

User Manual for the KDM2901/CU

Version 05

November 2018

Trademark

Kedacom™ and **KEDACOM**™ are registered trademarks of Suzhou Keda Technology Co., Ltd. in China and various other countries. All other trademarks mentioned in this document are the property of their respective holders.

Suzhou Keda Technology Co., Ltd.

131 Jinshan Road

New District, Suzhou, 215011

People's Republic of China

<http://www.kedacom.com>

Tel: +86-512-68418188

Fax: +86-512-68412699

© 2018 Suzhou Keda Technology Co., Ltd. All rights reserved.

Without the prior written permission of Suzhou Keda Technology Co., Ltd., any reproduction, translation or retransmission of all or any part of this document for any purpose in either electronic or mechanical form is not allowed.

Notice

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied. Suzhou Keda Technology Co., Ltd. is not responsible for printing or clerical errors.

Contents

1	System Summary	1
2	Getting Started.....	2
2.1	PC Requirements	2
2.2	Login.....	2
2.3	Log out/Exit	6
2.4	Changing the Password	6
2.5	Main Screen	7
3	Live View	12
3.1	View Operation.....	12
3.2	PTZ Control.....	13
3.3	Screen Style.....	20
3.4	Polling	20
3.5	Video Stitching	21
3.6	Timing Task	25
3.7	Multi-screen	27
3.8	Desktop Scheme.....	28
3.9	Intelligent Tracking System	30
3.10	Partial Zoom.....	31
3.11	ePTZ	32
3.12	Stream Info.....	32
3.13	One-click to Display on Video Wall	33
3.14	Immediate Playback.....	34
3.15	Adding PUs as Favorites	35
3.16	Refreshing PU Statistics	36
3.17	Export Device Information	37
4	Audio Control	38
4.1	Voice Call.....	38
4.2	Volume Adjustment.....	39

5	Record Management.....	40
5.1	Record Management Interface	40
5.2	Enable/Disable Record	42
5.3	Record Search.....	42
5.4	Record Playback.....	43
5.5	Stop Playing Record	48
5.6	Record Download	49
5.7	Download Management.....	49
5.8	Record Binding	51
5.9	Record Setting	51
6	PU Management	55
6.1	PU Settings.....	55
6.2	Privacy Mask	57
6.3	Motion Detection	57
6.4	Serial Port Setting.....	57
6.5	Advanced Setting.....	58
7	Alarm Management	61
7.1	Motion Detection	61
7.2	Parallel Port Alarm	61
7.3	Intelligent Alarm.....	62
7.4	Basic Intelligent Alarms	62
7.5	Other Alarms.....	63
7.6	Alarm Linkage	63
7.7	Client Linkage	65
7.8	Manual Alarm-clear	66
8	Image Snapshot	67
8.1	Manual Snapshot	67
8.2	Record Snapshot	67
8.3	Alarm Triggered Auto Snapshot	67
8.4	Snapshot Settings.....	67

9	Video Wall	69
9.1	Video Wall Settings	69
9.2	Video Wall View.....	70
9.3	Video Wall Scheme	71
9.4	Video Wall Allocation.....	72
9.5	Video Polling	73
9.6	Connecting to a Keyboard.....	73
10	E-Map.....	81
10.1	Create Map	81
10.2	Map Settings.....	81
10.3	Map Element Operation.....	83
10.4	GIS/Google Map	86
11	User Management	90
11.1	User	90
11.2	User Group	92
11.3	Allocate Device Authorization	93
11.4	View Pictures Through WeChat	97
11.5	View Videos Through WeChat	97
12	Device Tree Management	100
12.1	Create a Device Group	101
12.2	Edit a Device Group	102
12.3	Delete a Device Group.....	102
12.4	Custom a System Device Group.....	103
13	Log	107
14	System	111
14.1	Local Settings.....	111
14.2	VMS Configuration	116
14.3	Update	117
14.4	Custom Tabs.....	117
15	Abbreviations and Acronyms	119

About This Document

Intended Audience

This document is intended for the personnel who:

- Work with the Client Unit (CU)
- Know video surveillance basics

Document Versions

Version 05 (2018-11-01)

Compared with Version 04 (2018-05-22), Version 05 (2018-11-01) includes the changes described in the following table.

Change Type	Description
Feature change	Added the following features of versions V2R3B2SP2 and V2R3B3SP1: • Adding PUs as favorites • Refreshing PU statistics • Exporting device information • Frame extraction during record playback
Editorial change	• Updated screenshots. • Revised descriptions. • Added PC requirements.

Version 04 (2018-05-22)

Compared with Version 03 (2017-11-22), Version 04 (2018-05-22) includes the changes described in the following table.

Change Type	Description
Feature change	-
Editorial change	Changed the document name from "VMS User Guide" to "User Manual for the CU."

Version 03 (2017-11-22)

Compared with Version 02 (2016-03-15), Version 03 (2017-11-22) includes the changes described in the following table.

Change Type	Description
Feature change	Added operations for viewing VMS videos on the WeChat and for customizing system device trees.
Editorial change	- Updated screenshots. - Revised descriptions.

Version 02 (2016-03-15)

Compared with Version 01 (2015-09-30), Version 02 (2016-03-15) includes the changes described in the following table.

Change Type	Description
Feature change	-
Editorial change	- Updated screenshots. - Revised descriptions.

Version 01 (2015-09-30)

Compared with Version 00 (2014-11-20), Version 01 (2015-09-30) includes the changes described in the following table.

Change Type	Description
Feature change	-
Editorial change	- Updated screenshots. - Revised descriptions.

Version 00 (2014-11-20)

This is a draft.

Compatibility

The following table provides the products and VMS software version to which this document applies.

Product	KDM2801H-G2 (Centos 6.5 32-bit)
VMS Software Version	V2R3B3SP1

1 System Summary

To deploy a complete video surveillance system, you need to get cameras, VMS, storage systems, and VMS clients ready.

Camera

Camera is mainly responsible for audio, video and warning information collection, encoding, decoding and storing. It can accept control commands from the network.

Surveillance devices include: encoders, decoders, IPC, NVR, audio equipment, alarm devices and ONVIF members surveillance Product with Profile S-G-T.

VMS

VMS is the new generation products, with a variable software features, beautiful UI and good usability.

VMS is responsible for cameras' accessing and management, providing VMS management, storage management, user management, system management, and so on.

Managing disk function is a separate module to access, so it enhances the stability and reliability of the VMS.

Storage system

Storage system is mainly responsible for all the video files to store and manage.

The recording system has the ability to manage different area definition and duration for each camera or alarm.

VMS Client

VMS clients include PMC client, CU client and IPCSearch.

- **PMC client:** This is management software which provides a visual interface for VMS. It can operate with the camera accessing, parameter configuration and storage management, etc.
- **CU client:** This software can operate video browsing, audio control, camera management, alarm management, snapshot management, disk management, video-wall control, e-map, user management, equipment management, and other functions.
- **IPCSearch:** It can search online VMS and cameras. This program shows the health status of devices on the network (working time, name, IP, online office)

Note: This manual mainly describes the networking management of client operations and IPCSearch specific usage; details refer to the CU client user's manual.

The VMS is responsible for device management, scheduling all the devices working together in the system providing VMS management, storage management, user management, and system management.

2.1 PC Requirements

Before getting started, ensure that your PC meets the following conditions:

- Operating system: Window 7 or later
- Processor: Intel Core i3 or later
- Memory: 8 GB or larger

2.2 Login

1. Open the IE browser and enter in the IP address of VMS in the address bar. When you login for the first time, please follow the screen prompts to download and install the client.



Note:

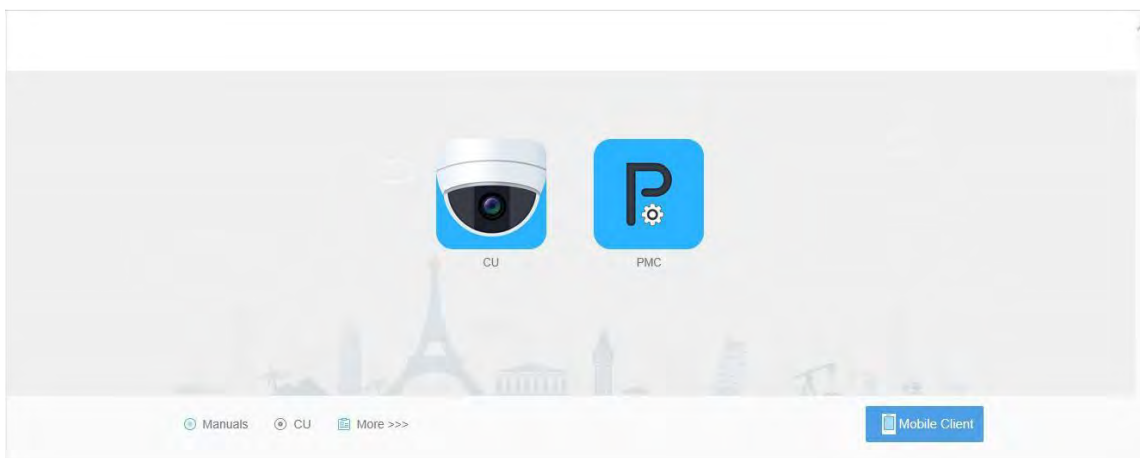
If login VMS in NAT from the outside of NAT, configure the VMS in NAT first. Enter the mapping IP address and the mapping port of VMS port 80 in the address bar, such as <http://10.20.30.252:80>. For NAT configuration, please refer to the NAT configuration in User Manual for the PMC.

The CU is installed in Volume C by default. If the remaining space of Volume C is smaller than 2 GB, the CU cannot be installed.

2. There are 2 methods to login VMS CU:

Method 1:

- 1) Open IE browser and input VMS IP address in the address bar. Select **CU**.



- 2) Download and install the OCX control by clicking **Please click here to download**.



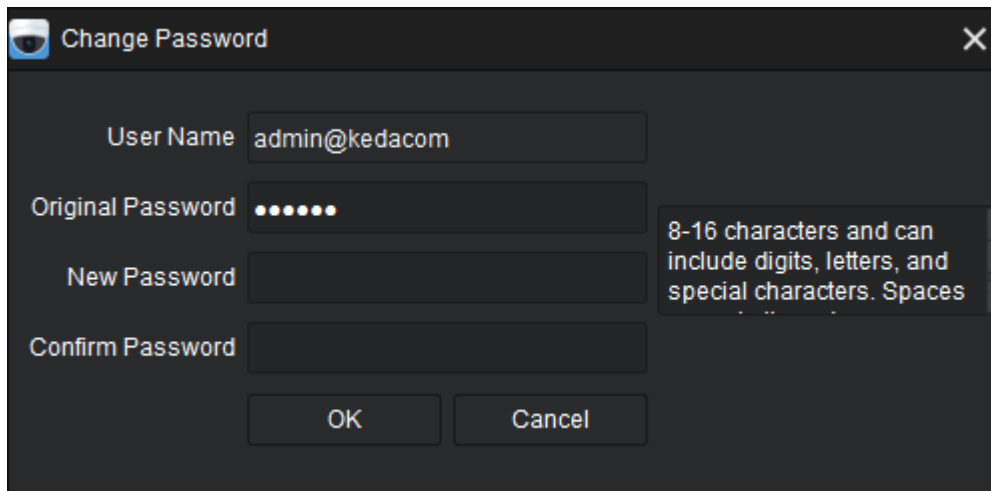
- 3) Download and run the **controlSetup.exe**. Alternatively, run it directly.
- 4) Click **Yes** in the **User Account Control** dialog box.
- 5) Reboot your PC.
- 6) Repeat step 1.
- 7) Enter a username and a password.

The default user name for VMS with software version V2R2B3 and below is admin@domain (domain means domain name, which is subject to actual situation), and the default password is 888888.

The default user name for VMS with software version V2R2B3SP1 and above is admin and the default password is 888888.

If you make three continuous failed password attempts within one minute, your IP will be locked for five minutes.

- 8) (Optional) Select **Remember Me**.
- 9) Click **Log In**.
- 10) Create your own password for the admin account.

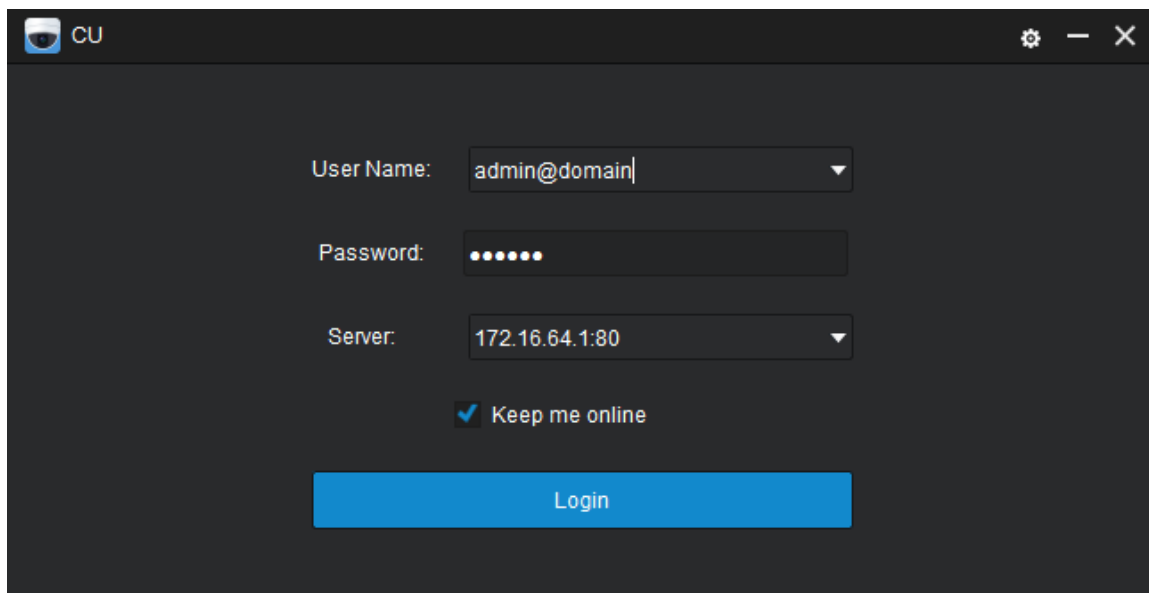


A dialog box titled "Change Password" with a close button (X) in the top right corner. It contains four input fields: "User Name" with the text "admin@kedacom", "Original Password" with six dots, "New Password" (empty), and "Confirm Password" (empty). Below the fields are "OK" and "Cancel" buttons. A tooltip on the right side of the "New Password" field states: "8-16 characters and can include digits, letters, and special characters. Spaces".

You are advised to create a strong password which must be 8-16 characters long and include combinations of digits, letters, and/or special characters to ensure your data safety. Periodically changing your password at 3-month intervals would be appreciated. If your network environment is risky, you should change your password at weekly or monthly intervals. Additionally, do not leak your username and password.

Method 2:

Double-click the shortcut icon  on the desktop, and enter user name, password and VMS address.



A window titled "CU" with a settings icon, a minus sign, and a close button (X) in the top right corner. It contains three input fields: "User Name:" with a dropdown menu showing "admin@domain", "Password:" with six dots, and "Server:" with a dropdown menu showing "172.16.64.1:80". Below these fields is a checkbox labeled "Keep me online" which is checked. At the bottom is a large blue "Login" button.



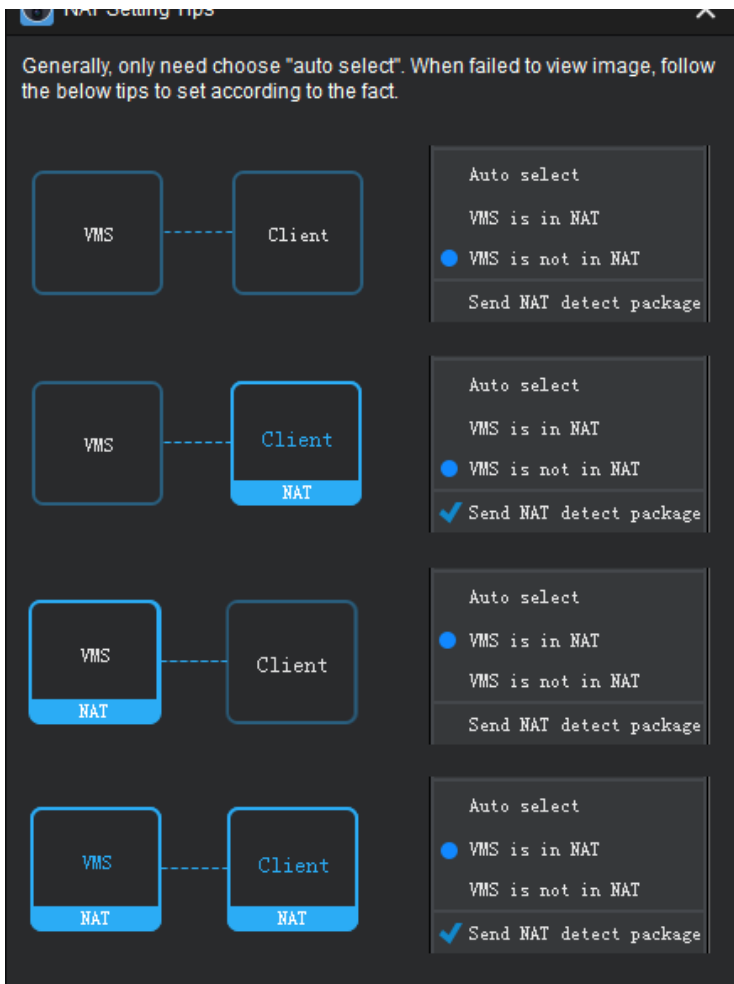
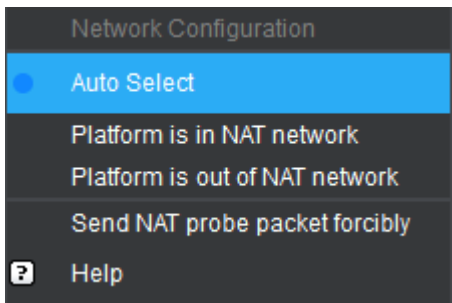
Note:

- 1) If you make three continuous failed password attempts within one minute, your IP will be locked for five minutes.
- 2) For security's concern, please modify default user name and password after login;

- 3) Please modify password periodically;
- 4) To ensure operation safety, please install an antivirus program.

3. Click  and select network environment from Network Configuration:

- Auto Select: judge VMS network location automatically;
- Platform is in/out of NAT network: select VMS network location manually;
- Send NAT Probe Packet forcibly: please finish the setting according to “Help”.



4. After network setting, click “Login” to log in VMS CU.

2.3 Log out/Exit

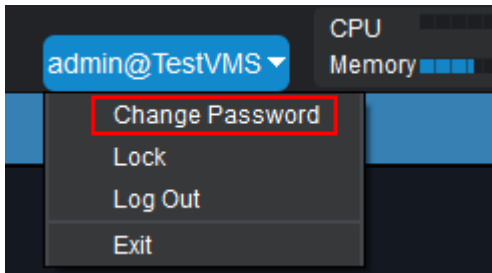
Log out: click "log out" on the right corner of the screen, you can return to the login interface.

Exit: click "exit" at the right corner to quit CU.

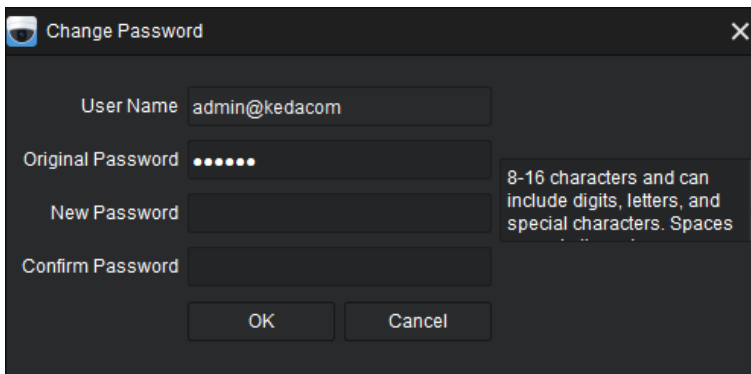
2.4 Changing the Password

To change the password:

1. Click the account and select **Change Password**.



2. In the displayed dialog box, specify parameters displayed.



You are advised to create a strong password which must be 8-16 characters long and include combinations of digits, letters, and/or special characters to ensure your data safety. Periodically changing your password at 3-month intervals would be appreciated. If your network environment is risky, you should change your password at weekly or monthly intervals. Additionally, do not leak your username and password.

3. Click **OK**.



Note:

After the first login to the CU, you must discard the default password and create your own password. A strong password is recommended and the password must be 8-16 bits long and contain letters and digits.

2.5 Main Screen

2.5.1 Screen Layout

CU client's main interface is shown in the following picture:



Explanation is shown in the following form:

Form Layout

Number	Explanation	Number	Explanation
①	Menu Bar	⑤	Device Search
②	Toolbar	⑥	Notice Bar
③	PTZ Control	⑦	Floating Menu
④	Device List	⑧	Live View Area

The following table helps you read the buttons on the top right corner.

Button	Description
	Click this button to hide the tool bar.
	Click this button to perform the following: Close All Split Screens Copy Split Screen

Button	Description
	Click this button to perform the following: Help About CU Language Skin Change Check Update
	Click this button to lock or unlock the floating menu.
	Click this button to hide the notice bar and device list.
Lock	Click it to lock the CU.
	Click it to switch the device tree. To edit the device tree, see section "Device Tree Management."

2.5.2 Toolbar Icons

Icon	Explanation
	Desktop Scheme: save current scheme/desktop scheme configuration. Refer to Desktop Scheme for detailed operations.
	Picture Styles: support multiple styles display.
	Video Stitch Scheme: to configure video stitching. Refer to Video Stitching for detailed operations.
	Timing Task: refer to Timing Task for detailed operation.
	One-click to stop viewing.
	Single image full-screen
	Multiple images full-screen
	Batch processing: click the icon, select an operation from the drop-down list, select multiple view windows, and perform the selected operation by batch.

2.5.3 Device Icons

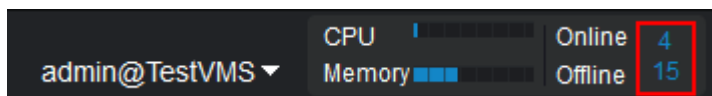
Explanation of the device icons in the device list area:

Form Device Icon

Icon	Explanation	Icon	Explanation
	PTZ IPC		Fixed IPC
	Video Source		Encoder
	NVR		Decoder
	SVR		VMS Recording
	Alarm		Front End Recording
			Online Front End Failed to Enable VMS Recording

2.5.4 Offline Device Counting

To view offline device information, click the following on the top right corner of the CU.



Then, you can find the following.

Statistics			
Device	Number of Offline	Number of Online	Total Number
▶ TestVMS	15	4	19

Export Refresh

If a lower-level VMS is online, its offline device information will be also displayed.

If the lower-level VMS is offline, only the offline information of the VMS, rather than its offline device information, is displayed.

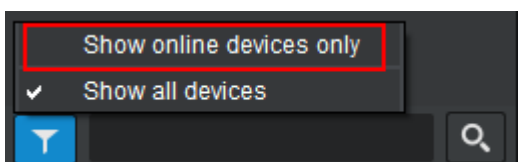
You can click **Export** to export the offline device information.

You can click  or **Refresh** to refresh the offline device information.

2.5.5 Showing Only Online Devices

To show only online devices:

1. Expand the device tree.
2. Click  at the bottom left corner of the CU and select **Show online devices only**.



 **Note:**

When a device turns offline and online frequently, a pop-up window will be displayed to notify the current user of the event. The window display policy can be configured. For details, see section 13 "Configuring the Pop-Up Window "of Advanced Configuration Manual for the VMS.

3.1 View Operation

Click **Live** on the menu to enter live view interface.

Start Viewing

In the device list, select a video source that you want to browse, you can browse through either of the following methods.

- Double-click the video source (default is to playback in an idle window). If there is none available, the video cannot be played and there will be a notice in the notice bar.
- Left click and drag the mouse to a play window. Release the button when the image appears. If this window is not an idle one, the video source will occupy it.



Note:

The live viewing is stopped when you leave the **Live** tab page or minimize the CU window and is restored after you come back or maximize the CU window.

You are advised to disable the Windows Firewall before starting viewing videos.

Group Viewing

The steps for group viewing are as follows:

- Right click device group and select "**Grouped View**", then all the videos in this group will display.
- Left click the device group and drag it to the display window, then all the videos in this group will display. If the window is idle, the video will occupy the window and the windows behind this one will move backward accordingly.



Note:

- 1) When the video source number is more than current window number, a page menu will display. Click the page  on the menu to change the live view window;
- 2) The video display modes include overspreading and self-adaptive. Select a live view window, and right click or click  /  on the floating menu to switch display mode.
- 3) If a video source has two audio channels, you can click  to select an optimal audio channel. This also applies to recording playback, e-map playback/viewing, live viewing, recording download, and local recording playback. By default, channel 1 is selected.

Stop Viewing

Two methods:

- Select a live view window, click  on the floating menu bar or select "stop" on the right-click menu to stop viewing.
- During multiple windows view, click  > [Stop] on toolbar and select multiple windows with mouse to stop multiple live view windows. Right click to quit the operation.
- During multiple windows view, click  on the toolbar to close all the video windows and other view functions.

3.2 PTZ Control

PTZ control involves the functions of lens shift, zooming and etc. Only some models of camera support this function.

3.2.1 Basic Control

User can perform basic PTZ control over working camera through CU, as shown in the following picture:



Explanations of icons are as follows:

Form Basic Control

Number	Explanation	Number	Explanation
①	Direction adjustment	④	Volume adjustment
②	Moving increment	⑤	Zoom in or out
③	Preset positions	\	\

Direction adjustment

Click the direction icons to adjust the lens to the expected positions. Click  to return the camera to the original position.

Moving increment

Drag the slider of moving increment to adjust increment. The righter the slider is, the larger the increment is and the faster the speed is.

Preset positions

Preset the monitoring direction and field of view of the camera. Load to the preset position when necessary and the camera will rotate to the position instantly so that the managing people are able to view the monitoring area conveniently.

Click  to enter preset management interface.

Set preset position

Click the direction icons to adjust camera to the expected position. Click  and select a preset position from the popup “Preset”. Click “Save” to finish setting.

Load preset position

Click  and select a preset position from the “Preset” window. Click “Load” and the camera will rotate to the preset position instantly.

Load preset positions in batches

To load preset positions for a number of devices/device groups:

1. Press and hold the **Ctrl** key and select the target devices/device groups from the device list on the left panel.
If the target is a single device group, select this group without the need to press and hold the **Ctrl** key.
2. Right-click your mouse and choose **Load Preset**.
3. Select the target preset positions.
4. Click **Load**.

Rename preset position

Click  and click “Edit” in the “Preset” window. In the popup window of “Rename Preset Alias”, select a preset and input new alias. Click “OK” to finish renaming.

Volume Adjustment



Click  to adjust the output volume on CU and the input volume of microphone. Details can be referred to in Volume Control.

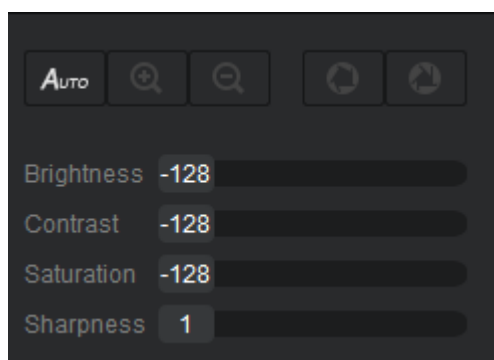
Field of view



Click  or  to zoom in or out the field of view and adjust the image to suit the scene.

3.2.2 Image Adjustment

User can adjust main stream image at CU, as shown in the following picture:



Focus:

Adjust the focal length of the camera to make the image clearer.



Click  to achieve auto focus.



Click  to increase focal length.



Click  to decrease focal length.

Aperture:

Adjust light input of the lens to adjust brightness and darkness of the image.



Click  to enlarge aperture.



Click  to narrow aperture.

Brightness:

Adjust the brightness of current image, range from -128 to 127.

Contrast:

Adjust the contrast ratio of current image, range from -128 to 127.

Saturation:

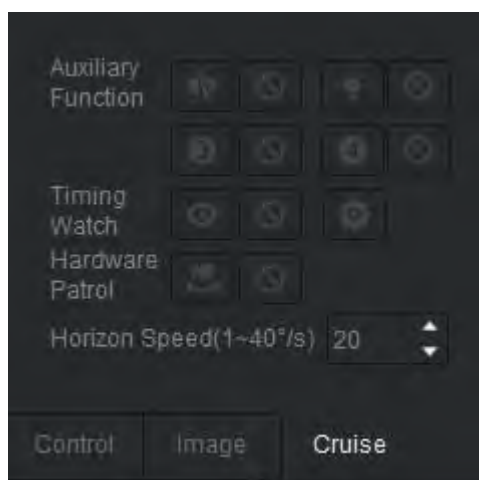
Adjust the saturation of current image, range from -128 to 127.

Sharpness:

Adjust the sharpness of current image, range from 1 to 255.

3.2.3 Cruise and Guard Tour

User can configure the following functions on camera:



Enable Wiper

Click  to enable wiper and clean the glass cover of camera. Click  to disable wiper.

Enable Light

When light is insufficient, click  to enable light and click  to disable light.

Auxiliary Function

This is reserved setting. When the front-end device supports a function, configure the function by VMS.

Timing Watch

After stopping PTZ control for a period of time, camera will load preset automatically or start preset patrol automatically.



