

# **Video Management Software 2.0(VMS)**

## **User Manual**

**September 15, 2017**

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## **PART 1: Product Introduction**

### **1. Overview**

Video Management Software- Single Version (VMS2.0, hereinafter referred to as VMS2.0), is a professional software used for centralized management of network monitoring of front-end equipment, including NVR, DVR, IPC, MDI, SDI, etc. Mainly can realize real-time preview, video playback, electronic map, alarm linkage, wall decoding function and other functions, supporting WEB client and mobile client access.

VMS2.0 program uses a separate installation package, convenient installation, including the needing basic function of use, generally used for small project, VMS directly fetch data from the device. Suggest not connect multiple clients with the same client that will increase equipment's pressure.

At present VMS2.0 support 5 protocols which are initiative registration, I8H, I8, ONVIF and GB28181. In which automatically registered, I8H and I8 for our private agreement, not limited to the number of authorized channels and the use of time, free open. ONVIF and GB28181 agreement has a total of 100ch trial license, the authorization period is 1 month, valid from the date of installation, after authorization expiration, the equipment will not be able to go live properly. If you would like a

permanent license, please contact your dealer to purchase a dongle and authorization.

## **2 . System Requirements**

### **2.1 Hardware Requirements**

CPU : Intel(R) Core(TM) i5 6500 @2.6GHZ or above model

Memory: 4G or higher

Graphics Card: Intel HD 630 or more integrated graphics or NVIDIA GTX750 above discrete graphics

NIC: Gigabit Ethernet or above

CD-ROM: DVD-R

Hard Disk: 250G or more, to ensure that 20G available space

Switch: Gigabit switch or above

### **2.2 Software Requirements**

1 ) Server2003、 server2008、 windows XP、 windows 7、 windows 8、 windows 10

2 ) Microsoft .Net Framework 3.5

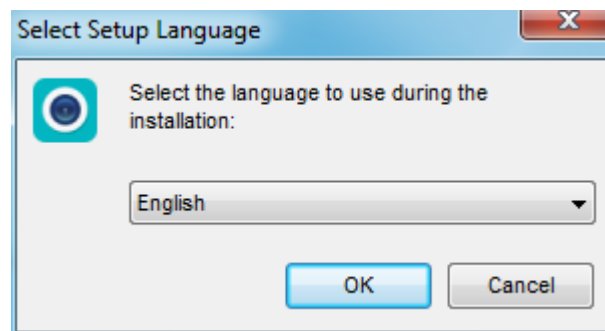
3 ) Microsoft Visual C++2010 X86 Re-distributable Setup

## 2.3 System Environment

Program running need to occupy the database, 5050 port and 6666 port, one PC can only run a database, make sure no other database is running and the two data ports are not occupied, otherwise it may cause the program cannot run.

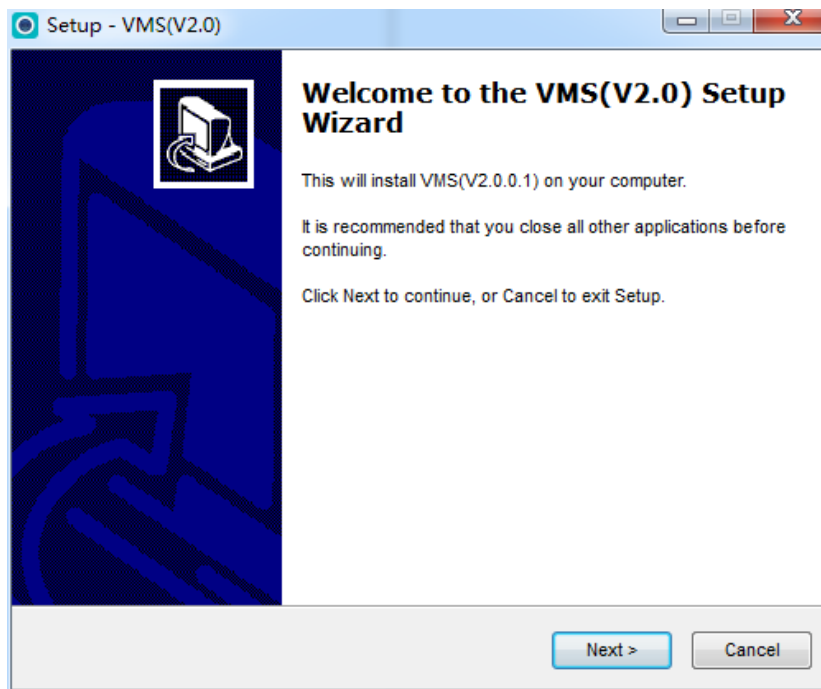
## PART 2: Program Introduction

Program Installation Introduction: double-click to run the installation program, open the installation wizard:

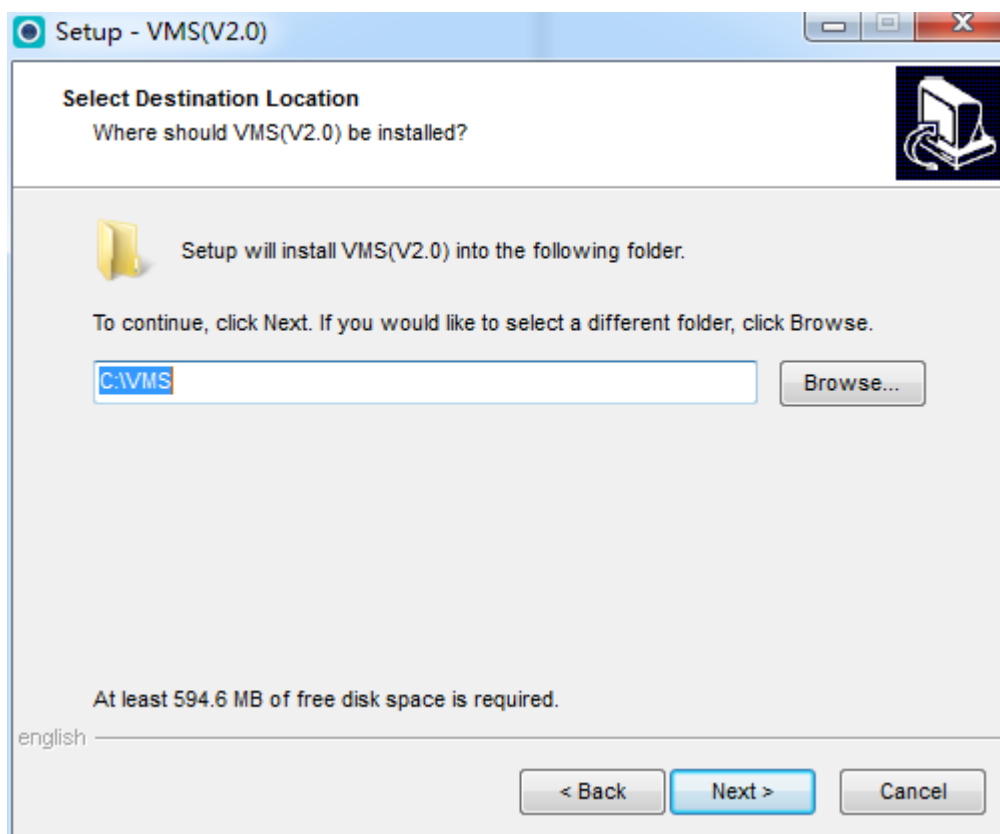


Select the installation language, the program will automatically identify the system language as the default option, if you need to install other languages, you can choose in the drop-down box, the initial program supports Simplified Chinese and English, if you need to support other languages, please contact the dealer to do the corresponding translation. Install the language and click OK:



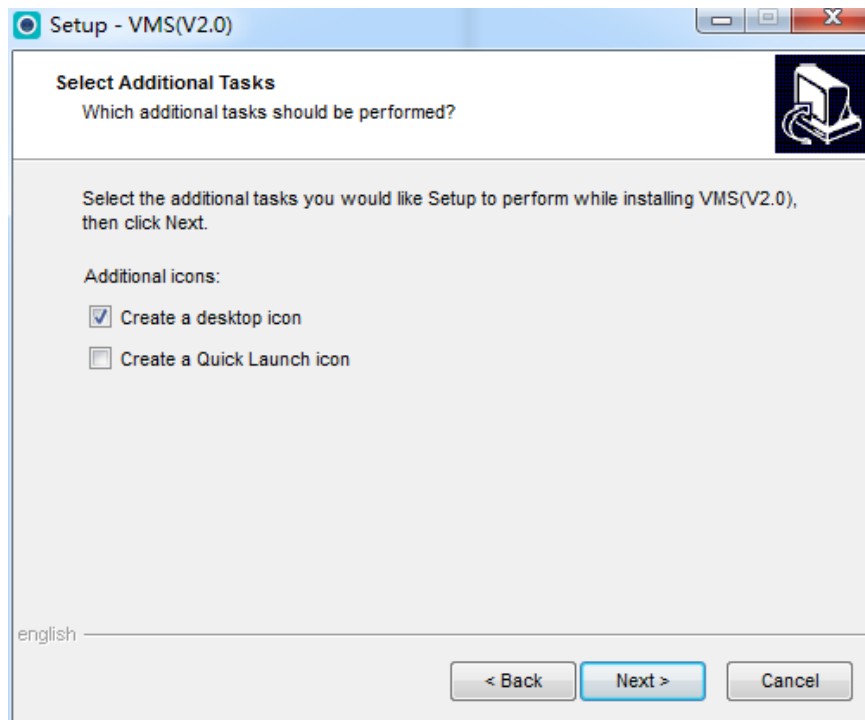


Click next, select the installation path :

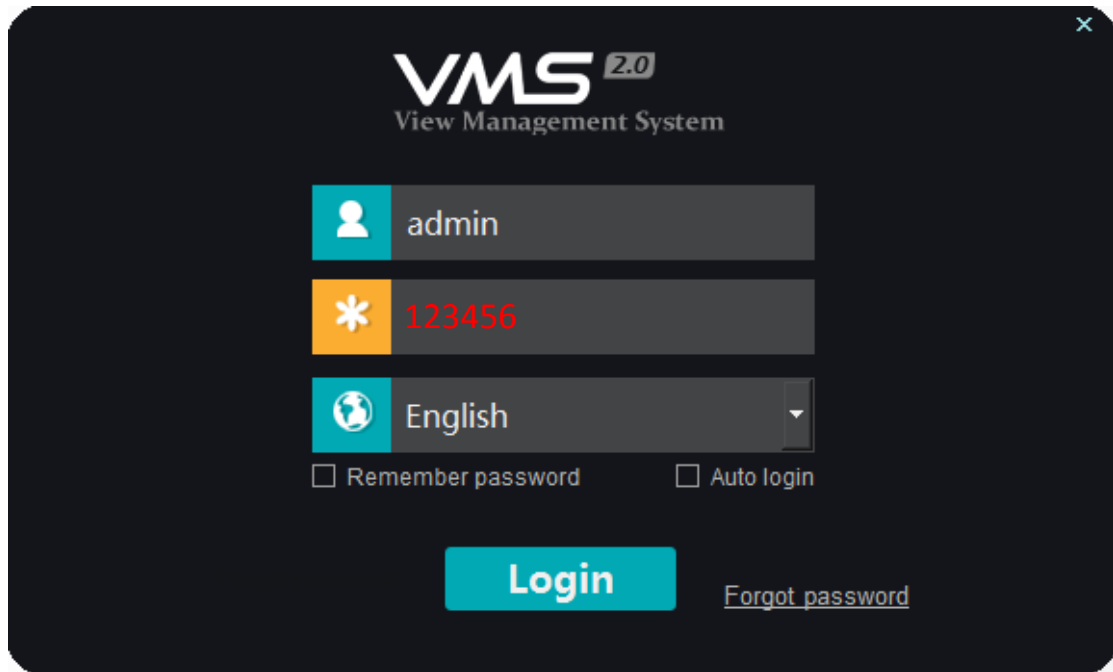


System default path is C:\VMS, the user can change according to the

actual demand, click next to continue:

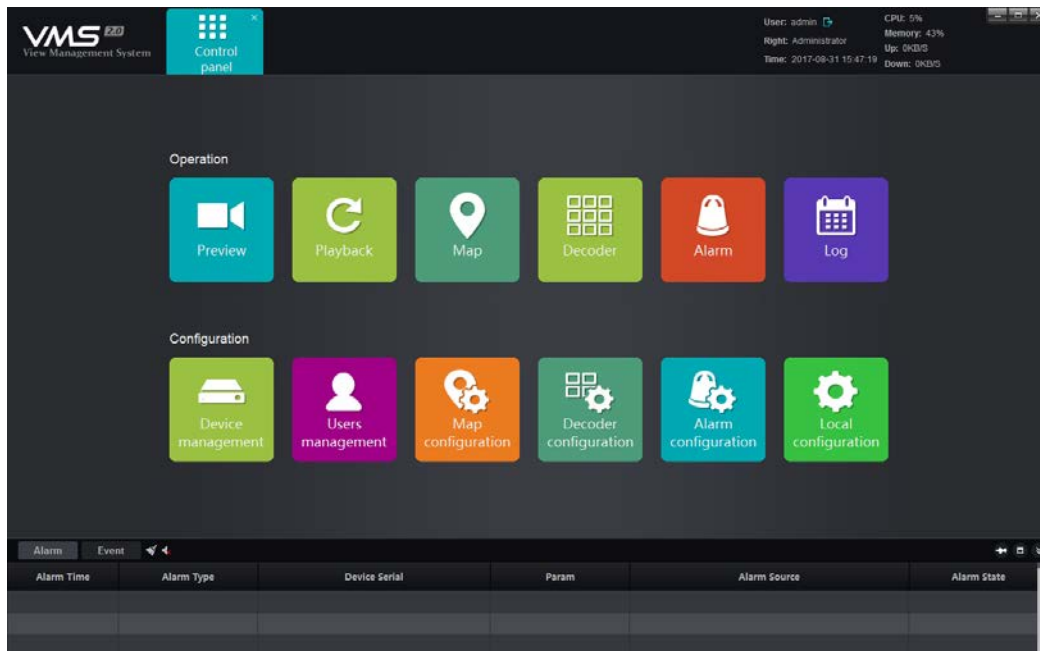



Click on the next step to confirm the creation of desktop shortcuts, continue to complete the installation (Note: installed antivirus software may pop up the tips, in order to program the normal installation start, please choose allow). When the program is installed, run the program, as below:




The user can manually switch the language, the initial user name is admin, the initial password is 123456, enter the password, click on the login, check the password after the next login will not need to enter the password, check the automatic login, the program will automatically log , The automatic login function can be unchecked in the local configuration. If you forget the login password, you can click on the bottom "forget the password", will generate a string of temporary secret key, this key will be provided to the technical staff, can retrieve the login password.


Enter the main interface, as shown in Figure:



1) Display the current user, user rights, current time, system CPU memory consumption and real-time network data traffic, click  to log off the current login.

2) Display real-time alarm information and event information, the left mouse button double-click the alarm message, you can open the current alarm channel preview, user-friendly real-time view of the alarm.

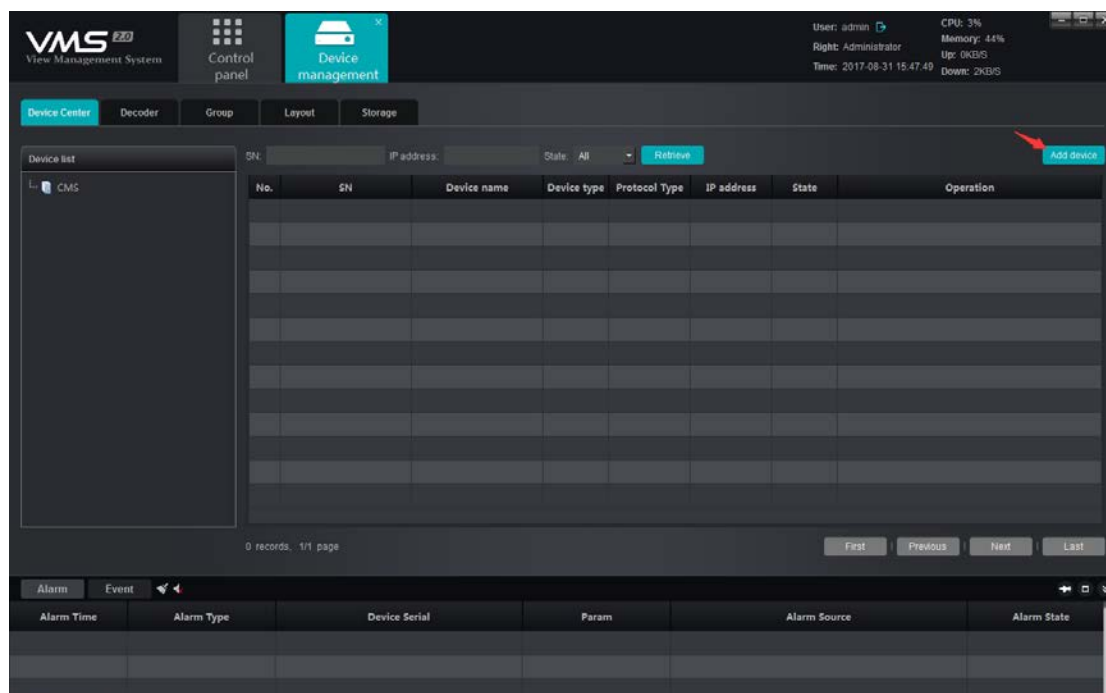
3) Toolbar  from left to right function is clear the alarm / event information, turn on / off alarm sound.

4) Toolbar  from left to right is as a fixed window, window full screen, hide the window

# 1. Device Management

## 1.1 Add Device

Click on the main interface "device management", enter the device management main interface



The device management interface displays information about all the devices that have been added to the VMS, including the type, protocol type and status of the upper and lower lines. Click Add Device in the upper right corner to pop up the Add Device Interface

The image shows a software window titled "Add device". It contains a "Search" button at the top. Below it are several input fields: "IP:", "Port:", "Device name:", "User name:", and "Password:". Further down are two dropdown menus: "Area:" with "CMS" selected, and "Protocol:" with "I8H" selected. At the bottom of the window are "Save" and "Cancel" buttons.

Select the protocol, which register protocol is for the active registration agreement, this protocol is develop by our RD team and it need the support of the front-end device. I8H protocol also is develop by our RD team, currently all our front-end device support this protocol .I8 protocol also is develop by our RD team. For the old version which not support I8H, Can connect through I8 protocol.

ONVIF protocol for the common Protocol for access to third-party devices that support this protocol; the GB28181 protocol is a national standard protocol for access to third-party devices that support this agreement. Which actively registered, I8H and I8 agreement does not require the purchase of authorization, free access, ONVIF protocol and GB28181 protocol during the trial period can be free trial, after the trial period after the need to purchase authorization to normal use.

