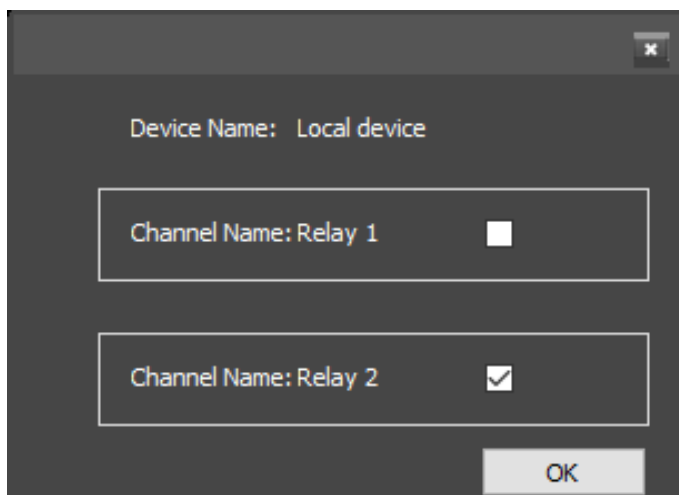


6.3.4 Device Info Control

MDVR support 2 devices relay out, execute Device Info Control item that would work.

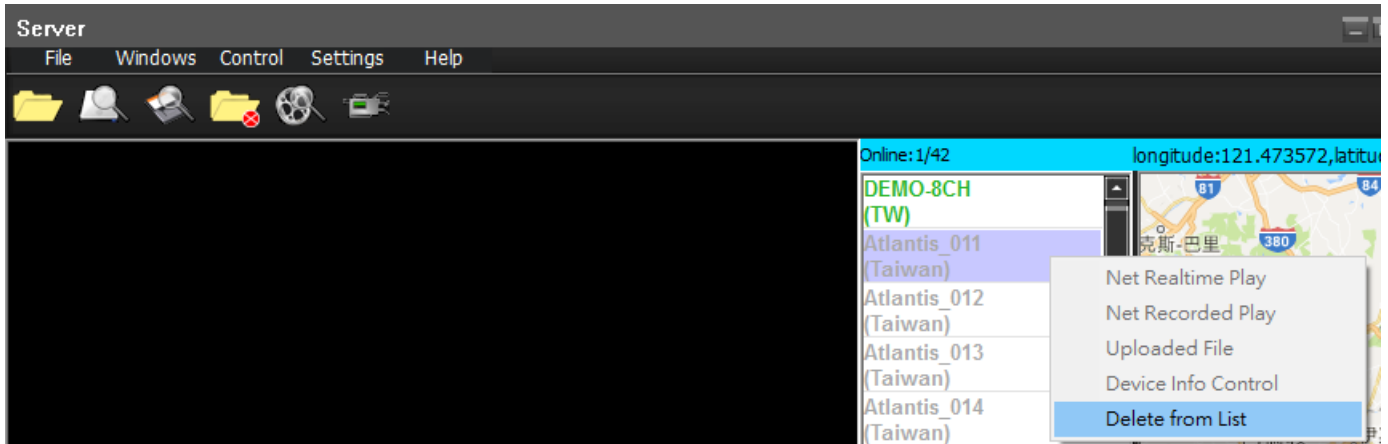


- Select Relay 1/2 then click OK.

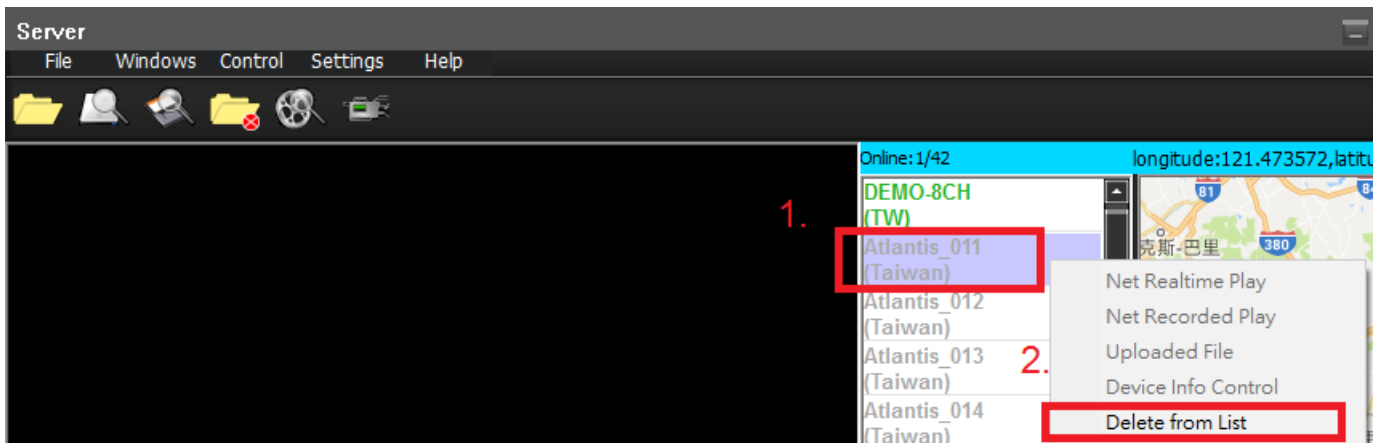


6.3.5 Delete from List

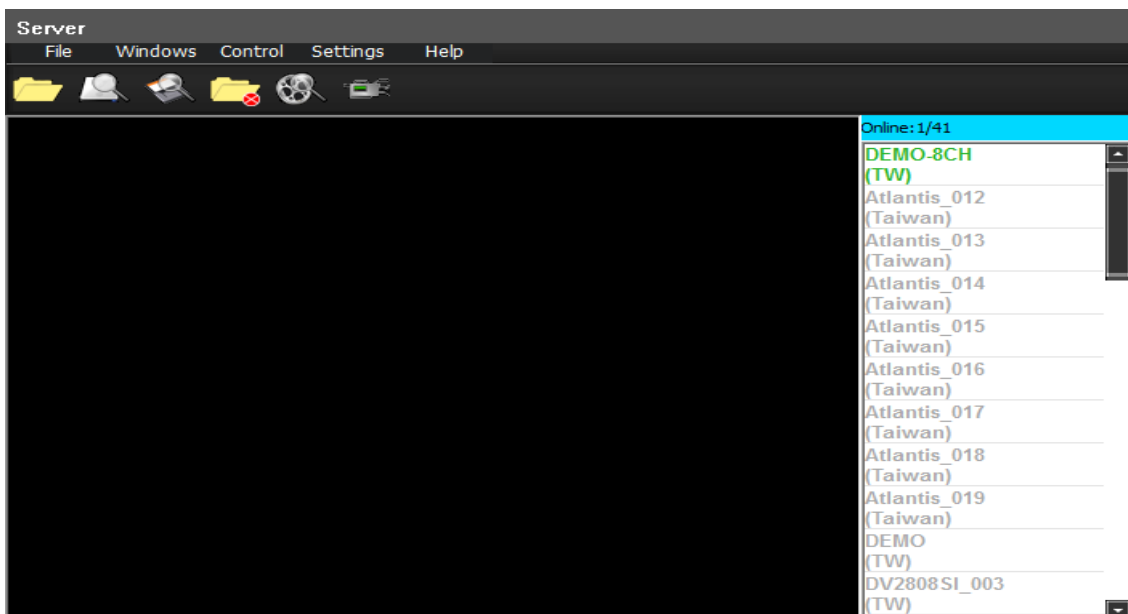
System would save the historical Car ID on Online list, user can delete the log via this command.



Step1. Select Car ID then click right.



Step2. Click Delete from List to remove Car ID on Online list

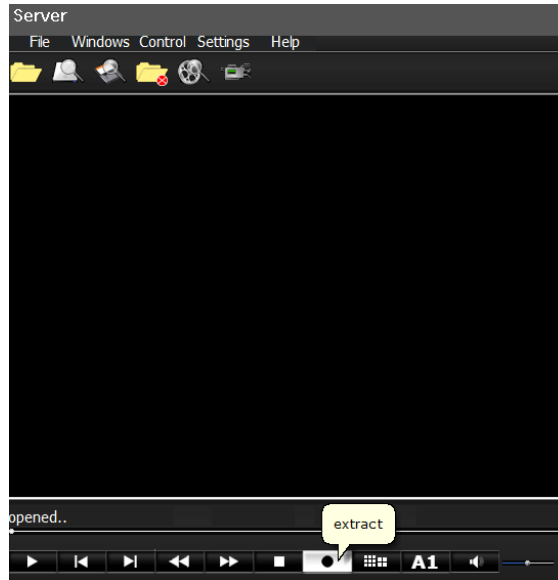


6.4 Features

6.4.1 Video converter to AVI

On playback mode, system provides video backup and converter to avi format on PC.

Step1. Select **extract**.



Step2. Set parameter.

(1) Start time / end time

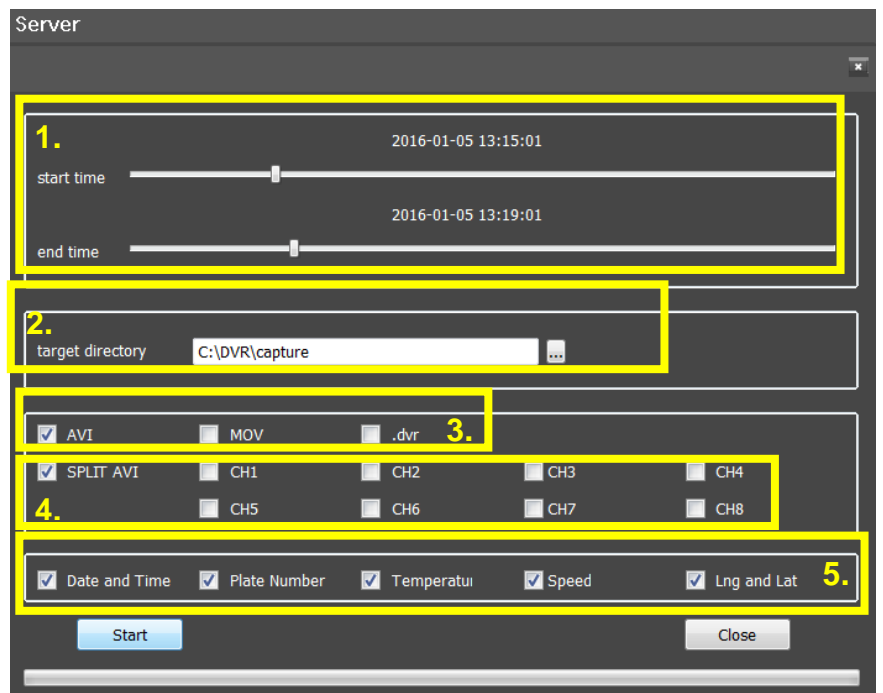
(2) Select path with target directory.

(3) Select output format to AVI / MOV / .dvr

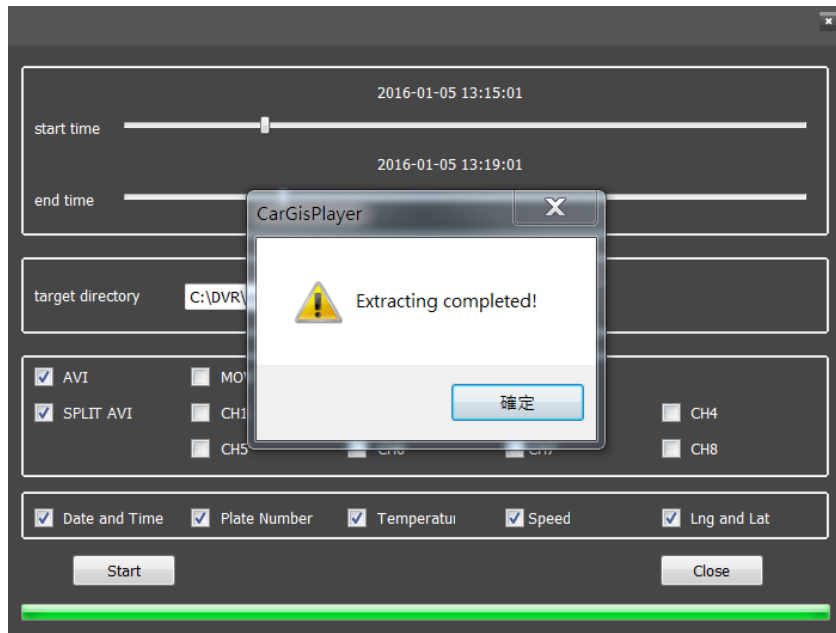
(4) Select extracted camera (Channel).

