

# **X10 Series**

**H.264 SD Card AHD Vehicle Mobile Surveillance System**

**( Internet of Vehicles Platform )**

**( 4CH H.264 AHD 720P MDVR )**

## **User Manual**

**V4.1 ( 2017.4.25 Version )**

**This manual applicable for X10\_V4.0 Series or above version Products, please read it carefully  
before use!**

**Index**

CHAPTER 1: Product introduction.....	2
1. Attentions before use.....	2
2. Product Overview.....	2
3. Outstanding features. ....	3
4. Content of package .....	4
5. Application scope.....	5
CHAPTER 2: Technical Parameters .....	6
CHAPTER 3: Presentation and Installation.....	8
1.Installation and Connection.....	8
1.1. Connection Diagram .....	8
1.2. Start up control mode.....	9
1.3. Attentions.....	9
2. Interface Explanation .....	10
2.1 Interface .....	10
2.2 Status Indicators.....	11
2.3. Storage Device Installation .....	11
2.4. Memory occupancy calculation.....	12
CHAPTER 3: System Menu .....	12
1. Preview interface .....	12
2. Menu Navigation.....	14
3. Menu Interface.....	16
3.1 Search.....	17
3.2. Record Setup .....	18
3.3. Basic (Basic Function) .....	20
3.4. System information.....	27
3.5. vehicle management.....	28
3.6. Display setting .....	31
3.7. password management .....	31
3.8. exit.....	32
Chapter 5: MDVR Player.....	32
1. MDVR Player installation. ....	32
2. How to use MDVR Player .....	34
3. Video data back-up .....	38
Chapter 6: Vehicle network configuration.....	40
1. Network configuration.....	40
1.1. wired network RJ45 configuration.....	40
1.2. wireless network WIFI configuration.....	40
1.3. wireless network 3G/4G configuration .....	41
2.0 CMS configuraiton.....	41
CHAPTER 7: Vehicle remote management client software (CMSV6).....	42
1. CMSV6 installation .....	42
2.How to use CMSV6?.....	43
CHAPTER 8: Vehicle remote management mobile app.....	54

# CHAPTER 1: Product introduction

## 1. Attentions before use

In order to avoid the disoperation might damaging the device, please read the manual carefully before use!

- 1.1. To avoid damaging the device, please connect and check all the external devices before power on the DVR, including cameras, SATA HDD, SD Card, 3G/4G sim Card.
- 1.2. To avoid damaging the device, please remove or re-install all the cameras when power is off
- 1.3. To avoid damaging the device, please remove or re-install the storage devices after power is off
- 1.4. Do not touch the metal parts of the SD Cards with hands.
- 1.5. Keep the unit away from water or other liquid, to avoid shortcut occurs.
- 1.6. To ensure the DVR works properly, please do not press two or more keys simultaneously.
- 1.7. The DVR only can work under the range of rated voltage and rated current.
- 1.8. Please do not assemble, maintain, upgrade or replace the components without permission
- 1.9. As a professional equipment, regular maintenance and test to cables, storage device and work environment are necessary.

## 2. Product Overview

X10 Series products is a h.264 compression based, new generation high performance, low consumption 4ch AHD (Analog High Definition), 720P(1280\*720) full real time(PAL: 25FPS/NTSC: 30FPS) mobile surveillance DVR

X10 Series adopt USB (USB2.0) mouse realize interface operation and function configuration, Support 2pcs high-speed SD/SDHC/SDXC up to 128GB. Support optional GPS, WIFI, 3G and 4G.

X10 support GPS function, Users can read longitude, latitude, moving speed and moving path of vehicles on google map when playback the videos on PC, User also can view and track the real time moving trace on map through 3G/4G remote management software.

The network version X10 equip with advanced video stream transmit function via RJ45/2.4G WIFI/3G/4G. with the matched remote management software, Users can view real time video images, audio, device's info and vehicle's driving routes on Baidu/Google map.

X10 Series support AHD-M analog HD cameras, and it also compatible with any CCD or CMOS analog cameras.

X10 Series support DC10 ~ DC36V power input and provide DC12V/3A power for cameras, and all cameras equip with built in PPTC protection function. X10 Series support power protection function, when the voltage is lower than  $DC7V \pm 0.5V$  or higher than  $DC38V \pm 0.5V$ , System will power

off automatically. When the power recover to the normal voltage range, DVR will restart to work.

### **3. Outstanding features.**

#### 3.1. Real time surveillance

DVR equipped with the standard VGA port& analog AV-OUT Port (named CVBS signal port), can connect the external larger screen to realize real time monitoring. Network version support video stream transmission by RJ45/2.4G WIFI/3G/4G technology, support real time monitoring and tracking with client software.

#### 3.2. Compression technology

DVR adopts advanced H.264 (Main Profile Level 5.0) video compression technology, each channel's video and audio adopts independent hardware real time compression technology, make sure that the audio and video saved synchronously, and reduce the occupation of the storage space. It saves above 2/3 memory space compare to the MPEG-4 compression technology.

#### 3.3. Safety storage

DVR supports 4TB high capacity SATA interface HDD and 128GB high capacity high speed SD Card, Videos adopts professional encryption format, Users can not modify the data privately to ensure the authenticity and safety.

#### 3.4. Video Playback

Supports real time local playback function for all channels, and supports files search, events search, single channel playback, multiple channels playback, Videos could be played back with the equipped software, the software can upload google map and show the GPS data and moving path on google maps. Network version products support remote playback the video stream on DVR.

#### 3.5. Data Back Up.

Users can back up videos via USB 2.0 port, the backup device could be USB flash drive, removable HDD, USB-DVDRW. Users can connect the storage device SD Cards/HDD to PC, using the equipped player to check and back up videos.

#### 3.6. Alarm Function.

X10 Series support video blind, video loss, 4 channels alarm inputs and abnormal detect function, support alarm linkage, such as the alarm triggered by HDD error, support alarm linkage record, buzzer, snapshot and send by email. Support one independent relay alarm output switches.

#### 3.7. Network function.

Network version X10 support RJ45/2.4G WIFI/3G/4G video stream transmission function, cooperate with the CMS platform software, user will be able to monitor real time video, audio, vehicle information, and vehicle moving trace on baidu/google map. Support mobile monitoring app.

#### 3.8. Human-based management:

H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

X10 supports multi users and passwords login management style, support multi languages, USB mouse operation mode, with RS485 port, with PTZ function, import and export the configurations easier for volume settings and managements, with system log function for checking and managing the device easier, can show the stream data for all channels.

3.9. Characteristic Design

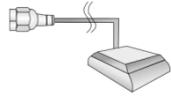
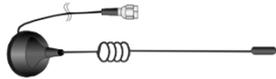
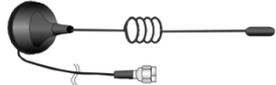
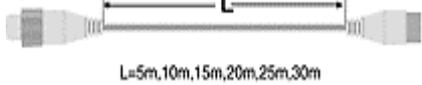
DVR adopts 8 groups of power supply system and unique cooling system design to ensure the whole system operates stably with high efficiency, device adopts modularized design philosophy, make user can freely choose optional functions such as GPS, 3G, WIFI, 4G, DVR adopts unique alarm in and alarm out aviation port and special designed cables. DVR will supply power for cameras through the aviation cables. It adopts whole aluminum alloy clam shell design, with anti-theft lock to protect the HDD, SD Card, LCD, and SIM Card in the DVR.

## 4. Content of package

### 4.1 Standard accessories

Serial No.	Descriptions	Serial No.	Descriptions
1	One DVR	5	One set of anti-vibration kit
			
2	One combined AV input cables with Aviation interface or RCA interface	6	TV out cable * 1pc
			
3	One Power cable with fuse	7	keys
			
4	One combined alarm and control cable	8	One CD or printed manual
			

**4.2. Optional accessories (need to purchase separately)**

Serial No.	Descriptions	Serial No.	Descriptions
1	GPS function and one antenna	5	Four analog AHD Cameras ( 720 P/960P )
			
2	WIFI function and external WIFI antenna	6	3G/4G function and external antenna
			
3	Aviation type or CVBS (RCA) extension cables	7	Storage Devices (SD Card)
			

**5. Application scope**

X10 Series products are 4ch AHD full real time Mobile monitoring and management system which adopts Linux embedded operation system, based on H.264 digital high definition technology, support extended functions such as GPS, WIFI, 3G, 4G.

X10 Series equip with high performance and wide application scope, which applicable for buses, taxi cabs, ships, vans, trains, etc. it is also applicable for the surveillance in fixed places such as offices, factories, home, buildings

## CHAPTER 2: Technical Parameters

X10 Specifications			
Model No.	Basic model	<b>X10</b> Equip with basic function(VIDEO, AUDIO, REC, PLAYBACK, ALARM, VGA, USB 2.0, HDD, SD, RS485, RS232 (reserved) , LED, FAN	
	Optional Functions	<b>RJ-45</b>	
		GPS	Support NMEA-0183 GPS protocol
		<b>Wi-Fi</b>	2.4G 150Mbps IEEE 802.11 b/g/n WIFI
		<b>3G</b>	WCDMA、 CDMA2000 and TD-SCDMA
		<b>4G</b>	7 modes full Netcom, FDD-LTE and TDD-LTE
<b>Power supply mode</b>		Vehicle battery ( mobile monitoring platform ) /power adapter ( other monitoring platform )	
<b>Input</b>		<b>DC12V ~ DC36V</b> ( typical input voltage: DC12V / DC24V, limited input voltage: DC10V~38V )	
<b>Working current</b>		<b>model No.</b>	<b>Corresponding current when voltage is DC24V</b>
		<b>X10-GW</b>	450 ±10 mA
		<b>X10-3G</b>	480 ±10 mA
		<b>X10-4G</b>	500 ±10 mA
		<b>X10-3GW</b>	520 ±10 mA
		<b>X10-4GW</b>	540 ±10 mA
<b>Output</b>		<b>DC12V/3A</b> ( supply power to cameras video input devices, built-in PPTC protection function )	
<b>Working temperature</b>		- 10°C ~ + 50°C ( limited working temperature : - 20°C ~ + 60°C )	

H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

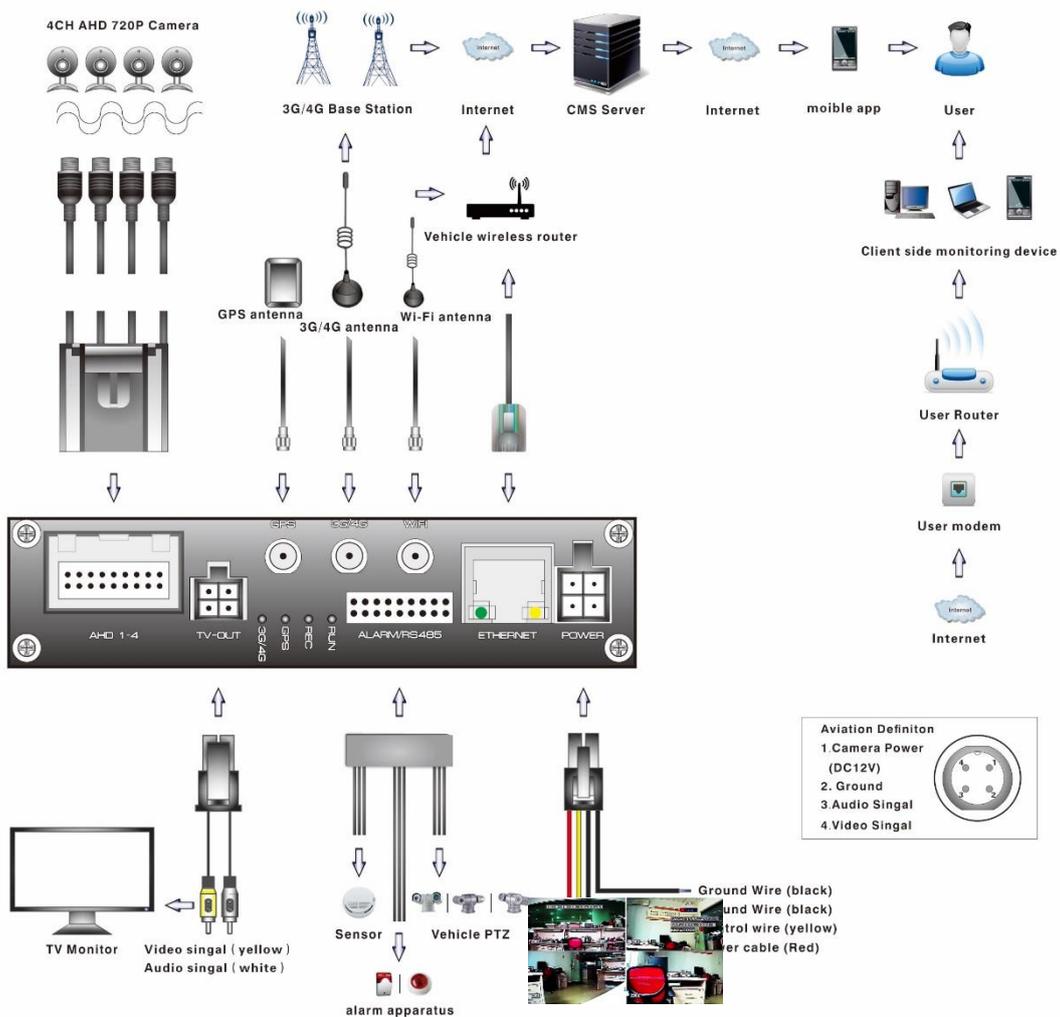
<b>cameras</b>	AHD_M HD standard 720P (1280*720)/100 mega pixels or 960P (1280*960)/130 mega pixels / AHD_L standard 960H (960*540)/normal D1(720*576/normal VGA (640*480))
<b>Video standard</b>	PAL/NTSC (all channels have to use same standard cameras signal input)
<b>Video input</b>	Input standard: input amplitude Vp-p=1.0V, input impedance 75Ω
<b>resolution</b>	720P /960H /D1 /Half D1 /CIF
<b>Video frame rate</b>	PAL ( 1 ~ 100FPS optional ) 和 NTSC ( 1 ~ 120FPS optional )
<b>video quality</b>	Multi-grade adjustable
<b>Video compression</b>	H.264
<b>Storage mode</b>	Boot record, schedule record, cycle cover
<b>Video clip</b>	3 minutes/5 minutes /10 minutes /15 minutes /30 minutes /45 minutes /60 minutes /90 minutes /120v
<b>Storage interface</b>	Two SD Cards
<b>Storage capacity</b>	Max 128GB SD/SDHC/SDXC ( advise to use Class10 and above SD card )
<b>Output signal</b>	CVBS composite audio video signal (4 channel video + 4 channel audio)/VGA
<b>Network interface</b>	1 x 10M/100M Ethernet interface(RJ45)
<b>Alarm input</b>	4 channel isolated alarm input interface (with isolation function), not equip with power output function
<b>Alarm output</b>	1 channel isolated relay input interface (with isolation function), not equip with power output function.
<b>USB standard</b>	1xUSB 2.0 standard interface ( support USB mouse、 USB backup and system upgrade )
<b>IR receive</b>	1 IR receive terminal (next to USB interface, belong to reversed IR remote control interface)
<b>Indicator</b>	RUN indicator , REC indicator , GPS indicator , 3G/4G indicator, SD Card indicator
<b>Delay power off</b>	Delay power off, cooperation with ACC+ control wire, can set the time: 0 ~ 999 minutes
<b>Other</b>	RS485 (PTZ) , RS232 (reserved)

<b>Other design</b>	Built-in SD card, built-in SIM card, cooling fan convection design, aviation connection design, ACC+ control wire design , side panel lock design, ultra-thin module design
<b>Mainframe side</b>	155(L)*133(W)*26(H)mm
<b>Mainframe weight</b>	Approx. 430g

## CHAPTER 3: Presentation and Installation

### 1.Installation and Connection

#### 1.1. Connection Diagram



#### ALARM/RS485 port:

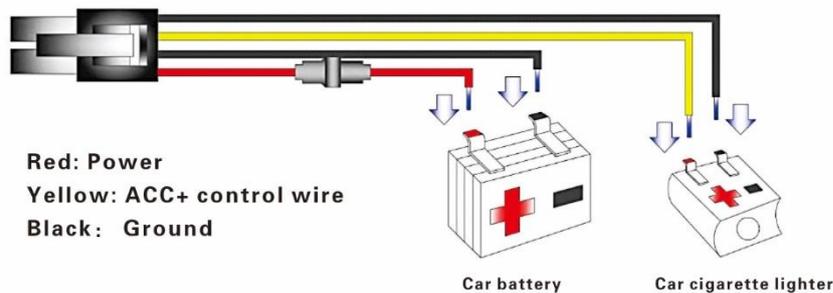
<b>PIN port</b>	9	10	11	12	13	14	15	16
<b>Function</b>	AL-OUT1_A	AL-OUT1_B	GND	AL-OUT2_A	AL-OUT2_B	GND	RS485-B	RS485-A
<b>PIN port</b>	8	7	6	5	4	3	2	1
<b>Function</b>	AL-IN 4	AL-IN 3	GND	AL-IN 2	AL-IN 1	GND	RS485-B	RS485-A

Definitions and descriptions of ports:

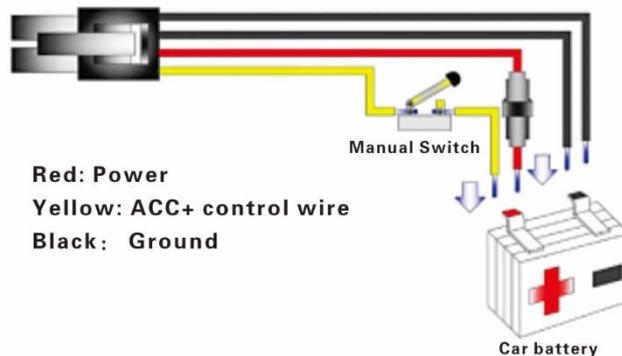
- AL-IN1~AL-IN8: alarm input port ALARM-IN1~ALARM-IN8, need to set up and work together with the related function in the system menu. Support NO/NC switch control signal and high/low level control signal (DC 0.7V < high level < DC 12V, low level < DC 0.6V)
- AL-OUT1 & AL-OUT2: Two independent relay-based alarm output ports, need to work together with related function in the menu, with Normal Open contact, can controlled by the signal under 1A
- RS485A&RS485B: PTZ control port
- GND: The common ground wire port

## 1.2. Start up control mode

- ① Auto switch on/off start up mode, applicable for vehicles.