Note:

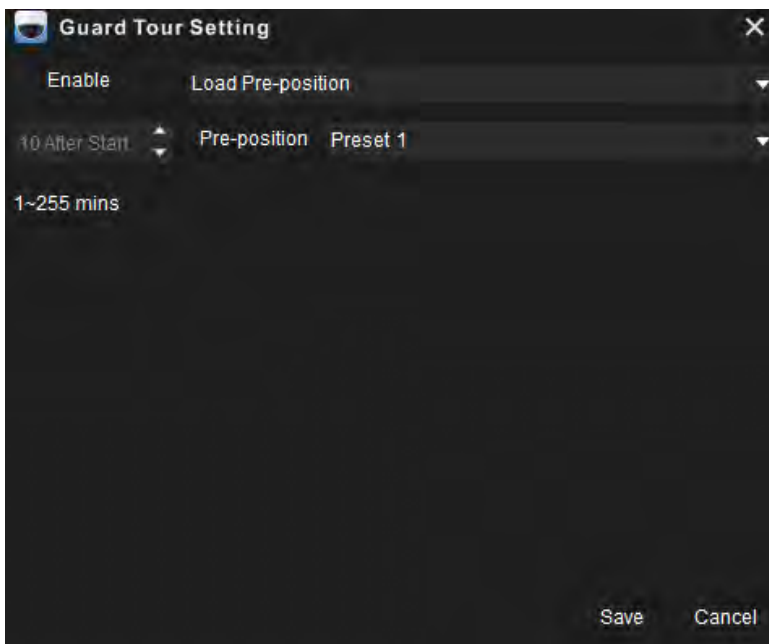
Only some cameras support functions of Timing Watch and Hardware Patrol.

Load Preset Automatically

1. Click  in Timing Watch area;



2. In the popup window, check “Enable” and select “Load Preset”. Input time and select preset.
3. Click “Save” to complete setting of Load Preset Automatically.



Auto Preset Patrol

1. Click  in Timing Watch area;
2. In the popup window, check “Enable” and select “Load Preset”. Input time and select preset, and double click to input camera stay time;
3. Click “Save”.

Hardware Patrol

Hardware patrol means camera rotates horizontally.

In Hardware Patrol area, set horizontal speed (1~40 degree/second) and click  to enable patrol. Click  to disable pan patrol.

3.2.4 PTZ Control Occupation

PTZ Control Occupation capacity depends on the PTZ control level of user. High-level user can occupy the PTZ control authorization of low-level user's. If users with PTZ control authorization stop PTZ operation for 1 minute, his authorization will be released automatically.

When PTZ control authorization is occupied, both users will receive the notice.

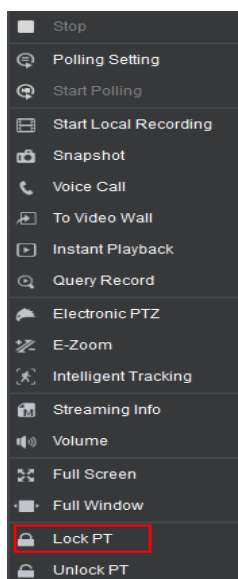
There are 10 levels of PTZ control and Level-10 is the highest. Configuration of PTZ control levels for users can be referred to in Video Source Distribution.

3.2.5 Locking/Unlocking a PT

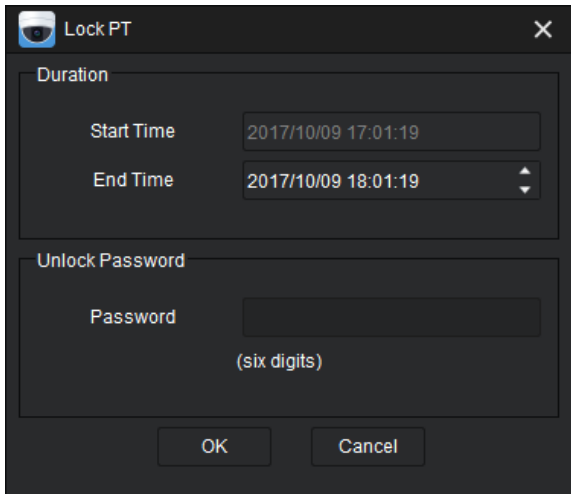
When the PT of a camera is locked by a user, other users cannot change the camera's PT settings. If a camera is performing a pan tour and then gets locked in its PT, the pan tour will continue. Before you can stop the tour, you must unlock the PT. PT locking/unlocking can be performed on only one level of the VMS. In other words, a CU user cannot lock or unlock PTs for upper- or lower-level VMSs. Currently, locking PTs in batches is not supported.

To lock a PT:

1. Right-click a view window and select **Lock PT**.



2. In the displayed dialog box, specify parameters displayed.



The screenshot shows a 'Lock PT' dialog box. It has a title bar with a camera icon and the text 'Lock PT', and a close button (X). The dialog is divided into two main sections. The first section, titled 'Duration', contains two time selection fields: 'Start Time' with the value '2017/10/09 17:01:19' and 'End Time' with the value '2017/10/09 18:01:19'. The second section, titled 'Unlock Password', contains a password input field with the label 'Password' and a note '(six digits)' below it. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

You can lock a PT for at most one month. The default duration is one hour.

3. Click **OK**.

To unlock the PT, enter the password.

Only administrators can unlock PTs in batches. Higher-level PTZ users can unlock PTs without the need to enter passwords while low- or-same level users need to enter passwords. For example, when an admin account locks a PT, then:

- The super administrator can unlock the PT without the need to enter the password.
- Another admin account or a standard user must enter the password before he/she can unlock the PT.

The PT becomes unlocked when the camera authorization settings change.

Users not authorized to operate a PT cannot lock it.

3.3 Screen Style

Screen style can be set in the live view window, including single, multiple, single image full screen and multi-image full screen.

Click  on the toolbar, you can select screen style.

Single image full screen

Select a live view window and click  on the toolbar to make image displayed full screen. Press Esc on keyboard or right click menu and select "Quit Full Screen" to quit full screen.

Multi-image full screen

Click  on the toolbar to maintain current multi-image and display in full screen. Double click a window and this window will display in full screen. Double click again to return to multi-image full screen. Press Esc on keyboard or right click menu and select "Quit Full Screen" to quit full screen.

Fill live view window

During multi-image in full screen, double click a window and this window will display in full screen. Double click again to return to multi-image full screen.

3.4 Polling

Polling refers to the multiple videos loop in the same window.

3.4.1 Polling Setting

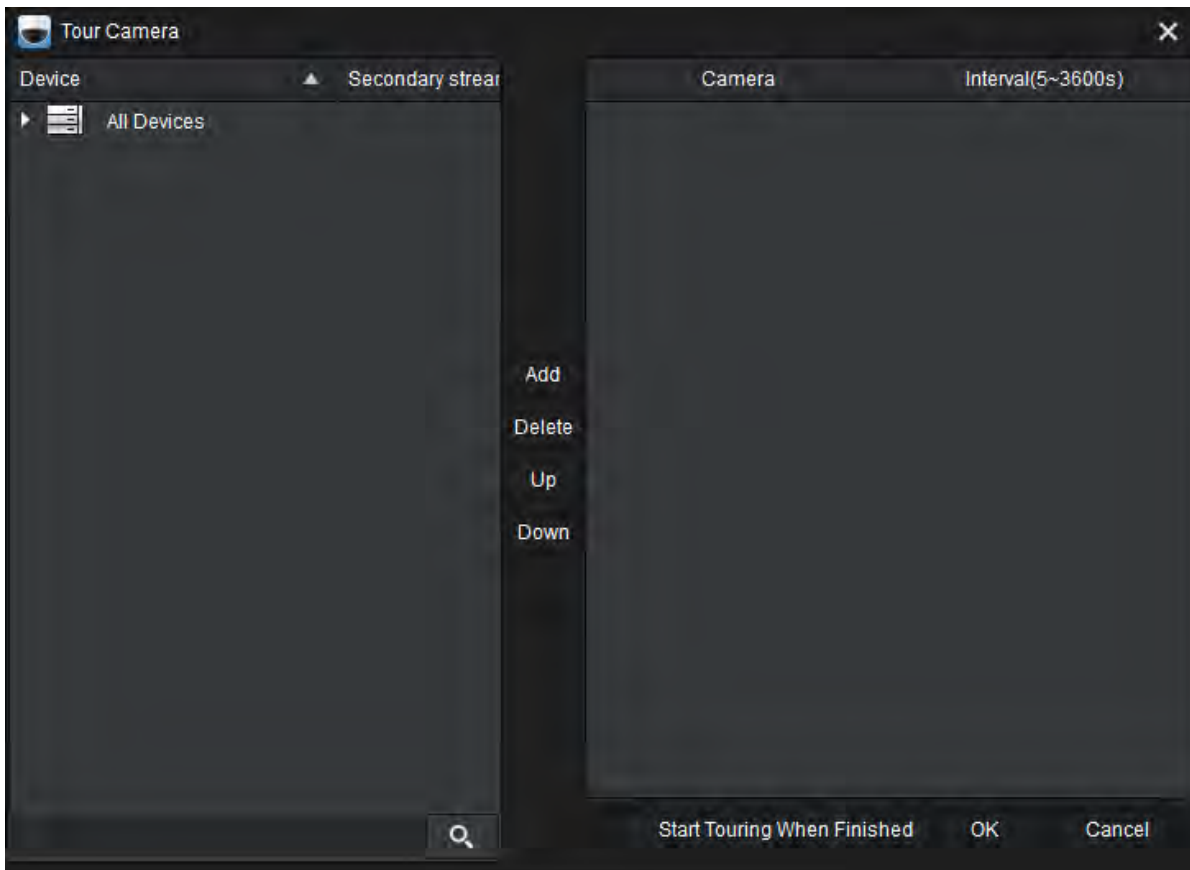
1. Select the live view window, click  on the floating menu bar or right-click menu, select "Polling Setting";
2. In the device list, select one or more video sources you want, click "add";

 **Note:** Click "Upward" or "Downward" to move the video source up or down. Click "Delete" to delete the video source.

3. Select one or more video sources and set the polling time.
4. Click "OK" to complete the setting.

 **Note:** After checking "Start polling when finishing", it will start polling automatically in the live view window. If unchecking, user

has to clic  on the floating menu bar to start polling manually.



3.4.2 Polling

After finishing polling setting, user can operate on the floating menu bar or right click menu:



: Start polling manually.



: Pause polling.

3.5 Video Stitching

This function stitches multiple live view images and displays the stitched image according to the stitch scheme.

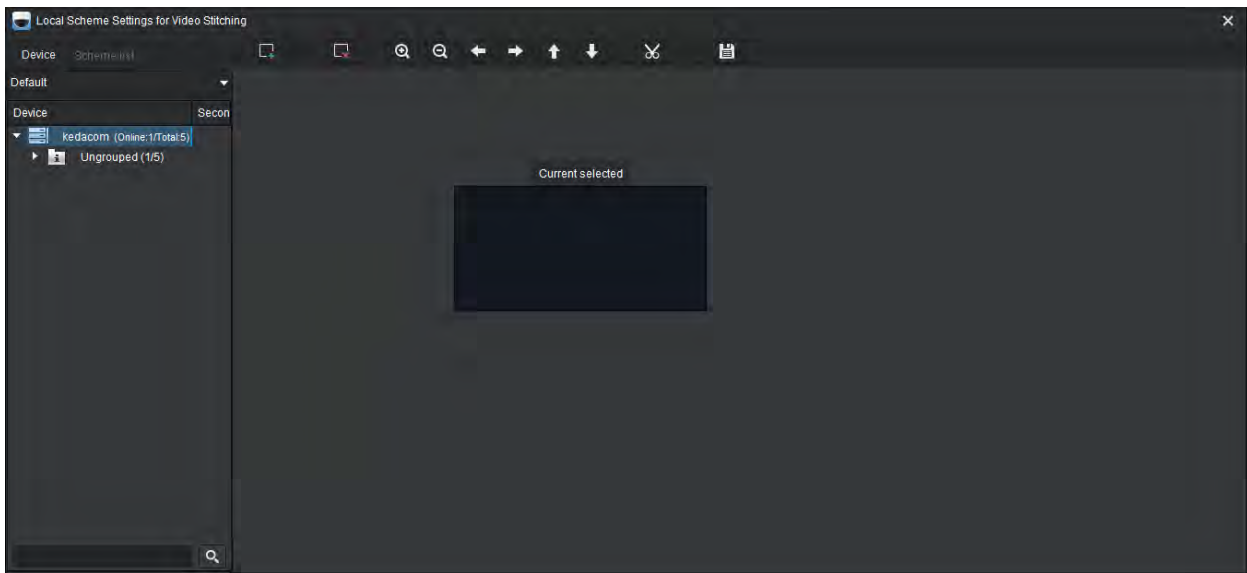


Note:

If you find this function does not take effect, check whether the cameras in operation support this function.

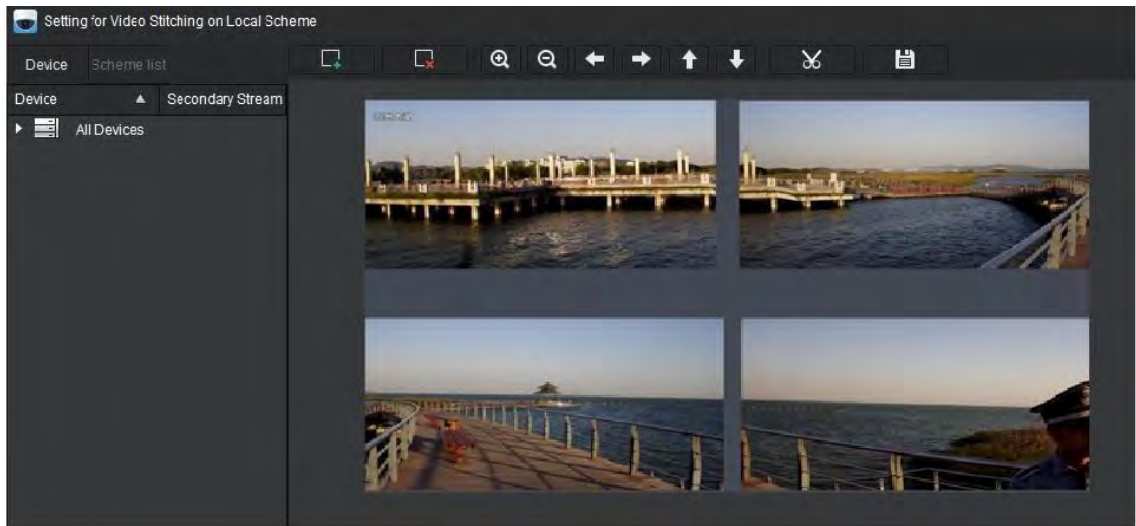
3.5.1 Video Stitching Local Scheme

Click  > **Local Scheme for Video Stitching** to enter the video stitching setting interface. When defining video stitching and creating video stitching scheme, user should view video from local client.



Add live view window

Click  to add live view window. Select the required videos from the device list and drag them to the window.



Change window location

Select a window, and right click menu to choose “Bring layer to front>Bring layer to front/Move up by a layer” or “Place in bottom layer>Place in bottom layer/Move down by a layer”. Select one or more windows and click



to move them leftward, rightward, upward and downward. Or drag them to any location with a mouse.

Stop live view

Right click menu and select "Stop" to stop the live view.

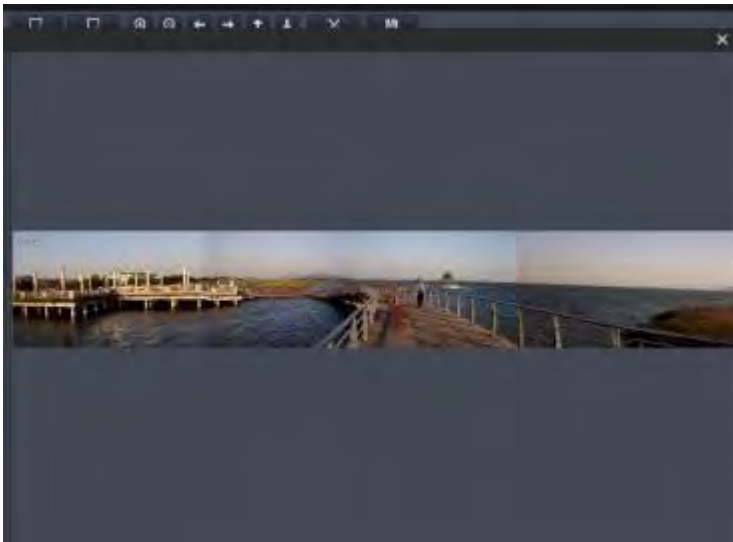
Delete window

Select a window, and click  to delete.

Adjust window size

Select one or more windows, and click   or place the mouse at the corners of the window. Left click and drag to zoom in or out.

Based on the above operations, video stitching is finished and the result is shown in the following picture:

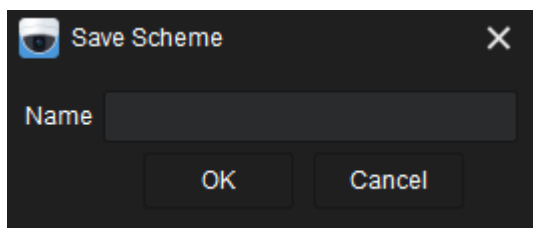


Clip live view area

Click  to clip live view area. After click “OK”, user can only view the video within the clipping area.

Save scheme

Click  to save current display style. Input scheme name in the “Save scheme” interface. After clicking “OK”, the scheme will display in the scheme list.



Select local scheme for video stitching

There are several methods as follows:

- In the interface of “Local scheme for video stitching”, click “Scheme List” and double click a scheme to view.

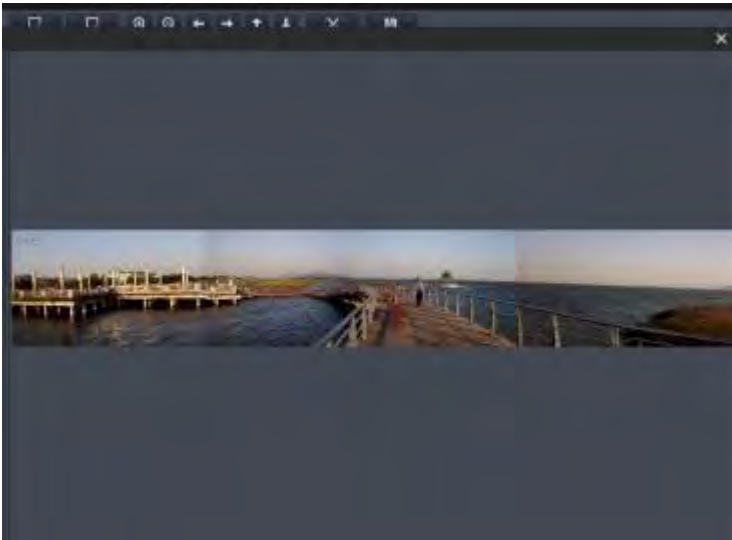
Device	Scheme list
local1	

- Click  and select a scheme from the drop-down list to view.

3.5.2 Video Stitching Video Wall Scheme

Most of the operations of Video Stitching Video Wall Scheme are the same as that of Local Scheme for Video Stitching, except the video clipping operation. Detailed operations are as follows:

1. Click  > "Video Stitching Video Wall Scheme", and enter video stitching setting interface;
2. After adding windows to be clipped, click  to clip live view window and click "Preview" to browse clipping result. Click "OK" and user will see clipped video only.



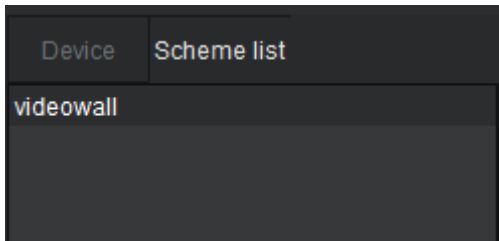
Notes:

- 1) The new scheme will be listed on the stitching scheme list in Video Wall interface.
- 2) The function supports multiple columns and multiple rows of videos, but videos cannot exceed stitching windows and can only be stitched as rectangle video frames.

View Video Stitching Video Wall Scheme

There are several methods:

- In the interface of Video Stitching Video Wall Scheme, click "Scheme List" and double click a scheme to view.
- Go to Video Wall interface. In the scheme list area, click "Stitch Scheme" and double click a scheme to view.

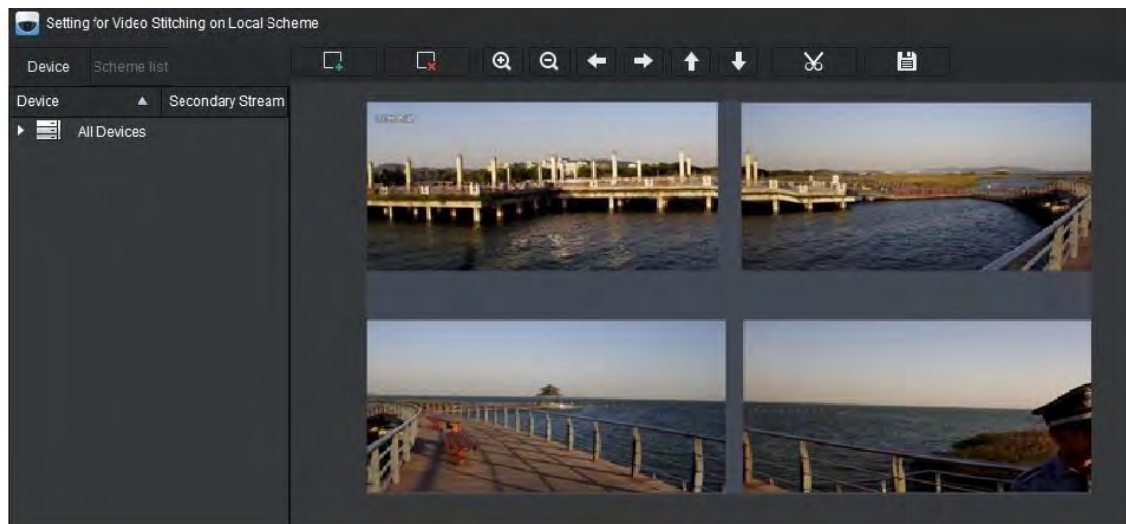
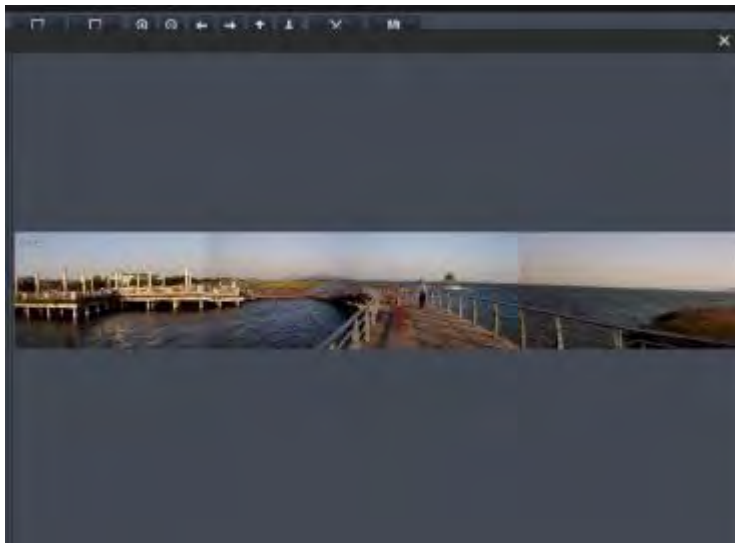


- Click  and select a scheme from the drop-down list to view.

3.5.3 Restore to Default Image

After setting Video Wall Scheme for Video Stitch, user can also restore to default image. Steps are as follows:

Select the front-end device that has been configured stitch scheme from the device list and right click to select “Restore to default image”

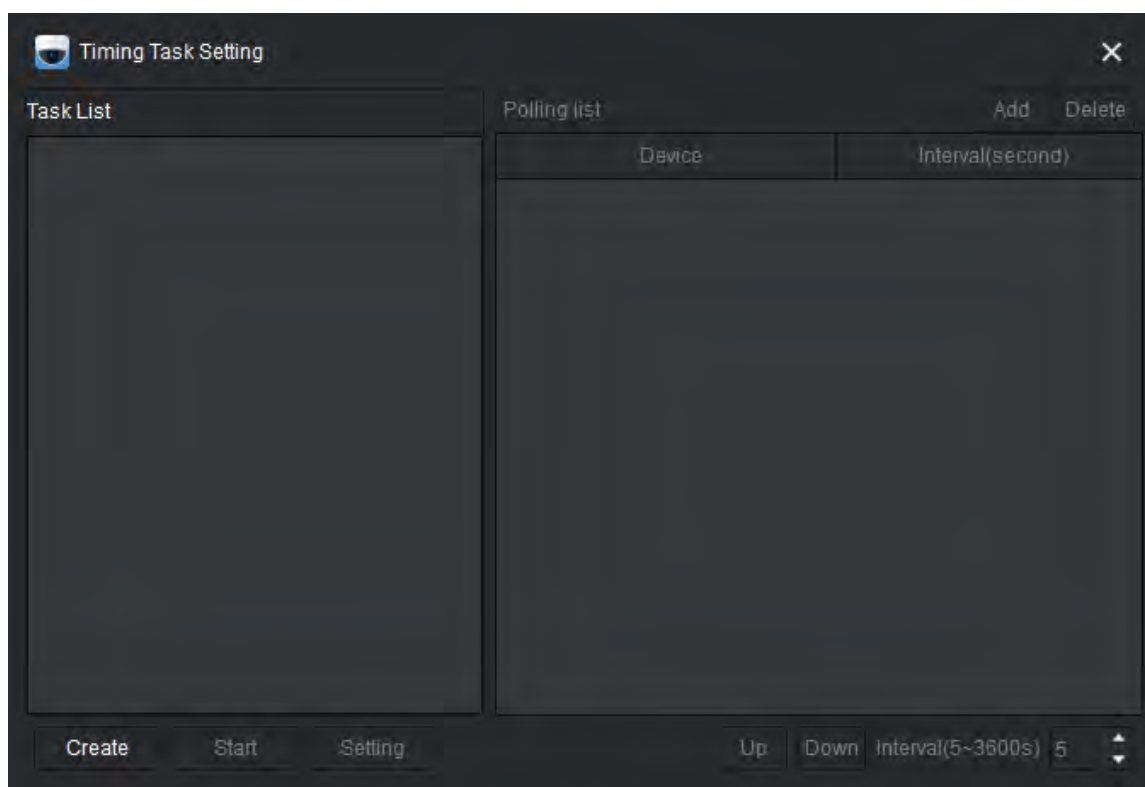


3.6 Timing Task

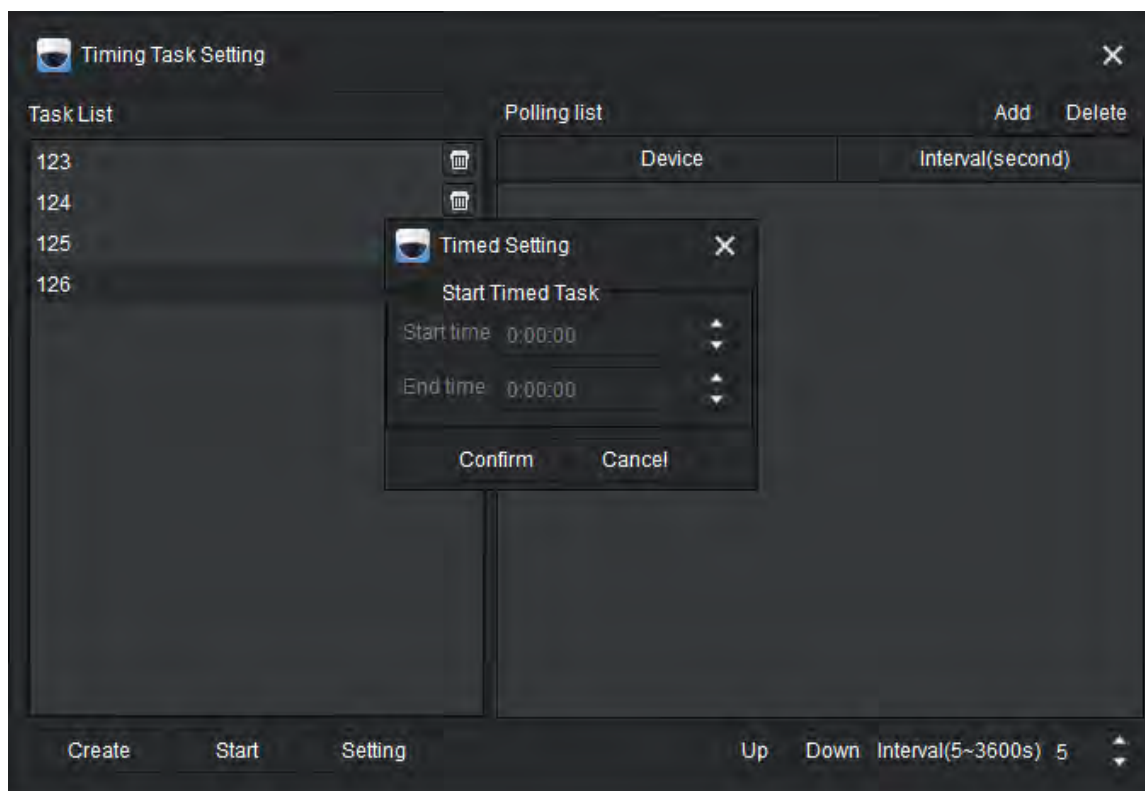
After setting timing task, user can load scheme periodically or in a certain period of time.

3.6.1 Timing Task Setting

1. Click  > Timing Task Setting;



2. Click “Create” and set task name; click “Setting” to set task time duration;





Note: The new task duration cannot overlaps with other task durations.

3. Click “Add”, and select one or more front-end devices for polling from the popup device list;
4. Click “Add” to add front-end device to “Polling List”;
5. Click “Delete” to delete the monitoring point.
5. In “Interval”, set polling interval of monitoring points;
6. Click “Up” and “Down” to modify polling sequence of monitoring points;
7. After setting, click “Start” to enable the timing task.

Under the following 2 conditions, Timing Task will remind user of the scheduled duration and select to enable or disable task:

- The CU login time is in the timing duration;
- 1 minute before the start of timing task.

3.6.2 Other Operations

- **Stop Current Task**

Click  > Stop Current Task to disable all timing tasks.

- **Start Timed Task**

Click  > Start Timed Task to enable polling task.

- **Pause Current Task**

Click  > Pause Current Task, and polling task will pause at this time.

- **Resume Current Task**

Click  > Resume Current Task, and polling task will restart from the pause time.

3.7 Multi-screen

User can copy interfaces of Live, Playback, E-map, Video Wall and User, and drag them to the corresponding windows.