- For AVI format you can chose SPLIT mode (all in one screen).

(5) Select drive parameter.



Step3. Click **Start** to extract.



● Play the output files –

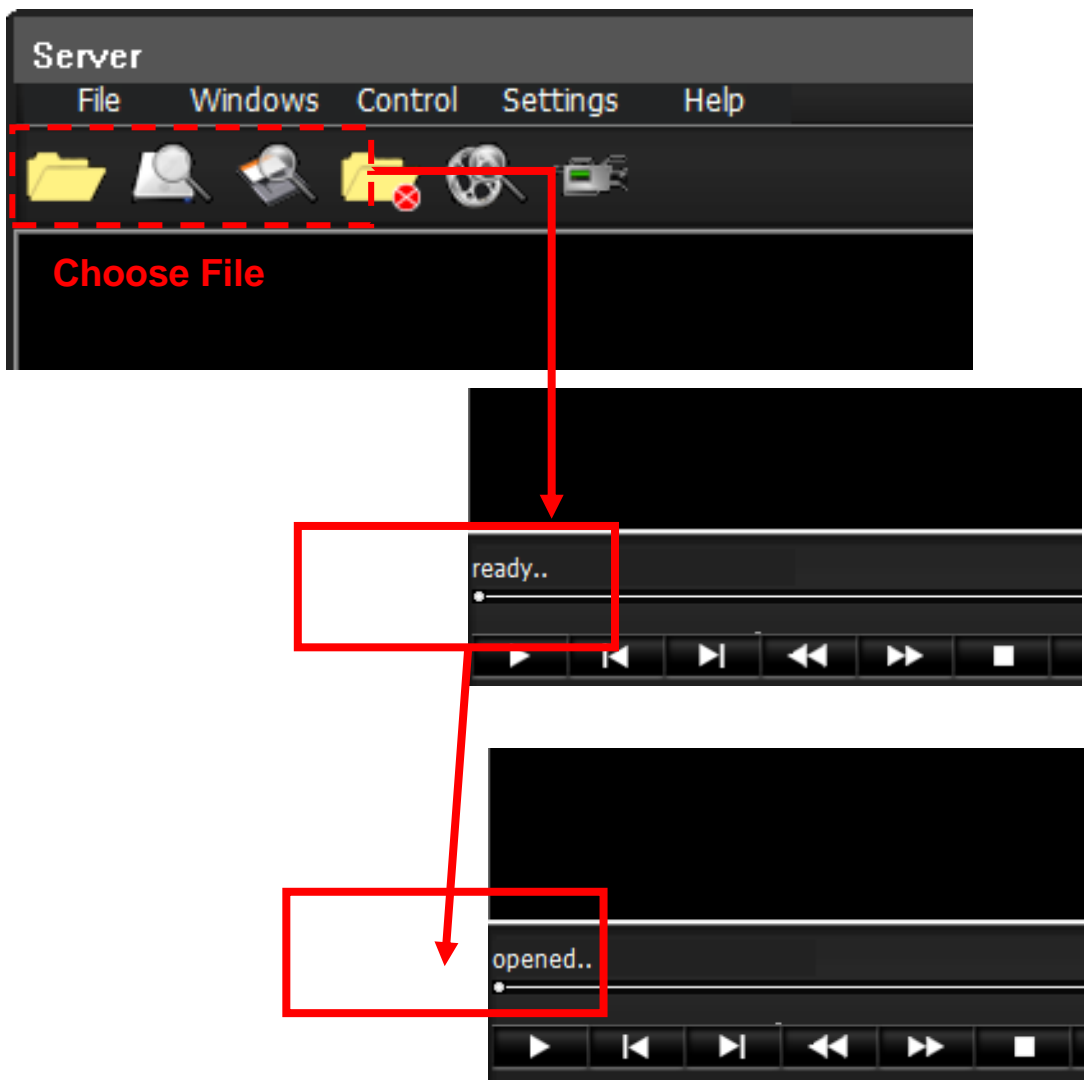
Attached info – Date and Time

6.3.6 Draw the path

This function provides users to see the route for vehicle, use the time interval for viewing, reference HDD, SD, File three sources of information, to view the historical path.

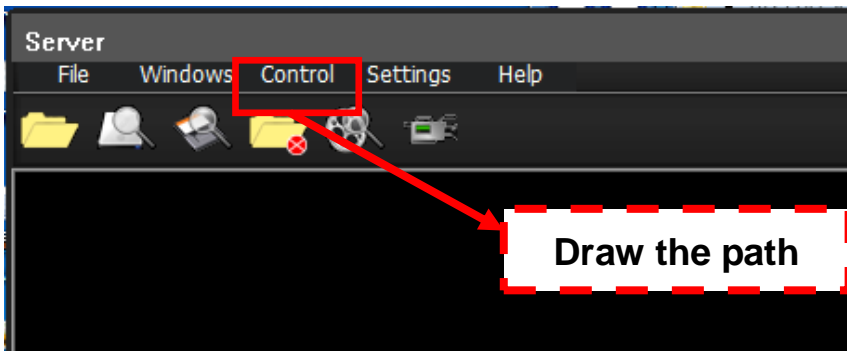
Setp1.

Select the file source (file, HDD, SD), if program read file success, then status will from [ready...] after to [opened...].



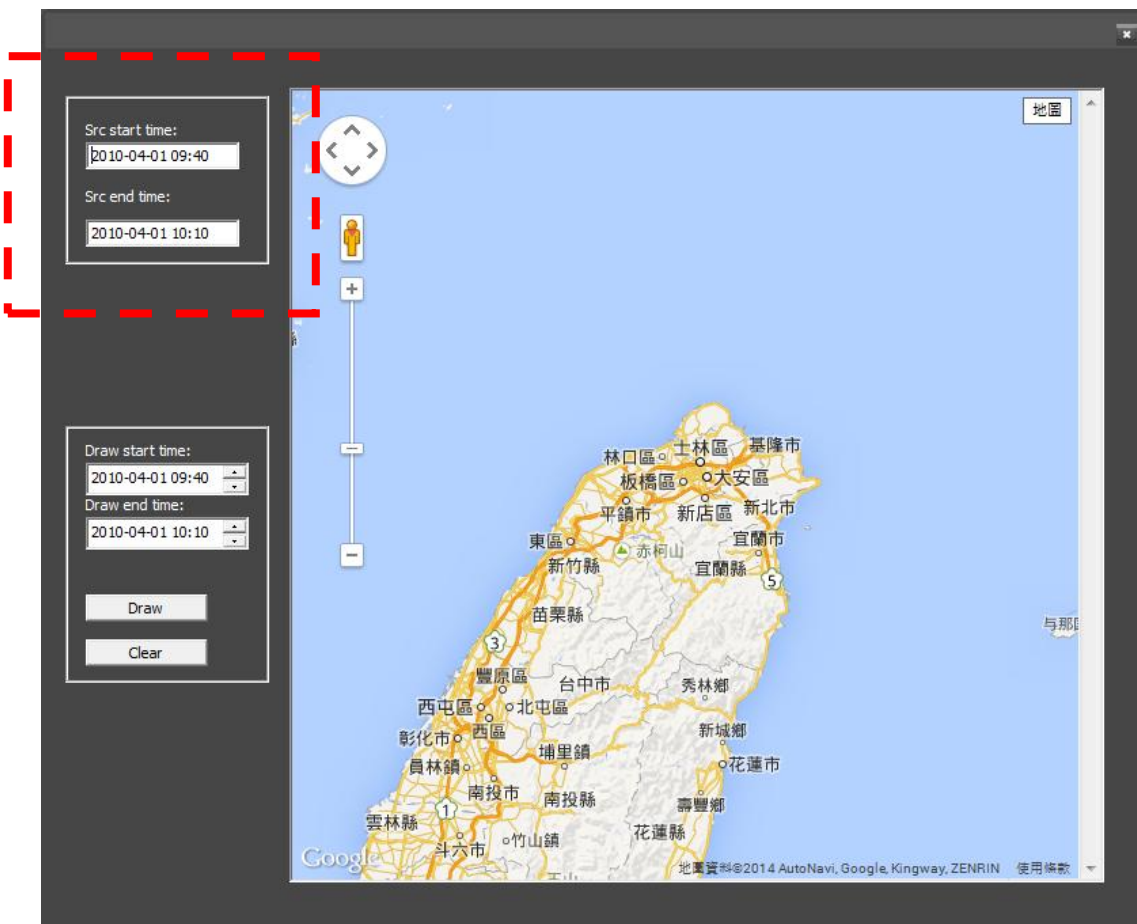
Step2.

Select tab Bar [Control] -> [Draw the path]



Step3.

Then it will pop out a window like below

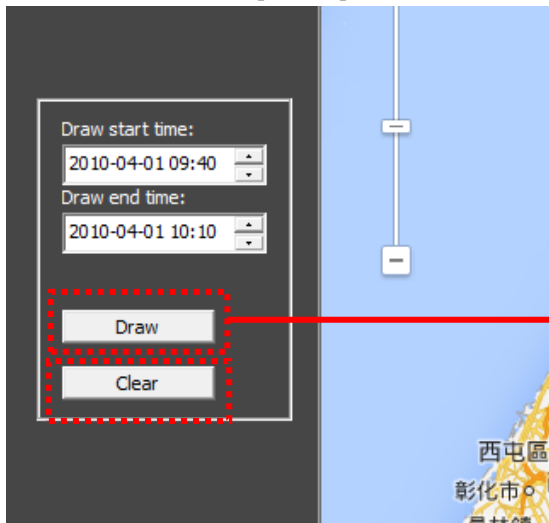


[Src start time] is mean video start time

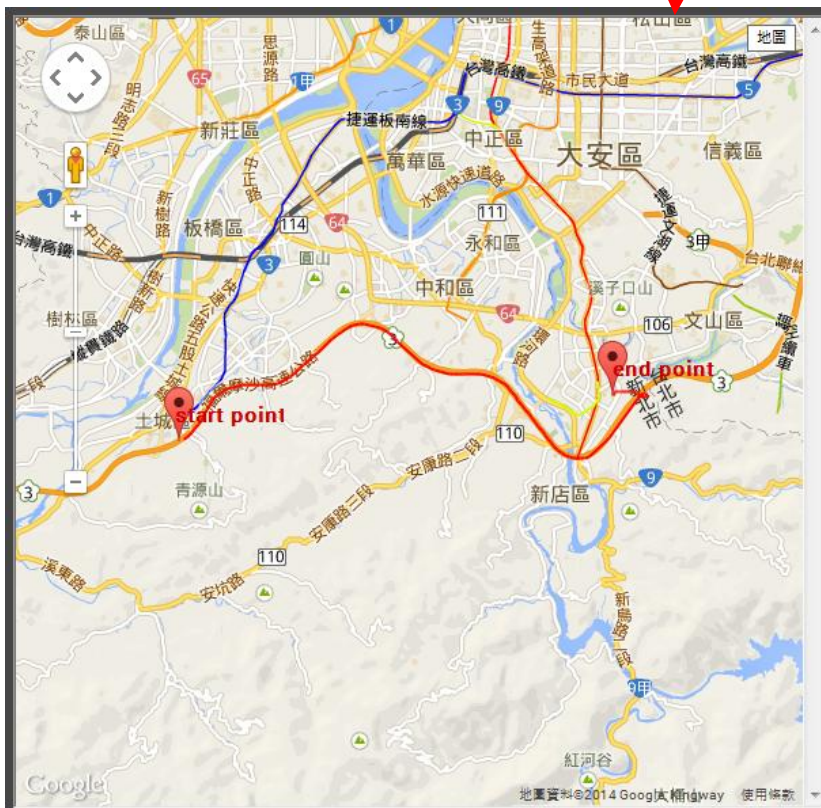
[Src end time] is mean video end time

Step4.

User can refer src start time and end time to define the section how long you want to show on map. Then click button [Draw].