- ② Manually switch on/off control mode, applicable for the fixed places.



Notes: ACC+ Cable is the start up control wire, effective when triggered by high level, usually works with the car cigarette lighter.

## 1.3. Attentions

- ① As there are many control ports for the DVR, so we do not use the special designed terminal for each port, please use the insulating tape to bind up, in case the short circuit occurs with other wires, and affect the other control wires.
- ② If the SD Card indicator has light up, it means that the data written in
- ③ After the DVR connect to power supply, please make sure that the ACC+ also

H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual  
connect to the power, or the device cannot start up.

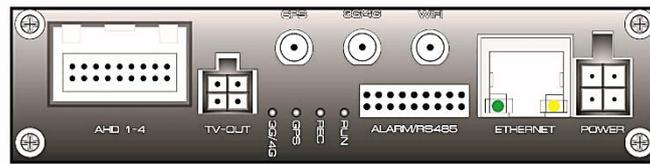
## 2. Interface Explanation

### 2.1 Interface

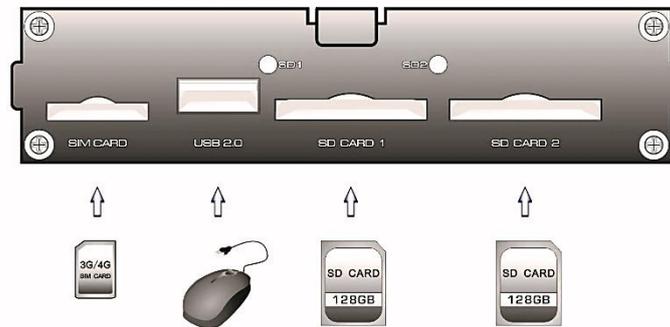
Front view of DVR



### Side panel 1



### Side panel 2



Notes: X10 Basic model do not support the SIM Card slot.

## 2.2 Status Indicators



**RUN:** DVR running indicator, DVR is triggered to enter into the working status by ACC+, the RUN indicator flash when DVR works well.

**REC:** Record indicator, it will blink when device record and save normally.

**GPS:** It will keep on after GPS system positioning correctly

**3G/4G:** It will keep on after 3G/4G module dial-up successful, it will blink when the module starting to transmit the video stream.

## 2.3. Storage Device Installation

### Attentions before installation:

Mother board and SD Card are consisted of many integrated circuit components, Integrated chip, etc., and these electronic parts are very easy to be damaged by the static electricity. So please take notes the following issues before installing the SD Card:

- ① Disconnect power of DVR before installing and removing SD card
- ② To avoid the SD card damaged by static electricity, please wear anti-static wrist Strip or touch grounded and metal objects before you touching the SD Card, Like metal cases, metal tap.
- ③ Please install and remove the SD Card when the power is disconnected.



Notes:

1. For the newly installed SD Card will be formatted by the system automatically, if the storage device can't support recording, please choose the "HDD format" option in system menu to format the SD Card. If you cannot format the SD card with system, please remove the SD Card and use the low-level format software to format the SD card.
2. If there is no storage device, the system will show a tip "NO Disk "on the preview interface

## **2.4. Memory occupancy calculation**

When you install the 4ch HDD/SD card mobile DVR for the first time, please check if any hard disk/SD Card is installed. And check the write protect switch (if with SD card), otherwise, the video files cannot be recorded into the SD Card properly

### **Maximum capacity of the memory storage devices HDD/SD Card supported:**

4CH mobile DVR X10 series supports two SD Card up to 128GB. Users can choose the appropriate memory storage as their request:

### **How to choose HDD/SD Card`s capacity?**

#### **Formula for Storage space occupation:**

Total storage capacity (M) = numbers of channels (CH) \* required time (H) \* occupied capacity per hour (M/H)

#### **Formula for recording time:**

Recording time (H) = Total storage capacity (M) / 【numbers of channels (CH) \* occupied capacity per hour (M/H) 】

#### **For instance:**

The user uses a standard hard disk of 1TB/SATAII and set 4 Ch. recording at 720P/25FPS (high quality recording). Each single channel needs around 2GB capacity per hour, the recording time of 4ch real time high quality recording will be:  $1\text{TB}/(2\text{GB}\times 4\text{CH}) \approx 128\text{hours}$  (8hrs/day $\times$ 16 working days or 24 hrs./day $\times$ 5 working days).

# **CHAPTER 3: System Menu**

## **1. Preview interface**

**Notes: the system menu support to be operated by USB mouse.**



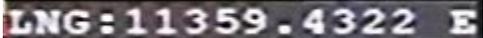
After the device power up, enter into the preview mode. The default interface is quad screen display, Users can configure display mode in the system menu, such as single channel preview or multi-channels preview.



Under the multiple channels preview interface, double-click the left button of USB mouse, the corresponding video channel display will maximize to full screen, double click the mouse left button again it will come back to multi-channel preview, right click USB mouse on preview mode can choose the preview modes.

In the preview mode, the date, time, channel title, GPS, GPS latitude and longitude, GPS speed and rec status will show on display.

Serial No.	Watermark	Explanation	Remarks
1	2016-06-28	System Date	Date can be configured in system menu and support GPS

			automatic updates
2		System Time	Time can be configured in system menu and support GPS automatic updates
3		Video channel title	Can be modified
4		Recording mode	Show "NO DISK" when there is no storage device
5		Wireless network Sign	After dial-up and connect to network successfully, the sign turns to green
6		GPS longitude	The info turns to "0" when DVR does not get the location info.
7		GPS latitude	The info turns to "0" when DVR does not get the location info
8		GPS Speed	The info turns to "0" when DVR does not get the moving info

## 2. Menu Navigation

Menu interface		Function explanation
Record Search		Search, Playback and USB backup
Record Setting		Resolution, Bit rate, Frame rate, Audio, Rec Size, Record Mode (power up record, timing record), low stream configuration, snapshot resolution
Basic	Alarm	Alarm in port, HDD failure, HDD Space Insufficient alarm, alarm

H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

<b>functions</b>		processing setting, E-mail configuration, Video blind, motion detect
	<b>PTZ</b>	Channel configure, PTZ protocol, baud rate, data bits, verify code, stop bits, address code
	<b>Time setting</b>	System date, system date format, system time, time format, GPS automatic checking time, daylight saving time
	<b>HDD info</b>	Hard disk Status and Information, storage device format, U disk formatting, overwrite
	<b>Maintain</b>	System upgrade, restore the factory Settings, restart the equipment, parameters import, parameter export, log search
	<b>Network setup</b>	network configuration, DDNS settings, CMS Setup
	<b>System setup</b>	TV System, VGA Resolution, Channel loop time, Camera type, System language
<b>System info</b>		Serial No., Software version, MAC address, GPS status, Wi-Fi status, wireless status.
<b>Vehicle info</b>	<b>Basic setup</b>	Vehicle No., Company name, License Number, Driver name, Line number.
	<b>ACC setup</b>	Alarm switch, record switch, threshold, Real status
	<b>ON/OFF info</b>	ON/OFF mode, Delay shutdown, Delay time
	<b>Wireless setup</b>	Wireless function switch, wireless type, wireless access point, Dial number, login user name and password, wireless status
	<b>WIFI setup</b>	WIFI switch, hotspot search, Wi-Fi status, hotspot management, IP Config
	<b>GPS setup</b>	Baud rate, upload interval, alarm upload switch, alarm upload interval, parking timeout, over speed value and low speed value
<b>Display Setup</b>		Channel title, Channel title display position, preview switch, Horizontal and vertical flip, OSD time display switch, OSD GPS information switch, OSD record time and recorded GPS display

	switch, Startup preview setup, Volume control.
<b>Password management</b>	Device ID, User Password or not, Input Password
<b>Exit</b>	Exit to Menu Page/Back to previous menu

### 3. Menu Interface

Note: in the system menu page, the system automatically returns to the preview mode if without effective operation within 30 seconds



In the video preview mode, right click the usb mouse, popup out the shortcut menu. Through the shortcut menu, user can enter into the main menu page. And users can operate the regular function via the shortcut menu. Such as: system lock (suitable for password access mode), preview images configuration, video search, PTZ control, manual record and stop (suitable for timing record), etc.

Select the "menu" in shortcut menu, enter into the system main menu, which is consist of 8 functional options, including: video Search and Record Settings, Basic Setting, system information, vehicle management, display Settings, password management and exit menu.



### 3.1 Search

Video Search menu, main function is video search, video playback and USB backup.

Video Search, may according to the specified channel, set a precise date and time to search, search results will be shown on the date and time table. the green highlight form indicating that there are video files, users can click the green highlight grid directly to playback the videos.



If click the "file list", users can back up the files with USB devices.



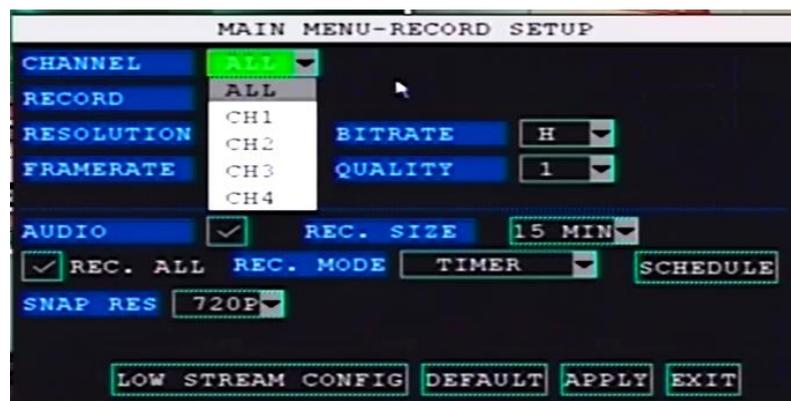


### 3.2. Record Setup

In this interface, Users can configure the following functions: video resolution, bit rate, frame rate, image quality, audio, recorded file size, record mode (power up record and timing record), low stream configuration, snapshot Resolution.



System allows the single channel record configuration, also allows to set up the same configuration for all channels.



**Record (record switch):** switch on/off record function for the chosen channels



Resolution: 720P, 960H, D1, Half D1 and CIF. The default value is 720P

Bit Rate: high, medium and low

Frame rate: In PAL, can be set in the 1 ~ 25 FPS, in NTSC, can be set in the 1 ~ 30 FPS.

**Quality: Adjustable from 1~6 grade, 1 grade means the highest.**

**Audio Switch: switch on/off the audio record function for chosen channel.**

**Record file size: 1/3/ 5 /15/30/45/60/90/120 (minutes)**

**Record mode: Power up record/Timing record**

**Power up: boot record**, as long as there are the available storage devices, DVR will record continuously till the DVR is shutdown, this mode does not support stop record manually.

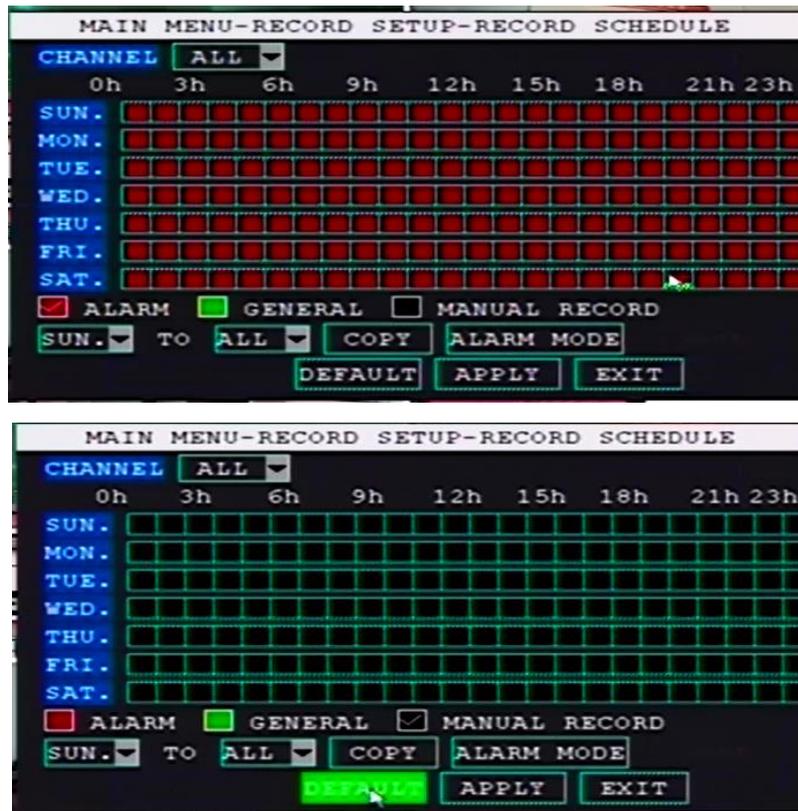
**Timer: Timing record**, Record according to the user's configuration, can configure the following modes: Regular, Alarm, Manual



**Regular: As long as within the configured period and there are available storage devices, DVR will record, this mode does not support manually stop record.**

**Alarm record: Configure alarm record within the scheduled period. Such as alarm trigger and motion detect.**

**Manual record: Support manually record and manually stop**



Low stream configuration: mainly used in networking function, you can configure the selected Channel's resolution, bit rate, frame rate and image quality.



### 3.3. Basic (Basic Function)

Basic function menu, Config alarm, time, HDD, DVR maintenance, network, system.



### 3.3.1 alarm

Config alarm input device and parameters, alarm linkage reactive measures, alarm output parameters, Email settings, video blind settings, motion detect, etc.,

**IO port setting: support 4 independent alarm input detect port.**

**Trigger Level alarm:** Support high level trigger alarm, low level trigger alarm and shutdown triggered alarm function

**Disk failure:** System support Disk detect function, can config alarm set options for warning.

**Disk Space:** Supports disk space detect function, if user did not enable the overwrite function, System will send out warning there is no enough storage space.

**Alarm set:** Can config alarm out, Buzzer time, record delay, pre-record, email function, etc.

**Alarm output:** System support one channel alarm output control, controlled by a pair of relay switch, the default status of the relay switch is open (normal open), The max current of the elay switch should be less than 0.5A.





**E-MAIL setting:**

Setting a sending email address and a receiving email address, to send the snapshot by email when the alarm is triggered.

E-MAIL Switch: Turn on/Turn off the E-mail function

SSL: encryption switch, tick on for Gmail, and tick off for other mail system

SMTP port number: the SMTP port for email sending server, for Gmail, it is 465, for other mail system, it is 25

SMTP server: input the smtp address of sending email server, for instance, smtp.gmail.com

**Sending email: input sender's email address**

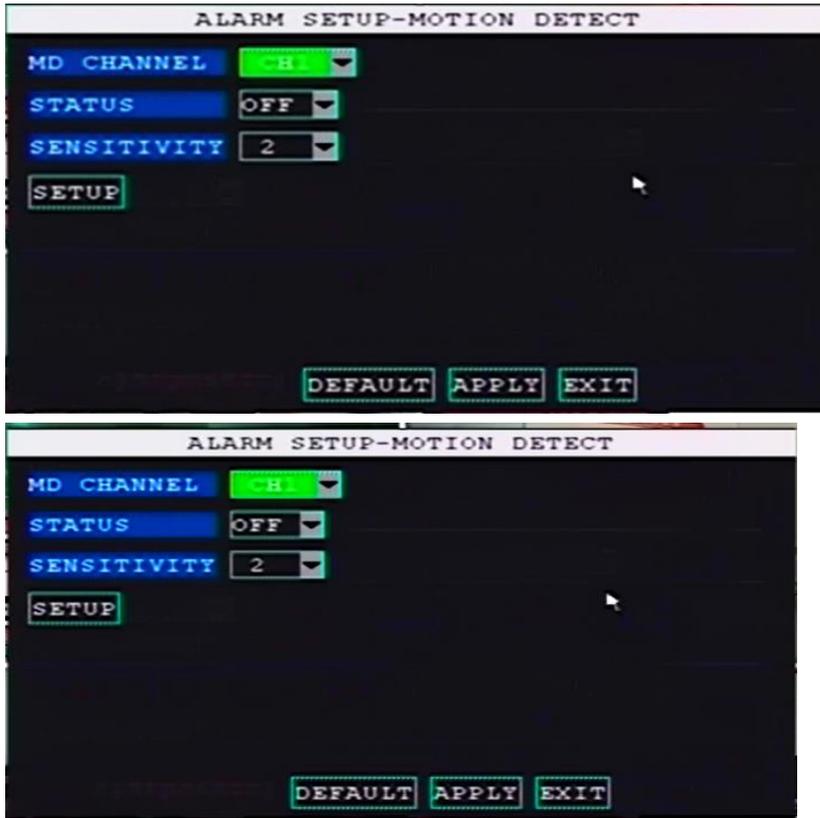
**Sending email password: input the sending email's password**

**Receiver's address: input receiver's email address.**



**OCCLUDED ALARM (VIDEO BLIND):** System support camera occluded detect function, can work with alarm set to send warning.

**Motion detect:** when system detect the motions, DVR will work with the alarm set option to send alarm warning.



### 3.3.2 PTZ configuration

**Notes:** User can read the user manual of PTZ devices to find out the parameters related to the settings.

**Channel:** Available to set a single channel, and also available to configure same parameters for all channels.

**Protocol:** Choose the related protocol for cameras, including PELCO-D and PELCO-P

**Baud Rate:** Provide the options including 1200, 1400, 4800, 9600bps

**Data Bit:** Provide the options including 5,6,7,8

**Stop Bit:** Provide the options including 1,1.5,2

**Verify:** Provide the options including ODD, Even, Mark, Space, None

**Address:** Provide the options of 0~ 255





User can control the PTZ devices by the operations: set PTZ rotatable speed, lens zoom in/out, switch aperture

PTZ advanced control option, it is support to save the current PTZ's setting into the pre-set bit. Available to use the setup pre-set bit to control PTZ, control PTZ to start and stop tour.