Click  at toolbar and select “Copy Split”. Support operations as follows:

- 1) Select one or more windows from the live view interface, and drag them to Video Wall;
- 2) Select one or more windows from the live view interface, and drag them to e-map to generate a map element;
- 3) Select one window from the live view interface, and drag it to the Recording interface to play the video. The

start time of video playback is the default time of the Recording interface.

Click  > “Close All Split” to close all split-screens. Click  to close one split-screen.

 **Note:** For the VMS of the V2R2B4SP1 version, you cannot drag a live viewing window to the Google map to generate a map element. Only maps in the jpeg format support such operations.

3.8 Desktop Scheme

Desktop Scheme means that the current window layout, video sources for each window and polling status of each window are saved as a scheme. It can be loaded for surveillance instantly when necessary. You can quickly open the Desktop Scheme interface by pressing Ctrl+X keys.

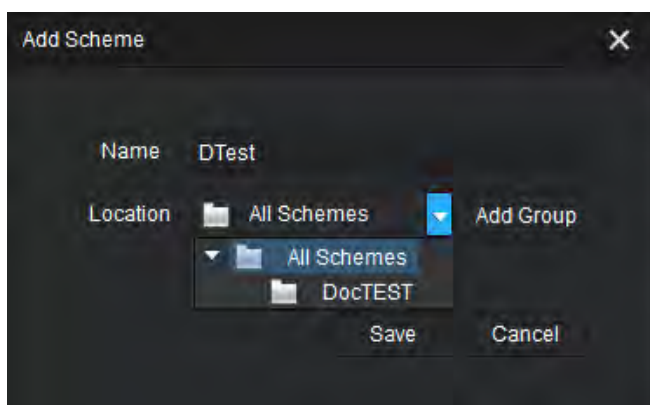
3.8.1 Scheme Management

User can create, load, edit, group, and delete scheme in Scheme Management interface.

Create Scheme

After setting current view window style, video sources for every window and polling status for every window, click

 > **Save** to save the current desktop scheme. In the popup window of “**Add Scheme**”:



Input new scheme name, select or create a group, and click “Save”. After saving the scheme, it will show on the scheme list.

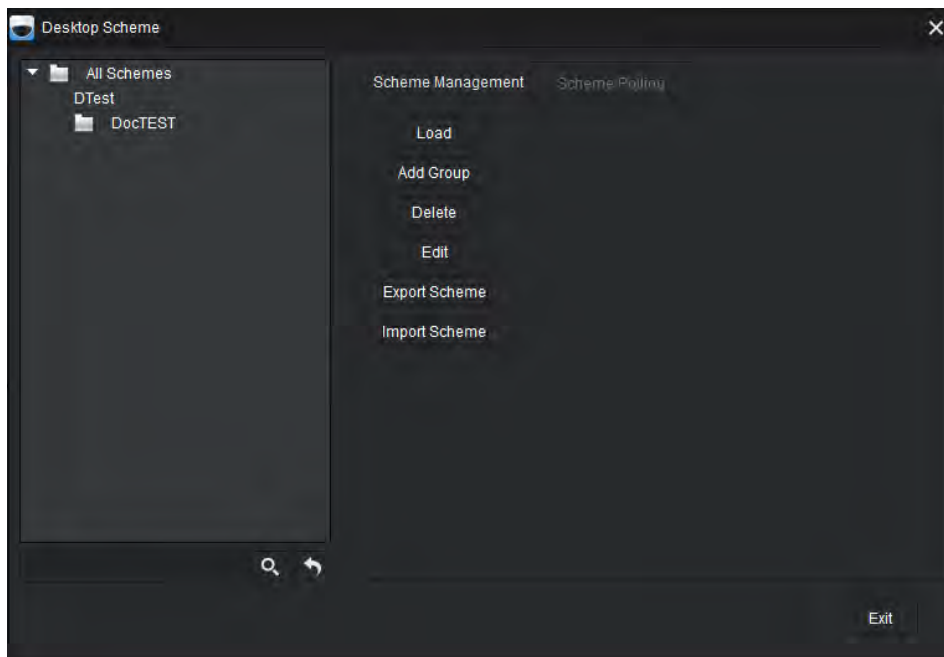
You can create eight levels of scheme groups and each level can accommodate 256 scheme groups.

Load Scheme

There are 2 methods to load scheme:

- Click  > **Load** and select a scheme from the drop-down list to load and play this scheme. You can click **Recently Loaded** to load recent schemes.
- Click  > **Scheme**. In the popup window of “Desktop Scheme”, select a scheme from the scheme list and

click “Load” to load and play this scheme.



Rename Scheme

To rename a scheme, select it, click **Edit**, enter a new name, and click **Save**.

Delete Scheme

Click  > **Scheme**. In the popup window of “Desktop Scheme”, select a scheme from the scheme list and click “Delete”. Deleting a scheme group is also supported.

Search Scheme

You can click **Search Scheme** to search schemes or scheme groups. Fuzzy searching is supported.



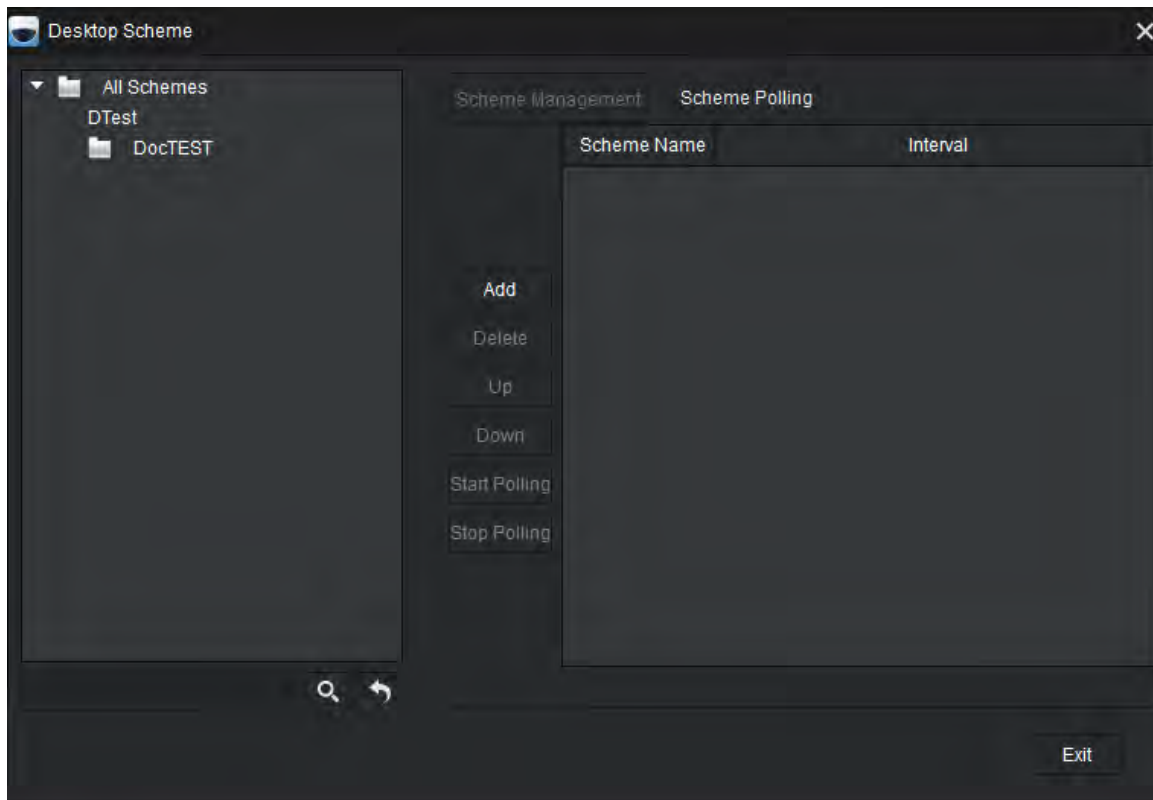
Note: “Previous” or “Next” in “Desktop Scheme” interface is to view the scheme being loaded before.

3.8.2 Scheme Polling

In Scheme Polling interface, set, enable or disable local scheme polling.

Configure Scheme Polling

1. Click  > **Scheme**;
2. In the popup window of “Desktop Scheme”, click “Scheme Polling”, select multiple schemes from the scheme list, and click “Add”.



Notes:

- 1) Press Shift (consecutive selection) or Ctrl to select multiple schemes.
- 2) Click “Delete”, “Up” or “Down” to delete, move up or move down the scheme.
3. Select one or more added schemes, set stay time for each scheme in Interval, and click “Start Polling” to start scheme polling.

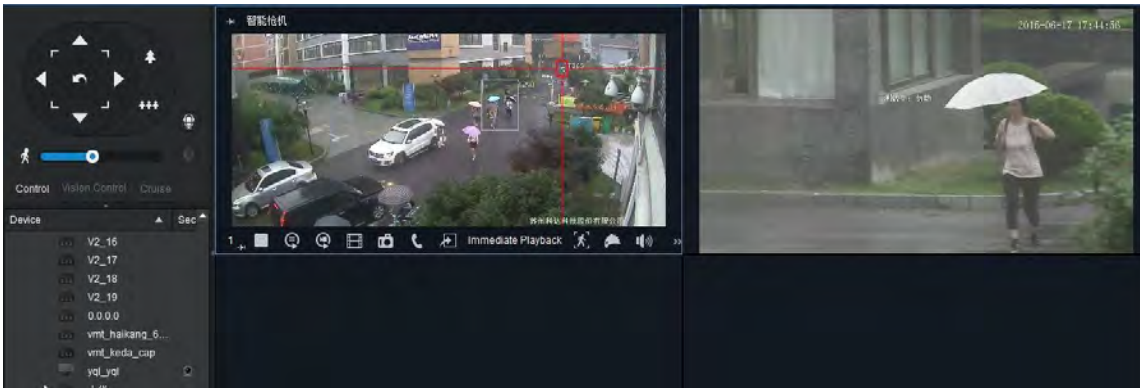
Stop Scheme Polling

In “Desktop Scheme” window, click “Stop Polling” at Scheme Polling part to stop scheme polling.

3.9 Intelligent Tracking System

When enabling intelligent tracking function during live view, user can lock the target in the image of gun-type camera by a mouse and the speed dome camera will track the target.

1. In the live view interface of gun-type camera, click “Intelligent Tracking”  icon;
2. Use a mouse to lock target in the image of gun-type camera, and the speed dome camera will track the target and display the tracked target in the live view window of the speed dome camera.



When the locked tracking target disappears from the surveillance area of the gun-type camera, the system will lock and track other moving objects automatically. If there is no moving object, the system will pause at the position where the last target disappears.

If the intelligent tracking system sets preset positions, when the tracking target disappears, the system will return to the preset position and monitor. Steps for setting preset positions can be referred to in Chapter 3.2.1 Basic Control.

3.10 Partial Zoom

Partial zoom includes two functions, center GPS and partial zooming:

- Center GPS: it means to make the selected point in the center of live view window.
- Partial Zooming: it means to zoom in or out the image partially.

3.10.1 Center GPS

1. Select live view window, click  on the floating menu bar or right click menu and select “Partial Zoom”.
2. In the live view image, click a point with a mouse, and this point will be the window center.

3.10.2 Partial Zooming

Select a live view window, and click  on the floating menu bar or right click menu to select “Partial Zoom”.

User can operate partial zoom in or zoom out by the following method:

Zoom in: In the live view image, use the mouse to drag toward bottom right and make a rectangle area. Image in this rectangle will be zoomed in and centered in the window.

Zoom out: In the zoomed in image, use the mouse to drag toward top left and make a rectangle area. Image in this rectangle will be zoomed out and show in the live view window.

After operation of partial zooming, right click to exit.



Note: Partial zooming is only available for some front-end devices.

3.11 ePTZ

ePTZ means to zoom in the selected part of image in the live view window and this part of image can be dragged in the thumbnail.

Select a live view window and click  on the floating menu bar or right click menu and select “ePTZ”. On this image, click and drag a rectangle area in “↵” or “↗” direction. The image in the rectangle will be zoomed in and display in the live view window.

Use a mouse to drag the red rectangle in the thumbnail at bottom right corner to view the zoomed in image of other area.

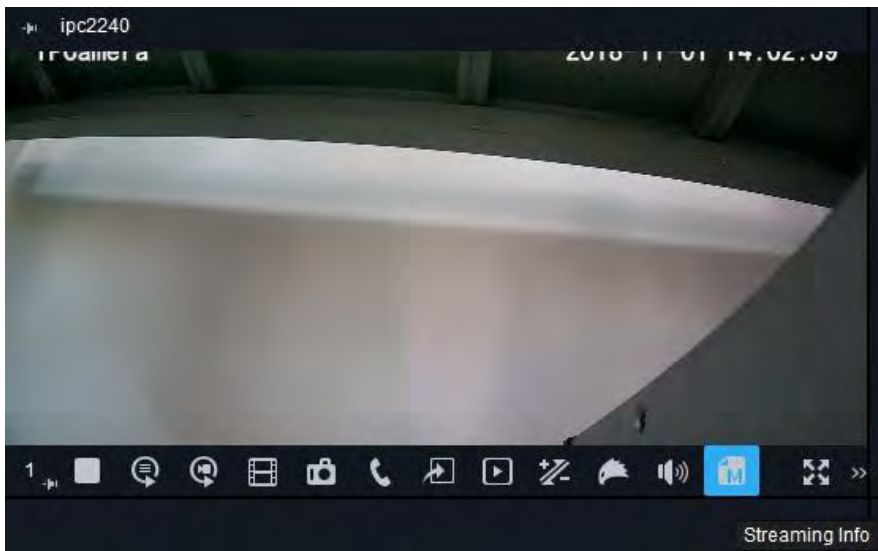
Slide the mouse wheel to zoom in or zoom out image.

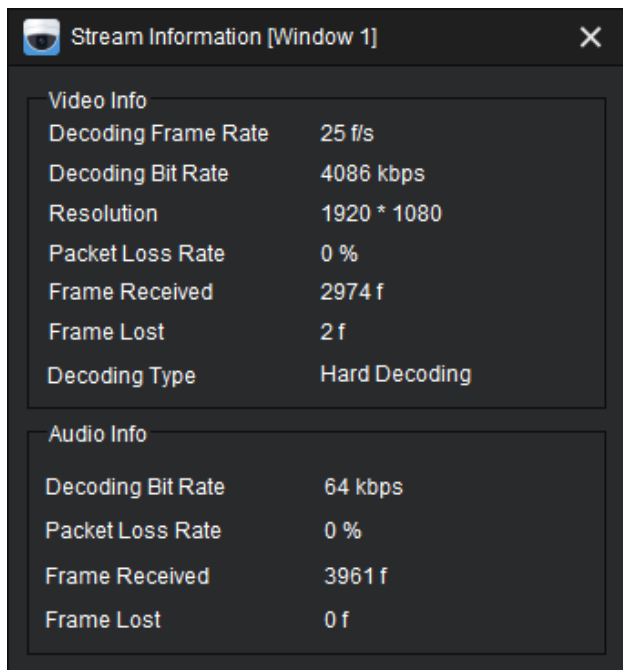


- 1) The red rectangle in the thumbnail means the location of the zoomed image in the whole picture.
- 2) When use ePTZ function, user can also operate PTZ lens control.

3.12 Stream Info

Select a live view window, click  on the floating menu bar or right click menu and select “Stream Info” to view the audio/video decoding info of this window.

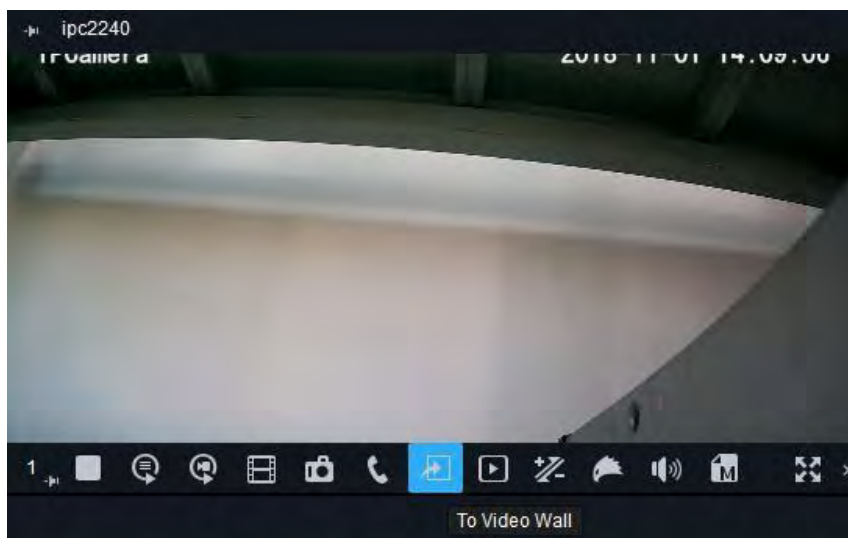




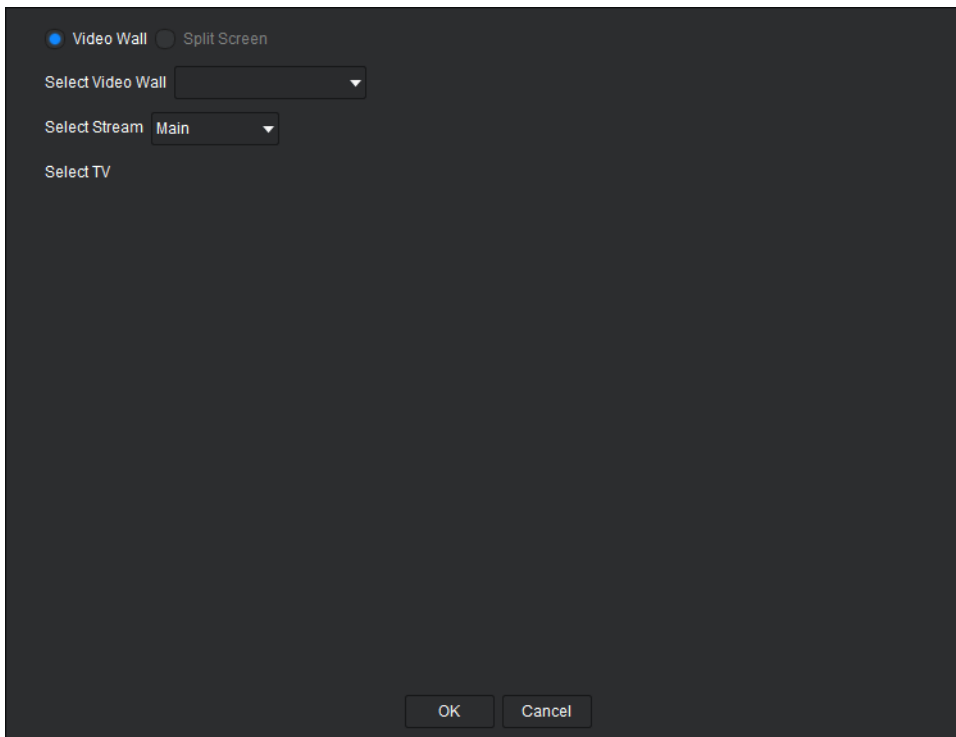
 **Note:** Support displaying stream info in multiple windows. However, stream information of GB-compliant PUs and PUs from other vendors cannot be displayed.

3.13 One-click to Display on Video Wall

Select a live view window and click  on the floating menu bar.



In the popup window, select the position for displaying on video Wall or a split screen.



- Video Wall: user can select to display image on configured Video Wall;

 **Note:** Before setting, user should set Video Wall in Video Wall interface. Steps can be referred to in [Chapter 9.1 Video Wall Settings](#).

- Split-screen: user can select **To Split Screen** to display image on a split screen:

3.14 Immediate Playback

Select a live view window, and click  on the floating menu bar. In the popup “Immediate Playback” window, it will play back the video in the past 30s.

User can perform operations in the window of video pause, stop, start, volume adjustment, saving and etc.

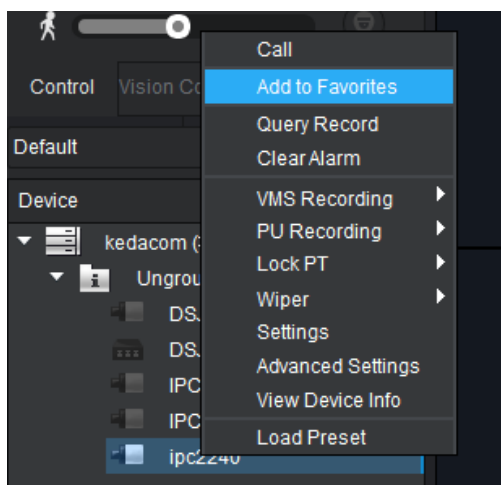


Note:

PU's from other vendors do not support immediate playback.

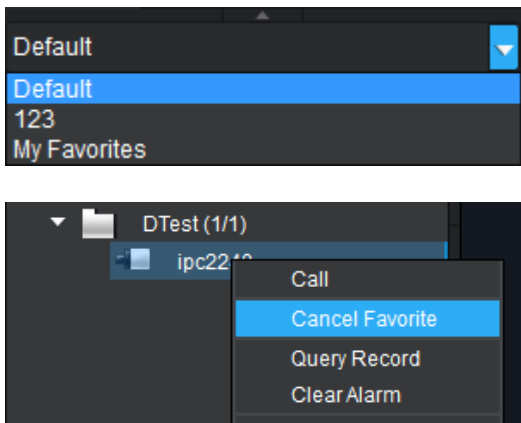
3.15 Adding PUs as Favorites

You can add a PU as a favorite. A maximum of 20,000 PUs can be added as favorites and a maximum of eight favorite group levels can be created.

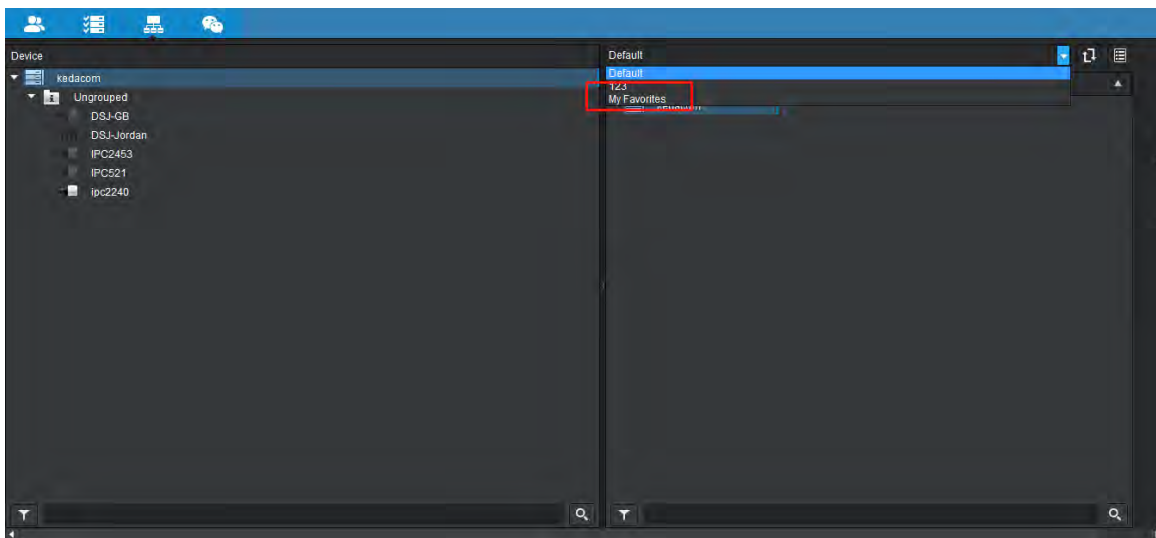


To remove a PU from a favorite group, perform any of the following:

- Select **My Favorites** from the **Default** drop-down list and right-click the PU and select **Cancel Favorite**.



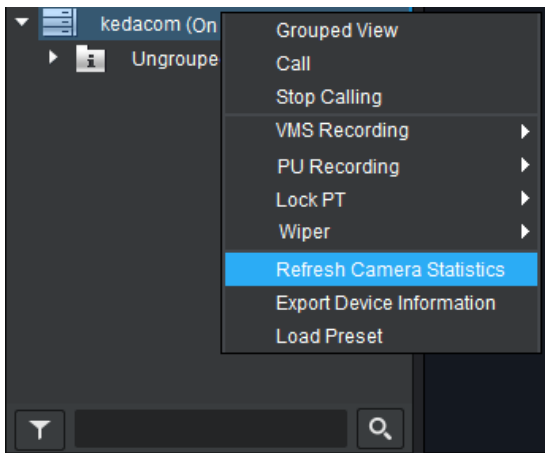
- Choose **User** > , select **My Favorites** from the **Default** drop-down list, select the PU, and click **Remove**.



Deleting a favorite group is also supported.

3.16 Refreshing PU Statistics

To refresh PU statistics for a device group, right-click the device group from the device list and select **Refresh Camera Statistics**.

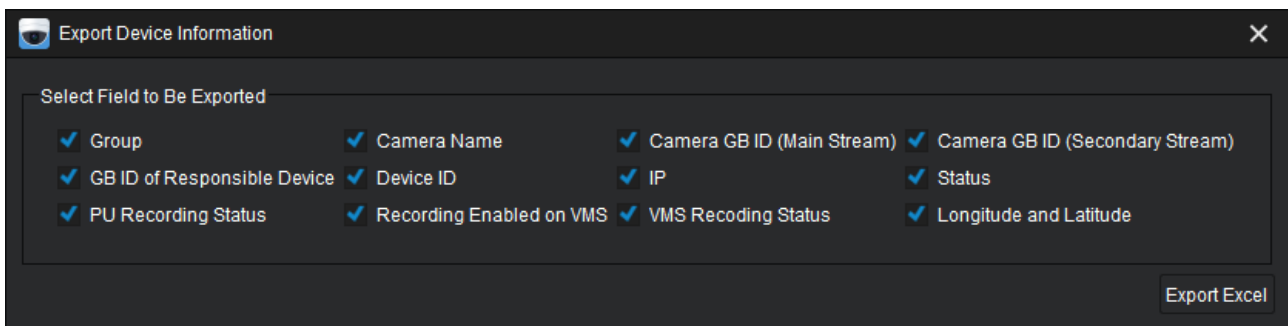


PU statistics include the number of online PUs and the total number of PUs.

3.17 Export Device Information

To export device information for a device group:

1. Right-click the device group from the device list and select **Export Device Information**.
2. Select contents to be exported.



3. Click **Export Excel**.
4. Select a save path and enter a file name.
5. Click **Save**.

Voice calls can be performed between CU and front-end devices.



Note:

Before video call, please install audio input and output devices in front-end devices and PC.

4.1 Voice Call

Single Call:

There are 2 methods:

- Select a camera from the front-end device list, right-click and select "Call". The CU will start calling this camera and when it is connected, they can talk.
- Select a live view window, click  on the floating menu bar or right click menu and select "Call". The CU will start calling this camera and when it is connected, they can talk. If the icon is blue, the peer end is busy. If the icon is yellow, the peer end is being called by another user.

Group Call:

There are 2 methods:

- In device list area, select a device group and right click menu to select "Group Call". Then it will call all the front-end devices in the group. A group call is actually a broadcast.
- During multi-image live view, click  > Call on the toolbar, and select windows in the live view area to call multiple front-end devices. Right click to exit.

Stop Call:

There are 2 methods:

- Select device or device group that have enabled call, and right click menu to select "Stop Call".
- Select device or device group that have enabled call, and click  on the floating menu bar or right click menu to select "Stop Call".



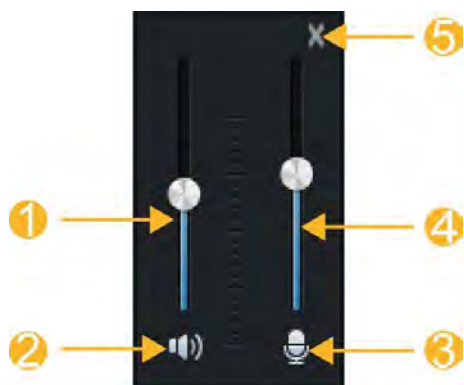
Notes:

- 1) Before you can call a GB-compliant PU, you must configure it in advance. For details, see *Advanced Configuration Manual for the VMS*,
- 2) You can configure the calling volume if the volume is too high. The system will notify you of the high volume and you can

configure the notification interval. For details, see *Advanced Configuration Manual for the VMS*,

4.2 Volume Adjustment

Click  on PTZ control interface to adjust the output volume of CU and the input volume of microphone. As shown in the following picture:



Explanations as follows:

Form Volume Control

Number	Explanation	Number	Explanation
①	Adjust CU output volume	④	Adjust input volume of microphone
②	Click to mute speaker	⑤	Close volume control window
③	Click to mute microphone, camera will not receive voice from CU		

5 Record Management

Click "Record Management" on the menu bar to perform operations of video search, play, download and setting.

According to the different locations of records, there are 3 kinds of record: Local Record, VMS Record and Front-end Record.

Differences are shown below:

Form Record Type

Record Type	Explanation
Local Record	Record is saved on the PC where CU is installed. Note: When the ADPCM format is selected, audio mixing is supported for Local Record and VMS Record. When audio mixing is enabled, the talk between PUs and the CU can be recorded. For other audio formats, the sound of only PUs is recorded.
VMS Record	Record is saved at the storage server which the VMS is connected to.
Front-end Record	Record is saved in the front-end device. Note: The front-end device must have storage capacity.

Form Record Type

According to alarm conditions, there are alarm record and non-alarm record, differences shown below:

Record Type	Explanation
Alarm Record	Records triggered by alarm automatically. The red one means alarm record. Note: Alarm record should be set in chain alarm linkage. Steps can be referred in Chain Alarm Linkage.
Non-alarm Record	Records performed when there is no alarm. The blue one means non-alarm record. The dark blue one is VMS record and the light blue one is front-end record.

5.1 Record Management Interface

Record management interface is shown in the following picture:



Explanations are shown below:

Form Record Management

Number	Explanation	Number	Explanation
①	Device List	⑥	Record Type
②	Device Search	⑦	Variable Timeline
③	Record Domain	⑧	Record Button
④	Record Time	⑨	Record Live View
⑤	Fixed Timeline		

Notes:

- 1) Variable timeline can be adjusted by dragging the mouse.
- 2) Double click or right click the timeline to input time and skip to the start time of record.
- 3) Click "Filter" to show or hide record types.
- 4) Click  to switch the device tree. To edit the device tree, see section "Device Tree Management."