After selecting the protocol, click Search to search all the online devices in the LAN (take the I8H protocol as an example):

Search device online

Protocol: ☒ I8H ☐ GB28281 ☐ I8 ☐ ONVIF ☐ Register

No.	Serial No	Device type	IP	Port	Device name	User name	Password	Protocol	Net Mode
<input type="checkbox"/>	1	0268012320617E15B074	IPC	192.168.2.132	80	IPC_192.168.2.132	admin	I8H	TCP
<input type="checkbox"/>	2	026A0123CA258CF73069	IPC	192.168.2.66	80	IPC_192.168.2.66	admin	I8H	TCP
<input type="checkbox"/>	3	01930123DFF380E97576	NVR	192.168.2.149	80	NVR_192.168.2.149	admin	I8H	TCP
<input type="checkbox"/>	4	019D0123D97DF8CF682F	NVR	192.168.1.243	80	NVR_192.168.1.243	admin	I8H	TCP
<input type="checkbox"/>	5	026A0123CA258CF88542	IPC	192.168.2.92	80	IPC_192.168.2.92	admin	I8H	TCP
<input type="checkbox"/>	6	0164498880DBFA8E6392	IPC	192.168.2.44	80	IPC_192.168.2.44	admin	I8H	TCP
<input type="checkbox"/>	7	01640123F214B04A413	IPC	192.168.3.201	80	IPC_192.168.3.201	admin	I8H	TCP
<input type="checkbox"/>	8	0268012320617E177278	IPC	192.168.2.131	80	IPC_192.168.2.131	admin	I8H	TCP
<input type="checkbox"/>	9	016401238C7EDB4E7617	IPC	192.168.3.189	80	IPC_192.168.3.189	admin	I8H	TCP
<input type="checkbox"/>	10	026A0123CA258CF73214	IPC	192.168.2.67	80	IPC_192.168.2.67	admin	I8H	TCP
<input type="checkbox"/>	11	0168012320617E17905D	IPC	192.168.2.137	80	IPC_192.168.2.137	admin	I8H	TCP
<input type="checkbox"/>	12	019A0123A80261E18C18	NVR	192.168.2.38	82	NVR_192.168.2.38	admin	I8H	TCP
<input type="checkbox"/>	13	0164012315A162B6B81D	IPC	192.168.2.49	80	IPC_192.168.2.49	admin	I8H	TCP
<input type="checkbox"/>	14	019D0123D39E69E7CA3F	NVR	192.168.2.102	80	NVR_192.168.2.102	admin	I8H	TCP
<input type="checkbox"/>	15	01647FE74B2F84595561	IPC	192.168.2.6	80	IPC_192.168.2.6	admin	I8H	TCP
<input type="checkbox"/>	16	016898E520548FC7568F	IPC	192.168.3.185	80	IPC_192.168.3.185	admin	I8H	TCP
<input type="checkbox"/>	17	0171012320617E189F65	NVR	192.168.2.30	550	NVR_192.168.2.30	admin	I8H	TCP
<input type="checkbox"/>	18	0158012315A162AB9F46	NVR	192.168.2.20	118	NVR_192.168.2.20	admin	I8H	TCP

☐ Select all

(Note: which shows the gray out of the device has been added to the device list of the device, click on the above "IP address" can be sorted according to the device IP)

Check the device you want to add and click the "Select" button below:

Add device

IP: 192.168.2.30

Port: 550

Device name: NVR\_192.168.2.30

User name: admin

Password:

Area: CMS

Protocol: I8H

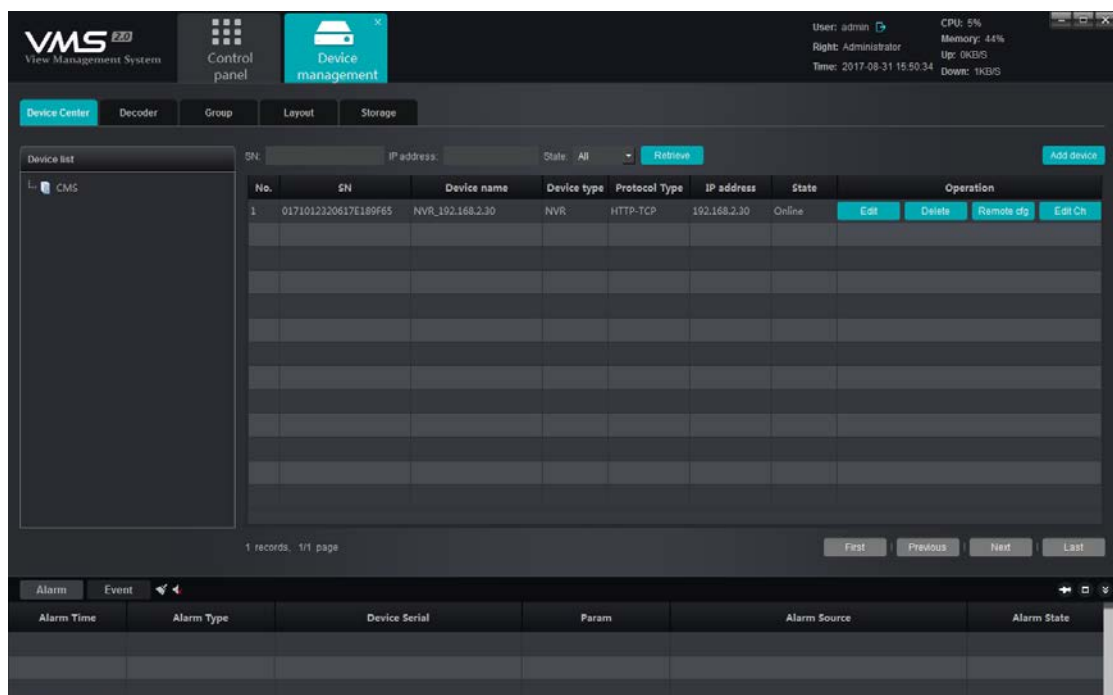
Device name: The user can customize according to actual needs

User name: Device user name

Password: Device password

Enter the correct user name, password, you can add the device to the device list, and fill in the correct password in the search interface click on the "bulk add" can also add equipment (Note: for security reasons, the search will not search for a password, The password of the device must be manually filled out, if not fill in the password or password to fill in the error, will lead to the addition of failure).

After the device is added, shown as below:

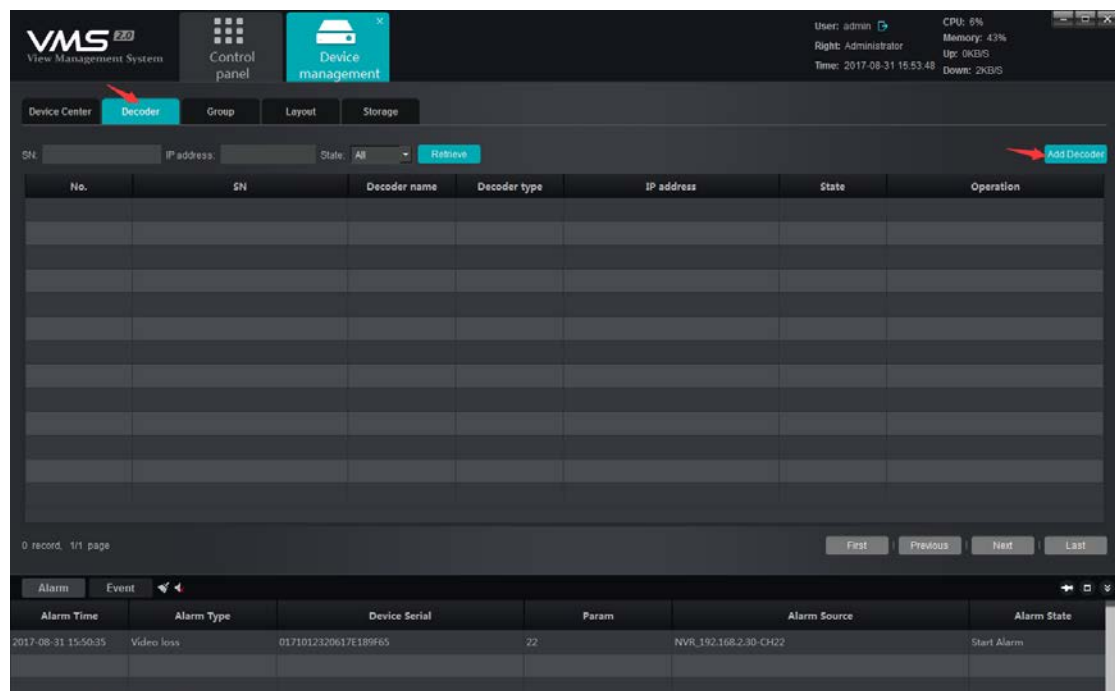



In the device list, you can edit, delete the device, call the remote configuration and modify the channel name. Which only remote



configuration I8H protocol support, call the remote configuration to view or modify the front-end device-related parameters. Modify the channel name only I8H and I8 protocol support, after the call can quickly and easily modify the front-end device channel name.

## 1.2 Add Decoder



Switch to the decoder page, and add the same device, the page will now show the server has been added to all the decoders and decoders on the offline state, the added decoder can be edited and deleted operations, if you need to add a new decoder, click  on the upper right corner.

Add Decoder

Search

IP:

Port:

Decoder name:

User name:

Password:

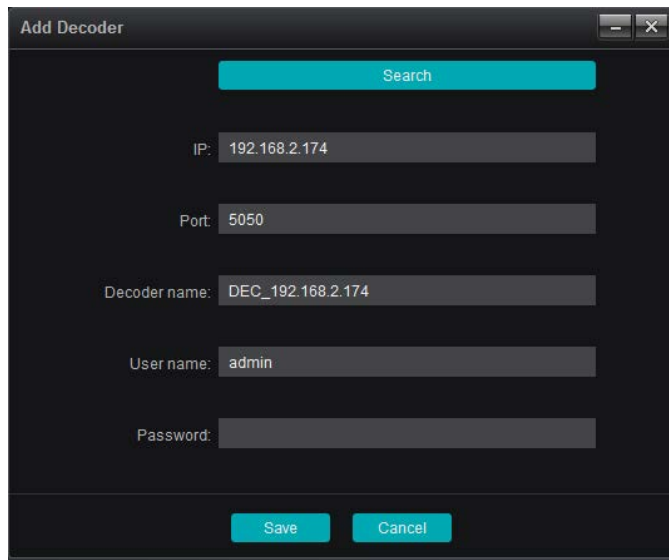
Save

Cancel

Click "Search" to search all the online decoders in the LAN. Similarly, the decoders that have been added to the decoder list will be grayed out and cannot be added repeatedly:

[illegible]

Check the decoder you want to add and click "Select":



The screenshot shows a dark-themed 'Add Decoder' window. At the top is a teal 'Search' button. Below it are five input fields: 'IP:' with the value '192.168.2.174', 'Port:' with '5050', 'Decoder name:' with 'DEC\_192.168.2.174', 'User name:' with 'admin', and 'Password:' which is empty. At the bottom are two teal buttons: 'Save' and 'Cancel'.

Decoder name: The user can customize the fill changes according to the actual needs.

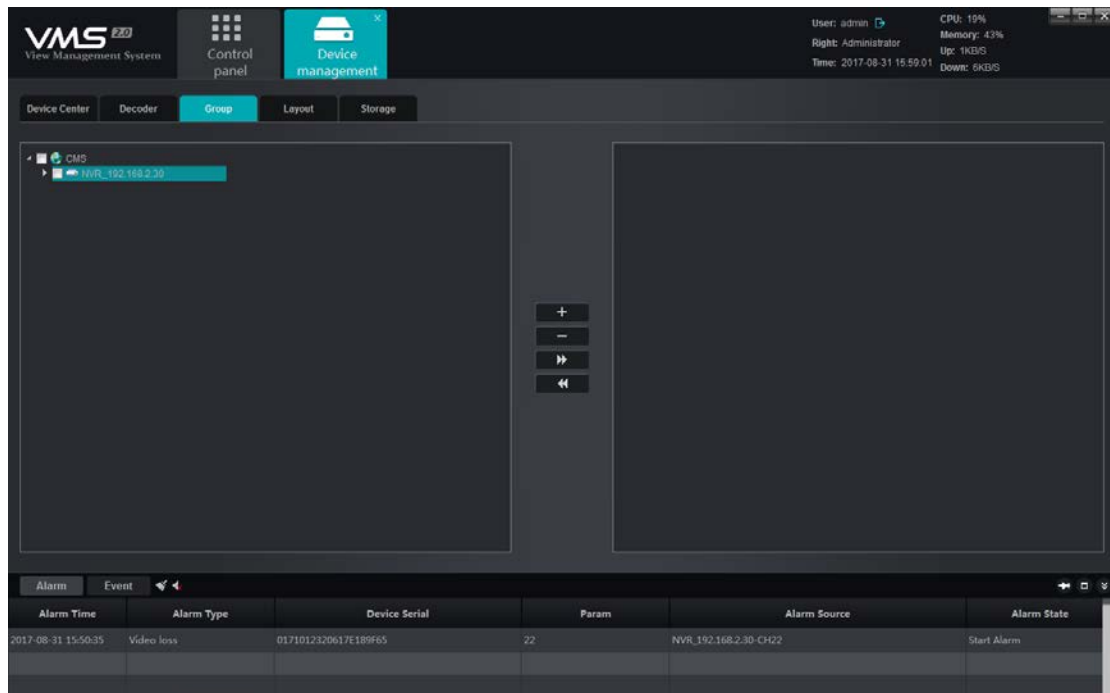
User name: defaults to admin

Password: default is empty

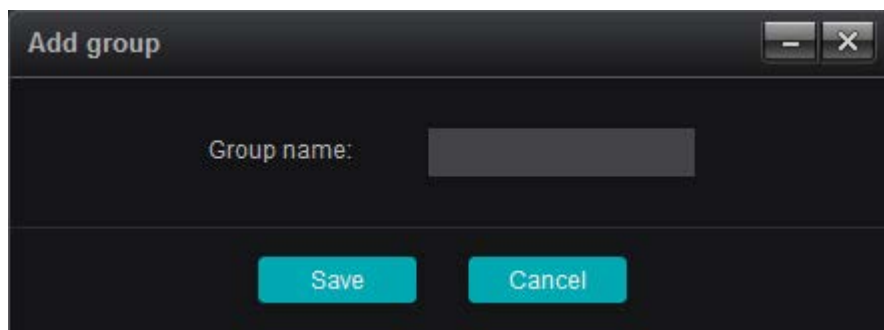
Fill in the completion, click on the bottom of the "Save", you can add the decoder to the server, if you need to add bulk, in the search page, check multiple decoders, fill in the correct password, click on the "bulk add" a key to add multiple.

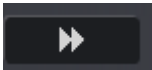
### 1.3 Group

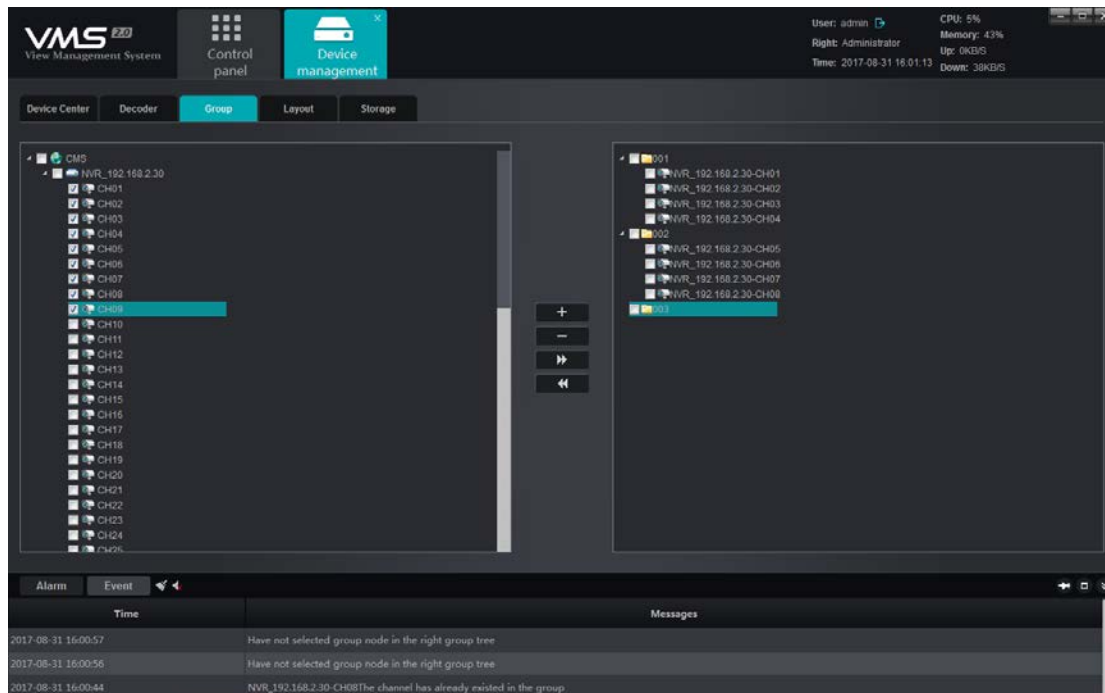
In device management, switch to “Group”, as follows:

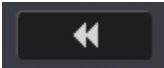


On the right of blank area, click right mouse, choose Add group:



Fill in “Group name” and click “Save”, create grouping, choose device passage in the left and then choose grouping, click , corresponding channels can be added into corresponding grouping, the application of grouping will be explained in the preview, Add complete, as follows:



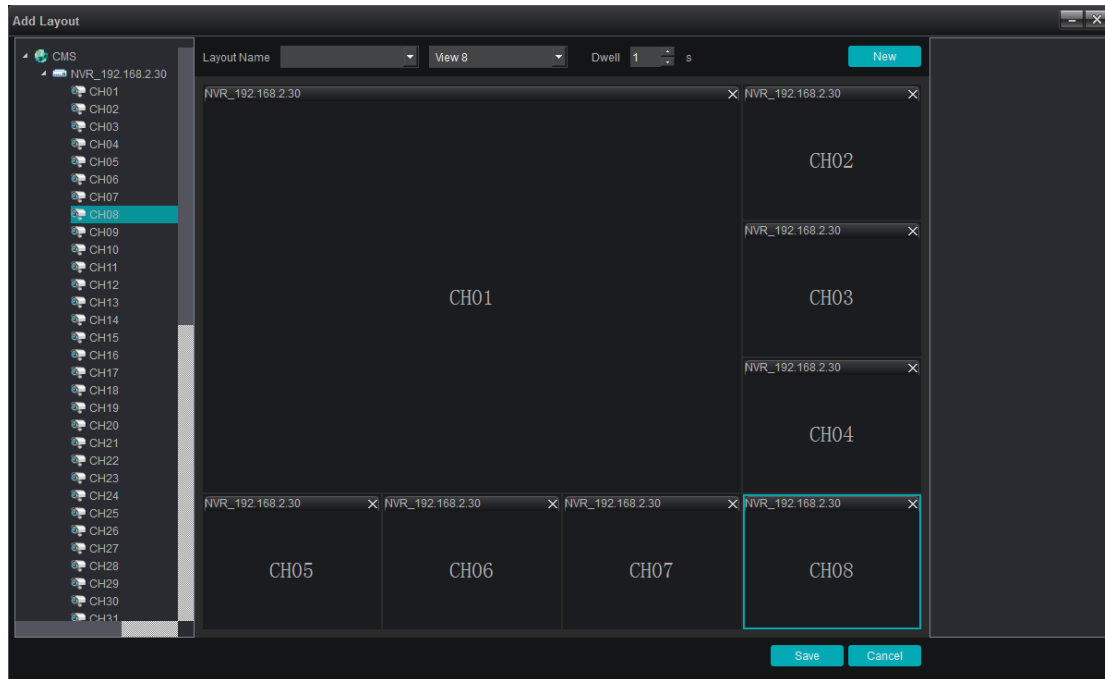
Similarly, choose channels in group, click , can delete channels from group.