### 3.3.3. Date/Time setup

Set date, time, daylight saving time, etc. support GPS auto proofreading function

System date: configure year, month, date

Date format: two formats options to select MM/DD/YY、YY-MM-DD

Current time: configure hour, minute, second

Daylight saving time: Select on/off, daylight saving time is enabled when the switch is set to open, displays the settings for daylight saving time

Daylight saving time mode: Can be set to default or custom. The system default is the range of daylight saving time from the first week of January the third Friday in January-October. Users can also customize the range of daylight saving time.

GPS proofreading: click modify to confirm, proof time based on current valid GPS information

Automatic proofreading: when automatic time proofreading is selected, automatically search GPS valid values while powered up every day, automatically proof time once, till proof successfully.



### 3.3.4. disk management

Disk Management displays the storage device status, capacity, free space, video time

**Automatic cover:** Set storage device will automatically overwrite the oldest video files.

This page supports the storage device format (SD card/hard disk) format and backup device (SD card/U disc) feature. Override the normal video days can be customized, alarm recording days can be retained for long period.



### 3.3.5. Device maintenance

**Automatic maintenance:** If the user opens this function with set maintenance intervals and time, you can automatically maintain the system. Automatic maintenance features are designed primarily for long uninterrupted run of protective device restart



**System upgrade:** To upgrade your DVR machine software systems, mainly related to feature updates and processes of these amendments.

- 1> Prepare a USB devices (such as USB disk), create a new folder named updatedvr in the root directory;
- 2> Copy upgrade file to a folder named with the updatedvr
- 3> After DVR normal boot into the system, plug the usb device with upgrade file to DVR on usb interface
- 4> Click the system upgrade option under menu, system will automatically scan the updatedvr directory of USB device, and then upgrade the operating system

**Restore the factory Settings:** all system configurable setting will restore to factory settings, except recording files and log files.

**Restart device:** system will restart by software. Mainly used in manual management and maintenance operation.

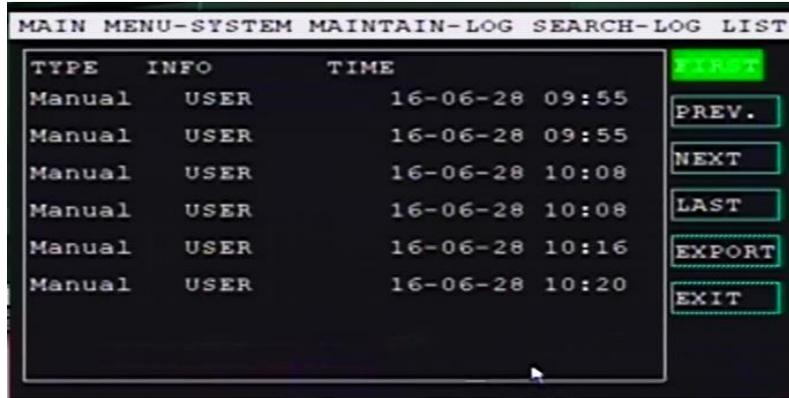
**Export parameters:** Backup system configuration parameters and export to USB device, the main

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

purpose is: on the one hand, backup system parameters x, on the other hand, can easily bulk configure same type of equipment.

Import parameters: import config file folder stored in USB device contain configuration parameters from system, mainly applied to system restore configuration or batch configuration.

Log query: can query based on log types, can set accurate date and time to query log. Default query is query for all types of logs of current day. Log file export support in the form of text to a USB device



TYPE	INFO	TIME	
Manual	USER	16-06-28 09:55	START
Manual	USER	16-06-28 09:55	PREV.
Manual	USER	16-06-28 10:08	NEXT
Manual	USER	16-06-28 10:08	LAST
Manual	USER	16-06-28 10:16	EXPORT
Manual	USER	16-06-28 10:20	EXIT

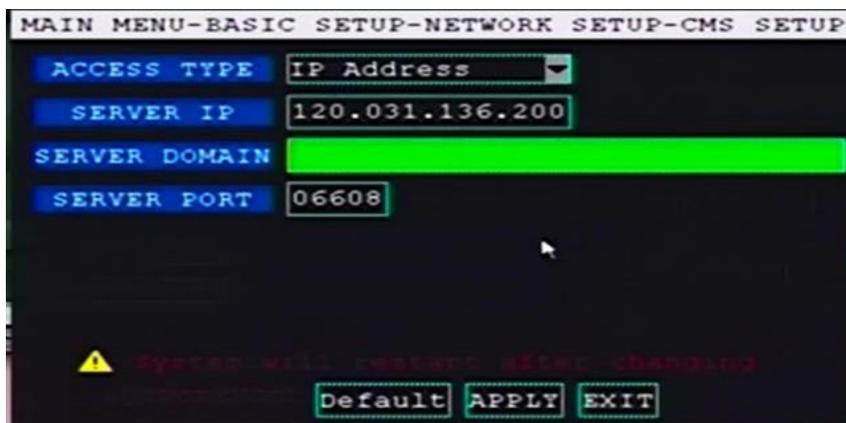
### 3.3.6. Network setting

Network settings is mainly used in wired networks, DDNS and CMS platform parameter configuration

Wired network settings support static configuration, DHCP and PPPOE configurations. Normal users don't need to change media and WEB port number, must be set up with related platform software in special circumstances.

CMS setting: when networking DVR is connected to central server, must configure the CMS options, or even have dial-up internet access, and it can't connect to central server for data transmission.

The default network port of central platform server is 06608.



MAIN MENU-BASIC SETUP-NETWORK SETUP-CMS SETUP

ACCESS TYPE: IP Address

SERVER IP: 120.031.136.200

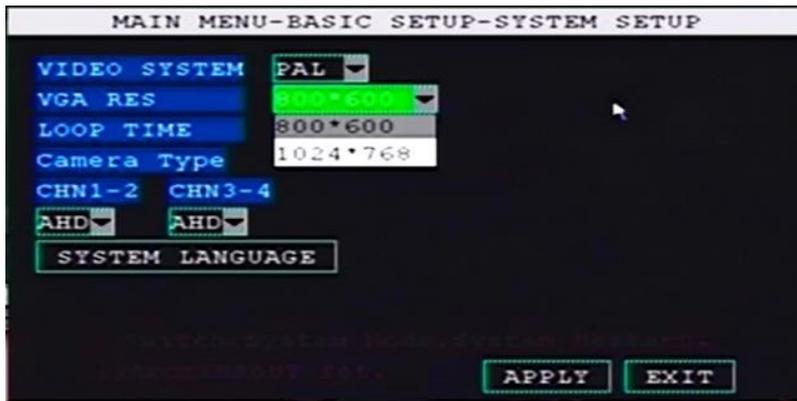
SERVER DOMAIN: [REDACTED]

SERVER PORT: 06608

Default APPLY EXIT

### 3.3.7. System setting

System setting support configure access camera standard, VGA output resolution, channel loop time, access and camera type and system language.

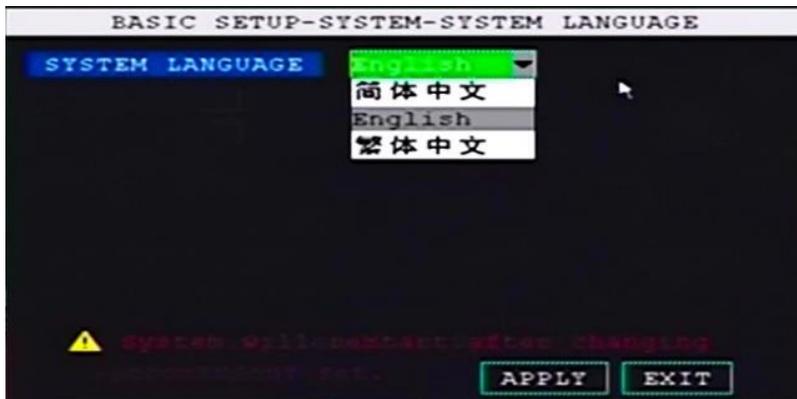


Camera standard: support PAL and NTSC standard video input

VGA resolution: support 800\*600 and 1024\*768 two types of resolution, mainly adapted for vehicle screen application

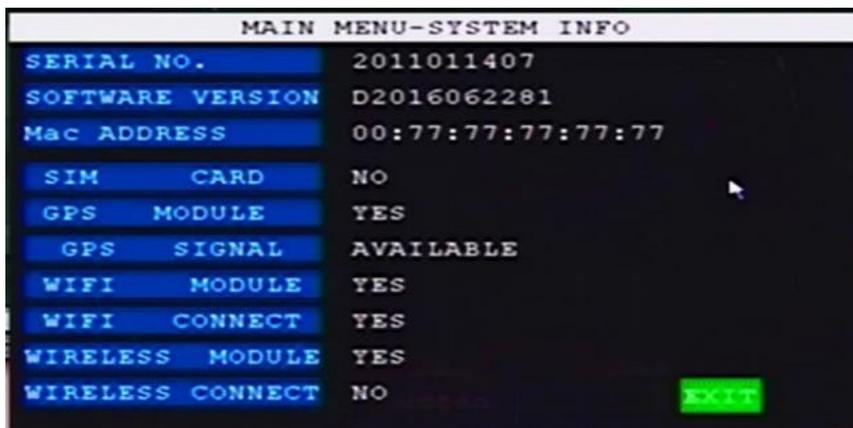
Camera type: device support AHD-M, AHD-L and ordinary SD camera access. Easy and flexible to install and use for users.

System language: system support 3 languages: simplified Chinese, Traditional Chinese and English.



### 3.4. System information

System information mainly show system SN, software version, MAC and GPS, WIFI, wireless network status. Easy to view the working status of system extensions for users through this information.



### 3.5. vehicle management

Vehicle management mainly include: Basic information, vehicle acceleration setting, switch settings, wireless settings, WIFI and GPS settings and features.



#### 3.5.1. basic information

Vehicle basic information include: vehicle number, company name, vehicle plate license number, driver name and vehicle route number

**Vehicle number:** each device will be assigned a device number before it leaves the factory, this number can be modified in the case of specific user rights. When adding network device on the CMS central platform server, this number will be used. The number cannot be modified in general user permissions.

Company name: users can fill out according to the actual usage

Vehicle number: users can fill out according to the actual usage. The vehicle number can be OSD watermarked on video.

Driver name: Users can fill in according to actual usage. When using the CMS platform server networking in use, can be used with a hub server configuration setting.

Vehicle route number: Users can fill in according to actual usage. When using the CMS platform server networking in use, can be used with a hub server configuration setting.



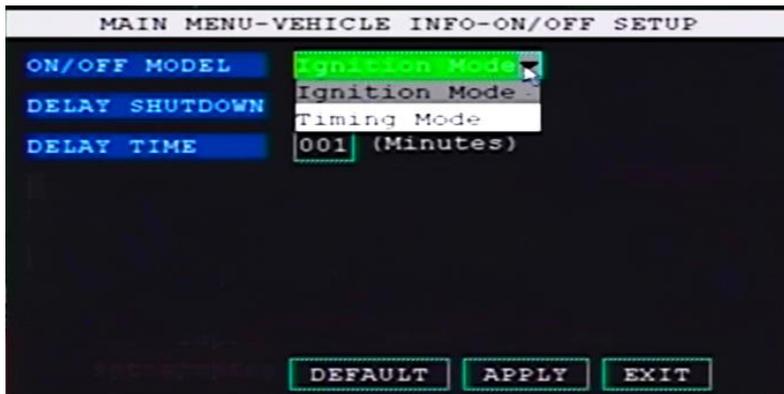
#### 3.5.2. power on /off setting

power on /off setting can configure equipment's power on /off mode and delay power off recording time.

power on /off mode: system provide ignition and schedule mode. Power on /off mode must work with equipment's ACC+ control line in use.

Delay power off time: after ACC+ wire disconnected, device can continue recording for some

time. Configuration for delay recording support 0~999 minutes. User can set based on actual usage.

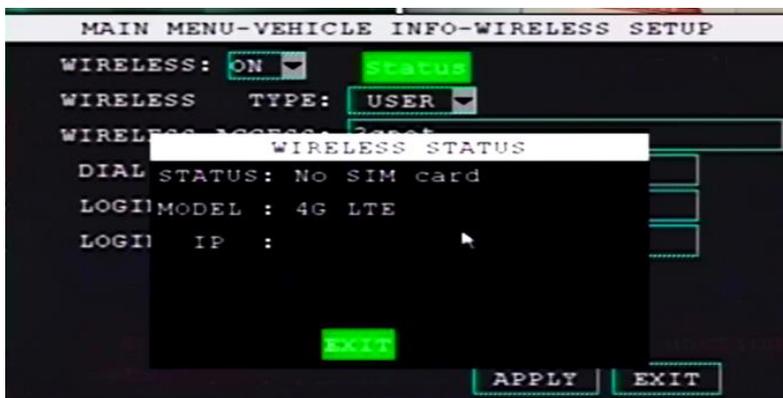


### 3.5.3. wireless setting

Wireless setting mainly configures wireless internet access dial-up settings.

User can configure wireless network parameter settings based on actual usage. In a special area, users in the procurement of SIM card, you must understand clearly related to the operator of the Internet configuration information, or may cause the situation cannot be used for normal dialing.

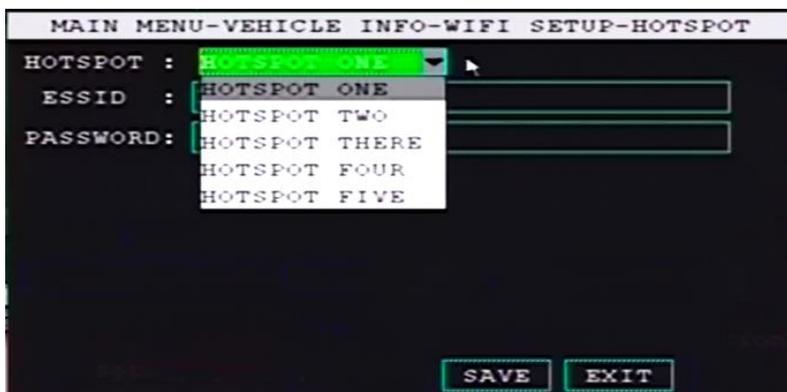
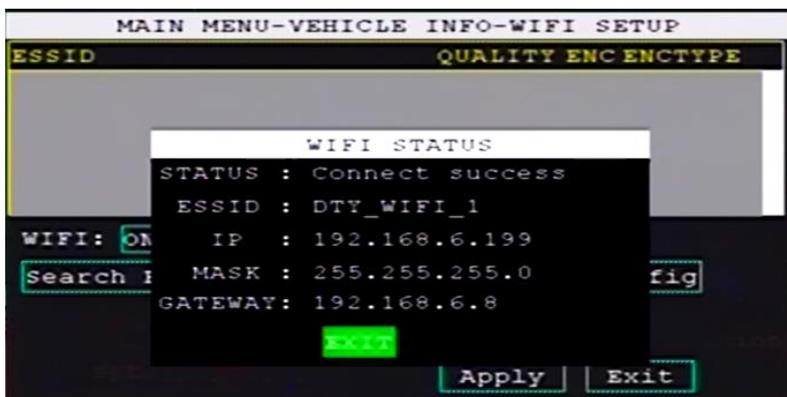
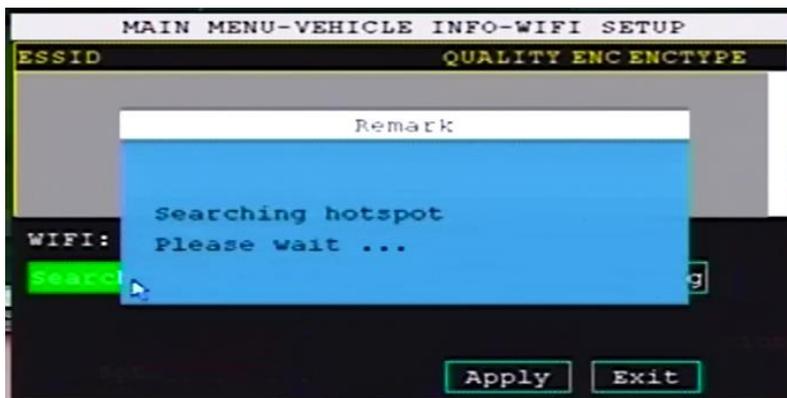
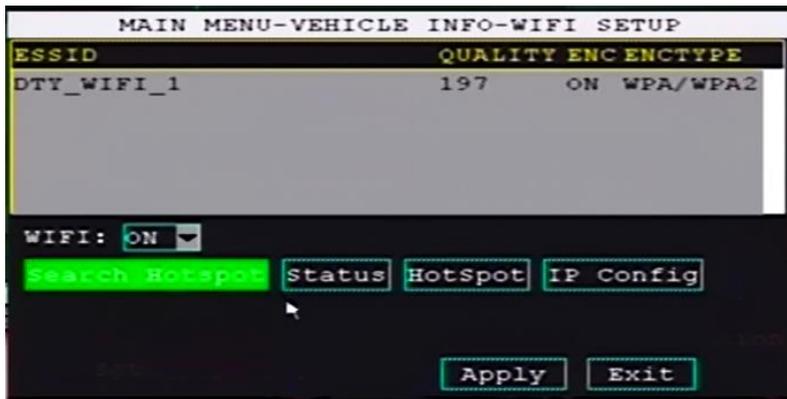
Wireless status: allow users to view the status of wireless internet dial-up, if successful, the system interface will show the access ip address from carrier.



### 3.5.4. WIFI setting

WIFI setting support Wi-Fi hotspot search, Wi-Fi status view, 5 group of Wi-Fi hotspots management and manual configure Wi-Fi parameters.

Ps: device support maximum 5 groups of Wi-Fi hotspot management and use



### 3.5.5. GPS setting

GPS setting mainly configure GPS baud, GPS information platform upload interval and GPS speed alarm configuration.

