HRLN (6/16/24 Channel DVR)

User Manual

H6HRLN

H16HRLN

H24HRLN

Version 1.0

Features and specifications are subject to change, please check www.specotech.com for firmware updates.

Notes

- Please read this user manual carefully to ensure that you can use the device correctly and safely.
- The contents of this manual are subject to change without notice.
- Do not install this device near any heat sources such as radiators, heat registers, stoves or other devices that produce heat.
- Do not install this device near water. Clean only with a dry cloth.
- Do not block any ventilation openings and ensure proper ventilation around the machine.
- Do not power off the device during normal recording operation.
- This machine is for indoor use only. Do not expose the machine to rain or install in a moist environment. In case any solid or liquid particles get inside the machine's case, please turn off the device immediately and get it checked by a qualified technician.
- Do not attempt to repair this device yourself.

Contents

1 Introduction

1.1 Welcome

Thank you for purchasing this DVR.

If technical assistance is needed, please contact Speco Technologies Technical Support.

Phone: 1-800-645-5516 option 3

Email: techsupport@specotech.com

1.2 Features

Basic Functions

- Supports network device access including IP camera/dome and ONVIF IP cameras
- This recorder supports H.265 and H.264 IP cameras
- Supports standard ONVIF protocol
- Supports dual stream recording of each camera
- Supports IP cameras to be added quickly or manually
- Supports collective or individual configuration of the cameras' OSD, video parameters, mask, motion and so on
- Supports a maximum of 8 user permission groups including Administrator, Advanced and Common which are the default permission groups of the system
- Supports a maximum of 16 users to be created, multiple web client login by using one username at the same time and the user's permission control to be enabled or disabled
- Supports multiple web client's login at the same time

Live View

- Supports 4K×2K/1920×1080/1280×1024 HDMI and 1920×1080/1280×1024 VGA high-definition synchronous display
- Supports multi-screen modes such as 1/4/6/8/16
- Supports auto adjustment of the camera's image display proportion
- Supports enabling or disabling of audio monitoring of a camera
- Supports manual snapshot of a camera
- Supports display modes to be added and saved and the saved modes can be recalled directly
- Supports quick tool bar operation of the preview window
- Supports scheme view in sequence, quick sequence view and sequence interval setting
- Supports motion detection and video mask
- Supports multiple popular PTZ control protocols and setup of preset and cruise
- Supports direct mouse control of the IP dome including rotating, zoom, focusing and so on
- Supports single camera image zoom by sliding the scroll wheel of the mouse

- Supports any area of the image to be zoomed in to a maximum of 16 times of the current size
- Supports image and lens adjustment (only available for some cameras)
- Supports quick camera adding in the camera window of the live view interface

Disk Management

- H16HRL/H24HRL supports 2 SATA HDDs
- H6HRL supports 1 SATA HDD
- Supports 1 e-SATA HDD
- Each SATA interface of the DVR supports HDDs with max 16TB storage capacity
- Supports disk group configuration and management and each camera can be added into different disk groups with different storage capacity
- Supports disk information and disk operating status viewing
- Supports formatting disks in batch

Recording Configuration

- Supports main stream and sub stream recording at the same time and collective or individual configuration of the record stream
- Supports manual and auto record modes
- Supports schedule recording, sensor alarm recording and motion detection recording, etc
- Supports schedule recording and event recording setting with different record streams
- Supports record schedule setting and recycle recording
- Supports prerecording and delay recording configuration of event recording

Recording Playback

- Supports time scale operation in quick playback and the playback date and time can be set randomly by scrolling the mouse; the time interval of the time scale can be zoomed
- Supports record searching by time slice/time/event/tag
- Supports time view and camera view in searching by EZ mode
- Supports EZ search by month, by day, by hour and by minute and time slice to be displayed with camera thumbnail
- Supports a maximum of 16 cameras to be searched by time
- Supports event search by manual/motion/sensor/intelligent events
- Supports bookmark search by the manual added bookmarks
- Supports instant playback of the selected camera in the live view interface
- Supports a maximum of 16 synchronous playback cameras
- Supports acceleration(maximum 32 times of the normal speed), deceleration (minimum 1/32 times of the normal speed) and 30s' addition or reduction to current playing time

Record Export

- Supports recording export through USB (U disk, mobile HDD).
- Supports recording export by time/event/image search
- Supports cutting of recording for exporting while playing back
- Supports a maximum of 10 export tasks in background and export status viewing

Alarm Management

- Supports alarm schedule setting
- Supports enabling or disabling of the motion detection, external sensor alarm input, intelligence alarm and exception alarms including IP address conflict alarm, disk IO error alarm, disk full alarm, no disk alarm, illegal access alarm, network disconnection alarm, IPC offline alarm and so on, alarm trigger configuration supportable
- Supports IPC offline alarm trigger configuration of PTZ, snapshot, pop-up video, etc.
- Supports event notification modes of alarm-out, pop-up video, pop-up message box, buzzer, e-mail and so on
- Captured images can be attached into an e-mail when alarm linkage is triggered
- Supports alarm status view of alarm-in, alarm-out, motion detection and exception alarm
- Supports manual alarm triggering and clearing
- Supports system auto reboot when an exception happens

Network Functions

- Supports TCP/IP and PPPoE, DHCP, DNS, DDNS, UPnP, NTP, SMTP protocol and so on
- Supports allow and block list function and the allow and block IP address/IP segment address can be set
- Supports multiple browsers including IE8/9/10/11, Firefox, Opera, Chrome (available only for the versions lower than 45) and Safari in MAC system
- Supports remote achievement, configuration, import and export of the DVR parameters and other system maintenance operations including remote upgrading and system restart
- Supports remote camera configuration of the DVR including video parameters, image quality and so on
- Supports remote search, playback and export of the DVR
- Supports manual alarm triggering and clearing
- A motorized zoom camera can be adjusted through web client (Supports zoom in/out, but one key focus is not currently supported)
- Supports NAT function and QRCode scanning by mobile phone andTablet
- Supports mobile surveillance by phones or Tablets with iOS or Android OS
- If one camera recording is enabled or disabled manually through web client, it will be simultaneously enabled or disabled in the DVR

Other Functions

- The DVR can be controlled and operated by the buttons on the front panel (where applicable), the remote control and the mouse
- Setting interfaces can be switched to one another conveniently by clicking the main menus on the top of the setting interfaces
- Supports DVR information viewing including basic, camera status, alarm status, record status, network status, disk and export status
- Supports factory restoring, import and export of the system configuration, log view and export and local upgrading by USB mobile device
- Supports auto recognition of the displayer's resolution
- You can click the right mouse button at any interface to go back to the main interface
- You can click the mouse wheel at any interface to go to the live view interface
- The display language and video format of the DVR will not be changed and the system logs will be reserved if you reset the DVR to factory default
- Press and hold the right mouse button for 5 seconds in any interface to switch the output

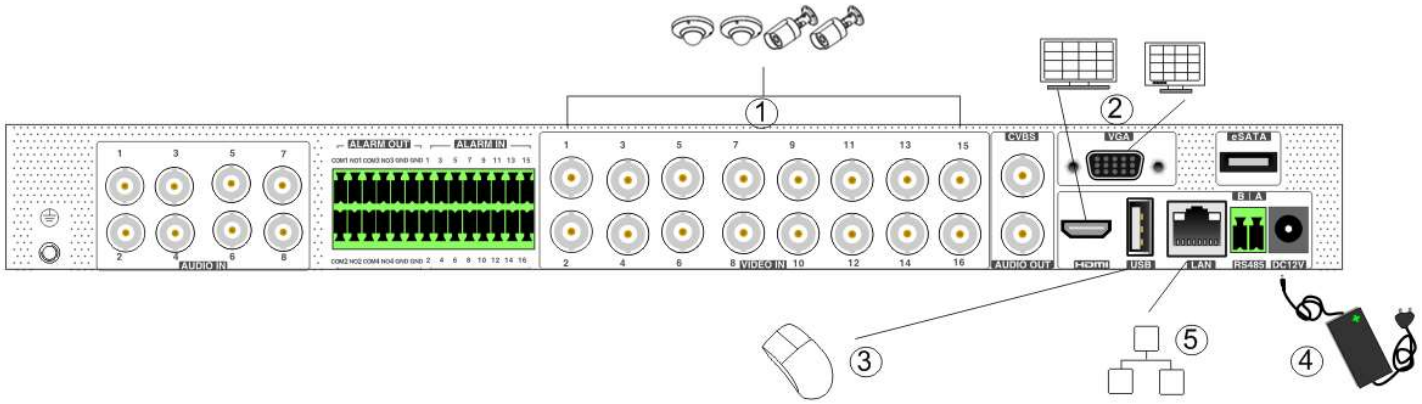
1.3 Front Panel Descriptions

The following descriptions are for reference only.

Name	Descriptions
REC	When recording the light is blue
Net	When you have access to a network the light is blue
Power	Power indicator: when powered the light is blue

1.4 Rear Panel Descriptions

To quickly get started, connect the following to your recorder in the following order. Please refer to the following figure (H24HRL shown for reference).



1. Connect analog cameras to the video input ports (BNC) of the recorder.

2. Connect a monitor to the recorder via VGA or HDMI cable (not included).

3. Connect the included optical mouse into any USB port of the recorder.

4. Connect the power adapter to the recorder and plug power cord into a 120VAC 50/60Hz outlet.

5. Connect recorder to network (optional, but necessary if you plan to use IP cameras or connect to recorder remotely)

1.5 Connections

- **Video Connections**

Video Input：Supports BNC video input.

Video Output: Supports CVBS/VGA/HDMI video output. You can connect to a monitor through these video output interfaces simultaneously or independently.

- **Audio Connections**

Audio Input: Connect to microphone, pickup, etc.

Audio Output: Connect to headphone, sound box or other audio output devices.

2 Basic Operation Guide

2.1 Startup & Shutdown

Please make sure all the connections are done properly before you power on the unit. Proper startup and shutdown are crucial to extendingthe life of your device.

2.1.1 Startup

① Connect the output display device to the VGA/HDMI interface of the DVR.

② Connect to the mouse and power. The device will boot and the power LED will turn blue.

③ EZ setup window will pop up (you should select the display language the first time you use the DVR). Refer to 3.1 EZ Setup for details.

2.1.2 Shutdown

You can power off the device by using remote control or mouse.

By remote control:

① Press Power button. This will take you to a shutdown window. The unit will power off after a while by clicking the “OK” button.

② Disconnect the power.

By mouse:

① Click Start→Shutdown to pop up the Shutdown window. Select “Shutdown” in the window. The unit will power off after a while by clicking the “OK” button.

② Disconnect the power.

2.2 Remote Control

① It uses two AAA size batteries.

② Open the battery cover of the remote control.

③ When adding batteries check for the polarity (+ and -).

④ Replace the battery cover.

Key points to check in case the remote doesn’t work.

1. Check battery polarity.

2. Check the remaining charge in the batteries.

3. Check IR controller sensor for any obstructions.

If it still doesn’t work, please contact your distributor or Speco Technologies’ tech support. You can just turn the IR sensor of the remote control towards the IR receiver of the DVR to control it when you are controlling multiple devices by remote control.

The remote control interface is shown on the following page.

Button	Function
Power Button	Switch off—to stop the device
Record Button	To start recording
-/-- /0-9	Input number or choose camera
Fn1 Button	No function temporarily
Multi Button	To choose multi screen display mode
Next Button	To switch the live image
SEQ	To go to sequence view mode
Audio	To enable audio output in live mode
Switch	No function temporarily
Direction button	To move cursor in setup or pan/title PTZ
Enter Button	To confirm the choice or setup
Menu Button	To go to menu
Exit Button	To exit the current interface
Focus/IRIS/Zoom/PTZ	To control PTZ camera
Preset Button	To enter into preset setting in PTZ mode
Cruise Button	To go to cruise setting in PTZ mode
Track Button	No track function temporarily
Wiper Button	No function temporarily
Light Button	No function temporarily
Clear Button	No function temporarily
Fn2 Button	No function temporarily
Info Button	Get information about the device
	To control playback. Play (Pause)/Stop/Previous Frame/Next Frame/Speed Down/Speed Up
Snap Button	To take snapshots manually
Search Button	To go to search mode
Cut Button	No function temporarily
Backup Button	To go to backup mode
Zoom Button	To zoom in the images
PIP Button	Not active

2.3 Mouse Control

- **Mouse control in Live Display & Playback interface**

In the live display & playback interface, double click on any camera window to show the window in single screen mode; double click the window again to restore it to the previous size.

In the live display & playback interface, if the interface display is in full screen, move the mouse to the bottom of the interface to pop up a tool bar. The tool bar will disappear automatically after you move the mouse away from it; move the mouse to the right side of the interface to pop up a panel and the panel will disappear automatically after you move the mouse away from it.

- **Mouse control in text-input**

Move the mouse to the text-input box and then click the box. The input keyboard will pop up automatically.

Note: Mouse is the default tool for all operations unless an exception as indicated.

2.4 Text-input Instruction

The system includes two input boxes. Refer to the above pictures. The left box is the number input box and the right box is the input box which provides inputs of numbers, letters and punctuation characters. The legend of input box keys is shown below.

Button	Meaning	Button	Meaning
	Backspace key	#?!	Switch key of punctuation character
DEL	Delete Key		Enter key
	Switch key between upper and lower letter		Space key
EN/CN	Switch key of language		

2.5 Common Button Operation

Button	Meaning
	Click to show the menu list.
	Click to change the sequence of the list.
	Click to change the camera display mode.
	Click to close the current interface.
Earliest	Click to go to the earliest date of camera recording.
Latest	Click to go to the latest date of camera recording.

3 EZ Setup & Main Interface

3.1 EZ Setup

The disk icons will be shown on the top of the startup interface. You can view the number and status of each disk quickly and conveniently through these icons (: no disk; : unavailable disk; : RW available disk).

You must configure the wizard if you start the DVR for the first time (or click “Skip” to cancel the EZ Setup next time).

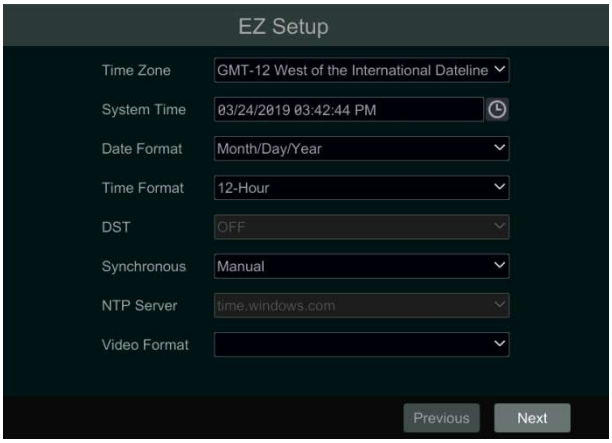
The first time you start up your DVR, you should choose the language and locality as needed. After that, you will configure date and time.

System Time: Set the time and date format of the system

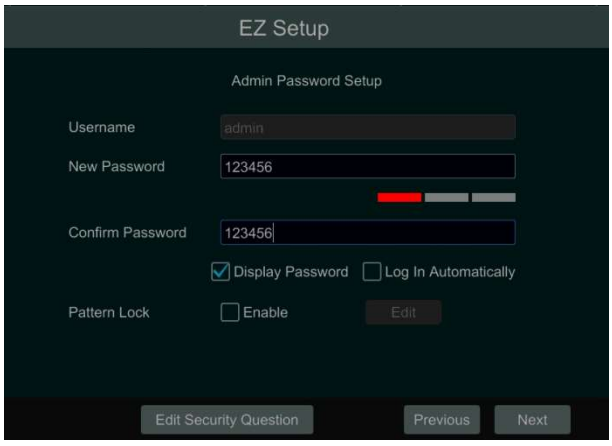
DST: Toggle Daylight Saving Time On or Off

Time format: Choose between 24-hour mode and 12-hour mode.

NTP: Specify an NTP server to synchronize the time (optional).

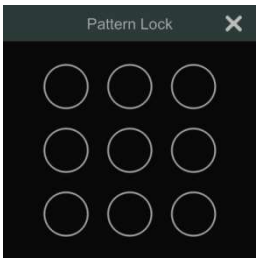


Click “Next” to continue.



System Login. Set your own password when you use the wizard for the first time; select the login username and enter the corresponding password next time.

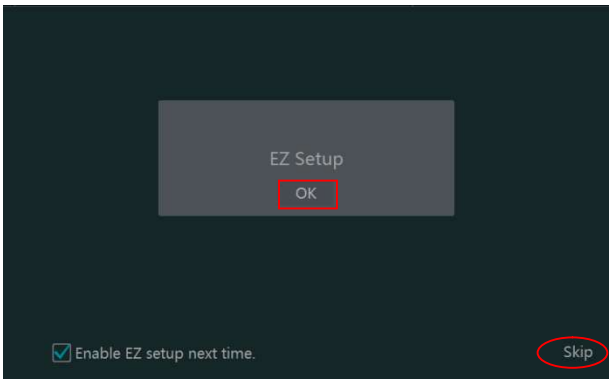
Enable pattern lock and click “Edit” to set the pattern lock.



Click “Edit Security Question” to set questions and answers for password security of admin. If you forget the password, please refer to Q4 in Appendix A FAQ for details.

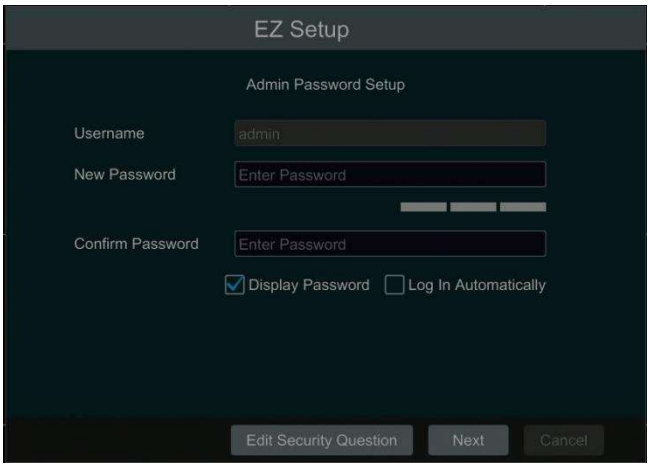
Click “Next” to continue.

After you log in, you will see an EZ setup interface as shown below.



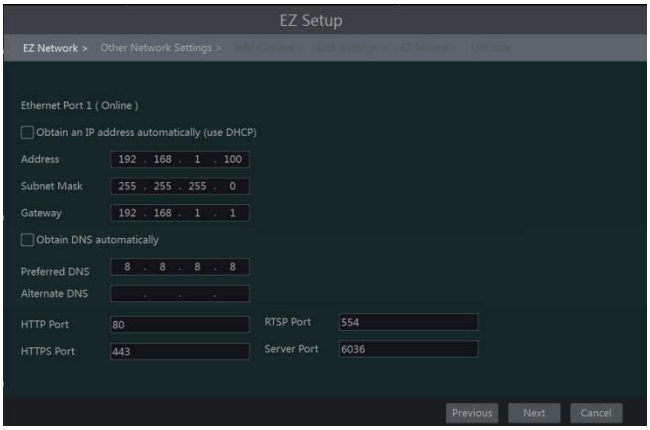
Click “OK” to start wizard. The EZ Setup steps are as follows.

① ***System Login***. Set your own password when you use the wizard for the first time (the default username of the system is ***admin***); select the login username and enter the password you set by yourself.



Click “Next” to continue or click “Cancel” to exit the wizard.

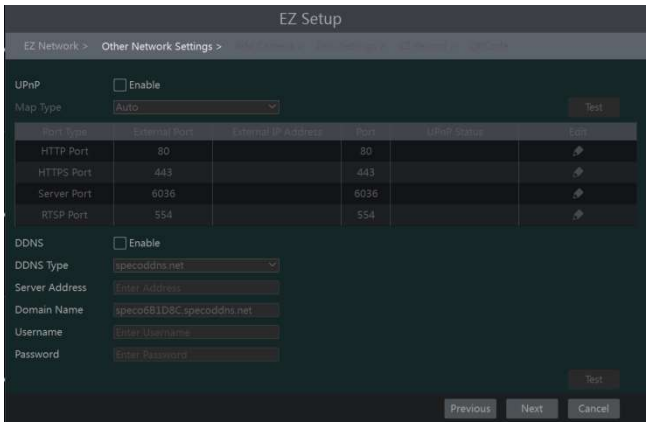
② ***Network Settings***. Select the network configuration as required. Check “Obtain an IP address automatically” and “Obtain DNS automatically” to get the IP address and DNS automatically (the DHCP function of the router in the same LAN should also be enabled), or manually enter them. Enter the HTTP port, RTSP port and Server port (please see 12.1.2 Port Configuration for details). Click “Next” to continue.



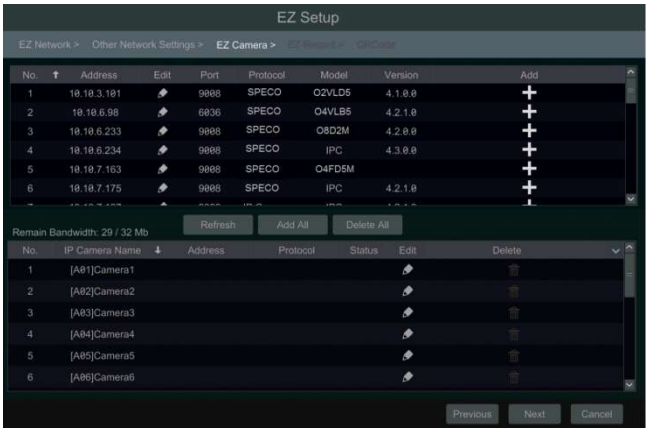
③ ***Other Network Settings.***

- UPnP settings: Check “Enable” in the interface and enter the external port and then click “Test”. If the UPnP status is “Invalid UPnP”, the port number may be wrong. Click  to modify the port until the UPnP status turns to “Valid UPnP”. Refer to the following picture. You can view the external IP address of the DVR. Enter the external IP address plus port in the address bar of your browser to access the DVR. (Please see 11.1.6 UPnP Configuration for details).
- DDNS Settings: Check “Enable” and then select the DDNS type. Enter the server address, domain name, username, and password according to the selected DDNS type and then click “Register” or “Test” to test the effectiveness of the domain name. If it is effective, you can enter the domain name in the address bar of your browser to access the DVR. (Please see 11.1.4 DDNS Configuration for details).

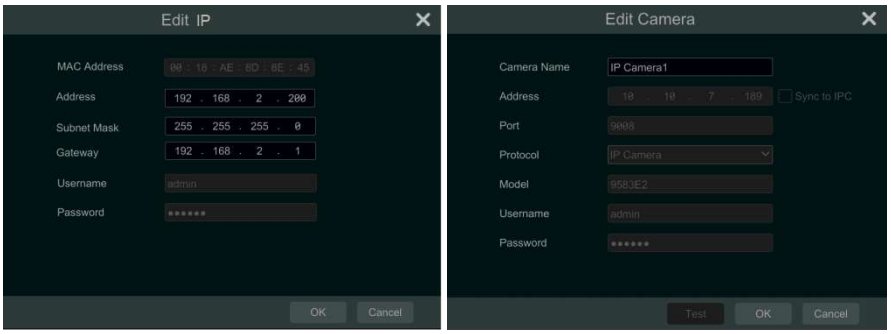
Note: Make sure the router supports UPnP function and the UPnP is enabled in the router. Set the DVR’s IP address, subnet mask and gateway and so on corresponding to the router.



④ ***Add Camera***.To add cameras from the LAN, make sure all cameras are set to DHCP. Click “Refresh” to refresh the list of online IP cameras which are in the same local network with DVR and then click  to add the searched camera. Click “Add All” to add all the cameras in the list. Click  to delete the added camera. Click “Delete All” to delete all the added cameras.



Click  to edit the searched IP camera as shown below left. Enter the new IP address, subnet mask, gateway, username, and the password of the camera. You can check “Sync to IPC” to modify the IP address of the IPC via different network segments for being in the same network segment with the DVR. Click “OK” to save the settings.



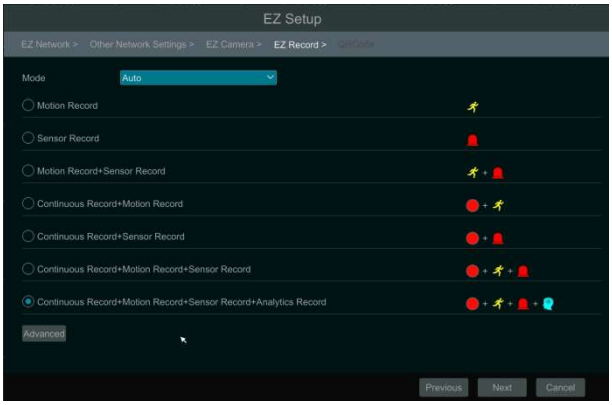
Click  to edit the added camera as shown above right. Enter the new camera name, IP address, port, username, and the password of the

camera. You can click “Test” to test the effectiveness of the inputted information. Click “OK” to save the settings. You can change the IP camera name only when the added camera is online. Click “Next” to continue.

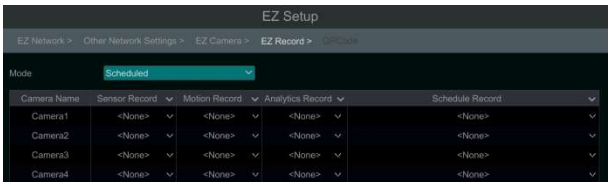
⑤ ***Disk Settings.*** You can view the disk number, disk capacity of the DVR and serial number, R&W status of the disk. Click “Formatting” to format the disk. Click “Next” to continue.

⑥ ***Record Settings***. Two record modes are available: auto and scheduled.

Auto: Select one auto mode in the interface as shown below and then click “Next” button to save the settings. Click “Advanced” to self-define record mode. See 7.1.1 Mode Configuration for details.



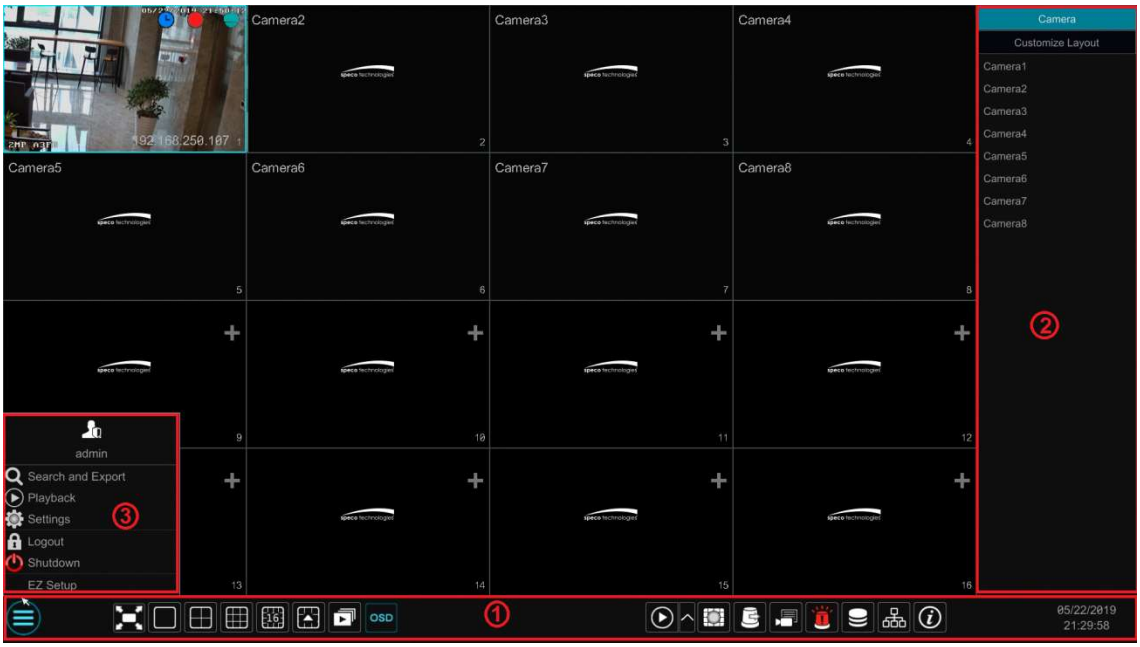
Scheduled: Set the “Sensor Record”, “Motion Record” and “Schedule Record” of each camera. Click “OK” to save. See 7.1.1 Mode Configuration for details.



⑦ ***QRCode.*** Enable the NAT function in the interface or set it in the network configuration after exiting the wizard (please refer to 11.1.8 NAT Configuration for details). You can scan the QRCode through the Speco Blue App available for iOS and Android to easily and securely view your cameras. Please refer to 12.1 Mobile Client Surveillance for details. Click “OK” to save the settings.

3.2 Main Interface

3.2.1 Main Interface Introduction



The buttons in area ① are introduced in the table below.

Button	Meaning
	Start button. Click to pop up area ③.
	Full screen button. Click to show full screen; click it again to exit the full screen.
	Screen mode button.
	Sequence button (see 5.2.2 Quick Sequence View and 5.2.4 Scheme View in Sequence for details).
	Click to enable OSD; click again to disable OSD.
	Click to set the default playback time before starting instant playback (8.1 Instant Playback) or going to the playback interface for playback operations (8.2 Playback Interface Introduction); click to go to the playback interface. For instance, if you choose “5 minutes ago” as the default playback time, you can playback the recording from the past five minutes.
	Manual record button. Click to enable/disable record.
	Manual alarm button. Click to trigger or clear the alarm-out manually in the popup window.
	Record status button. Click to view the record status.
	Alarm status button. Click to view the alarm status.
	Disk status button. Click to view the disk status
	Network status button. Click to view the network status.
	Information button. Click to view system information.