## 1.4 Layout

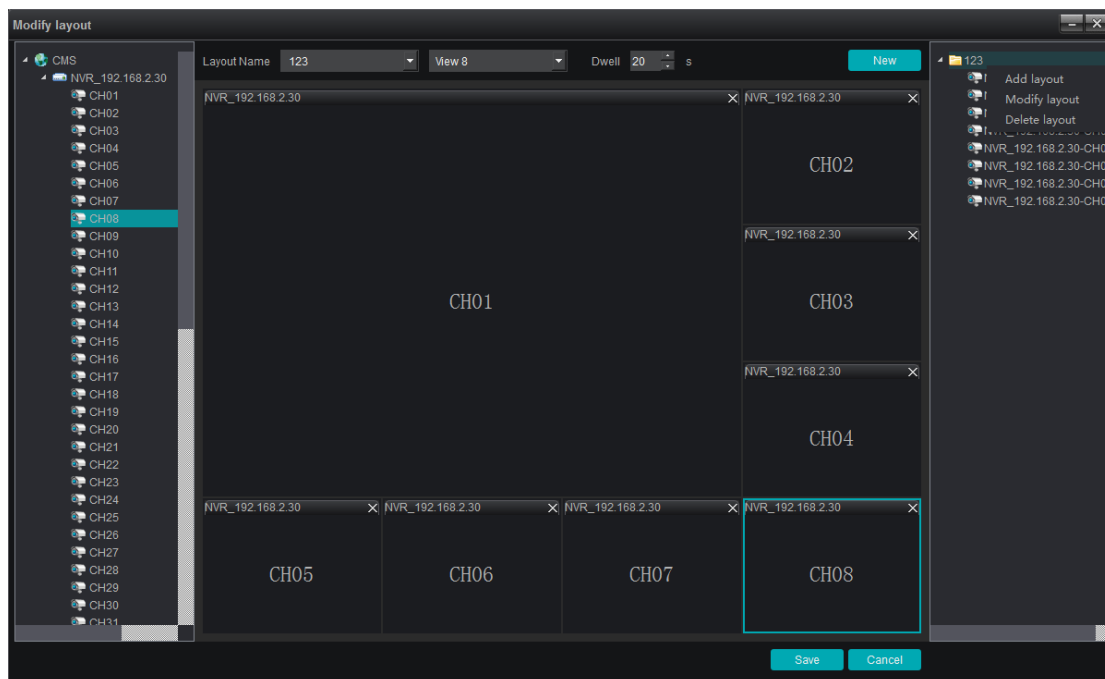
In device management, move to “Layout”, as follows:



1:1, Select the residence time, and then drag the channel for layout. Take 6 split screen as an example:



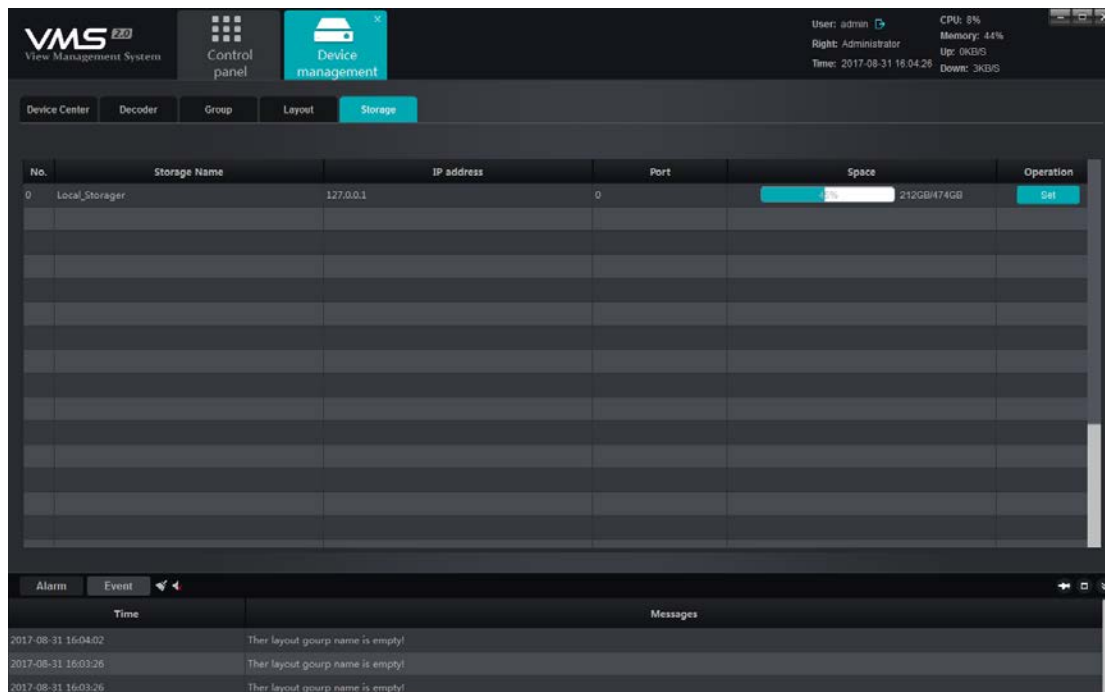
After finishing layout, Click “Save” or click “More add-Save”. After saving, saved layout information will be shown in the right:




Right click the exiting layout to edit. The application of layout function is explained in preview in details.

## 1.5 Storage

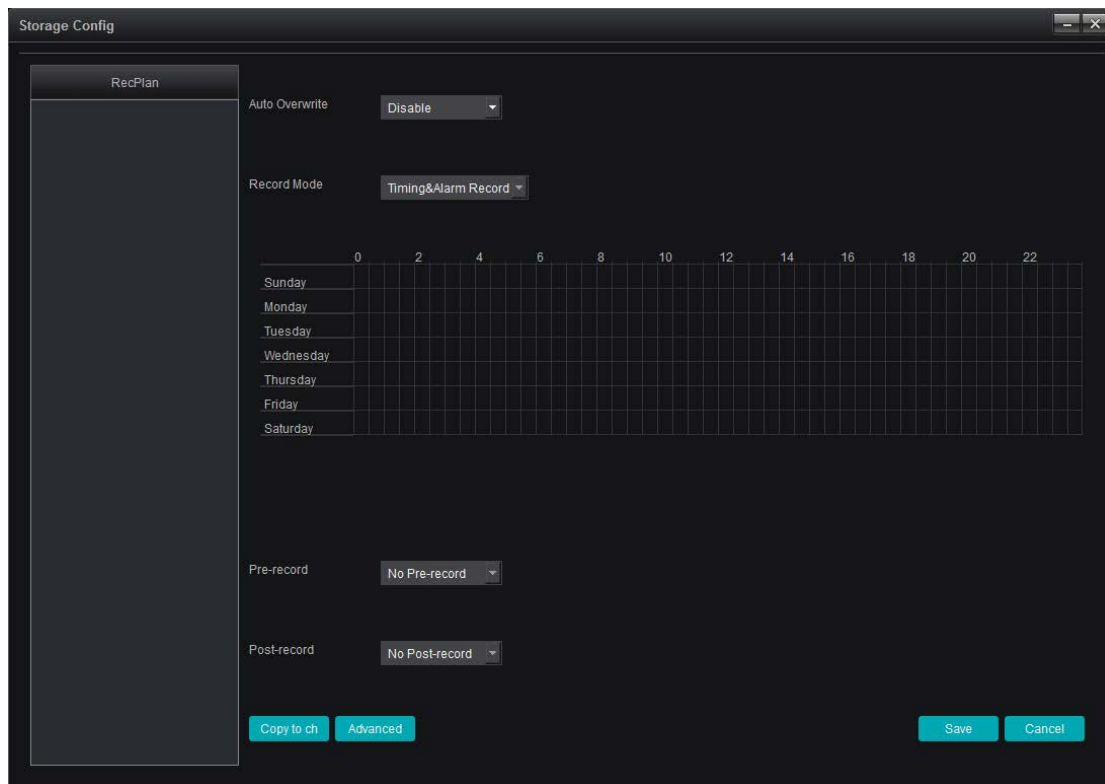
In device management, switch to storage, as follows:



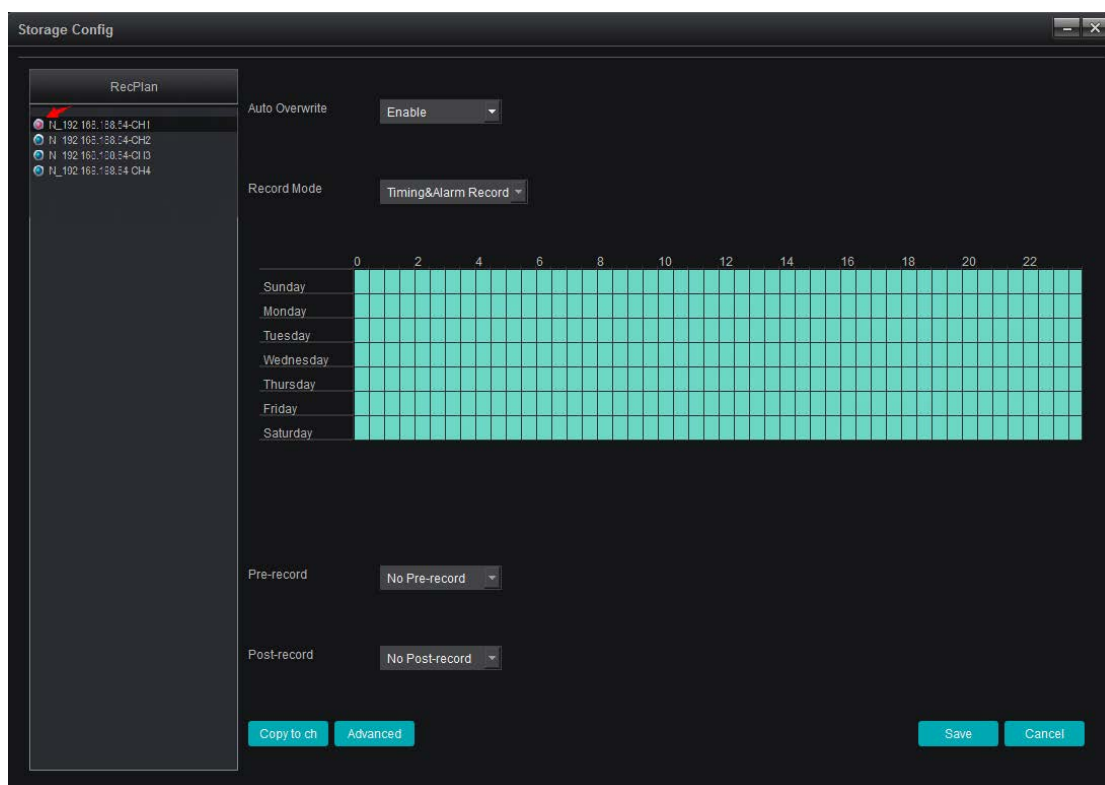
This page shows information about storage server, including server name, server address and HDD space, etc. Click  to set storage server.

Check the follows:





Right click the blank area in the left, add channels to the storage server and then choose channel setting to record planning.

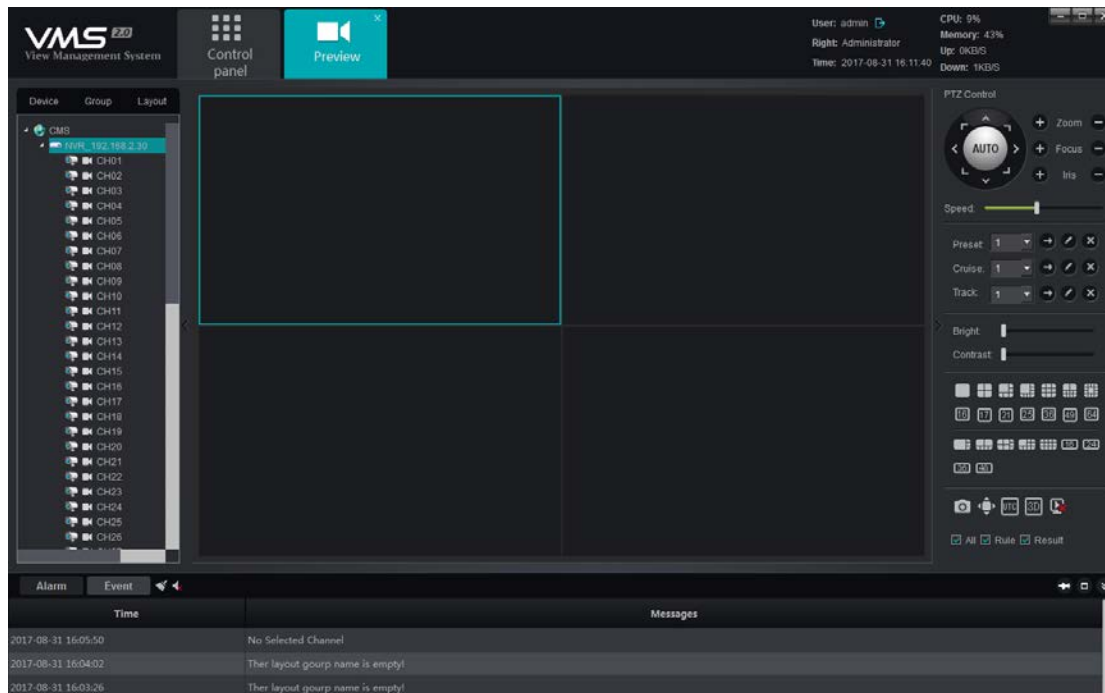


Record plan default to a full day template and work day template. If user need to set up other record planning template, you can click on the custom to add. After setting up record plan, the record start. The red arrow mark in the figure for the channel of the video status. Red means the channel is recording, blue means not in the video. Copy channel can copy a channel recording plan to another channel that has been added to the storage server. Advanced setting can set up which area use for record, which not. Other Disks except system disk is default to use for record. After setting, click save button to take effect.

To modify the channels that have been added to storage server, right click the channel added, operate added channels, and delete the individual channel or all channels. Click save, the record will start.

## **2. Real-time Monitoring**

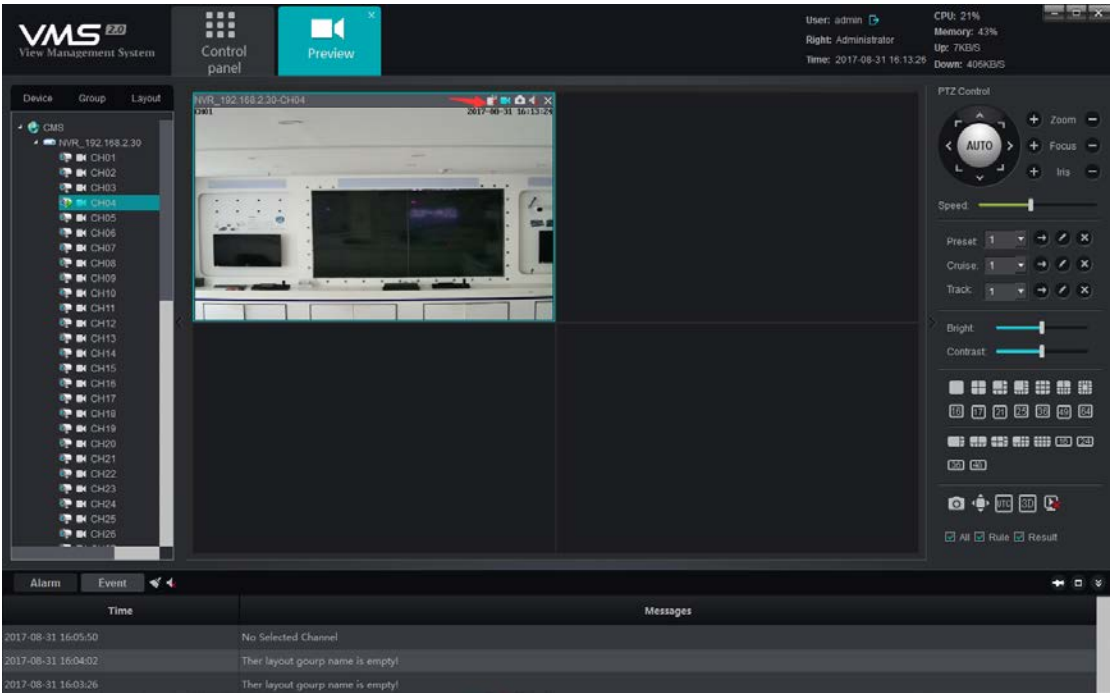
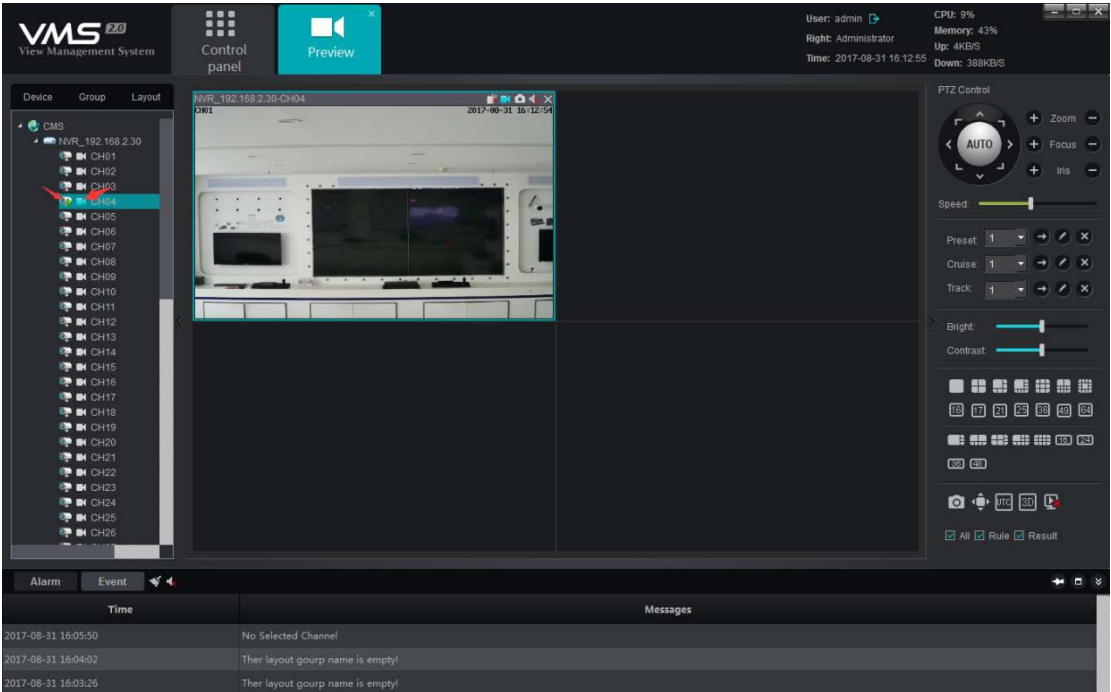
Click "preview", enter the real-time monitoring module:



As the picture shows, the left side is device, which will show all added device and the device is online or offline. The right side is PTZ control interface and video parameter control interface. The video parameter control interface is the split screen switch button below. Users can manually switch the number of split points more frequently. Split screen mode is divided into standard split and widescreen split. The proportion of the corresponding window is not the same, the layout module has introduced the difference between the two, and here is no longer a separate introduction. In addition, the number of split also divide several Alien Segmentation; the customer can choose according to the actual use of the corresponding number of split.