- 5) A record domain indicates a device domain with which you can query records of a lower-level proprietary domain.

5.2 Enable/Disable Record

Local Record:

Select a live view window, and click  on the floating menu bar or right-click “Enable/Disable Local Record” to enable/disable local record.

You can start a local recording during a record playback.

VMS Record:

Select the video source from the device list in live view interface, and right click menu and select “Enable/Disable VMS Record” to enable/disable VMS record.

Notes:

- 1) In cascading network, user can operate through upper VMS to enable VMS recording of the front-end device accessed to lower VMS. Under this condition, the VMS record of the front-end device is stored at the IPSAN of upper VMS.
- 2) When the icon  appears, the device cannot enable VMS recording. Move cursor to the icon of this device and the popup window will show the reason for VMS recording failure.

Front-end Record:

Select the video source from the device list in live view interface, and right click menu and select “Enable/Disable Front-end Record” to enable/disable front-end record.

Note: Only some models of front-end device support this function.

Enable/Disable Group Recording:

Select the video source group from the device list in live view interface, and right click menu and select “Enable/Disable VMS Record” to enable/disable group VMS record.

5.3 Record Search

Single VMS Record Search:

Click the front-end device from the device list and check “VMS Record/Front-end Record” in record type area to view all VMS records or front-end records in the Record Time area. Background colors on the dates are noted

below:

Form Record Color

Color	Explanation
Blue	There are non-alarming records on this day, among which deep blue ones are on VMS while light blue ones are front-end ones
Colorless	There is no record on this day
Red	Alarm record

Cascading VMS Record Search:

Application scene: In cascading network, A is upper-level VMS and B is lower-level VMS. Login CU of A and search all the VMS records of front-end devices on both A and B.

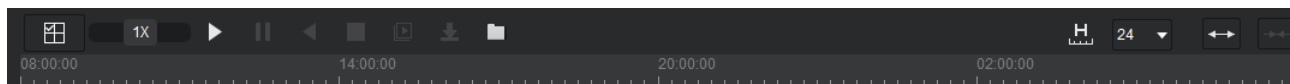
1. In the device list, click the front-end device whose record is to be searched.
2. In the record domain, select the VMS where the records are stored.

At this time, CU will display all the records of the front-end device on the VMS.

5.4 Record Playback

5.4.1 Playback Interface

Video playback can be controlled by the following player interface:



Explanations of icons are shown below:

Form Playback Icons

Icon	Function	Explanation
	Single Channel	Control a single window's record. Note: Function available during multi-channel play only.
	Multiple Channels	Control multiple windows' records. Note: Function available during multi-channel play only.
	Play	Play record at normal speed.

	Pause	Pause record playback.
	Reverse	Reverse record playback.
	Stop	Stop record playback.
	Single-frame Play	Play record frame by frame. One click plays one frame. Click  to return to normal play.
	Record Download	Download records.
	Open Local Record	Open local records and play record in player. Details can be referred to in Chapter 5.4.4 Record Player.
	Record Duration	Duration on record timeline. Range is 1~24 hours.
	Scale Zoom In	Zoom in the scale on record timeline.
	Scale Zoom Out	Zoom out the scale on record timeline.
	Slow Play /Fast Play	Drag the slider to adjust record playback speed, slow, normal and fast. Slow playback includes 1/2 and 1/4 time of normal speed. Fast playback includes 2 and 4 times of normal speed. Note: When the front-end plays video, only support 1/2 time slow play and 2 times fast play.
	- Auto Frame Extraction - Forced Frame Extraction - Forced Frame Anti-Extraction	In Auto Frame Extraction mode, frame extraction will not be enabled when the playback speed is 1X, 2X, or 4X and will be enabled for 8X and 16X. One of the other two modes can be configured for each playback speed. All the settings take effect for only one time. Note: This function does not apply to third-party platforms.
	Timeline	User can drag the green cursor on the progress bar to the expected point of time.
	Manual Synchronization	When there is time deviation during synchronous playback, click the icon to synchronize playback manually. Note: Function available during synchronous playback.

5.4.2 Multi-channel Playback

Multi-channel playback refers to the video playback of one or more front-end devices during a random period of time.

1. In Record Management interface, click  on the toolbar.
2. Screen style should be set in live view window.
3. Select a front-end device from the device list.
4. Select record time in Record Time area, including year, month, day, hour, minute and second.
5. Click .

Repeat step 3, 4 and 5 to play record of multiple front-end devices during multiple periods.



Note:

When only one window is playing back videos, you can use keyboard keys to control the playback.

Key	Description
Space	Pause or continue a playback.
Left or Right (Direction Key)	Fast forward or backward
Up or Down (Direction key)	Increase or decrease the playback speed.

5.4.3 Synchronous Playback

Synchronous playback means playing videos of different front-end devices during the same period of time.

In Record Management interface, click  on the toolbar and enter the interface of synchronous playback. Detailed steps can be referred to in Chapter 5.4.2 Multi-channel Playback.



Note:

The difference between synchronous playback and multi-channel playback is that synchronous playback can only play the records of different front-end devices during the same period of time while multi-record playback has no limitations.

5.4.4 Record Displaying on Video Wall

This function is to display the current playback record on a specified window of Video Wall. The output device will

display this record.

1. Click “**Playback**” and select a device from the list.



Note: If the Video Wall cannot display the video normally, please load Video Wall scheme and the selected channel must include encoder.

2. Select record type: Platform or Camera.
3. Select record from “Domain”. Colored dates on the calendar mean there are records on those days. Double click to view records.
4. Right click on the playback video and select **Video Displaying on Video Wall**.
5. On the popup window, select **Video Wall** channel, stream, and **TV/window** (decoder).
6. Click “**OK**” to display video on Video Wall (synchronous with local operation, video playback speed needs to be supported by decoder).



Note:

- 1) After the video is displayed on Video Wall, operation of video playback is the same as that of local playback.
 - 2) Video playback speed needs to be supported by decoder.
7. Right click on the playback video and select **Video Off Video Wall** to cancel Video Displaying on Video Wall.



Note:

If user wants to set alarm linkage displaying on Video Wall, suggest selecting different windows for displaying videos.

5.4.5 Record Player

Methods to enter record player:

- In “Playback” interface, click  and select desired record. Double click to enter “Record Player”.
- After CU is installed, it will generate "Record Player" shortcut  automatically. Double click the icon to enter “Record Player”.

Icon	Function	Explanation
	Play	Play record at normal speed.
	Pause	Pause record playback.
	Stop	Stop record playback.
	Single-frame Play	Play record frame by frame. One click plays one frame. Click  to return to normal play.
	Open Local Record	Open local records and play record in player. Details can be referred to in section Record Player.
	Slow Play /Fast Play	Drag the slider to adjust record playback speed, slow, normal and fast. Slow playback includes 1/2, 1/4 and 1/8 time of normal speed. Fast playback includes 2, 4, 8 and 16 times of normal speed.
	- Auto Frame Extraction - Forced Frame Extraction - Forced Frame Anti-Extraction	In Auto Frame Extraction mode, frame extraction will not be enabled when the playback speed is 1X, 2X, or 4X and will be enabled for 8X and 16X. One of the other two modes can be configured for each playback speed. All the settings take effect for only one time.
	Snapshot	Click this icon to capture current image and save locally.

	ePTZ	Click this icon and select a part of the image to zoom in. Also, user can drag the image to expected position.
	Volume	Drag the slider to adjust volume.
	Add File	Click this icon to add local record file to the playback list.
	Remove File	Click this icon to remove file from the playback list.

	Clear List	Click this icon to clear files in the playback list.
	Sequential Playback	Click this icon to switch among Sequential Playback, Single Playback and Loop Playback.
	Full Screen	Click this icon and video image will display in full screen.

 **Note:** The player's functions may differ according to different third party record files, such as single-frame play, ePTZ, slow/fast play and etc.

5.4.6 Starting a Quick Playback

To start a quick playback:

1. On the **Live** tab page, right-click a PU and select **Query Record**.

Then you will be directed to the **Playback** tab page.

2. Select a date.
3. Drag the PU to a playback window.

After the preceding steps are performed, the quick playback is started.

5.5 Stop Playing Record

Under single image style, user can stop playing record by the following methods:

- Click  on the floating menu bar.
- Click  in the playing window.
- Right-click menu and select "Stop".

Under multi-channel playback style, user can stop playing record by the following methods:

- Click  on the toolbar and use mouse to select multiple windows to stop records of multiple windows. Right click to exit.
- During synchronous playback, click  on the playing interface to stop all playing windows.
- During multi-channel playback, click   on the playing interface to stop all playing windows.

5.6 Record Download

1. Select a playing window and click  to download the video;
2. User can follow the methods below to select duration to download records:
 - In the popup window of “Drag to select duration for downloading records”, input the start and end time of record.
 - Drag the rectangle box on the timeline to select duration for downloading records.
3. Click “OK” to download.



Note: Check “OK” in the window of “Drag to select duration for downloading records”, and it will skip to download management interface.

5.7 Download Management

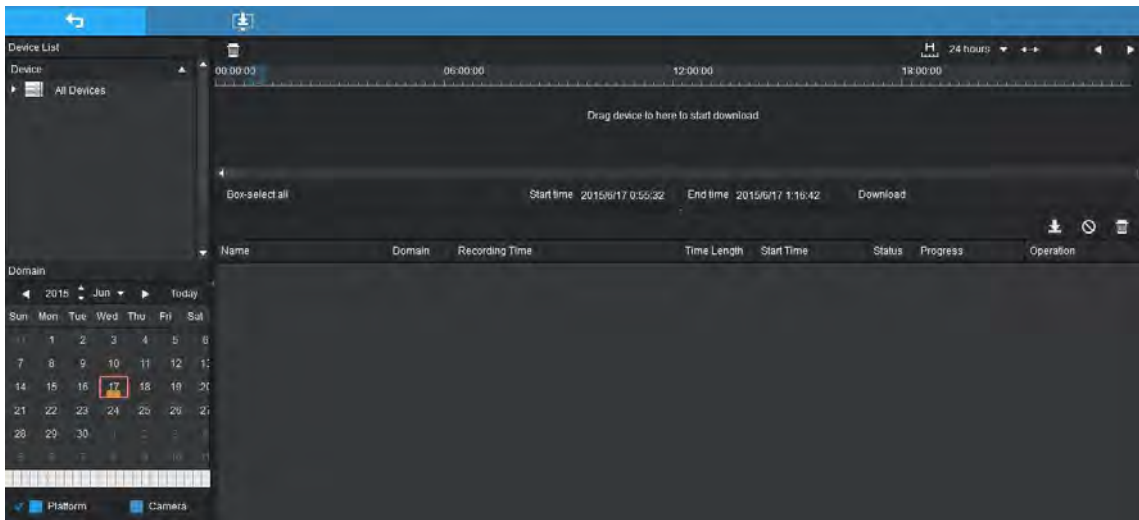


Click  on the toolbar to enter Download Management interface. User can view record name, record domain, record duration, task add time, status and download progress.

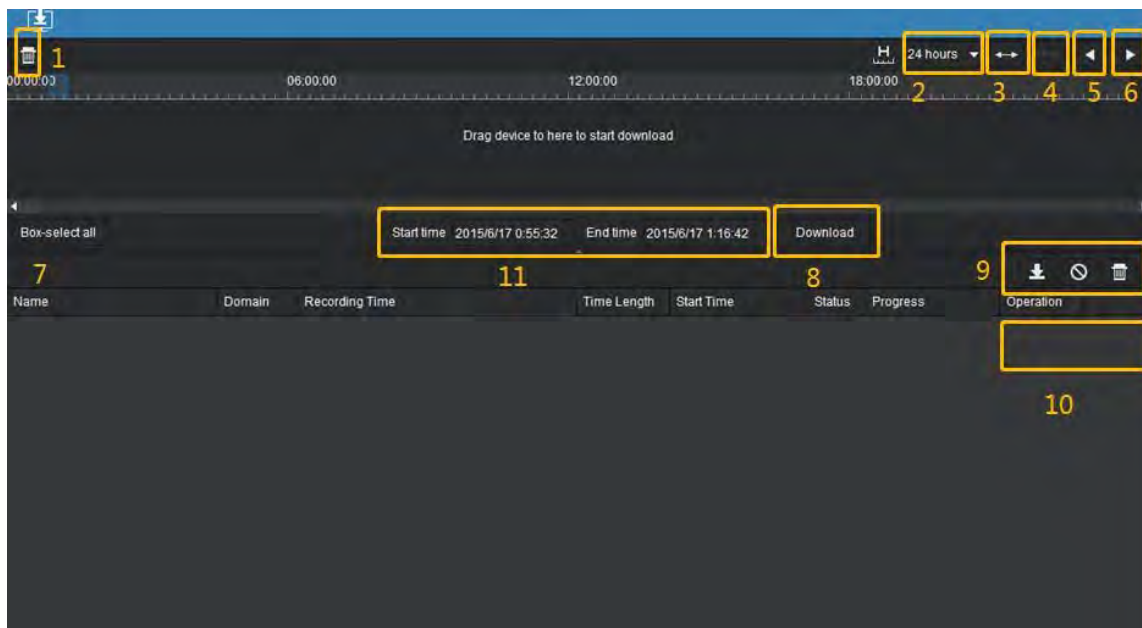


Click  to open the video’s directory; click  on the toolbar to return.

After a record is downloaded, you can double-click it and the MediaPlayer will pop up to play back the record.



1. Choose the record duration for downloading: drag mouse to select or manually input record duration. Select one time duration only at each time. Or click "Select All" to download all the records;
2. Click  to start or stop the download of one or all records. Click  to delete the download task. Icon functions are shown below:



Number	Explanation	Number	Explanation
1	Clear all selected records	6	Next duration
2	Durations: 1, 2, 4, 8, 12, 24 and 48 hours	7	Drag to select all: click this icon to download all records
3	Zoom in scale: zoom in timeline	8	Start downloading

Number	Explanation	Number	Explanation
4	Zoom out scale: zoom out timeline	9	Start/Stop/Delete all download tasks
5	Previous duration	10	Enable/Disable download task 
\	\	11	Start/End Time: manually input duration of record download

5.8 Record Binding

This function is to bind multiple downloaded records as one. Operation steps are as follows:

1. Check the downloaded records and click **"Bind"**.
Click **"Add"** to add files from local. Select a record and click **"Delete"** to delete this video.
2. Select a record and click **"Up/Down"** to change its location.
3. Click **"Browse"** to set record binding save path. If not set, the file will be saved at the default path. Name the file in **"File Name"**.
4. After finish all settings, click **"Bind"**.

5.9 Record Setting

5.9.1 VMS Record Setting

Click "System" >  > "VMS Record Setting" and enter the setting interface. User can set both the main and secondary streams. Detailed settings are shown below:

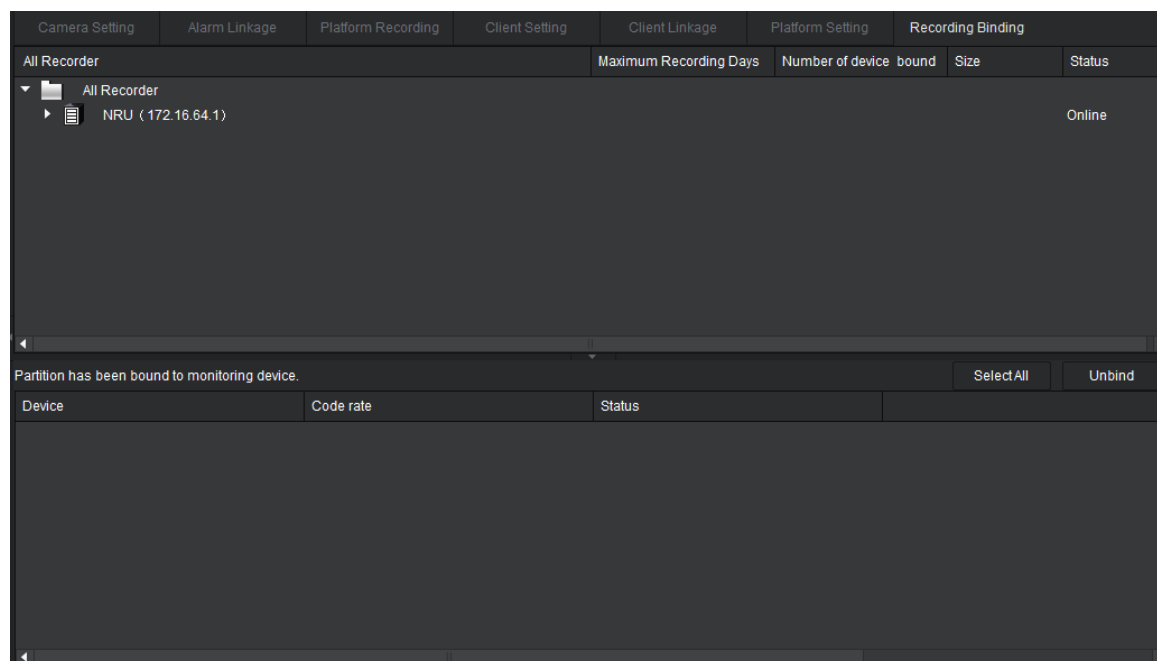
Form VMS Record Setting

Item	Explanation
Stream Type	Main or secondary stream
Recording Mode	Common Recording: record both images and voices; Video Only: record images only; Key Frame Only: record key frames only.
Resume Recording After Alarm Cleared In	Record video in a period of time after alarm is cleared. Recordable time range is 0~3600 seconds. Default is 60

Item	Explanation
	seconds.
Save Record For	Number of days that the records of the related video source can be saved on the VMS
Periodic VMS Recording	Check this item and enable VMS Periodic Recording. The VMS will record automatically in the set duration. Daily: record every day. Weekly: select a day from Monday to Sunday and drag on the timeline with a mouse to set different automatic recording durations for each day.
Copy	Copy the VMS Record Setting of current device to other devices.

5.9.2 Record Binding Setting

Click "System">



 **Note:** One video source can be bound to one disk partition only, while one disk partition can be bound with multiple video sources.

Record binding:

1. Select one or multiple (press “shift” to select) video sources from the device list to bind record.
2. Bind record to disk partition, 2 methods for reference:
 - In the list of “All Recorders”, select the disk partition where record file is saved, and right click the to-be-bound device and select “Bind to Partition”;
 - Go to the device tree and drag the to-be-bound devices to a partition to bind them in batch.



Note: Disk partition that has been bound with a video source cannot be bound with any VMS record of other video sources.

Record unbinding

In the list of “Bound Monitoring Points”, check those video sources to be unbound and click “Unbind”; or right click the video source in the “Device List” and click “Unbind”. Then all the VMS video records of this video source will be saved at other unbound disk partition automatically.

5.9.3 Local Recording

Click "System">  >"Local Setting", and set the save path for local recording and enable the maximum number of channels for local recording.

You can start a local recording during a record playback. The records will be saved in the path specified by the **Playback Save Path** parameter as shown in the following figure.

Camera Setting

Alarm Linkage

Platform Recording

Client Setting

Client Setting

Snapshot Setting

Save to

C:\Program Files (x86)\Kedacom\CU2.0\picture\

Browse

☒ Enable Snapshot Renaming

Local Recording

Live View Save Path

C:\Program Files (x86)\Kedacom\CU2.0\record\

Browse

Playback Save Path

C:\Program Files (x86)\Kedacom\CU2.0\playback\

Browse

Enable maximum local recording channel(0~16channel)

4

Recording Format:

MP4

▼

☐ Lock Setting

Lock Screen (1~1440 min)

15

☒ Stream Adaptive

If the number of view windows is greater than

4

▼

Secondary streams are applied.

⚠ Note: After this function is enabled, users can't enable secondary streams manually.

☒ Automatically check update version

☒ Enable previewing image

☒ Enable instant playback

☒ Synchronize time with server(every 1 hour)

Advance

Save

Cancel

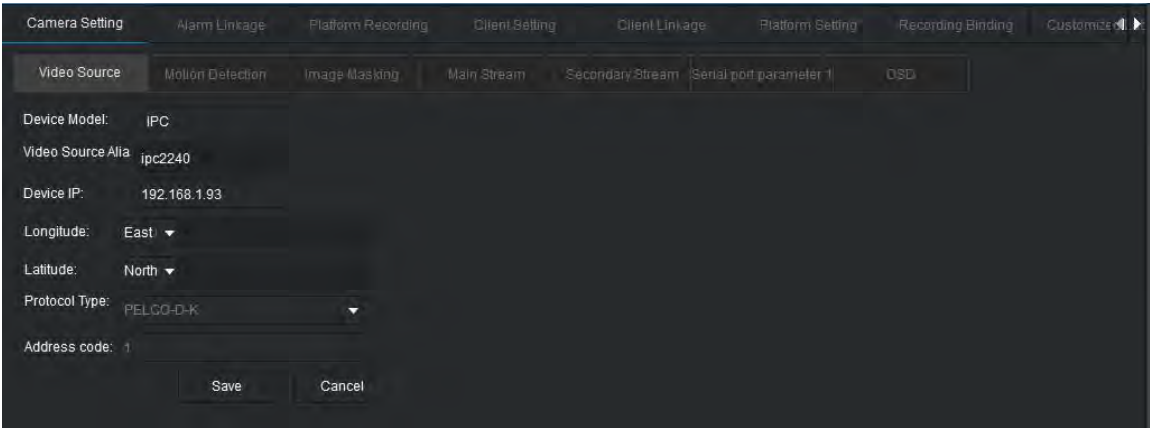
Enable maximum local recording channel: indicates the total number of record playbacks and local recordings that can be started at a time.

6.1 PU Settings

Choose **System** >  > **Camera Setting** to configure PUs.

6.1.1 Video Source Parameter

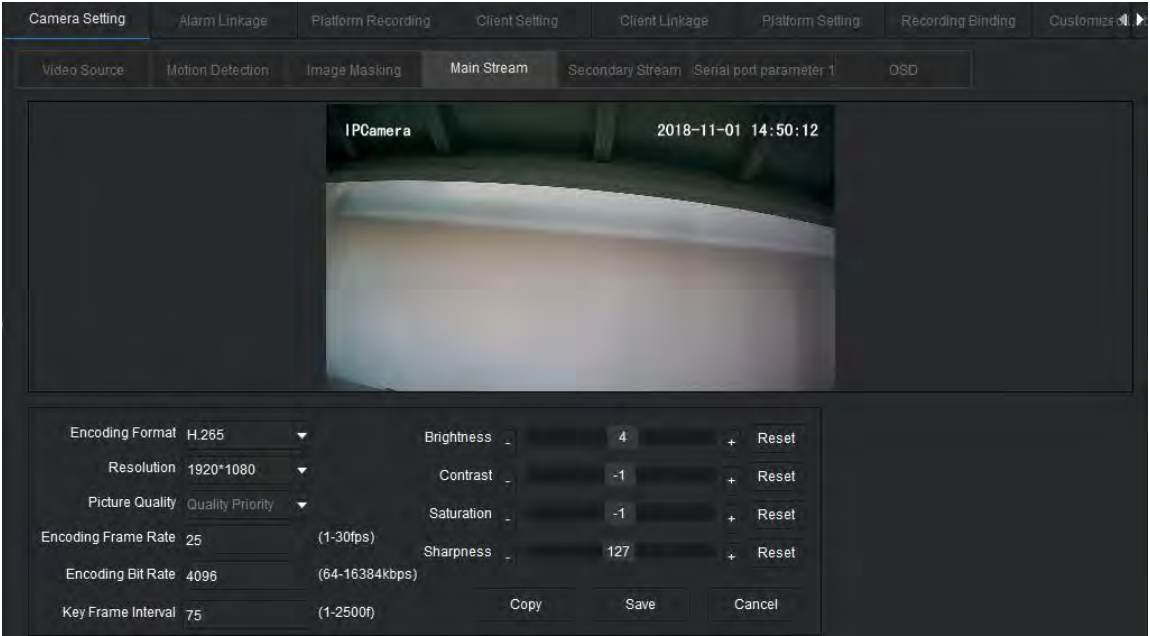
The following figure shows the **Camera Setting** page.



 **Note:** The **Video Source** page varies according to device models.

6.1.2 Parameter Setting

In the device list, select the front-end to be modified, and click "Main Stream" or "Secondary Stream" to configure.

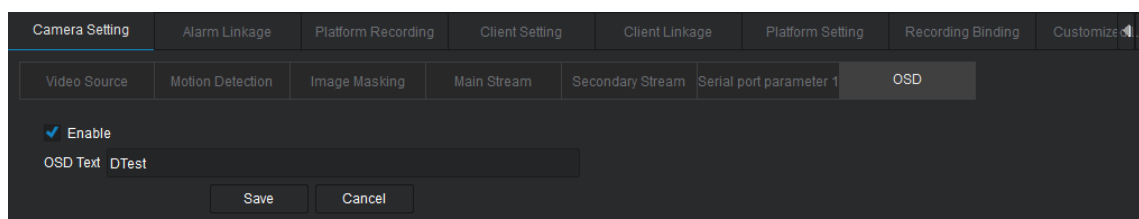


Parameter explanations are shown below:

Item	Explanation
Encoding Format	Select video encoding standard. The H.264 and H.265 formats support the following operations: • Live viewing • Record playback (single-frame playback, slow/fast playback speed, and reserving playback) • Record download • Record playback on the video wall
Resolution	Select image resolution
Picture Quality	Select image quality, including speed priority and quality priority. Note: Only encoder's image quality can be modified.
Encoding Frame Rate	Set video encoding frame rate, range is 1~30 frame/second.
Encoding Bit Rate	Set image compression bit rate, range is 64~8192kbps.
Key Frame Interval	Set encoding key frame interval, range is 1~2500 frames.
Brightness	Set image brightness, and click "Reset" to restore to previous value.
Contrast	Set image contrast, and click "Reset" to restore to previous value.
Saturation	Set image saturation, and click "Reset" to restore to previous value.
Sharpness	Set image sharpness, and click "Reset" to restore to previous value.

6.1.3 OSD Settings

You can configure OSD settings under **OSD**, as shown in the following figure.



This function applies to Hikvision and Dahua PUs that access the VMS through the G100.

6.2 Privacy Mask

Privacy mask is to display the user-defined area as black screen or in other way (subject to the way the front-end applies) to protect sensitive info.

Add Mask Area

1. Click "System">- 2. Select device from the list and click "Privacy Mask";
- 3. Drag an area with a mouse in the live view window, and click "Save".

Delete Mask Area

Select the mask area to be deleted, and then click "x" at the top right corner and click "Save" to delete the area. Click "Clear" to remove all the masking areas set on the device.

6.3 Motion Detection

Detect user-defined area and check the moving features in the video. Once the moving target exceeds defined sensitivity, alarm will be triggered.

1. Set Motion Detection Area: edit motion detection area in the live view window directly or select the whole window as the motion detection area;
2. Set detection sensitivity;
3. Click "Save".

6.4 Serial Port Setting

Serial Port Setting: obtain/configure serial port parameters, each including serial port number, serial port type, and baud rate.



Notes:

- 1) Configurable Baud Rate values include: 110, 1200, 2400, 4800, 9600, 19200, 38400, 43000, 56000, 57600 and 115200;
- 2) It is obtainable only when the serial port parameter is reported. It is null when there is no report;
- 3) This parameter is configurable only for IP cameras and encoders.

6.5 Advanced Setting

User can skip to the control interface of front-end devices through CU directly so as to control and configure front-end devices directly.

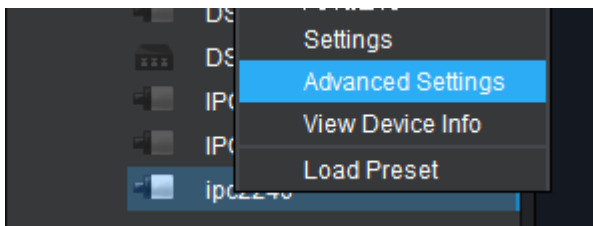
Common Front-end Device

1. Run IE browser and input VMS IP address in the address bar;
2. In the popup interface for login, click IPCCtrl installation packet to download and install IPCCtrl client;



Note: IPCCtrl client operation details can be referred to in the User Manual for front-end devices.

3. Login CU, select a front-end device from the list in the live view window, and right click menu to select “Advanced Setting”;



4. In the popup IPCCtrl login interface, input front-end address, user name and password, and click “Login”.

After login, user can set parameters and control this front-end device.

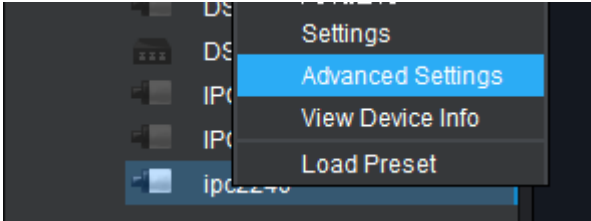


Notes:

- 1) Front-end device address is 127.0.0.1. The default user name and password are both admin.
- 2) Detailed operations and settings after login can be referred to in the user manual for front-end device.

IPC V7

1. Login CU, select a front-end device from the list in the live view window, and right click menu to select “Advanced Setting”;



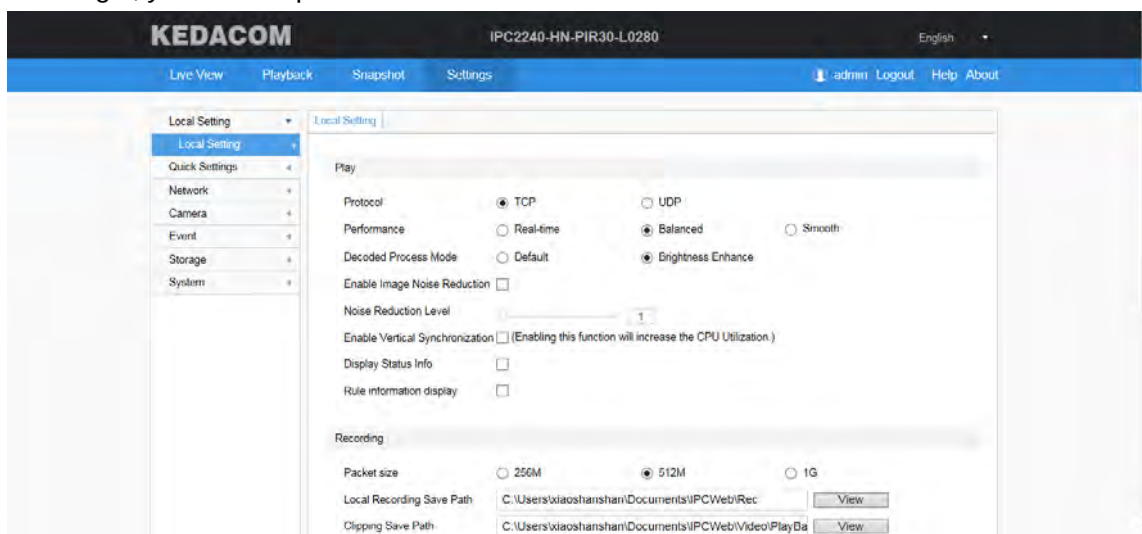
2. In the popup login interface, input user name and password, both of which are kedavsipweb, and click “Login”.