Introduction of area ②:

Click “Camera” to view all the added cameras in the camera list. Select one camera window on the left side of the interface and then double click

one camera in the list to preview the camera image in the selected window.

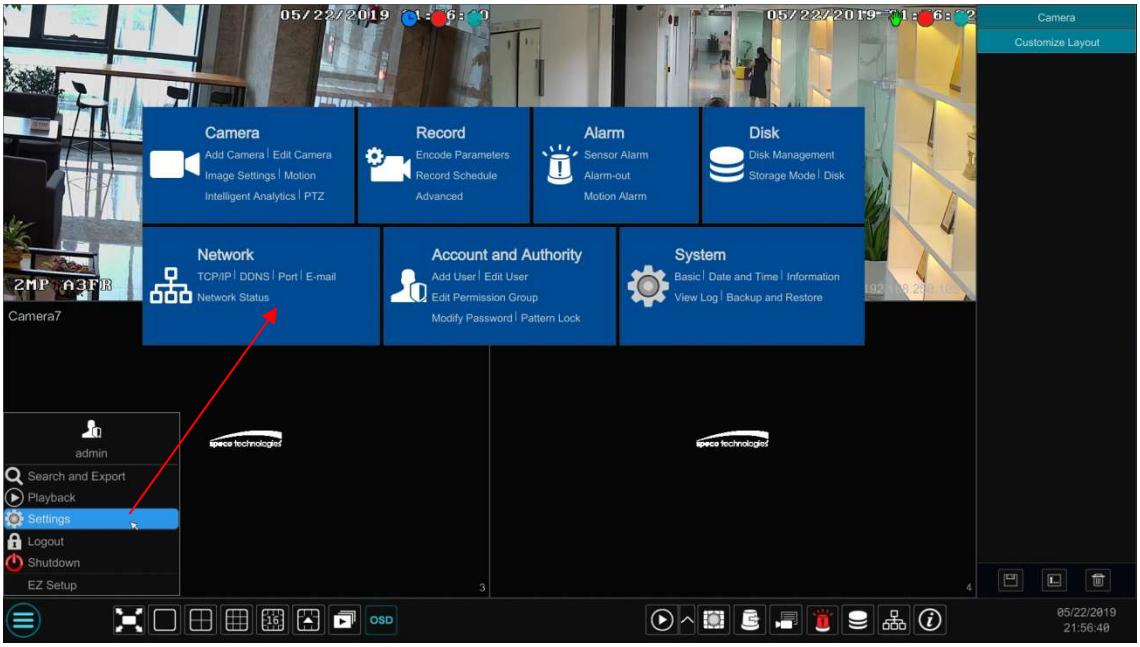
Click “Customize Layout” to view all the display modes in the display mode list (refer to 5.2.1 Display Mode for detailed configuration of the display mode). Double click one display mode in the list to switch to the display mode for previewing.

Introduction of area ③:

Icon / Button	Meaning
admin	Shows the current login user.
Search and Export	Click to go to recording search and export interface, see 8.4 Record Search, Playback & Export for details.
Playback	Click to go to playback interface (click on the tool bar at the bottom of the live view interface to set the default playback time), see 8.2 Playback Interface Introductionfor details.
Settings	Click to pop up the setup panel, see 3.2.2 Setup Panel for details.
Logout	Click to log out the system.
Shutdown	Click and then select “Logout”, “Reboot” or “Shutdown” in the popup window.
EZ Setup	Click to go to the EZ setup.

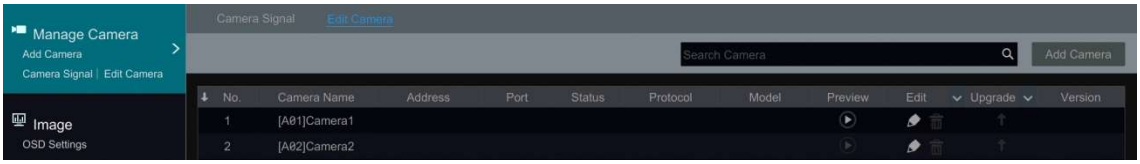
3.2.2 Setup Panel

Click Start→Settings to bring up the setup panel as shown below.

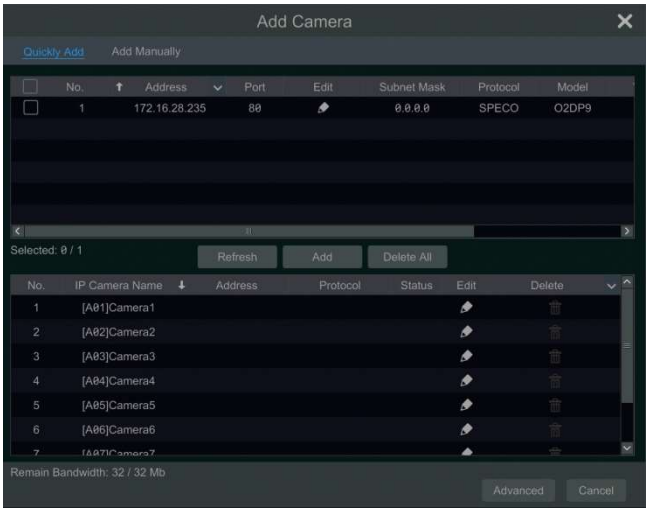


The setup panel includes seven modules. Each module provides some function entries with links for convenient operation.

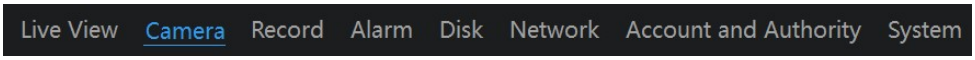
Here we take ***Camera*** module as an example. The ***Camera*** module provides convenient links such as “Add Camera”, “Edit Camera”, “Image Settings”, “Motion”, “Intelligence Analytics” and “PTZ”. Click ***Camera*** to go to the camera management interface as shown below.



There are some function items on the left side of the camera management interface. Click each item to go to corresponding interface or window. For instance, click “Add Camera” to pop up the window as shown below.



Click the main menus on the top of the camera management interface to go to corresponding interfaces. Refer to the picture below. For instance, you can go to the system setup interface by clicking “System” tag.



3.2.3 Main Functions

- **Camera**

This module covers functions such as ***Camera Management*** (see Chapter 4 Camera Management for details), ***Image Settings*** (see 5.3 Image Configuration for details), ***Motion*** (see 9.2.1 Motion Configuration for details), and ***PTZ*** (see Chapter 6 PTZ for details) and so on.

- **Record**

This module covers functions such as ***Encode Parameters*** and ***Record Schedule*** and so on. Please see Chapter 7 Record & Disk Management for details.

- **Alarm**

This module covers functions such as ***Sensor and Motion Alarm Handling*** and ***Alarm Out Settings***. Please see Chapter 9 Alarm Management for details.

- **Disk**

This module covers functions such as ***Disk Management***, ***Storage Mode*** and ***Disk Information*** and so on. Please see Chapter 7 Record & Disk Management for details.

- **Network**

This module covers functions such as ***TCP/IP***, ***DDNS***, ***Port***, ***E-mail*** and ***Network Status*** and so on. Please see 11.1 Network Configuration for details.

- **Account and Authority**

This module covers functions such as ***Account Management*** (see 10.1 Account Management for details) and ***Permission Management*** (see 10.3 Permission Management for details) and so on.

- **System**

This module covers functions such as ***Basic Configuration*** (see 11.2 Basic Configuration for details), ***Device Information*** (see 11.8 View System Information for details), ***Log Information*** (see 11.7 View Log for details) and ***Configuration File Import&Export*** (see 11.5 Backup and Restore for details) and so on.

4 Camera Management

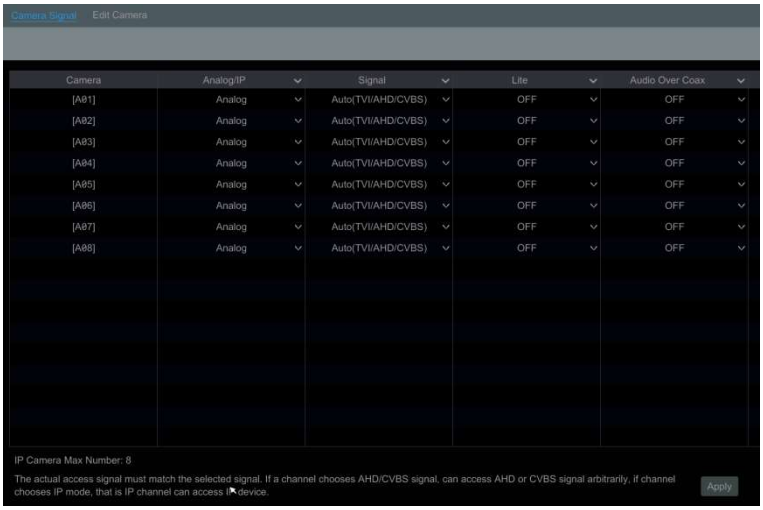
4.1 Camera Signal

Click Start→Settings→Camera→Manage Camera→Camera Signal to go to the interface as shown below.

Some models may support switching analog signals to IP signals, which means decreasing (or increasing) the number of analog channels will accordingly increase (or decrease) the number of IP channels.

The DVR supports hybrid access of TVI, and CVBS high-definition cameras. If the TVI high-definition camera is attached to the DVR, you should select TVI/CVBS in the following interface to show the camera image normally; if you select AHD/CVBS, then there will be no image or the image will have no color. The default selection of the camera signal is Auto. If you select Auto, the image of the camera will be shown normally regardless of the camera type.

Audio over Coax: if your analog camera supports coaxial audio transmission, you can select "ON". For now, coaxial audio transmission is only available for TVI output.



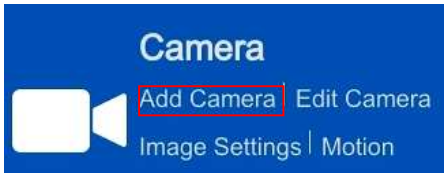
Note: You can enable "Lite" in the interface if the DVR supports "Lite" recording. It will lower the recording resolution and increase the recording frame rate. Please enable or disable the Lite function as needed.

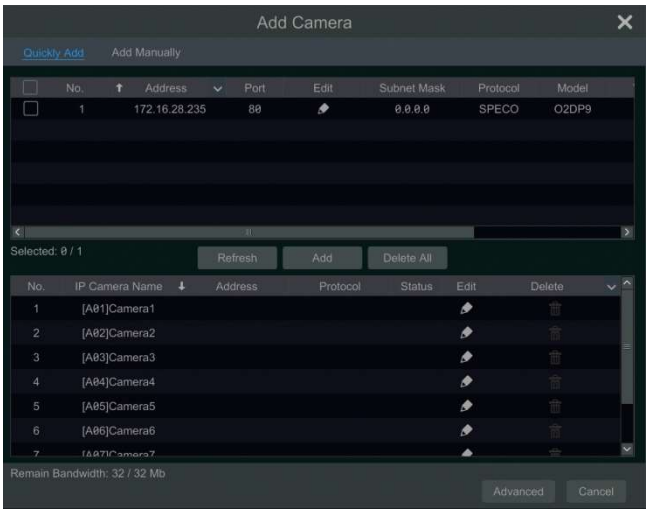
4.2 Add/Edit Camera

4.2.1 Add Camera

The network of the DVR should be configured before adding IP cameras (see 12.1.1 TCP/IP Configuration for details).

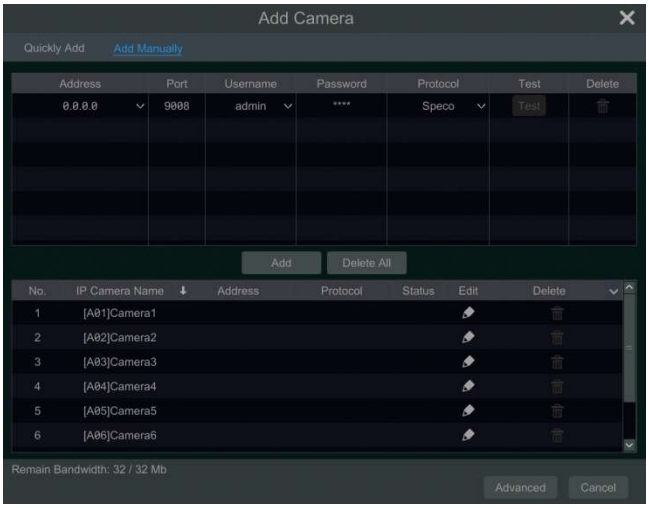
Refer to the pictures below. Click ***Add Camera*** in the setup panel or  in the top right corner of the preview window to pop up the "Add Camera" window as shown below. You can quickly add or add the IP camera manually.





➢ **Quickly Add**

Check the cameras and then click “Add” to add cameras. Click to edit the camera’s IP address, username, and password and so on. Click “Default Password” to set the default username and password of each camera.



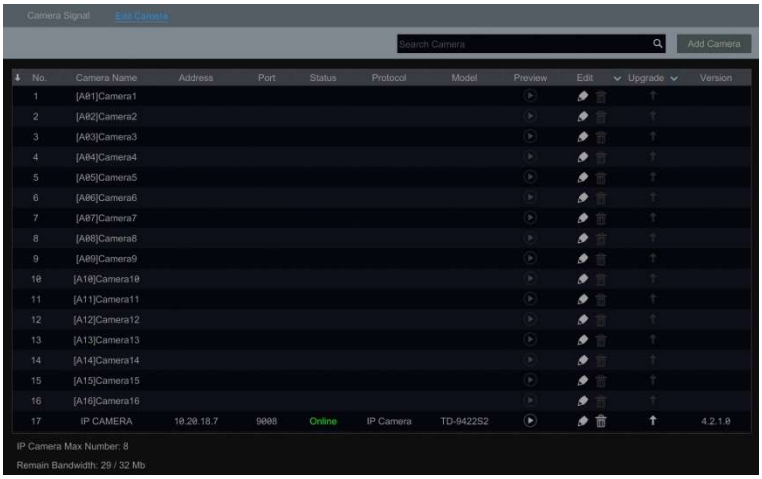
➢ **Add Manually**

Enter the IP address or domain name (click in the IP address column to pop up the domain name input window, enter the domain name of the IPC in the window and then click “OK” button), port, username and password of the camera and then select the protocol. Click “Test” to test the effectiveness of the input information and then click “Add” button (you can input one camera’s information or above such as IP address, username, and password before clicking “Add” button). Click to delete the camera. Click “Default Password” to set the default username and password of each camera.

4.2.2 Edit Camera

Click “Edit Camera” in the setup panel to go to the interface as shown below. Click to view the live image of the camera in the popup window. Click to edit the camera (see ***Add camera*** in 3.1 Startup Wizard for details). Click to delete the camera. Click in the “Operation”

header line and then click “Modify IPC Password” to pop up a window (check the IPCs in the window, set the new password and then click “OK” button; only the online IPCs passwords can be modified, though a batch of IPCs passwords can be modified at the same time). Click to upgrade an online IPC (or click in the “Upgrade” header line and then click “IPC Batch Upgrade” to upgrade a batch of IPCs), select the device which stores the upgrade file in the “Device Name” item of the popup window and the upgrade file in the list(you should select the upgrade IPC model in the window if a batch of IPCs’ passwords need to be modified) and then click “Upgrade” button to start upgrading(the IPC will restart automatically after the upgrade is completed successfully).

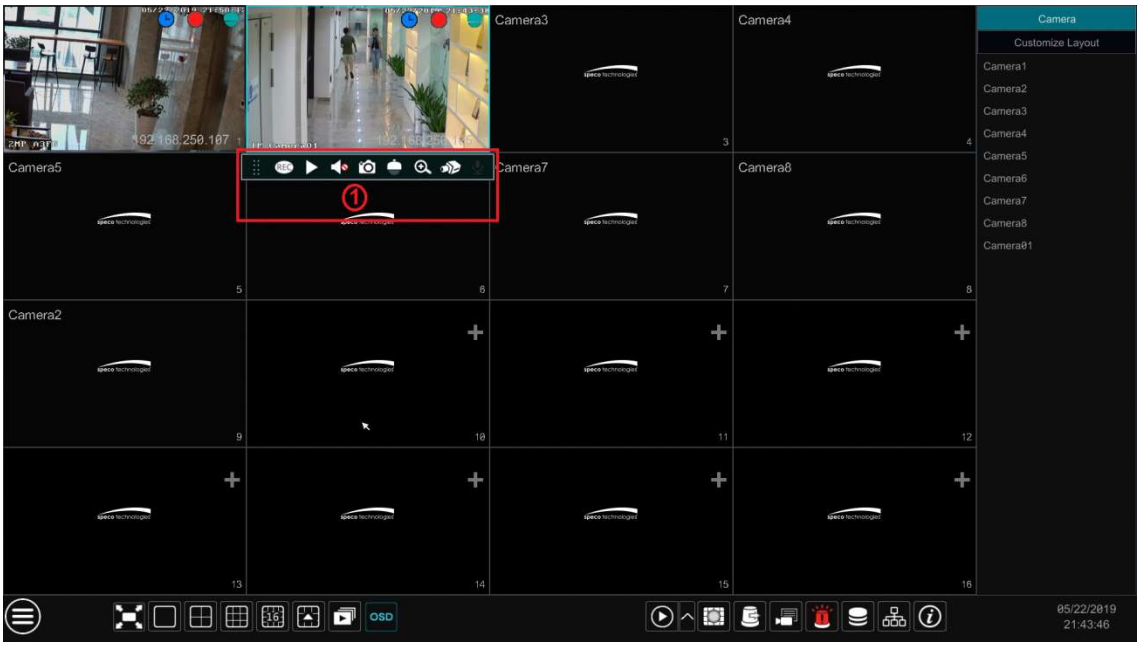


5 Live View Introduction

5.1 Live View Interface Introduction

As shown in the interface below, you can drag one camera in the preview window to another window to exchange preview location in the grid.

The recording symbols with different colors in the live view window refer to different recording types when recording: green stands for manual recording, red stands for sensor based recording, yellow stands for motion based recording, blue stands for schedule recording and cyan stands for intelligent recording.



Click the preview window to show the tool bar as shown in area ①; right click the preview window to show the menu list. The tool bar and menu list are introduced in the table below.

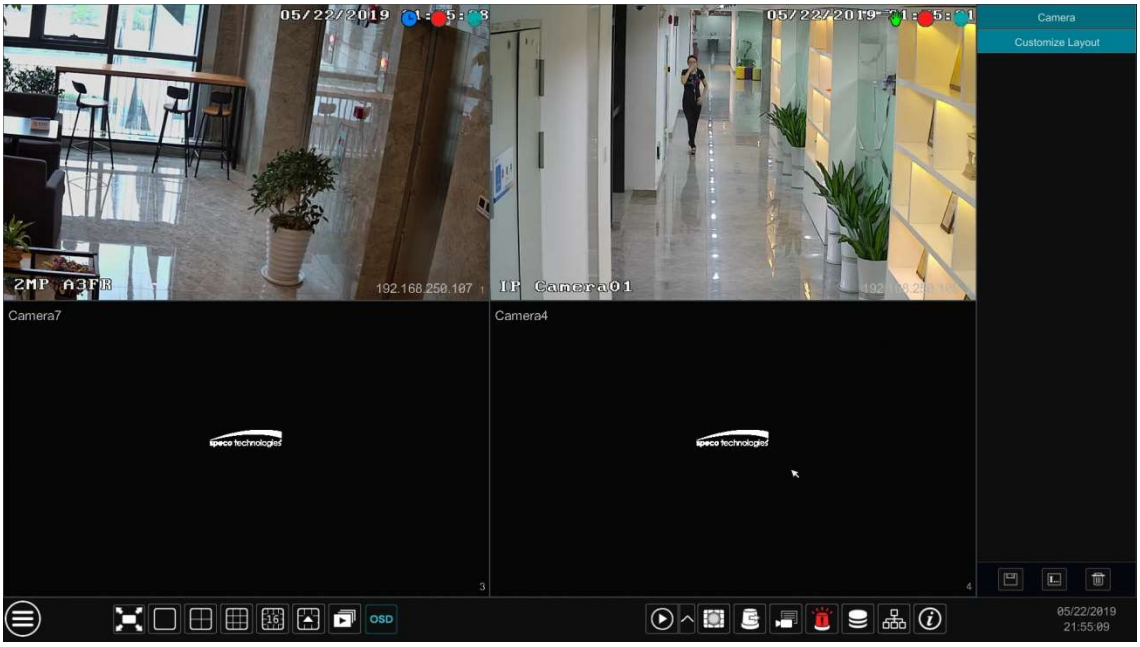
Button	Menu List	Meaning
	--	Move tool. Click to move the toolbar anywhere.
	Manually Record On	Click to start recording.
	Instant Playback	Click to playback the recording; click "Instant Playback" to select or self-define the instant playback time. See 8.1 Instant Playback for details.
	Enable Audio	Click to enable audio. You can listen to the camera audio by enabling audio.
	Snap	Click to pop up the snap window. Click "Save" in the window to save the image. Click "Export" to export the image.
	PTZ Control	Click to go to PTZ control interface. See Chapter 6 PTZ for details.
	Zoom In	Click to go to single channel zoom interface.
	--	Click to go to image adjustment interface. Refer to 5.4.5 Image Adjustment for details.
--	**Camera Info**	Click to view the camera information.

The single channel zoom interface is as shown below. Press and drag the blue box to select the zoom in area. Click / to zoom the image. Click the camera selection box to select other cameras for magnification. Click “Back” to return to the live view interface.

5.2 View Mode

5.2.1 Display Mode

Set different screen modes and cameras’ display sequences as needed and then save the display modes classified by surveillance areas, priorities and so on. Refer to the picture below. Double click one display mode in the display mode list to view the live images in this mode.



➢ **Add Display Mode**

Method One:

① Click “Customize Display Modes” in the above interface and then set the screen mode.

② Add the cameras and adjust the cameras' display sequence as needed.

③ Click  under the display mode list and then enter the display mode name in the popup window, click the "OK" button to save the current display mode.

Method Two:

① Click Start→Settings→System→Basic→Output Settings to go to the interface and then set the screen mode.

② Double click the camera or camera group in the list to add them to the selected window.

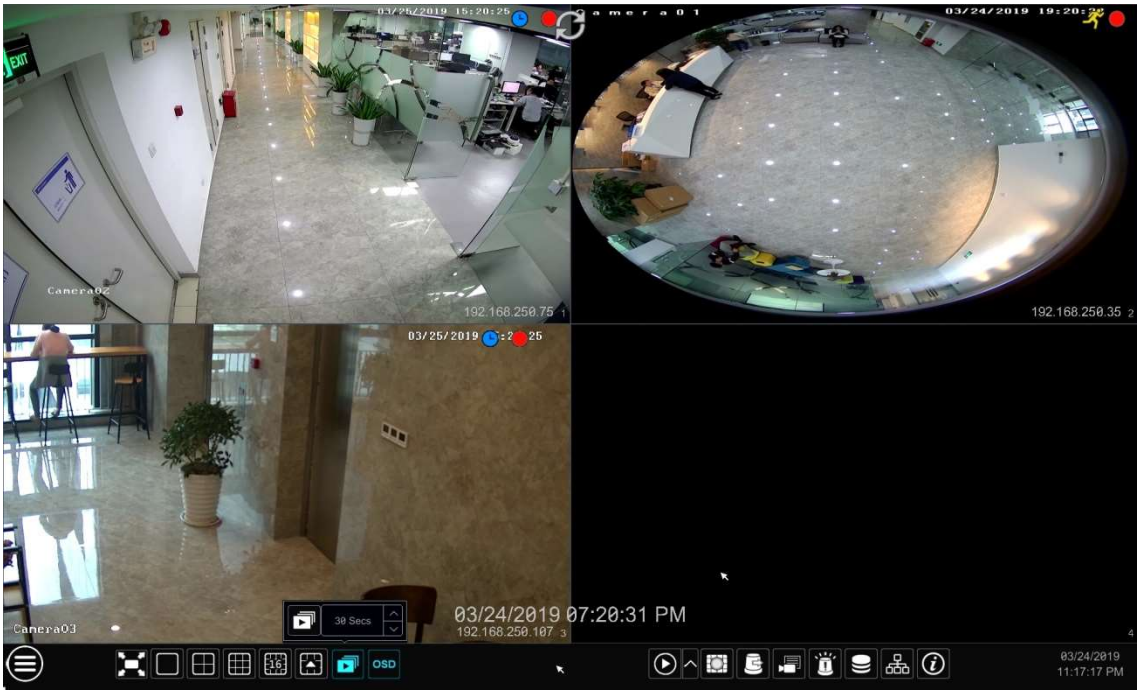
③ Click  to save the current display mode (refer to 5.2.4 Scheme View In Sequence for detail configurations). The display mode will be saved and displayed in the display mode list in the live view interface.

➢ **Edit Display Mode**

Click "Customize Layout" tab in the live view interface and then select one display mode in the list. Click  to edit the display mode name; click  to delete the display mode.

5.2.2 Quick Sequence View

You can start quick sequence view if the scheme has not been created. If the scheme has been created, please refer to 5.2.4 Scheme View in Sequence for details.



Go to the live view interface and then click  to pop up a small window. Set the dwell time in the window and then click  to view the live group by group according to the camera number of the current screen mode. Double click the sequence view interface to pause the view; double click again to restore the view. Click  to stop the view.

5.2.3 Scheme View In Sequence

Click Start→Settings→System→Basic→Output Settings to go to the interface as shown below.

Area ① displays all the sequence schemes; area ② shows the detailed information of the scheme; area ③ displays all the cameras and groups; area ④ is the tool bar (: clear button; : favorite button, click it to pop up a window, enter the display mode name in the window and then click "OK" to save the current display mode; other buttons are screen mode buttons).

➢ **Add Scheme**

Click in area ① to create a new scheme. Click on the top right corner of the scheme to delete it.

➢ **Configure Scheme**

a) Select a scheme in area ① and then click the screen mode button on the tool bar to set the screen mode of the scheme.

b) Select a camera window in area ② and then double click the camera or group in area ③. The camera or group will be added into the selected window. One camera in the same scheme cannot repeat. You can click the right-click menu "Clear" in area ② to remove a single camera or click to remove all the cameras.

c) Click "Apply" to save the settings.

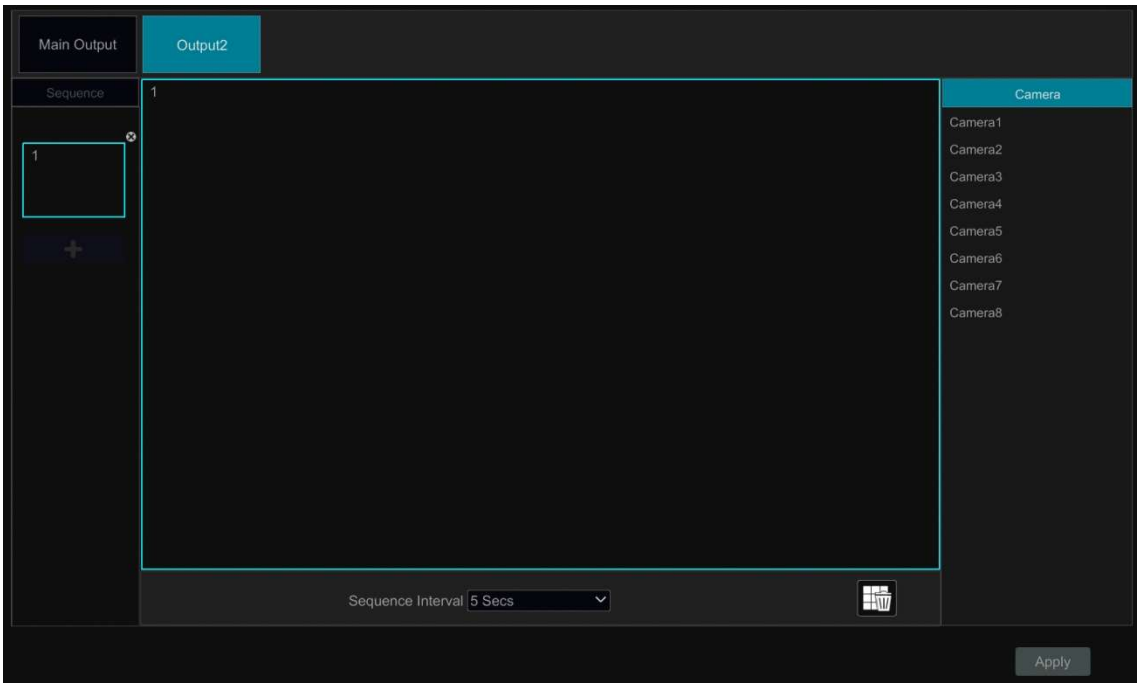
➢ **Start Sequence View**

Go to the live view interface and then click to open a window. Set the sequence interval in the window and then click to start scheme view in sequence. Double click the sequence view interface to pause the view; double click again to restore the view. Click to stop the view.

5.2.4 Spot View

Click Start→Settings→System→Basic→Output Settings→Output 2 to go to the interface as shown below.