Ps: device's GPS module baud is 9600bps by default.



### 3.6. Display setting

Display setting support configure channel title of each channel, position of channel name, channel start up preview mode, OSD information, etc. parameters

**Channel title:** support user to modify based on actual usage. The default is CH1, CH2, CH3 and CH4.

Channel title name display position: support left upper corner, left down corner, right upper corner and right down corner, user can configure based on actual usage.

Horizontal rotation: The device supports the camera horizontally rotating screen configuration, the main user-friendly image adjustments in the installation process

Vertical rotation: The device supports the camera screen vertical rotation configuration, user-friendly image adjustments mainly in the installation process.

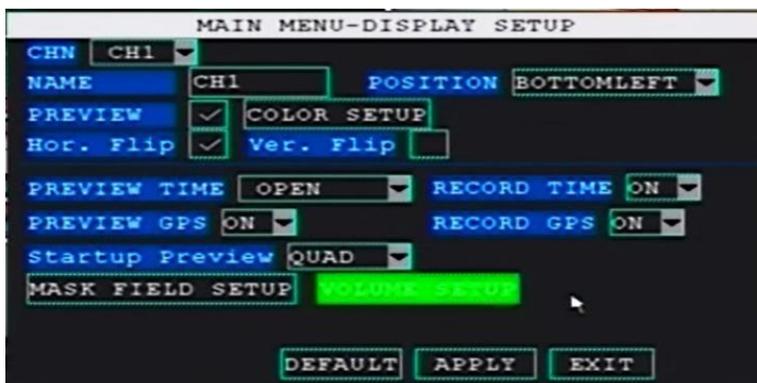
Color adjustment: support user adjusts based on actual usage.

OSD time/ GPS information display: Support time and GPS information OSD watermark to the video screen display, users need to select Close if this feature not used.

Stream OSD display: when connected to CMS central platform server, remote viewing time and GPS information superimposed on the video screen watermark function.

Boot preview: configure preview mode when device start up, support single mode image display, two channel image display, quad display screen segments. We recommend that users configure adjusted according to actual usage.

Volume adjustment: adjust device audio output volume



### 3.7. password management

Device support administrator password and normal user password management. Device

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

number is designed to allow users to enter a password to learn basic information about the device, avoid password confusion.

If users log with normal user password, cannot operate system's recording setting and function setting. Normal user is limited under permissions.



### **3.8. exit**

Exist: To exit the current menu page or return to the previous menu page

Ps: In the system menu page, supports the use of the right click shortcut to return to the previous menu or exits the menu function.

## **Chapter 5: MDVR Player**

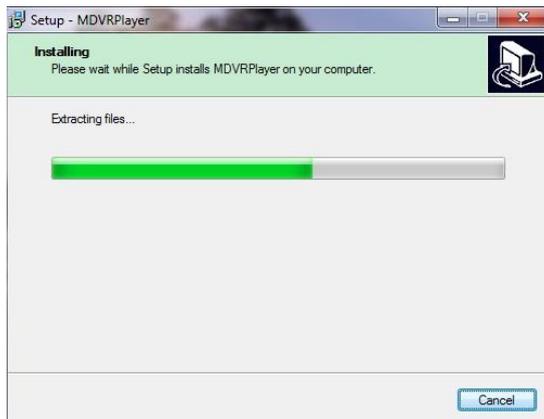
### **1. MDVR Player installation.**

MDVR Player also known as MDVR Player video playback software. Users can get software through CD provided by the manufacturer, you can also contact the manufacturer via network/Web site software.

Install play software, user can select familiar language to process installation



Player software installation path can be configured according to the actual usage



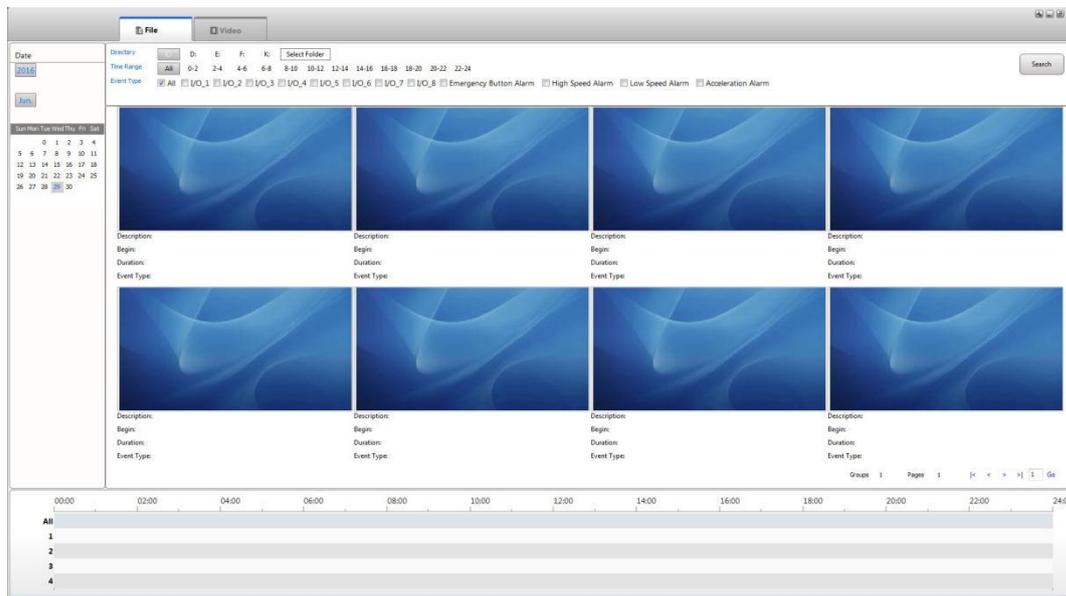


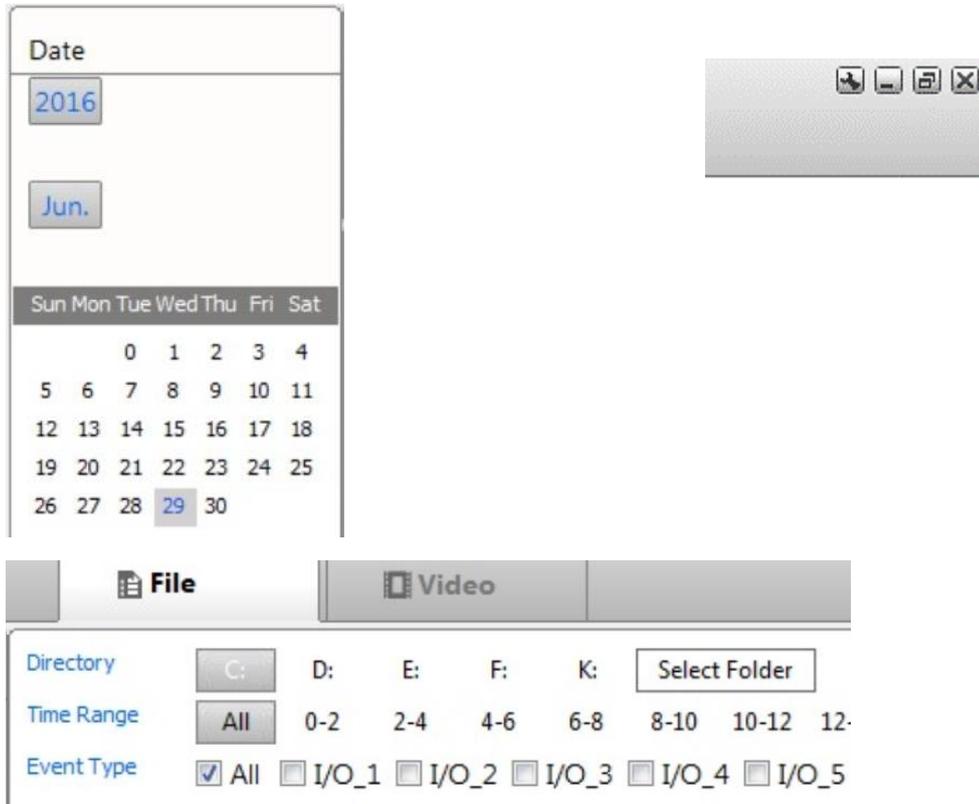
After installation, users can run MDVR Player software; can also be a shortcut icon on the desktop to run the software. If the user has installed the MDVR Player playback software, and install the new version of MDVR Player software, it is recommended that users remove the old version of the software in advance, and do some clean-up system before installing the new version of the player software.

## 2. How to use MDVR Player

Ps: Pictures in this section for the HD picture, supporting an entire document file to view larger

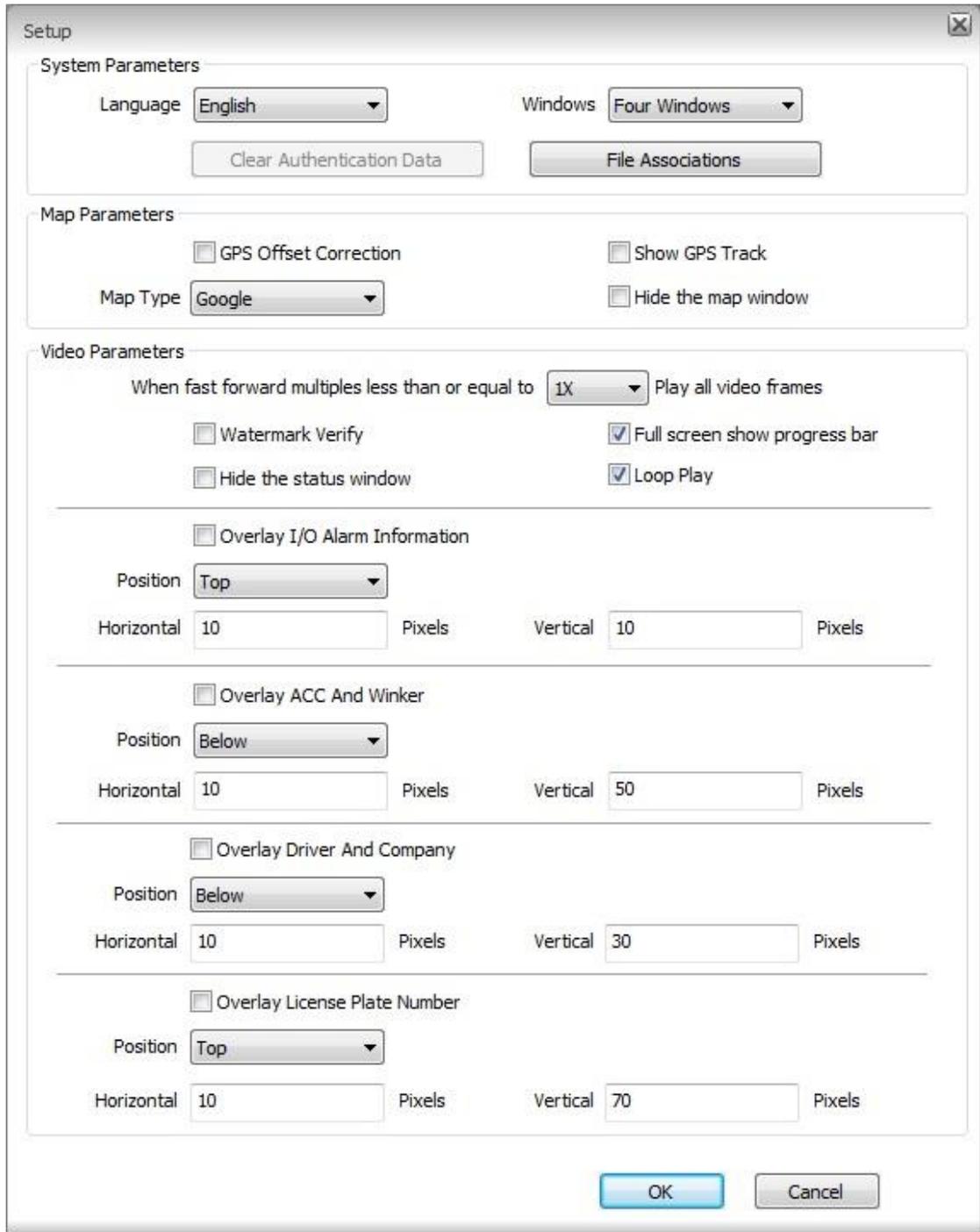
Run MDVR Player playback software, the whole play software interface dominated by simple software interface, interface for the calendar on the left side, Central interface to configure and preview video file information, software system settings press the upper right corner.



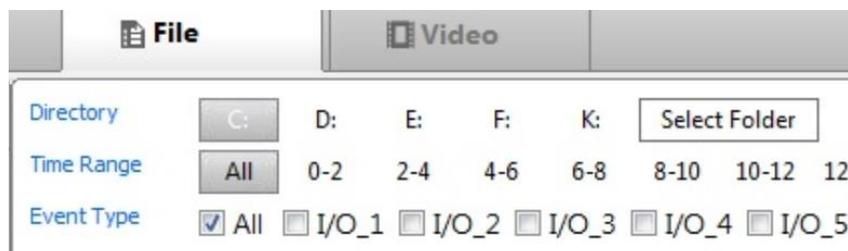


Before using the play software for video data analysis, the user can configure the playback software system settings, system settings, including playback software language, video player interface ruled cases, GPS map type, GPS location coordinates automatic correction functions.

Ps: Default Baidu map in China, other parts of the default Google Maps. Play software will be carried out according to the language of the user when installing player software selection are automatically assigned; if the user choose Chinese player software installed, then the system automatically assigns GPS loading map type Baidu map; select English if the user to install the player software, then the system automatically assigns GPS map type to load Google Maps. In special usage, the user can be configured based on actual usage.



After configuring system settings based on actual usage, can analyze video data. After opening software, user need to connect recording storage device of DVR to computer through USB. User confirm the path of recording device in computer, then locate recording device through file query module in software interface.



## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

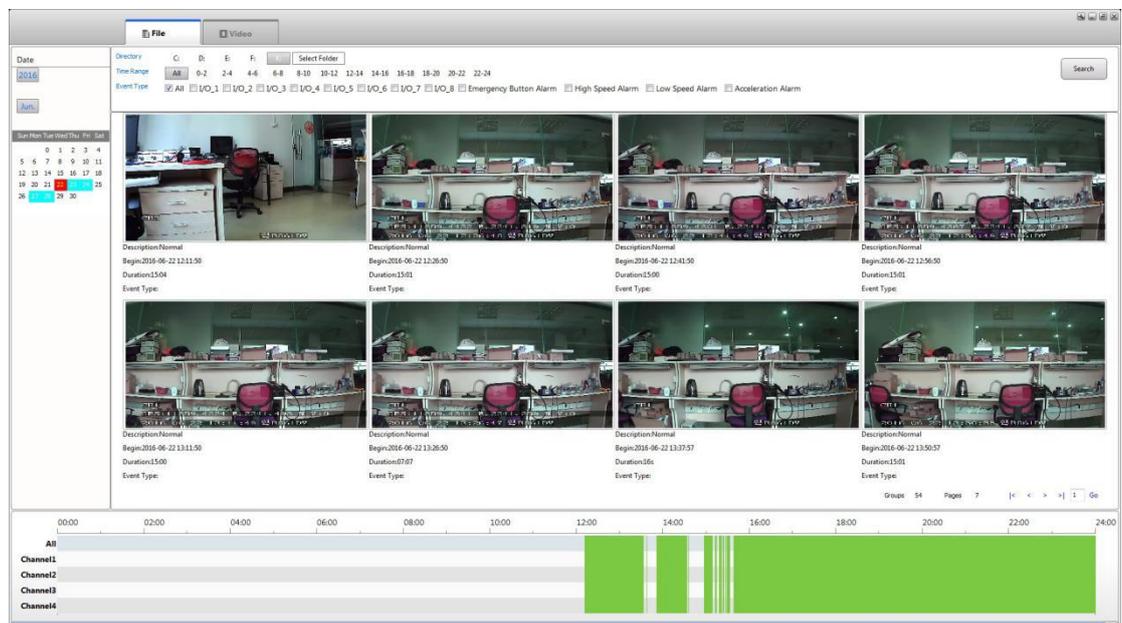
After play software identify the directory of recording files, video files will be displayed in different color at the left of software. If there is recording files in that date, the color will be sky blue. The color of current selected file is red.



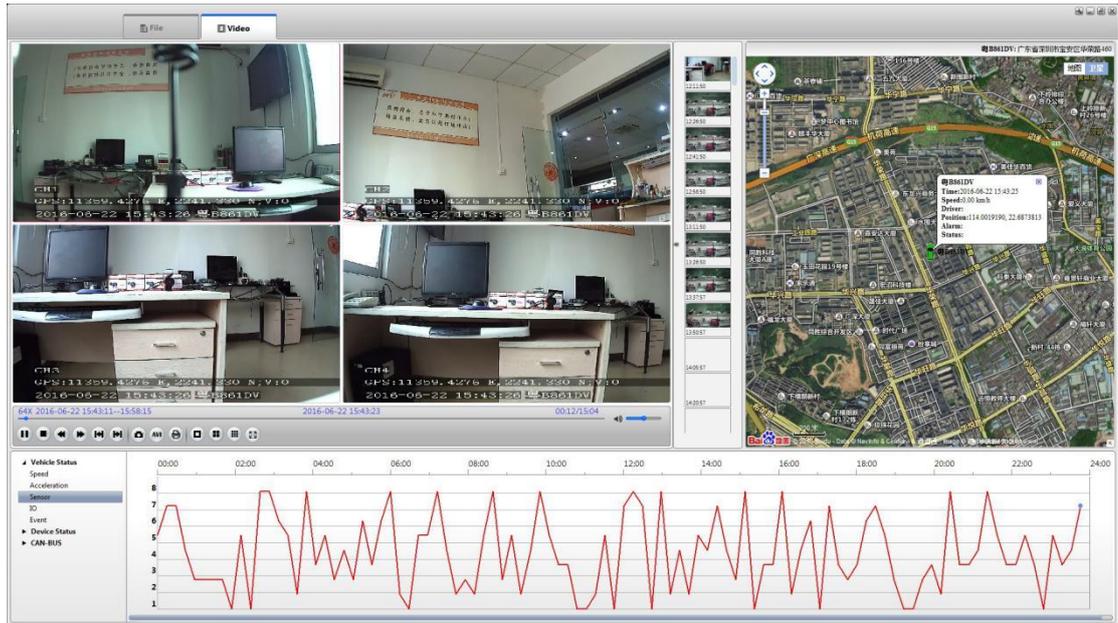
After user select the date with recording file, preview will appear in the middle of play software, 0-24-hour preview will be displayed below the progress bar, progress bar on the point in time of the video file to highlight green logo, users can play the specified video file by double-clicking the video preview interface, video playback can also be based on the time the progress bar.