User can see the start point and end point



※ Note:

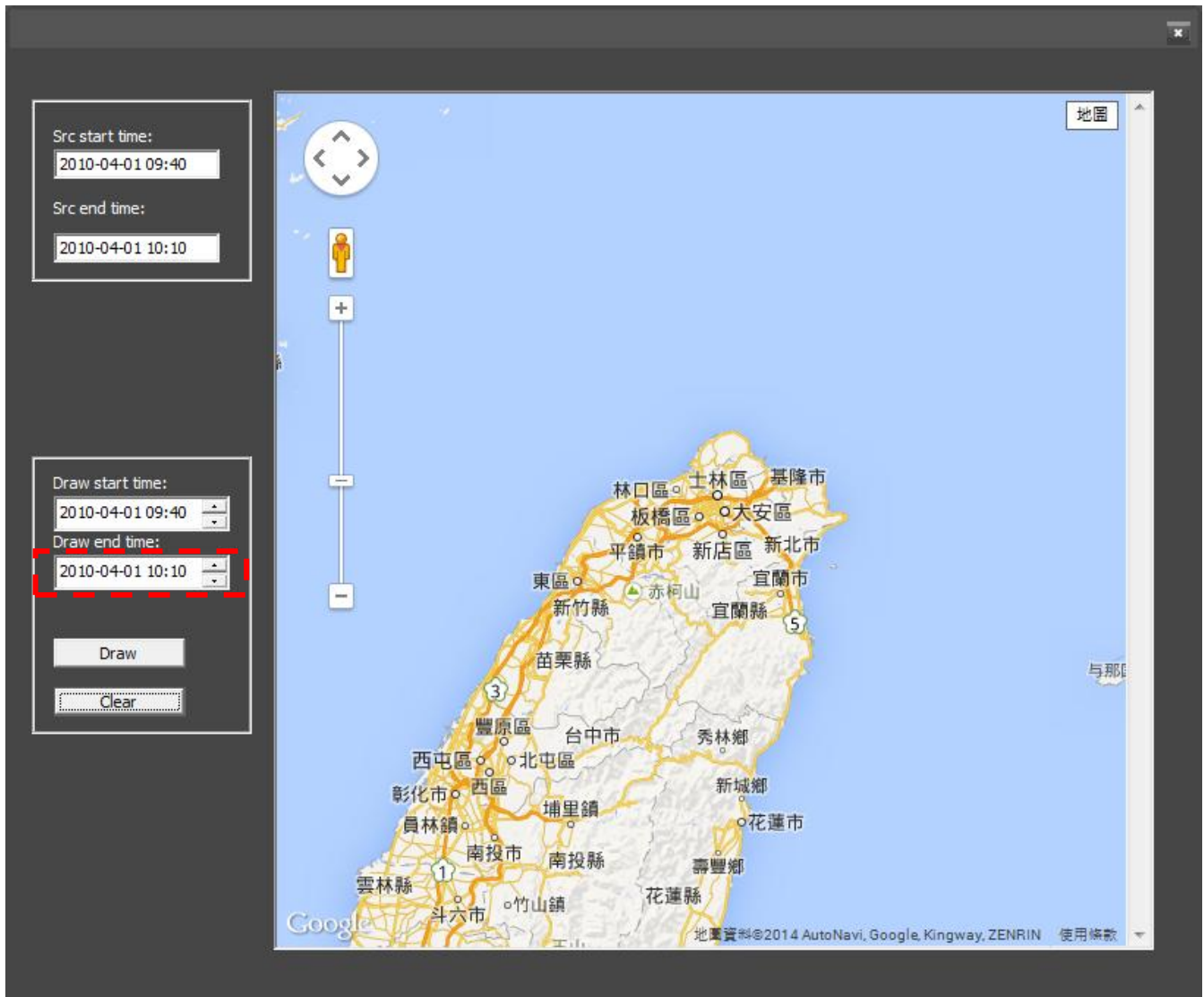
In the HDD or SD sources, if the selected time less than one hour, the information of route will support the GPS data each 5 seconds. If more than one hour, the information of route will support the GPS data each 10 seconds.

But in the File source, only support the GPS data each 5 seconds.

Step5.

If user want to clean the route ,just click button [clear]

The map will reset to original status.



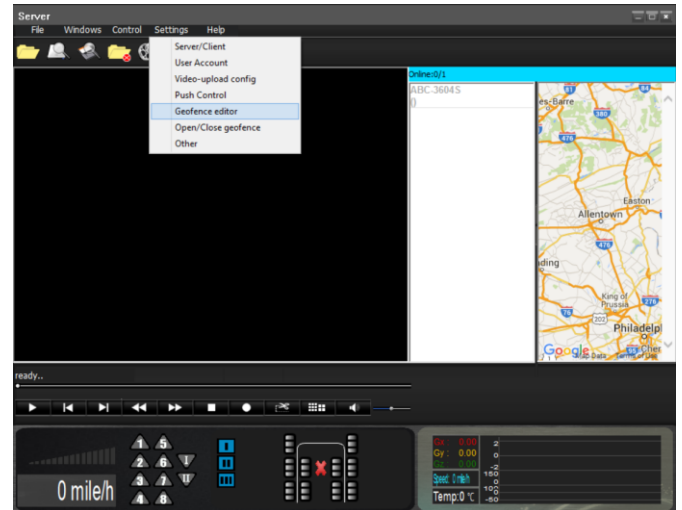
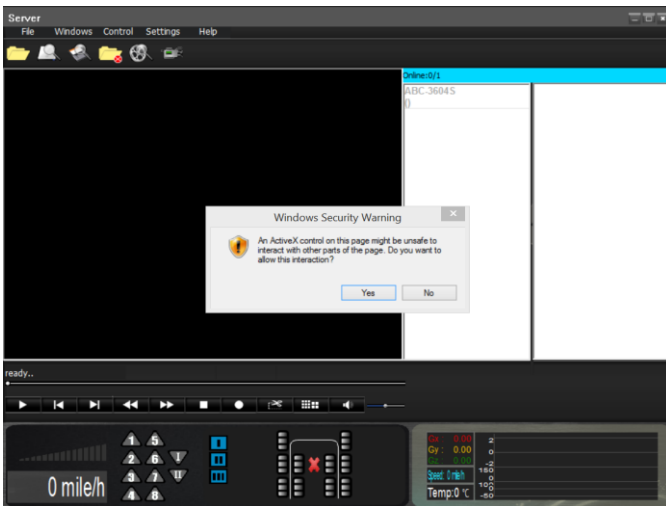
6.3.7 Geofence

Before using the geofence feature, please check ActiveX component already has enabled.

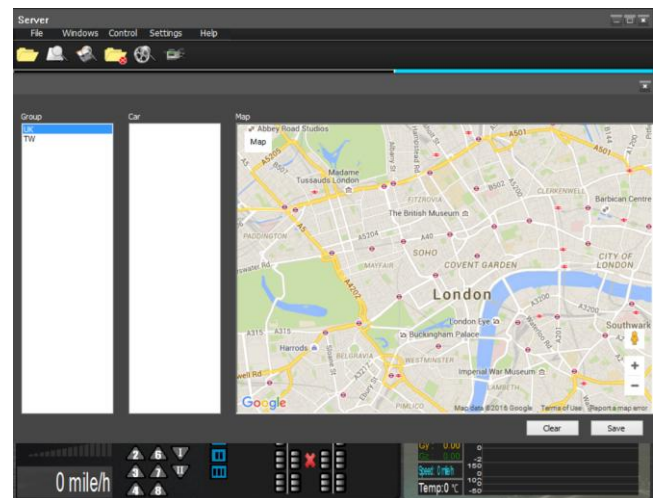
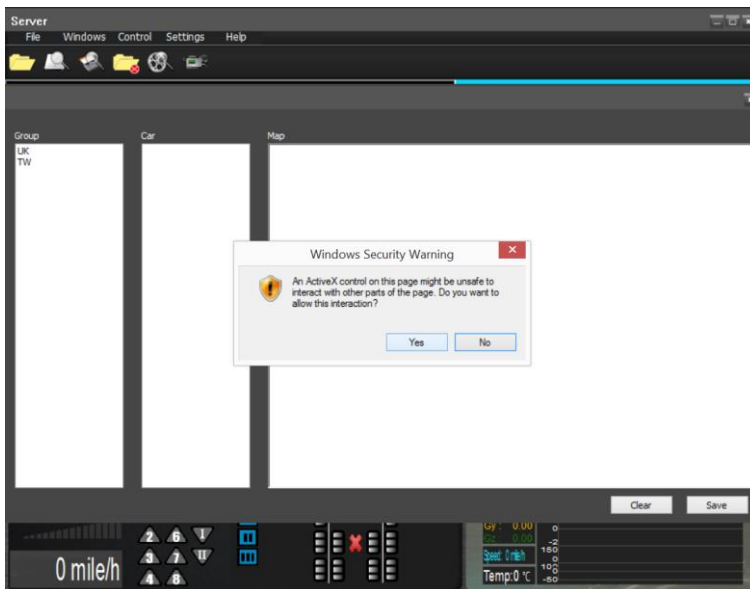
1. Select Settings /Geofence Editor on Server mode.
2. Setup Geofence:

* Select Yes to allow Activex control component.

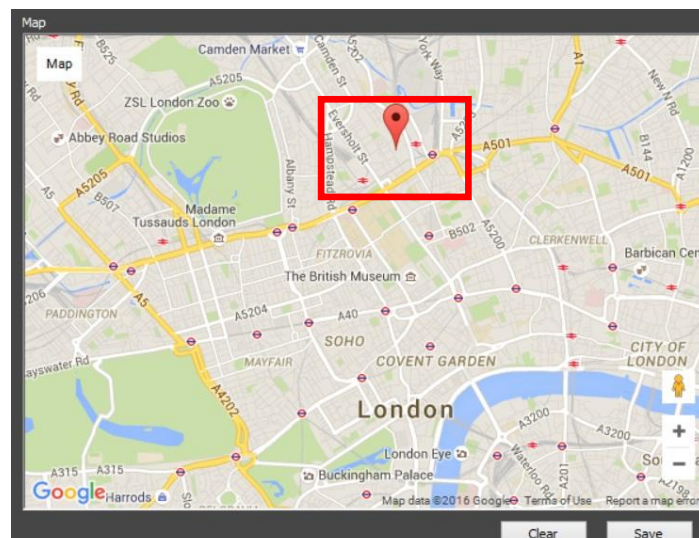
* Select Geofence editor.



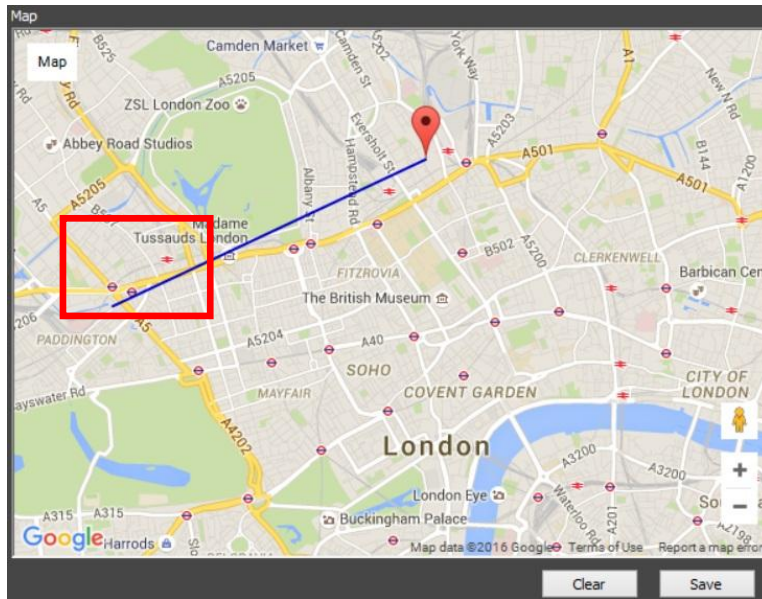
* Select Yes



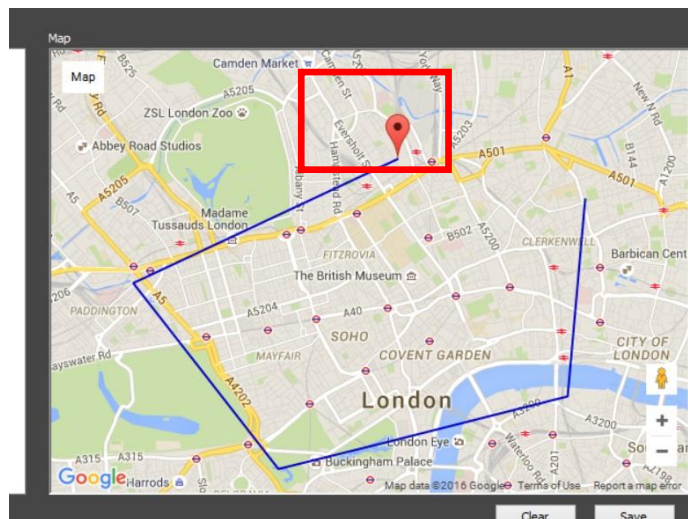
* Move your mouse to selected point then click left mouse.