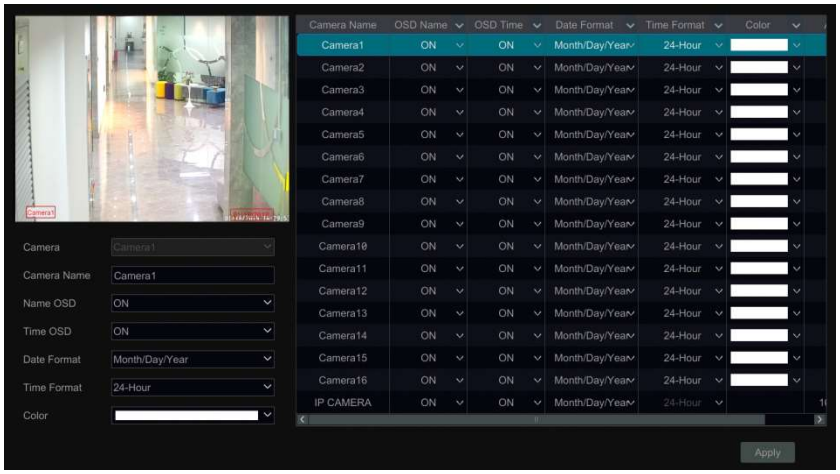
Click  on the left to create a new scheme. Each scheme can only add one analog camera. Select a scheme on the left and then double click or drag a camera on the right to the scheme window in the middle of the interface. After finishing the settings of all the schemes, select the sequence interval and click “Apply” to start playing the schemes in sequence in output 2.



5.3 Image Configuration

5.3.1 OSD Settings

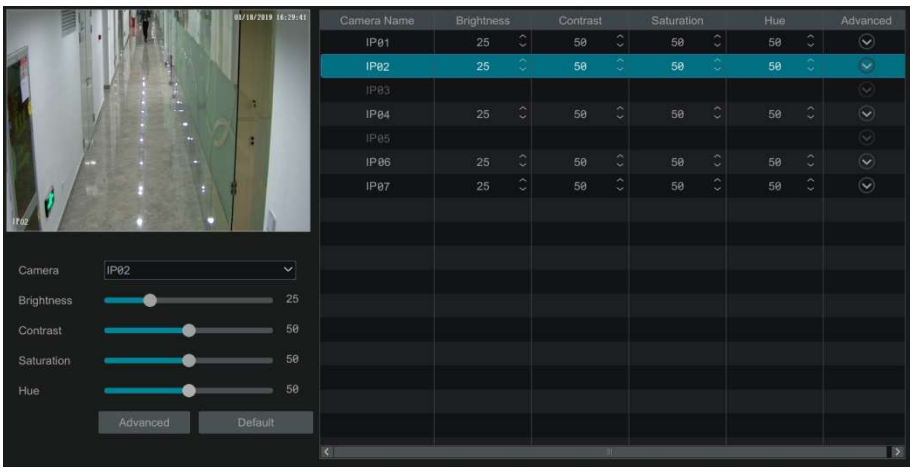
Click Start→Settings→Camera→Image→OSD Settings to go to the interface as shown below. Select the camera, enter the camera name (or double click the camera name in the camera list to change the camera name), enable or disable the name and time OSDs (if enabled, drag the red name and time OSDs directly in the image view area to change the OSDs’ display position) and select the date, time format and color. Click “Apply” to save the settings.



5.3.2 Image Settings

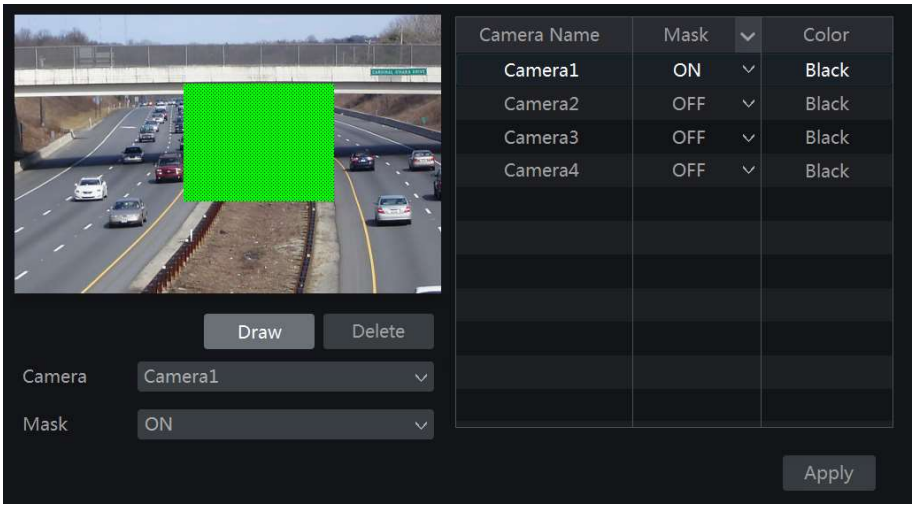
Click Start→Settings→Camera→Image→Image Settings to go to the following interface. Select the camera and then set the brightness, contrast, saturation, and hue of the camera. Click “Advanced” button or  in the camera list on the right side of the interface to pop up the “Image Adjust” interface and then set the relevant setting items. Please refer to 5.4.5 Image Adjustment for detailed introductions of these items.

You can click “Default” to restore the image settings to the default factory settings.



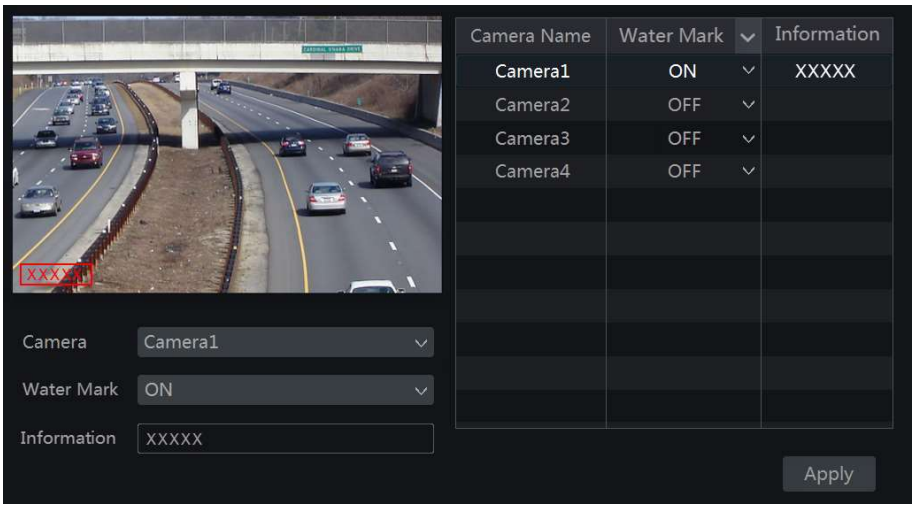
5.3.3 Mask Settings

Some areas of the image can be masked for privacy. Up to four mask areas can be set for each camera. Click Start→Settings→Camera→Image→Mask Settings to go to the interface as shown below. Select the camera and enable the mask. Click “Draw” button and then drag the mouse on the image area to set the mask area; click “Delete” button to delete the mask areas; click “Apply” to save the settings.



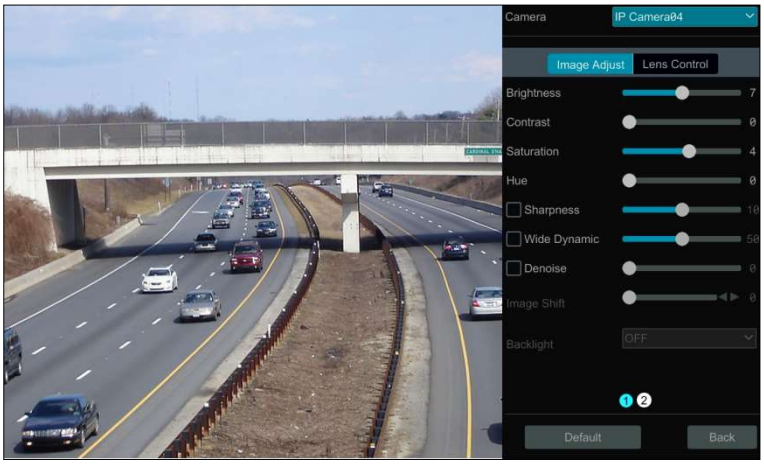
5.3.4 Water Mark Settings

Click Start→Settings→Camera→Image→Water Mark Settings to go to the interface as shown below. Select the camera and enable water mark and then enter the water mark information. Click “Apply” to save the settings.



5.3.5 Image Adjustment

Go to the live view interface and then click button on the tool bar under the camera window to go to the image adjustment interface.



➢ **Image Adjustment**

Select the camera and then click “Image Adjustment” to go to image adjustment tab. Refer to the above picture. Drag the slider to set the camera’s brightness, contrast, saturation and hue value. Check sharpen, wide dynamic and denoise and then drag the slider to set the value. Click “Default” button to set these parameters to default values.

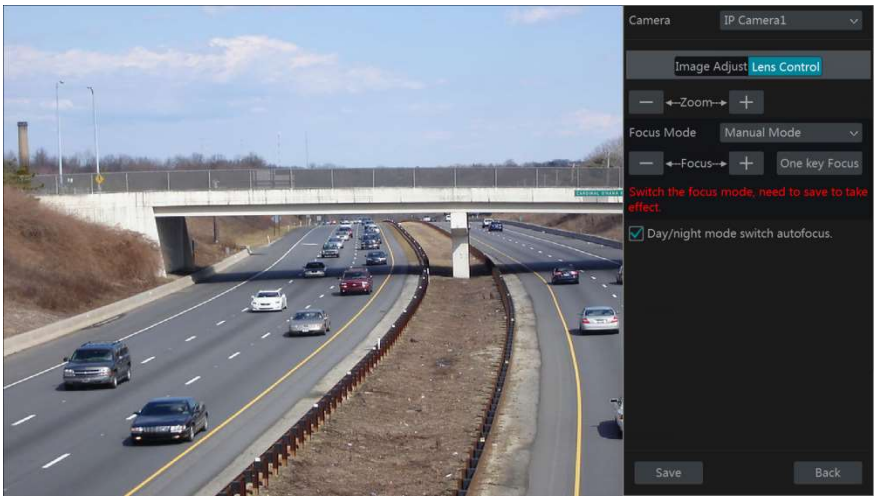
The introductions of these parameters are as follows:

Parameter	Meaning
Brightness	Brightness level of the camera’s image.
Contrast	Color difference between the brightest and darkest parts.
Saturation	Degree of color purity. The color is purer, the image is brighter.
Hue	Relates to the total color degree of the image.

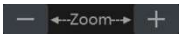
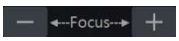
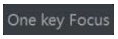
Parameter	Meaning
Sharpen	Relates to the resolution level of the image plane and the sharpness level of the image edge.
Wide Dynamic	The wide dynamic range (WDR) function helps the camera provide clear images even under back light conditions. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provides clear images with details.
Denoise	Adopt the noise reduction technology to decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.
White Balance	White balance is the white rendition function of the camera to adjust the color temperature according to the environment automatically.
HLC/BLC	HLC: lowers the brightness of the entire image by suppressing the brightness of the image's bright area and reducing the size of the halo area. BLC: If enabled, the auto exposure will activate according to the scene so that the object of the image in the darkest area will be seen clearly.
Image Mirror	Reverse the current video image right and left.
Image Flip	Turn the current video image upside down.

- **Lens Control**

Select the camera and then click "Lens Control" to go to lens control tab. Click  or  to adjust the zoom and focus parameters of the camera's lens. Click "Save" to save the settings.



The introductions of these parameters and buttons are as follows.

Button/Parameter	Meaning
	Click  /  to zoom in/out the image.
Focus Mode	If manual mode is selected, focus button & "One Key Focus" & "Day/night mode switch autofocus" will be available; if auto mode is selected, the time interval setup will be available.
	Click  /  to increase/decrease the focal length.
	Click to focus instantly.

Button/Parameter	Meaning
Day/night mode switch autofocus	If checked, the lens will focus automatically when the camera switches between day/night mode.
Time Interval	This is the time interval when camera lens is auto-focusing. The interval can be set in the drop-down list.

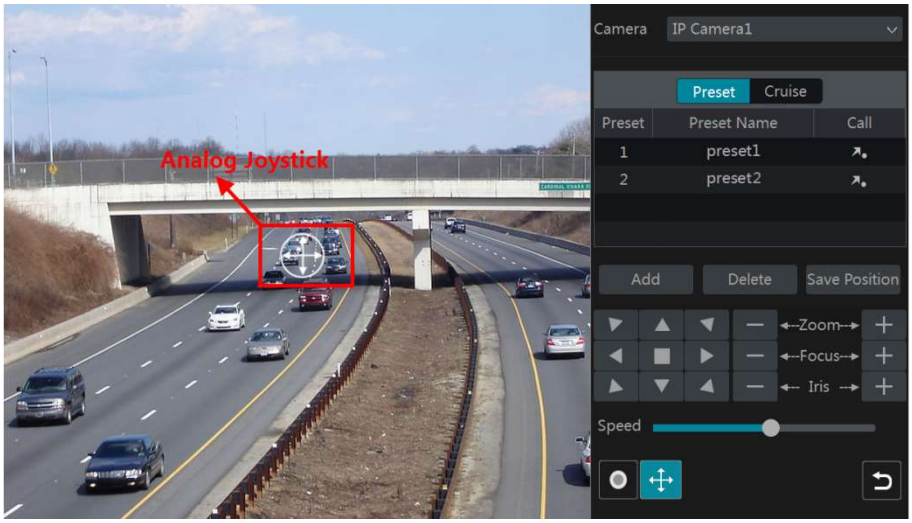
Note: if the lens of the camera connected to the DVR is fixed, the lens control function is unavailable.

6 PTZ

6.1 PTZ Control Interface Introduction

You can control the IP dome or PTZ camera for PTZ control.

Click on the tool bar at the bottom of the live view window to go to the PTZ control interface as shown below. You can select another IP dome or PTZ which connects to the IP camera on the top right of the interface for PTZ control.



Guide to the buttons on the bottom right of the interface:

Button	Meaning
	Click / / / / / / / to rotate the dome. Click to stop rotating the dome.
Zoom	Click / to zoom in / out on camera image.
Focus	Click / to increase / decrease the focal length.
Iris	Click / to increase / decrease the iris of the dome.
	Drag the slider to adjust the rotating speed of the dome.
/	Click / to start / stop recording.
/	Click / to hide / show the analog joystick.
	Click to return to the live view interface.

➢ **Analog Joystick Control**

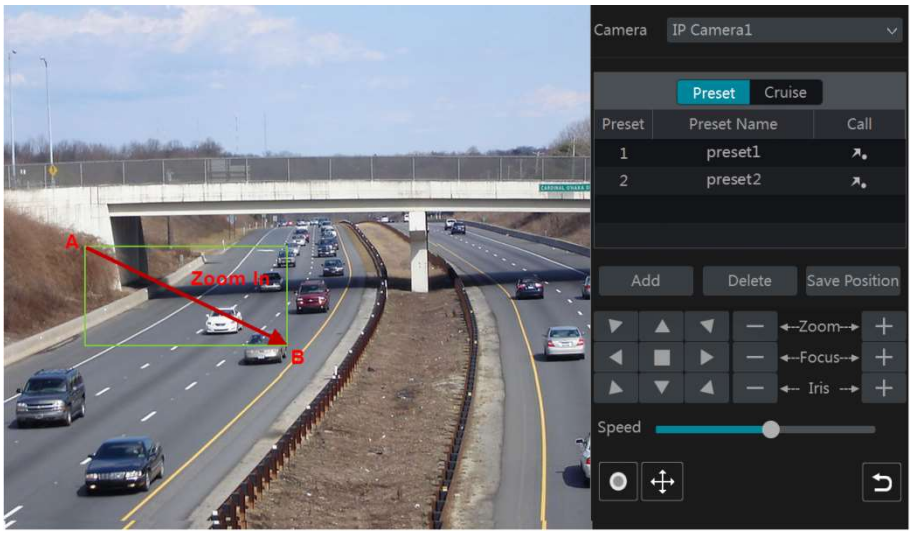
The analog joystick on the left side of the interface provides quick PTZ control. The dome or PTZ will rotate when you drag the analog joystick. The

further you drag the analog joystick from the middle of the image, the faster the dome or PTZ rotates. The dome or PTZ will stop rotating when you stop dragging the analog joystick.

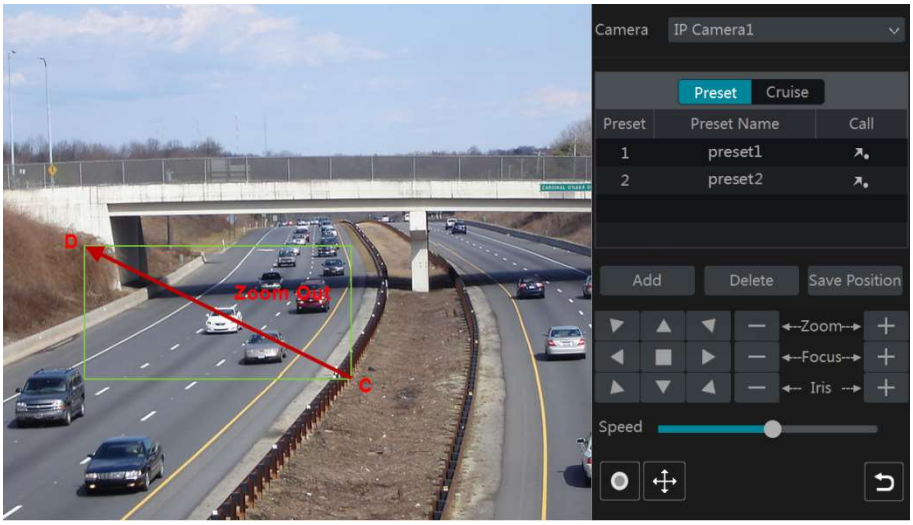
- **3D Control**

Click the camera image on any area and then the image will be centered on the clicked point.

Refer to the picture as shown below. Drag the mouse from A to B to get a green rectangle and the rectangular area will zoom in.



Refer to the picture as shown below. Drag the mouse from C to D to get a green rectangle and the rectangular area zoom out.



- **Advanced 3D Control**

Double click the left button of the mouse on any area of the camera image to make the image size double and be centered on the clicked point.

Press and hold the left button of the mouse on any area of the camera image to zoom in on the image; press and hold the right button to zoom out

of the image.

Move the cursor of the mouse to the camera image and then slide the scroll wheel of the mouse forward to zoom in the image, slide the scroll wheel of the mouse backward to zoom out the image.

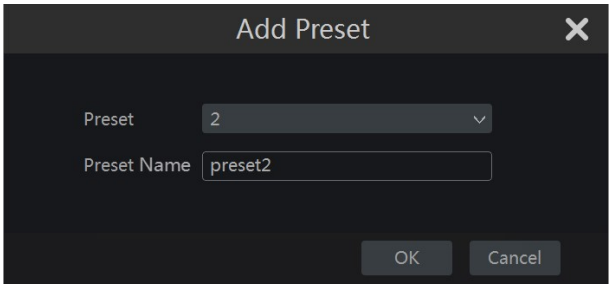
➢ **OSD Settings**

Go to PTZ protocol settings interface and then set the protocol before you bring up the OSD. Click “OSD Menu” to go to camera OSD setting interface. Click  to start OSD settings. The meanings of the buttons are shown in the table below.

Button	Meaning
	Click to call main menu or enter the sub menu or confirm the settings.
	Click to call main menu or enter the sub menu or confirm the settings.
	Click to change the menu mode or decrease the menu value.
	Click to change the menu mode or increase the menu value.
	Click to go to the previous menu.
	Clickto go to the next menu.

➢ **Preset Setting**

Click “Preset” to go to preset operation tab and then click “Add” button to pop up a window as shown below. Select the preset and then enter the preset name in the window; finally, click “OK” button to save the settings. You can add up to 255 presets for each dome.

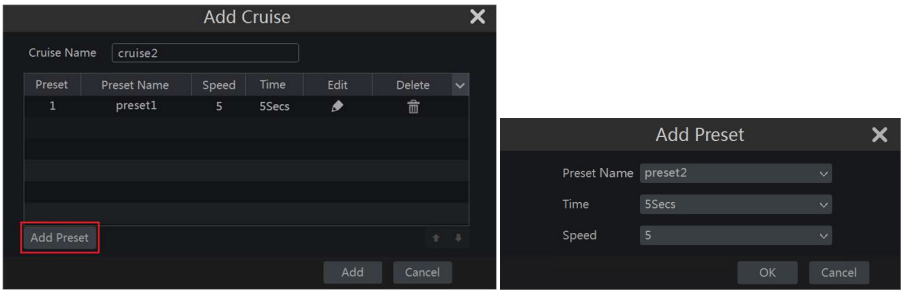


Adjust the dome’s direction and then click “Save Position” to save the current preset position (you can also click another preset in the preset list and then save the preset position after adjusting the dome’s direction); click  in the preset list to call the preset; click “Delete” button to delete the selected preset.

You can also go to preset settings interface for preset settings, see 6.2 Preset Setting for details.

➢ **Cruise Setting**

Click “Cruise” to go to cruise operation tab and then click “Add” button to pop up a window as shown below left. You can add up to 8 cruises for each dome.



① Enter the cruise name in the “Add Cruise” window and then click “Add preset” to pop up the “Add Preset” window (Before adding preset to the cruise, please add preset of the dome first).

② In the “Add Preset” window, select the preset name, preset time and preset speed and then click “OK” button.

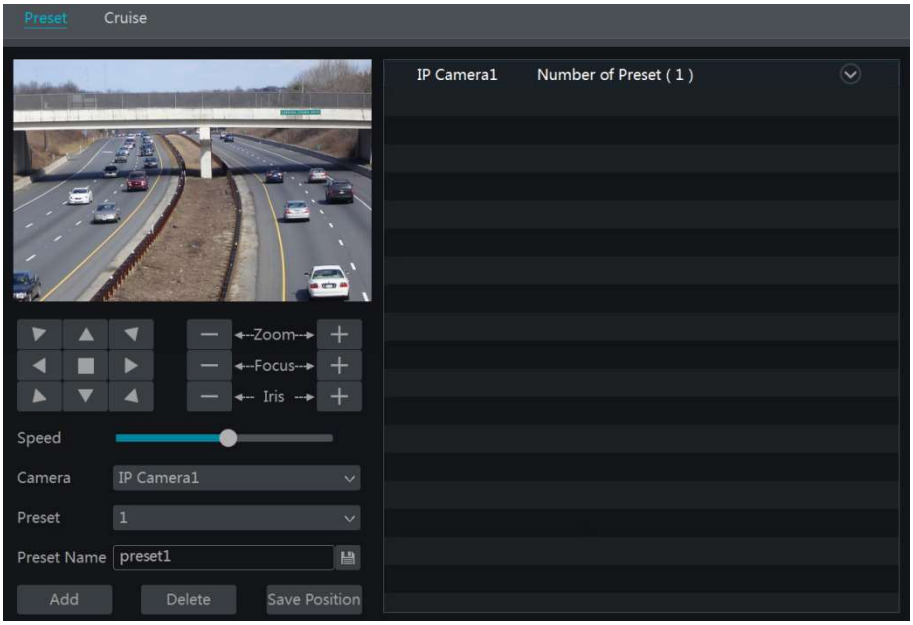
③ In the “Add Cruise” window, you can click  to reselect the preset, then change the preset time and speed. Click  to delete the preset. Click “Add” button to save the cruise.

Click  to start the cruise and click  to stop the cruise in the cruise list of the cruise operation tab; click “Delete” button to delete the selected cruise.

You can also go to cruise settings interface for cruise settings, see 6.3 Cruise Setting for details.

6.2 Preset Setting

Click Start→Settings→Camera→PTZ→Preset to go to the interface as shown below.



➢ **Add preset**

Select camera and then click “Add” button to add a preset; or click in the camera list on the right side of the interface to display the preset information of the dome and then click to add a preset. The operation of the “Add Preset” window is similar to that of the PTZ control interface; please see 6.1 PTZ Control Interface Introduction for details.

➢ **Edit preset**

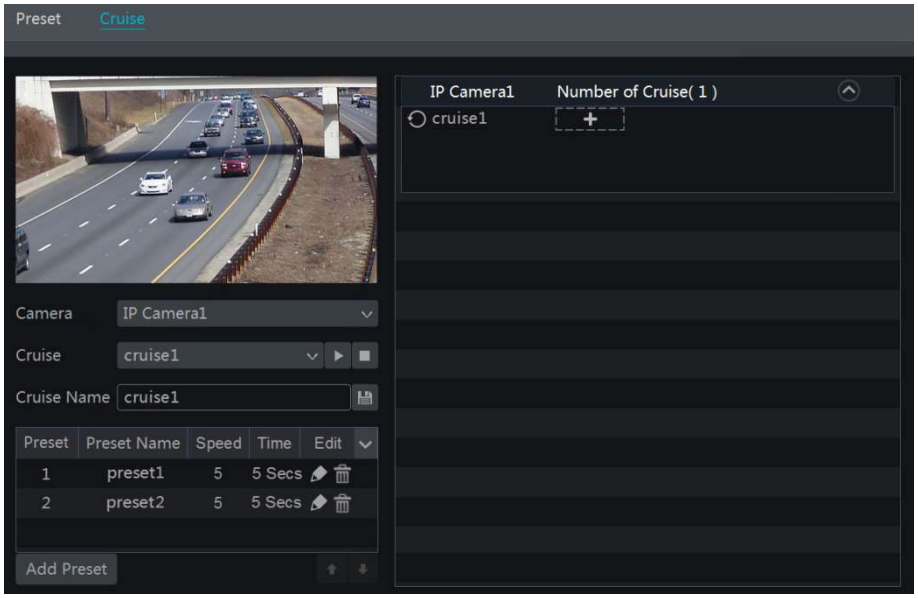
Select camera and preset. You can enter the new name of the preset and then click to save the new preset name. Adjust the rotating speed, position, zoom, focus and iris of the preset and then click “Save Position” to save the preset.

➢ **Delete Preset**

Select camera and preset and then click “Delete” to delete the preset.

6.3 Cruise Settings

Click Start→Settings→Camera→PTZ→Cruise to go to the interface as shown below.



➢ **Add Cruise**

Click in the camera list on the right side of the interface to display the cruise information of the dome and then click to add cruise. The operations of the “Add Cruise” window is similar to that of the PTZ control interface; please see 6.1 PTZ Control Interface Introduction for details.

➢ **Edit Cruise**

Select the camera and cruise in the “Cruise” interface. Enter the new cruise name and then click to save the cruise name. Click “Add Preset” to add preset to the cruise. Click to edit the preset. Click to delete the preset from the cruise. Click one preset in the preset list and

then click  to move down the preset and click  to move up the preset. Click  to start the cruise and click  to stop it.

- **Delete Cruise**

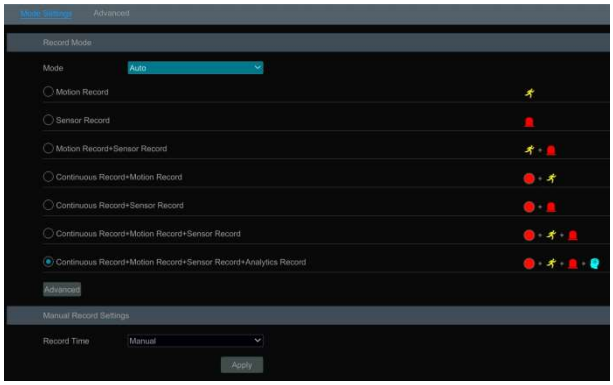
Click  in the camera list on the right side of the interface to display the cruise information of the dome and then click  on the top right corner of the cruise to delete the cruise.

7 Record& Disk Management

7.1 Record Configuration

7.1.1 Mode Configuration

Please format the HDDs before recording (refer to 7.5 Disk Management for details). Click Start→Settings→Record→Mode Settings to go to the mode settings interface. You can set the record time under the "Manual Record Settings" and then click "Apply" to save the settings. There are two recording modes: auto mode and manual mode.



- **Auto Mode**

Motion Record: Motion alarm record will be enabled when motion alarm happens.

Sensor Record:Sensor alarm record will be enabled when sensor alarm happens.

Motion Record+Sensor Record:Motion/sensor alarm record will be enabled when motion/sensor alarm happens.

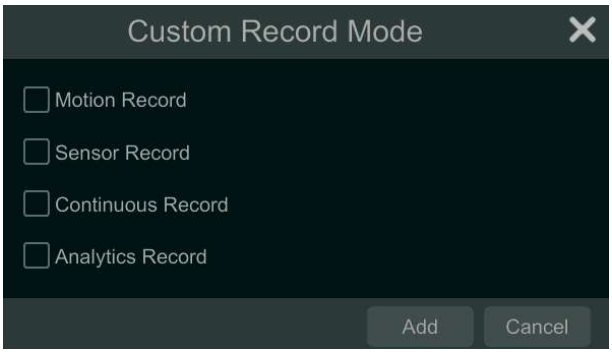
Continuous Record+Motion Record:Normal record is enabled all the time; motion alarm record will be started when motion alarm happens.

Continuous Record+Sensor Record: Normal record is enabled all the time; sensor alarm record will be started when sensor alarm happens.

Continuous Record+MotionRecord+Sensor Record:Normal record is enabled all the time; motion/sensor alarm record will be enabled when motion/sensor alarm happens.

Continuous Record+MotionRecord+Sensor Record+ Analytics Record:Normal record is enabled all the time; motion/sensor/analytics alarm record will be enabled when motion/sensor/intelligence analytics alarm happens.

You can add more auto modes under intelligent recording. Click "Advanced" button to pop up a window as shown below. Check the modes in the window and then click "Add" button to show the modes in the record mode list (in this window, the checked modes can be shown in the record mode list while the unchecked modes cannot; you should check "***Analytics Record***").