User Name: kedavsipweb

Password: [masked]

Login

After login, you can set parameters and control this front-end device.



Wireless Front-end Device

1. Run IE browser and input VMS IP address in the address bar;
2. In the popup login interface, click “Download Advanced Setting Program for Wireless Front-end Device” to download and install the client;
3. Login CU, select a front-end device from the list in the live view window, and right click menu to select “Advanced Setting”;
4. Enter the network console of wireless front-end device. Click “Network Configuration”, modify port number as 5520 and click “OK”. Input user name and password (both are “admin” for admin account and both “user” for operator account), and login the network console.

NVR

1. Right-click an NVR from the device list and select **Advanced Settings**.
2. Install the NVRProfile client.
3. Log in to the NVRProfile client to change the NVR's screen layout.

7 Alarm Management

VMS CU supports four alarm types, motion detection alarm, parallel port alarm, video source loss alarm and disk full alarm.

7.1 Motion Detection

Motion detection means the alarm is triggered when the moving target in the image exceeds defined sensitivity.

1. Click "System">- 2. Select the device from the device list, and click "Motion Detection";
- 3. Edit the alarm area in the live view window and set the sensitivity. Click "Save".



Note: After setting motion detection, set alarm area in "System">



7.2 Parallel Port Alarm

Parallel port alarm means the alarm input channels connect with multiple alarm detection devices (such as smoke detector, infrared, etc.) to monitor fire and temperature at site.

Click "System" >  > "Alarm Linkage" on the menu. Select a front-end device from the device list, select different alarm input channels and set parallel port alarm. Detailed operations can be referred to in Alarm Linkage.

This function does not apply to GB-compliant PUs.

7.3 Intelligent Alarm

1. After VMS is connected with intelligent alarm system, when the intelligent alarm system triggers alarm, it will send alarm message to VMS. If the VMS sets linkage to the system, it will generate alarm linkage. Detailed steps to set alarm linkage can be referred to in Alarm Linkage.

2. After VMS is connected with intelligent alarm system, when the intelligent alarm system triggers alarm, it will send alarm message to VMS. If the VMS sets linkage to the system, it will generate alarm linkage. Detailed steps to set alarm linkage can be referred to in Alarm Linkage.

3. BACnet (Building Automation and Control Networks) Basic Intelligent Alarms it will send alarm message to VMS. If the VMS sets linkage to the system, it will generate alarm linkage. Detailed steps to set alarm linkage can be referred to in Alarm Linkage.

4. MODBUS Alarms it will send on TCP/IP alarm message to VMS. If the VMS sets linkage to the system, it will generate alarm linkage. Detailed steps to set alarm linkage can be referred to in Alarm Linkage.

5. Contains detailed regulations for accessing and managing IP video surveillance systems with SIA 1000 and SIA 1800.

6. Alarm integration with third-party SNMP triggers.

7.4 Basic Intelligent Alarms

To configure basic intelligent alarms for a PU:

1. Choose **System > Alarm Linkage**.
2. Select the PU.
3. Select an alarm type from the drop-down list.

The screenshot shows the 'Alarm Linkage' configuration window in a software interface. The window has a top navigation bar with tabs: Camera Setting, Alarm Linkage (selected), Platform Recording, Client Setting, Client Linkage, Platform Setting, Recording Binding, and Custom. On the left, a dropdown menu is open, showing a list of alarm types: Abnormal Event (selected), Motion Detection, Input Channel, Intelligent Alarm, Defocus, Scene Change, Enter Guard Area, Exit Guard Area, Object Removal, and Object Left. A 'Rename' button is next to the dropdown. The main area contains a 'Schedule' section with radio buttons for 'All Day' and 'Every Week', and a 24-hour timeline. Below this is an 'Enable' checkbox. The 'Link to' section has a dropdown menu and an 'Add' button. There are three sub-sections: 'To Video wall' with 'Video Wall' and 'TV' dropdowns; 'Alarm Recording' with a checkbox; 'Alarm Counting' with a checkbox; 'Tracking Camera Alarm' with a checkbox and a 'Preset position' dropdown set to '1'; and 'Alarm Output' with an 'Alarm Output Channel' dropdown. 'Save' and 'Cancel' buttons are at the bottom right.

Basic intelligent alarms are as follows:

- Abnormal Event
 - Defocus
 - Scene Change
 - Enter Guard Area
 - Exit Guard Area
 - Object Removal
 - Object Left
 - Gathering
 - Guard Line
 - Audio Surge
 - Brightness Change
4. Check **Enable**.
 5. Configure parameters displayed.
 6. Click **Save**.

This function does not apply to GB-compliant PUs.

7.5 Other Alarms

Video source loss alarm: When the video source is lost, the system will trigger alarm. At this point, the alarm icon will be displayed in the device list and prompts in the notice bar.

Disk full alarm: If the disk is full and the preset solution for it is to stop recording, the system will trigger alarm. At this point, the alarm icon is displayed in the device list and prompts in the notice bar.

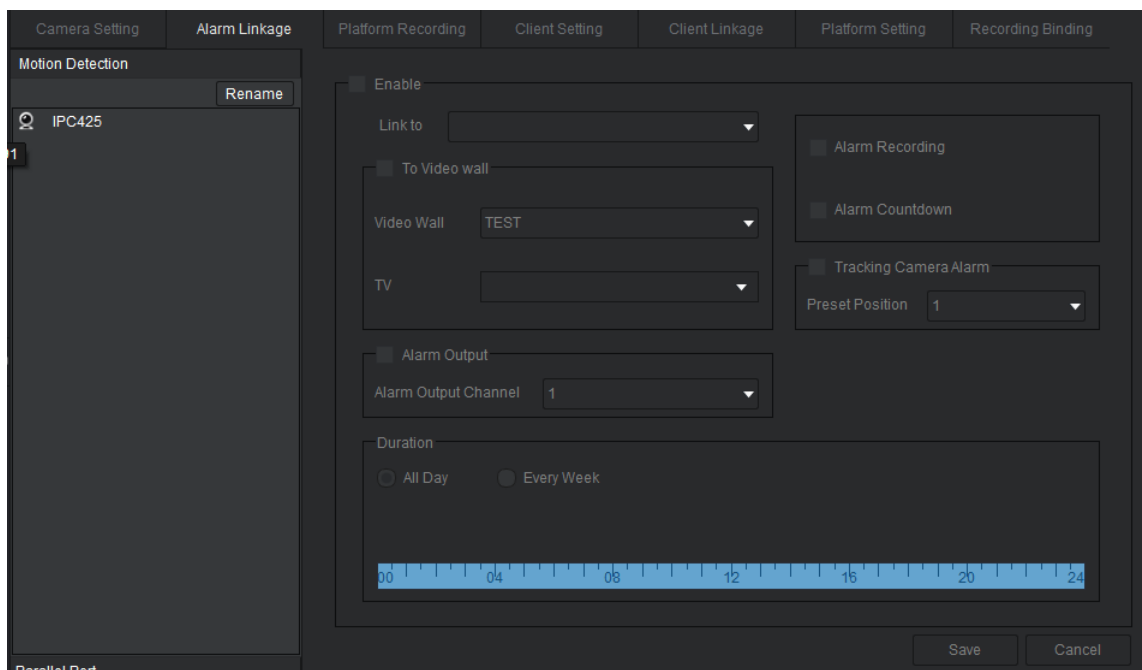


Note: Disk full alarm is available when the front-end device supports front-end recording and alarm functions.

7.6 Alarm Linkage

Motion detection alarm, parallel port alarm and intelligent alarm support alarm linkage setting. Alarm linkage includes CU linkage, VMS linkage and front-end device linkage.

1. Click "System">



2. Select front-end device from the device list to set alarm linkage. In motion detection alarm area or input channel alarm area, select video source or input channel and set parameters according to actual needs.



Note: Motion detection alarm setting, input channel alarm setting and intelligent alarm setting correspond with motion detection alarm, parallel port alarm and intelligent alarm.

Parameter explanations are shown below:

Form Alarm Linkage Parameter

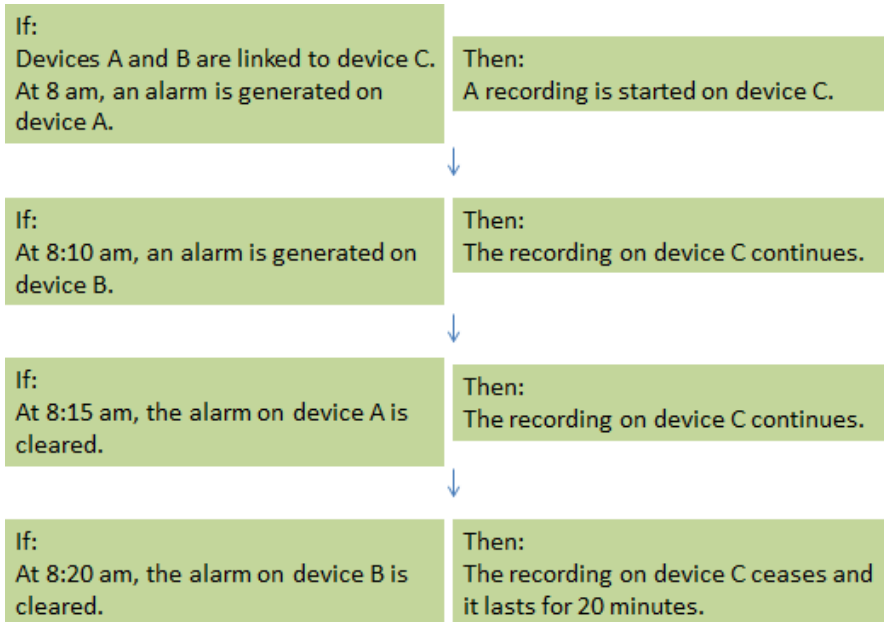
Item	Explanation
Enable	Check it to configure alarm linkage.
Link to	Multiple PUs, alarm outputs, and video walls can be linked,
To Video Wall	Check it, and select Video Wall and a TV on the wall. When alarm triggers, system will send alarm image to the Video Wall. Note: Before enabling this function, please set Video Wall first.
Alarm Recording	Check it, and VMS will record automatically when alarm triggers.
Alarm Counting	Check it, and system will display alarm duration when alarm triggers.
Tracking Camera Alarm	Check it and select a camera preset. When alarm triggers, camera will turn to the selected preset position automatically. Note: Before enabling this function, please set preset position first.
Alarm Output	Check it and select alarm output channel.
Schedule	Set alarm linkage duration. When alarm triggers within the duration, system will perform alarm linkage.

3. Click "Save".



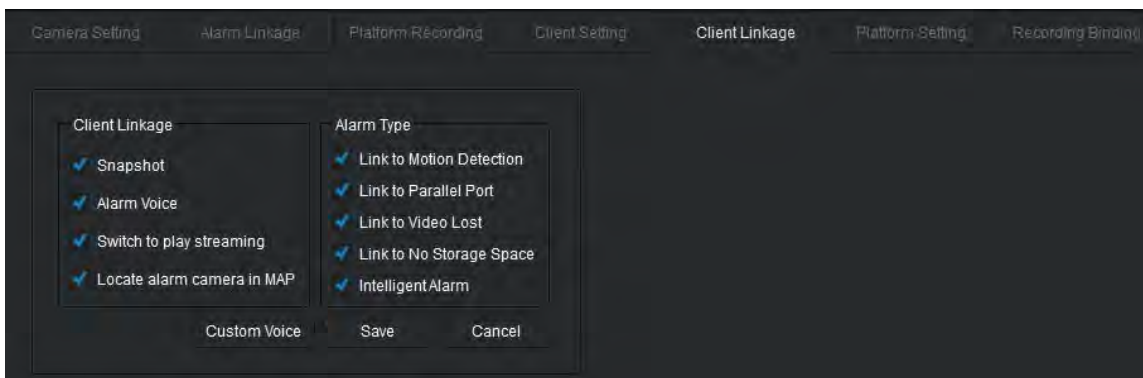
Note: Click "Copy" to copy the alarm linkage settings for this device to other devices.

The following is an example for alarm linkage.



7.7 Client Linkage

1. Make sure the front-end device has finished alarm linkage settings. Click “System”>>“Client Linkage”.



2. Check the alarm type requiring Client Linkage, including motion detection alarm linkage, parallel port alarm linkage, video source loss alarm linkage, disk full alarm linkage and intelligent alarm linkage.
3. Check Client Linkage Strategy. Parameter explanations are shown below:

Form Client Linkage Strategy

Item	Explanation
Alarm Triggered Auto Snapshot	If the front-end device has finished alarm setting and is being browsed by CU, when there is alarm at front-end, CU will capture alarm image locally.

Item	Explanation
Alarm Triggered Auto Play Alarm Sound	When alarm triggers, PC will prompt according to "Custom Alarm Sound".
Auto Switch to Alarm Image	When alarm triggers, alarm image will be displayed in a window on the live view interface automatically, and the window will keep on flickering to prompt alarm.
Alarm Triggered E-map Auto Select Front-end Device	When alarm triggers, e-map interface will pop up and select alarm map element automatically. The map element is identified with flickering green box.

4. Click "Custom Alarm Sound" and set the alarm sounds for motion detection alarm, parallel port alarm, video source loss alarm and disk full alarm respectively;
5. Click "Save" to complete Client Linkage settings.

7.8 Manual Alarm-clear

Manual alarm-clear means when alarm triggers, cancel all Client Linkages at CU manually, including Alarm Triggered Auto Snapshot, Alarm Triggered Auto Play Alarm Sound, Auto Switch to Alarm Image and Alarm Triggered E-map Auto Select Front-end Device.

Alarms generated on GB-compliant PUs can be cleared on the PU side. Manually clearing alarms can clear all alarms at a time.

In live view window, select alarming device from the device list and right click menu to select "Manual Alarm-clear".

8.1 Manual Snapshot

There are 2 methods for manual snapshot:

- Select a live view window, and click  on the floating menu bar or right click menu to select "Snapshot".
- In multi-image live view window, click  > "Snapshot" to capture multiple pictures. Right-click to exit.

8.2 Record Snapshot

In the record management interface, select a video playback window, click  on the floating menu bar or right-click "snapshot" to snapshot.

8.3 Alarm Triggered Auto Snapshot

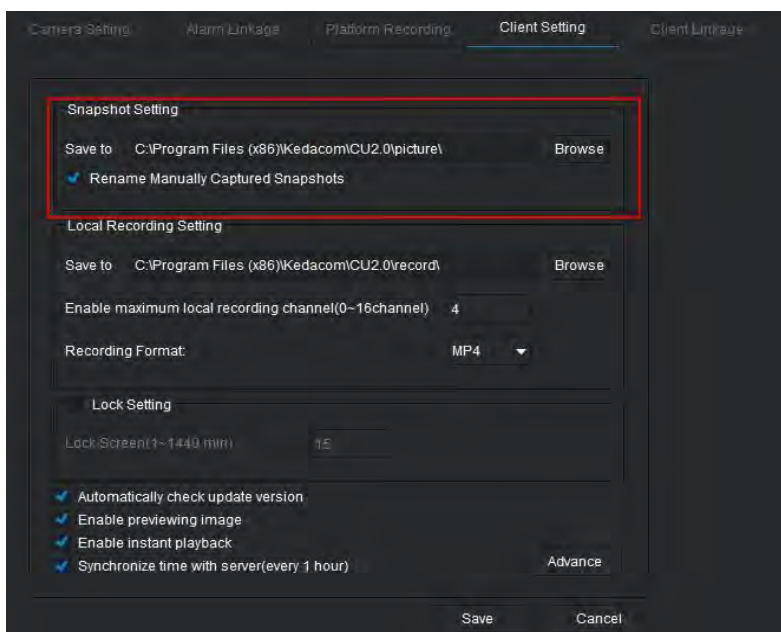
VMS CU supports auto snapshot when alarm is triggered.

Click "System" >  > "Client Linkage" on the menu bar, and check "Alarm Triggered Auto Snapshot".

 **Note:** The function of alarm triggered auto snapshot is available when the front-end device has finished alarm setting. Alarm setting steps can be referred to in [Chapter 7.5 Alarm Linkage](#).

8.4 Snapshot Settings

Click "System">  > "Client Setting" to set the save path for locally captured snapshots.





Click  on the menu bar to enter the interface. User can perform operations of Video Wall Settings, Video Wall View, Video Wall Scheme, Video Polling and etc.

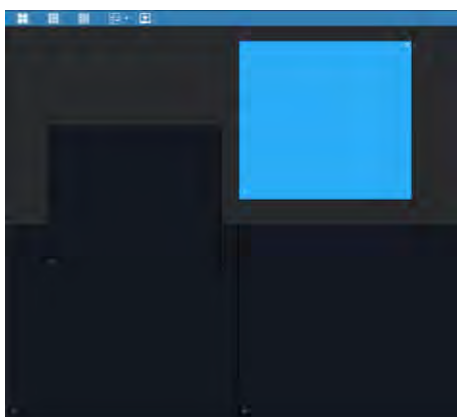
9.1 Video Wall Settings

Create Video Wall:

1. Click "Video Wall">  on the menu bar.

2. Set Video Wall style. There are 2 methods:

- **Fixed style:** Click  for 4 windows,  for 9 windows,  for 16 windows and  for more (maximum 64 windows).
- **Custom window style:** Choose a window and adjust its size by dragging the mouse. Click "x" to close the window. Click  on the menu bar to add a new one.
- **Custom window position:** Left click the mouse and drag any window to change its position. Click window style icon again to restore the style.



3. Click  and in the popup window, input the name of the Video Wall.
4. Select the unbound decoders from the list and drag them to the video windows. All bounding settings for video windows and decoders have been finished.

At this point, Video Wall has been created and will display in the video all setting list.



Note:

- 1) One decoder can only bind one video window. If user wants to bind a bound decoder with another window, delete this decoder from the bound window first.
- 2) Click  to unbound decoder and the video window.

Delete Video Wall:

Click  on the toolbar. In Video Wall Settings, select one or more Video Walls to be deleted. Click  to delete Video Wall.

9.2 Video Wall View

Start

1. Click “Video Wall”>  on the menu bar.
2. Select a Video Wall from the list and double-click.
3. Select the video source from the device list and drag it to any window. And this window will play the monitoring image of this video source.

 **Note:** The window of Video Wall must bind with decoder; otherwise, the live view will be unavailable.

Stop

Select a live view window and click "x" at the top right corner to stop viewing.

Decoder Styles

When the bound decoders support multi-channel decoding, user can change Video Wall style, such as single image, 4-image, 9-image and 16-image.

Select the window that has bound with multiple decoders, and click , , , , , , , and  to change decoding styles.

 **Note:**

- When decoder style changes, the image resolution will be adjusted accordingly.
- Before configuring the screen layouts, ensure that the decoder supports this operation.

Stitch Scheme

Click “Stitch Scheme” and select stitch scheme from the scheme list.

Device	Scheme list
videowall	1

9.3 Video Wall Scheme

Video Wall scheme is to save Video Wall style, Video Wall and decoder binding, video sources of each window and video polling of each window as a scheme. The scheme can be loaded for viewing instantly when necessary.

9.3.1 Video Wall Scheme Settings

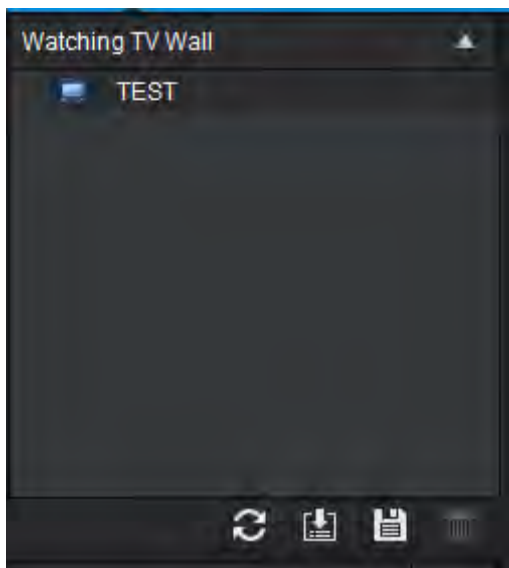
Create Video Wall Scheme

After creating Video Wall, setting video polling and video sources for each window, click  to input scheme name in the pop-up box. Click “OK” to complete. The new scheme will show in the Video Wall list.

Watch Video Wall Scheme

There are 2 methods:

- Select a scheme from the Video Wall list and click .
- Double-click the scheme to be viewed in the list.



Delete Video Wall Scheme

Select the Video Wall scheme from the list and click  to delete the scheme.

9.3.2 Scheme Polling Setting

1. Double click a Video Wall from the Video Wall list and click  on the toolbar.
2. In the pop-up window of “Scheme Polling Setting”, select one or more scheme for polling and click “Add” to add it to the list on the right.



Note: Click “Upward”, “Downward” or “Delete” to move the scheme upward and downward or delete it.

3. Select one or more added schemes, and configure stay time for each scheme.
4. Check “Start Polling after Completion” and click “OK”. Then, the Video Wall will start scheme polling automatically.

Pause/Stop Scheme Polling

Click  /  on the toolbar to pause or stop scheme polling.

9.4 Video Wall Allocation

The created Video Wall can be Allocated to different users. Detailed operation steps can be referred to in Allocate .

9.5 Video Polling

Video Wall supports Video Polling. Video polling can be configured through the floating menu bar or right-click menu. After setting, user can perform operations of pausing polling, recovering polling, stopping polling, starting group polling and stopping group polling. Details can be referred to in Video Polling.

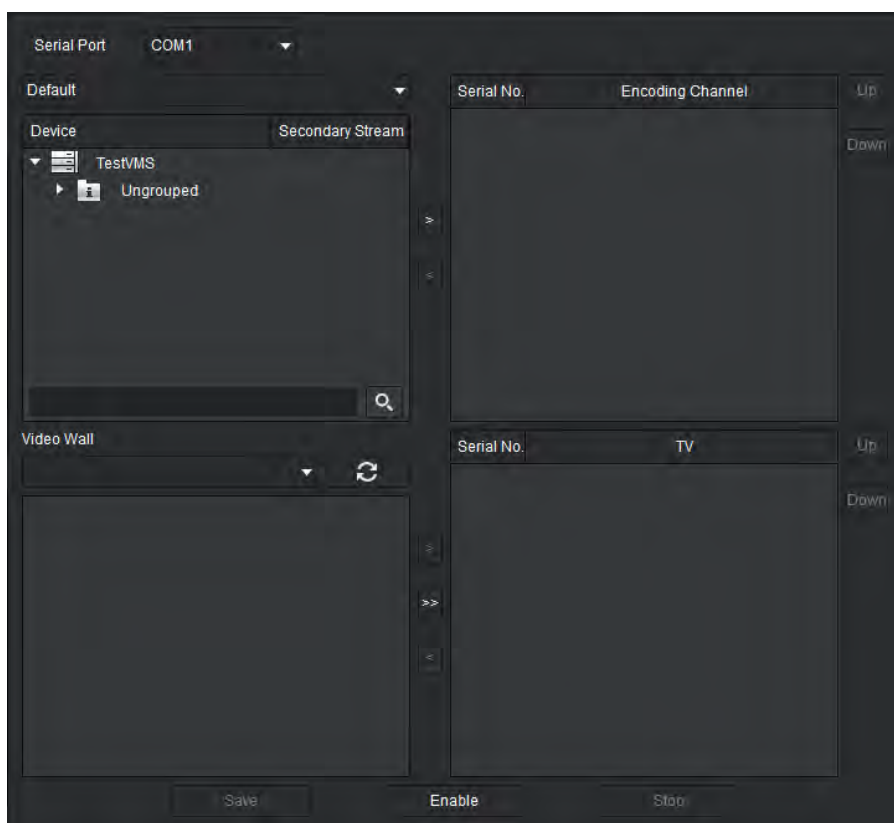
 **Note:** When decoder supports multi-channel decoding, functions of starting group polling and stopping group polling are available.

9.6 Connecting to a Keyboard

9.6.1 Serial-Port-based Keyboard

To operate a serial-port-based keyboard:

1. Choose **Video Wall** > .
2. In the displayed **Keyboard** dialog box, specify parameters displayed.
 - 1) Select a PU.
 - 2) Add the PU to the encoding channel list or video wall.



3. Click **Enable**.

For keyboard operations, see its user guide.

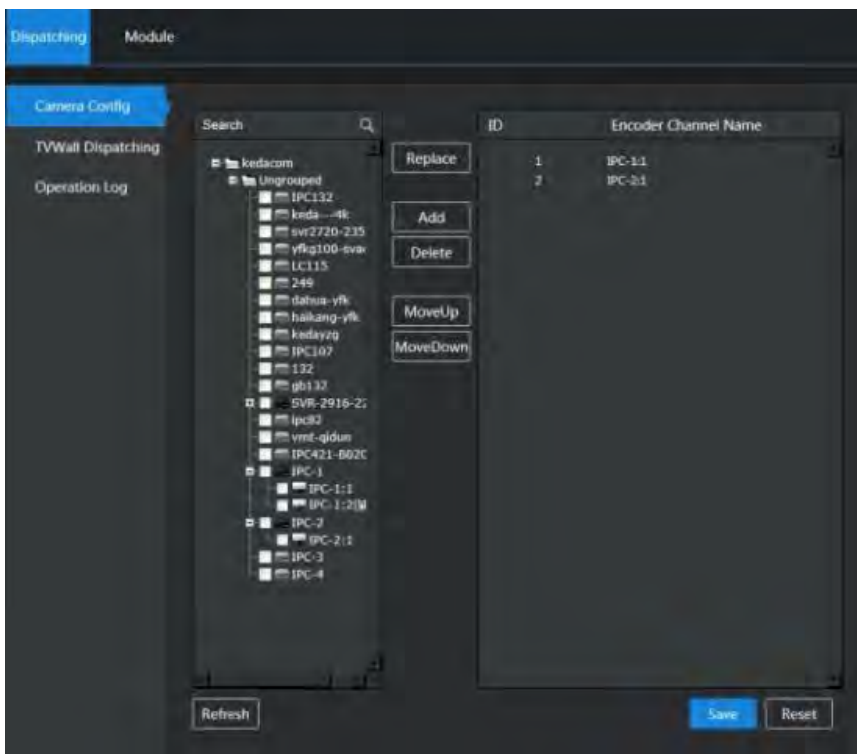
9.6.2 Network Keyboard

Only administrators can operate network keyboards and only master VMSs support this operation. If you cannot operate a network keyboard, refer to *User Manual for the PMC* to check whether related settings are not configured.

Before operating a network keyboard, choose **Module > Module Status** to check whether the status is connected. If not, enable the CUI1 and NKM modules on the PMC.

To operate a network keyboard:

1. Choose **Video Wall >** .
2. Choose **Dispatching > Camera Config** and click **Modify**.
3. Select a camera from the list and click **Add** to add it to the **Encoder Channel Name**.



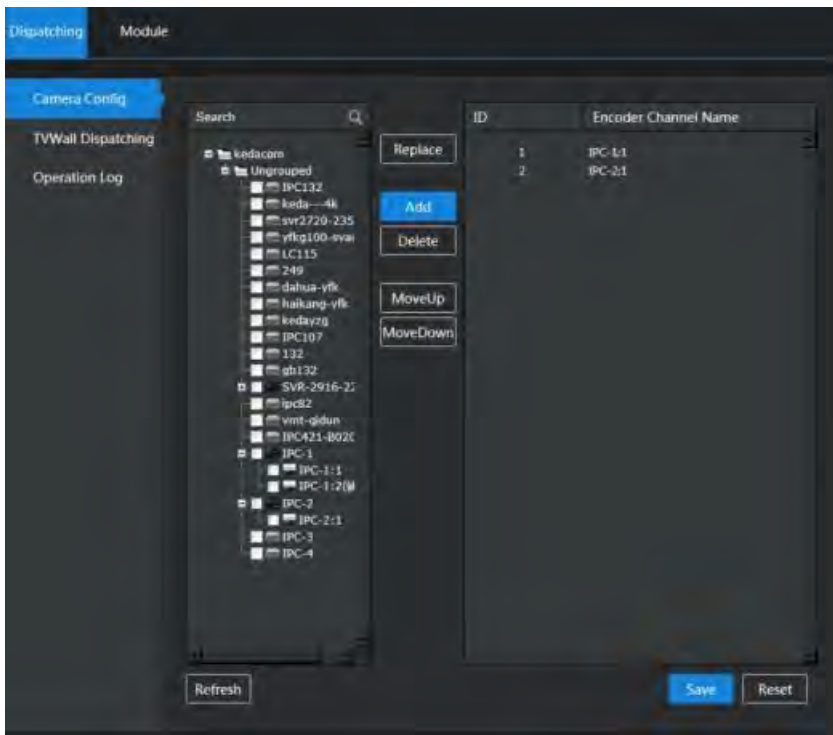
4. Click **Save**.

The following table provides button descriptions.

Button	Description
Replace	Take effect after clicking Modify . Select one camera from the device list and the Encoder Channel Name list respectively.

Button	Description
Add	Take effect after clicking Modify. Select a camera from the device list and click this button to add it to the Encoder Channel Name list.
Delete	Take effect after clicking Modify. Select a camera from the Encoder Channel Name list and click this button to remove the camera.
Move Up	Take effect after clicking Modify. Select a camera from the Encoder Channel Name list and click this button to move the camera one line up. Support batch processing.
Move Down	Take effect after clicking Modify. Select a camera from the Encoder Channel Name list and click this button to move the camera one line down. Support batch processing.
Export	Export the Encoder Channel Name list in tar compression format and save.
Modify	Click it to switch to edit mode. Use this button to modify Encoder Channel Name list.