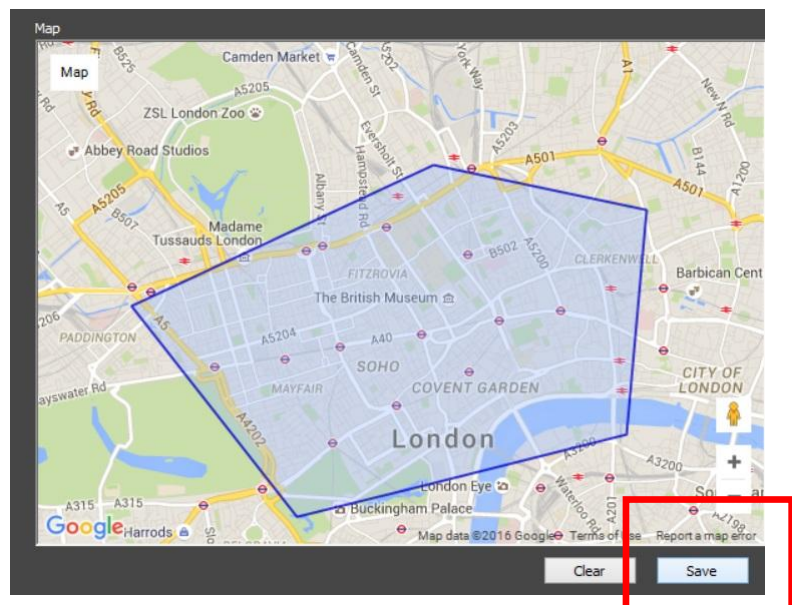
* Move your mouse to second selected point then click left mouse.



* Double click red point to close the fence.

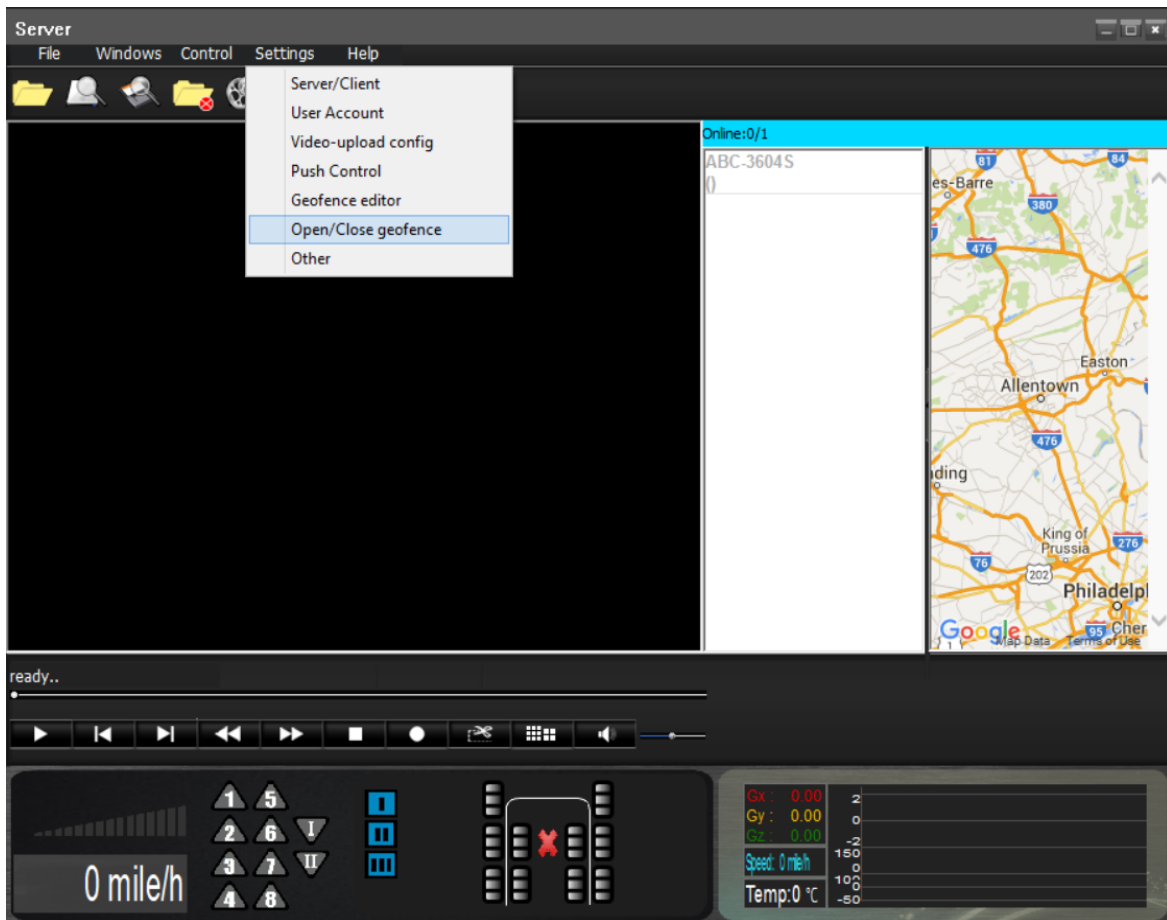


* Select Save



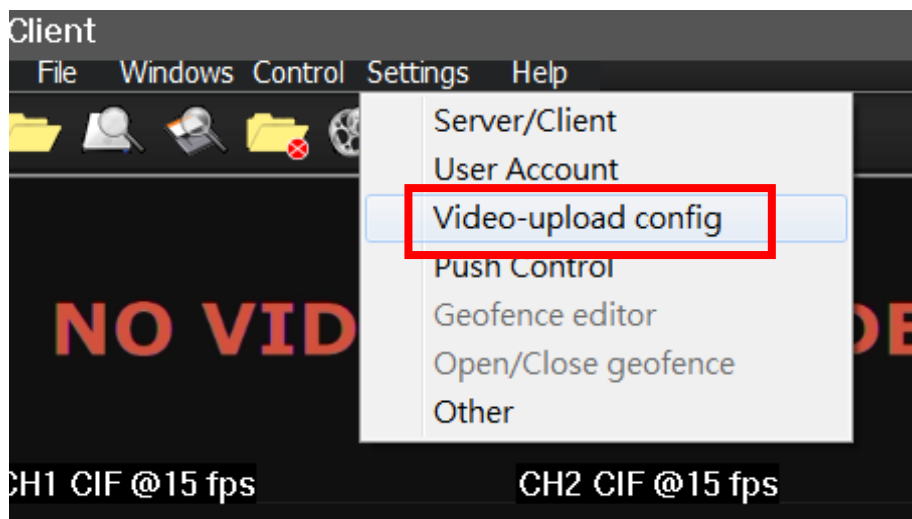
3. Enable Geofence function :

* Click Settings/ Open/Close geofence item to turn on function.

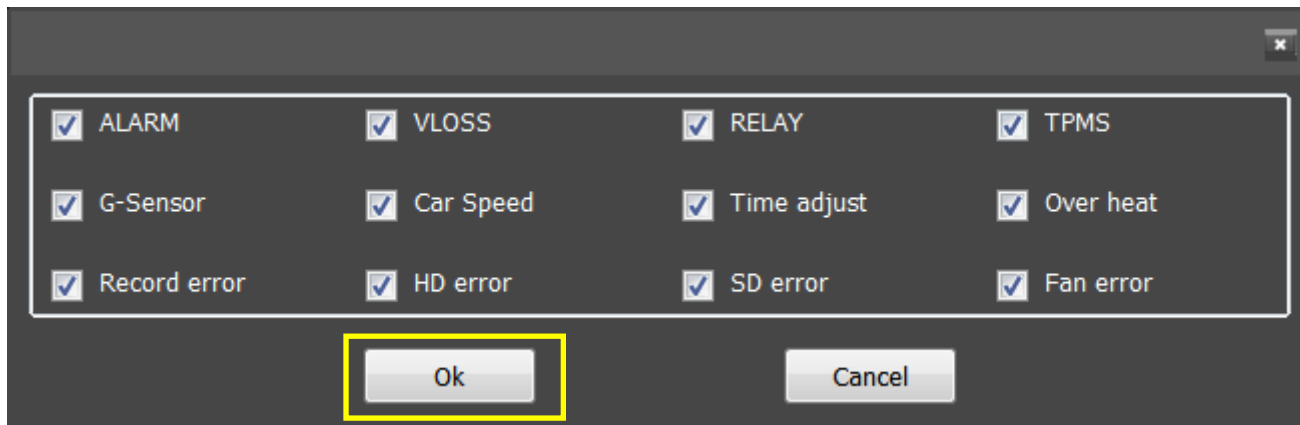


6.4.4 Push alarm settings

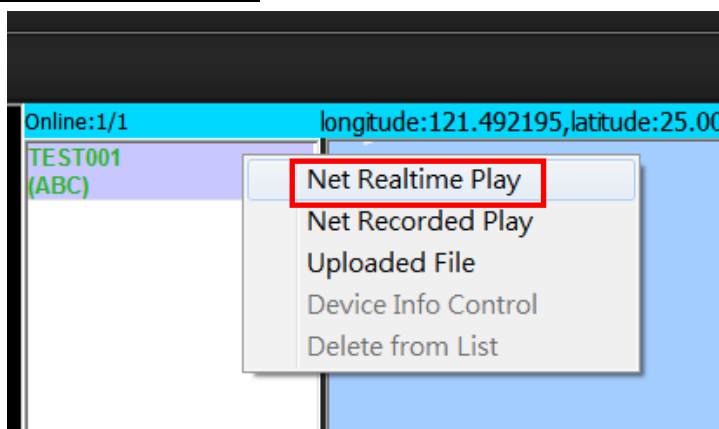
Step1. Select Settings / Video-upload config



Step2. Click you want receives alarm type.



Step3. Access selected Car ID and Click **Net Realtime Play** on online list.

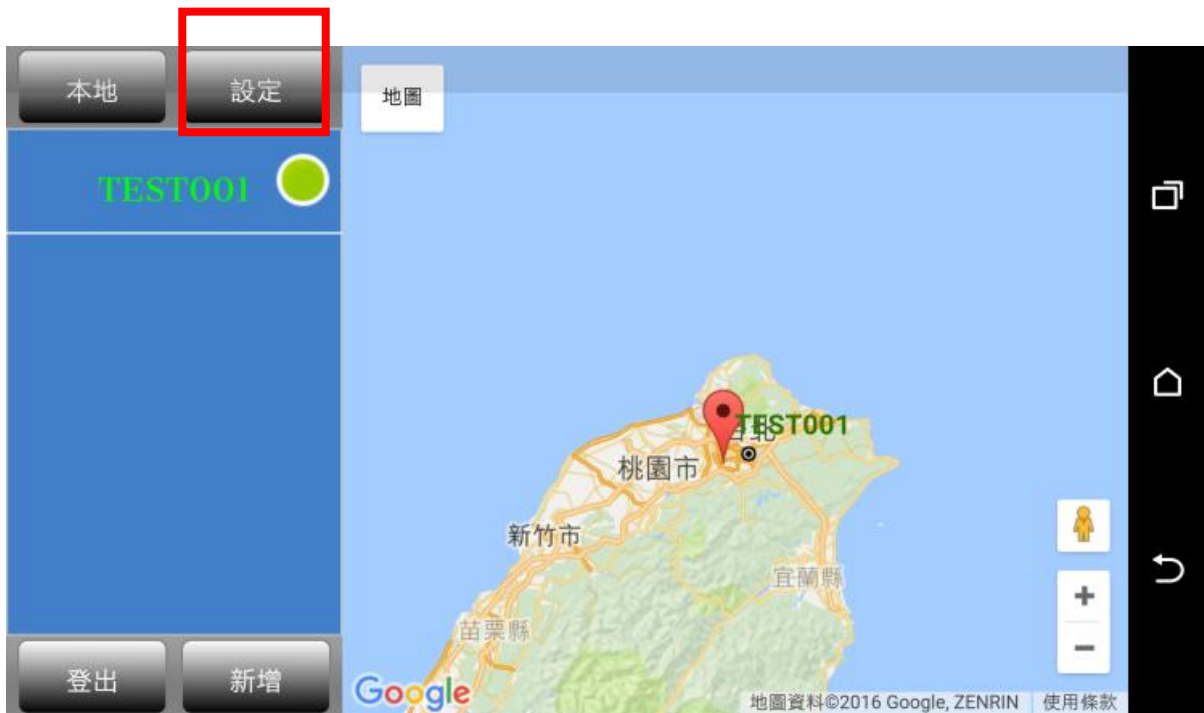


- Alarm had been triggered: Alarm Icon had become Red.