Ps: software support video files query based on time period and video file type.

Query interface



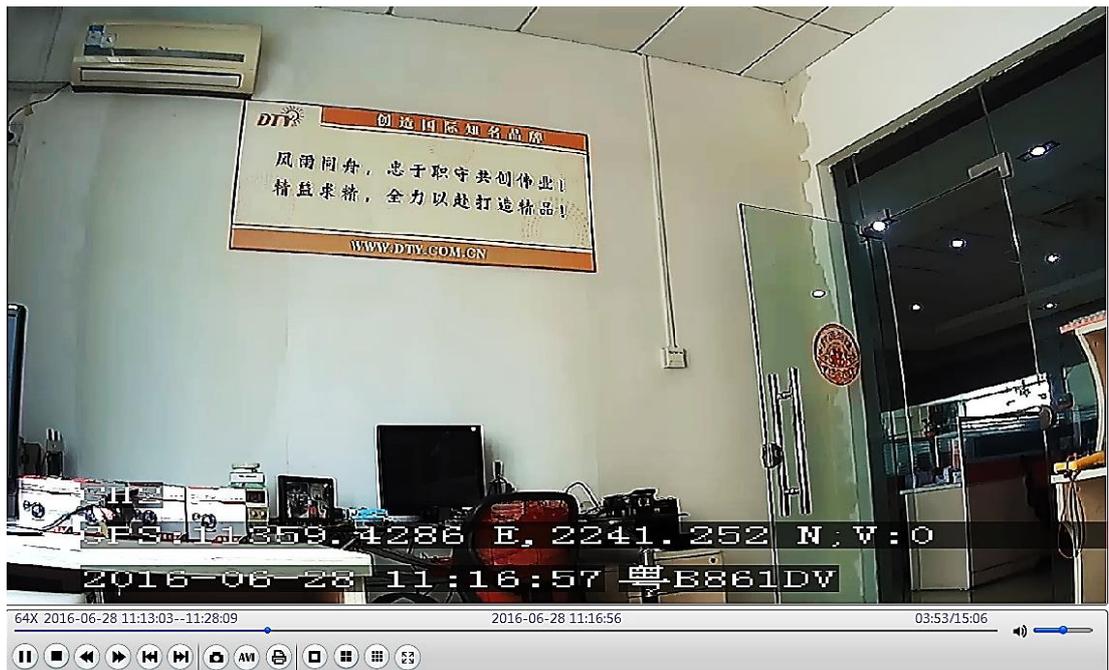
After selecting preview video, double click to play recording files. In the video player interface, in the video player interface, the left main video file playback, central to preview the video file to play the video file is located in the vicinity of time node on the right track for the GPS map, the lower part of the data analysis for the operation of the vehicle. If the device has functions related to configuration, relevant data analysis.



Ps: user can switch to satellite map to view clearer GPS track during playing video

During video is being playing, user can double click video screen to zoom viewing, can also view fast or slow.

Hover over the corresponding Play button, playback software will display the corresponding function. For example: AVI video file conversion is displayed from H.264 format to AVI format files



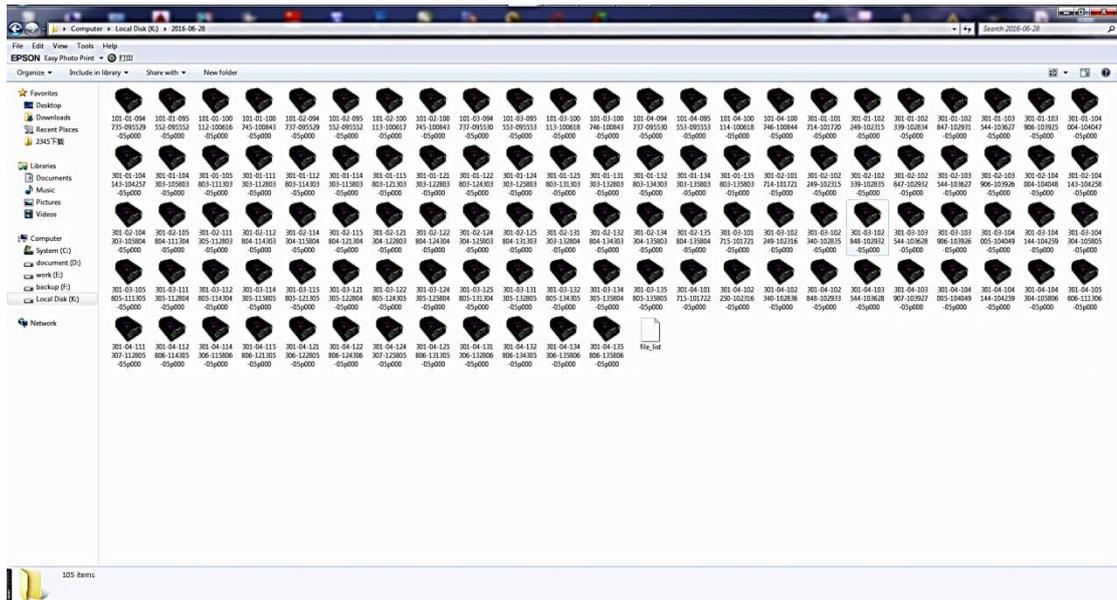
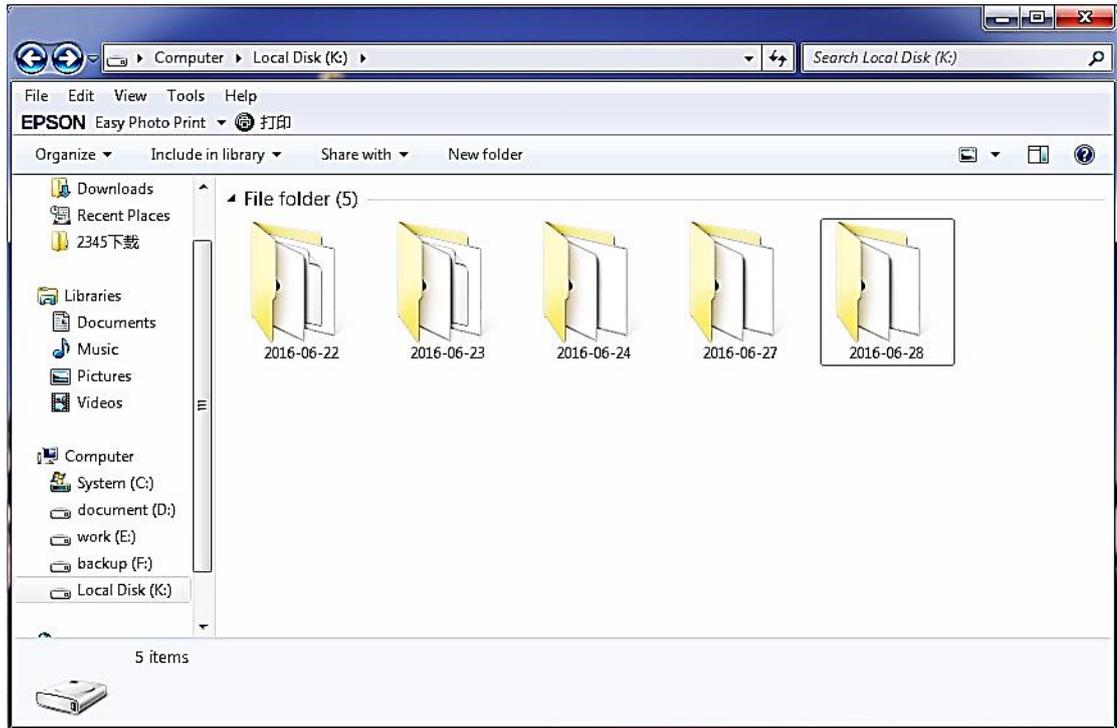
### 3. Video data back-up

Video files on storage devices (HDD / SSD / SD CARD) is not specially encrypted, so the user can

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

directly view and directly copy the video data required for data backup.

Video files are named with the date folder distinguish each folder, on the time period of the video files are named.



## Chapter 6: Vehicle network configuration

### 1. Network configuration

Device network can be achieved through a wired network RJ45, wireless networks WIFI, Wi-Fi 3G / 4G networking.

If the device is also equipped with wired and wireless networking module, so their work is in descending order of priority: the highest priority is the cable network RJ45, priority followed by wireless networks WIFI, lowest priority is 3G wireless network / 4G.

#### 1.1. wired network RJ45 configuration

Menu configuration path: main menu->function setting->network setting

MAIN MENU-BASIC SETUP-NETWORK SETUP

TYPE	STATIC	DDNS SETTINGS
MEDIA PORT	09000	CMS SETUP
WEB PORT	00080	
IP ADDRESS	192.168.006.001	
SUBNET MASK	255.255.255.000	
GATEWAY	192.168.006.008	
DNS	202.096.134.133	

DEFAULT APPLY EXIT

#### 1.2. wireless network WIFI configuration

Menu configuration path: main menu-> vehicle management-> WIFI setting

Ps: device support maximum 5 sets of WIFI hotspots management and usage

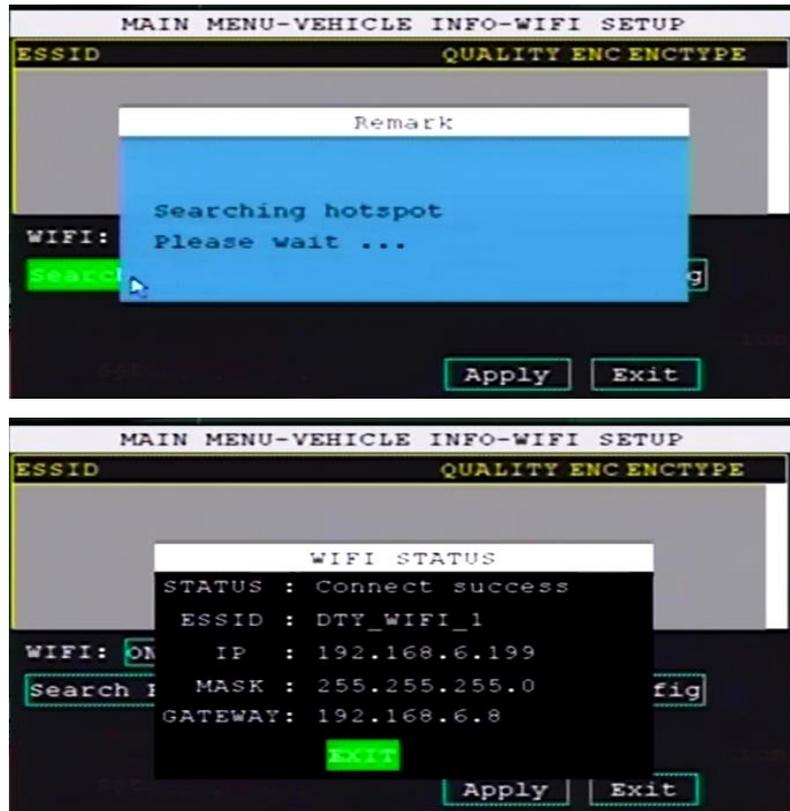
MAIN MENU-VEHICLE INFO-WIFI SETUP

ESSID	QUALITY	ENC	ENCTYPE
DTY_WIFI_1	197	ON	WPA/WPA2

WIFI: ON

Search Hotspot Status HotSpot IP Config

Apply Exit



### 1.3. wireless network 3G/4G configuration

Menu configuration path: main menu-> vehicle management-> wireless setting



## 2.0 CMS configuration

Menu Configuration Path: Main menu----> Basic setup----> Network----> CMS configuration



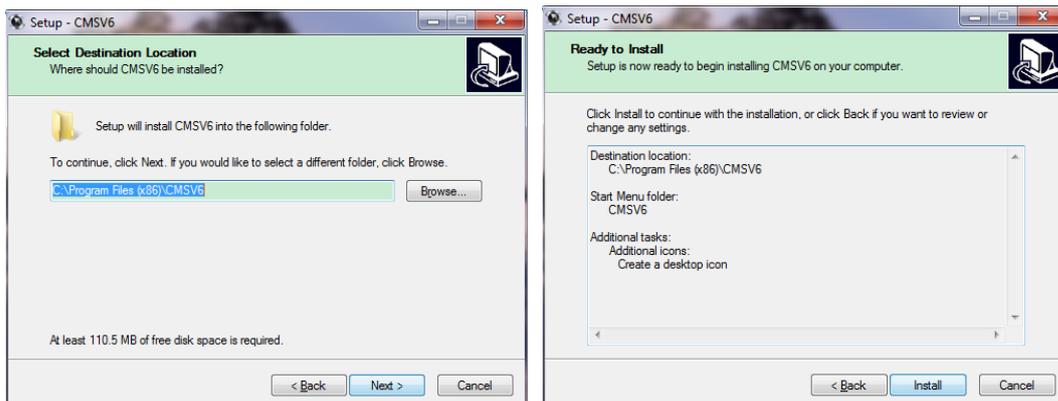
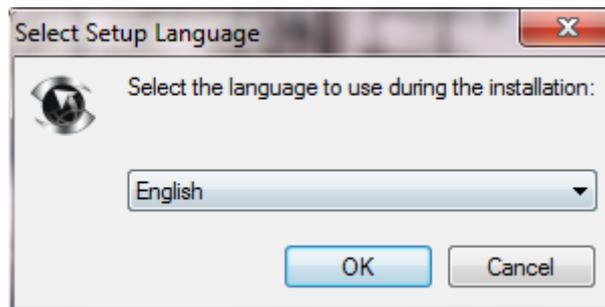
## CHAPTER 7: Vehicle remote management client software (CMSV6)

### 1. CMSV6 installation

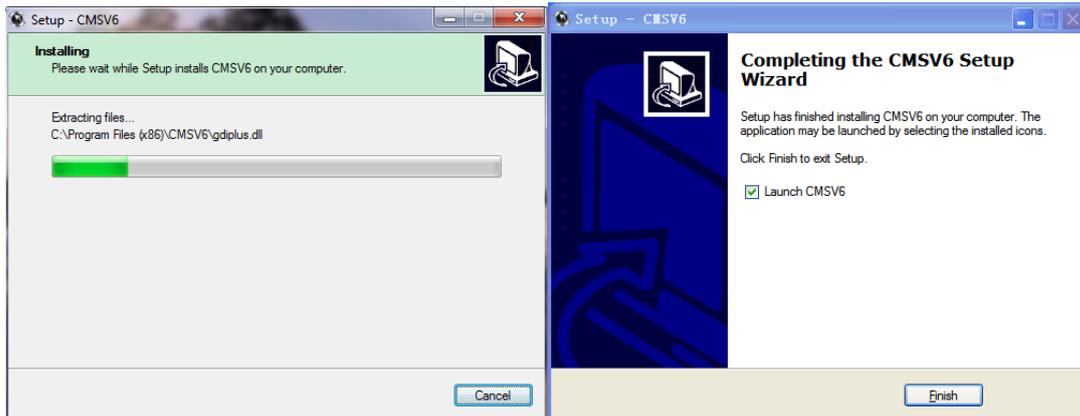
CMSV6 client software means central platform centralized monitoring control management server client access software. Users can centralized monitoring and visit running DVR data through this software ,such like real-time video, real-time GPS data, remote playback DVR terminal video data , remote download DVR terminal video data, various system alarm information, system running state, etc.

Users can get this software from the CD provided by manufacturer. Or contact manufacturer to get the newest software through Internet/web sites.

Select your familiar language to install.



Select the installation path that you want .



You can run CMSV6 directly when installation done .Or you can run it through the shortcut icon on the desktop .The old version software should be deleted and computer system should be cleaned before you install the new version CMSV6.

## 2.How to use CMSV6?

**Note:** You can enlarge picture to view .

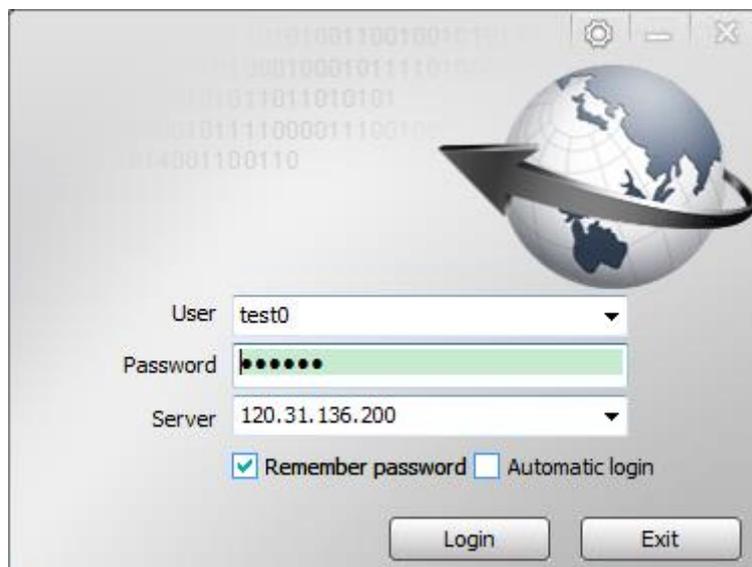
You can see login interface when you run CMSV6. Users need to enter the IP address, user name and password of the CMS center platform server.