The following is an example.

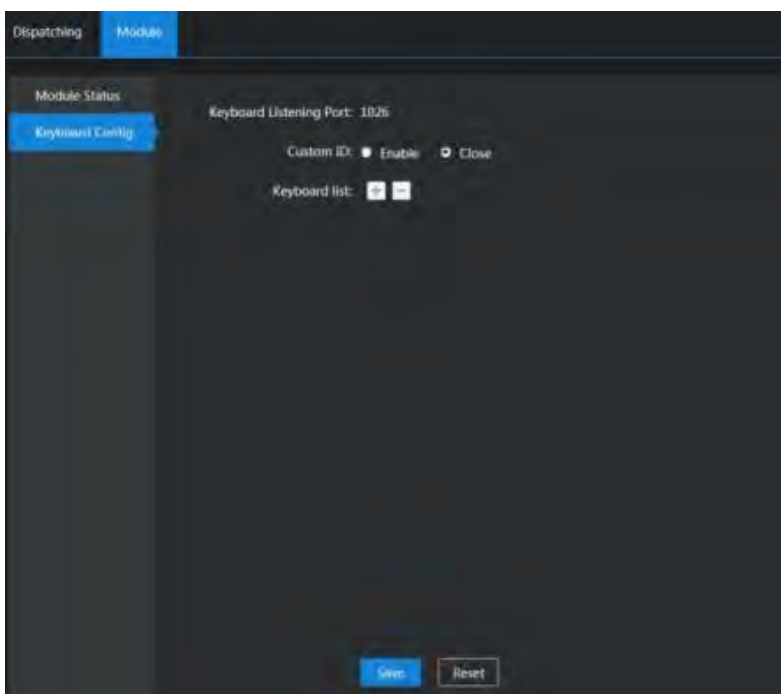


When adding a camera, the camera ID number in Encoder Channel Name is generated automatically by default, so the ID of a camera may be different after each time of adding.

The Keyboard Controller System supports custom ID. User can set camera ID by convention.

To enable custom ID:

1. Go to **Module > Keyboard Config > Modify**, check **Enable** and click **Save**.

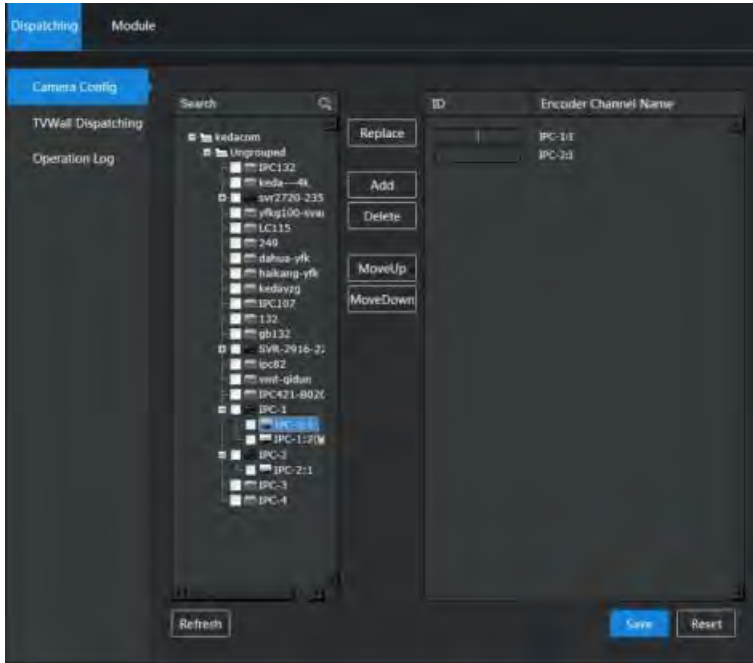


2. Click **Dispatching**.

The ID is empty in the **Encoder Channel Name**.

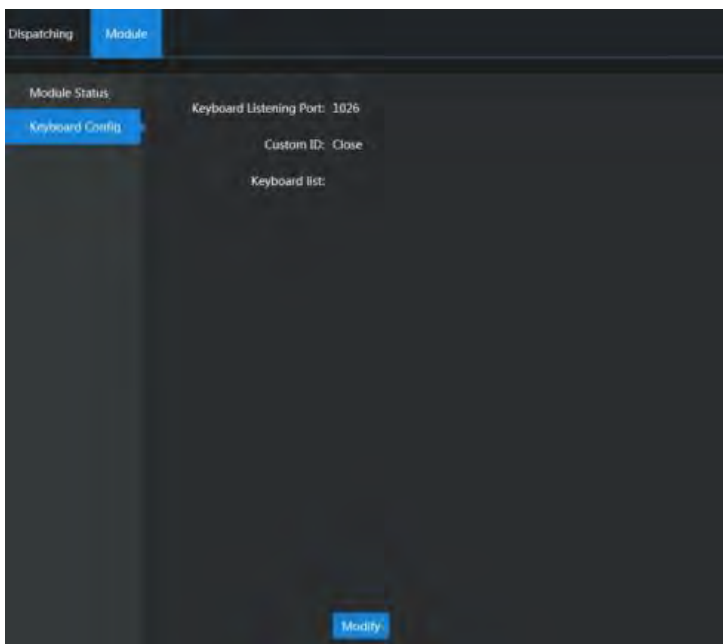
3. Click **Modify** and input ID for each camera in the input box.
4. Click **Save**.

Note that custom ID cannot be repeated and the keyboard controls camera by its ID number. When the ID is empty, keyboard cannot control the camera



To add a network keyboard to the Keyboard Controller System:

1. Click **Module > Keyboard Config**.

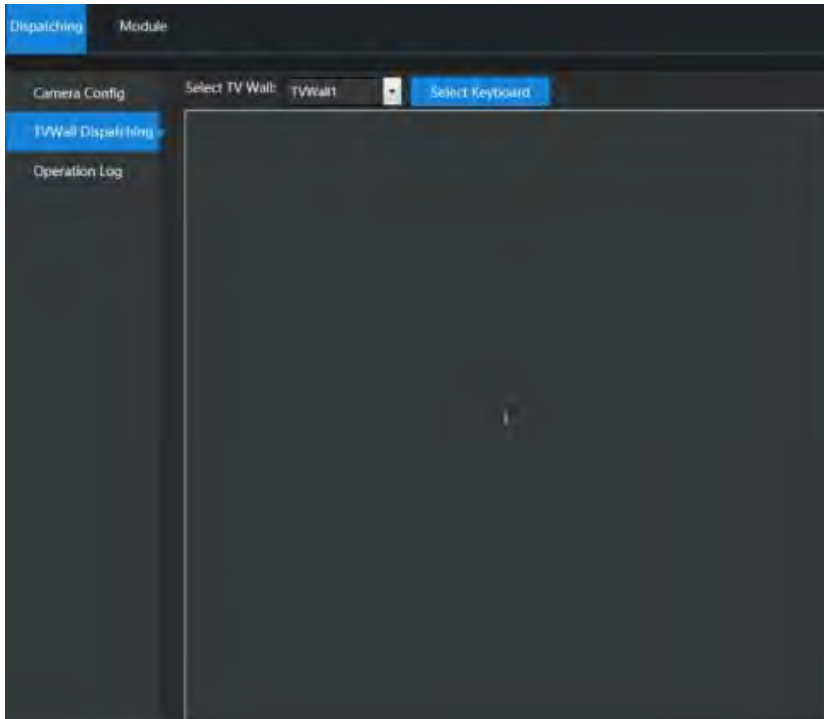


2. Click **Modify**.
3. Click + and enter the keyboard IP address.
4. Click **Save**.

When a keyboard binds with a video wall, it can dispatch the video wall.

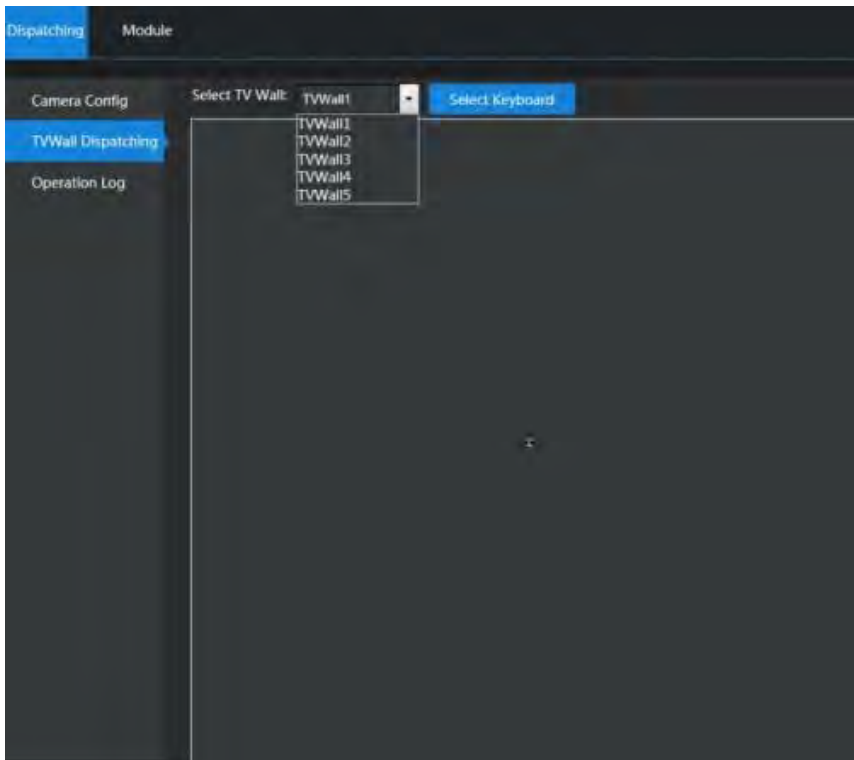
To bind a network keyboard with a video wall:

1. Click **Dispatching > TVWall Dispatching**.

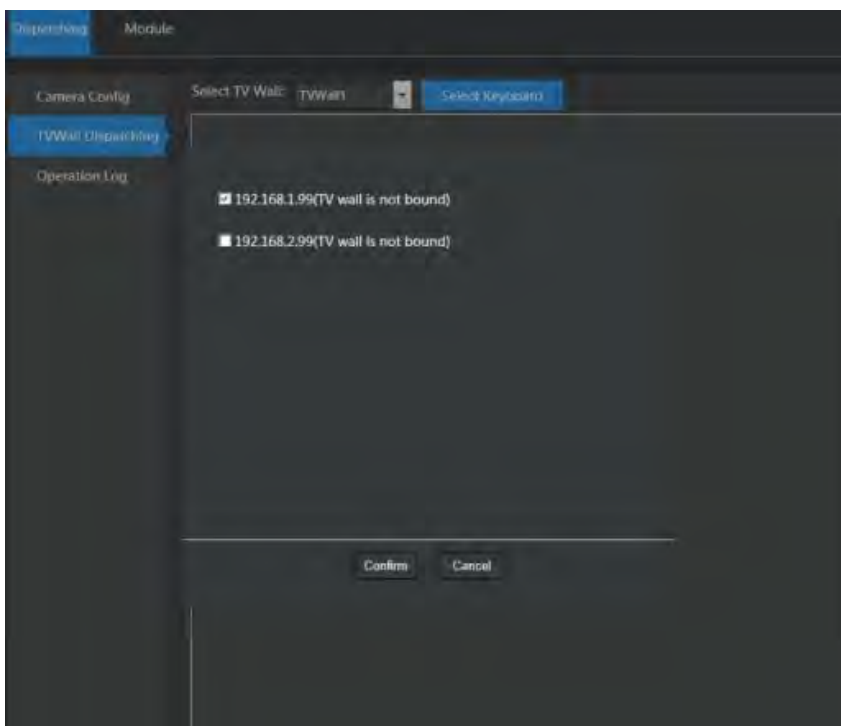


2. Select the video wall from the drop down list to bind it with the keyboard.

Note that the list is read from the VMS directly. If the video wall has not been created, create one on CU.

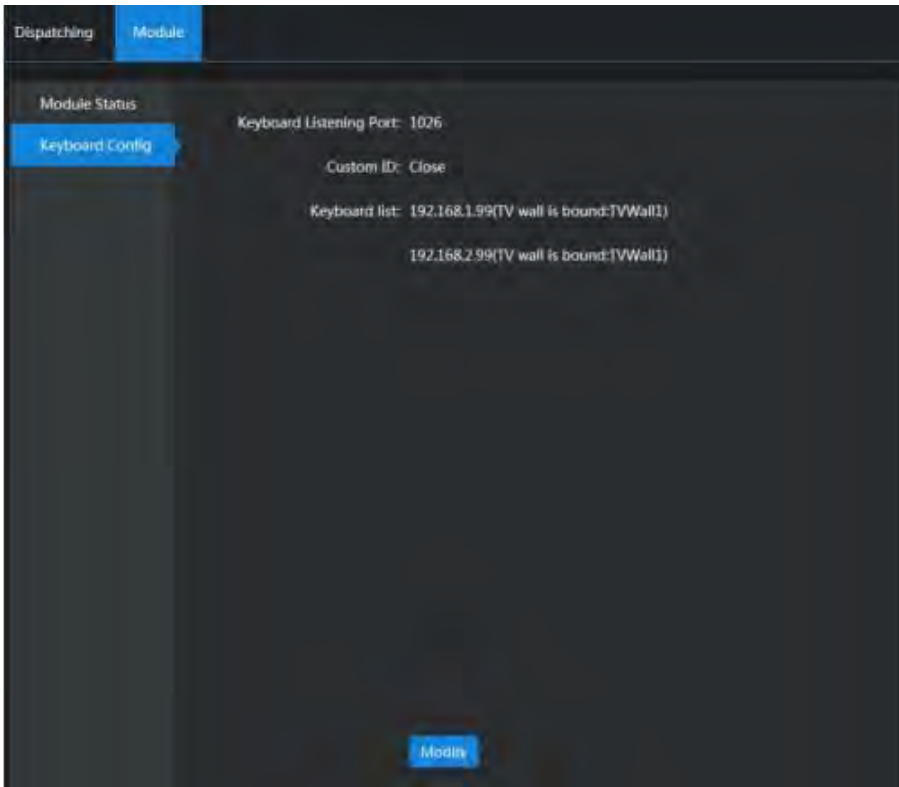


3. Click **Select Keyboard**.
4. In the popup window, select the keyboard to bind with the video wall and click **Confirm**.



5. Repeat step 2-3 to bind multiple groups of keyboard and video wall.

To check whether the keyboard is bond with the video wall, choose **Module > Keyboard Config**. If it shows that the keyboard has been bound, the binding is done successfully.



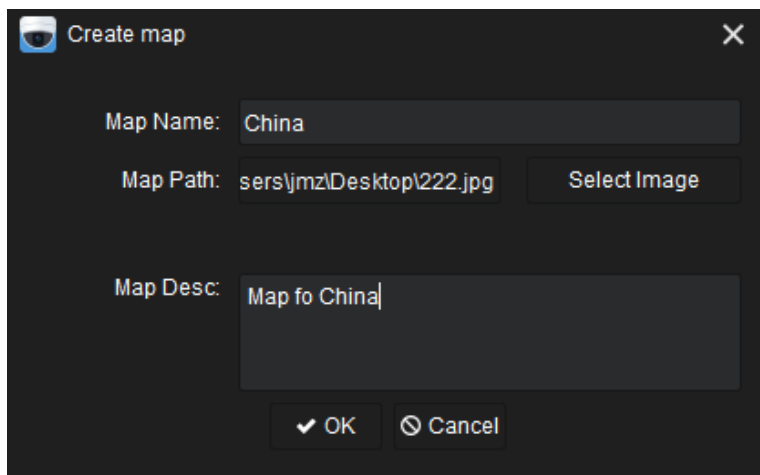
According to the geographic positions of video sources, they can appear on the e-map where it is actually installed so that user can manage each point conveniently.

Click “E-Map” on the menu and perform operations on e-map and entities. E-map includes JPEG and Google. Chapter 10.1 to 10.3 will take JPEG e-map as an example to introduce functions and operations of e-map.

10.1 Create Map

1. Click 
2. In the pop-up window of “Create Map”, input map name and description, and choose path of the map.
3. Click "OK" to add. At this point, the map will show on the map list.

 **Note:** 3 formats of map are supported: jpg. bmp. and png.



10.2 Map Settings

10.2.1 Basic Operations

Basic operations are described in the following table.

Number	Explanation	Number	Explanation
	Select map element		Show or hide map element name
	Show full map		View map info
	Full screen		Lock or unlock map element

Number	Explanation	Number	Explanation
	Change or hide eagle eye		Create sub-map
-	-		Hide all play windows

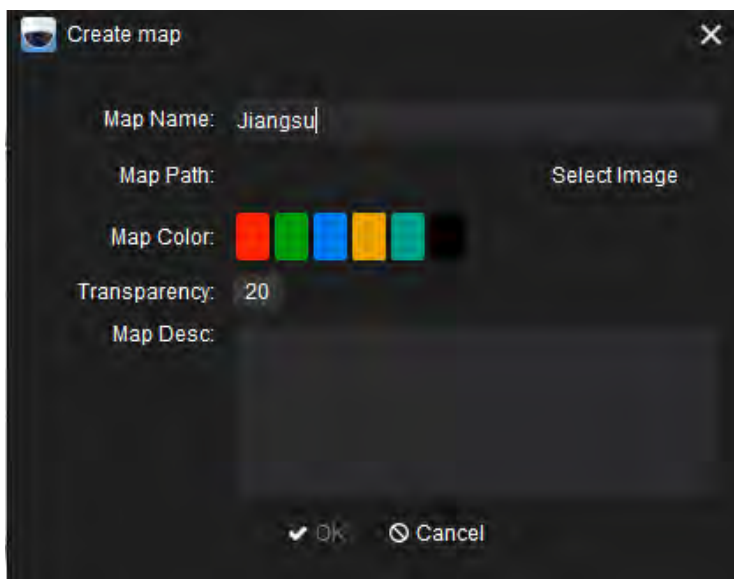
10.2.2 Sub-map

Create Sub-map:

1. Click  on the toolbar.
2. Left-click to draw a closed polygon area, and right-click to complete sub-map drawing.
3. In the pop-up window, input map name and description, and select save path, map color and transparency.
4. Click "OK" to complete.



Note: Double-click on the main map to switch to sub-map.



View/Edit Sub-map:

Click sub-map on the main map, and click  to view or edit.

Delete Sub-map:

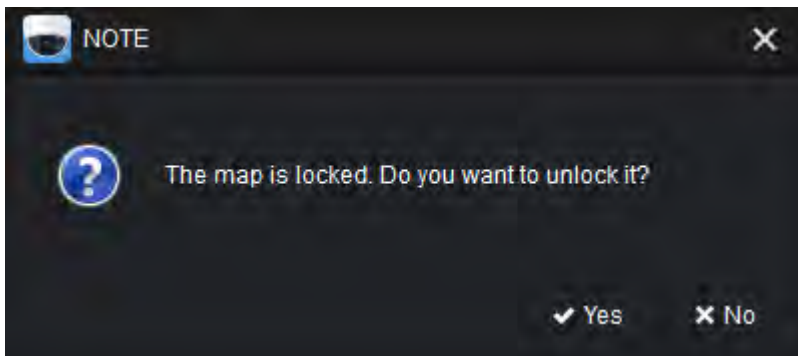
There are 2 methods:

- Click sub-map on the main map, and click  on the floating bar to delete sub-map.
- Select the sub-map from the map list, and click  to delete.

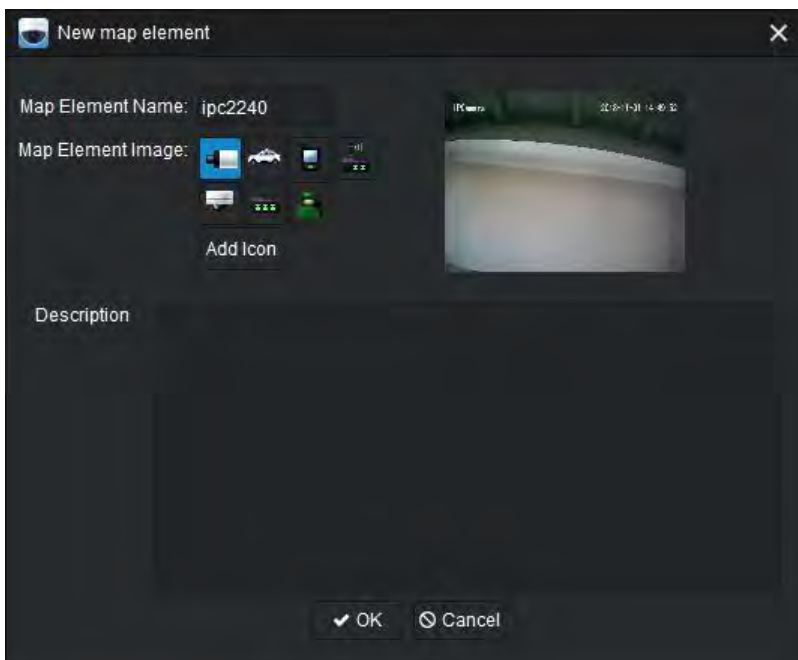
10.3 Map Element Operation

10.3.1 Add Map Element

1. Select the front-end device from the device list, and drag it to a proper position on the map.
2. Click "Yes" on the pop-up dialog box.



3. In the pop-up window of "New map element", input a name and description, and select a picture.



4. Click "OK".

Note:

1. A map element can be added to one e-map only. An e-map can accommodate at most 300 different entities.

2. When the map is unlocked, system will skip Step 2.

10.3.2 Live View

There are 2 methods:

- Select map element on the map for live viewing, and click   to view its main or secondary stream.
- Double-click the map element icon to view its video.

10.3.3 Call Front-end Device

User can call front-end device in e-map, including single call and group call.

Single Call: Select the front-end device from the map and click .

Group Call: Select all map element devices on the map; in the pop-up map element list, check devices to be called and click "Call".

Stop Call:

Select one or more map element devices from the map. In the pop-up map element list, check devices to be stopped calling, and click  to stop calling.

10.3.4 Lock/Unlock Map Element

E-map supports function of locking map element. A locked map element cannot be moved randomly unless it is unlocked.

Click   to lock or unlock map element.

10.3.5 Map Element GPS

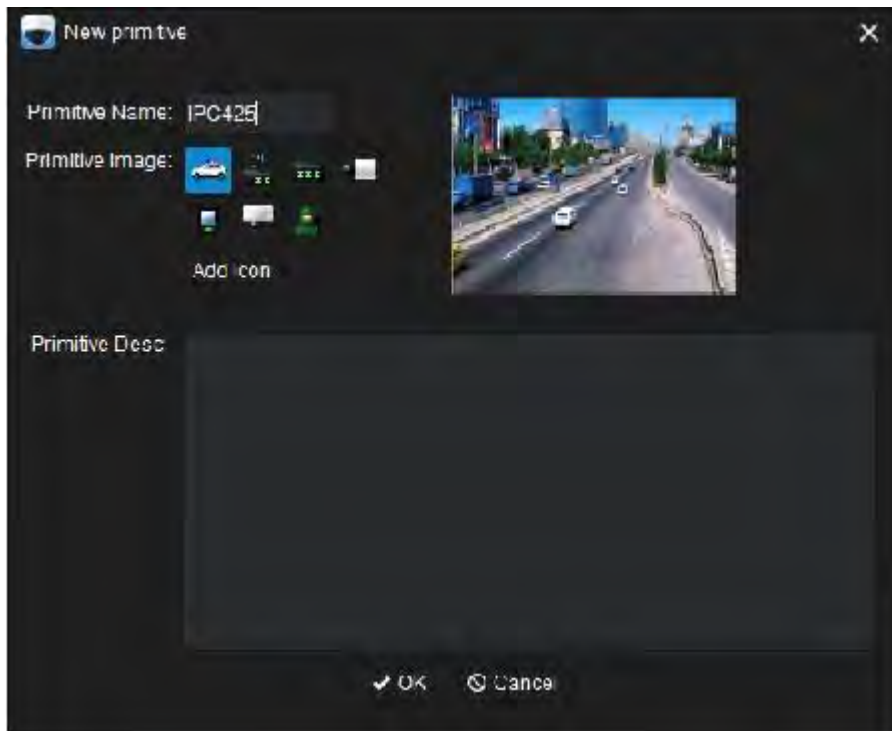
Select the front-end device that has become a map element from the device list; double-click it and its position in the e-map will appear and be highlighted in a green dynamic circle.

When GPS a map element, if the map element does not show on current e-map, system will switch to the e-map where it is.

E-Map supports reverse GPS: Select a map element on the e-map, and the device list will show the corresponding device to this map element.

10.3.6 View Map Element

Select the map element to be viewed on the map, and click  to view the information of it, including map element name, device name, device type, device model, working status and map element description.



10.3.7 Edit Map Element

1. Select a map element from the map, and click .
2. In the pop-up window of "View Map Element", click "Edit".
3. Input new map element name and description, and select new map element picture.
4. Click "OK" to complete.



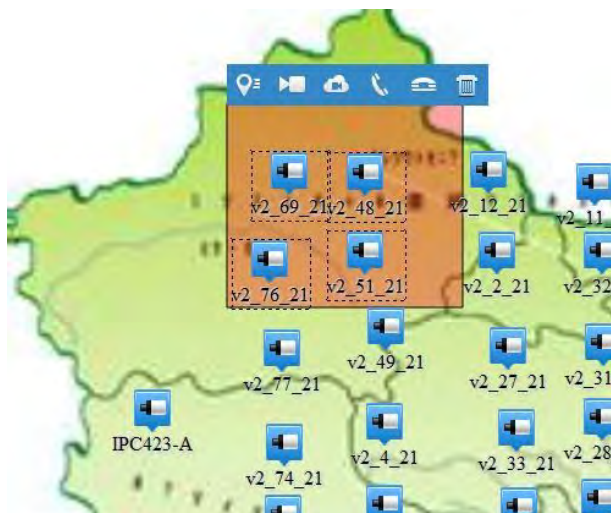
Note: Map Element picture can be defined. Make a picture of 32*32 pixels and click  to add.

10.3.8 Delete Map Element

Select a map element from the map and click  to delete.

10.3.9 Map Element Selection

Click  to select multiple entities. User can perform operations in batch, such as "View Map Element List, Live View, View Secondary Stream, Call, Stop Call and Delete Map Element".



Note: Under multi-screen mode, user can select one or more entities from CU and drag them to live view interface, recording interface and Video Wall interface. Only support 9-channel e-map live view. Detailed operations can be referred to in Chapter 3.6 Multi-screen.

10.4 GIS and Google Map

By backstage configuration, user can get GIS/Google map. Related operations can be referred to in *User Manual for the PMC*.

Click "Google Map" page to enter GIS/Google map

interface. Icons are described in the following table.

Icon	Description
	Select map element: click this icon to select multiple entities and operate in batch.
	Full screen: click this icon and GIS/Google map will display in full screen.
	Change eagle eye: click it to show or hide eagle eye, and change the position of eagle eye.
	Show map element name: to show or hide map element name.
	View map info: click it to enter "Edit" interface and configure parameters.
	Lock map element: click it and user will be unable to operate on map element.

	Hide all tracks: to show or hide the moving tracks of map element.
	Hide all play windows: click it and all playing windows will be hidden.
	Hide or show map elements.

10.4.1 Edit Map

Click  on the menu bar to enter "Edit Map" interface, and complete the parameters.

Map name: custom map name

Map source: user can download map from slave VMS server or Google map server. If download from slave VMS server, user has to configure parameters at backstage. Details can be referred to in *User Manual for the PMC*.

Zoom level: support multiple zoom levels (Level -2~12). Default is to show full China map with 12 levels.

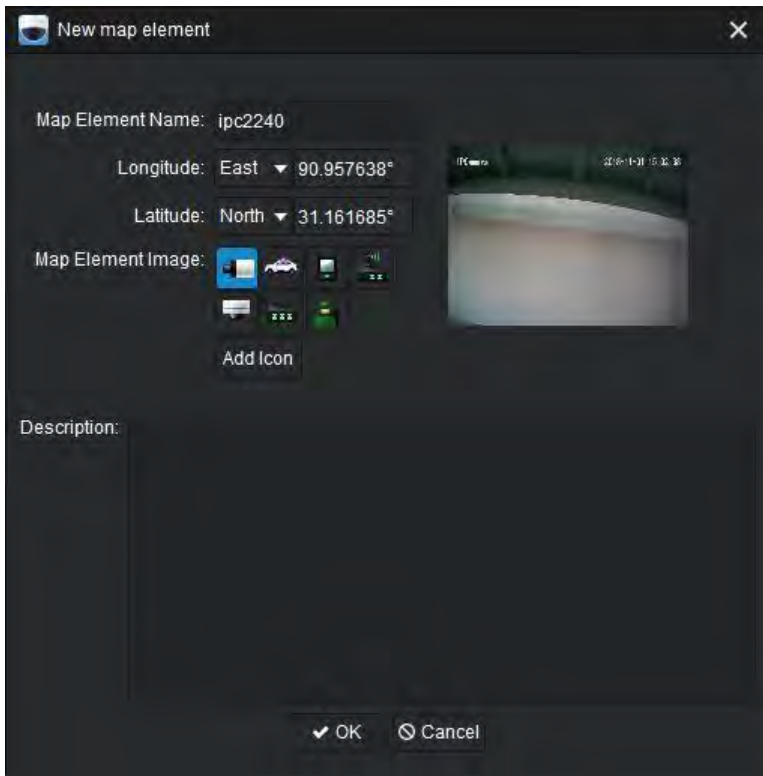
Center point latitude/longitude: input the longitude and latitude of a point, and make it as the center to zoom in/out Google map.

10.4.2 Create Map Label

Click  to enter the interface of "Create Map Label", and set information of "Map Name, Zoom Level, Center Point Latitude/Longitude and Map Description".

10.4.3 New Map Element

The same as the way of JPEG map adding map element, detailed operations can be referred to in Chapter 10.3.1 Add . In the interface of "New", configure "Map Element Name, Longitude/Latitude, GPS Information Storage (after checking, user can store map element GPS in Google map), Real-time Track (after checking, user can draw map element moving track), Map Element Picture and Map Element Description".