Select one auto mode to pop up the corresponding window. Set the encode, GOP, resolution, FPS, bitrate type, quality, max bitrate and audio of each camera and then click “OK” to save the settings. Please adjust the parameters according to the actual condition.

Video Encode: the available options are H.265 and H.264 if the connected IP camera supports H.265, or the option will be H.264 only.

GOP: group of pictures.

Resolution: the higher the resolution is, the clearer the image is.

FPS: the higher the frame rate is, the more fluency the video has. However, more storage room will be taken up.

Bitrate Type: CBR (Constant bitrate) and VBR (Variable bitrate) are optional. CBR means that no matter how much change is seen in the video scene, the compression bitrate will be kept constant. VBR means that the compression bitrate will be adjusted according to scene changes. For example, for scenes that do not have much movement, the bitrate will be kept at a lower value. This will help to optimize network bandwidth.

Quality: When VBR is selected, you need to choose image quality. The higher the image quality you choose, the more bitrate will be required.

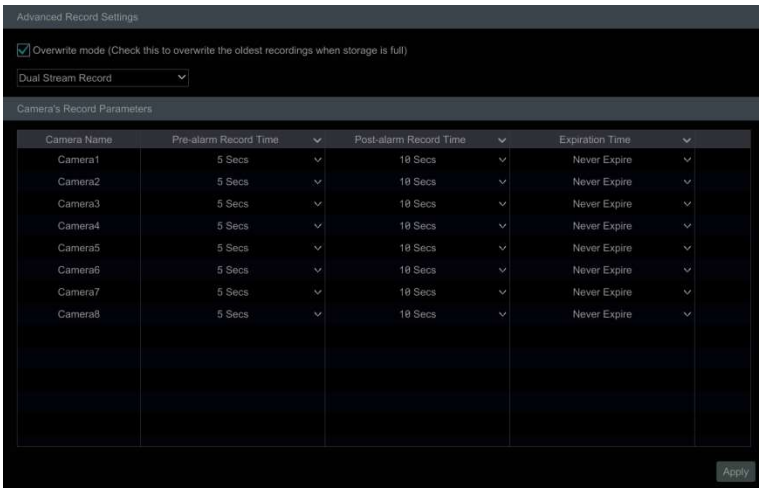
Max Bitrate: 32Kbps ~10240Kbps are optional.

- **Manual Mode**

If Manual Mode is selected, you need to set the encode parameters and record schedules of each camera. See 7.2 Encode Parameters Setting and 7.3 Schedule Setting for details.

7.1.2 Advanced Configuration

Click Start→Settings→Record→Advanced to go to the following interface. Enable or disable “Overwrite mode” (Overwrite mode: the earliest recorded data will be replaced by the latest when the disks are full). Set the pre-alarm record time, post-alarm record time and expiration time of each camera and then click “Apply” to save the settings.



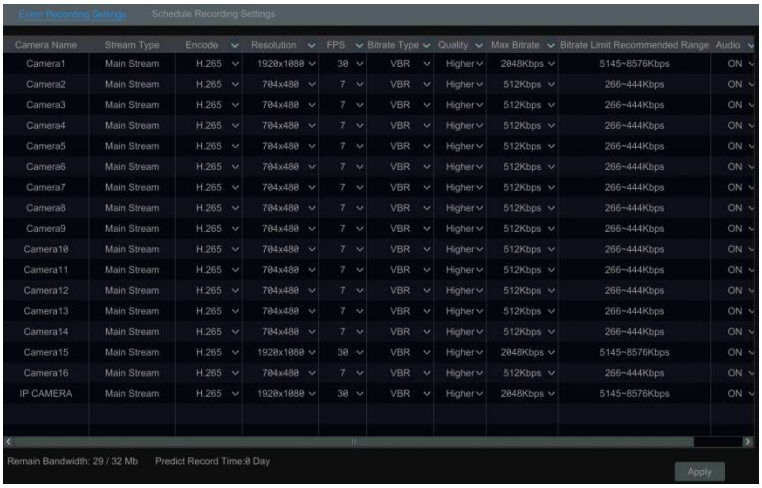
Pre-alarm Record Time: set the time to record before the intended recording begins.

Post-alarm Record Time: set the time to record after the intended recording is finished.

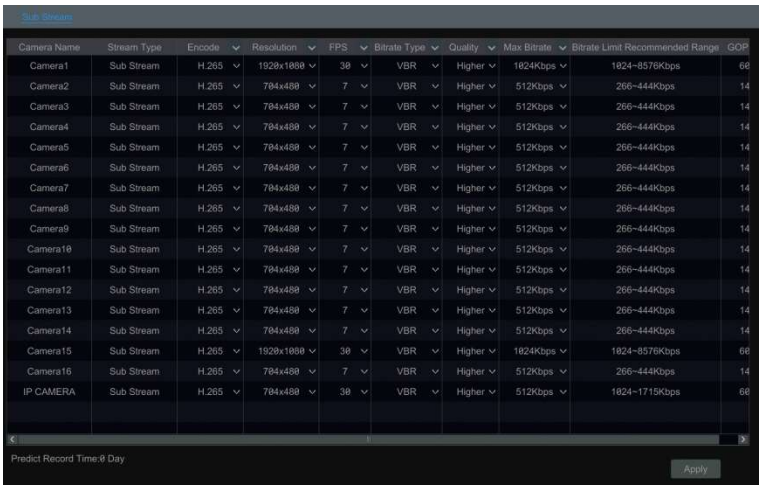
Expiration Time: set the expiration time for recorded video. If the set date is overdue, the recorded data will be deleted automatically.

7.2 Encode Parameters Setting

Click Start→Settings→Record→Encode Parameters to go to the interface as shown below. Set the encode, resolution, FPS, GOP, bitrate type, quality, max bitrate and audio of the main stream for each camera in “Event Recording Settings” and “Schedule Recording Settings” interfaces. Click “Apply” to save the settings. You can set the record stream of each camera one by one or batch set them for all cameras.



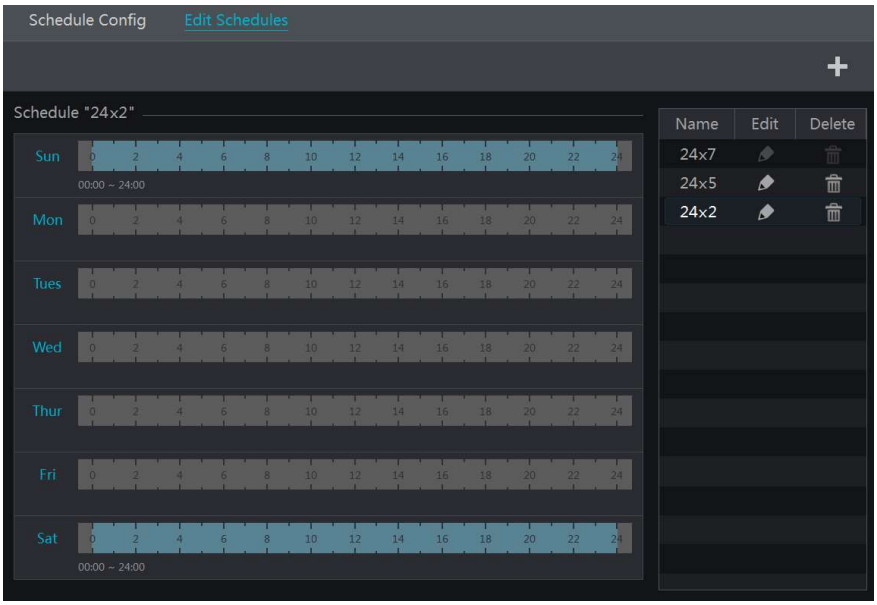
Click Start→Settings→Record→Stream Settings to go to “Sub-stream” interface. Set the encode, resolution, FPS, GOP, bitrate type, quality and max bitrate of sub-stream for each camera in the interface and then click “Apply” to save the settings.



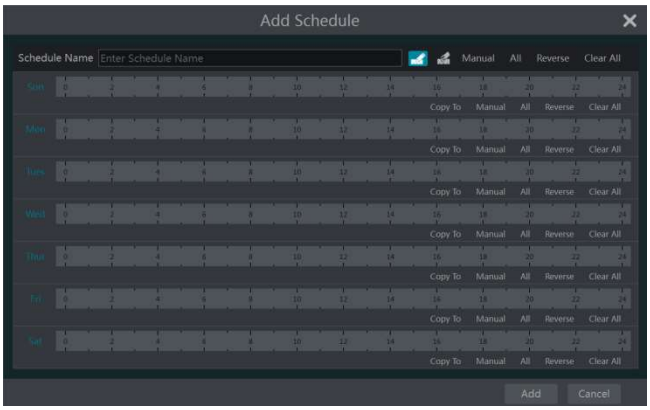
7.3 Schedule Setting

7.3.1 Add Schedule

Click Start→Settings→Record→Record Schedule→Edit Schedules to go to the interface as shown below. “24×7”, “24×5” and “24×2” are the default schedules; you cannot edit or delete “24×7” while “24×5” and “24×2” can be edited and deleted. Click the schedule name to display the detailed schedule information on the left side of the interface. The seven rows stand for the seven days in a week and each row stands for 24 hours in a day. Blue stands for the selected time and gray stands for unselected time.



Click  to add a new schedule. Refer to the picture below.

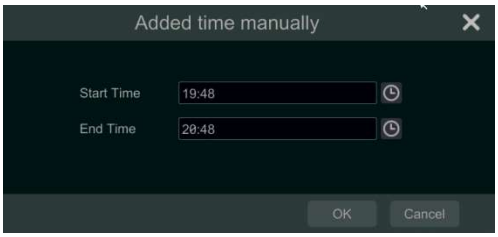


Set the schedule name and schedule time and then click “Add” to save the schedule. You can set day schedule or week schedule. : add button; : delete button.

- **Set Day Schedule**

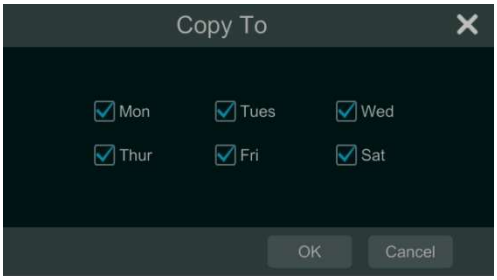
Click and then drag the cursor on the time scale to set record time; click and then drag the cursor on the time scale to delete the selected area.

You can manually set the record start time and end time. Click or and then click “Manual” on each day to pop up a window as shown below. Set the start and end time in the window and then click “OK” to save the settings.



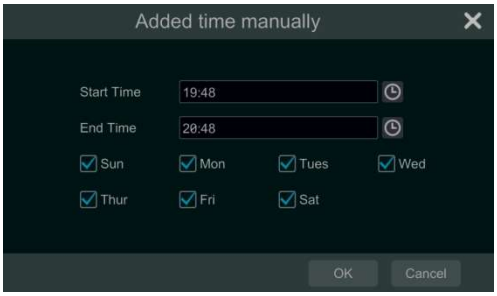
Click “All” to set all day recording; click “Reverse” to swap the selected and unselected time in a day; click “Clear All” to clear all the selected area in a day.

Click “Copy To” to copy the schedule of the day to other days. Refer to the picture below. Check the days in the window and then click “OK” to save the settings.



➢ **Set Week Schedule**

Click  or  and then click “Manual” beside  to set the week schedule. Refer to the picture below. Set the start and end time, check the days in the window and then click “OK” to save the settings.



Click “All” to set all week recording; click “Reverse” to swap the selected and unselected time in a week; click “Clear All” to clear all the selected area in a week.

7.3.2 Record Schedule Configuration

Click Start→Settings→Record→Record Schedule→Schedule Configuration to go to the interface as shown below. Set the schedule of sensor record, motion record, timed record and intelligence record. Click “None” in the drop-down menu to clear the schedule. Click “Apply” to save the settings.

Go to “Edit Schedules” interface and then click  to edit the schedule. The settings of “Edit Schedule” are similar to that of “Add Schedule”. Click  to delete the schedule.

7.4 Record Mode

7.4.1 Manual Recording

Method One: Click  on the tool bar at the bottom of the live view interface to enable recording of the camera.

Method Two: Go to the live view interface and then click the right-click menu “Manually Record On” in the camera window or click  on the tool bar under the camera window to start recording.

Note: Click Start→Settings→Record→Mode Settings and then set the manual record time in the interface. Click “Apply” to save the settings.

7.4.2 Timing Recording

Timing Recording: the system will record automatically according to the schedule.

Set the timing record schedule of each camera. See 7.3 Schedule Setting for details.

7.4.3 Motion Based Recording

Motion Based Recording: the system will start motion-based recording when the motion object appears in the setup schedule. The setup steps are as follows:

① Set the motion-based recording schedule of each camera. See 7.3 Schedule Settingfor details.

② Enable the motion and set the motion area of each camera. See 9.2.1 Motion Configuration for details.

The camera will start motion-based recording once you finish the above settings.

7.4.4 Sensor Based Recording

① Set the sensor-based recording schedule of each camera. See 7.3 Schedule Settingfor details.

② Set the NO/NC type of the sensor, enable the sensor alarm and then check and configure “Record”. See 9.1 Sensor Alarm for details.

7.4.5 Analytics Recording

① Set the analytics recording schedule of each IP camera. See 7.3 Schedule Setting for details.

② Enable the intelligence alarm detection (object detection, exception, tripwire, or intrusion) and draw alert surface or warning area of each IP camera. See Event for details.

The camera will start analytics recording once you finish the above settings. This function is only available for some IPCs.

7.5 Disk

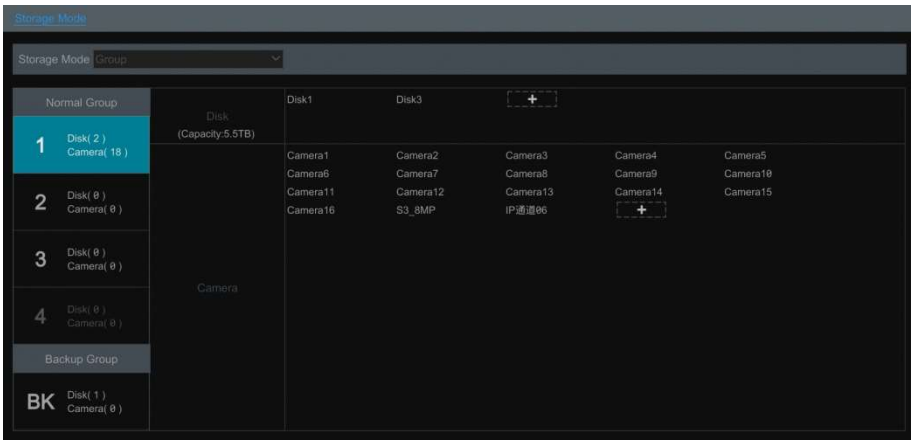
7.5.1 Disk Management

- Disk Management

Click Start→Settings→Disk→Disk Management to go to disk management interface. You can view the DVR’s disk number and disk status and so on in the interface. Click the “Formatting” button to format the HDD.

7.5.2 Storage Mode Configuration

Click Start→Settings→Disk→Storage Mode to go to the interface as shown below.

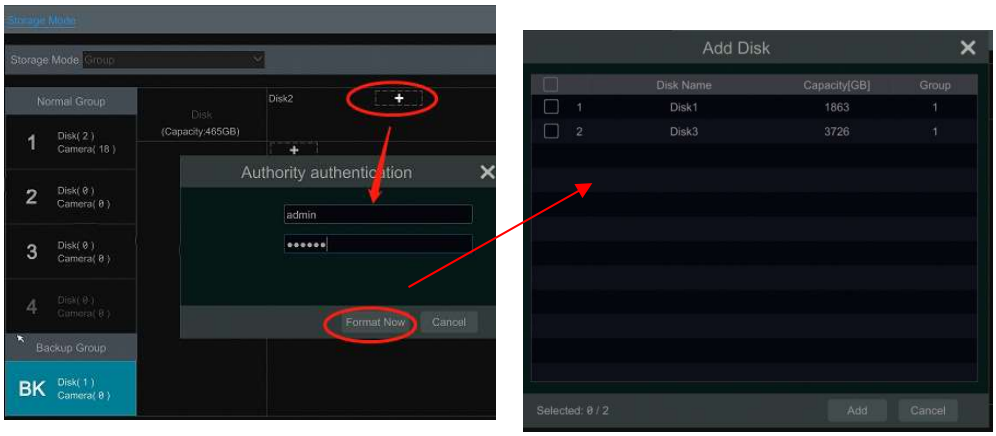


There are four disk groups. By using disk groups, you can correspond the camera to a disk (the recording data of the camera in the group will be stored into the disks in the same group). ADVR with e-SATA interface supports e-SATA recording.

The added disks and cameras will be added into group one automatically. All disks and cameras in the groups can be deleted except group one (select a disk group and then click ⊗ on the top right corner of the added disk or camera to delete it from the group). The deleted disks and cameras will be moved into group one automatically.

Each group can add the disks and cameras from other groups. Each disk and camera can only be added into one group. Select a disk group and then click + in the disk or camera row to pop up a window. Check the disks or cameras in the window and then click “Add”.

Some models may support a “Backup Group”. If your device doesn’t support this function, please skip the following instructions.

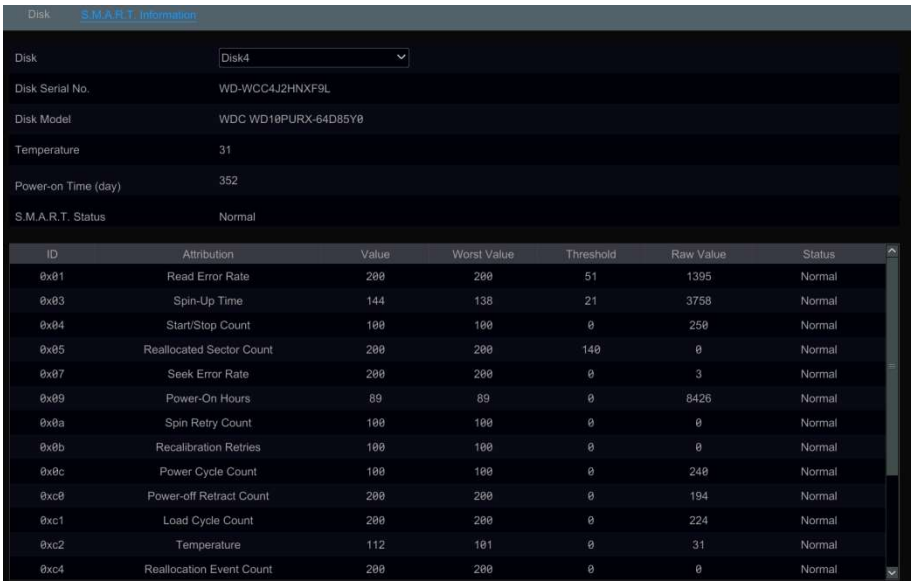


You can add the important channels into the backup group to avoid data loss.

Select “BK Group” and then click + to add a disk as the backup disk. An authentication box will pop up. After entering the login username and password, click “Format Now” to select the backup disk. The added backup disk will be formatted and this disk will be removed from the normal group. Then add cameras to the backup group. These cameras can be added to a normal group and the backup group simultaneously.

7.5.3 View Disk and S.M.A.R.T. Information

Click Start→Settings→Disk→View Disk Information to view the HDD information; click “S.M.A.R.T. Information” to view the working status of the HDD. Refer to the picture below.



ID	Attribution	Value	Worst Value	Threshold	Raw Value	Status
0x01	Read Error Rate	200	200	51	1395	Normal
0x03	Spin-Up Time	144	138	21	3758	Normal
0x04	Start/Stop Count	100	100	0	250	Normal
0x05	Reallocated Sector Count	200	200	140	0	Normal
0x07	Seek Error Rate	200	200	0	3	Normal
0x09	Power-On Hours	89	89	0	8426	Normal
0x0a	Spin Retry Count	100	100	0	0	Normal
0x0b	Recalibration Retries	100	100	0	0	Normal
0x0c	Power Cycle Count	100	100	0	240	Normal
0xc0	Power-off Retract Count	200	200	0	194	Normal
0xc1	Load Cycle Count	200	200	0	224	Normal
0xc2	Temperature	112	101	0	31	Normal
0xc4	Reallocation Event Count	200	200	0	0	Normal

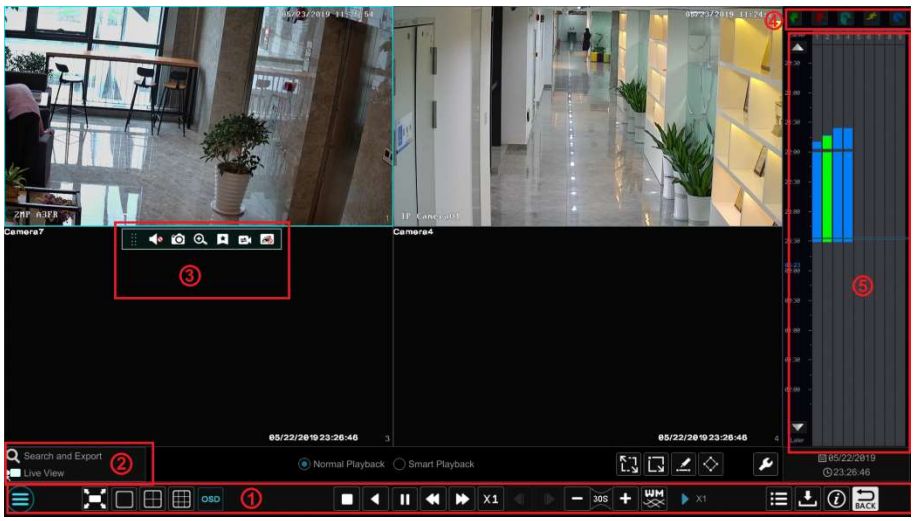
8 Playback& Backup

8.1 Instant Playback

Click on the tool bar at the bottom of the preview camera window to play back recorded video (click on the tool bar at the bottom of the live view interface to set the default playback time). Refer to the picture below. Drag the playback progress bar to change the playback time. You can also click the right-click menu “Instant Playback” in the camera window and then set the instant playback time to play back the record.

8.2 Playback Interface Introduction

Click on the tool bar at the bottom of the live view interface or click Start→Playback to go to the playback interface as shown below (click on the tool bar at the bottom of the live view interface to set the default playback time).



On the panel on the right you will see the channel number and the recorded data coded by color. The bar that runs across them represents the playback time being viewed. You can move this bar around to export, highlight a section of the desired recording, click export and follow the prompts. You can export single or multiple channels at the same time.

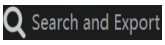
The added cameras will playback their records in the playback interface automatically. You can also add the playback camera manually. Click in

the playback window to pop up the “Add Camera” window. Check the cameras in the window and then click “Add” to add playback camera. The system supports a maximum of 16 synchronous playback cameras.

The buttons on the tool bar (area ①) at the bottom of the playback interface are described in the table below.

Button	Meaning
	Start button. Click to pop up area ②.
	Full screen button. Click to show full screen; click it again to exit the full screen.
	Screen mode button.
	OSD ON button. Click to enable OSD; click again to disable OSD.
	Stop button.
	Rewind button. Click to play video backward.
	Play button. Click to play video forward.
	Pause button.
	Deceleration button. Click to decrease the playing speed.
	Acceleration button. Click to increase the playing speed.
	Previous frame button. This works only when the forward playing is paused in single screen mode.
	Next frame button. This works only when the forward playing is paused in single screen mode.
	Click  to step backward 30s and click  to step forward 30s.
	Click to show the water mark on the image; click  to hide the water mark.
	Event list/tag button. Click to view the event record of manual/schedule/sensor/ motion and the tag information.
	Backup button. Drag the mouse on the time scale to select the time periods and cameras, and then click the button to back up the record.
	Backup status button. Click it to view the backup status.
	Back button. Click it to return.
	Full screen motion button.
	Motion button.
	Draw line button. You can search all recordings of crossing this line after it’s drawn.
	Draw quadrilateral. You can search all recordings this quadrilateral after it’s drawn.
	Smart playback settings. Click to set smart playback.

Introduction of area ②:

Button	Meaning
	Click to go to record search and export interface; see 8.4 Record Search, Playback & Backup for details.

Button	Meaning
Live View	Click to go to the live view interface; see Chapter 5 Live View Introduction for details.

Click on the playback window to show the tool bar as shown in area ③; right click on the window to show the menu list. The tool bar and menu list are introduced in the table below.

Button	Menu List	Meaning
	--	Move tool. Click it to move the tool bar anywhere.
	Enable Audio	Click to enable audio. You can listen to the camera audio by enabling audio.
	Snapshot	Click to take a snapshot.
	Zoom In	Click to go to the zoom in interface. The zoom in interface is similar to that of the camera window in the live view interface. Click to pause the record playing; click to play the record. When the record is paused in forward playing mode, you can click to view the previous frame and click to view the next frame.
	Add Tag	Click to add tag. You can play back the record by searching the added tag. Click it and then enter the tag name in the popup window. Click "Add" to add tag.
	Switch Camera	Click to switch the playback camera. Click it and then check the camera in the popup window. Click "OK" to change the camera.
	Close Camera	Click to close the playback camera.

Introduction of area ④:

You can check the recording type as required for record playback; first you should click on the tool bar at the bottom of the interface to clear all the playback cameras, then check the recording type (: manual record; : sensor based record; : motion based record; : schedule record; : analytics record; and finally click in the playback window to add camera for playback (the record time scale will show the record data of the checked record type only after the above operations).

Introduction of the record time scale (area ⑤):

Click to set the date; click to set the time and then the playback camera will play the record from the time you set.

A tool bar will appear after moving the mouse to the record time scale. Click / to zoom the timeline; click to recover the timeline to 24 hours ratio. Drag the timeline or slide the scroll wheel of the mouse on the time scale to show the hidden time on the top or bottom of the timeline. You can also click to show the hidden time on the top of the timeline or click to show the hidden time on the bottom of the timeline. Drag the slider at the bottom of the time scale to show the hidden playback cameras.

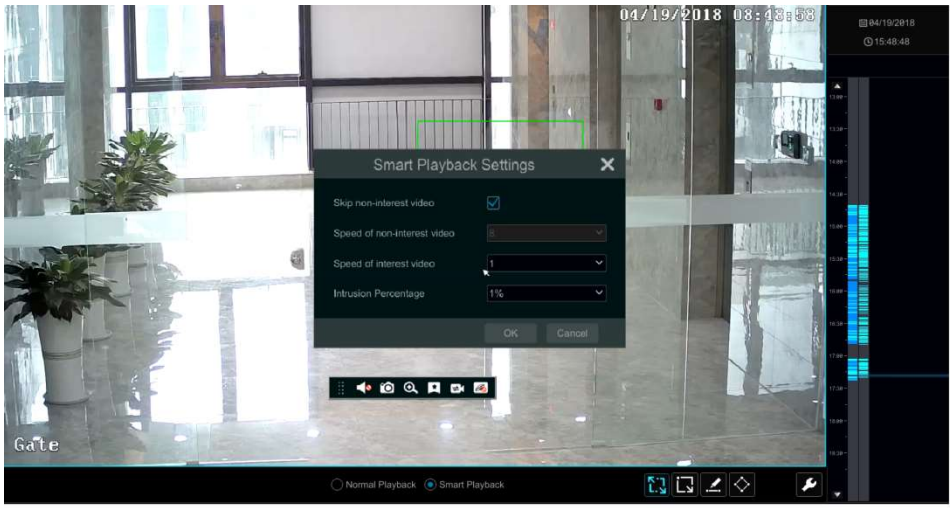
The record time scale shows different record types with different colors. The green block stands for manual recording, red block stands for sensor-based recording, yellow block stands for motion based recording, blue block stands for schedule recording and cyan block stands for intelligence recording. Click the record block to set the time and then the playback camera will play the recording from the time you set.

Drag the color block on the time scale to select the backup area and then right click the area or click to pop up an export information window. Click button in the window to pop up the export window. Select the device, export path and format and then click "Export" button to start the backup.

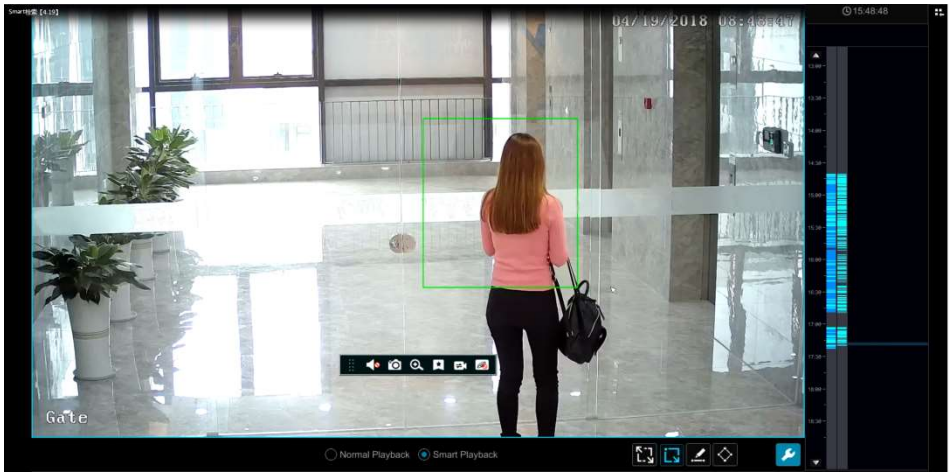
8.3 Smart Playback

- Smart Playback Settings

Click  to go to the following interface. Set the value of “Speed of non-interest video” (You will skip this if you select “Skip non-interest video”), “Speed of interest video” and “Intrusion percentage”.