Test account:

User:test0~test8

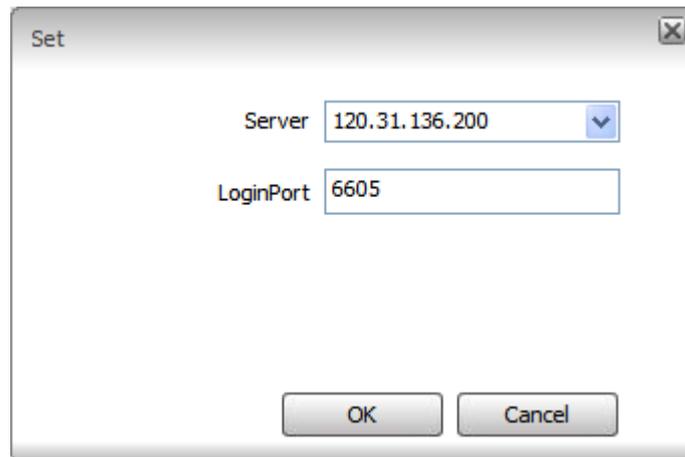
Password:000000

Server:120.31.136.200

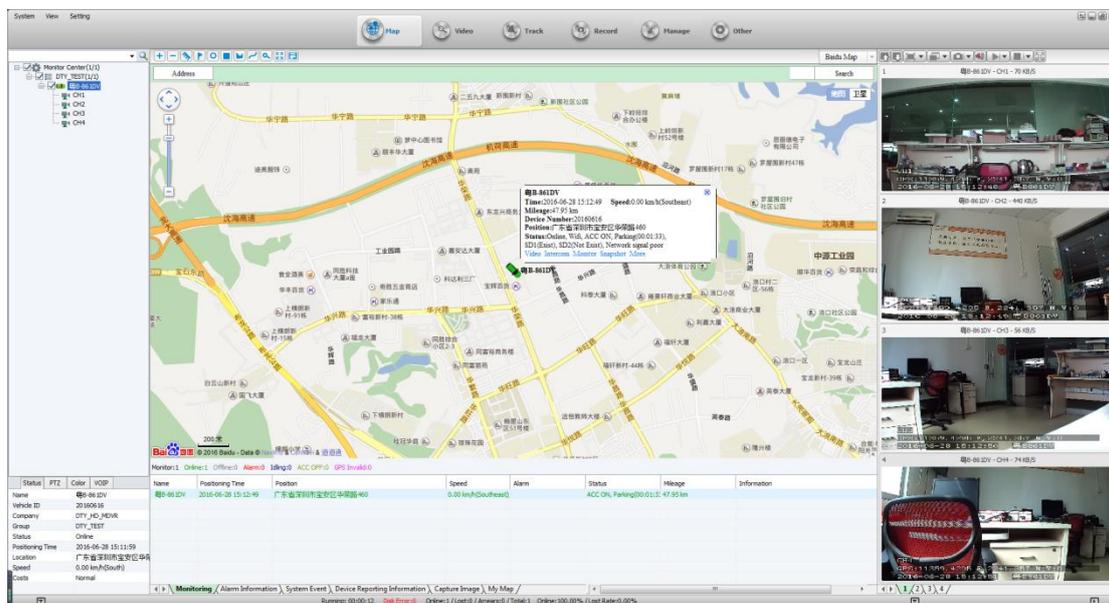


You can click the setting icon on the top right corner of login interface to modify login port. Default login port is 6605.

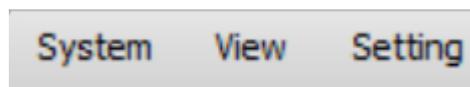
## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



You can see the client software interface after login. The top left corner has system menu. The left is DVR list that users configure in the server end. The top center is software function modules. The center is address load area. The right is video monitoring area. The bottom is PTZ and information monitoring area.



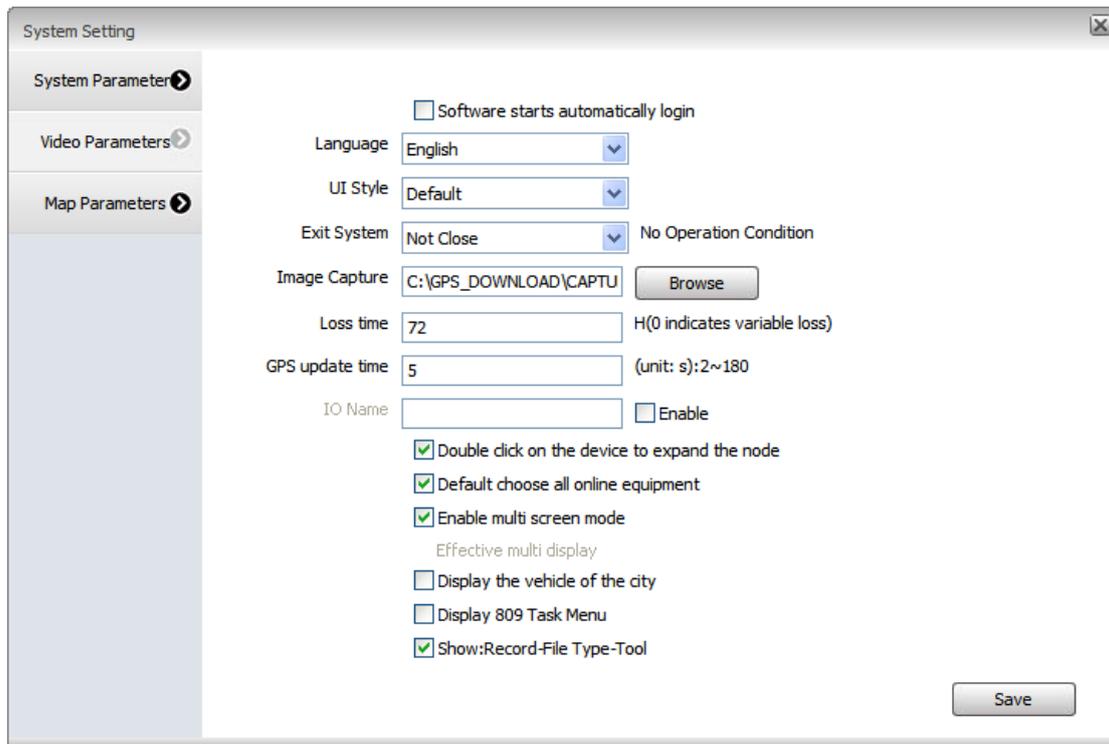
We advise user to check the system setting menu on the top left corner to learn the related content of system setup for more convenient to do the monitoring and management by using CMSV6.



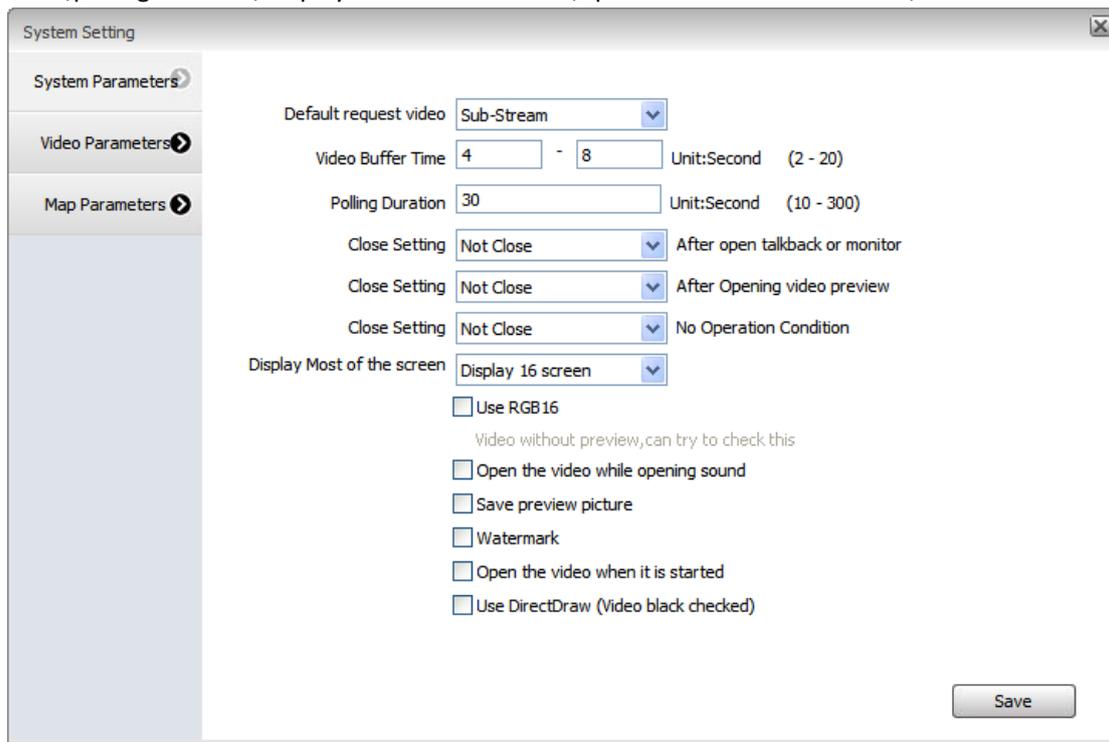
There are three configurations in the system setting menu: system parameter, video parameter and map parameter

System parameter: You can configure the system display language, UI style, image capture storage location and GPS update time, default choose all on line equipment.

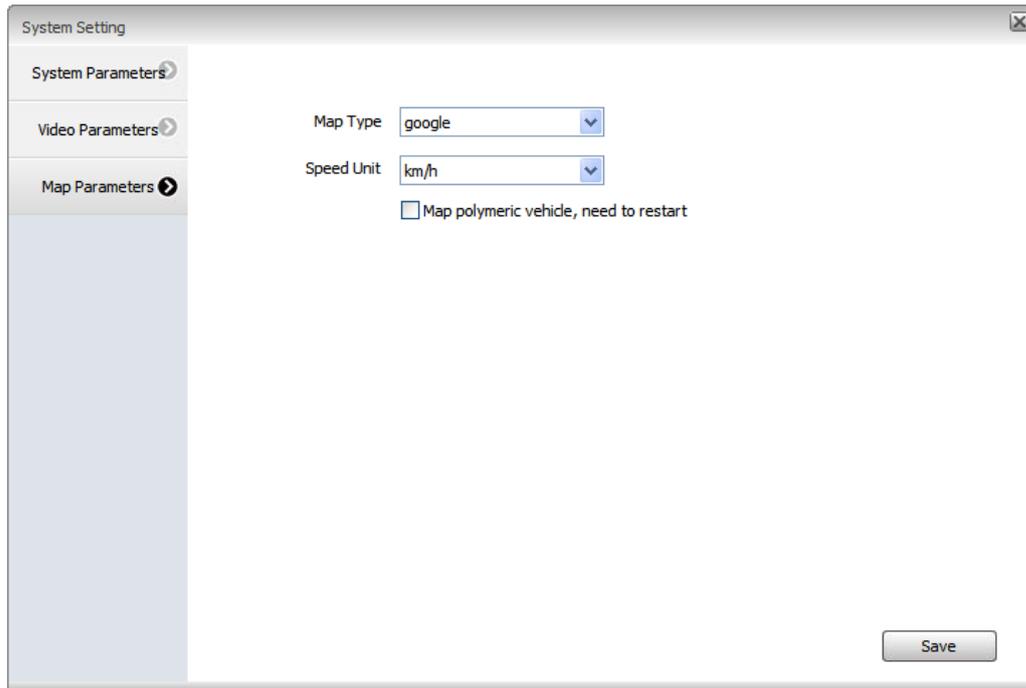
## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



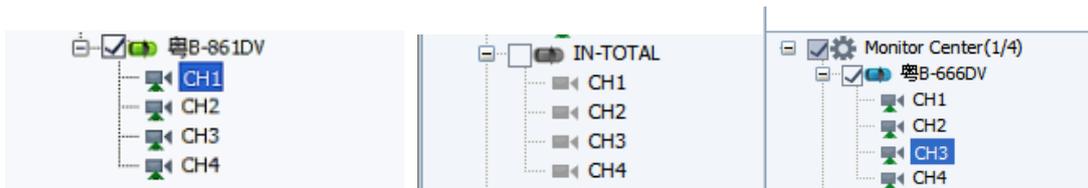
video parameter: You can configure the default request video stream , video buffer time ,polling duration, display most of the screen ,open the video when it start ,etc.



Map parameter: You can configure the map type, speed unit, etc.



You can see equipment list on the left online equipment can be searched or selected directly. The icon of online and driving equipment will be green. The icon of not online equipment will be grey. The icon of online but speed is idling equipment will be blue.



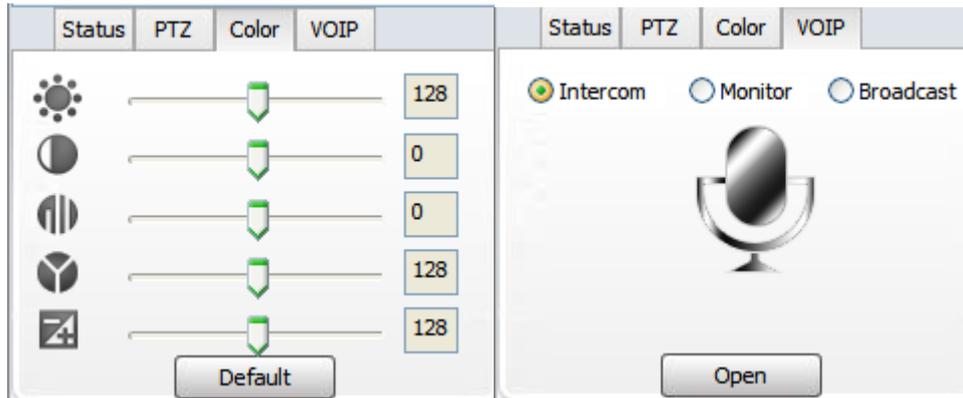
You can see the equipment status and PTZ interface on the left bottom.

Through the status we can know the information of the vehicle that we have selected. Including vehicle ID, company, group, vehicle status, positioning time, location, vehicle driving speed, equipment use is normal or not. We can control the PTZ device directly through PTZ interface if remote terminal unit supports PTZ

Status	PTZ	Color	VOIP
Name	B-666DV		
Vehicle ID	20160719		
Company	DTY_HD_MDVR		
Group	DTY_HD_MDVR		
Status	Online		
Positioning Time	2016-08-10 14:23:20		
Location	22.683048, 113.990818		
Speed	0.00 km/h(North)		
Costs	Normal		

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

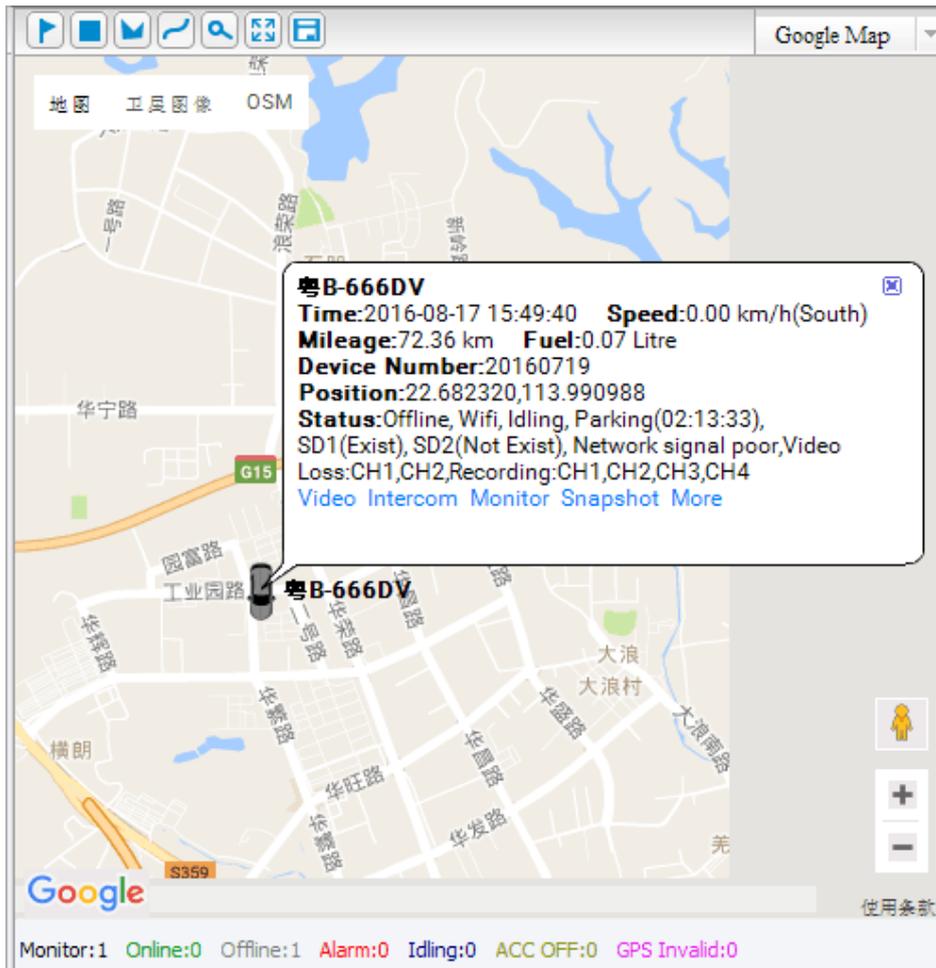
You can process the brightness, chroma and hue of the video through the color page. You can monitor terminal voice through VOIP page .You can open the intercom mode if the terminal equipment support intercom.



On the top center is the function module .Users can switch all kinds of monitoring mode .Selected module's background color will be high bright .Main page will show sub-function modules according to the function module you have selected .