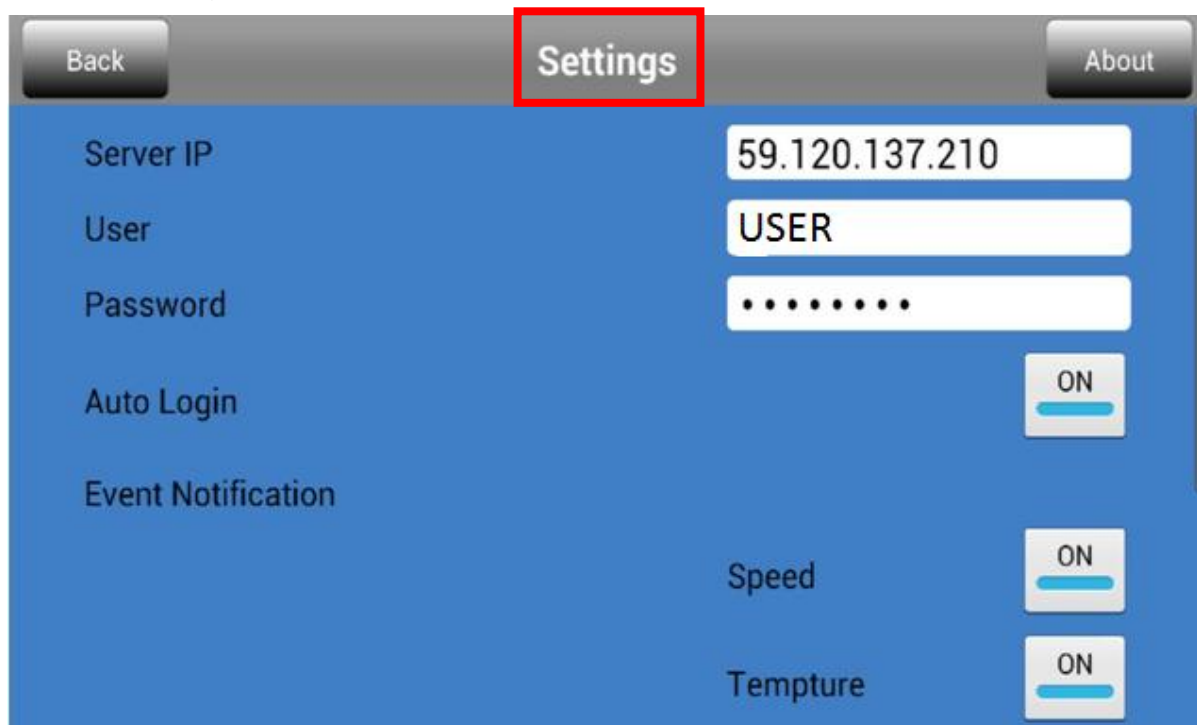


6.4.2 Push alarm settings by GUARD VMS+

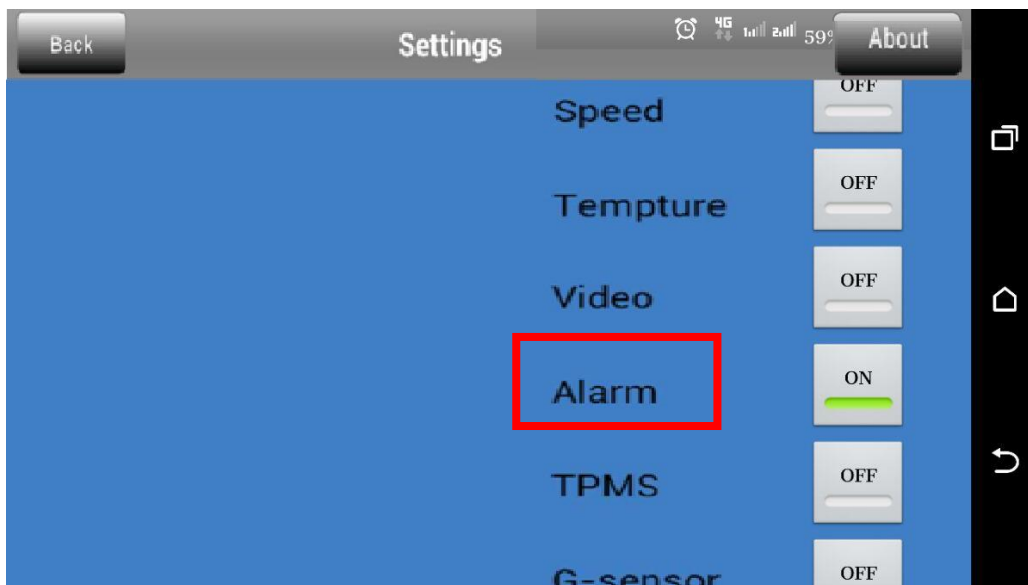
Step 1. Access VMS server.



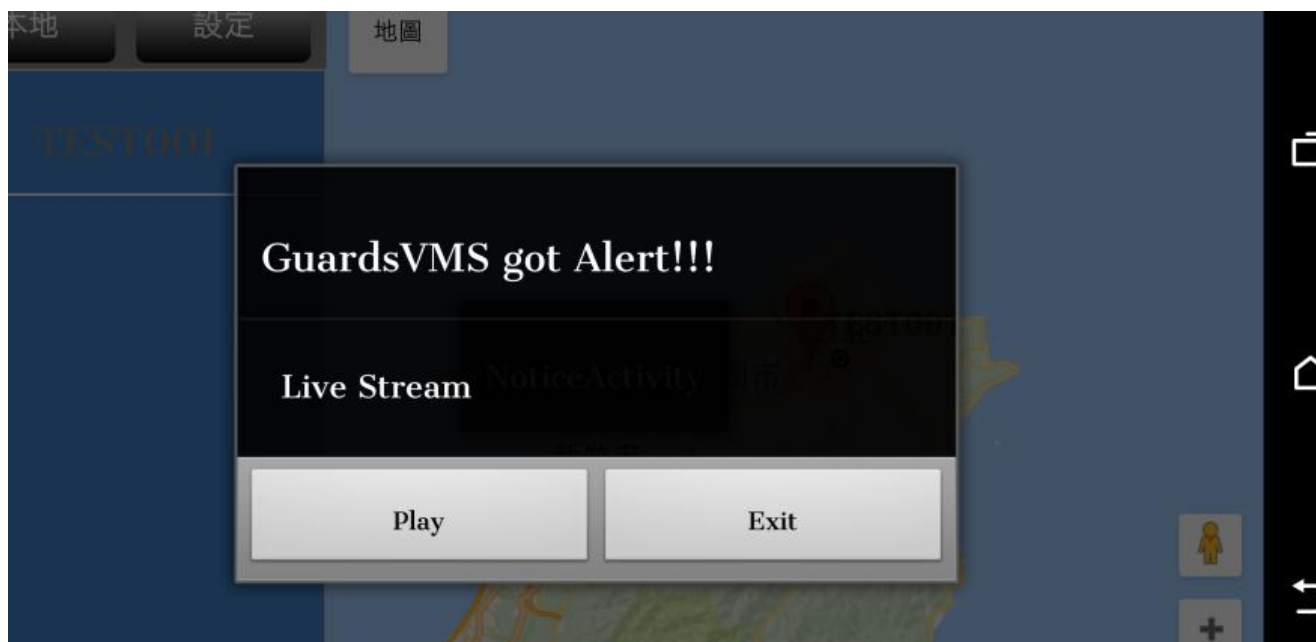
Step 2. Select Settings/ Alarm..



- Enable Alarm Item



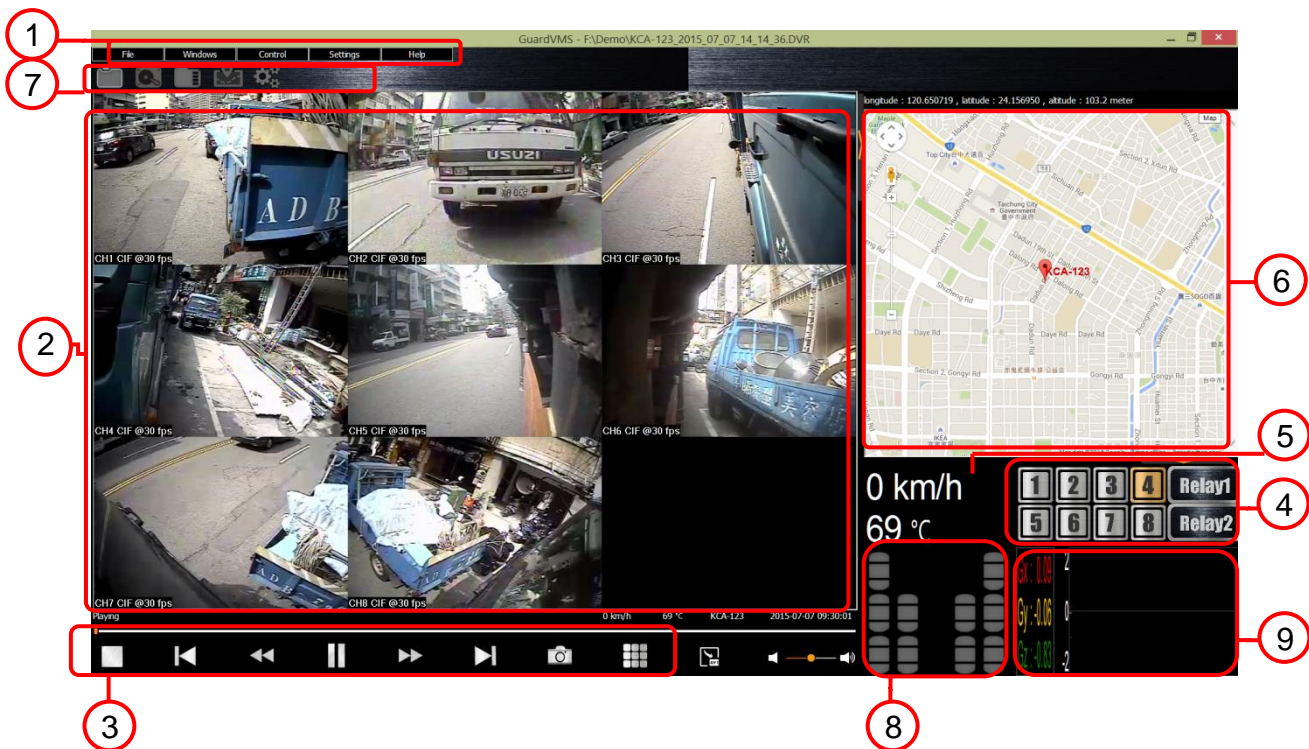
- Alarm had been triggered:



7. PC-viewer introduction

7.1 Overview

MDVR had additional a slim Media player that could play video data with HDD 、SD card or USB drive. The firmware operator UI support information systems Integration on one screen and time 、event video playback 、backup, even to draw with Google mapping.



| Mobile DVR media viewer Illustration | | |
|--------------------------------------|---------------|----------------------------------------------------------------------------------------------|
| Item | Code Name | Explanation |
| 1 | Function list | The list had included all function. ex : File 、Windows 、Control 、Settings and Help items. |
| 2 | Video screen | Display video screen. |
| 3 | function Key | Control play speed with playback 、Audio adjustment. |
| 4 | Alarm info | Display alarm inform from external equipment. |
| 5 | Car speed | By the time car speed information. |
| 6 | Real-time Map | Display google map information. |
| 7 | Operator list | Easy Operator icon |
| 8 | TPMS | Display tire pressure status. |
| 9 | Sensor info | Gravity of X 、Y 、Z axis , Curve for car speed and Vendor temperature. |

7.1.1 How to get application

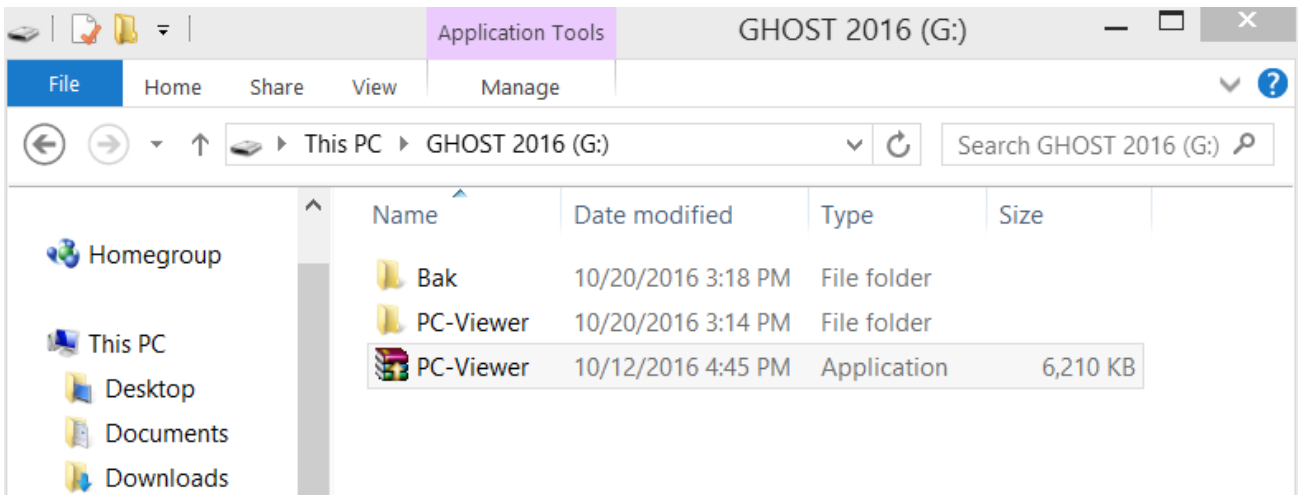
System had provided two ways to get application:

(1) The first way is to save application from HDD, as shown below.