- **Smart Playback by Drawing Rectangle**



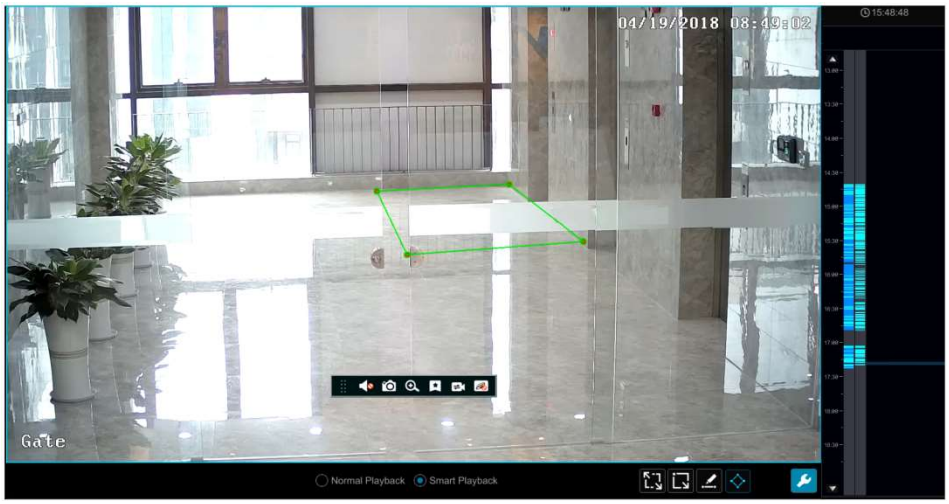
Click  and draw a rectangle in the desired area. The system will then automatically search the recordings of this area. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such a block and click to play the recording.

- **Smart Playback by Drawing Line**

Click  and draw a line in the desired area. The system will then automatically search the recordings where this line has been crossed. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such a block and click to play the recording.

- **Smart Playback by Drawing Quadrilateral**

Click  and draw a quadrangle in the desired area. The system will then automatically search the recordings of this area. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such block and click to play the recording.



8.4 Record Search, Playback &Export

The recording data and the captured pictures can be exported through USB (U disk or USB mobile HDD). The file system of the export devices should be FAT32 format.

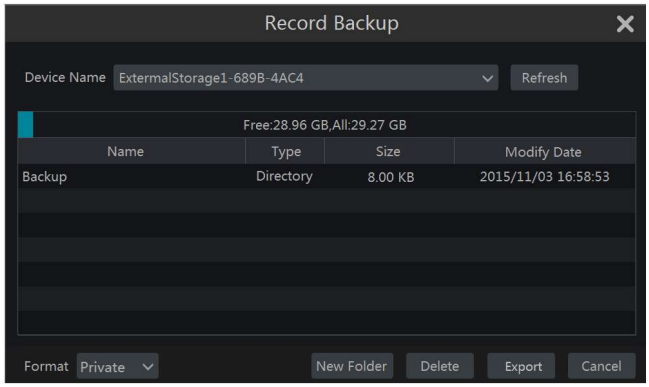
8.4.1 EZ Search 2.0

① Click Start→Search and Export→EZ Search to go to the “EZ Search” tab. There are two view modes: by time and by camera. In the time view mode, a maximum of 64 camera thumbnails can be shown. If the camera thumbnail number is more than 64, the cameras will be listed directly by their camera name, not the thumbnail. A maximum of 196 camera names can be listed. If the camera name number is more than 196, the time view mode will be disabled and the camera view mode will be available only.

② Select one camera in the interface and then click “Open” button.

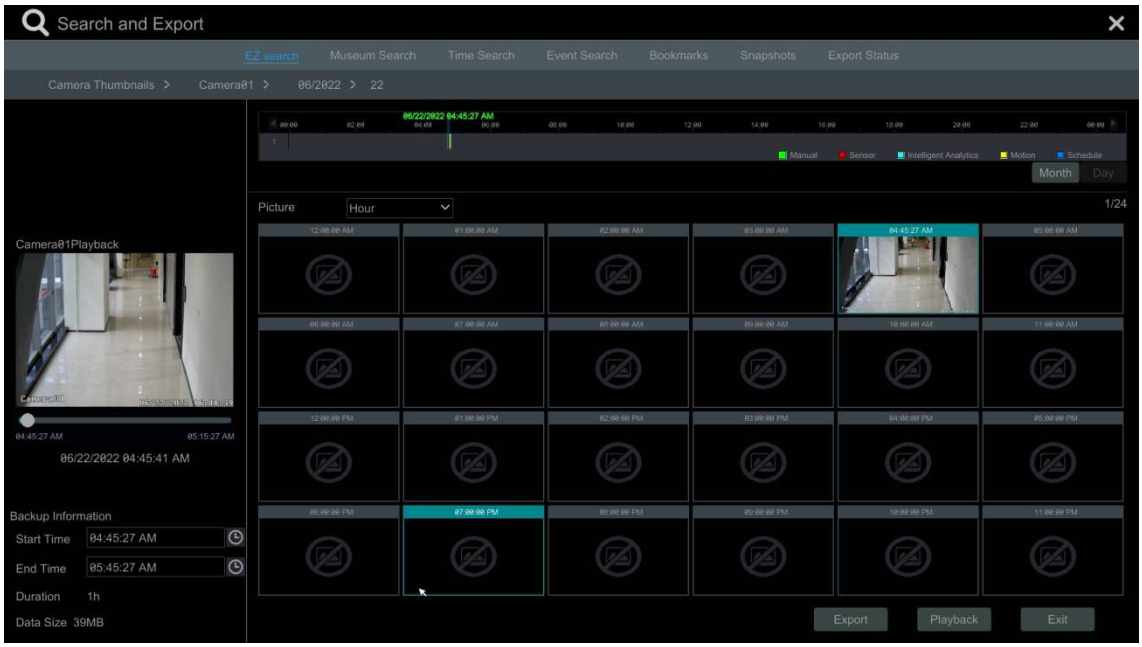
③ Click the image box to play the recording in the small playback box on the left side of the interface (the box which has image inside indicates that the record data exist).

④ Refer to the picture below. Drag the color blocks on the time scale to select the recording data and then click “Export” button to pop up the “Record Backup” window as shown below. Select the device name, backup format and path and then click “Export” button to start the backup.



Note: If you back up the record in private format, the system will back up a RPAS player to the USB device automatically. The private format record can be played by RPAS player only.

⑤ Click the “Playback” button to play the recording in the playback interface (refer to 8.2 Playback Interface Introduction for details). Click “Exit” to exit the interface.



EZ Search:

Method One: Click “Year”, “Month” or “Day” button under the record time scale to select the time slice mode. In “Day” mode, click / on the left/right side of the time scale to view the record of the last/next day; click “Minute” in the “Picture” option under the time scale to select “Minute” mode (in “Minute” mode, click the time scale to change the time of the 60 display windows) and click “Hour” to select “Hour” mode.

Method Two: Click beside “Camera Thumbnail” on the left top corner of the interface to select the time slice mode.

Method Three: Right-click the mouse on any area of the time-sliced interface to go back to the upper interface.

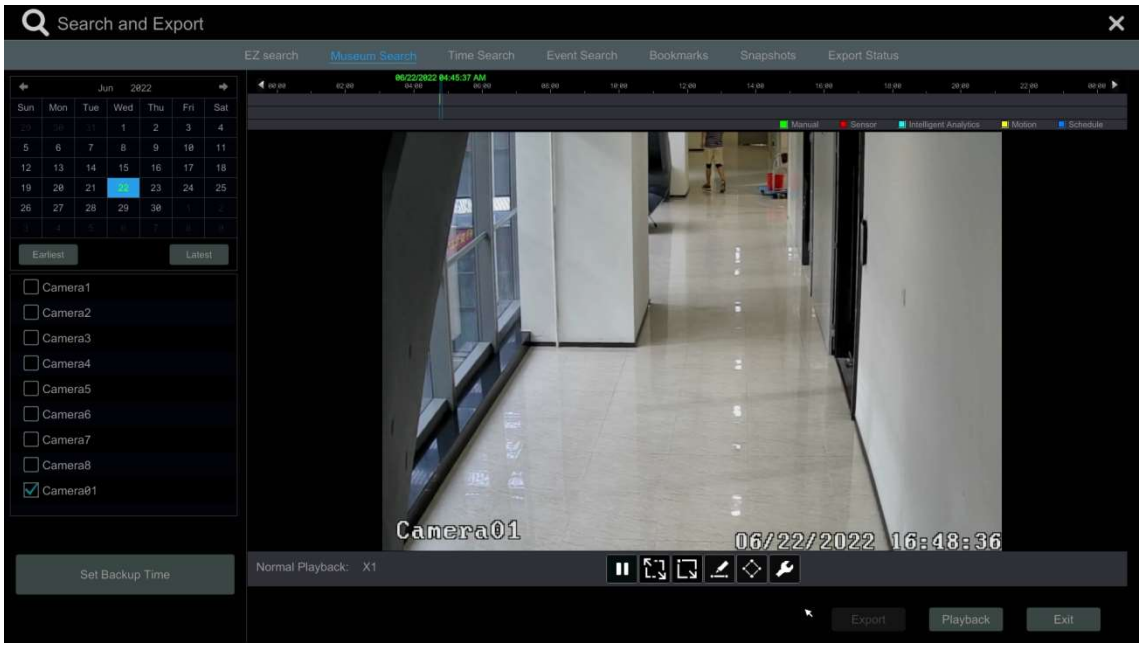
8.4.2 Museum Search

Click Start→Search and Backup→Museum Search to go to “Museum Search” tab as shown below.

Set the searching time period and you will search the channel which has the intelligence detection record.

Check the channel and select the smart playback.

Set the backup time and select the channel to backup.



: Smart playback settings button. Click to set intrusion percentage.

: Full screen motion button.

: Motion button.

: Draw line button. You can search the record of crossing the line after drawing the line.

: Draw quadrilateral. You can search the record in this quadrilateral after drawing it.

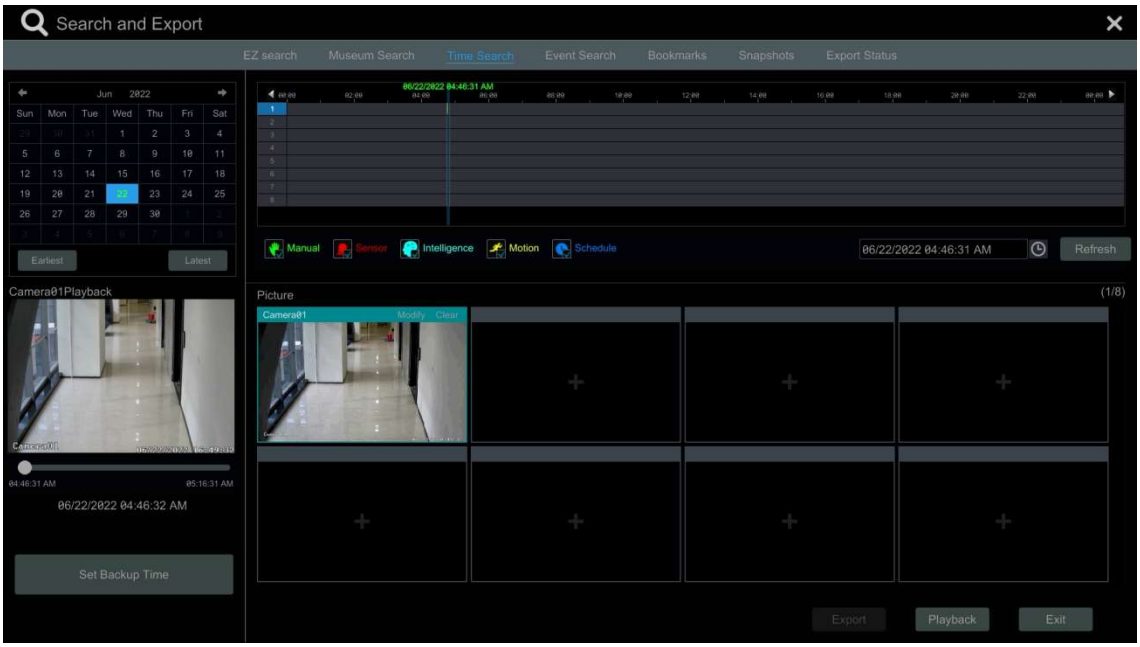
8.4.3 Time Search

① Click Start→ Search and Export→Time Search to go to the "Time Search" tab as shown below.

② Click on the bottom of the interface to add a playback camera. A maximum of 16 cameras can be added for playback. Click "Modify" on the top right corner of the camera window to change the camera and click "Clear" to remove the camera.

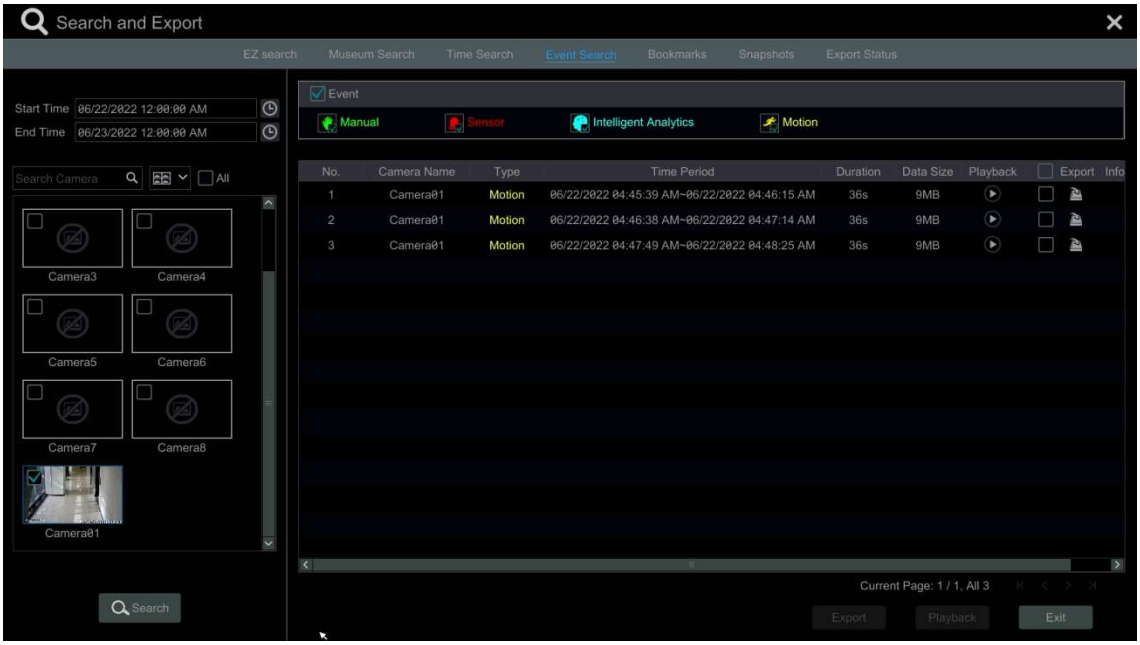
③ Click the camera window to play the recording in the small playback box on the left side of the interface. You can set the date on the top left of the interface, check the event type as required and click the time scale or click under the time scale to set the time. The camera window will play the record according to the time and event type you set.

④ Drag the color blocks on the time scale to select the record data (or click "Set Backup Time" button on the bottom left corner of the interface to set the backup start time and end time) and then click "Export" button for record backup. Click "Playback" button to play the record in the playback interface.



8.4.4 Event Search

① Click Start→Search and Export→Event Search to go to “Event Search” tab as shown below.



② Check the event type in the interface as required.

③ Click  to set the start time and end time on the top left of the interface.

④ Check cameras on the left side of the interface or check “All” to select all the cameras and then click  to search the recording. The searched record will be displayed in the list.

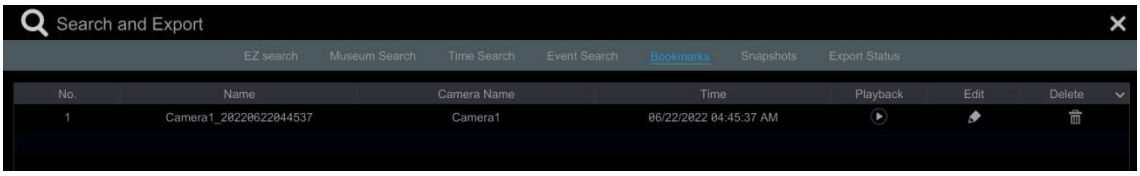
⑤ Click in the list to play back the recording in the popup window. Click to back up one recordings data or check multiple recordings data in the list and then click “Backup” button for recording batch backup.

⑥ Select one recordings data in the list and then click “Playback” button to play the recording in the playback interface.

8.4.5 Bookmark Search

You can only play recordings by “Tag Search” if you have added tags. Click Start→Playback to go to the playback interface and then click on the bottom of the camera window to add bookmarks when you want to mark the playback time point of the selected camera.

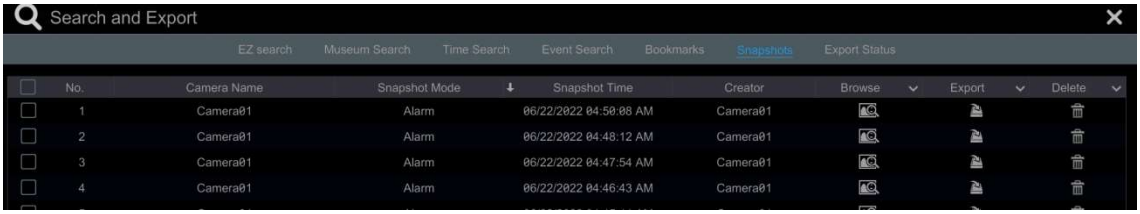
Click Start→Search and Export→Bookmarks to go to “Bookmarks” tab.



Click in the interface to play the record. Click to edit the tag name. Click to delete the tag.

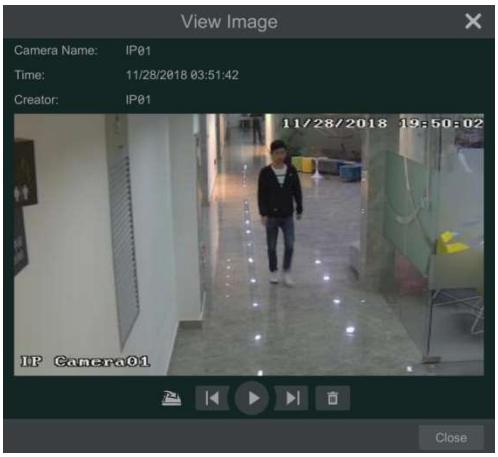
8.4.6 Snapshots

Click Start→Search and Export→Snapshots to go to “Snapshots” tab. The system will display all the captured images automatically in the list.



Click to delete the image. Click to pop up the “Export” window. Select the device name and save path in the window and then click “Save” button.

Click to pop up the “View Image” window. Click to export the image. Click to view the previous image; click to view the next image; click to delete the image; click to play all the images.



8.4.7 View Export Status

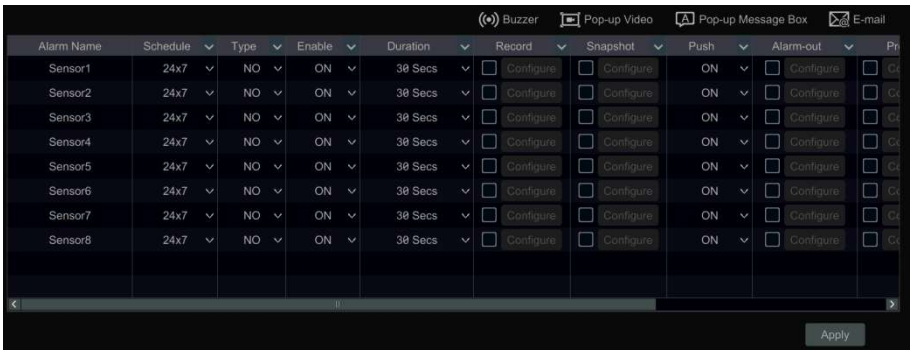
Click Start→Search and Export→Export Status or click  on the tool bar at the bottom of the playback interface to view the export status.

9 Alarm Management

9.1 Sensor Alarm

To complete sensor alarm settings, you should enable the sensor alarm of each camera and then set up the alarm handling of each camera.

① Click Start→Settings→Alarm→Sensor Alarm to go to the following interface.



② Select schedule and the alarm type (NO or NC) according to trigger type of the sensor.

③ Enable the sensor alarm of each camera.

④ Check the “Duration”, “Record”, “Snapshot”, “Push”, “Alarm-out” and “Preset” and enable or disable the “Buzzer”, “Pop-up Video”, “Pop-up Message Box” and “E-mail” as required.

⑤ Click “Apply” to save the settings.

The configuration steps of the above-mentioned alarm linkages are as follows:

Duration: The interval time between the adjacent motion detections. For instance, if the duration time is set to 10 seconds, once the system detects a motion, it will go to alarm and would not detect any other motion (specific to camera) in 10 seconds. If there is another motion detected during this period, it will be considered as continuous movement; otherwise it will be considered as a single motion.

Record: If selected, the “Trigger Record” window will pop up automatically (you can also click “Configure” button to pop up the window). Select camera on the left side and then click >> to set a camera as the trigger camera. Select trigger camera on the right side and then click << to cancel the trigger camera. Click “OK” button to save the settings. The trigger cameras will record automatically when the sensor alarm is triggered.

Snapshot: If selected, the “Trigger Snapshot” window will pop up automatically. Configure the trigger camera in the window. The trigger cameras will snap automatically when the sensor alarm is triggered.

Push: Choose ON or OFF. If it is ON, the system will send messages when the sensor alarm is triggered.

Alarm-out*:* If selected, the “Trigger Alarm-out” window will pop up automatically for configuration. The system will trigger the alarm-out automatically when the sensor alarm is triggered. You need to set the delay time and the schedule of the alarm outputs. See 9.5.1 Alarm-out for details.

Preset*:* If selected, the “Trigger Preset” window will pop up automatically for configuration. To add presets, please see 6.2 Preset Setting for details.

Buzzer*:* if enabled, the system will begin to buzz when the sensor alarm is triggered. To set the delay time of the buzzer, please see 9.5.4 Buzzer for details.

Pop-up Video*:* After camera setup, the system will pop up the corresponding video automatically when the sensor alarm is triggered. To set the duration time of the video, please see 9.5.3 Display for details.

Pop-up Message Box: if enabled, the system will pop up the corresponding alarm message box automatically when the sensor alarm is triggered.

To set the duration time of the message box, please see 9.5.3 Display for details.

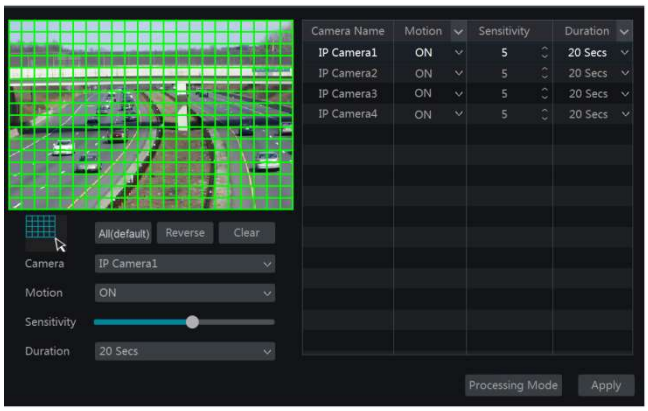
E-mail: if enabled, the system will send an e-mail when the sensor alarm is triggered. Before you enable the email, please configure the recipient's e-mail address first (see 11.1.5 E-mail Configuration for details).

9.2 Motion Alarm

Motion Alarm: when the motion object appears in the specified area, it will trigger the alarm. You should enable the motion of each camera first and then set the alarm handling of the camera to complete the whole configuration of the motion alarm.

9.2.1 Motion Configuration

① Click Start→Settings→Camera→Motion to go to the following interface.



② Select the camera, enable the motion and set the sensitivity and duration of the camera.

Sensitivity: the higher the value is, the more sensitive it is to motion. You should adjust the value according to the practical conditions since the sensitivity is influenced by color and time (day or night).

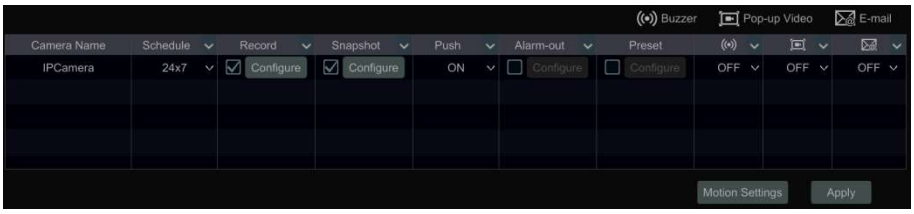
Duration: The interval time between the adjacent motion detections. For instance, if the duration time is set to 10 seconds, once the system detects a motion, it will go to alarm status and would not detect any other motion (specific to camera) for 10 seconds. If there is further motion detected during this period, it will be considered as continuous movement; otherwise, it will be considered a single motion.

③ Drag on the camera image to set the motion area. Click "All" to set the whole camera image as the motion area. Click "Reverse" to swap the motion area and the non-motion area. Click "Clear" to clear all the motion areas.

④ Click "Apply" to save the settings. Click "Processing Mode" to go to the alarm handling configuration interface of the motion alarm.

9.2.2 Motion Alarm Handling Configuration

① Click Start→Settings→Alarm→Motion Alarm to go to the following interface.



② Enable or disable “Record”, “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling settings of motion alarm the same as the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click “Apply” to save the settings. You can click “Motion Settings” to go to the motion configuration interface.

9.3 Smart Event

9.3.1 Object Detection

Abandoned/ Missing Object Detection Configuration:

① Click Start→Settings→Camera→Intelligent Analytics→Object Abandoned/Missing to go to the following interface.

② Select the camera, enable the object detection, and set the detect type. There are two types of detection: Abandoned object and missing object.

Abandoned object: Alarms will be triggered if there are articles left in the pre-defined detection area.

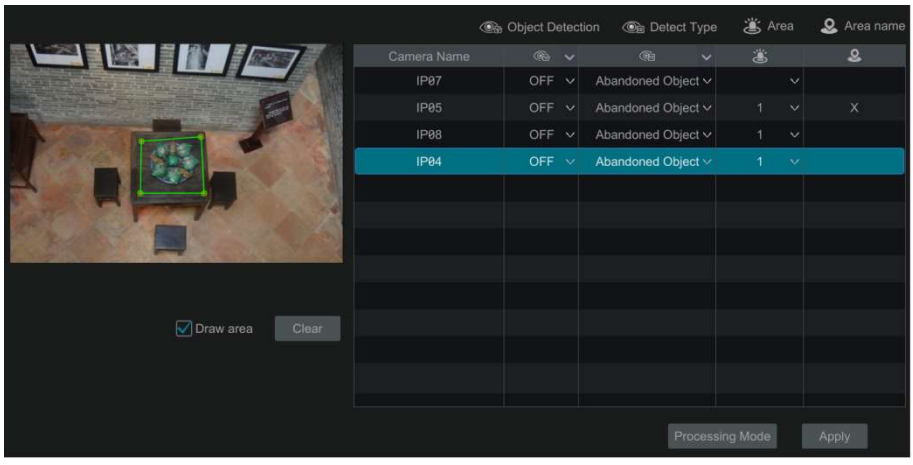
Missing object: Alarms will be triggered if there are articles missing from the detection area drawn by the users.

③ Select the alarm area. A maximum of 4 alarm areas can be set.

④ Draw the alarm area of object detection. Refer to the interface as shown above. Check “Draw Area” and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Uncheck the “Draw Area” when you finish the drawing. Click the “Clear” to delete the alarm area.

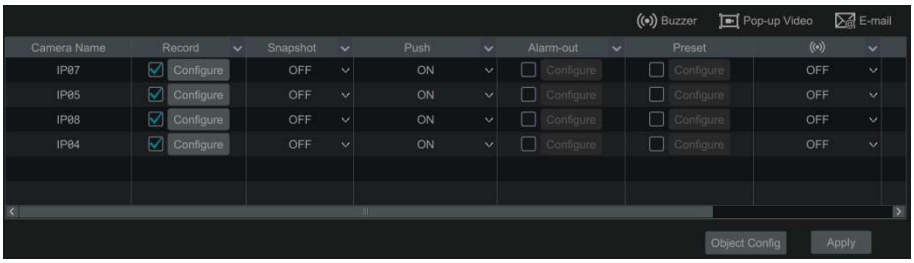
⑤ Click “Apply” to save the settings.

⑥ Click “Processing Mode” to go to the alarm handling configuration interface of object detection.



Object Detection Alarm Handling Configuration:

① Click Start→Settings→Alarm→Intelligence Alarm→Object Detection to go to the following interface.



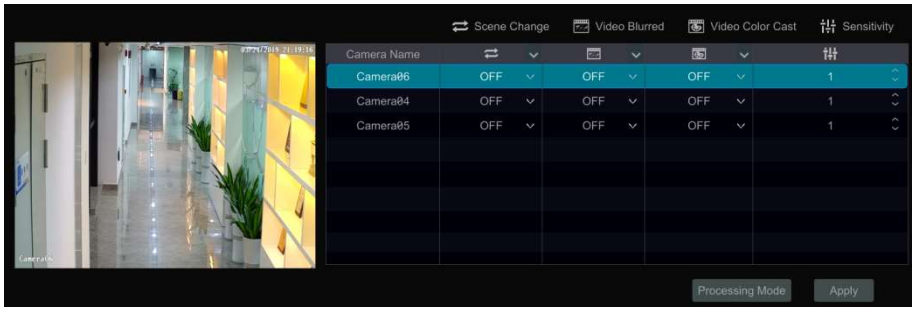
② Enable or disable “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of object detection alarm is like that of the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click “Apply” to save the settings. You can click “Object Config” to go to the object detection configuration interface.