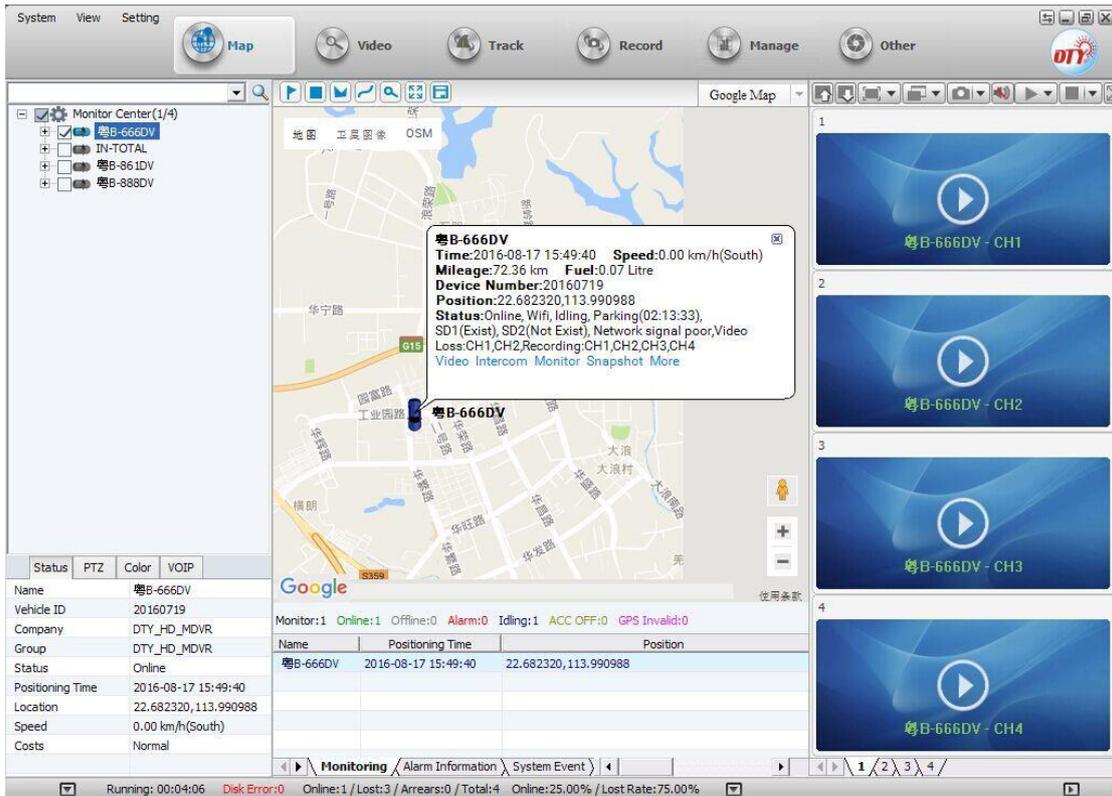


**Map:** User can choose Baidu or Google map to do the positioning, tracking and monitoring of vehicle trajectory.



The whole page when you click map module.

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

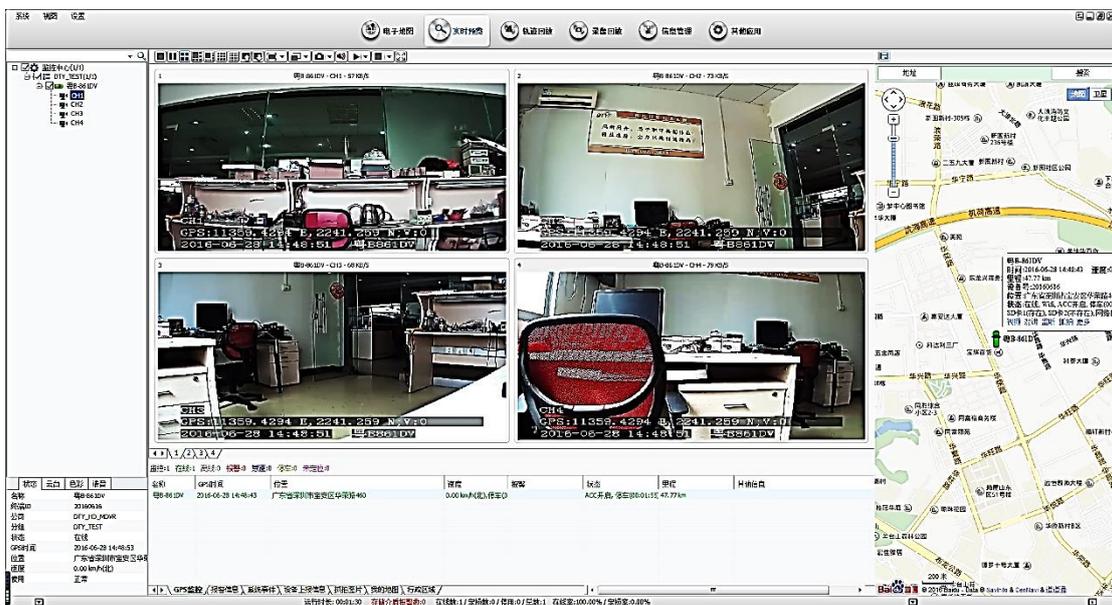
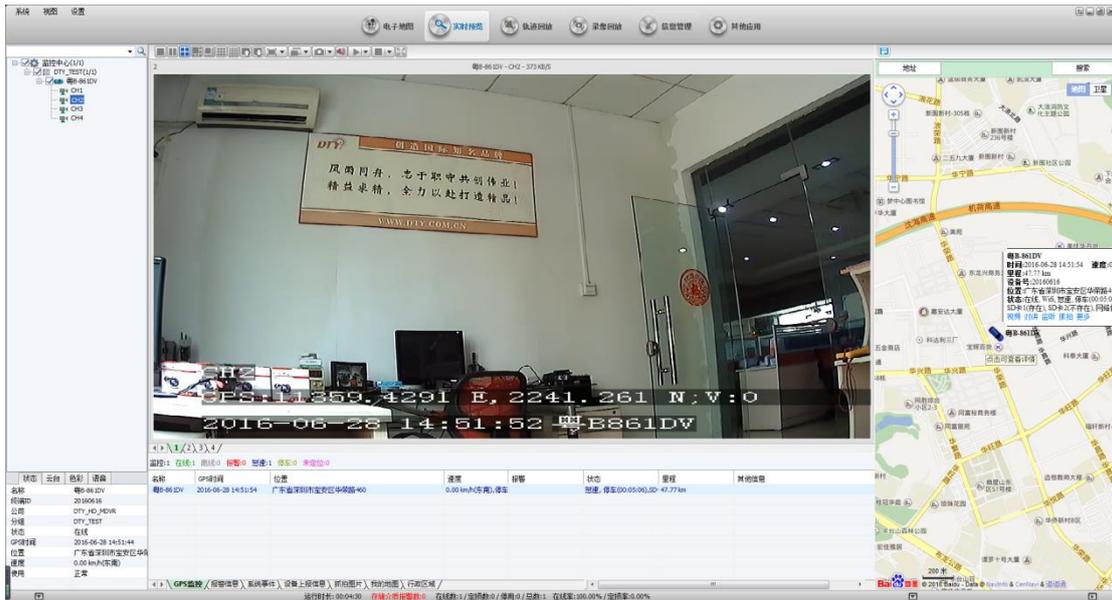


**Video:** User can real time monitoring the video.



The whole page when you click video module.

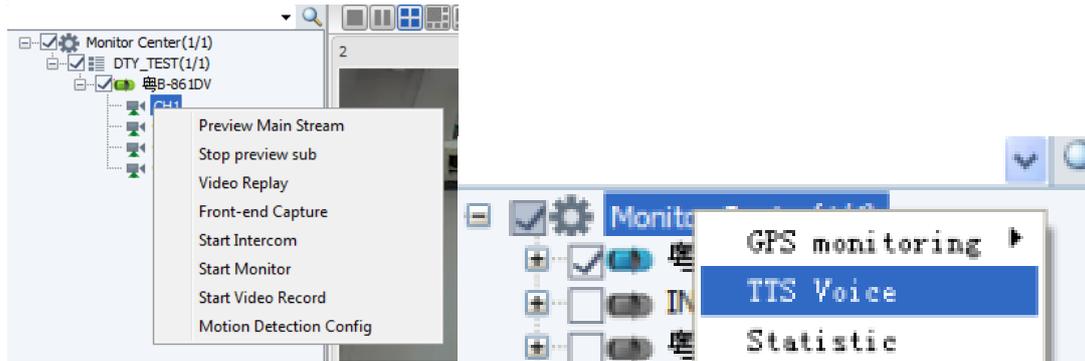
## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



You can switch the stream (main stream or small stream) through right click the specific channel on the left side equipment list While you using CMSV6 client software to do the video and audio monitoring.

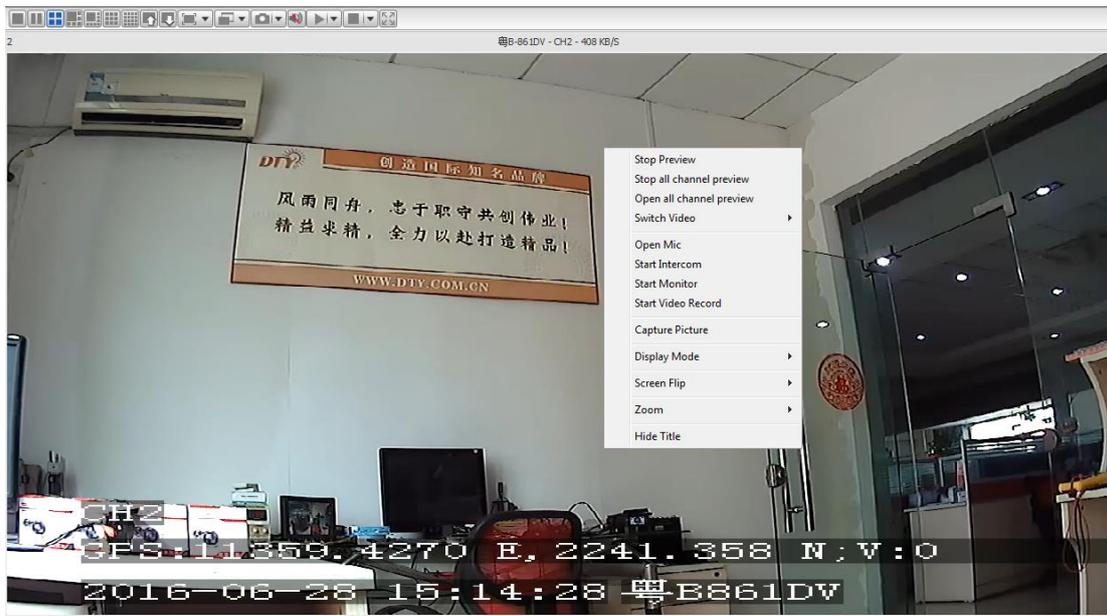
Users can send text information by right click the relevant equipment if terminal equipment supports electronic screen.

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



It will pop-up relevant shortcut menu when you right click on the real-time video preview image. It can make you easily implement the functions of audio video monitoring, recording, Image rotation, display scale, etc.

You can check the OSD watermark of real time GPS data, terminal equipment current date and time and vehicle plate number on the real-time preview video image.



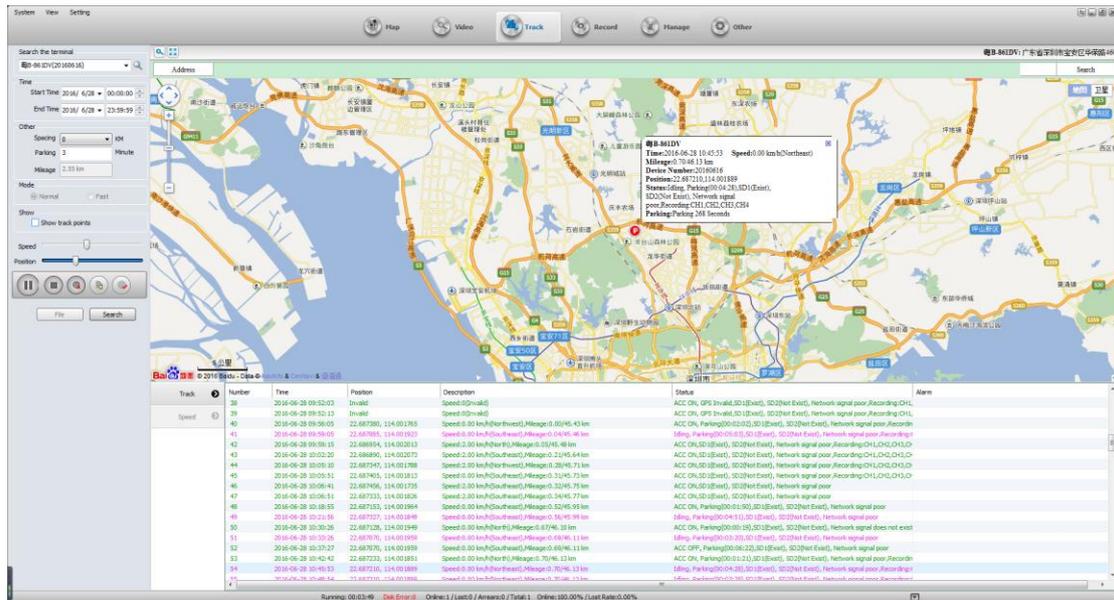
You can see equipment related information such like online equipment quantity, alarm equipment quantity, name of the specific equipment, positioning time, specific position, speed, status, travelled distance, video storage status, wireless network status, ACC+ and so on the CMSV6 middle bottom,

Monitor:1 Online:1 Offline:0 Alarm:0 Idling:1 ACC OFF:0 GPS Invalid:0				
Name	Positioning Time	Position	Speed	Alarm
粤B-666DV	2016-08-17 16:36:46	22.682966,113.991095	0.00 km/h(East),Parkir	

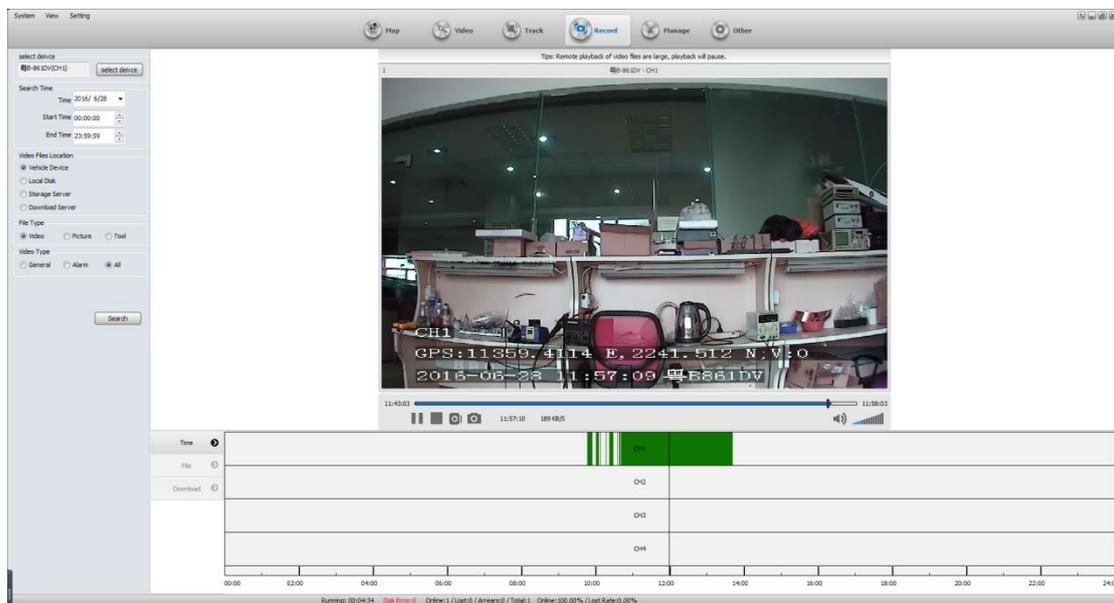
Monitoring Alarm Information System Event Device Reporting In

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

**Track:** You can know the moving trajectory of the specific time when you search and playback the GPS information of selected terminal device.