Step1. Suspend recording of the program and shutdown MDVR.

Step2. Take off HDD from MDVR and connect PC-end via USB-SATA cable.

Step3. Select and copy “ PC-Viewer “ to your folder on PC-end.

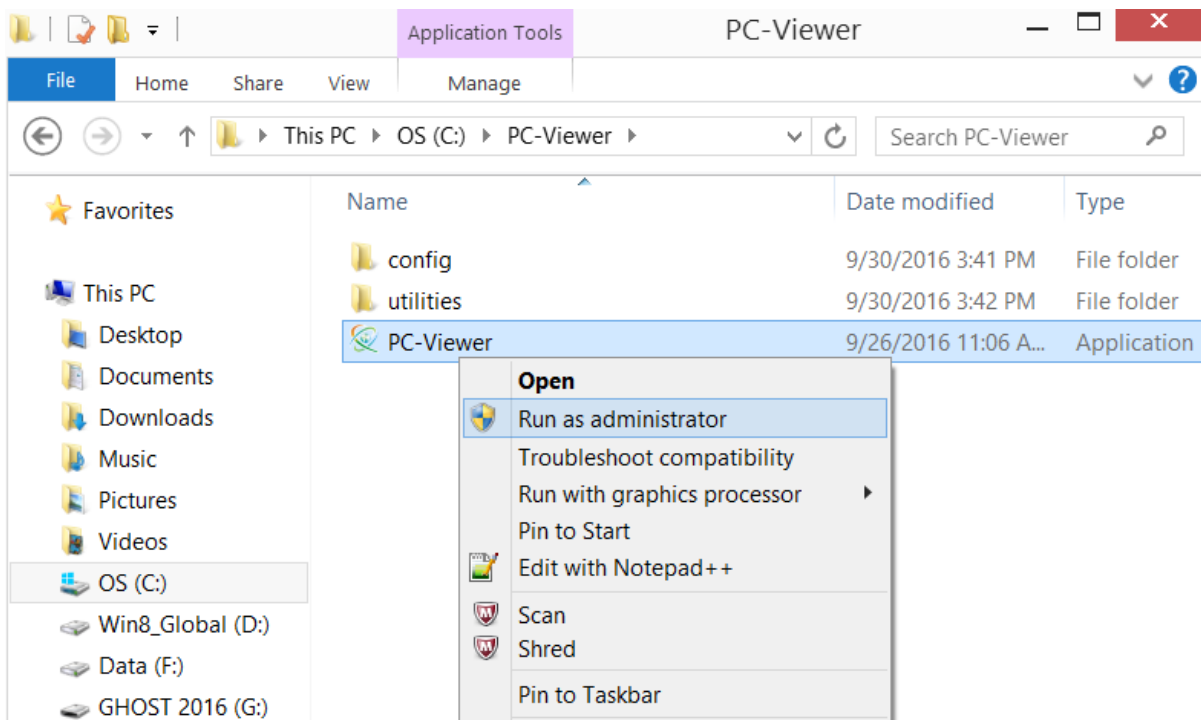


(2) The second way is to save application from USB Drive, as shown below

Step1. Execute backup procedure by USB driver.

Step2. Take off USB driver from MDVR and connect PC-end.

Step3. Select and copy “ PC-Viewer “ to your folder on PC-end.

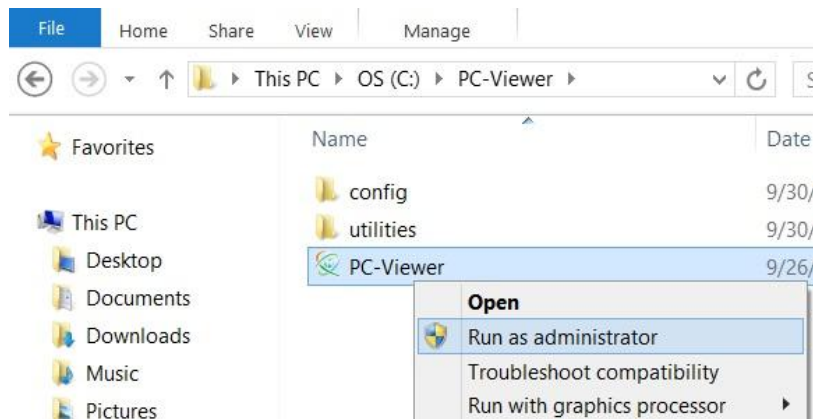


7.2 Install

For default settings, HDD and SD card had saved application of media player (PC--Viewer).



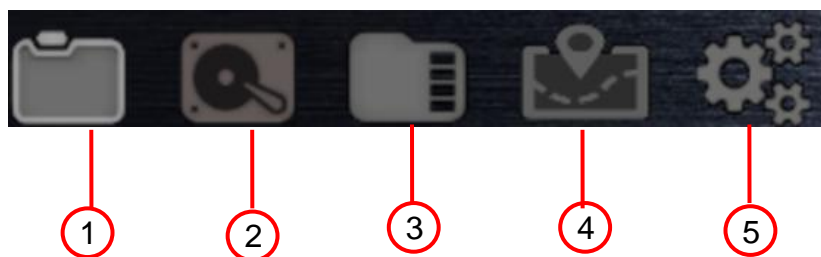
To execute unzip and select path with program saved then open application.



- **Note :** For Windows 7 above , Please click right to select “ Run as administrator ” in order to make sure video and data can be play on PC operator system.

7.3 The Quick icon operator list description

For each icon explain about means and operators following:



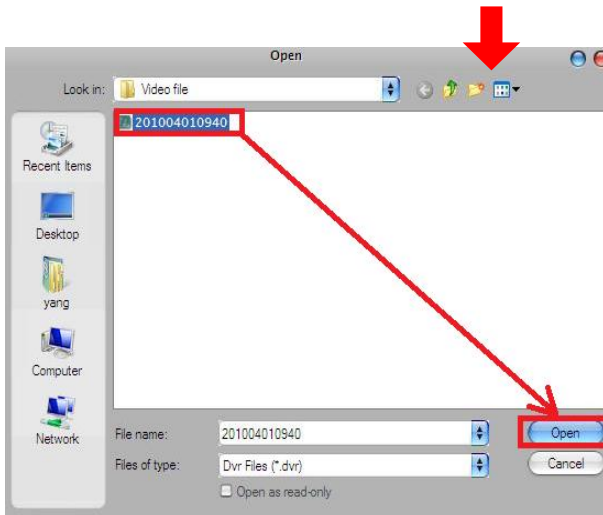
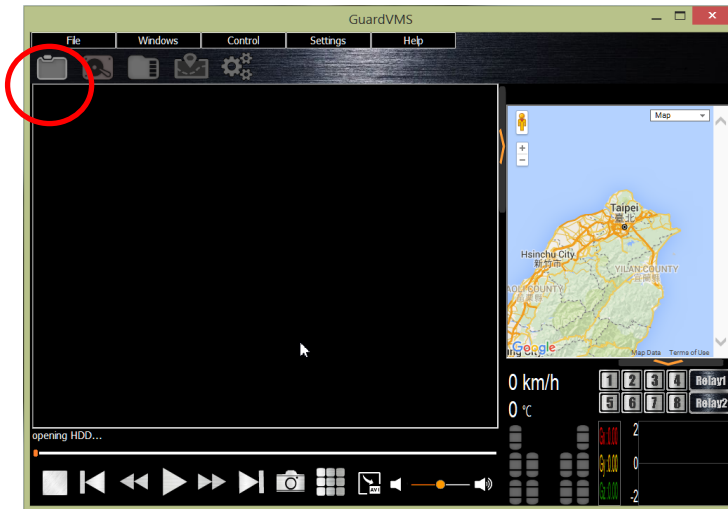
| Mobile View Icon Function Illustration | | |
|----------------------------------------|------------------|------------------------------------------------------------------------------------------------|
| Item | Name | Explanation |
| 1 | Open File | Press the key to select read .dvr file |
| 2 | Search HDD | Let's HDD take away frome MDVR that connect PC-end. In order to get record data of vehicle. |
| 3 | Search SD | Let's SD card take away frome MDVR that connect PC-end in order to get record data of vehicle. |
| 4 | MAP Windows | Disable / Enable MAP frame. |
| 5 | Advance settings | Setting parameters with Language 、 Video capture 、 files converter and data saved path. |

7.3.1 Open File



This function is to search and play .dvr file.

Click Open File icon then select backup data (.dvr) to play video.



7.3.2 Search SD card

Take SD card to Plug in to the PC that click on the files icon to open and play video on SD card.



7.3.3 Windows Layout

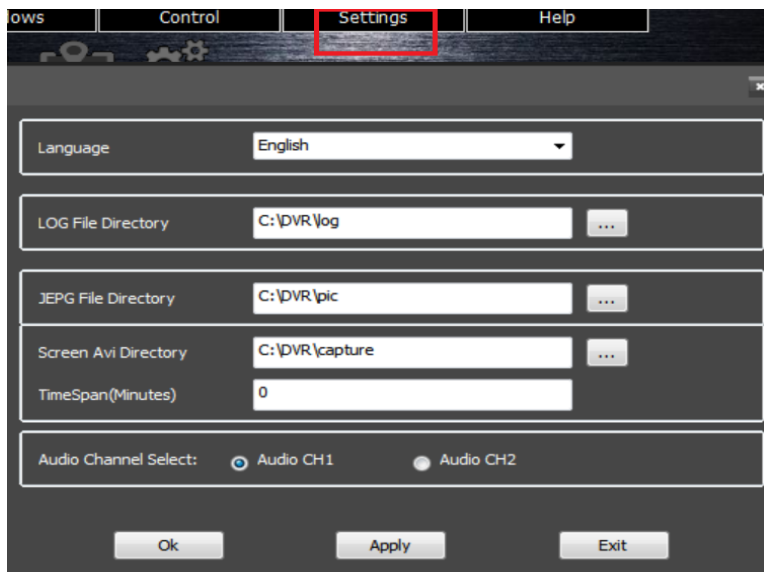
The function has support hide window of Map and Vehicle information.