9.3.2 Tampering

Tampering Configuration:

① Click Start→Settings→Camera→Intelligent Analytics→Tampering to go to the following interface.



② Select the camera and enable the relevant detection as needed.

Scene Change: Alarms will be triggered if the scene of the monitor video has changed.

Video Blurred: Alarms will be triggered if the video becomes blurry.

Video Color Cast: Alarms will be triggered if the video becomes obscured.

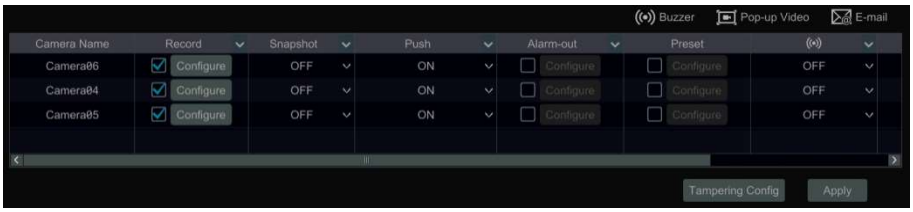
③ Set the sensitivity of the exception detection.

④ Click “Apply” to save the settings.

⑤ Click “Processing Mode” to go to the alarm handling configuration interface of exception detection.

Exception Alarm Handling Configuration:

① Click Start→Settings→Alarm→Intelligence Alarm→Exception to go to the interface.



② Enable or disable “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of exception detection alarm is like that of the sensor alarm (see 9.1 Sensor Alarm for details).

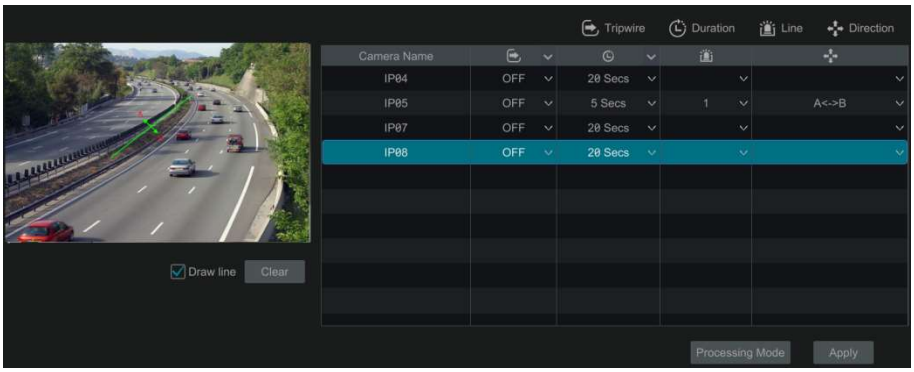
③ Click “Apply” to save the settings. You can click “Exception Config” to go to the exception detection configuration interface.

9.3.3 Tripwire

Line Crossing Configuration:

Alarms will be triggered if someone or something crosses the pre-defined alarm line.

① Click Start→Settings→Camera→Intelligent Analytics→Tripwire to go to the following interface.



② Select the camera, enable the line crossing detection.

③ Select the direction.

Direction: For IPCs, A<->B, A->B and A<-B can be optional; for analog cameras, only A<->B is supported. This is the crossing direction of the intruder who crosses over the alert line.

A<->B: the alarm triggers when the intruder crosses over the alert line from both B to A or from A to B.

A->B: the alarm triggers when the intruder crosses over the alert line only from A to B.

A<-B: the alarm triggers when the intruder crosses over the alert line only from B to A.

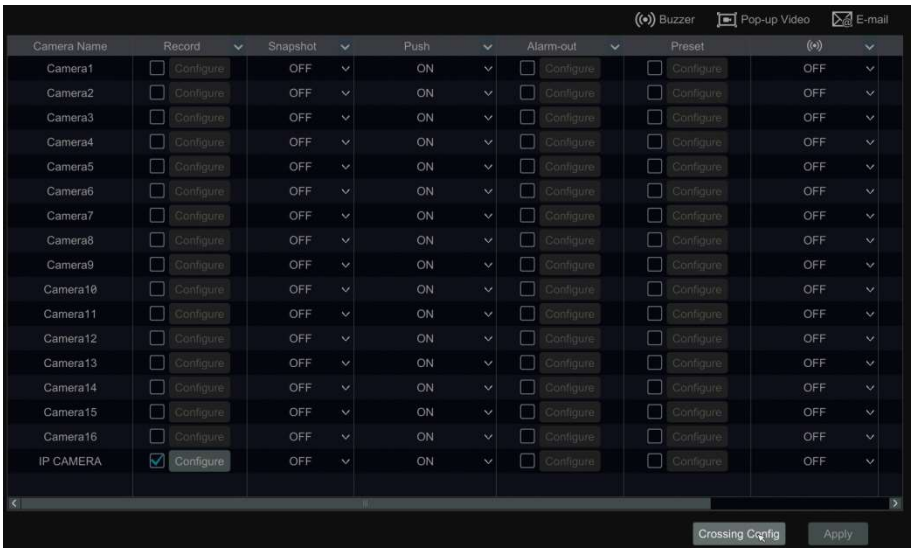
④ Draw line. Refer to the interface as shown above. Check “Draw line” and then drag the mouse in the image to draw an alert line. Uncheck the “Draw line” when you finish the drawing. Click the “Clear” to delete the alert line.

⑤ Click “Apply” to save the settings.

⑥ Click “Processing Mode” to go to the alarm handling configuration interface of line crossing detection.

Tripwire Alarm Handling Configuration:

① Click Start→Settings→Alarm→Intelligence Alarm→Tripwire to go to the following interface.



② Enable or disable “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of line crossing alarm is similar to that of the sensor alarm (see 9.1 Sensor Alarm for details).

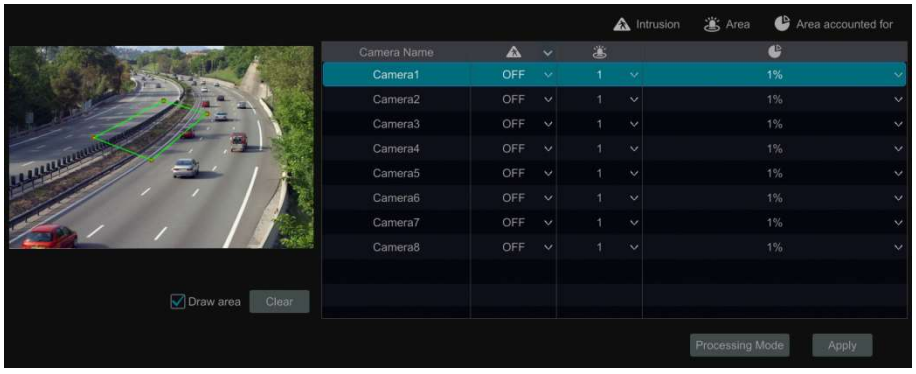
③ Click “Apply” to save the settings. You can click “Crossing Config” to go to the line crossing configuration interface.

9.3.4 Intrusion Detection

Intrusion Configuration:

Alarms will be triggered if someone or something intrudes into the pre-defined area.

① Click Start→Settings→Camera→Intelligent Analytics→Intrusion Detection to go to the following interface.



② Select the camera and enable the intrusion detection.

③ Select the alarm area. Up to 4 alarm areas can be set.

④ Draw the alarm area of intrusion detection. Refer to the interface as shown below. Check “Draw Area” and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Uncheck the “Draw Area” when you finish the drawing.

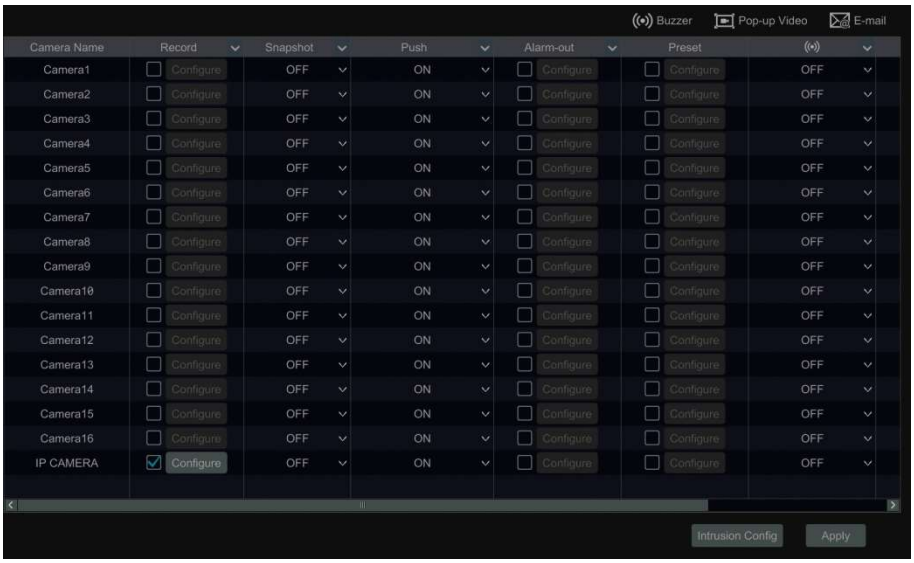
Click “Clear” to delete the alarm area.

⑤ Click “Apply” to save the settings.

⑥ Click “Processing Mode” to go to the alarm handling configuration interface of intrusion detection.

Intrusion Detection Alarm Handling Configuration:

① Click Start→Settings→Alarm→Intelligence Alarm→Intrusion to go to the following interface.



② Enable or disable “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video” and “E-mail”. The alarm handling setting of intrusion detection alarm is like that of the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click “Apply” to save your settings. You can click “Intrusion Config” to go to the intrusion detection configuration interface.

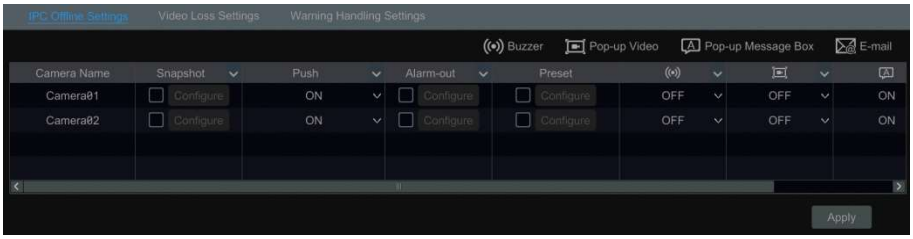
9.4 Exception Alarm

9.4.1 IPC Offline Settings

① Click Start→Settings→Alarm→Exception→IPC Offline Settings to go to the interface as shown below.

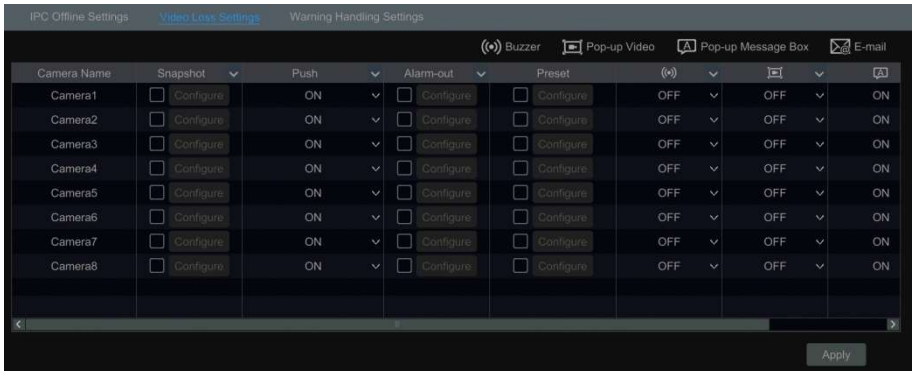
② Enable or disable “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video”, “Pop-up Message Box” and “E-mail”. The IPC Offline Settings are like that of the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click “Apply” to save your settings.



9.4.2 Video Loss Settings

① Click Start→Settings→Alarm→Exception→Video Loss Settings to go to the interface as shown below.



② Enable or disable “Record”, “Snapshot”, “Push”, “Alarm-out”, “Preset”, “Buzzer”, “Pop-up Video”, “Pop-up Message Box” and “E-mail”. The Video Loss Settings are like that of the sensor alarm (see 9.1 Sensor Alarm for details).

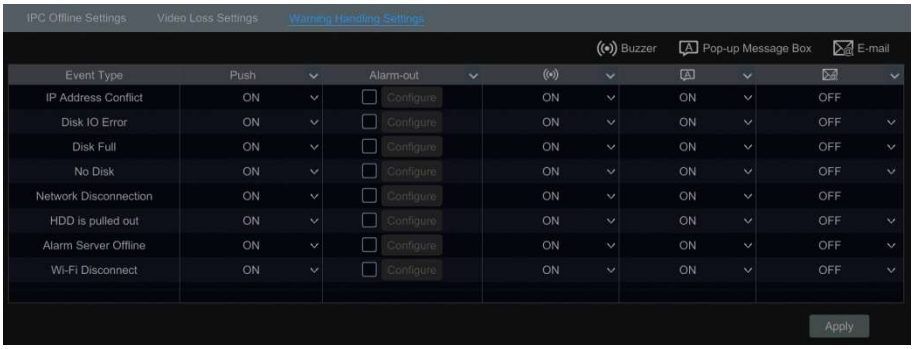
③ Click “Apply” to save your settings.

9.4.3 Warning Handling Settings

① Click Start→Settings→Alarm→Exception→Warning Handling Settings to go to the interface as shown below.

② Enable or disable “Push”, “Alarm-out”, “Buzzer”, “Pop-up Message Box” and “E-mail”. The exception handling settings are like that of the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click “Apply” to save your settings.



9.5 Alarm Event Notification

9.5.1 Alarm-out

① Click Start→Settings→Alarm→Event Notification to go to the following interface.

② Set the delay time and the schedule of each alarm-out. You can click "Edit Schedules" to edit the schedules (see 7.3.1 Add Schedule for details).

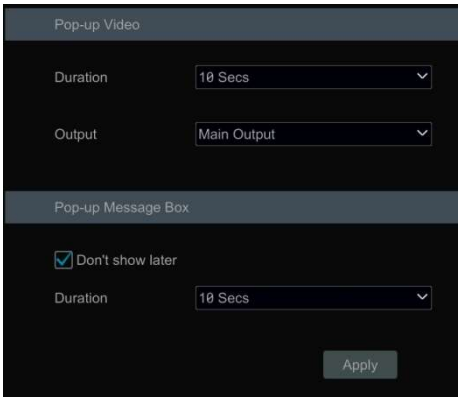
③ Click "Apply" to save your settings. You can click "Test" to test the alarm output.

9.5.2 E-mail

Click Start→Settings→Alarm→Event Notification→E-mail to go to the e-mail configuration interface. Set the e-mail address of the recipients. See 11.1.5 E-mail Configuration for details.

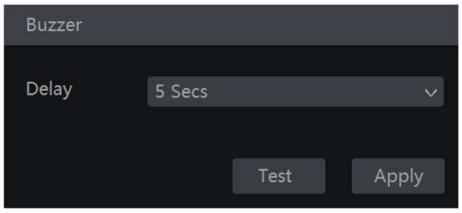
9.5.3 Display

Click Start→Settings→Alarm→Event Notification→Display to go to the display configuration interface. Set the duration time of the pop-up video and the pop-up message box. Click "Apply" to save your settings.



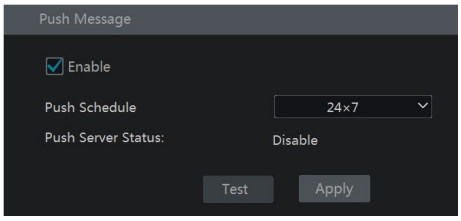
9.5.4 Buzzer

Click Start→Settings→Alarm→Event Notification→Buzzer to go to the buzzer configuration interface. Set the delay time of the buzzer and then click "Apply" to save your settings. You can click "Test" to test the buzzer.



9.5.5 Push Message

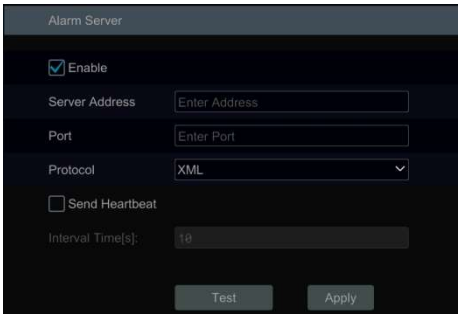
Click Start→Settings→Alarm→Event Notification→Push Message to go to the interface as shown below. Check “Enable” and then click “Apply” button to save your settings. If the Push Server is online, it will push messages to associated mobile clients.



9.5.6 Alarm Server

Go to Alarm→Alarm Server interface as shown below.

Enable the alarm server and enter server address and port of the alarm server. Then select protocol. If “Send Heartbeat” is enabled, set the interval times. After that, test the effectiveness of the alarm server. Having tested successfully, please click “Apply”. When an alarm occurs, the device will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.

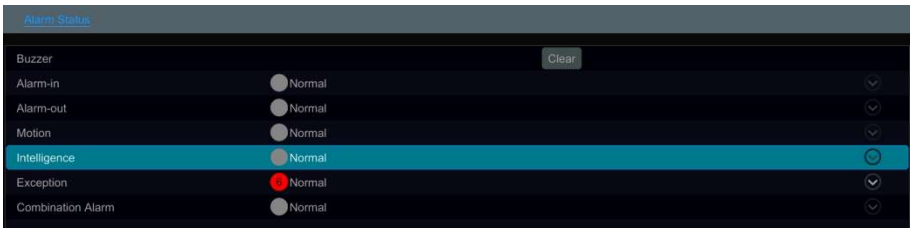


9.6 Manual Alarm

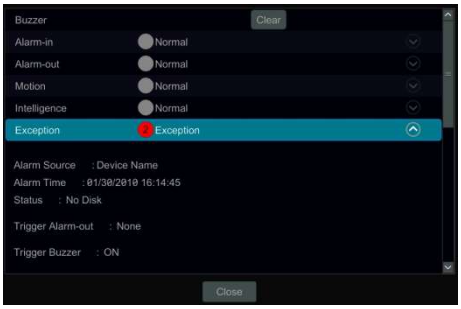
Click  on the tool bar at the bottom of the live view interface to pop up a window. Click “Trigger” to start alarm. Click “Clear” to stop alarm.

9.7 View Alarm Status

Click Start→Settings→Alarm→Alarm Status or click  on the tool bar at the bottom of the live view interface to view the alarm status.



Click the “Clear” button to stop the buzzer when the buzzer alarm happens. Click  to view the detail information as shown below.

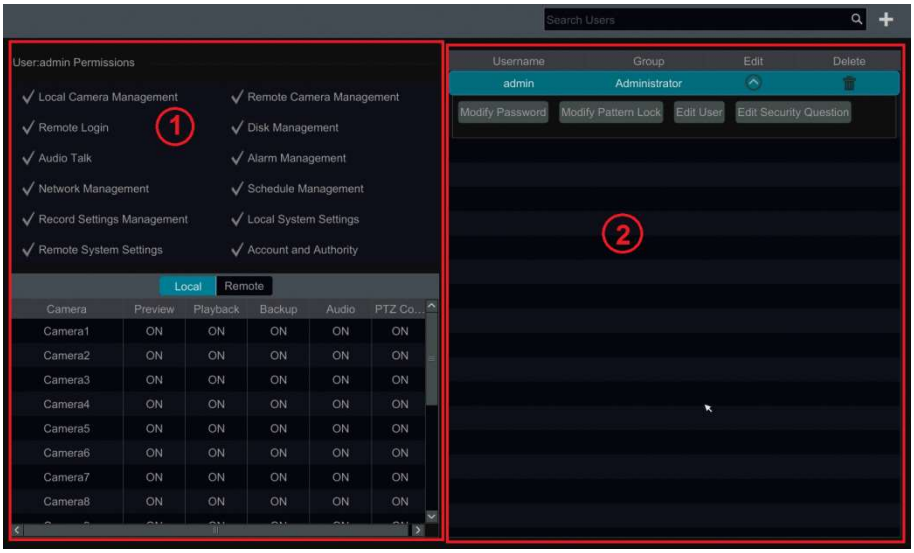


If the exception information is more than one page, you can enter the number in the box and then click  to jump to the specified page. Click  /  to view the exception alarm information in the previous/next page. Click  to play the alarm record.

10 Account & Permission Management

10.1 Account Management

Click Start→Settings→Account and Authority→Account→Edit User to go to the interface as shown below.



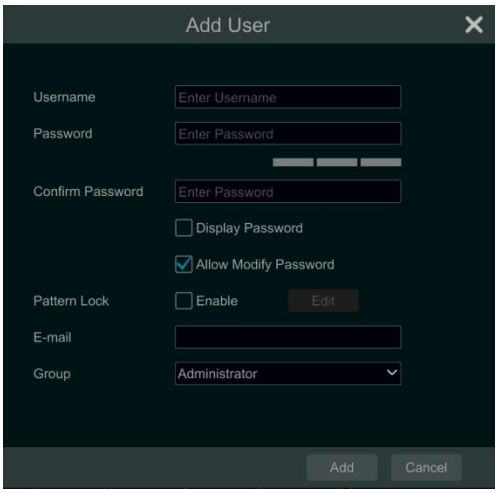
Area ① displays the user permissions. Area ② displays the user list. Click the user in the list to display its user permissions in area ①.

There are three default permission groups (“Administrator”, “Advanced” and “Common”) available when adding accounts. You can manually add new permission group (see 10.3.1 Add Permission Group for details).

Only ***admin*** and the users that have the “Account and Authority” permission can manage the system’s accounts. Group “Administrator” owns all the permissions displayed in area ① except “Account and Authority” and its permissions cannot be changed while the permissions of “Advanced” and “Common” can be changed.

10.1.1 Add User

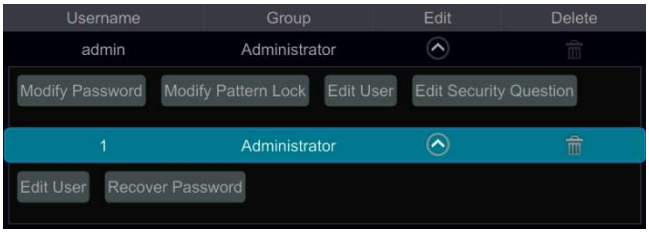
① Click Start→Settings→Account and Authority→Account→Add User or click + beside the search box to pop up the window as shown below.



② Set the username, password and group. User can also set the pattern lock here. The e-mail address is optional. Click “Add” to add the user.

10.1.2 Edit User

Click Start→Settings→Account and Authority→Account→Edit User and then click in the user list or double click the user to edit the user information. Click to delete the user (the user ***admin*** cannot be deleted).



➢ **Edit Security Question**

You can set password security only for ***admin***. Click “Edit Security Question” and then set questions and answers in the popup window. If you forget the password for ***admin***, please refer to Q4 in Appendix A FAQ for details. The passwords of other users can be recovered by ***admin*** or the users that have the “Account and Authority” permission.

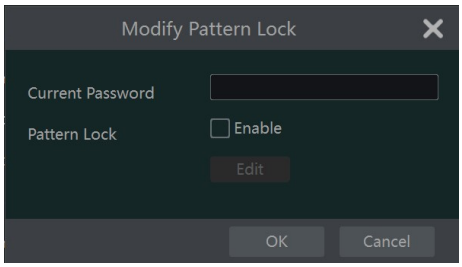
➢ **Modify Password**

Only the password of ***admin*** can be modified. Click “Modify Password” to pop up a window. Enter the current password and then set a new password. Click “OK” to save the settings.

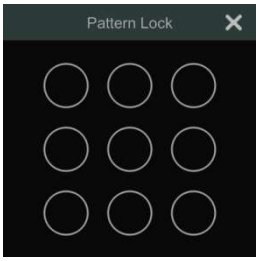
➢ **Modify Pattern Lock**

Note: Some models may not support this function.

Click “Modify Pattern Lock” to pop up a window.



Enter current password and then check “Enable” to input pattern lock.

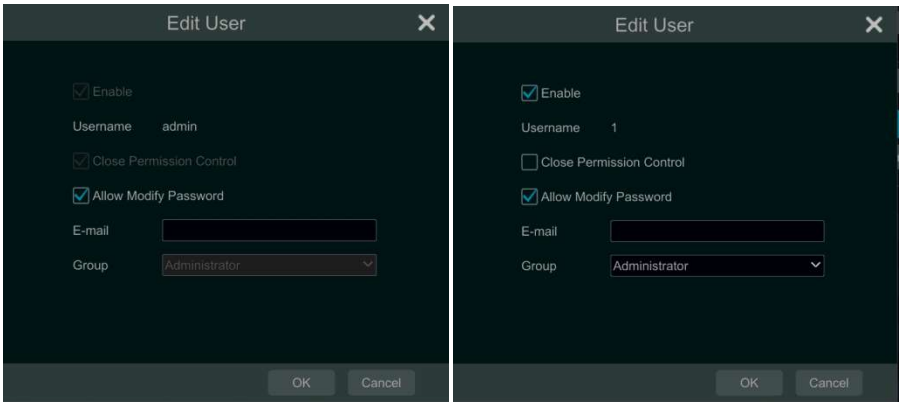


➢ **Recover Password**

Click “Recover Password” to reset the password.

➢ **Edit User**

Click “Edit User” to pop up the window as shown below. ***Admin*** is enabled, its permission control is closed and permission group cannot be changed by default. You can enable or disable other users (if disabled, the user will be invalid), open or close their permission control (if closed, the user will get all the permissions which ***admin*** has) and set their permission groups. Click “OK” to save your settings.



10.2 User Login & Logout

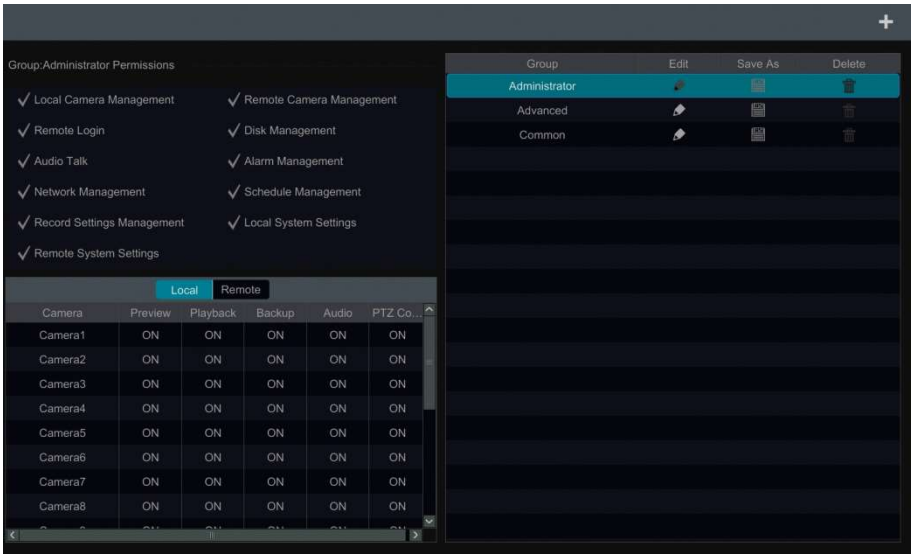
Login: Click Start→Login or directly click the preview interface and then select username and enter the password in the popup window. Click “Login” button to log into the system.

Logout: Click Start→Logout or click Start→Shutdown to pop up the “Shutdown” window. Select “Logout” in the window and then click “OK” button to log out of the system.

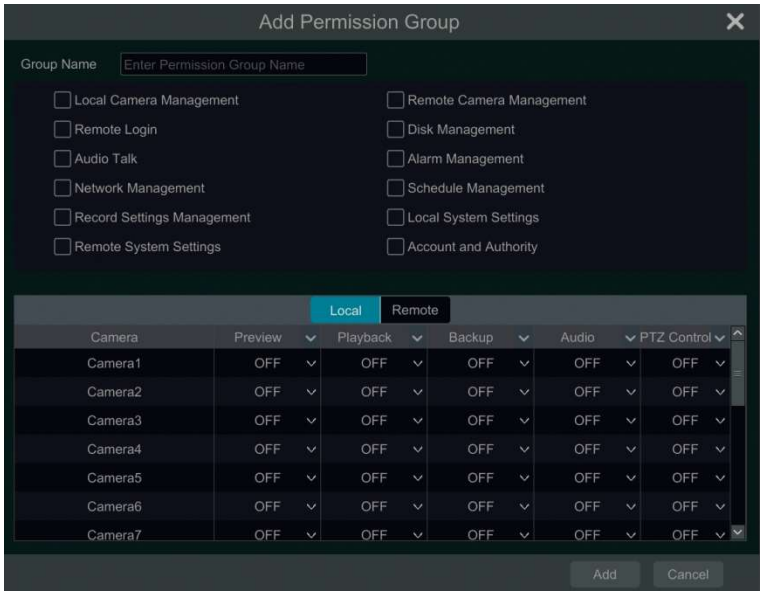
10.3 Permission Management

10.3.1 Add Permission Group

Click Start→Settings→Account and Authority→Account→Edit Permission Group to go to the interface as shown below.