Double-click or drag the channel to the window in the list of devices on the left to open a preview of the device channel (The channel that



opens the preview will add a triangle icon to show that the channel is previewing)



Description:

Picture 1, the green triangle on the channel indicates that the channel is

being previewed;

picture 2, the icon indicates the local recording status of the channel, white  indicates the local video is not turned on for this channel. Blue  indicated the local video is turned on for this channel. Right click channel can turn on or off local video.

## **2.1 Right Click Function Of Device/Channel**

### **1) Turn on all main stream**

For the device, a key to turn on main stream, limit the operation of a maximum of 16 channels to open the main stream;

### **2) Turn on all sub stream**

For the device, a key to turn on main stream, limit the operation of a maximum of 16 channels to open the sub stream;

### **3) Turn off all previews**

For the device, press a key to turn off all previews of the device;

### **4) Turn on all records**

For device, a key to open the device for all channels of local recording;

### **5) Turn on / off intercom**

For the device, open the PC side and device intercom

6) Turn on / off video

For channel, turn on / off the channel for local recording;

6) main stream (This option is available in non-automatic stream mode)

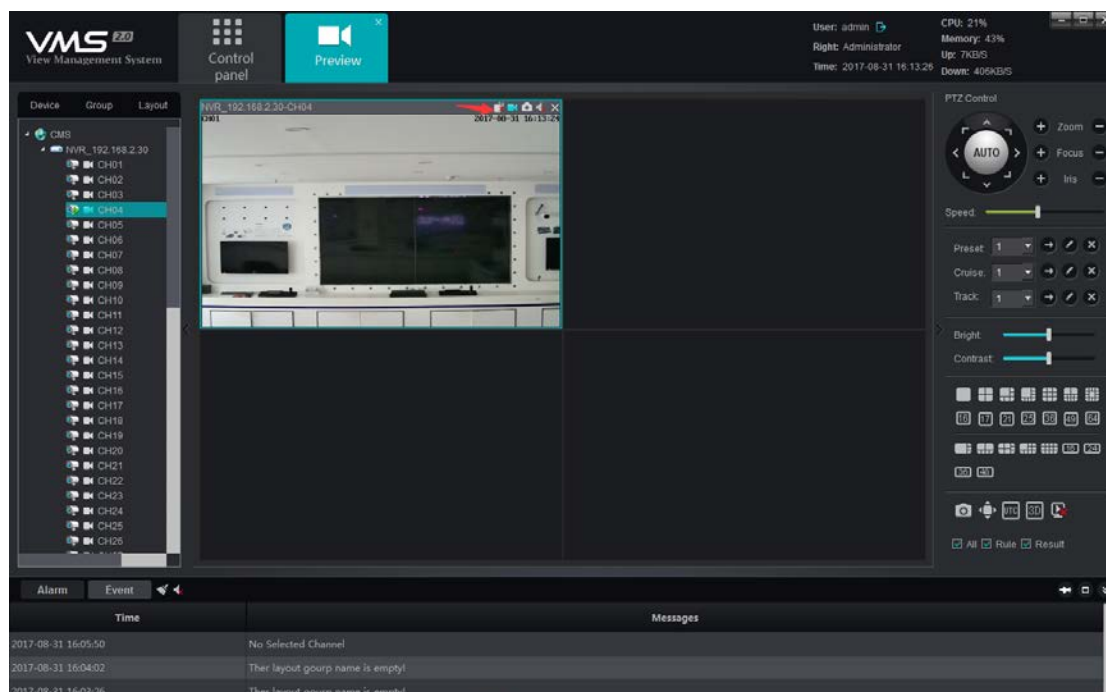
For the channel, manually switch the stream as the main stream;


7) sub stream (This option is available in non-automatic stream mode)









For the channel, manually switch the stream to sub-stream.

## 2.2 Preview Window Toolbar

Open the preview, above the preview, there is a row of quick toolbars,









1)  is channel intercom switch; click to turn on/off PC or intercom

- 2)  is device video switch; click to turn on/ off local video. Blue  means turn on, white  means turn off;
- 3)  is capture button; click to capture picture of this channels
- 4)  is audio preview switch; click to turn on/ off audio.  means turn off,  means turn on;
- 5)  is turn-off preview button

## 2.3 Function Buttons At Right Side Of Preview Window

On the lower right side of the preview interface, there is a row of

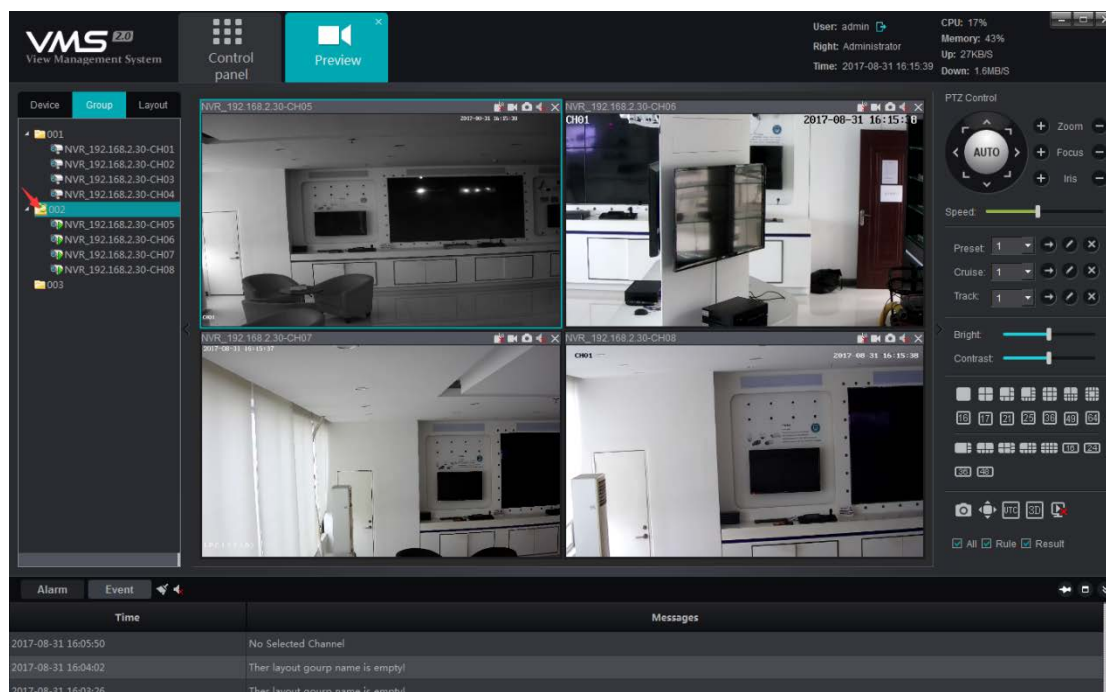
function buttons, ,

- 1)  is capture button; Select the preview window and click the button to grab the selected window;
- 2)  is full screen button, Click to make the selected window full screen;
- 3)  is to turn on/ off UTC button, Click to open the UTC function, but need front-end device support
- 4)  is to turn on/ off 3D function. Click to turn on 3D positioning function, but need camera support and use I8H protocol.
- 5)  is to turn off all previews button. Click to turn off all previews.

Intelligent detection ☒ All ☒ Rule ☒ Result , is for cameras that support intelligent detection, includes NVR and IPC. After checking, you can preview the displayed intelligent rules. When a target triggers an intelligent alarm, you can also display the target that triggers the alarm on the preview screen.

## 2.4 Group Cruise

Add two or more groups (Refer to Device Management - Grouping for specific operations) . After the grouping is complete, the preview interface switches to the grouping page, as following picture:



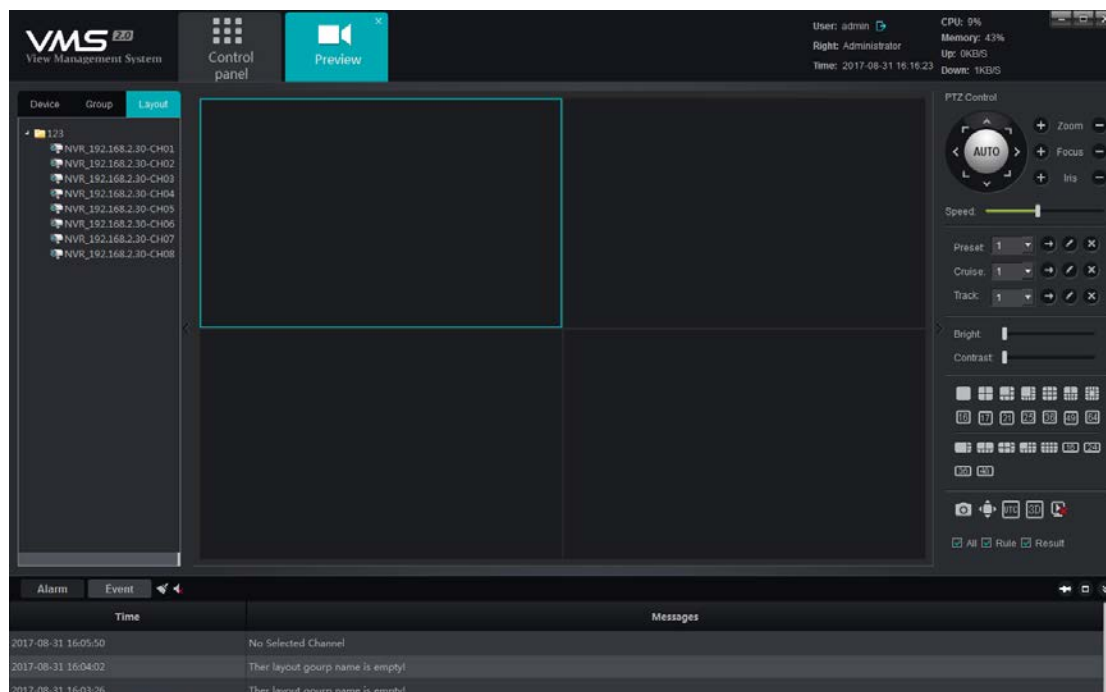
At this time, right click on the group can operate "open cruise" and



"stop cruise", wheel patrol interval can be configured in the local ( details in later) module settings, the default time interval is 30 seconds.

## 2.5 Cruise In Layout

Add two or more layouts ( For details, refer to Device Management - Layout) , After the layout is set up , switch to the layout tab at the preview interface. As following picture:



Right click on the layout, you can turn on a preview of the layout; select the "open cruise" can turn on multiple layout between the wheel patrol; The round robin interval is set when the layout is set. Select "Stop all" to stop the wheel tour or turn off the current preview.

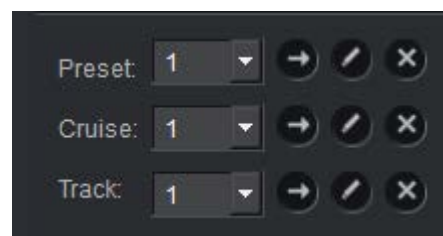
## 2.6 PTZ


### 2.6.1 PTZ Control



Control lens has 8 directions, respectively: upper and lower, left and right, left, left, right, right; zoom can control the lens to zoom in or out, adjust the angle of view; focus can adjust the focal length of the lens, ensure the clarity of the picture; the aperture of the zoom in and out, to ensure the picture the brightness and depth of field; tilt control speed setting, rotate speed adjusting ball machine; click the AUTO button, the ball will automatically start the cruise; as shown in the figure:









### 2.6.2 Preset & Cruise & Track



- 1) Preset point: the PTZ machine rotates to the point where preset points need to be set. Click on the PTZ  you can set preset

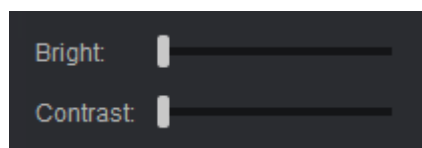
points, and you can set up 255 preset points at most. If you want to call the preset point, select a good preset point, Click  call; delete preset points, Click  then done.

2) Cruise: after setting the preset point, click  you can set the cruise path by editing, and you can set up at most 255 cruise paths. Call the cruise path and click on it  done; Delete set cruise path, Click  done.

3) Track: Click  Editable paths; call the path set, Click  done; Delete track already set, Click  done.

## 2.7 Image Parameter

After opening the preview, the image parameters of the picture can be adjusted. The IPC front end parameter has not been changed here, but the display effect of the picture on the client is adjusted:



The user can adjust brightness and contrast according to the requirement.

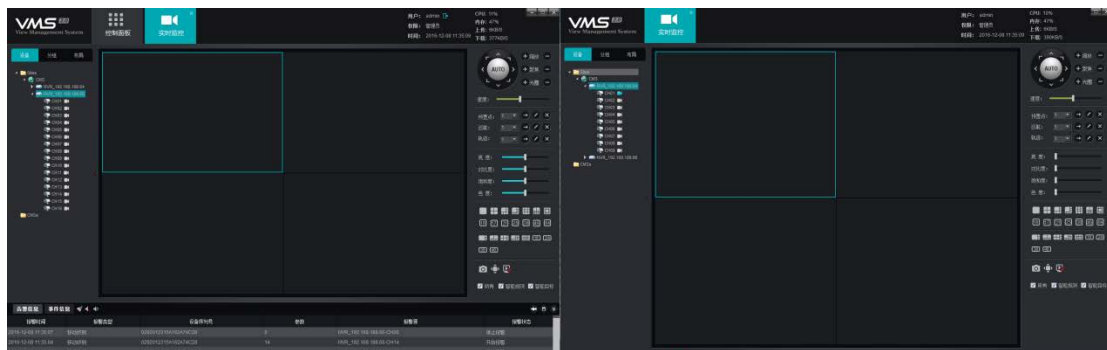
## 2.8 Preview Zoom

After opening the preview, select the sliding window and the middle

pulley of the mouse to adjust the electronic magnification and contraction of the current screen。

## 2.9 Preview Multi-Screen Display

The real-time monitoring module can open a plurality of modules, and each module is active, and does not influence each other. If the user's video card supports multiple display outputs, the utility model can meet the requirements of multi-screen display. Considering the actual situation, limit the amount of opening preview module for a maximum of 5, for example, open the two real-time monitoring module, which will be a drag out (drag out after the same operation module can be dragged back), on another screen, specific as shown below:

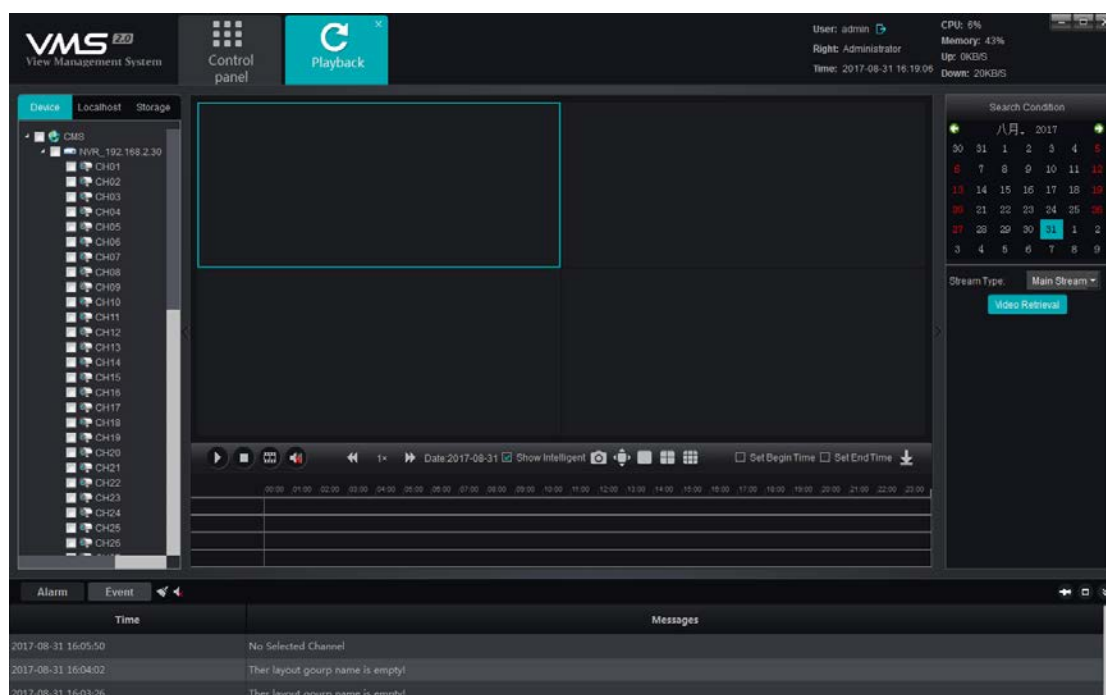


Which left the main screen, right auxiliary screen, two screen preview does not affect each other, close the auxiliary screen does not affect the main screen, but off the main screen, the auxiliary screen will close together, in the practical application, the user can choose the number of open the preview screen according to the actual demand, for example,

to select a screen to open cruise, as a separate display, another screen temporary preview, monitor, intercom and other operations。