7.3.4 Settings



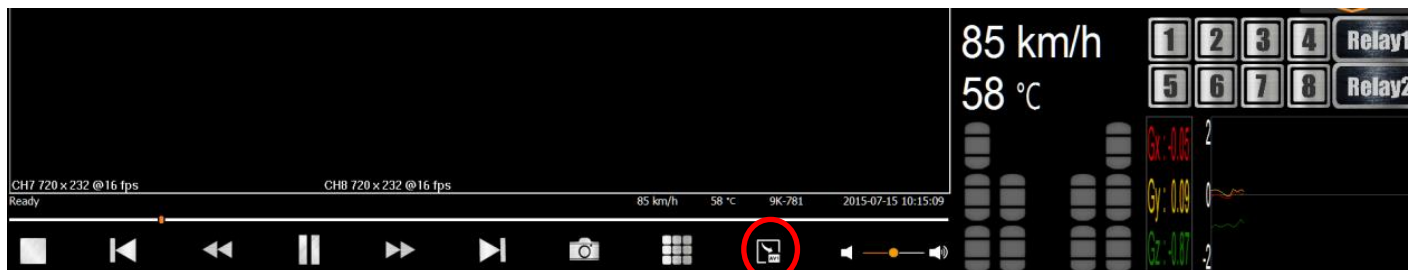
* The Settings function is swap language 、 setting each file directory path



7.3.5 Converter files



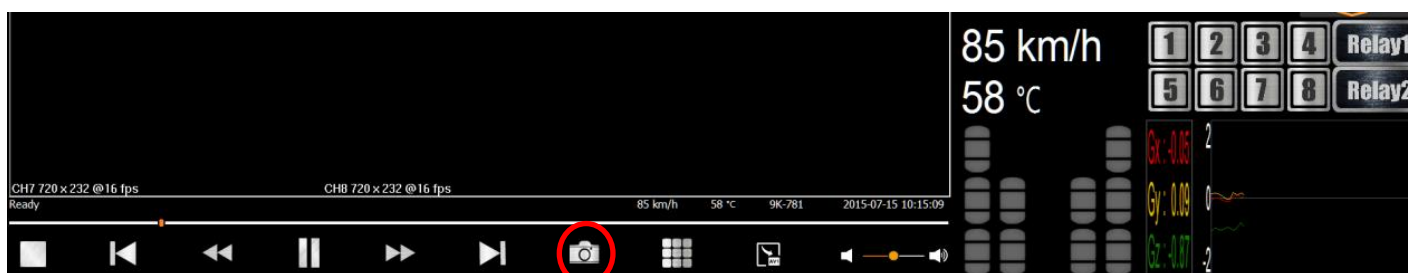
* Click ".avi" icon on below function bar in order to converter video file



7.3.6 Capture screen



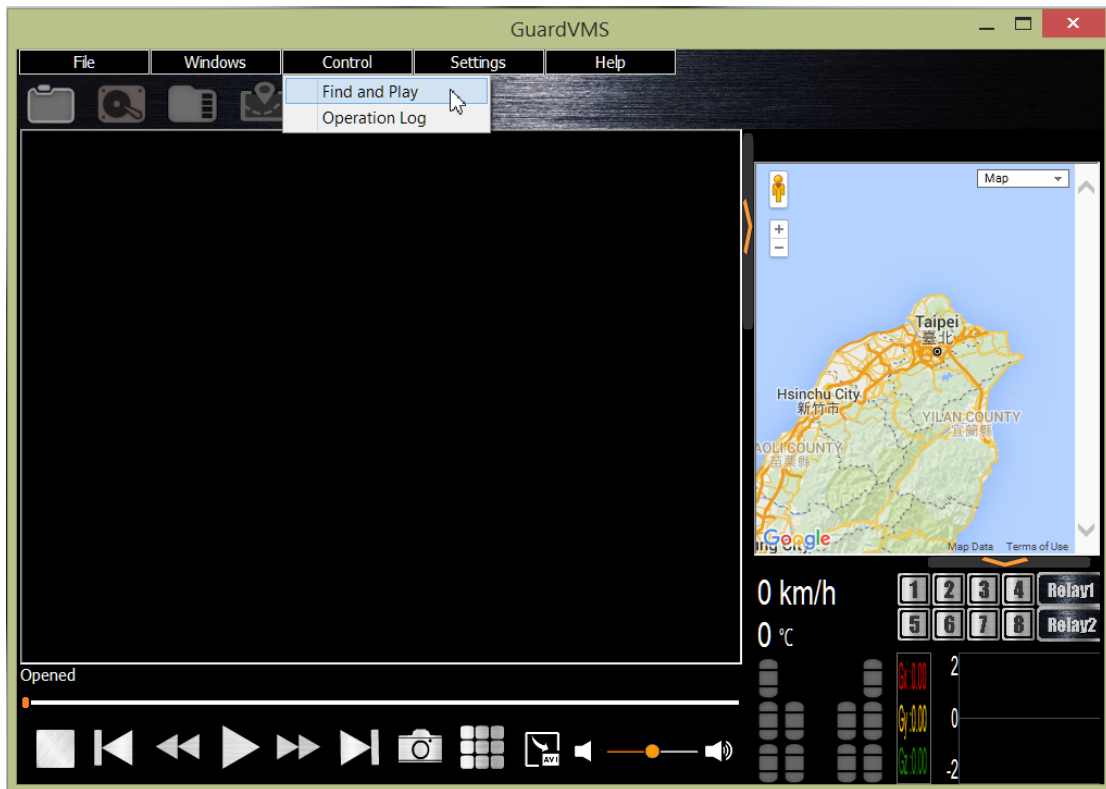
* Click camera icon on below function bar in order to capture main screen



7.3.7 Find and Play

This function is helpful for user to execute playback by time search、Event search、Quick search.

- (1) Step1: Open file or execute search HDD、search SD.
- (2) Step2: Select Control /Find and play.
- (3) Step 3: Select Control /Find and play.



- (4) Step 4: Select Event Index and Click list with selected item.

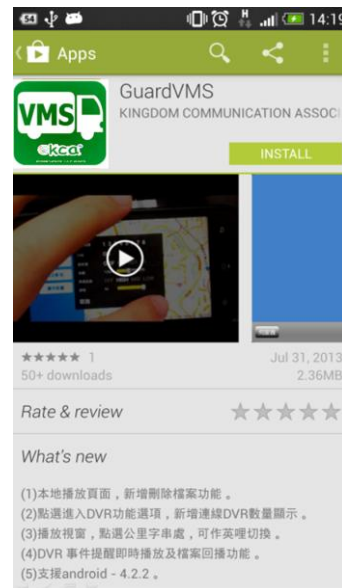
| Time | Position | Status |
|---------------------|--------------|--------|
| 2015/09/17 11:10:21 | 144269253120 | |
| 2015/09/17 19:24:53 | 159125652992 | |
| 2015/09/18 02:18:02 | 183191596032 | |
| 2015/09/18 10:12:18 | 211093287936 | |
| 2015/09/18 16:52:57 | 235187972096 | |
| 2015/09/19 07:39:46 | 287733882880 | |
| 2015/09/19 22:26:55 | 340411247616 | |
| 2015/09/20 02:54:14 | 356329734656 | |
| 2015/09/20 13:13:41 | 393147910656 | |
| 2015/09/21 04:01:16 | 446173511680 | |

8. View On The Smart Phone By GuardVMS+

8.1 Android System

8.1.1 Search and Download in Google Play

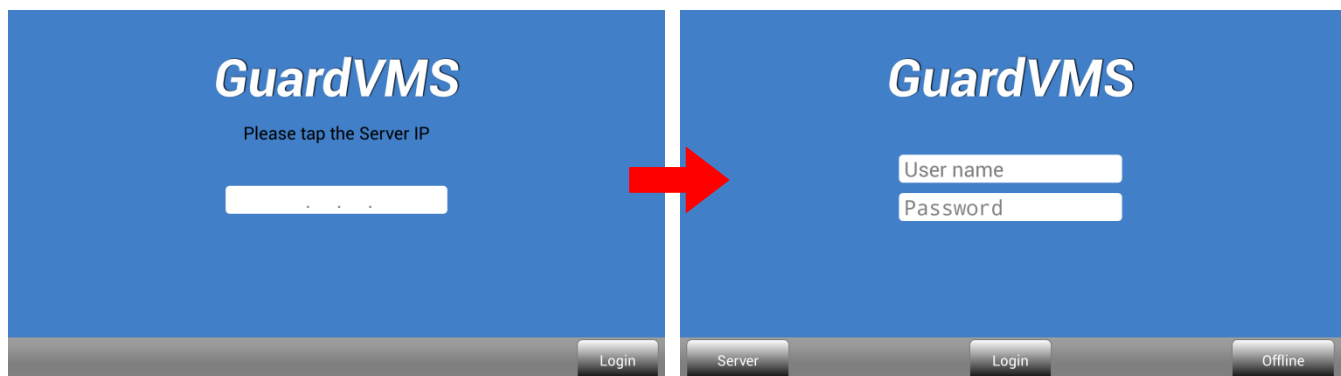
Type "GuardVMS+" in play store to search, and install it.



8.1.2 Setup GuardVMS+

Type your sever IP address, and then input the user name and password.

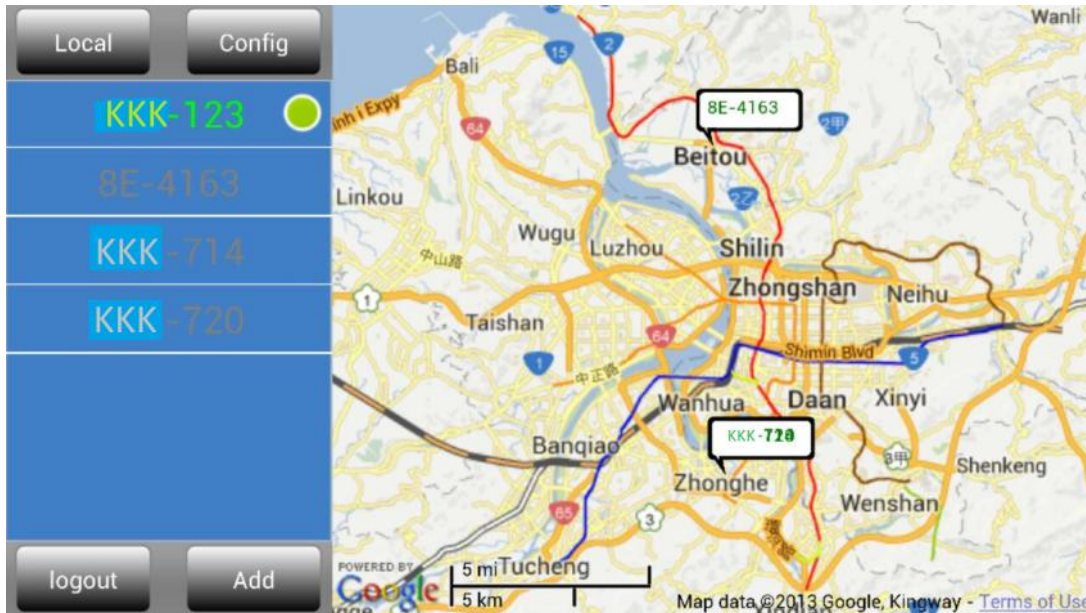
(user name and password need to be set before)



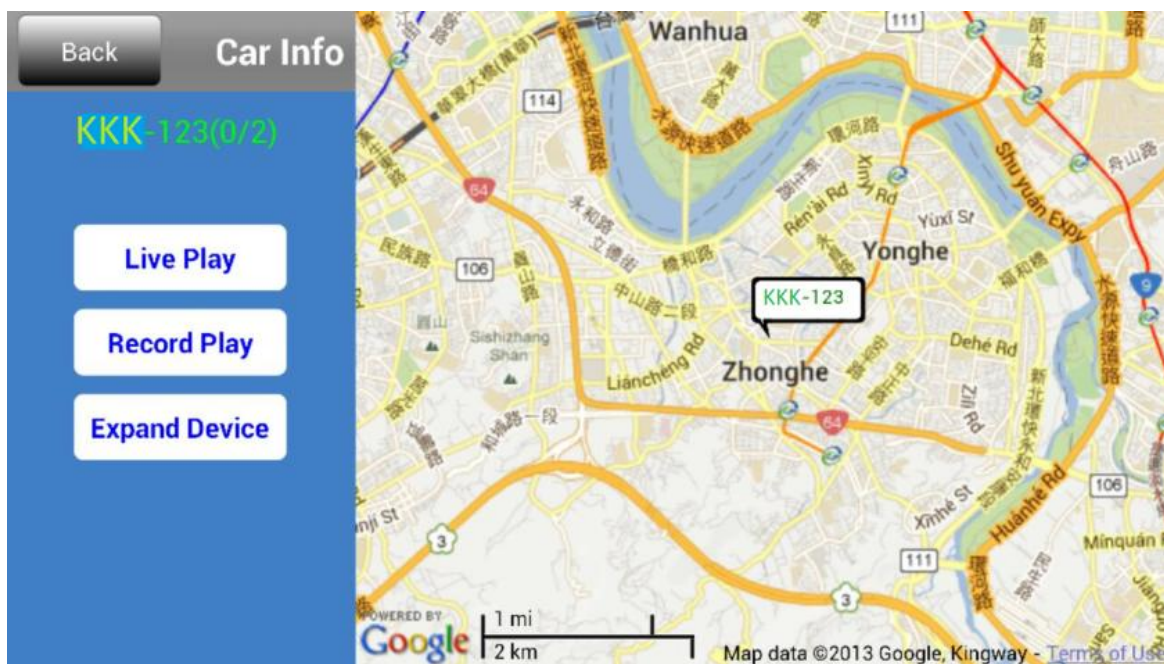
8.1.3 GuardVMS Functions

(1) Remote Live View

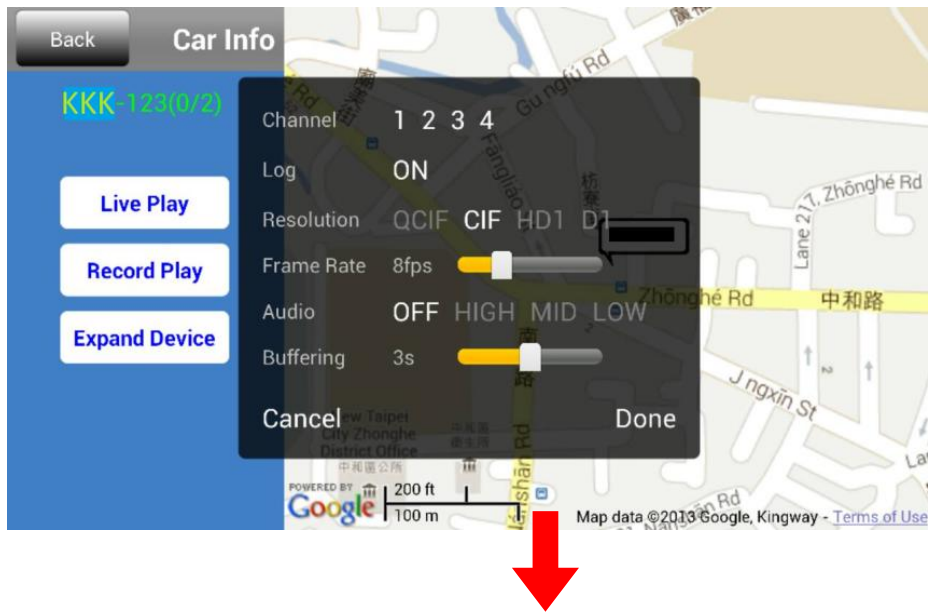
* After login successfully, You will see this page, on the left side menu, you will see online (green) / offline (gray) car, and it's location on Google map



* Click the green dot (The selected car id), the screen will display "Live play" 、"Record play" 、"Expend Device" such as above.