Click + to add permission group. Set the group name, check the permissions as needed and then set the “Local” and “Remote” permissions. Click “Add” to save the settings.

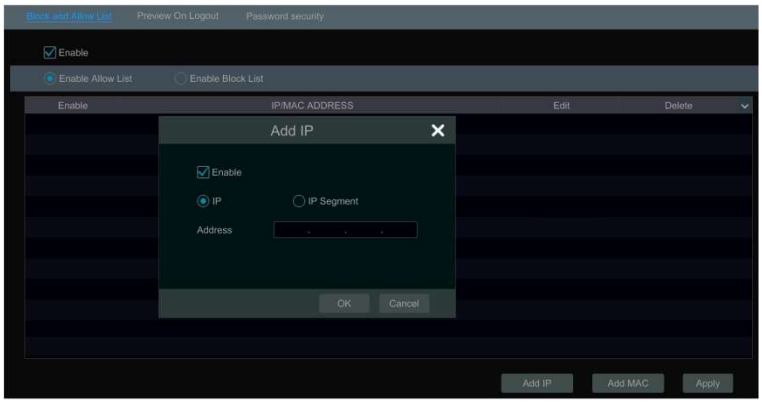


10.3.2 Edit Permission Group

Go to “Edit Permission Group” interface and then click in the group list to edit the permission group (the operations of the “Edit Permission Group” are similar to that of the “Add Permission Group”, please see 10.3.1 Add Permission Group for details). Click to save the group as another group. Click to delete the permission group. The three default permission groups (“Administrator”, “Advanced” and “Common”) cannot be deleted.

10.4 Block and Allow List

① Click Start→Settings→Account and Authority→Security to go to the following interface.



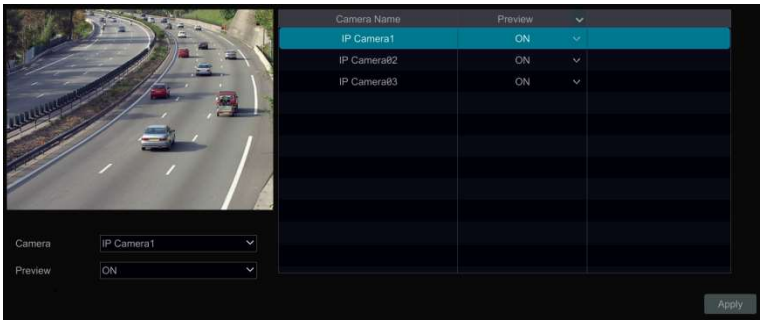
② Check “Enable” and then choose “Enable Allow List” or “Enable Block List” (the PC client of which the IP address is in the allow list can access DVR remotely while the PC client in the block list cannot).

③ Add IP/IP segment/MAC. Click “Add IP” or “Add MAC” button and then check “Enable” in the popup window (only if you check it can the IP/IP segment/MAC you add be effective). Enter the IP/IP segment/MAC and then click “OK” button. In the above interface, click  to edit IP/IP segment/MAC, click  to delete it. Click “Apply” to save the settings.

10.5 Preview On Logout

Click Start→Settings→Account and Authority→Security→Preview on Logout to go to the following interface.

Set a camera and then enable or disable the preview permission on logout as required. If a camera’s preview permission on logout is “ON”, you can view the live image of the camera when the system is logged out, or the live image of the camera cannot be seen when logged out.



10.6 Password Security

Click Start→Settings→Account and Authority→Security→Password Security to go to the following interface.

In this interface, you can set the level and expiration time of the password.

10.7 View Online User

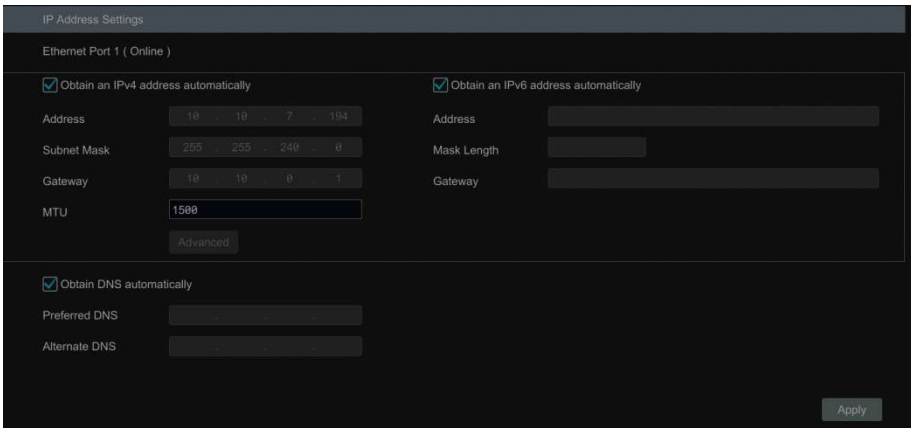
Click Start→Settings→Account and Authority→User Status to view the online user information (you can view the online username, login type, IP address and login time; click to pop up a window showing the preview occupied channel number and playback occupied channel number).

11 Device Management

11.1 Network Configuration

11.1.1 TCP/IP Configuration

Click Start→Settings→Network→TCP/IP to go to the following interface. Check “Obtain an IPv4 address automatically”, “Obtain an IPv6 address automatically” and “Obtain DNS automatically” to get the network addresses automatically, or manually enter the network addresses. You can modify the MTU value according to the network condition (MTU, Maximum Transmission Unit, can be modified according to network condition for higher network transmission efficiency). Click “Apply” to save the settings.



11.1.2 Port Configuration

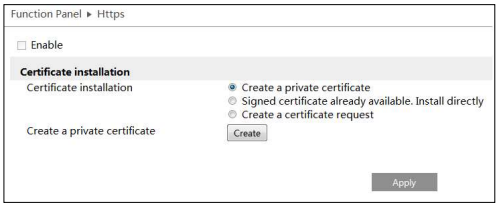
Click Start→Settings→Network→Port to go to the interface as shown below. Enter the HTTP port, HTTPS port, server port and RTSP port of the DVR, enable “Anonymous” as needed and then click “Apply” button to save the settings.

HTTP Port: the default HTTP port of the DVR is 80. The port number can be changed to others like 81. The port is mainly used for web client access. If you want to access the DVR through a web browser, you should enter IP address plus HTTP port in the address bar of the web browser like http://192.168.11.61:81.

HTTPS Port: the default HTTPS port of the DVR is 443.

HTTPs provides authentication of the web site and protects user privacy. How to use it?

① Enter IP address plus HTTP port in the address bar of the web browser. Then enter username and password to log in. Click Functional Panel→Network→HTTPS to go to the following interface.

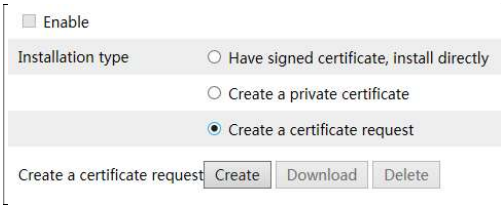


② Install a certificate.

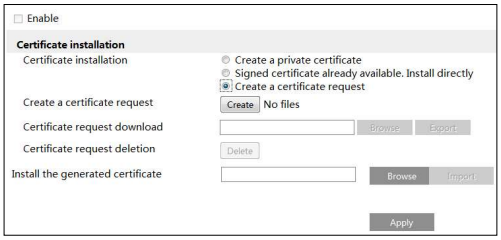
* You can create a private certificate here. Click the “Create” button to create a private certificate. Enter the country (only two letters available), domain (DVR’s IP address/domain), validity date, password, province/state, region and so on. Then click “OK” to save the settings.

* If there is a signed certificate, click “Browse” to select it and then click “Install” to install it.

* Click “Create a certificate request” to enter the following interface.



Click “Create” to create the certificate request. Then download the certificate request and submit it to the trusted certificate authority for signature. After receiving the signed certificate, import the certificate to the device.



③ After the certificate has been installed, enable this function and apply it. Then the camera can be accessed by entering https://IP: https port via the web browser (eg.https://192.168.1.201:443).

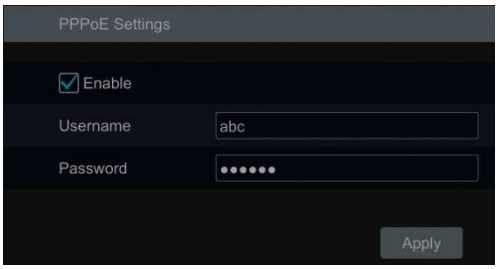
Server Port: the default server port of the DVR is 6036. The server port number can be changed as required. The port is mainly used in network video management system.

Note: The HTTP port and server port of the DVR should be mapped to the router before you access the DVR via WAN.

RTSP Port: RTSP real-time stream protocol can be used to control the sending of real-time data. By media player which supports the RTSP real-time stream protocol, you can view the live images synchronously. The default RTSP port is 554 and it can be changed as needed.

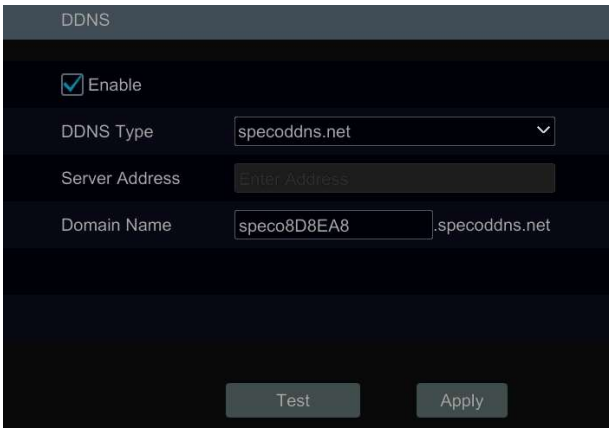
11.1.3 PPPoE Configuration

Click Start→Settings→Network→PPPoE to go to the interface as shown below. Check “Enable” in “PPPoE Settings” and then enter the username and password obtained from the dealer. Click “Apply” to save the settings.



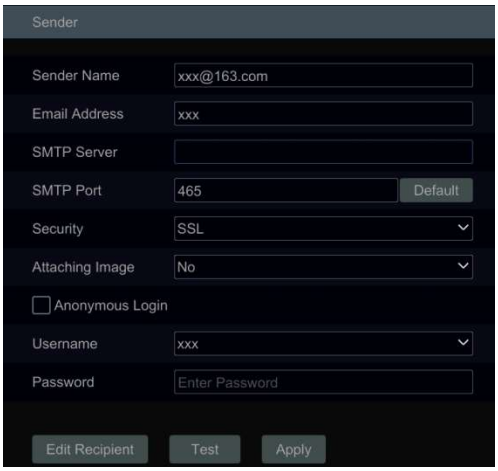
11.1.4 DDNS Configuration

The DDNS is used to control the dynamic IP address through domain name. Speco Technologies provides free DDNS service with US-based servers. You can access the DVR easily if the DDNS is enabled and configured. Click Start→Settings→Network→DDNS to go to the interface as shown below. The default DDNS type will be “specoddns.net”. The default domain name will be shown. You can use this for your domain name or enter your own. If invalid or taken, please select another domain name. Click on test to check if ok. If so, you may now go to [your domain name].specoddns.net with Internet Explorer and access your recorder remotely.

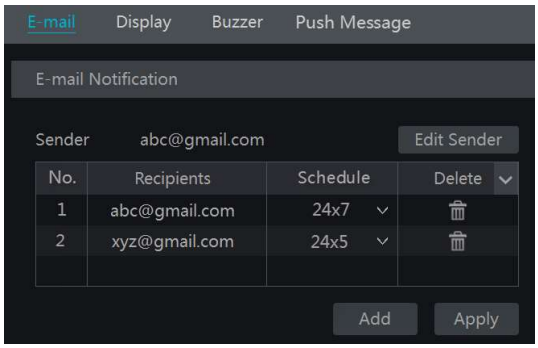


11.1.5 E-mail Configuration

Click Start→Settings→Network→E-mail to go to the following interface. Enter the sender’s name, e-mail address, SMTP server and SMTP port (you can click “Default” to reset the SMTP port to the default value) and then enable or disable the SSL and attaching image. Select the username (the username list will be updated automatically according to the email address you input) and enter the password of the sender and then click “Apply” to save the settings (you don’t have to enter the username and password if “Anonymous Login” is enabled). Click “Test” to pop up a window. Enter the e-mail address of the recipient in the window and then click “OK” button. The e-mail address of the sender will send an e-mail to the recipient. If the e-mail is sent successfully, it indicates that the e-mail address of the sender is configured correctly.



Click “Edit Recipient” to go to the following interface.



Click “Add” and then enter the recipient’s e-mail address and select the schedule (if a schedule is selected, the system will send the alarm email and the recipient will receive it only in the selected schedule time) in the popup window. Click “Add” in the window to add the recipient. You can also change the recipient’s receiving schedule by clicking in the “Schedule” column. Click to delete the recipient in the list. Click “Apply” to save the settings. Click “Edit Sender” to go to the e-mail configuration interface of the sender.

11.1.6 UPnP Configuration

By UPnP, you can access the DVR through a web client on the WAN via a router without port mapping.

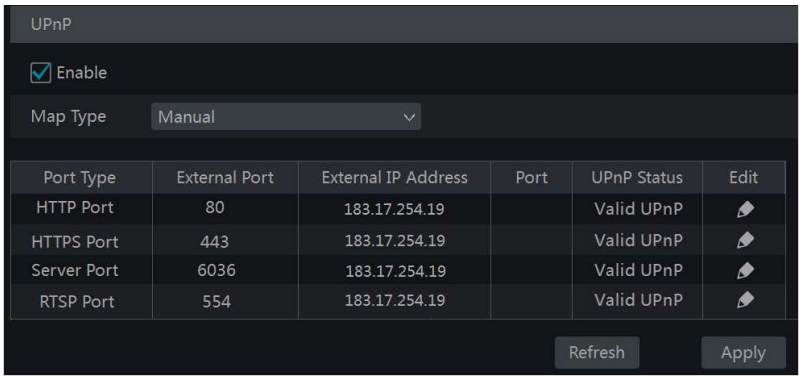
① Click Start→Settings→Network→UPnP to go to the following interface.

② Make sure the router supports UPnP function and the UPnP is enabled in the router.

③ Set the DVR’s IP address, subnet mask and gateway and so on corresponding to the router.

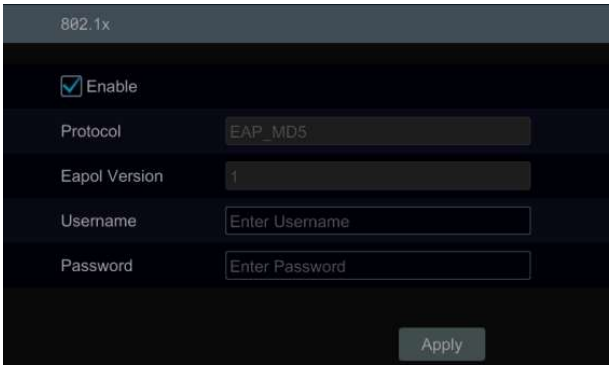
④ Check “Enable” in the interface as shown below and then click “Apply” button.

Click “Refresh” button to refresh the UPnP status. If the UPnP status says “Invalid UPnP” after refreshing it a few times, the port number may be wrong. Please change the mapping type to “Manual” and then click to modify the port until the UPnP status turns to “Valid UPnP”. Refer to the following picture. You can view the external IP address of the DVR. Enter the external IP address plus port in the address bar of your browser to access the DVR such as http://183.17.254.19:81.



11.1.7 802.1X

If it is enabled, the DVR data can be protected. When the DVR is connected to the network protected by the IEEE 802.1X, user authentication is needed.



To use this function, the DVR shall be connected to a switch supporting 802.1x protocol. The switch can be considered as an authentication system to identify the device in a local network. If the DVR connected to the network interface of the switch has passed the authentication of the switch, it can be accessed via the local network.

Protocol type and EAPOL version: Please use the default settings.

Username and password: The username and password must be the same as the username and password applied for and registered in the authentication server.

11.1.8 NAT Configuration

Click Start→Settings→Network→NAT to go to the interface for NAT configuration and check “Enable”. Click “Apply” to save the settings and make note of the QR code number under the QR code. Via Internet Explorer, go to connect.specotech.cloud, input the QR code number, your username and password to login.

You can also scan the QR Code through the Speco Blue app on your mobile client phone or tablet to log into the recorder instantly.

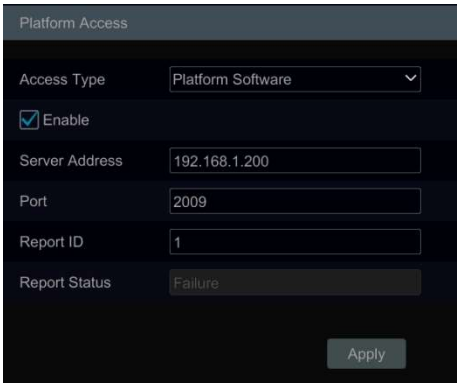
11.1.9 Platform Access

This function is mainly used for connecting SpecoVMS. The set-up steps are as follows.

Click Start→Settings→Network→Platform Access to go to the interface.

Platform Access

① Set “Access Type” as “Platform Software” and select “Enable” as shown below.
② Check the IP address and port of the transfer media server in the VMS. The default server port for auto report is 2009. If it is modified, please go to the transfer media interface to check.
③ Enable the auto report in the VMS when adding a new device. Then self-define device ID and fill out the remaining information of the device in the ECMS/NVMS.
④ Enter the above-mentioned server address, port and report ID in the server interface. Then click the “Apply” button to save the settings. Now the ECMS/NVMS system will automatically connect this device.



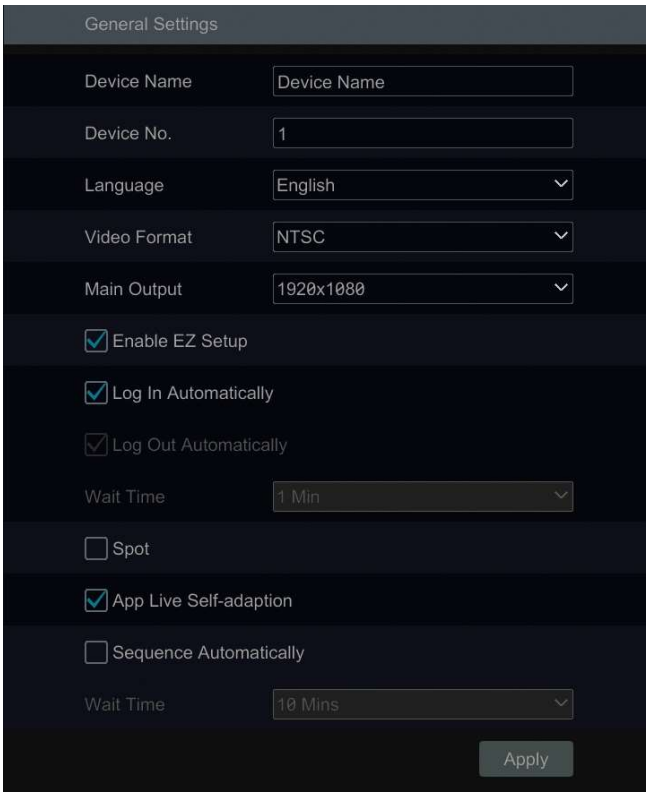
11.1.10 View Network Status

Click Start→Settings→Network→Network Status to view the network status or click  on the tool bar at the bottom of the live view interface to view network status conveniently.

11.2 Basic Configuration

11.2.1 General Configuration

Click Start→Settings→System→Basic→General Settings to go to the following interface. Set the device name, device No., language, video format and main output. Enable or disable wizard, “Log In Automatically”, “Log Out Automatically” (if checked, you can set the wait time), “App Live Self-Adaption” and “Sequence Automatically” (if checked, you can set the wait time). Click “Apply” to save the settings.



Device Name: The name of the device. It may display on the client end or CMS that help user to recognize the device remotely.

Video Format: Two modes: PAL and NTSC. Select the video format according to the camera.

Sequence Automatically: Check it and set "wait time". The system will sequence automatically if it is not operated during the time you set.

11.2.2 Date and Time Configuration

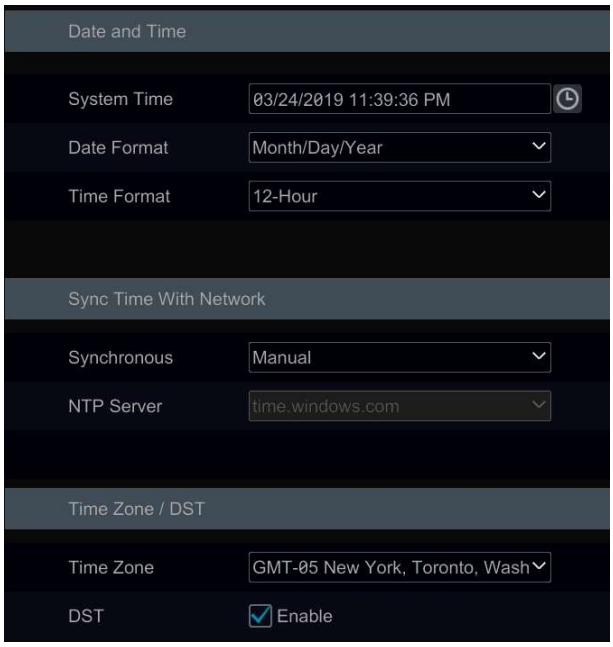
Click Start→Settings→System→Basic→Date and Time to go to the interface as shown below.

Set the system time, date format, time format and time zone of the DVR. The default time zone is filled in our default info. If the selected time zone includes DST, the DST of the time zone will be checked by default. Click "Apply" to save the settings.

You can manually set the system time or synchronize system time with network through NTP.

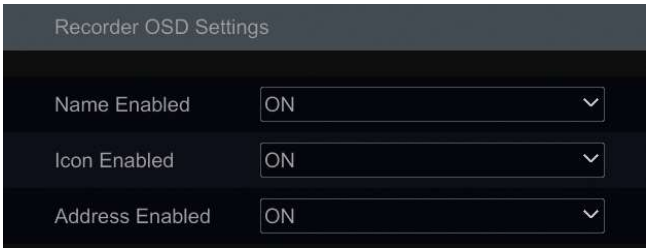
Manual: select "Manual" in the "Synchronous" option and then click  after the "System Time" option to set the system time.

NTP: select "NTP" in the "Synchronous" option and then enter the NTP server.



11.2.3 Recorder OSD Settings

Click Start→Settings→System→Basic→Recorder OSD settings to go to the following interface. Name, icon and address OSD can be enabled here.



11.3 Factory Default

Click Start→Settings→System→Maintenance→Factory Default and then click "Reset to factory default" button in the interface to reset to the factory default settings(check "All except the network" to retain the network settings).

Note: Resetting to the factory default settings will not change time zone.

11.4 Device Software Upgrade

- **Upgrade**

You can click Start→Settings→System→Information→Basic to view MCU, kernel version and firmware version and so on. Before upgrade, please get the upgrade file from your dealer.

The upgrade steps are as follows:

① Copy the upgrade software onto the USB storage device.

② Insert the USB storage device into the USB interface of the DVR.

③ Click Start→Settings→System→Maintenance→Upgrade to go to "Upgrade" interface. Select the USB device in "Device Name" option and go

to the path where the upgrade software exists. Select the upgrade software and then click “Upgrade”. The system may automatically restart during upgrading. Please wait for the process to finish and do not power off the DVR during upgrading.

Note: The file system of the USB mobile device which is used for upgrading, backing up and restoring should be FAT32 format.

11.5 Backup and Restore

You can back up the configuration file of the DVR by exporting the file to other storage devices; you can recover the configuration to other DVRs which are of the same model with the DVR by importing the configuration file to other DVRs for time saving.

Insert the USB storage device into the USB interface of the DVR and then click Start→Settings→System→Maintenance→Backup and Restore to go to the interface.

- **Backup**

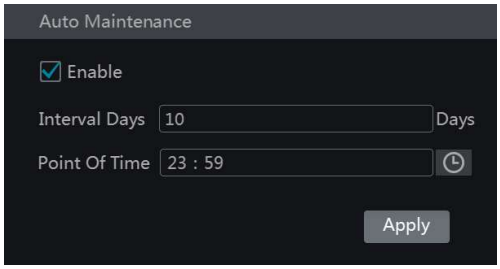
Select the USB device in “Device Name” option; go to the path where you want to store the configuration backup file and then click “Backup” button; finally click “OK” button in the popup window.

- **Recover**

Select the USB device in “Device Name” option; find the configuration backup file and then click “Recover” button; finally click “OK” button in the popup window.

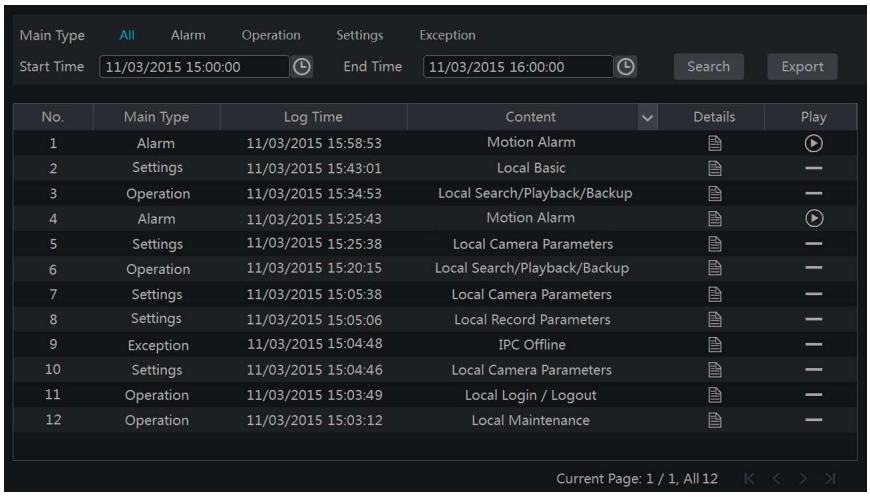
11.6 Restart Automatically

You can set the automatic restart time for the DVR to maintain it regularly. Click Start→Settings→System→Maintenance→Auto Maintenance to go to the interface as shown below. Enable auto maintenance, set the interval days and point of time and then click “Apply” to save the settings. The DVR will restart automatically at the pointed time every interval days.



11.7 View Log

Click Start→Settings→System→Maintenance→View Log to go to the log view interface. Select the log main type, click  to set start time and end time and then click “Search” button. The searched log files will be displayed in the list.



Choose the log file in the list and then click “Export” button to export the log file. Click on the “Content” title bar to pop up a menu list. Check contents in the menu list and then the log list will show the checked log contents only. Click to play the video log.

11.8 View System Information

Click Start→Settings→System→Information and then click the corresponding menu to view the “Basic”, “Camera Status”, “Alarm Status”, “Record Status”, “Network Status” and “Disk” information of the system.

12 Remote Surveillance

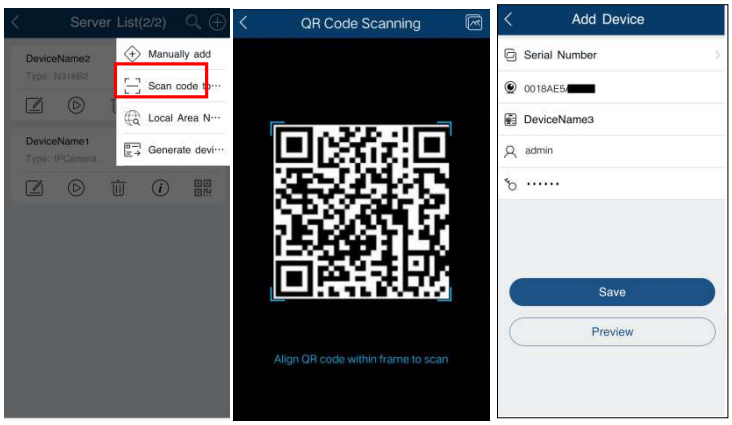
12.1 Mobile Client Surveillance

① Enable NAT in the DVR. Refer to 11.1.8 NAT Configuration for details.

② Scan the QR Code through the Speco Blue App available for iOS and Android to view your cameras easily and securely.

③ Run the mobile client, go to the "Add Device" interface, and then click to scan the QR Code of the DVR (Go to Start→Settings→System→Information→Basic to view the QR Code of the DVR).

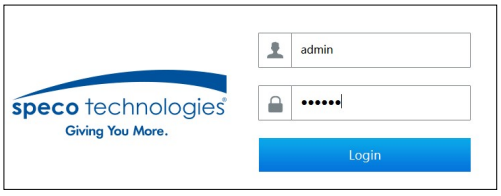
④ After scanning the QR Code successfully, enter the login password to log in mobile client.



12.2 Web LAN Access

① Click Start→Settings→Network→TCP/IP to go to the "TCP/IP" interface. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the DVR.

② Open the web browser on your computer, enter the IP address of the DVR in the address bar and then press enter to go to the login interface as shown below. You can change the display language on the top right corner of the login interface. Enter the username and password of the DVR in the interface and then click "Login" to go to the live view interface.



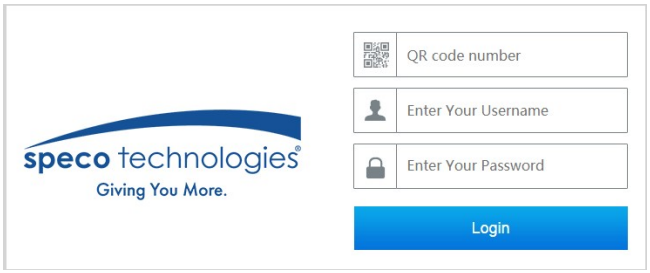
Notes: 1. Please make sure that the IP address of the DVR and the computer are both in the same local network segment. For example, supposing that the IP address of the computer is 192.168.1.41, the IP address of the DVR shall be set to 192.168.1.XXX.