For the Google map, if you add the longitude and latitude of a PU, a map element is automatically created for the PU. However, this function is disabled by default. To enable it, see section Synchronizing the Longitude and Latitude in *Advanced Configuration Manual for the VMS*.



PU's must report the VMS the GPS capability. Otherwise, the GPS storage and real-tracking functions cannot take effect. To enable the GPS storage function, refer to *Advanced Configuration Manual for the VMS*.

10.4.4 Map Element Operation

Left-click map element and a floating bar will appear, as shown below. Icons from left to right mean: Live View, View Map Element, Enable Track Drawing (click this icon and moving tracks of map element will show on map), Track Playback and Delete Map Element.

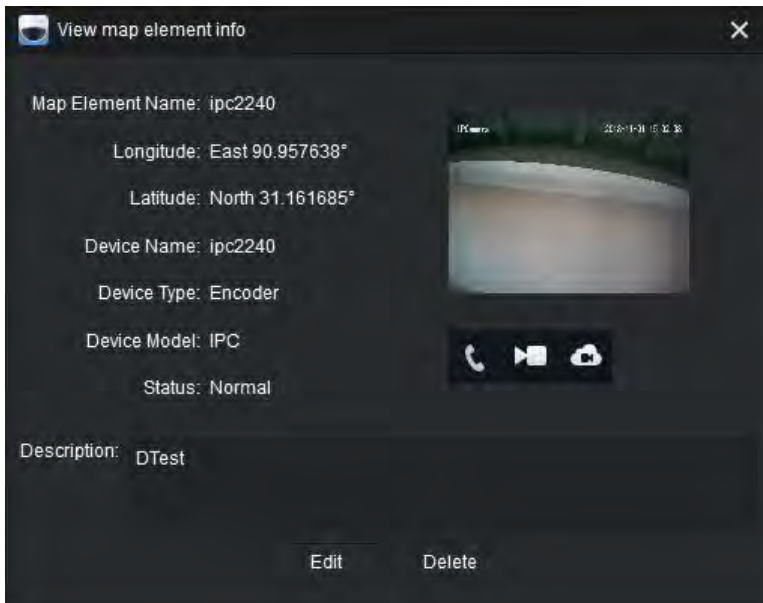


Live View

Click  to view live video of this map element.

View Map Element

Click  to enter the interface of "Map Element Info", and view map element information.



Edit Map Element

Click **View Map Element** > **Edit Map Element**, and modify parameters in “Edit Map Element” interface.

Enable Track Drawing

There are 2 methods:

- Click  and the moving tracks of map element will show on the map.
- Enter the interface of “Edit Map Element”, and check “Real-time Track”.

Delete Map Element

Click  to delete this map element.



Note: For other operations of Google map, please refer to that of JPEG map.

Track Playback

1. Click  or right-click front-end device on the list and select “Track Playback” to set playback duration.
2. Click “Start Track Playback” and the e-map will show the historical tracks within the duration.

Searching Map Element

You can search a maximum of 50 map elements on the map.

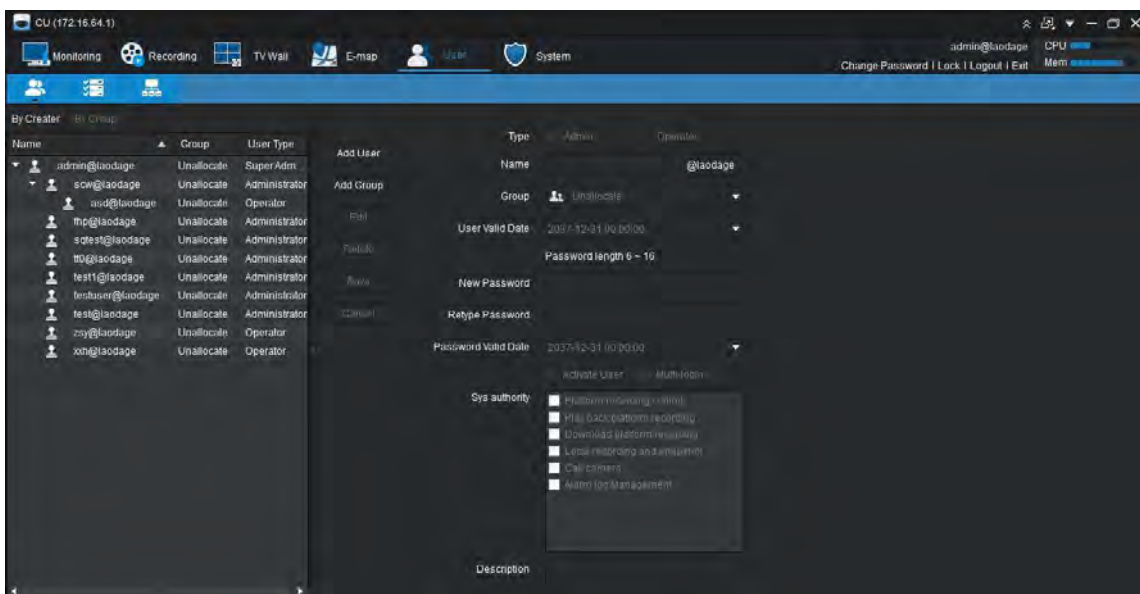
11 User Management

VMS CU supports 3 types of users: super administrator, administrator and operator. Differences are shown below:

Form User Type

Type	Explanation
Super Administrator	Support configurations and management of all devices accessed to VMS. There is only one super administrator for each level of VMS. It is created by default, and only supports password changing.
Administrator	Created by super administrator or administrator. Support creating new user, managing self and lower-level users. Only able to use authorized devices.
Operator	Created by super administrator or administrator. Only able to use authorized devices.

Click “User”, and enter user management interface, as shown below:



11.1 User

Create New User:

1. Click “New” and select user type and user group. Input user name, user validity, password, password validity and description. Check “Enable Account”.



Note: Only when check “Allow multiple users” can multiple users login this account simultaneously. Otherwise, only one user is able to login at a time.

2. Check the authorizations for the user. Detailed authorization introduction can be referred to in “Create New Group”.



Note: A new user can be created and authorized using an IP address, MAC address, or user name.

3. Click “Save” to complete.

At this point, the new user will appear on the left user group list.

Edit User:

Select the user to be modified, and click “Edit” to modify user type, user name, user group, user validity, password, password validity, system authorization and description.

Delete User:

Select the user to be deleted, and click "Delete".

11.2 User Group

Create New Group:

1. Click "Create New Group", select user group type, and input group name and description.
2. In system authorization area, check the authorizations for the user. Details are shown below:

Form Authorizations for User Group

Item	Explanation
VMS Recording	Check it and the user group will be authorized to perform VMS recording.
VMS Record Playback	Check it and the user group will be authorized to perform VMS record playback.
VMS Record Download	Check it and the user group will be authorized to perform VMS record download.
Local Recording and Snapshot	Check it and the user group will be authorized to perform local recording and snapshot.
Call Front-end Device	Check it and the user group will be authorized to call front-end device. Note: this function is available only when the front-end device supports.
Alarm Logs Management	Check it and the user group will be authorized to manage alarm logs.
Maximum Number of Concurrent Streams	Maximum number of concurrent streams during viewing, playback, download. Note: This function takes effect only on the UDP mode.

3. Click "Save" to complete creating user group.

At this point, the new user group appears on the left list.

Edit User Group

Select the user group to be modified, and click “Edit” to modify user group name, system authorization and description.

Delete User Group:

Select the user group to be deleted, and click "Delete". After deletion, the group members will be Allocated to the ungrouped list automatically.



Note: Ungrouped users cannot be modified or deleted.

11.3 Allocate Device Authorization

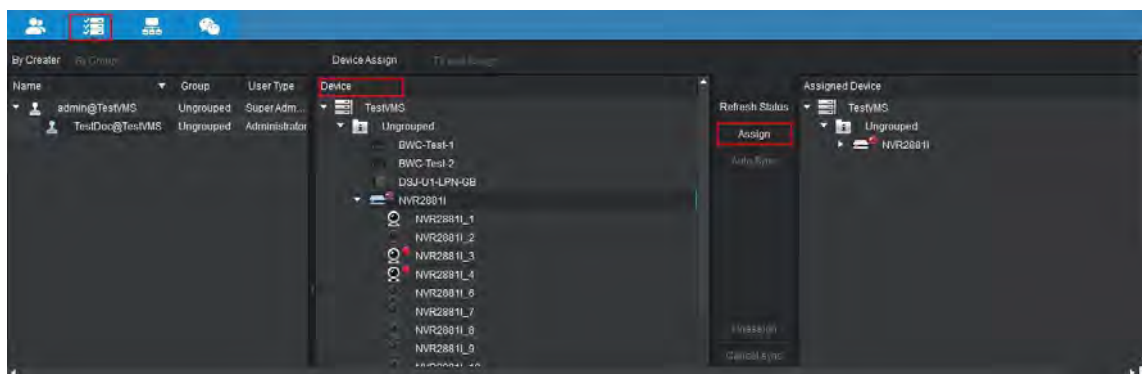
11.3.1 Allocate Video Source

It means to allocate front-end devices to user or user group, and set device authorizations so that user will be able to use the front-end devices.

Allocate Devices

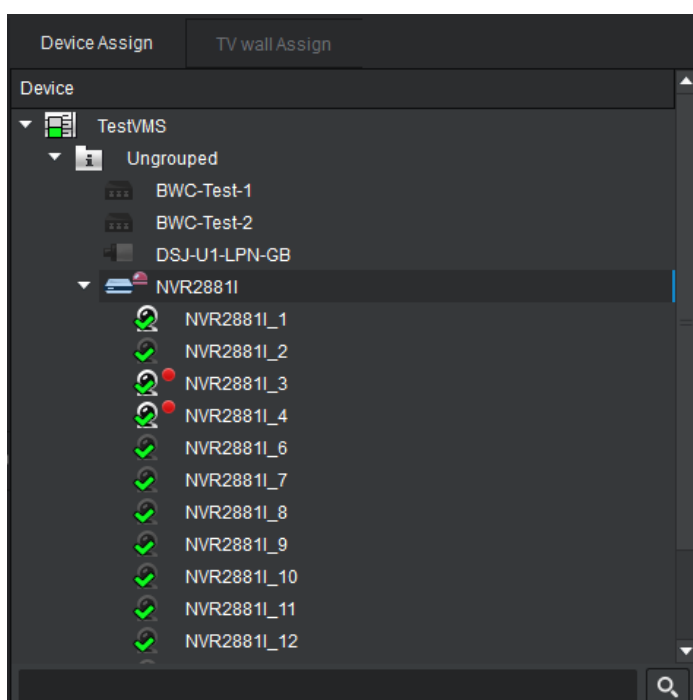
1. Choose **User** > .

2. Select a user or user group.
3. Select the target device and click **Assign**.



4. Click **Refresh Status**.

Then, you will find the following:



The icons are described as follows:

- : The device is already allocated to users.
- : Some devices are allocated to users.
- : All devices are allocated to users.

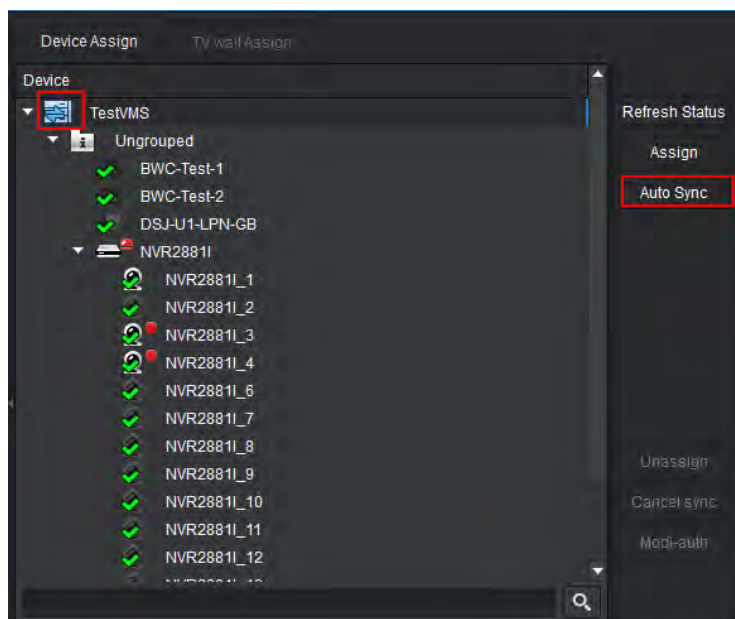


Note:

Devices cannot be allocated to custom trees.

A user's device operation authorization is subject to its user group. This rule does not apply to ungrouped users.

5. Select the device group and click **Auto Sync**.



The  icon indicates that all devices are synchronized.

The auto synchronization function works as follows:

There are users A/B/C/D and devices 1/2/3/4/5. The administrator allocates all the devices to each user. When a new device (device 6) is added, the auto synchronization function can allocate device 6 to all the users with one click without bothering to allocate device 6 to each user.

Note:

Only administrators can synchronize devices.

You cannot cancel synchronization for devices on other levels of VMSs.

Before you can cancel the assigning of a device, you should cancel synchronization first.

Modify Device Authorization

Select “User/User Group”, and select video sources from “Allocated Devices” to modify authorizations. In “Device Authorization” area, set device authorization and click “Modify Authorization” to modify.

Detailed device authorizations are explained below”

Form Device Authorization

Item	Explanation
PTZ Control Level	Set PTZ control level. Totally there are 10 levels, and Level 10 is the highest. Detailed

Item	Explanation
	operation can be referred to in Chapter 3.2.4 PTZ Control Occupation.
Front-end Record Playback	Check it and the user will be able to playback front-end record.
Front-end Record Download	Check it and the user will be able to download front-end record.
Front-end Setting	Check it and the user will be able to set parameters of front-end device.
Front-end Alarm Setting	Check it and the user will be able to enable or disable alarm for front-end device.
Front-end Recording Enabling	Check it and the user will be able to enable front-end recording.
Front-end Voice Enabling	Check it and the user will be able to enable front-end voice and hear the voice in the record or live view video.
Preset	Check it and the user can configure presets. Note that the user must have both the PTZ control and preset authorization before it can configure presets. If the user has only the PTZ control authorization, it can only use presets and cannot configure them. This option is selected by default.
Lock PT	Check it and the user can lock the PT. Note that the user must have both the PTZ control and PT locking authorization before it can lock and unlock a PT. This option is selected by default.

Cancel Allocation

Select “User/User Group”, and select the video sources to cancel Allocation from “Allocated Devices”. Click “Cancel Allocation” to cancel Allocation.

11.3.2 Allocate Video Wall

It means to allocate Video Wall to corresponding user or user group so that the user or members of the user group are able to use the Video Wall.

 **Note:** Before Allocating Video Wall, configure Video Wall first. Otherwise, it cannot be allocated. Detailed settings can be referred to in Video Wall Settings.

1. Click “User”>.
2. Select “User/User Group” and enter the interface of “Allocate Video Wall”. In the “All Video Walls” area, select one or more Video Walls.
3. Click “Allocate” and Video Walls are allocated. At this point, Video Walls will show in the area of “Allocated Video Walls”.

11.4 View Pictures Through WeChat

User can view pictures through WeChat after make some settings on PMC and CU.

 **Note:** This version doesn't support live view now.

Detailed steps:

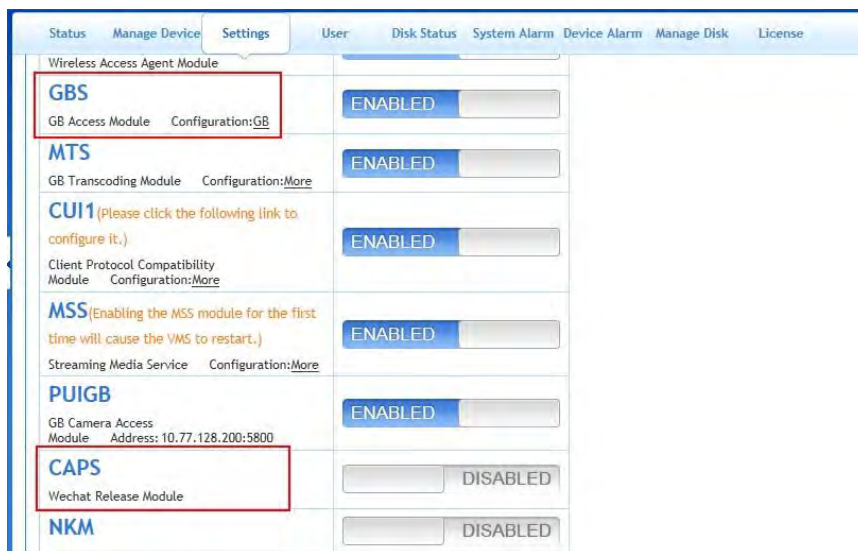
1. Enter PMC client and enable GBS, MSS, and CAPS in Module;
2. Go to MSS to set mapping allocation. Details can be referred to in the Appendix of *User Manual for the PMC*;
3. Click “User”> to enter setting interface;
4. Input WeChat title and click “Save”;
5. Select a device from the device list and click “Publish”;
6. Set picture update time and click “Save”.
7. After setting CU, enter WeChat client and make relative settings.
8. After completion, WeChat user can subscribe the public account and visit the released pictures.

11.5 View Videos Through WeChat

Users can view VMS videos on the WeChat.

To enable so:

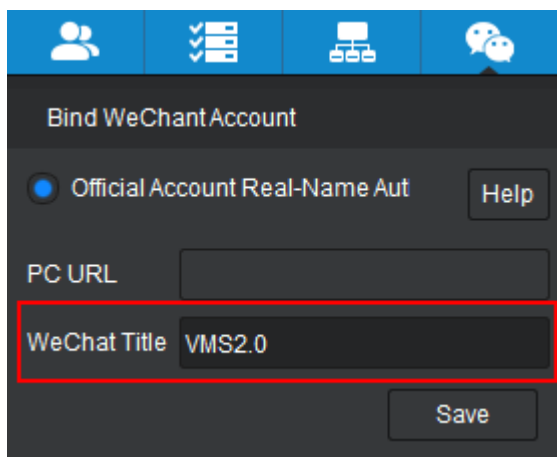
1. On the PMC, enable the GBS and CAPS modules.



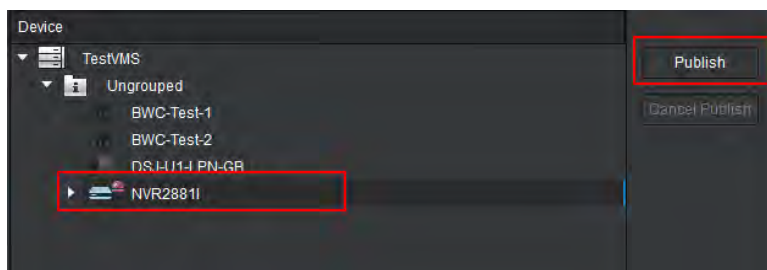
2. Add an external MSS on the PMC.

For details, see *User Manual for the PMC*.

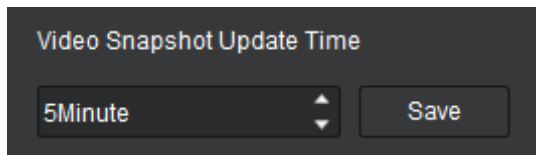
3. On the CU, choose **User** > .
4. Specify **WeChat Title**.



5. Click **Save**.
6. Select the to-be-published device and click **Publish**.



7. Specify **Video Snapshot Update Time**.

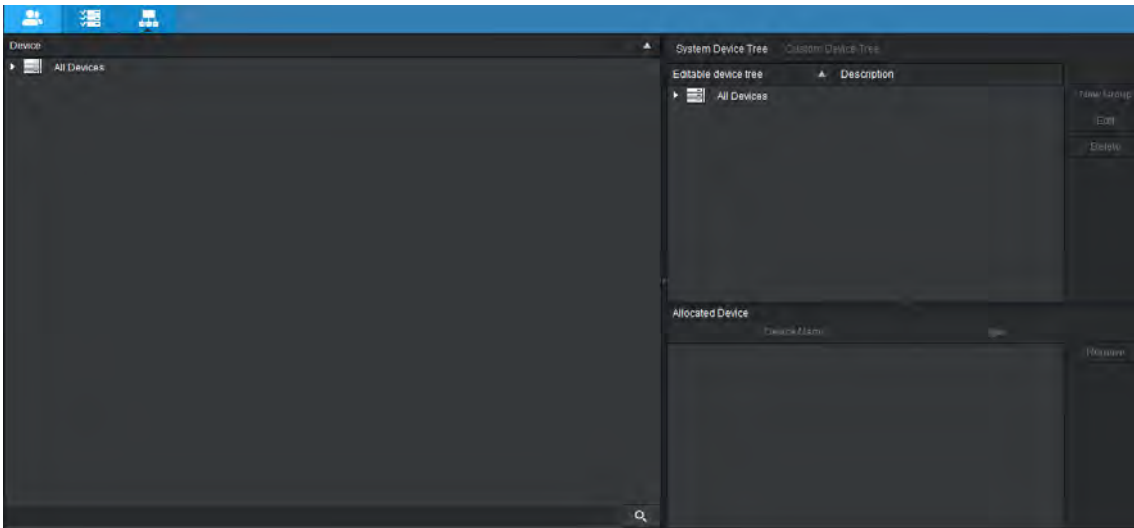


8. Click **Save**.
9. Search the CU's official account on the WeChat.

After the preceding steps are performed, you can view VMS videos.

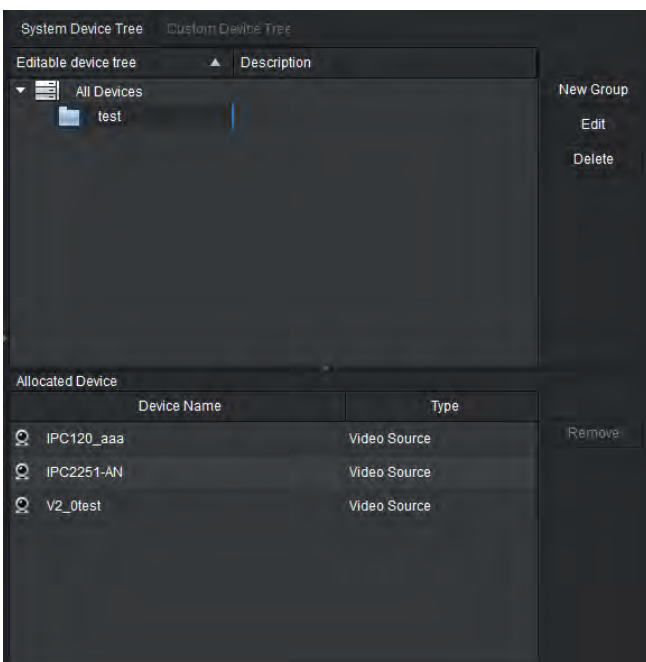
12 Device Tree Management

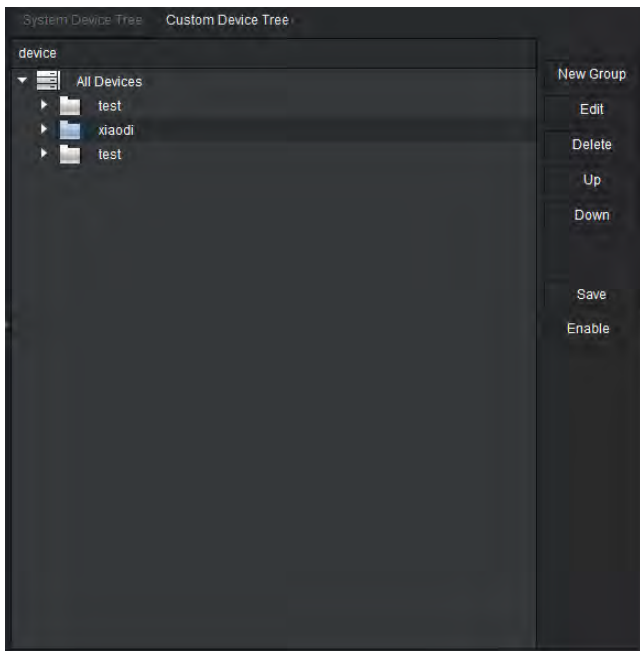
Click “User”>  on the menu bar and enter the interface, as shown below:



 **Note:** CU has only one default ungrouped group.

Device tree list includes “System Device Tree” and “Custom Device Tree”, as shown below:





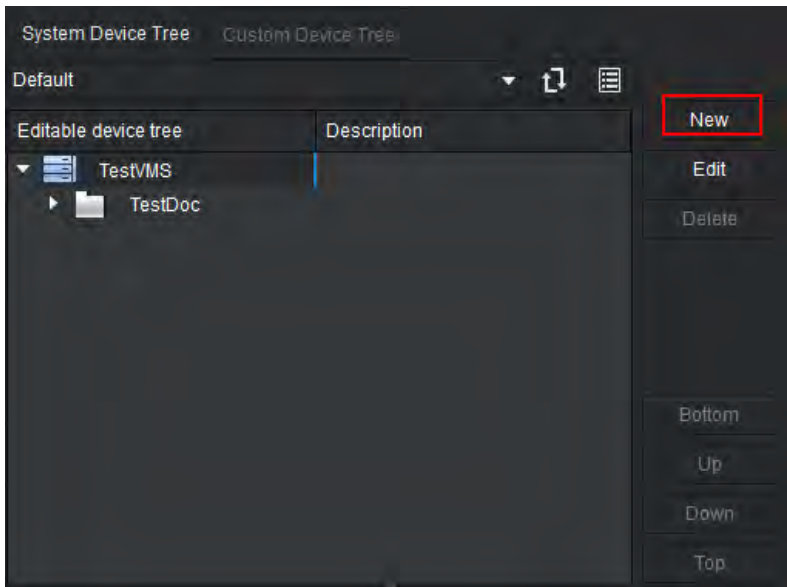
 **Note:**

Administrators can create and edit the device tree.

12.1 Create a Device Group

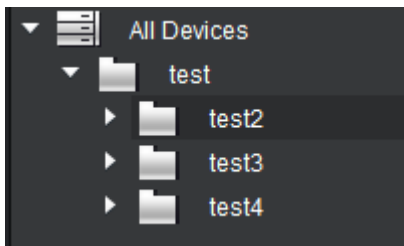
To create a device group:

1. Select a parent device group from the device list.
2. Click **New** and enter a device group name.



3. Click **OK**.

VMS supports multiple level groups, and device groups under the same device group cannot use the same name.



12.2 Edit a Device Group

You can click **Edit** to rename a device group. On the PMC, you can also rename the device group.

A screenshot of a web interface showing the 'Basic Information' tab for a device group. The 'Domain Name' field is highlighted with a red rectangle and contains the text 'TestVMS'. Below this field, the text 'Platform domain' is displayed, followed by the ID 'ID: 9a451ab685314af0bd34ca6205091a3c'. An 'Apply' button is located in the bottom right corner of the form.

If you rename the device group on the PMC, the new name will be updated on the CU. If you rename it on the CU, the new name will not be updated on the PMC. However, the CU will report the new name to the upper-level VMS (if any).

Regroup Device:

To regroup a device, drag the device to the target group.



Note:

- 1) One video source only belongs to one device group.
- 2) In GB VMS cascading, support re-group the front-end device from lower-level VMS in current level VMS. Operation: drag the devices of lower-level VMS with mouse to the device group of current level VMS.

Delete Device:

In editable device tree area, select a device group and select devices in the group. Click "Delete" to remove it from the group. The deleted device will go to the ungrouped group automatically.

12.3 Delete a Device Group

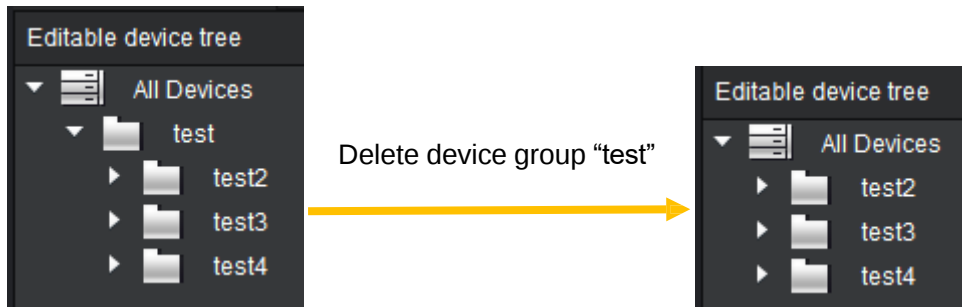
In editable device tree area, select a device tree and click "Delete" to delete the device group.

After deleting device group, all the devices and device groups in this device group will re-group according to the following 2 methods:

- When the device group in the same level of ungrouped group:

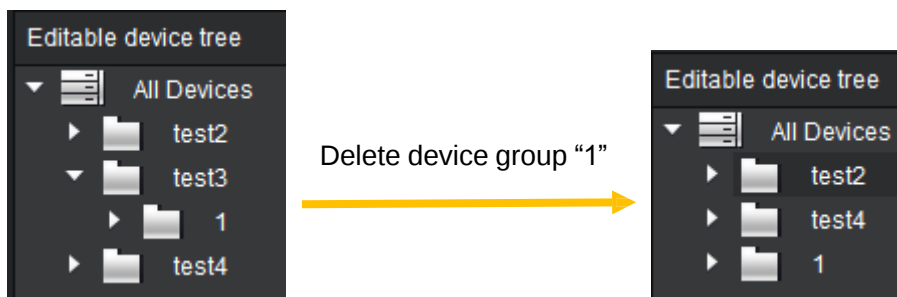
Device: go to ungrouped group

Lower-level device group: lower-level device group will be upgraded for one level, i.e. the same level as that of ungrouped group.