**Record:** You can playback the video that stored on terminal equipment, CMS center platform server and local disk.



**Manage:** Provide statistic, operational management and the rules management

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

**Driving Behavior Statistics RPT**

Set Time: Custom Time | Start Time: 2016-06-28 00:00:00 | End Time: 2016-06-28 23:59:59 | Query | EXF File Format

Vehicle: Set Vehicle | Structure: Query By Vehicle | Type: Collect RPT

Summary Graph

Rank Figure

Index	Plate No.	Plate Color	Start Time	End Time	Speed Alarm/Total Time	Period OverSpeed Alarm (platform)/Total	Period of Low Speed Alarm (platform)/To	Timeout Parking (platform)/Total Time	Fatigue Driving (platform)/Total Time	Driving
[Table content is mostly blank in the screenshot]										

Per Data: 15 | Page: Total 1 Page

Running: 00:05:07 | Disk Error: 0 | Online: 1 / Lost: 0 / Answer: 0 / Total: 1 | Online: 100.00% / Lost Rate: 0.00%

**Operations Vehicle**

Set Status: | Plate No./Device No./Co. Name | All Vehicle | MOD Co | EXF Excel

Index	Plate No.	Plate Type	Device No.	Vehicle Color	Status	Company	Last Time On Line	Install Date	Service Expiration	Operate
1	鄂B-9010V	Blue Card	20160616	Blue	NormalLine	DTY_HD_NEWR	2016-06-28 15:17:49	2016-06-18 10:31:24	2016-07-18	[Operate icon]

Per Data: 15 | Page: Total 1 Page | Displaying by 1 to 1, Total of 1 Records

Running: 00:05:25 | Disk Error: 0 | Online: 1 / Lost: 0 / Answer: 0 / Total: 1 | Online: 100.00% / Lost Rate: 0.00%

**Rule Maintenance**

Assign rule - by vehicle

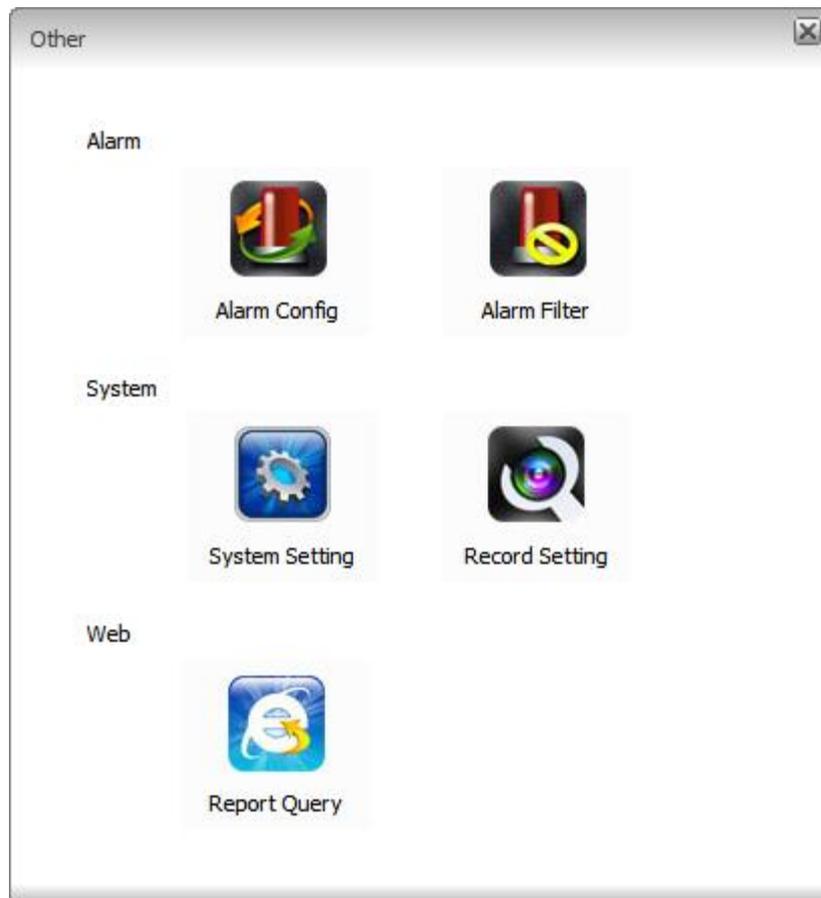
Rule Name: | All Rule | Add

Index	Rule Name	Company	Operate
[Table content is blank in the screenshot]			

Per Data: 15 | Page: Total 1 Page | No record

Running: 00:05:43 | Disk Error: 0 | Online: 1 / Lost: 0 / Answer: 0 / Total: 1 | Online: 100.00% / Lost Rate: 0.00%

**Other applications:** alarm linkage configuration, system setting, record setting, report query and so on.



## **CHAPTER 8: Vehicle remote management mobile app**

Users can get CMSV6 by searching it on android app store and IOS app. Android version CMSV6 also can be found in the CD disk that provided by manufacturer. Or you can ask manufacturer for Android version CMSV6.

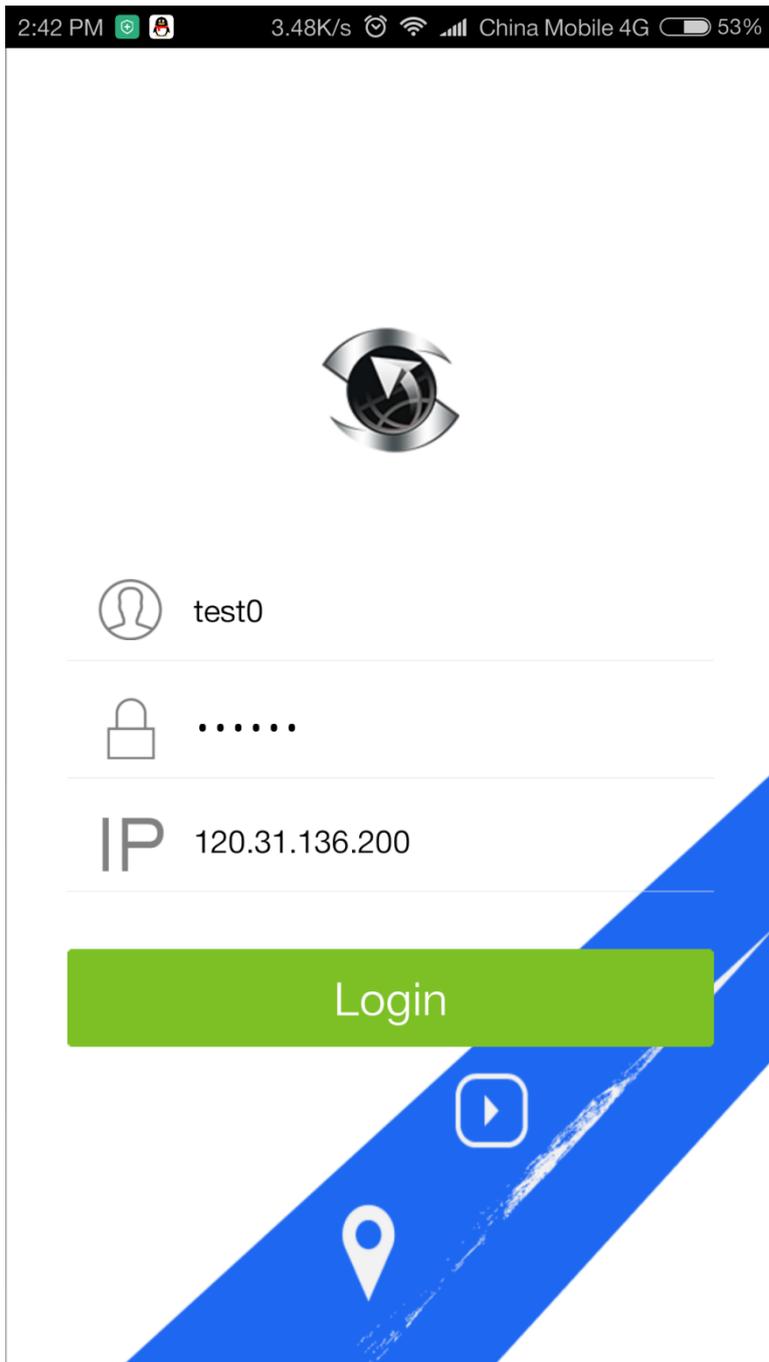
You can see client login interface when you run CMSV6 icon after CMSV6 be installed. Users need to input the CMS center platform server IP address, user name and password.

Test account:

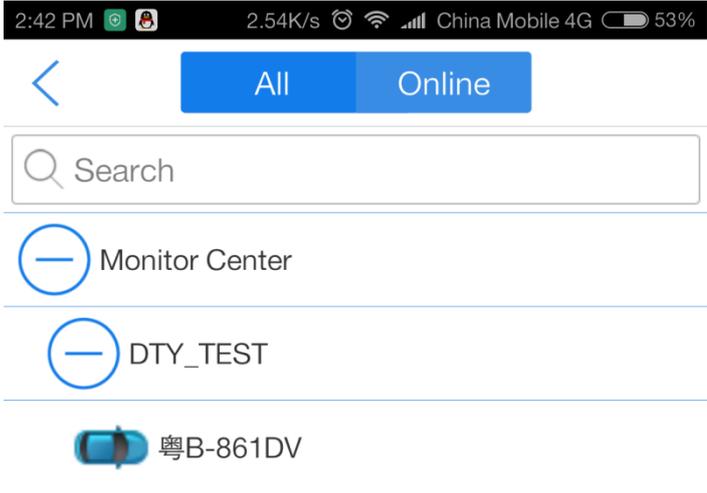
User:test0~test8

Password:000000

Server:120.31.136.200



User should search and select the online terminal equipment that you want to monitor firstly by the search bar after the successful login



The software will automatically return to the map monitoring interface after the online equipment be selected. Map will show the vehicle equipment information.

It supports general map and satellite map.



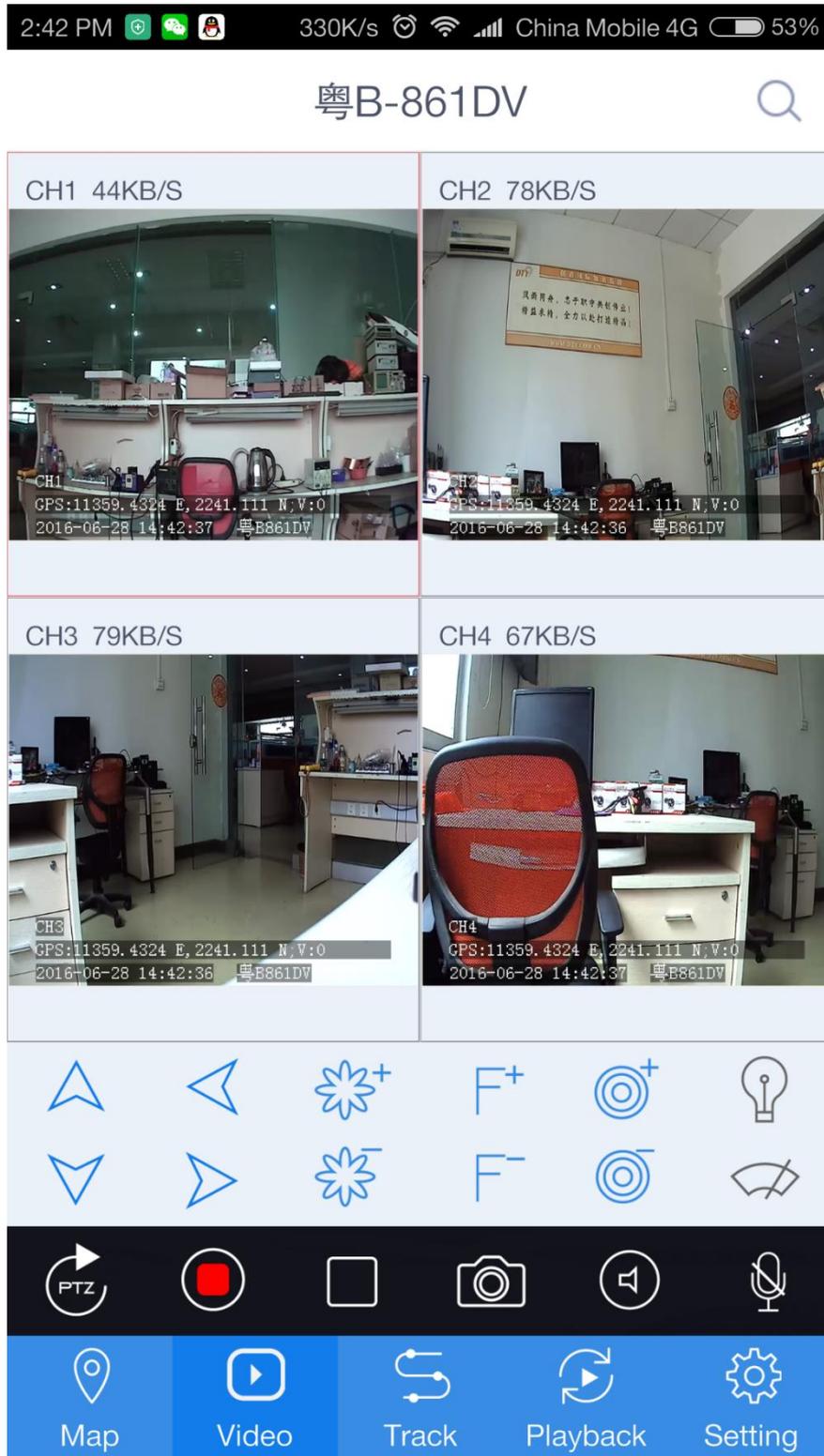
Users can switch map to video through the function bar that on the bottom. You can monitor the Realtime video, control PTZ devices, control directional, adjust the focal length and aperture here.

You can preview/stop preview video, record/stop record video, capture image, monitor voice and talk to

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual

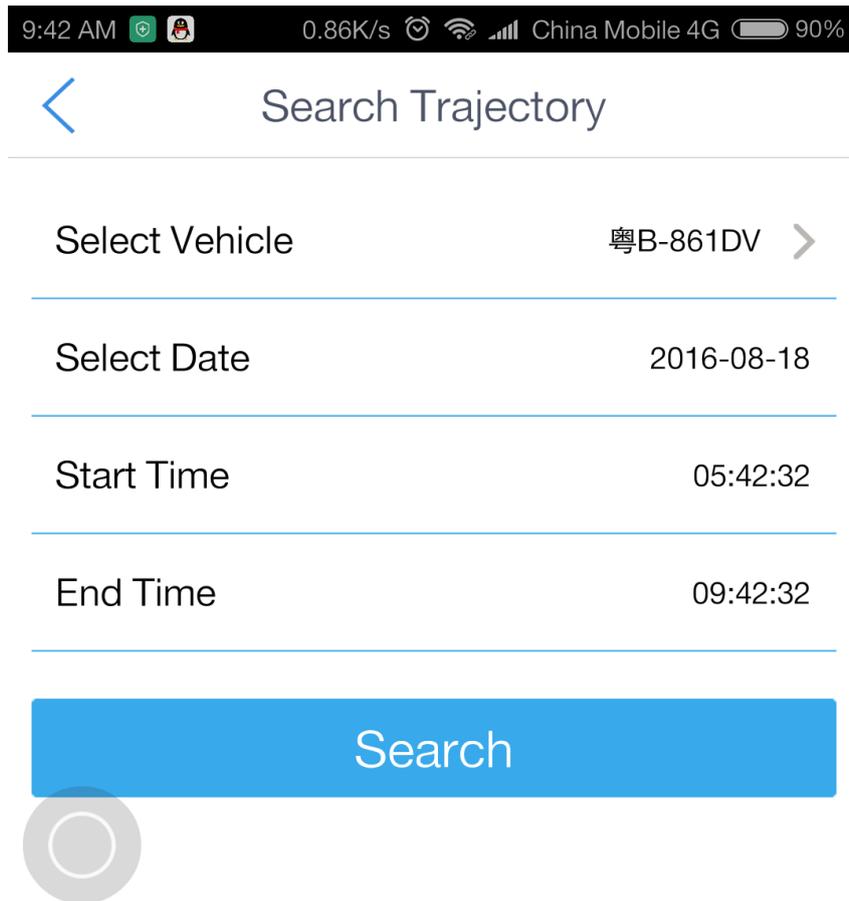
driver through tool bar.

Realtime traffic will display on the top of every single channel image.



You can switch it to trajectory through the bottom function bar. click the search icon to search the device you want to playback trajectory.





Switch it to video playback through the bottom function bar. configure all the information and then search.

2:44 PM 1.73K/s China Mobile 4G 52%

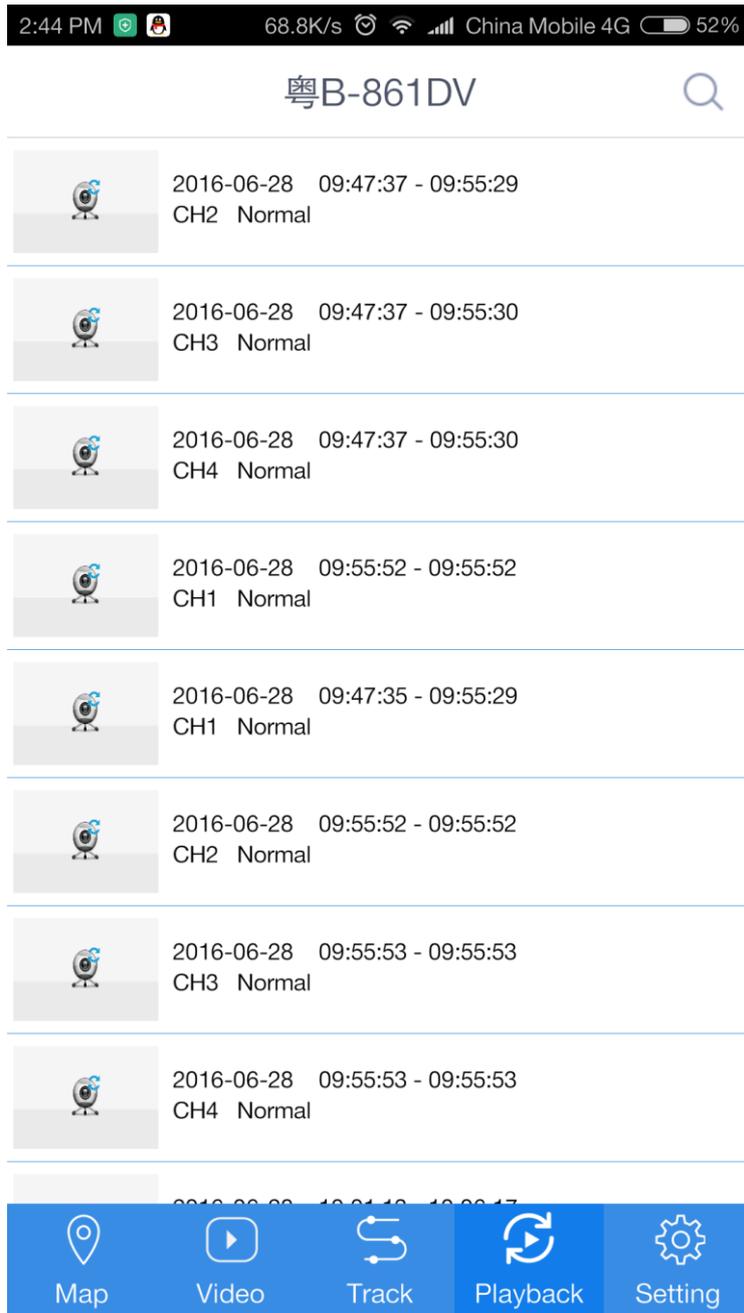
< Search Record

Select Vehicle	粤B-861DV >
Location	Terminal >
Channel	All Channel >
Type	All File >
Select Date	2016-06-28
Start Time	00:00:00
End Time	23:59:59

Search

It will list all the video according to the information you have configured after search.

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



It will be full screen when you playback video GPS data, day/time of terminal equipment, plate number will display on the video image.

## H.264 AHD Vehicle Surveillance System (Vehicle Internet Platform) X10 Series Manual



Switch it to setting through the bottom function bar. You can configure login account, map type(Baidu map/Google map),GPS correction, speed unit and software version here .