### 3. Video Playback

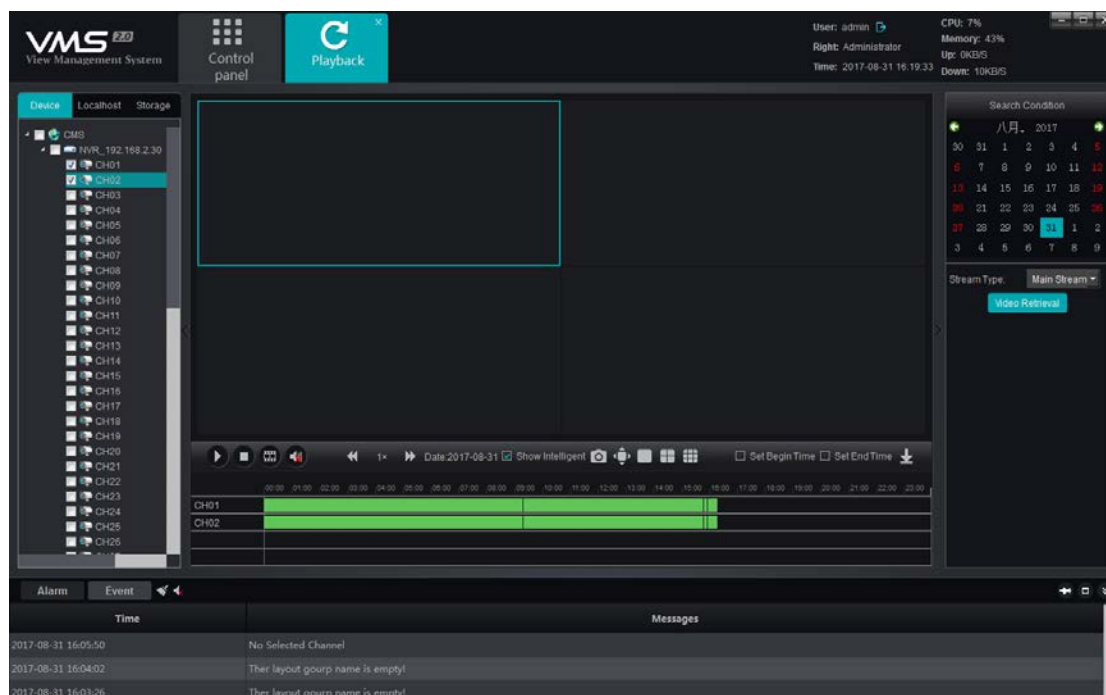
Click the "replay" button on the main screen to enter the video playback module:



#### 3.1 Video Search

Selection of equipment in the left channel need video playback device tree line (Note: only playback at the same time the same equipment or the same video storage server, a maximum of 9 channels), first select the video storage path on the left side, and then in the stream type column, choose to stream type video playback, select the date on



the calendar, click on the "video retrieval system", and began to search for videos, search results will be displayed in the search results in the panel. The video path is divided into "equipment" and "local" and "storage", which refers to the end of the video recording equipment stored in the front-end device of hard disk or SD card in the local video is stored in the client's video on PC, video storage refers to the storage in the video storage server. The bit stream type is divided into the main stream and the sub bit, and when the client opens the double stream video, the corresponding video retrieval can be carried out according to the need. Retrieval results are shown as below:

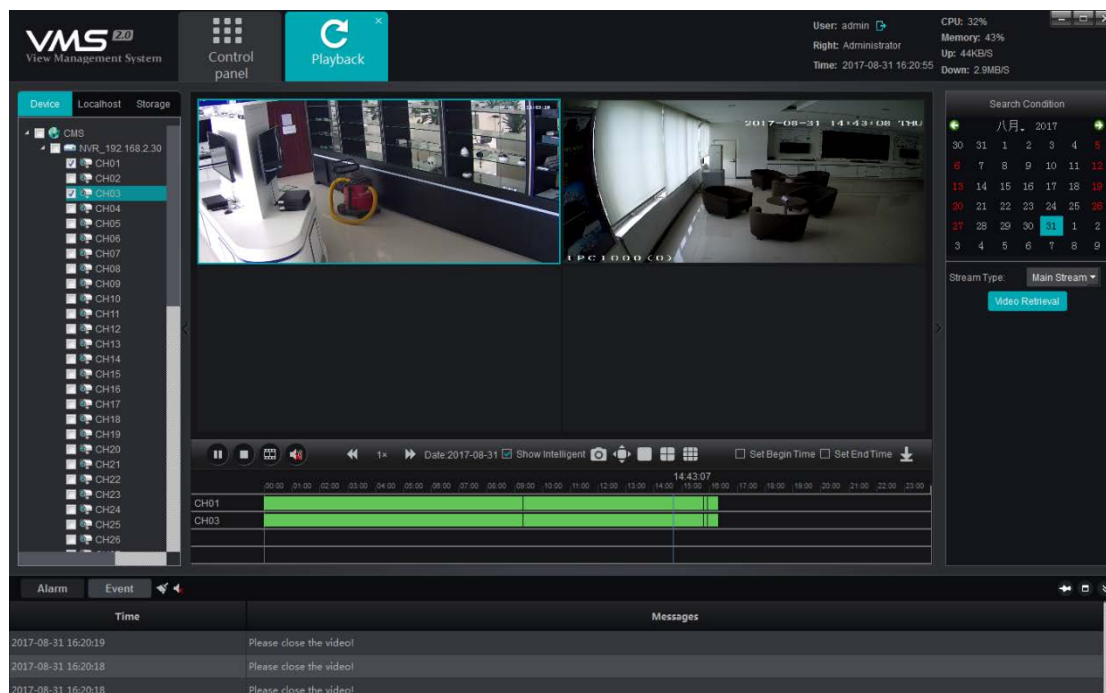


(Note: CMS2.0 distinguishes between NVR1.0 and NVR2.0, and the retrieval interface for NVR2.0 is slightly different. Here's an example of NVR1.0. The NVR2.0 retrieval interface, please refer to the NVR2.0 IE or

the local interface.)


## 3.2 Video Playback

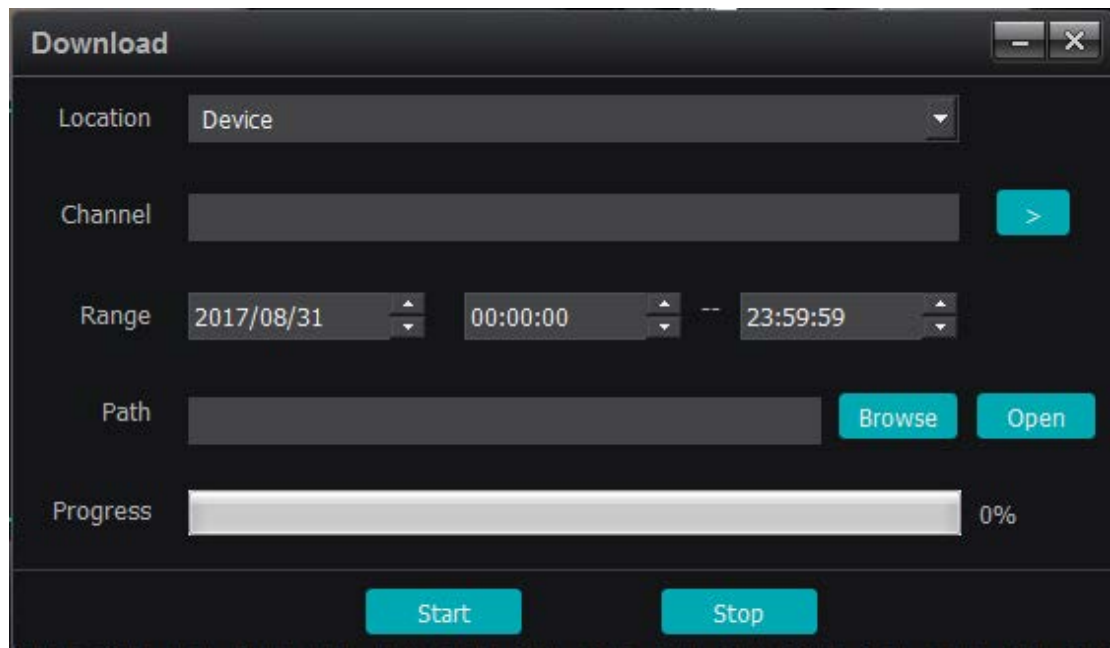
Click on the interface  Start / pause play,  To stop playing video, the mouse on the central sliding pulley can zoom in / out video scale, double-click the left mouse button in the video bar, positioning playback, playback process can double-click the mouse switch position, as shown in Figure:



Multi-channel playback, select a window, double-click the left mouse button, the window can be full screen, the mouse placed in a window, sliding the mouse pulley in the middle, you can operate the window electronic zoom.

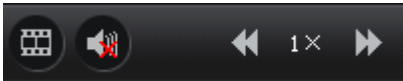

### 3.3 Download Video File

Click on the interface  button, will enter the video file download interface, as shown in Figure:






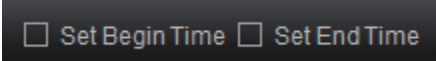


In order to choose the location of the video (divided into terminal equipment and video storage server, video), channel range (i.e. video download time interval), save the file path, click "start" button to start the download, download the complete progress bar reaches 100%.

### 3.4 Toolbar Introduction

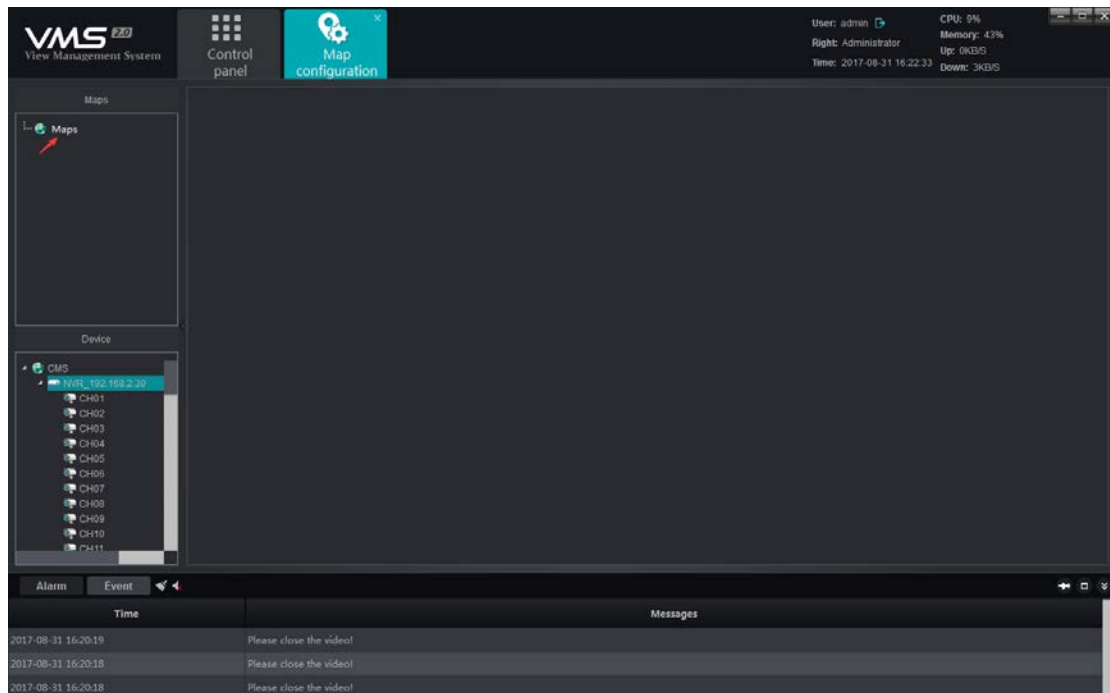
Function buttons on the interface , Which , for frame seeding, click the frame seeding button, the playback will be played in frame form, and a frame



will be played at a click;  for audio switches, audio on / off playback can be turned on / off;  As the playback speed adjustment button, the user can adjust the playback speed between 1/16 speed and 16 speed;  For the capture button, playback process can capture playback through the picture button;  For full screen buttons, click to switch to full screen (full screen mode, right-click to exit full screen);  For the split screen switch button, the user can manually switch the 1 screen, 4 screen and 9 screen as required ;  The start time and end time, locate a playback point, check the start time, and will add a marker in the video. Similarly, the end time is the same, the choice of good start time and end time, click on the download, can quickly download the video between the two labels, convenient operation。

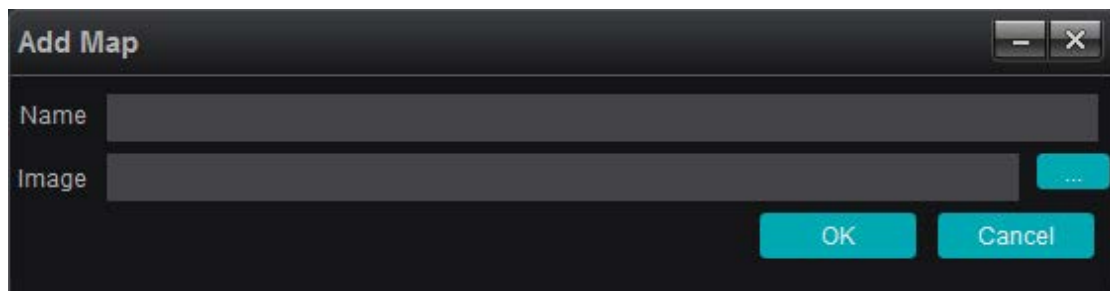
## 4. Map Configuration

The main interface, click the map configuration button, enters the map configuration module, as shown as below:

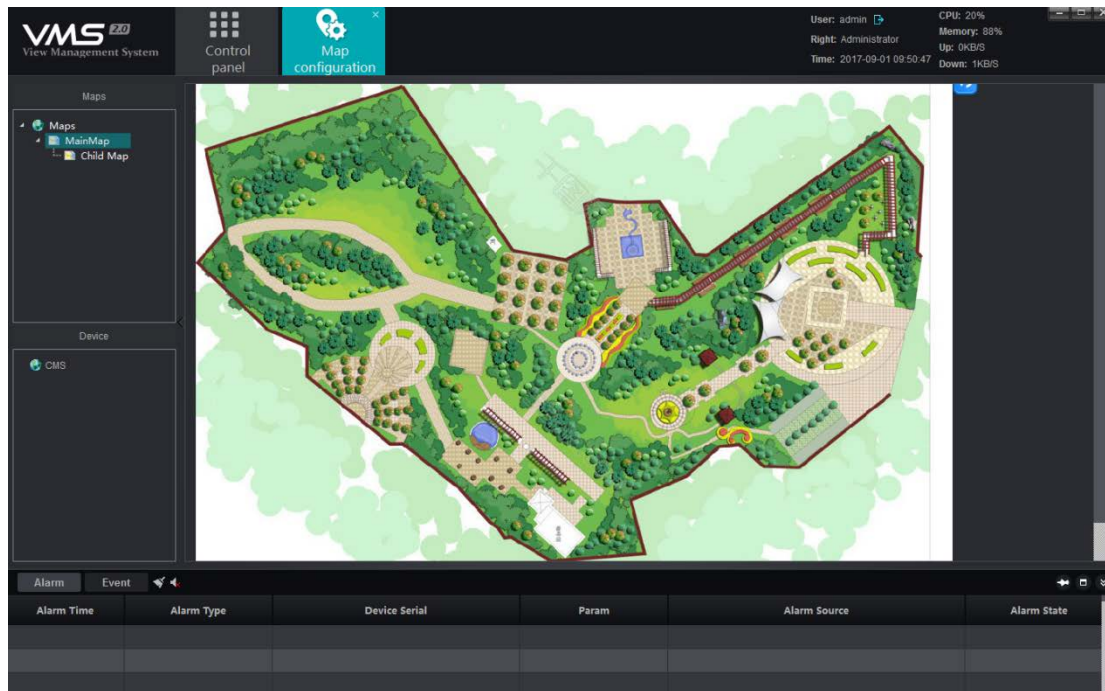


## 4.1 Add Map

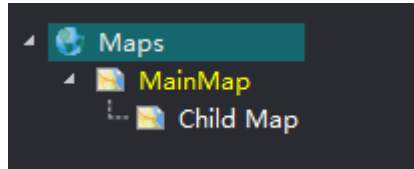
Right click on the mark in the chart, select Add map, and then pop up the add box:




Fill in the name, select the picture, click Save to add the map, add multiple maps, and also add sub maps under the map to add, as shown:



Among them, the map that has been opened will be marked as yellow as a distinction



## 4.2 Right Click Function of Map Tree

- 1) add a map: add a new map
- 2) delete map: delete the currently selected map
- 3) Add sub maps: add sub maps in the current map directory, and a map can add multiple and multi-level sub maps, After adding the map, map to map the main drag handle complete Association, The map will be on the main map  icon display, Double click on this icon on the main map

to switch to the corresponding sub map, Click on the sub map button to return to the main map。



### **4.3 Map Arming**

The left side of the device channel or alarm input to drag and drop to complete the map position, as shown in Figure:

Note: the channel drag and drop to the map, can again drag to adjust position, right click on the delete channel has deployed. The mouse is placed on the map, and the middle pulley of the sliding mouse can enlarge / reduce the map. Has to map the channel cannot be repeated. Drag and drop the mouse over the channel has been deployed, will display the channel information。

## **5. Map Management**

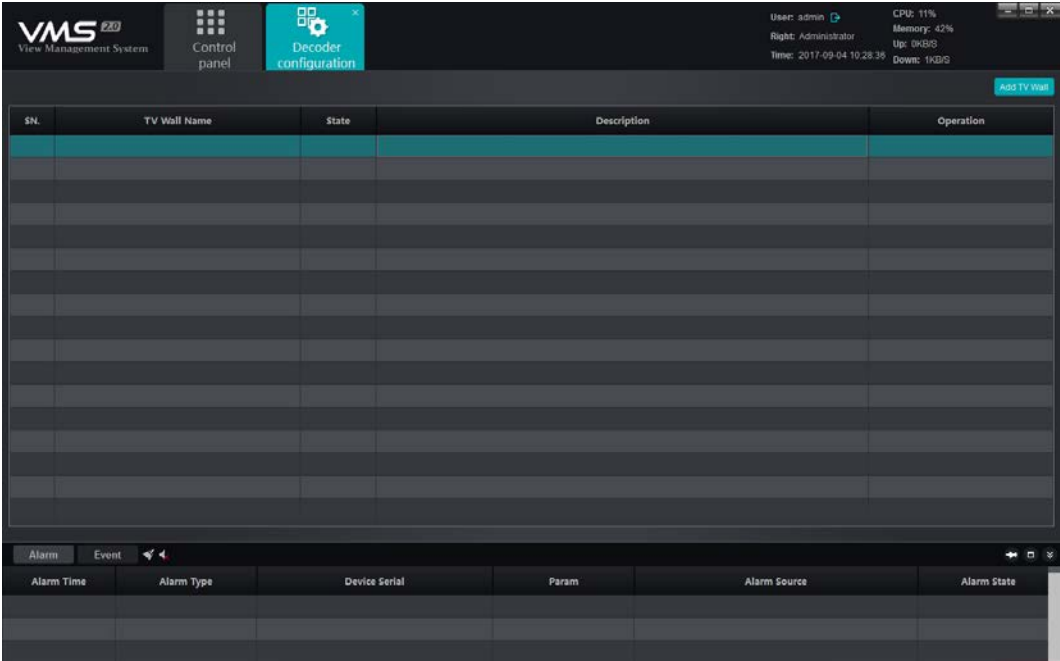
Click the map management button on the main interface and enter the map management module, as shown in the figure:



Double click on the map, the map can display and protection channel has been configured for this module, operation module, unable to map the relevant configuration and change, right click on the map has been build up channel, can open the corresponding channel preview and playback. In actual use, the user can compare the preview and playback screen of the corresponding position quickly and clearly, and the operation is more concise and clear. When the alarm is triggered, and linkage channel deployment on the map, the map of the channel icon will turn red when the alarm trigger alarm input and the alarm input is deployed on the map, the icon corresponding to the alarm input will be red. Also, for devices added to the I8H protocol, you can manually control the alarm input switch on the map (this function only supports the I8H protocol)。

# 6. Decoder Configuration

The main interface clicks the "decode configuration" button to enter the decode configuration module:



The decoding configuration will show the status of the currently configured TV wall program and program, and the existing TV wall program can be operated "modified", "deleted" and "disabled / enabled". Add a new TV wall scheme, click the "add TV wall" button in the upper right corner, as shown in the figure:

TV Wall Setting

1 Step 1:Layout setting

2 Step 2:Screen input binding

3 Step 3:Group management

4 Step 4:Start state

1.Drawing TV wall physical layout

2.CTRL+ mouse click, click the splice button to form a splicing screen

Matrix 4 × 4 Set

TV Wall Name:  
(TV wall name can not be changed after saving)

TV Wall Description:

Splice Cancel Splice

<Prev step

Next step >

Finish

Cancel

## 6.1 Layout Setting

Set up TV wall layout, need to fill in relevant information:

TV Wall Setting

1 Step 1:Layout setting

2 Step 2:Screen input binding

3 Step 3:Group management

4 Step 4:Start state

1.Drawing TV wall physical layout

2.CTRL+ mouse click, click the splice button to form a splicing screen

Matrix 2 × 2 Set

TV Wall Name:  
(TV wall name can not be changed after saving)

TV Wall Description:

Splice Cancel Splice

<Prev step

Next step >

Finish

Cancel

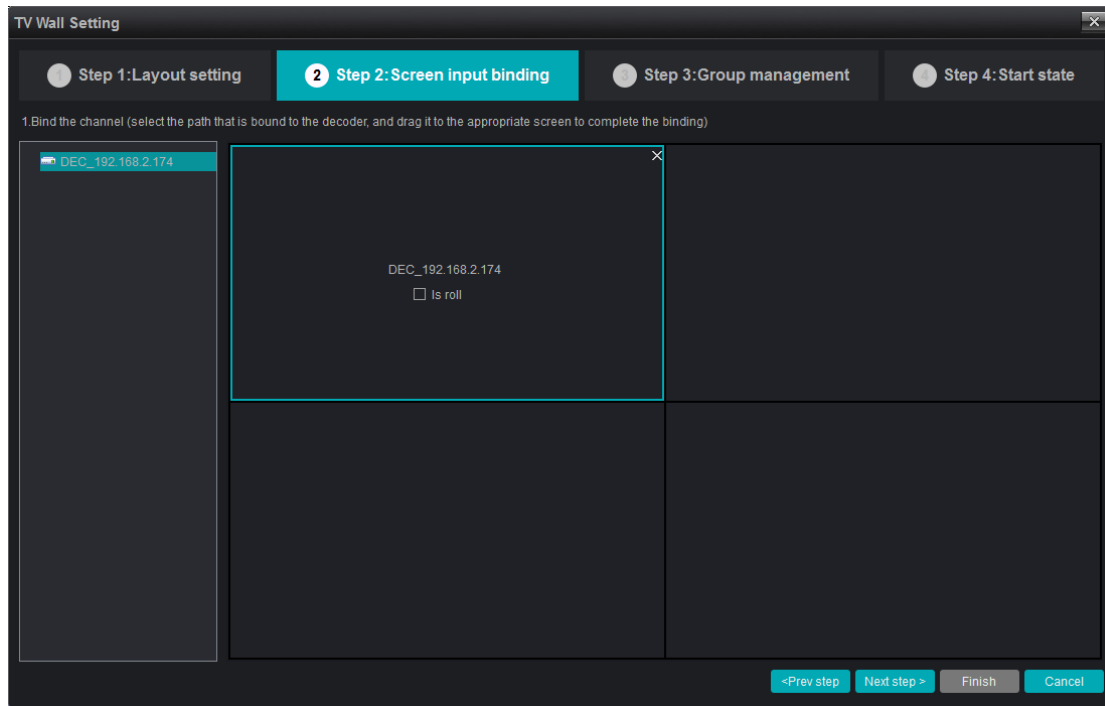
- 42 -

- 1) Matrix layout setting: user can according to the actual requirements to set up matrix layout, maximum support 8x8, choose the layout, and click Setting.
- 2) Fill in TV wall solution name: user according to requirements to customize TV wall solution name (Notice: After confirming the name, not support revise, please notice that.)
- 3) TV wall solution description: user describe this solution, easy to distinguish, don't fill in is ok too
- 4) TV wall splice: User can set up this TV wall is splicing or non-splicing. Fill in finish, click Next step.

## **6.2 Screen Input Binding**

Drag the added decoder to setting layout, as below picture:





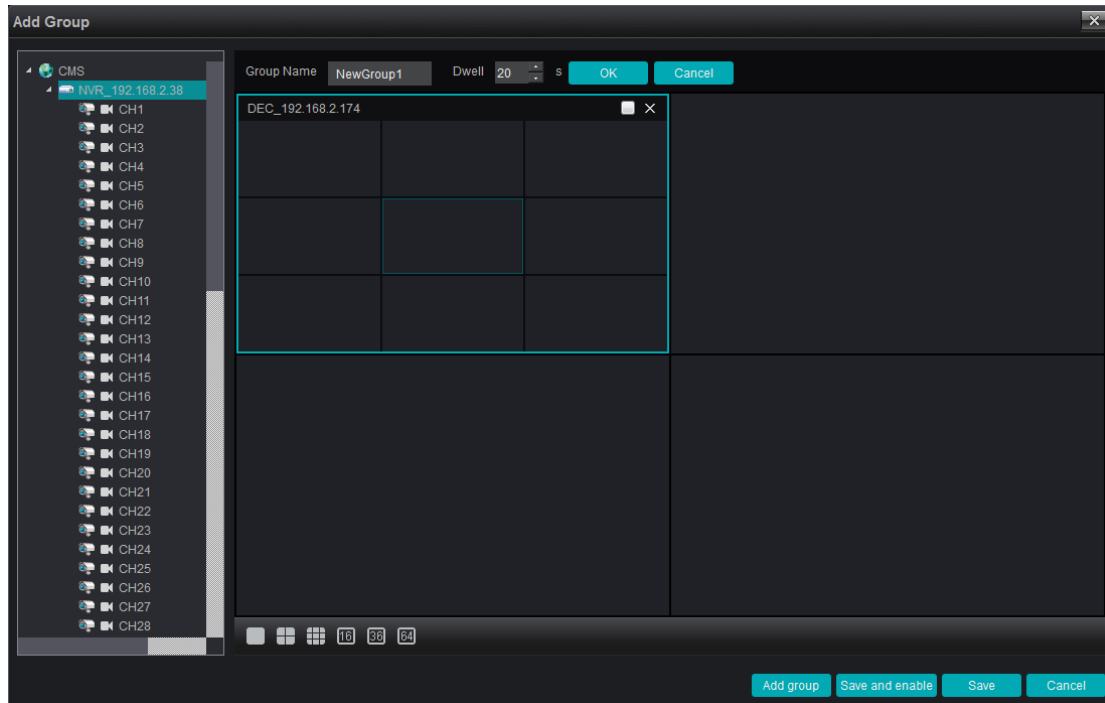
On this interface, user can according to actual to set up layout, the decoder corresponding to the TV wall matrix layout, if this screen is cruise screen, please click “Is roll”, set up finish, click Next step (Notice: if set into cruise screen, need to enable cruise, can’t drag channel decode to TV wall manually, besides, to avoid disorder, one decoder only allow exists in one same TV wall rules)

## 6.3 Group Management

Enter Group management, as below picture:

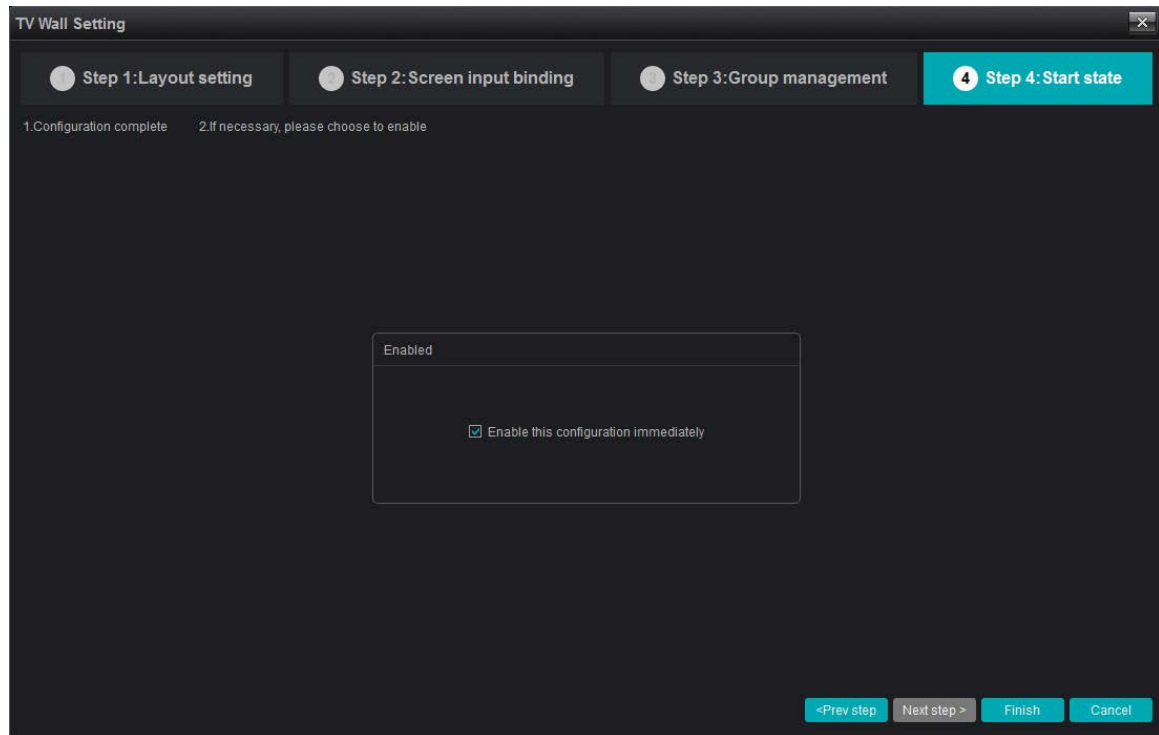


finish click Confirm, then drag device channel to splicing screen, finish first group layout, as below picture:



Set up finish, click underneath Add Group, can continue add a new group, same operation method, after setting up multiple group, if want to delete one group, choose the group, click Delete group. All group set up finish, click Save and Enable, will save the setting group and enable, if click Save will save the group only, group status is disable.

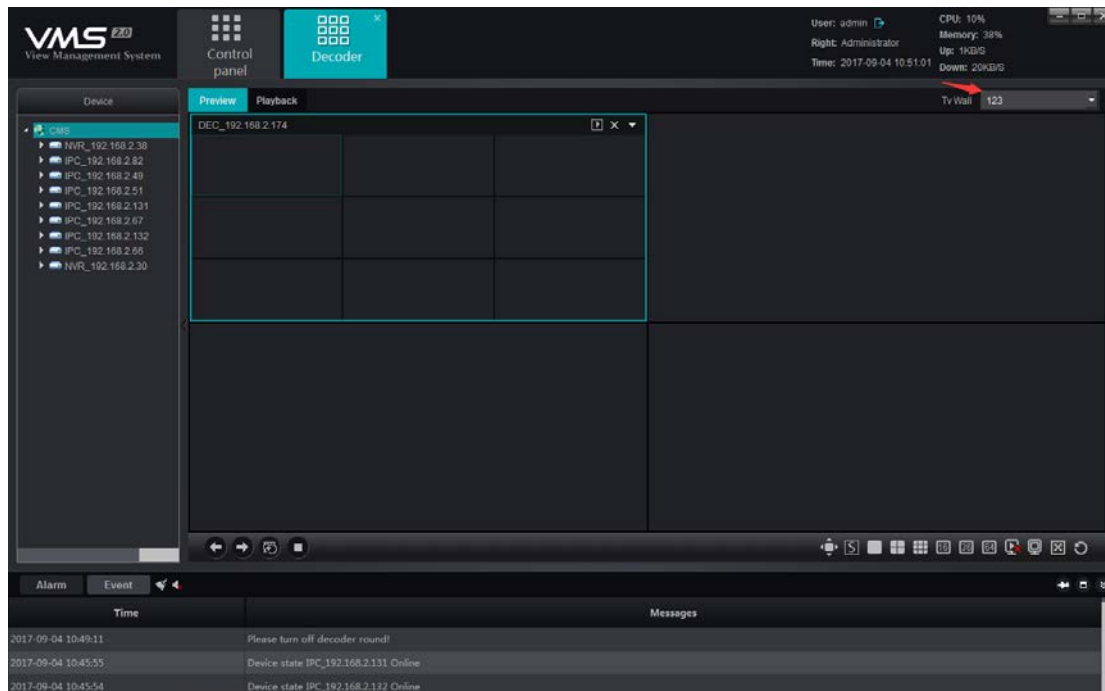
## 6.4 Enable State



Set up finish, if need to enable this configuration, click Enable this configuration immediately, and click underneath Finish exit this interface. Set up finish, this configuration will display on the decoder configuration list.


## 7. Decoder Management

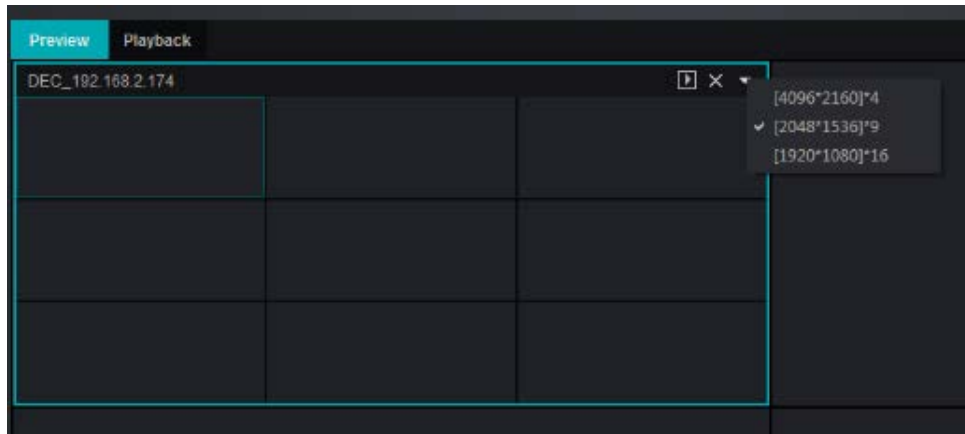
Click the Decoder on main interface, enter decoder manage interface, as below picture:



First, the marked place on the picture, pull down the check box, choose TV wall, all the rules that have been set and enabled will be displayed in this check box, choose one solution.

## 7.1 Decoder Mode Selection

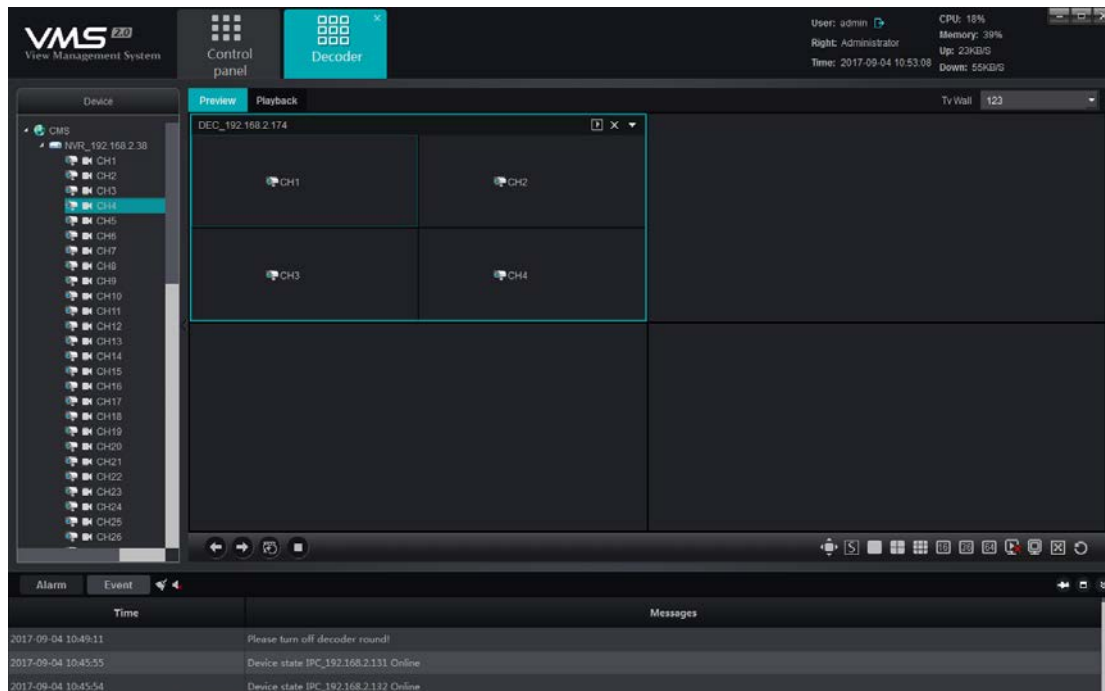
After choosing the solution, in order to ensure the normal decoding, please set up decoder decoding mode in advance, decoding mode is relevant to decoder, different decoder corresponding to different decoding mode, decoding mode is a representation of the decoding capability of the decoder, click  button, as below picture:



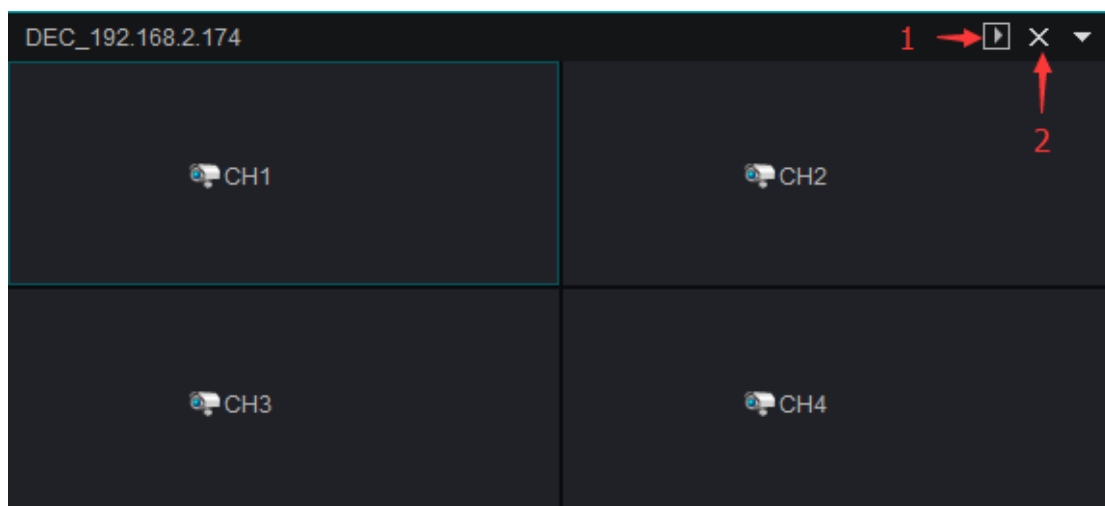
The decoding mode represents the decoder's current decoding capability, the decoder shown in the picture supports three decoding modes, 16ch 720x576, 9ch 1280x960, 4ch 2048x1536 (Notice: number means the highest decode resolution, for example under 9ch mode, highest decode resolution is 1280x960, different model decoder will have different decode capability). Front-end IPC resolution not higher than current decoding mode's solution limitation, the display can be decoded normally.