- When device group is lower than ungrouped group:

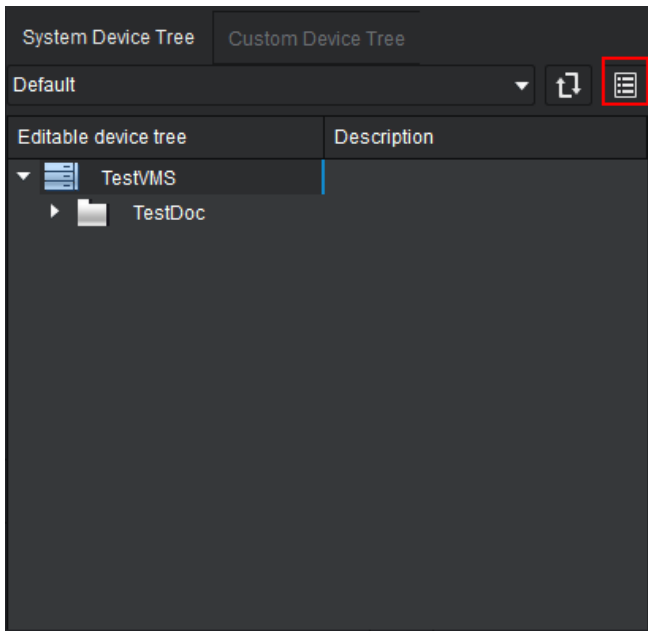
Device and device group will be upgraded to the upper-level group.



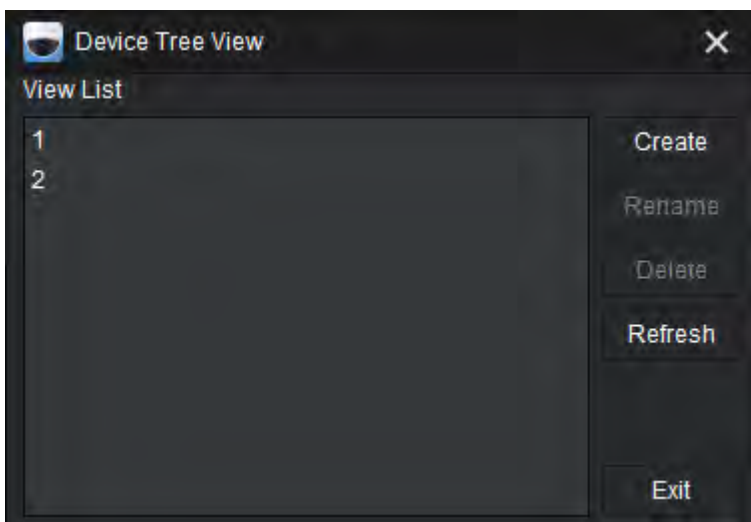
12.4 Custom a System Device Group

To create a system device group:

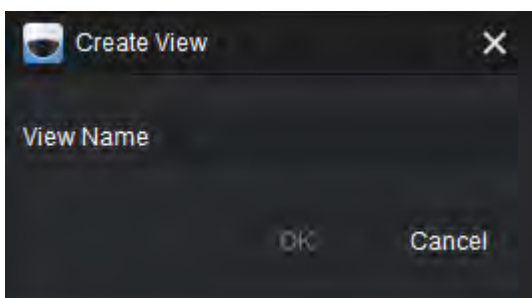
1. Choose **User** >  > .



2. In the displayed dialog box, click **Create**.

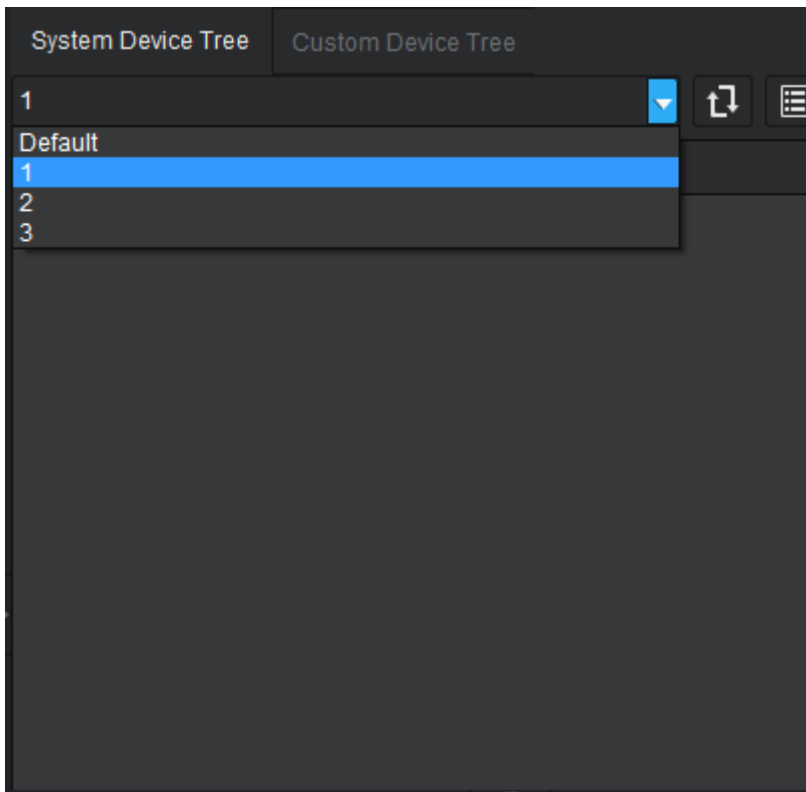


3. Enter a name.

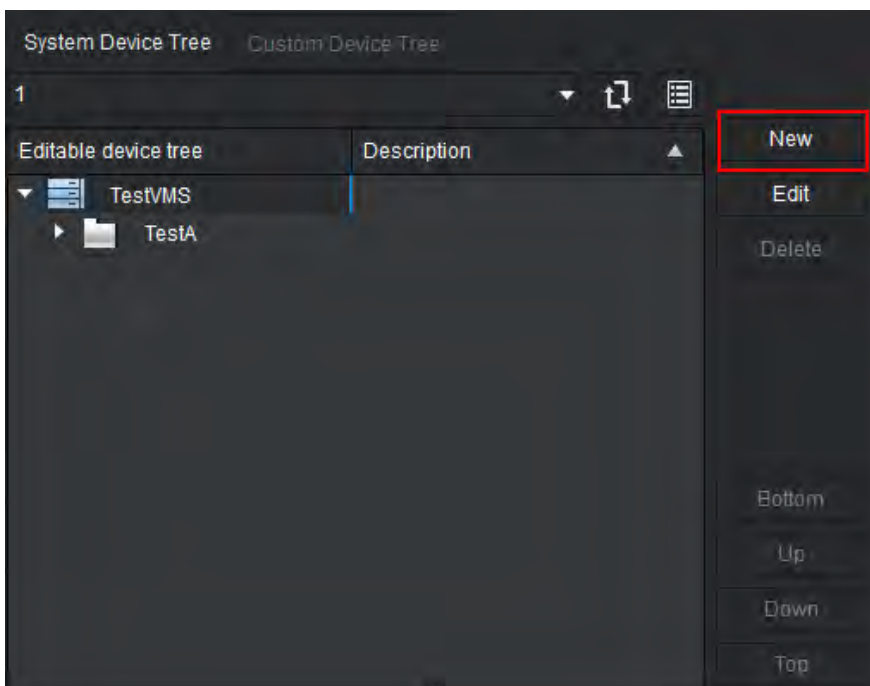


4. Click **OK**.

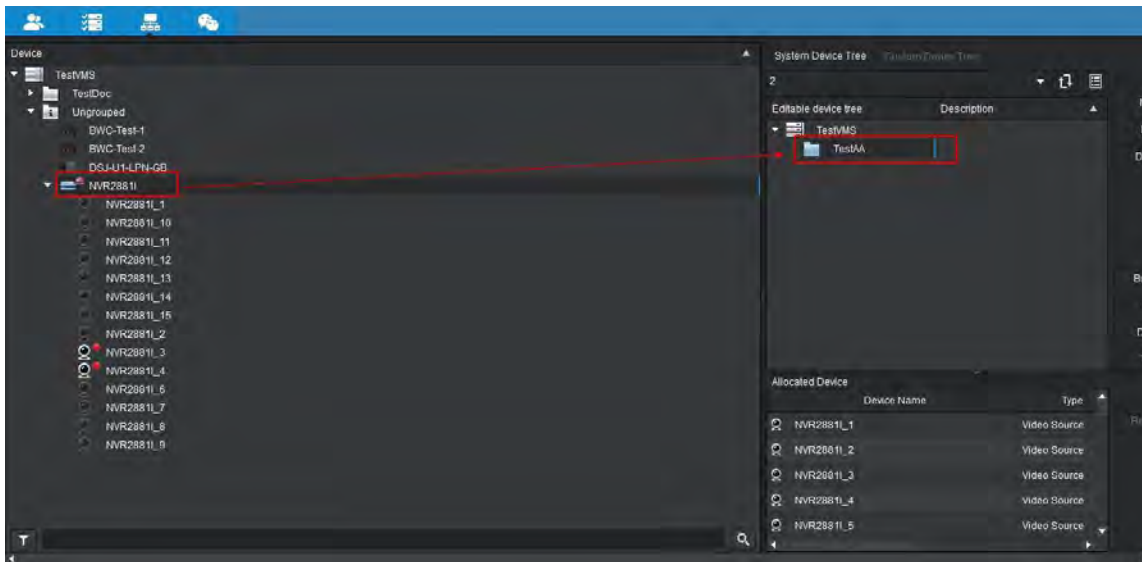
After the preceding steps are performed, you can select a device tree from the drop-down list.



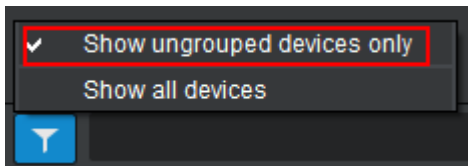
If you select a system device tree, you can add device groups by clicking **New**.



To allocate a device to a device group, drag the device to the group directly.

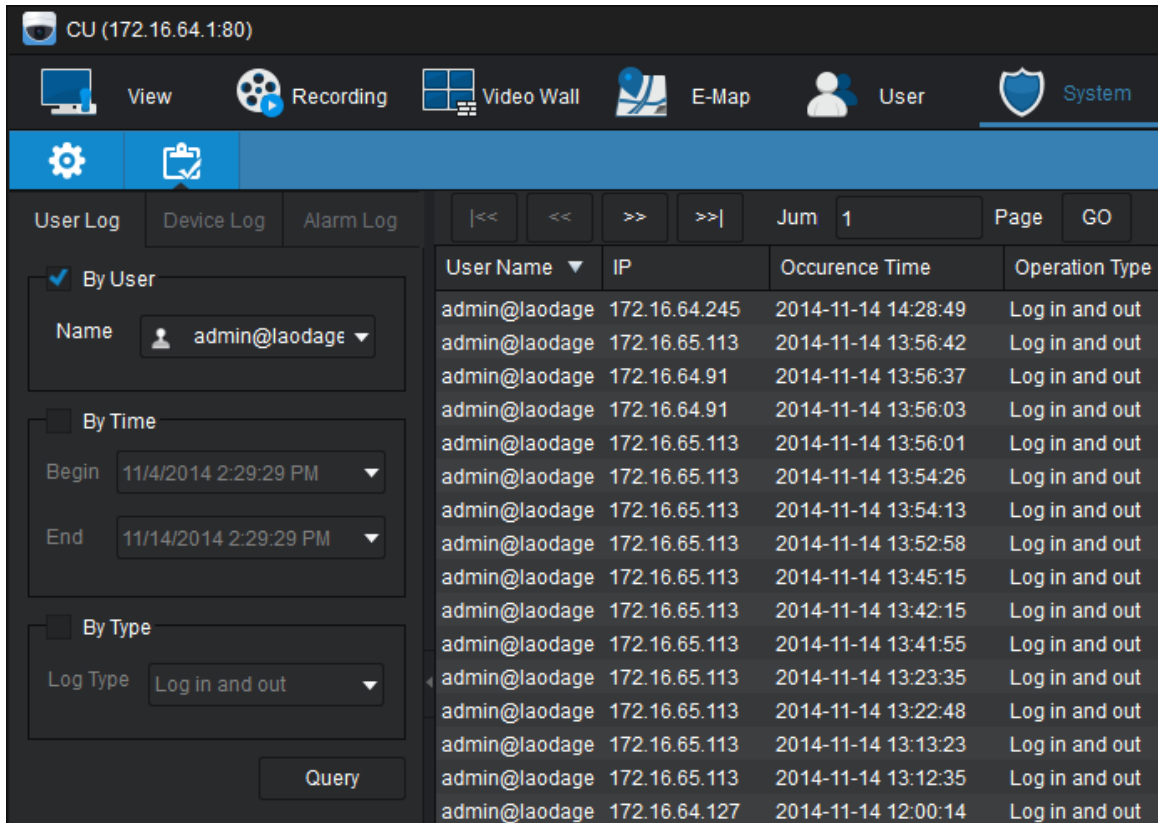


To show ungrouped devices only, click  and select **Show ungrouped devices only**.



13 Log Management

Click System>  and enter log interface. Logs include user logs, device logs and alarm logs, as shown below:



CU (172.16.64.1:80)

View Recording Video Wall E-Map User System

User Log Device Log Alarm Log

By User

Name admin@laodage

By Time

Begin 11/4/2014 2:29:29 PM

End 11/14/2014 2:29:29 PM

By Type

Log Type Log in and out

Query

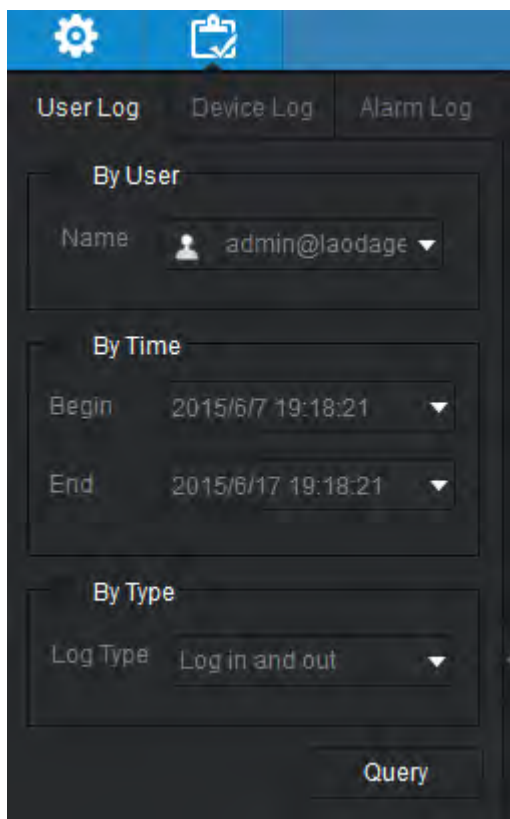
User Name	IP	Occurrence Time	Operation Type
admin@laodage	172.16.64.245	2014-11-14 14:28:49	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:56:42	Log in and out
admin@laodage	172.16.64.91	2014-11-14 13:56:37	Log in and out
admin@laodage	172.16.64.91	2014-11-14 13:56:03	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:56:01	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:54:26	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:54:13	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:52:58	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:45:15	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:42:15	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:41:55	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:23:35	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:22:48	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:13:23	Log in and out
admin@laodage	172.16.65.113	2014-11-14 13:12:35	Log in and out
admin@laodage	172.16.64.127	2014-11-14 12:00:14	Log in and out

13.1 User Log

Click “Query” to view all users’ logs.

User logs can be queried by user name, time, or log type.

User log types include: log in and out, PTZ control, record download, record stop, record playback, and video viewing.



The screenshot shows a web interface with three tabs: 'User Log', 'Device Log', and 'Alarm Log'. The 'User Log' tab is active. Below the tabs, there are three sections: 'By User', 'By Time', and 'By Type'. The 'By User' section has a 'Name' field with a dropdown menu showing 'admin@laodage'. The 'By Time' section has 'Begin' and 'End' fields, both showing '2015/6/7 19:18:21'. The 'By Type' section has a 'Log Type' field with a dropdown menu showing 'Log in and out'. At the bottom right, there is a 'Query' button.

13.2 Device Log

Device logs can be queried by device name, time, or log type.

Device log types include: register, log in, log out, VMS record abnormal and others.

Operation steps:

1. Click the **Device Log** tab.
2. Select the **By Device** check box.
3. Click **Select Device** and select the device from the device list.

Alternatively, enter the device name in the text field as shown in the following picture and click .



4. Click **Query**.

The following is an example of search results.

13.3 Alarm Log

Select “Log Domain” and click “Query” to view all alarm logs of current level VMS.

Alarm logs can be queried by device name, log domain, time, or alarm alias.

Note: “Log Domain” shows current level VMS and all lower-level VMS.

To query alarm logs of a device:

1. Click the **Alarm Log** tab.
2. Select the **By Device** check box.
3. Click **Select Device** and select the device from the device list.

Alternatively, enter the device name in the text field as shown in the following picture and click





This chapter mainly introduces system management.

14.1 Local Settings

Click **System** >  > **Client Setting**.

14.1.1 Basic Settings

The following table provides parameter/option descriptions.

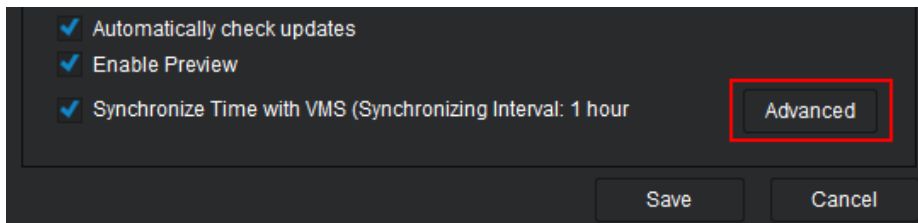
Item	Explanation
Snapshot Setting	Save to: the save path for snapshots Rename Manually Captured Snapshots: if you check it, manually captured snapshots can be renamed.
Local Record Setting	Set save path for local recording, able to enable max channels of local recording and recording format at the same time. Save to: the save path for recordings Enable maximum local recording channel: maximum number of local recording channels
Lock Setting	Lock Screen: a duration after which the CU will be locked
Stream Adaptive	This option indicates the threshold for the number of viewing windows. When this threshold is reached, that is, when you enable excessive viewing windows, stream adaptive will be enabled and secondary streams will replace main streams on these windows. When this option is checked, the secondary stream icon will be hided under the device list. However, you can switch between main and secondary streams by right-clicking a view window. When streams are to be sent to a video wall, you cannot change the stream type at the time. However, you can change the stream type in advance. This option is checked in SDK mode by default and is unavailable in the classical decoding mode.
Automatically check update version	If you check it, the CU will automatically check for updates.

Item	Explanation
Enable previewing image	When you check it: If the mouse moves to a device on the device tree, the live videos of the device will be displayed.
Enable instant playback	Whether to enable the instant playback function. By default, this function is enabled. If you uncheck it, the CU will prompt you to check it.
Synchronize time with server	Whether to synchronize the CU time with the NTP server. The synchronization interval is one hour.

14.1.2 Advanced Settings

To configure advanced settings:

1. On the **Local Settings** tab page, click **Advanced**, as shown in the following picture.



2. Configure parameters displayed, as shown in the following picture.

Advanced

☒ Buffering

Video Buffer(12~100)

Audio Buffer(8~100)

Video Optimization

☐ Decode Vertical Sync ☐ Prevention Dislocation

☐ Video Smoothing ☐ Enable big bit rate

Enabling optimization will consume more CPU resources.

☒ Package Resend

Resend level

Signal Timeout Setting

Signal Timeout(1~30) Sec

Tips: Logout to take effect

Network

Stream interactive IP options:

Stream type:

Tips, use TCP stream when failed to view picture from another network

☒ Retain the Previous Layout

OK Cancel

The following form explains parameters displayed:

Form Advanced Settings

Item	Explanation
Buffering	When this option is selected, input and output video or audio data will be temporarily stored in the data buffer of your PC while being transferred. This ensures smooth viewing but prolongs the delay. When this option is not selected, the delay is shortened but user experience is compromised.

Item	Explanation
Decode Vertical Sync	Loss of vertical synchronization usually produces an image rolling up or down the screen. When this option is selected, vertical synchronization is enabled. Note that selecting this option will increase the CPU usage of your PC.
Prevention Dislocation	When you are viewing the video displayed on a view window, right-clicking the window may cause image distortion. When this option is selected, image distortion can be prevented. Note that selecting this option will increase the CPU usage of your PC.
Video Smoothing	Whether to enable the anti-aliasing technique. When you are viewing video from multiple cameras, aliasing may occur. In such a case, you are advised to select this option. Note that selecting this option will increase the CPU usage of your PC. Four levels of video smoothing are available while level 1 indicates disabling this option and level 4 is the highest level.
Enable big bit rate	You are advised to check this option when the bitrate reaches 32 Mbit/s and the 4K resolution is applied to improve the display performance. This option is supported only in SDK mode.
Packet Resend	Whether to enable the retransmission upon packet loss technique. A high retransmission level ensures smooth viewing but prolongs the delay. You are not advised to select this option when the network condition is very poor. If you select this option when the network condition is very poor, a number of system resources will be occupied. Additionally, when the VMS is waiting for retransmitted packets, images displayed on the View tab page may be frozen or no image is displayed on this tab

Item	Explanation
	page.
Signal Timeout	Period during which the VMS is expected to respond to messages sent from the CU. When the VMS does not respond to messages sent from the CU within the period specified by this parameter, the CU regards these messages as not being transmitted to the VMS. The default value for this parameter is 20.
Stream interactive IP options	With this option, you can determine which IP address of your PC can be used to communicate with the VMS. The default value for this parameter is Auto select. Note that the default value will apply when the VMS fails to reach your PC using the selected IP address.
Stream type	Stream type
Transmission Mode	UDP transmission modes: mediaswitch and medianet
Enable Classical Decoding	In versions V2R3B2 and later, the default decoding mode is SDK decoding mode. You can switch between the classical decoding and SDK decoding modes. When this option is checked, the classical decoding mode is enabled. This option is mutually exclusive with the Audio Compression of Voice Call option.
Audio Compression of Voice Call	The available audio compressions are ADPCM, OPUS, G.711a, G.711u, and AACLC. This option is mutually exclusive with the classical decoding mode.
Retain the Previous Layout	When this option is selected, the screen layout you selected during your last login will apply upon your next login.

14.2 VMS Configuration

Click **System>Platform Setting** in menu bar to configure User Log, Device Log, Alarm Log, When no space for recording and Video Source Name Sync.

Form VMS Configuration

Option	Explanation
User Log	Check it and system will save user logs. Meanwhile, user can set maximum days for user log and maximum item for user log.
Device Log	Check it and system will save device logs. Meanwhile, user can set maximum days for device log and maximum item for device log.
Alarm Log	User can set maximum days for alarm log and maximum item for alarm log.
When no space for recording	Select a strategy for record coverage when the disk is full. Options include Overwrite all recording, Stop recording while no more space and Overwrite non-alarm recording.
Video Source Name Sync	When front-end device is networked, user can choose if synchronize front-end to platform. If checked, platform will receive front-end source name. If unchecked, user can define front-end source name, which is neither sent back to the front-end nor be overwritten by front-end. NOTE: For PUs that are from other vendors and connect to the VMS using a network gateway (G100), if their video source names are changed on their local client, then users need to log in to the network gateway and reconnect PUs to the VMS. After this, the new names can be updated on the CU. The video source name synchronization function does not apply to GB-compliant PUs.
Global Configuration	When Support Addition of Jurisdiction Area OSD Texts is checked, jurisdiction area information of PUs will be displayed on the bottom right corners of the related video wall windows. The jurisdiction area information is determined by the Location parameter as shown in the following figure.

Option	Explanation
	Add PU Name: * ☐ Comply with GB Type: Encoder Model: SVR2420 * Enabled/Disabled: Enable IP Address: * Located in the Same Subnet: ☐ PU Outside NAT ☐ PU Send NAT Probe ☐ Disabled On: 2037-12-31 * Location: ☐ Write Data: ☒ * OK Cancel Device Model If this parameter is not specified, the jurisdiction area information is the PU directory which consists of its domain and grouping information.

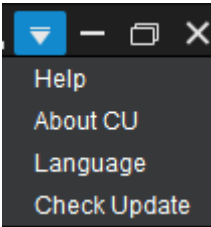
14.3 Update

There are 2 methods to upgrade versions through CU:

Auto upgrade: click System> >Local Settings, check “Auto check and update”.

Manual upgrade: upgrade manually according to the following picture.

14.4 Languages:

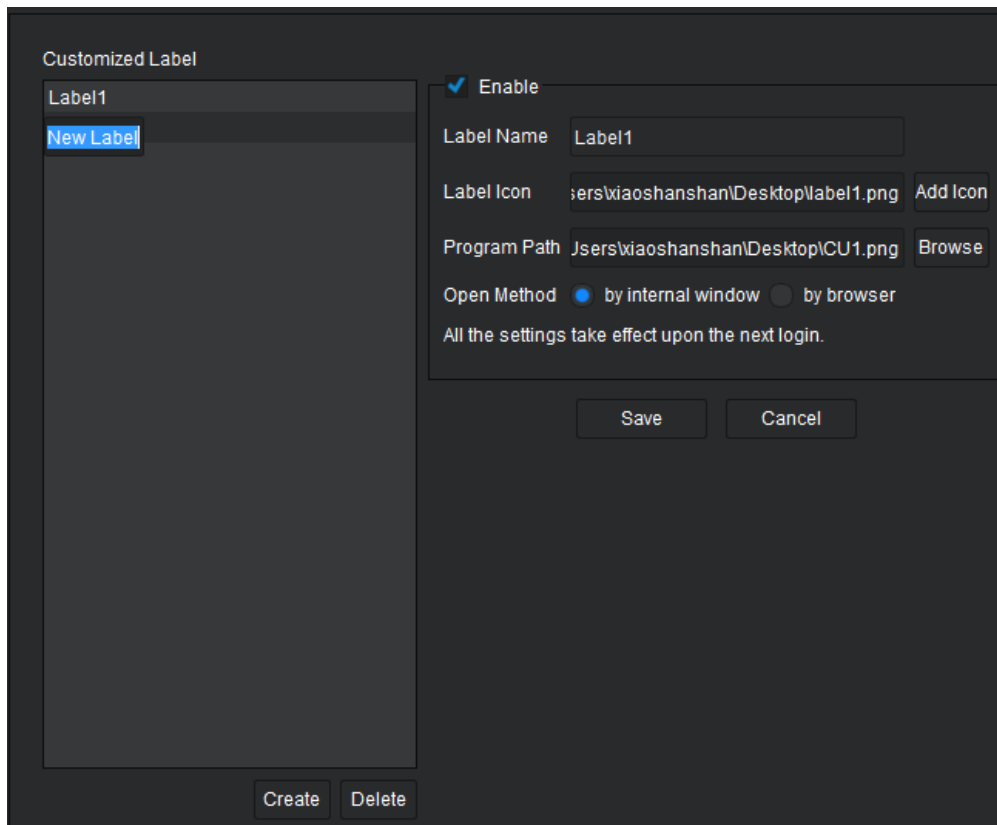


Chinese, English, Russian, Spanish, Czech, Turkish, Portuguese, Japanese, Korean

14.5 Custom Tabs

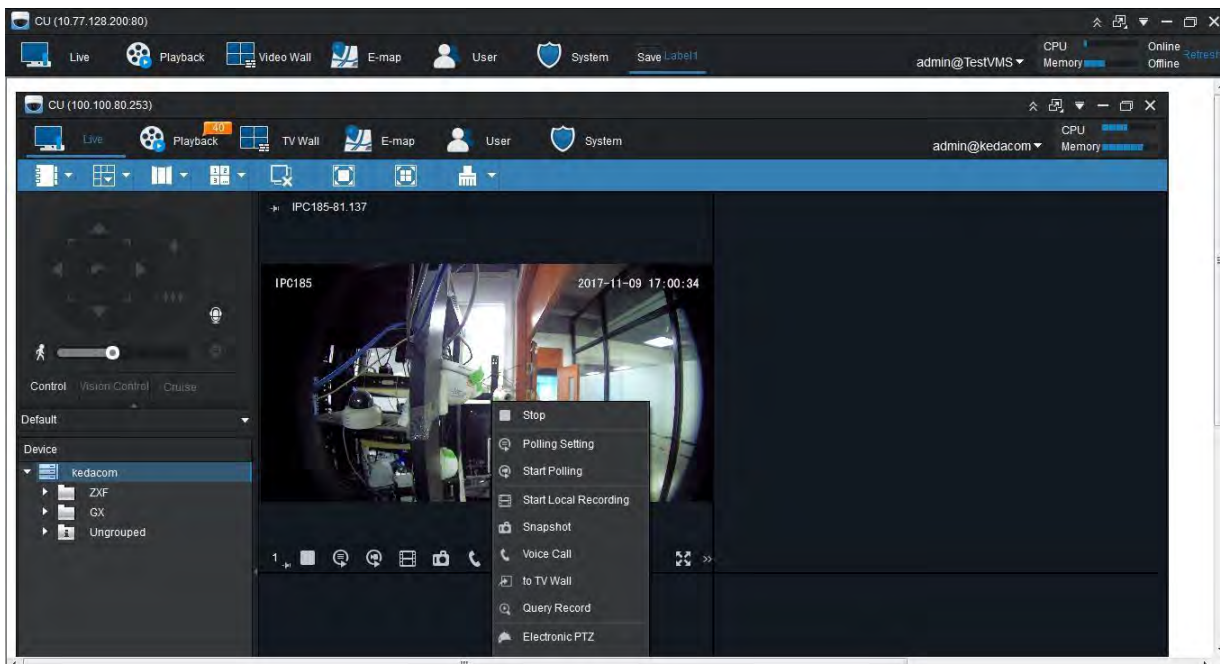
To create a tab:

- 1. Choose **System** >  > **Customized Label**.
- 2. Click **Create** to create a tab name.



3. Check **Enable**.
4. Specify parameters displayed under **Enable**.
5. Click **Save**.

After the preceding steps are performed, log out from the CU and log in to it again. Then you will find the newly added tab. The following is an example.



15 Abbreviations and Acronyms

ANR	automatic network replenishment
BOOTP	Bootstrap Protocol
CU	Client Unit
DDNS	Dynamic Domain Name System
DHCP	Dynamic Host Configuration Protocol
ePTZ	electronic PTZ
NAT	network address translation
NVR	Network Video Recorder
ONVIF	Open Network Video Interface Forum
OSD	on-screen display
PC	personal computer
PMC	Platform Management Client
RAID	redundant array of independent disks
RTSP	Real Time Streaming Protocol
UPnP	Universal Plug and Play
UUID	Universally Unique Identifier
VMS	Video Management System
WDR	wide dynamic range