* Click “Live play”, and then you can set the resolution and other settings.

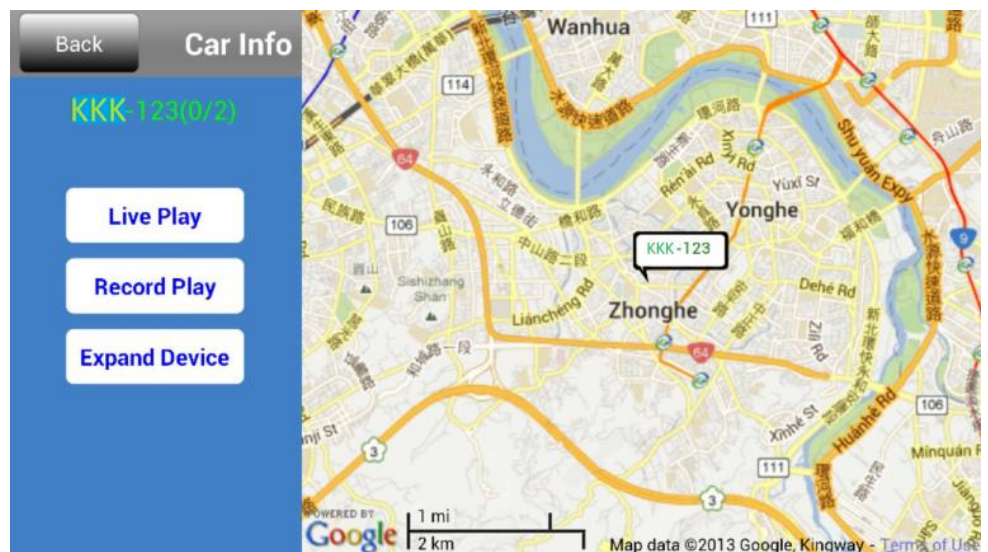


And now you can see the live play video after all the settings.



(1) Record Play

Click “Record Play”, set start time and end time, and click “Download” to see the record play.



| Back | Times | |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------|
| KKK-123 Start Time <input type="text"/> End Time <input type="text"/> <input type="button" value="Download"/> | | 2013-07-11 05:14:00 NO EVENT |
| | | 2013-07-11 05:15:00 NO EVENT |
| | | 2013-07-11 05:16:00 NO EVENT |
| | | 2013-07-11 05:17:00 NO EVENT |
| | | 2013-07-11 05:18:00 NO EVENT |
| | | 2013-07-11 05:19:00 NO EVENT |
| | | 2013-07-11 05:20:00 NO EVENT |
| | | 2013-07-11 05:21:00 NO EVENT |
| | | 2013-07-11 05:22:00 NO EVENT |
| | | 2013-07-11 05:23:00 NO EVENT |
| | | 2013-07-11 05:24:00 NO EVENT |
| | | 2013-07-11 05:25:00 NO EVENT |
| | | 2013-07-11 05:26:00 NO EVENT |
| | | 2013-07-11 05:27:00 NO EVENT |
| | | 2013-07-11 05:28:00 NO EVENT |
| | 2013-07-11 05:29:00 NO EVENT | |
| | 2013-07-11 05:30:00 NO EVENT | |

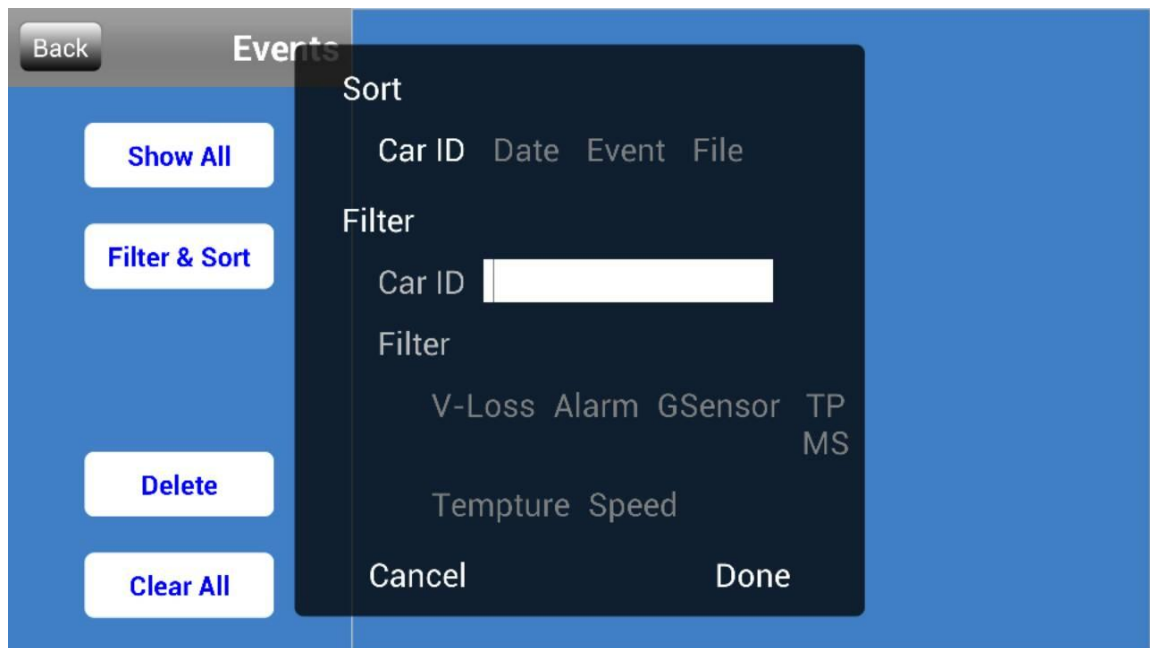
(2) Local Setting

* Here is "Local" setting page, you can sort by car ID or date, open/delete file, or into the "Event Center" setting page.

| Online | Config | KKK 123-2013-0711-0426.dvr |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------|
| <input type="button" value="Sort by Car ID"/> <input type="button" value="Sort by Date"/> <input type="button" value="Open file"/> <input type="button" value="Delete file"/> | | |
| <input type="button" value="Event Center"/> | | |

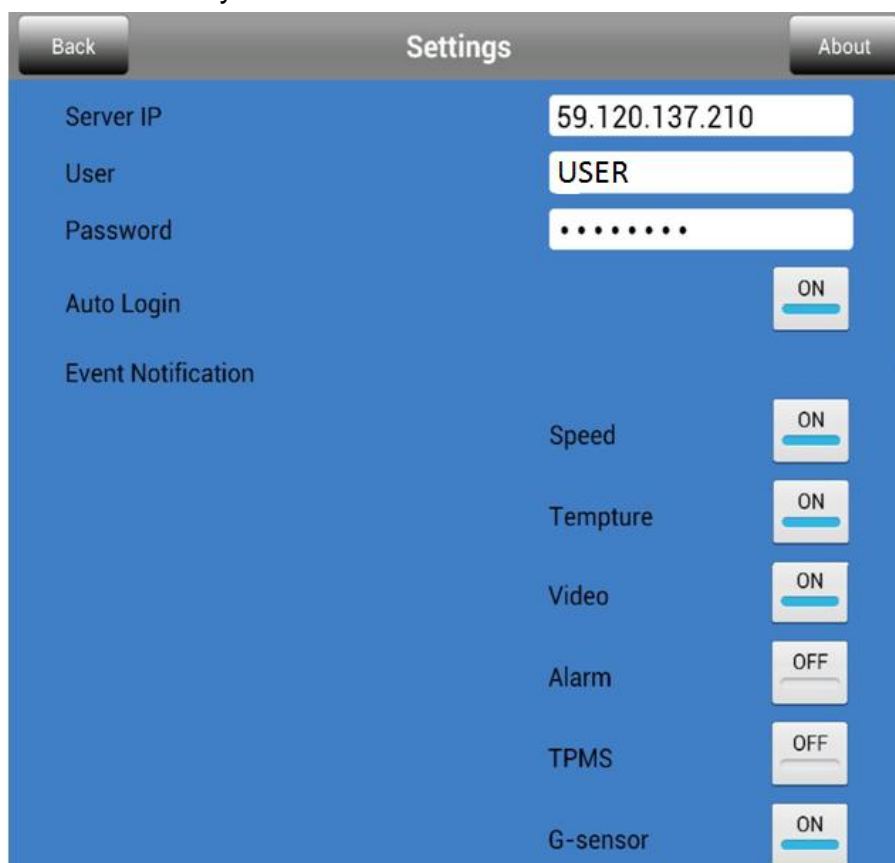
(3) Event Center Setting

Here is “Event Center” setting page, you can find the event by date or car ID or event type, and also can delete event record here.



(4) Config Setting

Here is “Config” setting page, you can set the sever IP, user and password. And set the event notification by each event.



9. APPENDIX

9.1 Remote controller introduction



| No | Symbol | Illustration |
|----|----------|------------------|
| 1 | MENU/ESC | Menu/Esc |
| 2 | ↑ | Up |
| 3 | ↓ | Down |
| 4 | ← | Left |
| 5 | → | Right |
| 6 | ENTER | Enter |
| 7 | | SEQ/PIP |
| 8 | ZOOM IN | PTZ Zoom in |
| 9 | PTZ | PTZ Control |
| 10 | ZOOM OUT | PTZ Zoom out |
| 11 | 1 | CH1 Full |
| 12 | 2 | CH2 Full |
| 13 | 3 | CH3 Full |
| 14 | 4 | CH4 Full |
| 15 | 5 | CH5 Full |
| 16 | 6 | CH6 Full |
| 17 | 7 | CH7 Full |
| 18 | 8 | CH8 Full |
| 19 | | Rewind |
| 20 | | Menu/Play/Pause |
| 21 | | Forward |
| 22 | | Stop |
| 23 | F1 | Expansion Button |
| 24 | F2 | Expansion Button |
| 25 | F3 | Expansion Button |
| 26 | F4 | Expansion Button |

9.2 Accessory Description

Power Supply Cable



This cable used to supply 9-36VDC for the MDVR (Refer to 3.1)

Video/Audio Cable (AviationPlug - 4pin cable)



The cable used to connect cameras (video monitor(video out) and audio in/out).(refer to 3.1)

12VDC Supply Cable



This cable used to supply 12VDC from the MDVR, and you can connect cameras or any device which for 12VDC. (Refer to 3.1)

Control Cable



This cable used to connect the TPMS, car speed line, PTZ and any device which for RS485 control. (Refer to 3.1, 4.6.8)

Alarm Cable



This cable used to connect the device which correspond the MDVR alarm setting. (Refer to 3.1 & 4.4)

GPS Antenna



Used to connect the GPS antenna port to receive the GPS signal. (Refer to 3.1)

3G Antenna



Used to connect the 3G antenna port to power strengthen the 3G signal. (Refer to 3.1)

Remote Control



The remote controller used to control your MDVR by IR. (refer to 3.1).

EXT.GPS Cable (Optional)



Used to connect the EXT. GPS port) to receive the GPS signal by PS2 interface. (Refer to 3.1)