## 7.2 TV Wall


After choosing the solution, need to choose needed decode to TV wall channel on the left device list, drag and drop to relevant decoder's decoding screen to complete decode to TV wall. (Notice: set up into tour screen's screen can't manually drag and drop the channel to decode, only can use for cruise.)



For the channel which has been dragged and dropped to decode screen, if want to replace with another channel, directly drag and drop that channel to relevant channel.





1)  is preview button of enable decode, after clicking will enable preview at current interface, convenient for user to check the image of TV wall

2)  is delete channel button, after clicking will delete current split screen's decode channel








### 7.3 Decoder Cruise

Want to achieve a decoder in a decoding cruise, must click cruise when setting this decoder's TV wall solution (6.2 described in detail), cruise group is also confirmed when configure solution







Ensure that the solution in the cruise setting and cruise screen, click underneath  button to start/ stop cruise, during the cruise click  button, can stop cruise (Notice: cruise control button only work on cruise decoder, not work on normal decoder)

### 7.4 Function Buttons In Preview Operator Interface

In the preview operation interface, underneath have one function button   ,

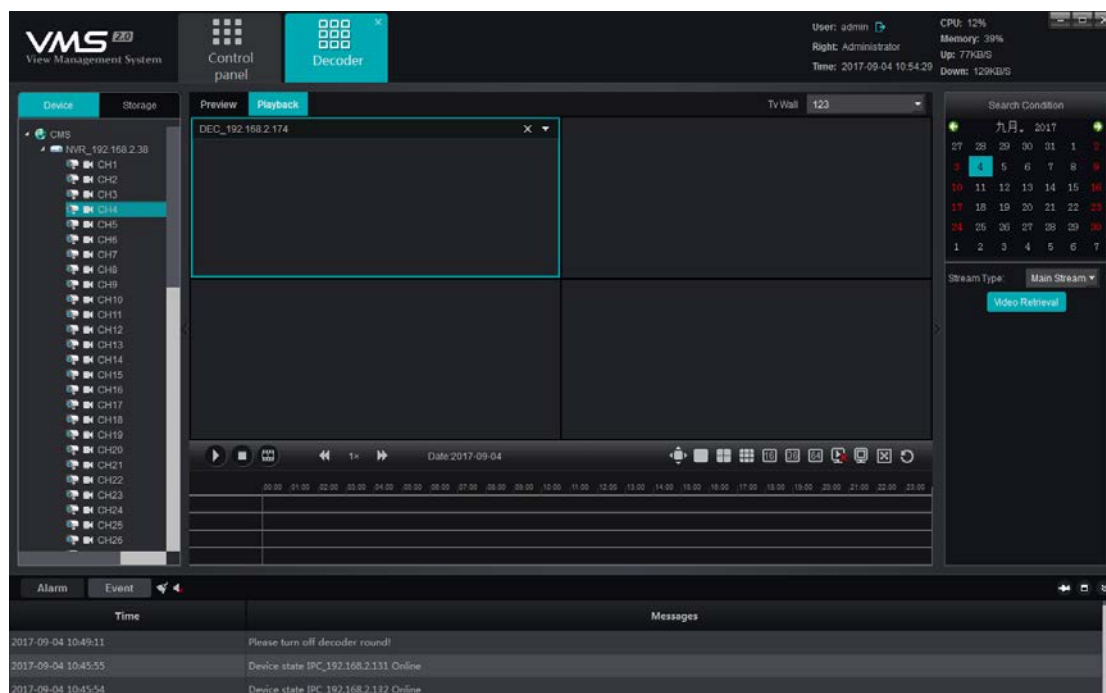
 is cruise control button,  is manually switch to last group button,  is manually switch to next group button,  is enable/ stop cruise button,  is stop cruise button,  is split screen switch control button, user choose the decode screen, can switch split screen to 1、4、9、16、36、64 one by one through this button.  is full screen control button, use for enabling full screen mode, mouse right click can exit full screen




mode.  is sub stream and main stream switch button, use for switching decode to TV wall's stream type.  is decoder offset control button, use for controlling decoder's offset, only splice decoder can support offset setting.  is split control button, use for enabling/disabling decoder split.  is channel reset button,  use for one key reset all decode channel on a decoder,  use for one key reset all decode channel on the whole TV wall solution.

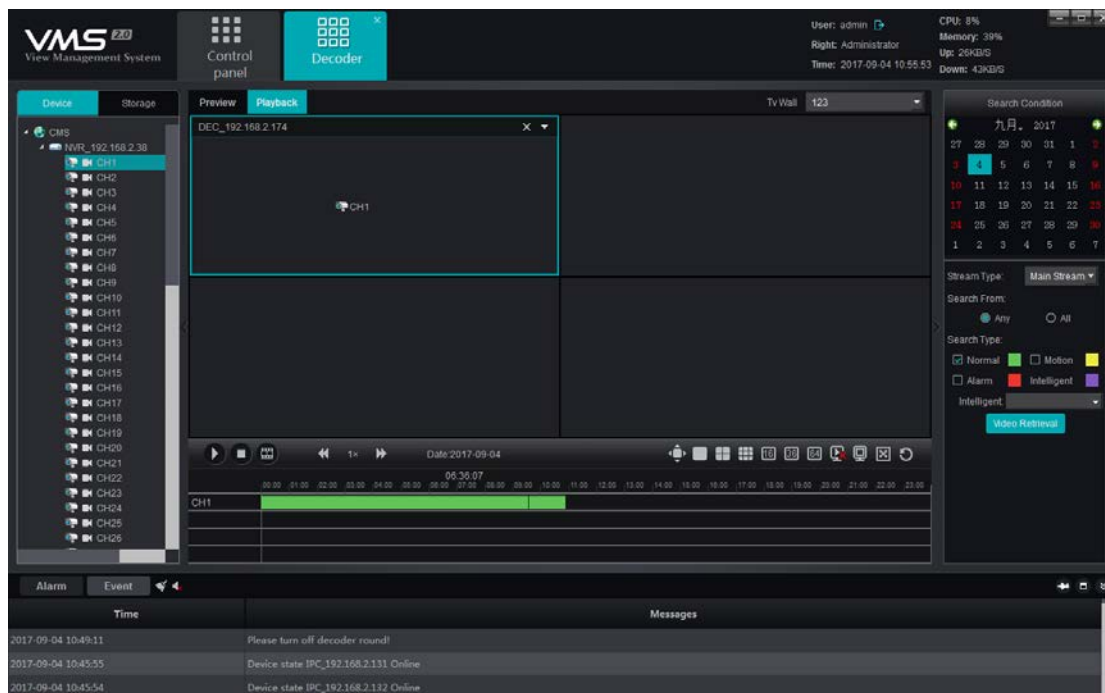
## 7.5 Decoder Playback

Switch to playback operation interface, as below picture:




Drag the playback channel to decoder, choose search criteria( date and video path), click underneath Video Retrieval button, can search relevant channel's record file, this operation is similar with record

playback, all playback channel must belong to one same device, maximum support 9ch playback simultaneously. Record search finish, click underneath  button or operate mouse double click location to start play, during the play mouse can double click to relocate, as below picture:

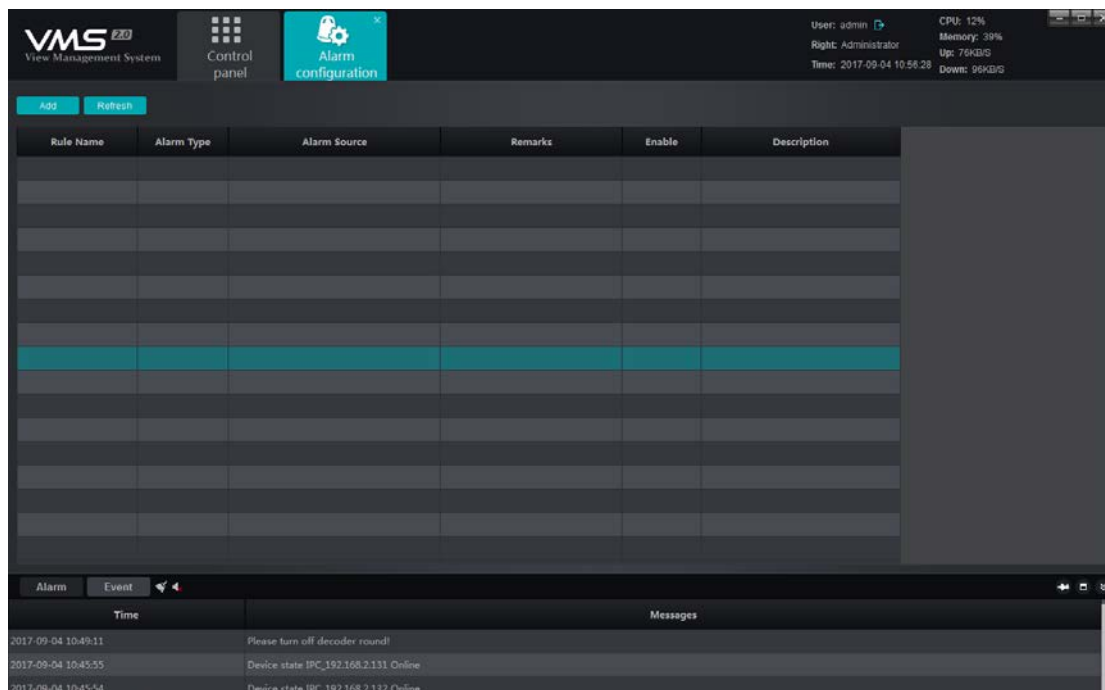


## 7.6 Function Buttons In Playback Operator Interface

Underneath the playback operation interface, there's , because of the previous detailed introduction, no further details here, its function in sequence is Play/Suspend, Stop, Frame Play, Playback Speed Adjustment, Full Screen, Split Screen Adjustment, Decoder Clear, Split Offset Setting, Split Enable Closed, TV wall Clear.

## 8. Alarm Configuration

Click Alarm Configuration on the main interface, enter alarm configure interface, alarm configure is alarm rules setting module, user want to implement alarm linkage on client, must set up alarm rules in advance, as below picture:



Alarm configure interface will show current linkage rules and enable status which has been set.

### 8.1 Add Linkage Rule

To add alarm linkage rule, please click "Add" at the top-left corner (picture above), you will see following:

**Add Linkage Rule**

Rule Name:

Alarm Type: ☒ Alarm In ☐ Motion ☐ Tampering ☐ Video Loss  
☐ Counter ☐ Area Det. ☐ Object Det. ☐ Line Crossing

Alarm Source:

Linkage Action: ☐ Map ☐ Capture ☐ PTZ  
☐ Record ☐ Pop Image ☐ TV Wall

Action Param:

Remarks:

- 1) Rule Name: Alarm linkage rule name, it can be user-defined.
- 2) Alarm Type: it supports 8 different types, including Alarm In、Motion、Tempering、Video Loss、Counter、Area Detection、Object Detection and Line Crossing, for the definition of the 8 types alarm, please refer to NVR instruction manual. The last four types are applied to the devices with intelligent detection.
- 3) Alarm Source: namely the source of alarm, click the checkbox, you can select all channels for all devices that are currently added to CMS.

4) Linkage Action: it includes Map、Capture、PTZ、Record、Pop image and TV wall, all definitions are as follows:

**Map:** To display alarm on the map interface, if you need the linkage map alarm, you must firstly ensure the linkage channels have been located in map, when alarms are triggered, the channel icon turns red on the map.

**Capture:** Capture the images of linkage channels.

**PTZ:** To control the cloud of linkage channels, you can choose to go to a preset point、to call a cruise or call a path, only the front-end devices that support control of cloud can linkage the PTZ.

**Recorder:** After the alarm triggered, the linkage recorder channels will perform local and storage server video (storage sever needs to be configured video plan) , you can search and view the recorder on playback module.

**Pop Image:** After the alarm triggered, it will pop the preview window on main interface, and display the real-time preview of linkage channels.

**TV Wall:** Select the channels and TV wall, after the alarm triggered, the real-time preview of this channel will be uploaded to TV wall and display.

**Attention:** When setting up the linkage actions to Map、Recorder、Pop Image and TV wall, you need select the “End Modes”, automatic end or

timing end. Automatic end means it no longer to linkage actions after alarm is over, timing end is to finish the linkage actions by appointed time, you can select between 1s and 36000s.

5) Action Parameter: It displays the linkage actions already been set up.

6) Remark: Used for remarking the information of linkage rule, it can be self-defined or not filled.

After being filled, you will see picture as follows.

**Add Linkage Rule**

Rule Name:

Alarm Type: ☒ Alarm In ☐ Motion ☐ Tampering ☐ Video Loss  
☐ Counter ☐ Area Det. ☐ Object Det. ☐ Line Crossing

Alarm Source:

Linkage Action: ☒ Map ☒ Capture ☒ PTZ  
☒ Record ☒ Pop Image ☒ TV Wall


Action Param:

```
-----Map-----  
[Channels]  
(1)NVR_192.168.2.38_CH1  
[Stop Mode]  
Auto Stop  
  
-----TV Wall-----  
[Channels]  
(1)NVR_192.168.2.38_CH1 auto  
(2)NVR_192.168.2.38_CH1 DEC_192.168.2.174  
[Stop Mode]  
Auto Stop
```

Remarks:


Click the “Save” button, and the setting is done.

## 8.2 Modify Alarm Rule

Rule Name	Alarm Type	Alarm Source	Remarks	Enable	Description
123	Alarm in	DEVICES-NVR_192.168.2.38-LocalAI01	123	<input checked="" type="checkbox"/>	 <a href="#">Modify</a> <a href="#">Delete</a>

After the alarm linkage rule added, users can click the “Modify” button to edit the existing rule.

## 8.3 Delete Alarm Rule

Rule Name	Alarm Type	Alarm Source	Remarks	Enable	Description
123	Alarm in	DEVICES-NVR_192.168.2.38-LocalAI01	123	<input checked="" type="checkbox"/>	<a href="#">Modify</a>  <a href="#">Delete</a>

Click the “Delete” button to delete the rules you want, to eliminate the “Enable” ✓ option if the rules unnecessary to enable temporarily.

## 9. Alarm Management

Click the” Alarm” button, to enter the alarm management interface.

ALARM SOURCES	ALARM TYPE	START TIME	END TIME
NVR_192.168.2.30-CH27	Video loss	2017-09-04 10:45:53	2017-09-04 10:45:53
NVR_192.168.2.30-CH16	Video loss	2017-09-04 10:45:53	2017-09-04 10:45:53
NVR_192.168.2.30-CH19	Video loss	2017-09-04 10:45:53	2017-09-04 10:45:53
NVR_192.168.2.30-CH25	Video loss	2017-09-04 10:45:53	2017-09-04 10:45:53
NVR_192.168.2.30-CH27	Video loss	2017-09-04 10:42:51	2017-09-04 10:42:51
NVR_192.168.2.30-CH16	Video loss	2017-09-04 10:42:51	2017-09-04 10:42:51
NVR_192.168.2.30-CH19	Video loss	2017-09-04 10:42:51	2017-09-04 10:42:51
NVR_192.168.2.30-CH25	Video loss	2017-09-04 10:42:51	2017-09-04 10:42:51

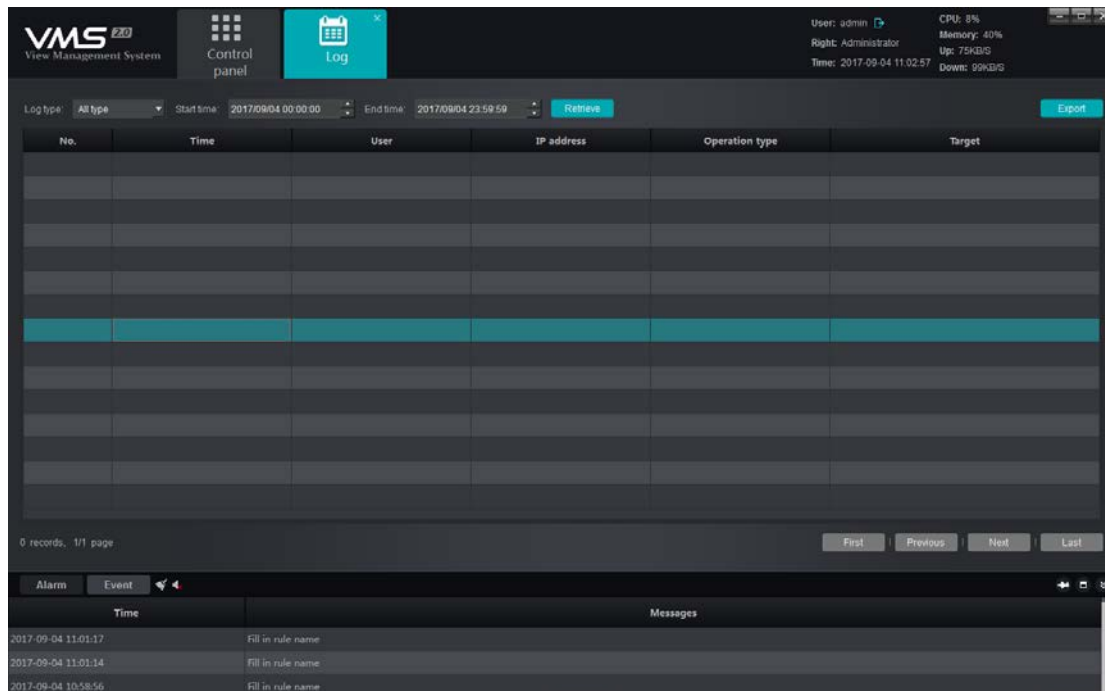
Time	Messages
2017-09-04 11:01:17	Fill in rule name
2017-09-04 11:01:14	Fill in rule name
2017-09-04 10:58:56	Fill in rule name

Alarm management interface can display all alarm information of CMS server, select the time and type, then click the “Search” button to search the alarm data you need. The alarm is classified of 8 types, include Alarm Input、Motion Detection、Master Alarm、Video Loss、Counter Detection、Area Detection、Object Detection and Cross Line Detection.

## 10. Log Management

Click the “Log” button, to enter the log management interface.





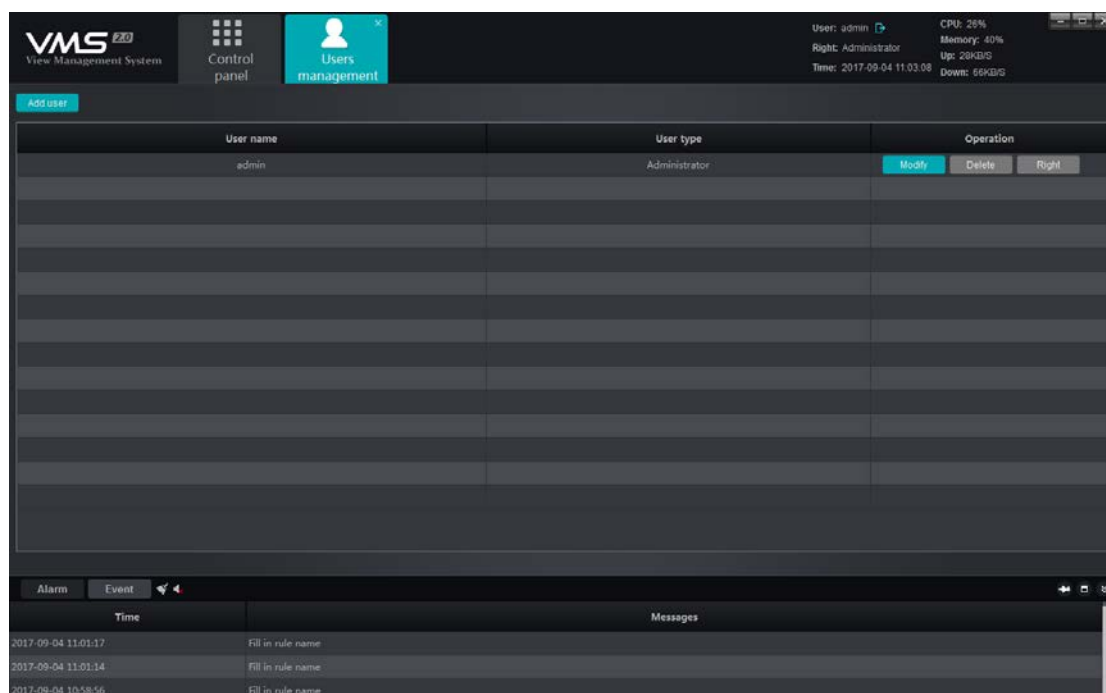
Log management interface is used to display all of important operation records for users, select the log type and time, then click the "Retrieve" button, the log types include Login/Logout、Device Management、Start/Stop Recording、Linkage Management and Remote Configuration。

- 1) Login/Logout: record of Login/Logout the server
- 2) Device Management: record of add、modify and delete operation
- 3) Start/Stop Recording: record of start/stop the local video
- 4) Linkage Management: record of add、modify、delete the linkage rule
- 5) Remote Configuration: record of operating the remote configuration, modify the front-end device parameters.

Log will record in detail the important information, such as time, users, IP address, operation type and target address, it's helpful for administrators to find the problems.

## 11. Users Management

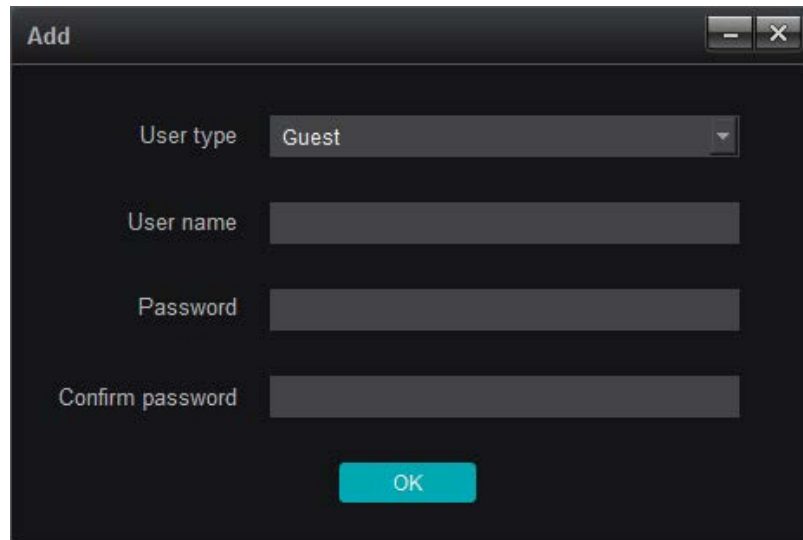
Click "Users management" button to enter the management interface:



User management is used for assigning sub users and user rights, after soft installed it will automatically generate supper user "admin", for the supper user, it enjoys the highest right and cannot be deleted, click the "Modify" button to modify password of supper user.

## 11.1 Add Sub-user

Click the top-left of “Add” button for adding new users.



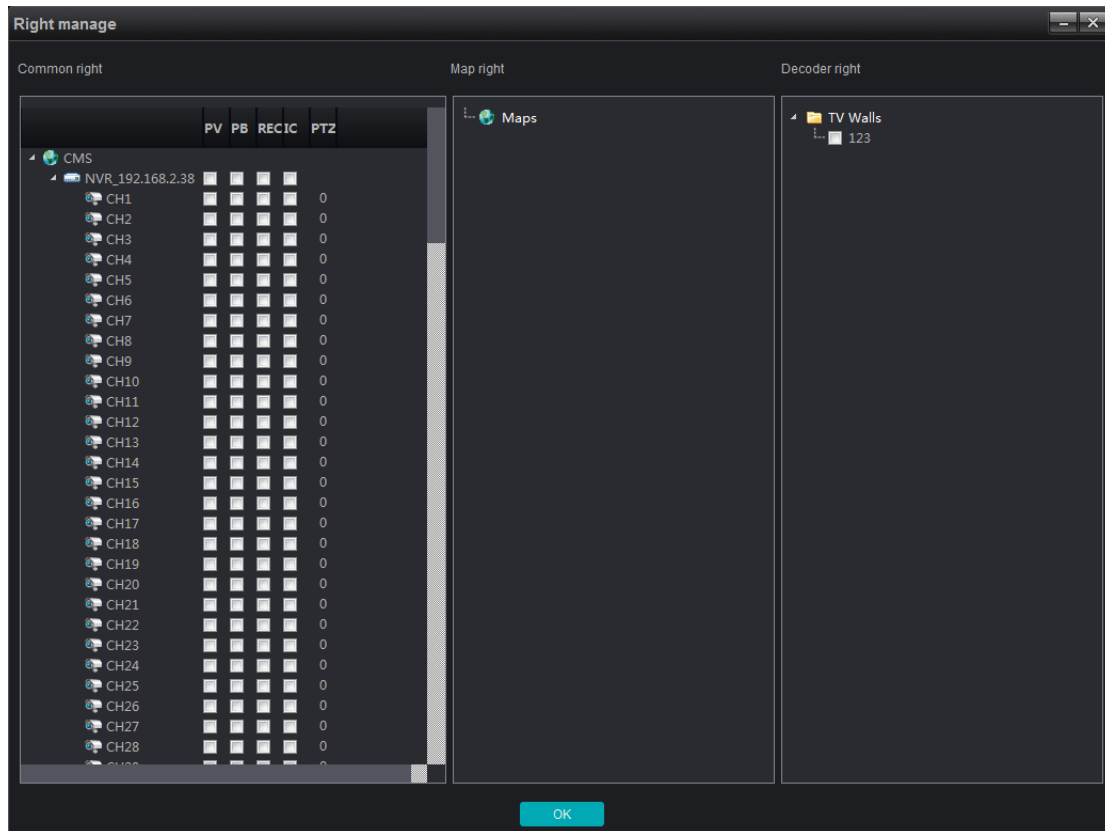
The screenshot shows a dark-themed dialog box titled "Add". It contains four input fields: "User type" (a dropdown menu currently showing "Guest"), "User name" (a text input field), "Password" (a text input field), and "Confirm password" (a text input field). Below these fields is a red "OK" button. The dialog box has standard window controls (minimize, maximize, close) in the top right corner.

The user type “Guest” means non-administrator user, the user type cannot be changed, to fill in User name、 Password、 Confirm password, then click the “OK” button to generate new users, in process of filling, please ensure the password and confirm password is the same.

## 11.2 Sub-user Right Management

User name	User type	Operation		
admin	Administrator	Modify	Delete	Right
123456	Guest	Modify	Delete	Right

If you want to assign the right for existing sub users, please click the “Right” button to complete it.

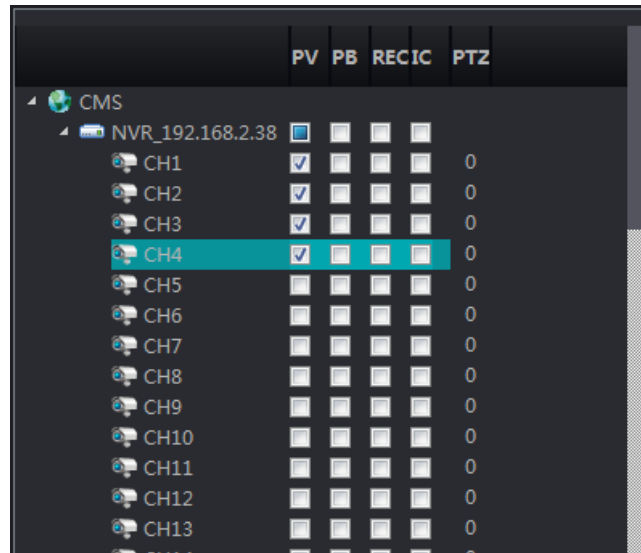


Right include three parts: Common right、Map right、Decoder right.

1) Common right: it includes preview、 playback、 recording、 talkback  
And PTZ control, it can accurate to channels, and administrator can assign relevant channel to sub users. PTZ numbers represent the priority of PTZ, double click to edit the numbers, from 0 to 10, “0” represent no PTZ control, “1~10” means have PTZ right, the larger the number, the higher the priority, that is to say”10” represents the highest priority.

The channels unassigned preview right will be hidden when sub users login, it has no rights for related functions such as playback、

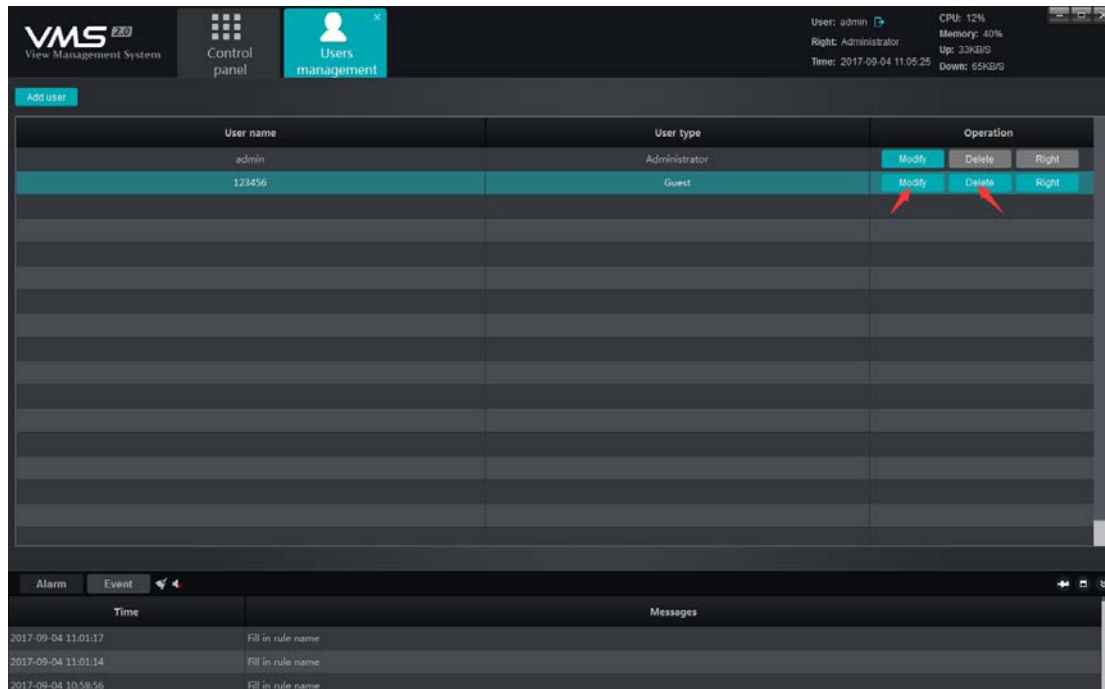
recording、talkback, for example, only assign the preview right for 5 channels of the sub user, see picture as follows:



Login the server, it only can see 5 channels.

Remark: Supper user “admin” enjoys the highest right and can not be modified.

### 11.3 Modify & Delete Sub-user



### 1) Modify the sub users

Click the "Modify" button, then it will pop-up the edit interface

Edit

User type

Guest

User name

123456

Password

...

Confirm password

...

OK

Users can modify the password if necessary, click "OK" button to

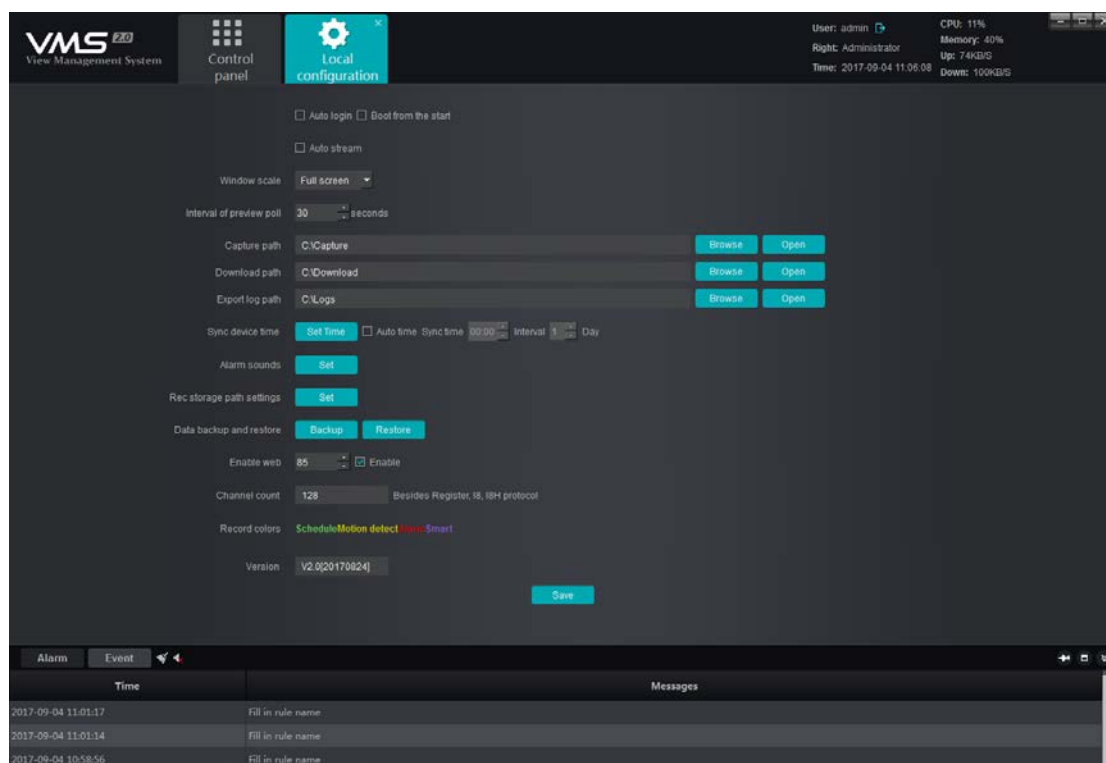
save the modification.

## 2) Delete sub users

If you want to delete relevant sub users, you could login user management interface, and then click the "Delete" button, but remember the supper user "admin" cannot be deleted.

## 12. Local Configuration

Click "Local Configuration" button to enter the interface:

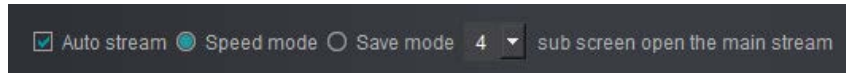


1) Automatic login: Select this item to run the client-end procedure, it will automatic login.

2) Open the auto start: Select this item it will automatically run once

starting up.

3) Auto stream, it includes Speed mode and save mode



Under the speed mode, to open the preview it will open the main stream and sub stream by default, but it only show one, so the speed will be faster and the bandwidth will be more consumed; if select save mode, it only open one stream at the same time, it will switch off existing stream to open another stream, the speed is a little slower and less bandwidth consumed, users can choose the modes according to actual situation. In addition, in the case of automatic stream mode, it can be selected to automatically switch to the main stream in the number of split screen, you can choose 1、4、9。

4) Window proportion: to preview or playback the window proportion, you can choose full screen、4:3、16:9.

5) Interval of preview poll: The default time interval is 30S, you can select from 30~600S.

6) Capture path: it includes preview、 playback and alarm linkage the capture.

7) Download path: The path to download and save the videos.

8) Export log path: The path to export and save the logs.



9) Sync device time: It has 2 ways to sync device time for new devices, manual time sync and auto time sync.

10) Alarm sounds: to select the alarm sounds for alarm linkage, and the sounds can be user-defined.

11) Rec storage path settings: to set the path of local video.

12) Data backup and restore: it help users to backup and restore the database to prevent the data loss.

13) Enable web: After enabling the web service, it can be accessed by internet explorer, you can modify the port as you need.

14) Channel count: it shows the authorized channels of other protocols expect for Register、i8、i8H, the initial installation will have a free authorization of 100 channels, after the probationary period, the total number of channels will become to 0.

15) Record colors: To define the colors for different videos.

16) Version: To show the current version of procedure (unmodified) .  
Click "Save" button after modifying the relevant parameters.

## **PART 3: Storage Capacity Introduction**

At present, there is no limit on the numbers of devices for one

server, but it recommended to keep the numbers within 450 sets. The number of storage channels for one device is limited by factors such as network and disk write, the maximum write speed currently reach to 200Mb/s, that is to say, if the camera stream is 4Mbps, it can support maximum storage of 50 channels.

Video storage time is limited by disk space size, for example, if the camera stream is 4Mbps, video file size per hour= $(4 \times 3600) / 8 \text{MB} = 1800 \text{MB}$ , that is 1.8GB, video file size per day =  $1.8 \text{G} \times 24 = 43.2 \text{GB}$ , video file size per month =  $43.2 \text{GB} \times 30 = 1296 \text{GB} = 1.296 \text{TB}$ , by this formula, the time of video storage can be calculated according to the total disk space and the accessed channels as well as the stream size of the camera.

Resolution Ratio	Code Rate	Required Storage Space				
		Hour	Day	Week	Month	Half A Year
2560x1920	10Mbps	4.4GB	105.5GB	738GB	3.09TB	18.54TB
2048x1536	8Mbps	3.5GB	84.4GB	591GB	2.47TB	14.82TB
2048x1536	7Mbps	3.1GB	73.8GB	516.6GB	2.16TB	12.61TB
1600x1200	6Mbps	2.6GB	63.3GB	443GB	1.85TB	11.10TB
1920x1080	5Mbps	2.2GB	52.7GB	369GB	1.54TB	9.27TB
1280x960	4Mbps	1.8GB	42.2GB	295.3GB	1.24TB	7.42TB

1280x720	3Mbps	1.3GB	31.6GB	221.5GB	949.2GB	5.56TB
1280x720	2Mbps	900MB	21.1GB	147.7GB	632.8GB	3.71TB
640x360	1Mbps	450MB	10.5GB	73.8GB	316.4GB	1.85TB