2. If the HTTP port of the DVR is not 80, but other number instead, you need to input the IP address plus port number in the IE address bar when accessing the DVR over network. For example, the HTTP port is 81. You should enter http://192.168.1.42:81 in the IE address bar.

12.3 Web WAN Access

① Set the network of the DVR. Please refer to 11.1.1 TCP/IP Configuration for details.

② Click Start→Settings→Network→NAT to go to the interface for NAT configuration and check “Enable”. Click “Apply” to save the settings and make note of the QR code number under the QR code. Via Internet Explorer, go to connect.specotech.cloud, input the QR code number, your username and password to login.



➢ **PPPoE Access**

① Click Start→Settings→Network→PPPoE to go to the “PPPoE” interface. Check “Enable” in the “PPPoE settings” and then enter the username and password you get from your ISP. Click “Apply” to save the settings.

② Click Start→Settings→Network→Network Status to view the IP address of the DVR.

③ Open the web browser on your computer, enter the IP address of the DVR like http://210.21.229.138 in the address bar and then press enter to go to the login interface. Enter the username and password of the DVR in the interface and then click “Login” to go to the live view interface.

➢ **Router Access**

① Click Start→Settings→Network→TCP/IP to go to the “TCP/IP” interface. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the DVR.

② Set the HTTP port (it is suggested to modify the HTTP port because the default HTTP port 80 might be taken up) and enable UPnP function in both the DVR and the router. If the UPnP function is not available in the router, you need to forward the LAN IP address, HTTP port and server port of the DVR to the router. Port mapping settings may be different in different routers, so please refer to the user manual of the router for details.

③ Get the WAN IP address of the DVR from the router. Open the web browser on your computer, enter the WAN IP address plus HTTP port like http://116.30.18.215:100 in the address bar and then press enter to go to the login interface. Enter the username and password of the DVR in the interface and then click “Login” to go to the live view interface.

Note: If the WAN IP address is a dynamic IP address, it is necessary for you to use the domain name to access the DVR. Click Start→Settings→Network→DDNS to set DDNS (see 12.1.4 DDNS Configuration for details). By using DDNS function you can use the domain name plus HTTP port like http://sunshine.dvrdydns.com:100 to access the DVR via internet.

12.4 Web Remote Control

The supported browsers for remote access are IE8/9/10/11, Firefox, Opera and Chrome (available only for the versions lower than 45) in Windows and Safari on a MAC system. The DVR supports web client access with plug-in or without plug-in. Here we take IE browser as an example. When you access the DVR through IE for the first time, you need to download and install the relative components for normal preview and playback. Please refer to the tips in the remote interfaces for details. The buttons and icons on the top right corner of the remote interface are introduced as

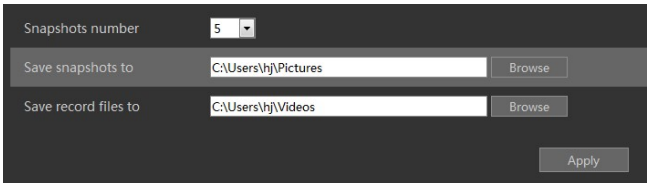
follows:

admin: the current login username.

Logout: click to logout and return to the login interface.

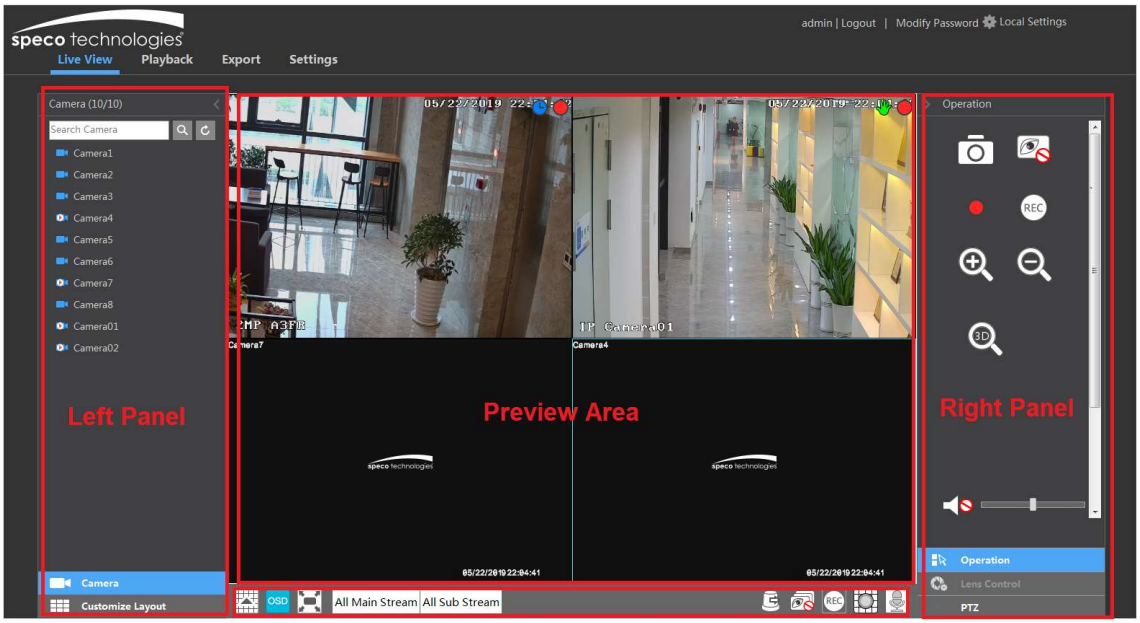
Modify Password: click to change the password of the current login user. Enter the current password and then set a new password in the popup window. Click “OK” button to save the new password.

Local Settings: click to change the local settings. Set the snapshot number and click “Browse” to set the snapshot path and record path as shown below. Click “Apply” button to save the settings.



12.4.1 Remote Preview

Click “Live View” in the remote interface to go to the live view interface. The live view interface consists of the four areas marked in the following picture.



➢ **Start Preview**

Select a window in the preview area and then click one online camera on the left panel to preview the camera in the window. You can click in the tool bar to view all the cameras.

➢ **Left Panel Introduction**

Click ‹ on the left panel to hide the panel and click › to show the panel. You can view all the added cameras and groups on the left panel.

- **View Camera**

Click Camera to view the cameras. You can view the number of all the added cameras and the online cameras. For instance, the left number 3 in Camera (3/4) on the left panel stands for the number of online cameras; the right number 4 stands for the number of all the added cameras. Enter the camera name in the search box and then click to search the camera. Click to refresh the camera list.

- **View Scheme**

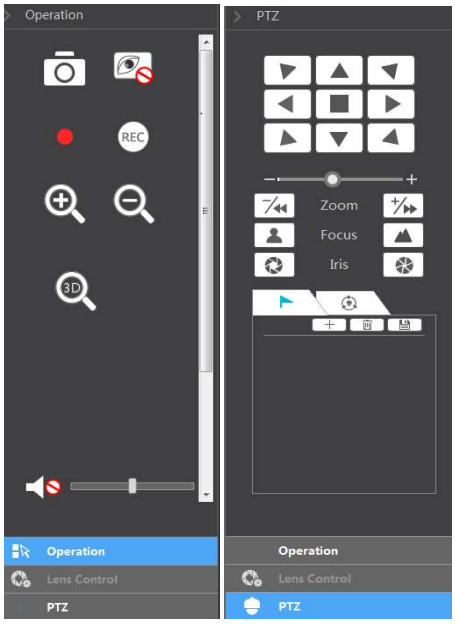
Click Customize Layout to view the scheme (or planning). All schemes can be shown in the left panel. Double click the scheme name to invoke it quickly

➢ **Tool Bar Introduction**

Button	Meaning
	Screen mode button.
OSD OFF	Click to disable OSD. Click OSD ON to enable OSD.
	Click to show full screen. Right click on the full screen to exit full screen.
All Main Stream All Sub Stream	Click “All Main Stream” or “All Sub Stream” to set the stream of all the cameras.
	Manual alarm button. Click to pop up a window and then trigger and clear the alarm-out in the window manually.
	Click to preview all cameras.
	Click to close all the preview cameras.
REC	Click to start recording for all cameras to computer. Click REC to stop recording.
	Click to start manual record for all cameras to the DVR. Click to stop manual record for all cameras.
	Click to enable audio conversation with the DVR.

➢ **Right Panel Introduction**

Click on the right panel to show the panel and click to hide the panel. Click PTZ at the bottom of the panel to go to “PTZ” panel. Click Lens Control to go to “Lens Control”. Click Operation to go to “Operation” panel.



Operation panel introduction:

Button	Meaning
	Click to take snapshots.
	Click to start recording to computer; click it again to stop recording.
	Click to zoom in the image of the camera and then drag the mouse on the camera image to view the hidden area.
	Click to zoom out the image of the camera.
	The 3D zoom in function is designed for P.T.Z. Click it and then drag the image to zoom in or zoom out the image; click the image on different areas to view the image of the dome omni-directionally.
	Click to start to record to the DVR
	Click to close the preview camera.
	Click to enable audio and then drag the slider bar to adjust the volume. You can listen to the camera audio by enabling audio.

PTZ panel introduction:

Button	Meaning
	Click / / / / / / / / to rotate the dome; click to stop rotating the dome.
	Drag the slider to adjust the rotating speed of dome.

Button	Meaning
Zoom	Click / to zoom in/out camera image.
Focus	Click / to increase/ decrease the focal length.
Iris	Click / to increase/decrease the iris of the dome.
	Click to view the preset list and then click the button in the list to call the preset.
	Click to view the cruise list and then click the corresponding buttons in the list to start or stop the cruise.

12.4.2 Remote Playback

Click “Playback” in the remote interface to go to the playback interface.

① Check the record event types and cameras on the left panel. Set the record date on the calendar beside the time scale.

② Click to search the record data and then click or directly click the time scale to play the record.

The operation of the playback time scale is similar to that of the time scale in the main program of the DVR. Please refer to 8.2 Playback Interface Introduction for details.

Introduction of playback control buttons:

Button	Meaning
	Stop button.
	Rewind button. Click it to play video backward.
	Play button. Click it to play video forward.
	Pause button.
	Deceleration button. Click it to decrease the playing speed.
	Acceleration button. Click it to increase the playing speed.
	Previous frame button. It works only when the forward playing is paused in single screen mode.
	Next frame button. It works only when the forward playing is paused in single screen mode.
30S	Click to step backward 30s and click to step forward 30s.
	Backup start time button. Click the time scale and then click it to set the backup start time.
	Backup end time button. Click the time scale and then click it to set the backup end time.
	Export button.
	Backup tasks button. Click it to view the backup status.
	Event list button. Click it to view the event record of manual/schedule/sensor/motion.

12.4.3 Remote Export

Click “Export” in the remote interface to go to the export interface. You can export the record by event search or by time search.

- **Event Search**

Check the record type on the left side of the interface and then click  to set the start time and end time; check the cameras and then click  on the right side to search the record (the searched record data will be displayed in the list); check the record data in the list and then click "Export" button to export the record.

- **Time Search**

Click  to set the start time and end time on the left side of the interface; check the cameras and then click  on the right side to back up the recording.

- **Snapshots**

The system will display all the captured images automatically in the list. Click  to delete the image. Click  to pop up the "Export" window. Click  to pop up the "View Image" window. Click  to export the image.

- **View Export Status**

Click "Export Status" to view the export status. Click "Pause" to stop the export; click "Resume" to continue the export; click "Delete" to delete the task.

12.4.4 Intelligent Analysis

Click "Intelligent Analysis" in the remote interface to configure smart search, statistics, target database, face attendance and face check in. All these settings are similar to that of the DVR. See the configurations of the DVR for details.

12.4.5 Remote Configuration

Click "Function Panel" in the remote interface and then configure the camera, record, alarm, disk, network, account and authority and system of the DVR remotely. All these settings are the same as the settings of the DVR. See the configurations of the DVR for details.

Appendix A FAQ

Q1. Why can't I find the HDD?

a. Please check the power and SATA data cables of the HDD to make sure they are connected.

b. For some DVRs with the 1U or small 1U case, the power of the adapter may be not enough for operating your HDD. Please use the power adaptor supplied along with the DVR.

c. Please make sure the HDDs are compatible with the DVR. Contact Speco Technologies customer service for a list of compatible hard drives.

d. The HDD could have gone bad.

Q2. Why are there no images in some or all of the camera windows?

a. Please make sure the resolutions of the cameras are supported by the DVR.

b. Please make sure the network cables of the IP camera and DVR are both connected properly, and the network parameters are set correctly.

c. Please make sure the analog cameras are connected properly.

d. Please make sure the network and the switch both work normally.

Q3. The screen has no output after booting the DVR normally.

a. Please make sure the screen, HDMI or VGA cables are good and properly connected.

b. Please make sure the screen supports the resolution of 1280*1024, 1920*1080 or 3840*2160 (4K*2K). The DVR cannot self-adapt to the screen of which the resolution is lower than 1280*1024, and then the screen will remind you that the screen resolution is not supported by the DVR or just have no display. Please change a screen at 1280*1024, 1920*1080 or 3840*2160 resolution before booting the DVR.

Q4. Forget your passwords?

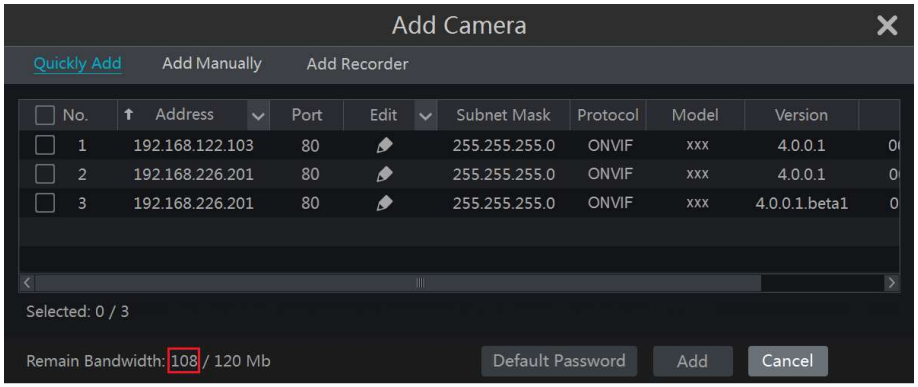
a. The password for ***admin*** can be reset through "Edit Security Question" function.

Click "Edit Security Question" button in the login window and then enter the corresponding answer of the selected question in the popup window, the password for ***admin*** will be reset. If you forget the answer of the question, this way will be invalid, please contact your dealer for help.

b. The passwords of other users can be reset by an ***admin***, please refer to 10.1.2 Edit User for details.

Q5. The DVRdoes not add up to the maximum number of IP cameras?

Take the 16 CH DVR as an example. Some 16 CH DVR support a maximum of 120Mbps bandwidth input (please check your actual device specifications for standards). Refer to the picture below. The remaining bandwidth should be larger than the bandwidth of the IP camera you want to add, or you will fail to add the IP camera. You should lower the added cameras' bitrate to lower the bandwidth. It is recommended to add cameras using "Quickly Add" for batch adding.



Q6. The system will not record, why?

a. Make sure the HDD was formatted prior to use.

b. The record schedule has not been set in manual record mode. Please refer to 7.3.2 Record Schedule Configuration for details.

c. Maybe HDD is full and thus the DVR is not able to record. Check HDD information from Disk Management and if required, please enable the overwrite function (please see 7.1.2 Advanced Configuration for details).

d. There is no disk but cameras in the disk group, so please add at least one disk to the group. Refer to 7.5.1 Storage Mode Configuration for details.

e. The HDD could have gone bad. Please contact tech support.

Q7. I can't access the DVR remotely through IE.

a. Please make sure the IE version is IE8 or above.

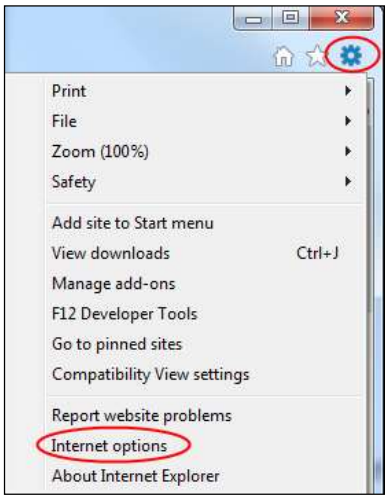
b. Please check whether the PC has enabled the firewall or installed the antivirus software. Please try to access the DVR again after you disable the firewall and stop the antivirus software.

c. Allow & block list may have been set in Account and Authority setting. The PC of which the IP address is in the block list or out of the allow list cannot access the DVR remotely.

Q8. ActiveX control cannot be downloaded. What can I do?

a. IE browser blocks ActiveX control. Please do setup as per the steps mentioned below.

① Open IE browser. Click → Internet Options.

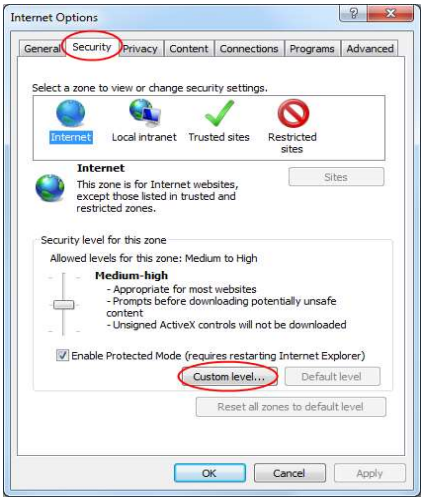


② Select Security→Custom Level. Refer to Fig 10-1.

③ Enable all the sub options under “ActiveX controls and plug-ins”. Refer to Fig 10-2.

④ Then click “OK” to finish setup.

b. Other plug-ins or anti-virus may block ActiveX. Please disable or do the required settings.



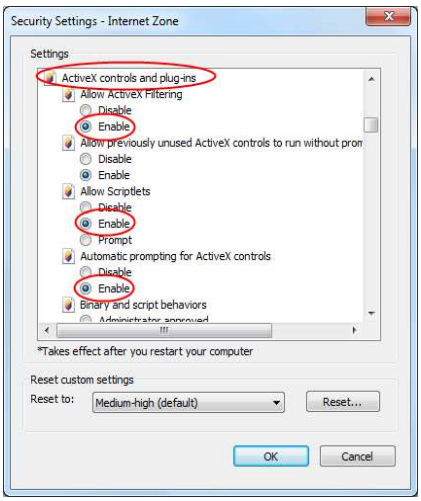


Fig 10-1 Fig 10-2

Q9. How do I play the backup file?

a. Recording backed up by DVR: insert the USB device in which the record backup files is saved to the USB interface of the PC and then open the USB device path. The record can be backed up in the private format and AVI format by DVR.

- If you select the private format when backing up record by DVR, a RPAS (Recording Player Application Software)compression package will be backed up to the USB device automatically along with the record data. Uncompress the “RPAS.zip” and then click “RPAS.exe” to set up RPAS. After the setup is completed, open RPAS player and then click “Open Folder” button in the middle of the interface to select the record data. Refer to Fig 11-1.

Select camera in the resource tree on the left side of the interface to play the camera record. Click on the tool bar under the camera image to enable audio. Refer to Fig 11-2.

Note: The record will not have audio output if you disable the audio when recording by DVR. Please see 7.1.1 Mode Configuration and 7.2 Encode Parameters Setting for details.

- If you select the AVI format when backing up recorded video by DVR, the recorded video can be played by the video player which supports this format.

b. Recorded video backed up through web. The recorded video can only be backed up with AVI format through web. The recorded video can be backed up to PC and played by the video player which supports this format.

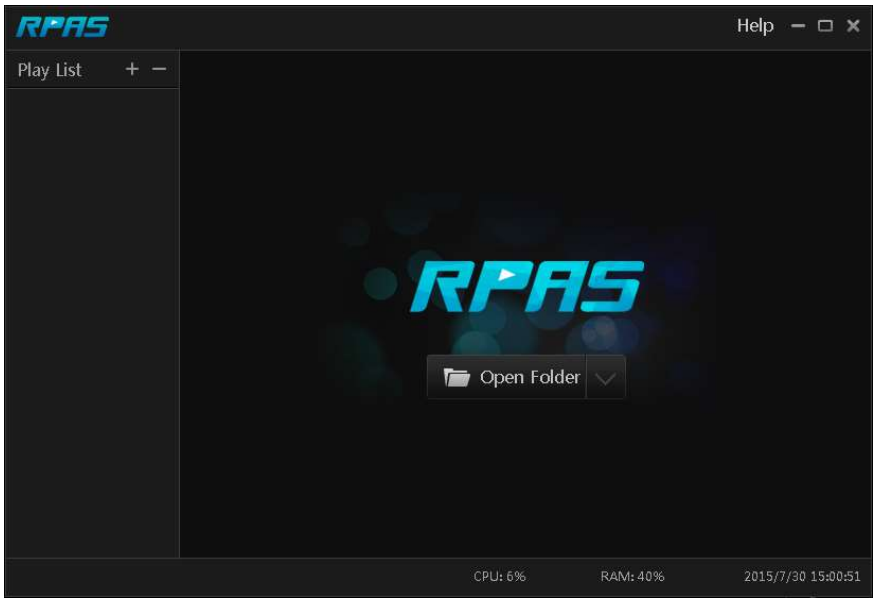


Fig 11-1

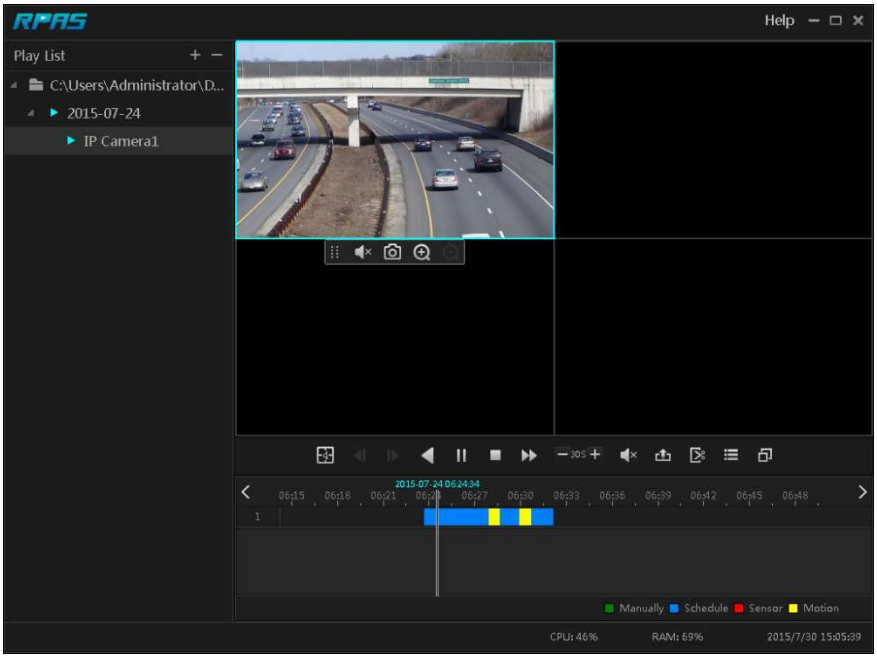

RPAS
Help
Play List
C:\Users\Administrator\D...
2015-07-24
IP Camera1
Manually
Schedule
Sensor
Motion
CPU: 46%
RAM: 69%

Fig 11-2

Appendix B Calculate Recording Capacity

The recording capacity is mainly up to the recording resolution, recording stream and bitrate. Different image quality parameters decide different disk capacity occupation in equal times. The bigger the record resolution, record stream and record bitrate is, the more disk capacity is taken up in equal times. The calculation format of recording capacity is shown as below.

Recording Capacity(MB) = Bitrate(Kbps) ÷1024 ÷ 8 × 3600 × Recording hours per day × Record Storage Days × channel numbers

3600 means record for an hour(1TB=1024GB，1GB=1024MB，1MB=1024KB，1Byte=8bit).

Record Bitrate (Kbps)	Used Space (MB/H)	Used Space (MB/D)
10240	4500	108000
8192	3600	86400
6144	2700	64800
4096	1800	43200
3072	1350	32400
2048	900	21600
1024	450	10800
768	337.5	8100
512	225	5400
384	168.75	4050
256	112.5	2700

The table below shows the recording capacity requirements for record storage in 30 days.

Record Bitrate (Kbps)	Recording Capacity (TB)					
	1CH	4CH	8CH	16CH	32CH	64CH
10240	3.09	12.36	24.72	49.44	98.88	197.76
8192	2.48	9.89	19.78	39.56	79.11	158.21
6144	1.86	7.42	14.84	29.67	59.33	118.66
4096	1.24	4.95	9.89	19.78	39.56	79.11
3072	0.93	3.71	7.42	14.84	29.67	59.33
2048	0.62	2.48	4.95	9.89	19.78	39.56
1024	0.31	1.24	2.48	4.95	9.89	19.78
768	0.24	0.93	1.86	3.71	7.42	14.84
512	0.16	0.62	1.24	2.48	4.95	9.89
384	0.12	0.47	0.93	1.86	3.71	7.42
256	0.08	0.31	0.62	1.24	2.48	4.95

For instance, there is a 32CH DVR recording 24 hours per day and the record stores for 30 days. The DVR adopts dual stream recording. The main stream is 4096Kbps and the sub stream is 1024Kbps, then the total recording capacity is 49.45TB (39.56TB + 9.89TB).

Considering the format loss of the disk is about 10%, the required disk capacity will be 55TB (49.45TB ÷(1-10%)).

Appendix C Specifications

Model		H6HRLN	H16HRLN	H24HRLN
System	Compression	Standard H.265		
	OS	Embedded Linux		
Video	Analog Input	BNC ×4	BNC ×8	BNC ×16
	IPC Input	2CH (up to 6CH)*	8CH (up to 16CH)*	8CH(up to 16CH)*
	Network Access & Transfer Bandwidth	16/40Mbps	32/96Mbps	32/96Mbps
	Network Access Format	8MP@20fps; lower than 8MP@30fps	8MP@30fps	
	Output	HDMI×1: 4K×2K/1920x1080/1280×1024， VGA×1：1920x1080/1280×1024/1024×768 BNC×1: CVBS (used as the main or spot output)		
Audio	Input	RCA×4	RCA×8	RCA×8
	2-way Audio	Take up channel one audio input		
	Local Output	RCA×1		
Record	Record Stream	Dual stream recording		
	Resolution	4K/5MP/4MP/3MP/1080P/720P/WD1		
	Frame Rate	4K@6fps/7fps 5MP@12fps (PAL/NTSC) 4MP/3MP@12fps/15fps (PAL/NTSC);1080P/720P/WD1@25fps/30fps (PAL/NTSC)	4K@8fps 5MP@12fps (PAL/NTSC) 4MP/3MP@12fps/15fps (PAL/NTSC);1080P/720P/WD1@25fps/30fps (PAL/NTSC)	
	Bit Rate	32~4Mbps	32~5Mbps	
	Mode	Manual, schedule, motion, sensor, intelligence		
IP Input	Resolution	8MP@20fps; lower than 8MP@30fps		
Playback	Simultaneous Playback	Max 4 CH	Max 8 CH	Max 16 CH
	Search Mode	EZ search, museum search, time search, event search, bookmark search, snapshot search		
	Smart Search	Highlighted color to display camera records in a certain period of time, different colors refer to different record events		
	Function	Play, pause, FF, FB, etc.		
Alarm	Mode	Manual, sensor, motion, exception, intelligence		
	Input	4CH local alarm input; support IPC alarm input	8CH local alarm input; support IPC alarm input	16CH local alarm input; support IPC alarm input
	Output	1CH local alarm output; Support IPC alarm output	2CH local alarm output; Support IPC alarm output	4CH local alarm output; Support IPC alarm output
	Linkage	Record, snapshot, preset, e-mail, pop-up window, etc.		
Network	Interface	RJ45 10M/100Mbps×1	RJ45 10M/100M/100Mbps×1	RJ45 10M/100M/100Mbps×1
	Protocol	TCP/IP，PPPoE，DHCP，DNS，DDNS，UPnP，NTP，SMTP, HTTP, HTTPs, RTSP		
	Web Client	Multiple online users monitoring		
Mobile Device	OS	Speco Blue iOS, Android		
Storage	HDD	SATA×1，max 14TB per HDD	SATA×2，max 14TB per HDD	SATA×2，max 14TB per HDD

	E-SATA	E-SATA×1		
Export	Local	By U disk， USB mobile HDD		
	Network	Yes		
Interface	USB	USB2.0×2		
	Remote Controller	Yes		
Others	Power Supply	DC12V/2A	DC12V/4A	DC12V/4A
	Power Consumption	≤10W (without HDD)	≤15W (without HDD)	≤30W (without HDD)
	Dimensions(W×D×H)	11.8” x 9.8” x 1.8” (300mm×248mm×45mm)	15” x 10.6” x 1.8” (380mm×268mm×45mm)	15” x 10.6” x 1.8” (380mm×268mm×45mm)
	Working Environment	-4~122F (-10~50℃)， 10%~90%（humidity）		

Note:

* 6HRLN can convert all analog channels into IP input, so its total IP input is 6ch; 16HRLN can convert all analog channels into IP input, so its total IP input is 16ch; H24HRLN can convert the last 8 analog channels into IP input, so its total IP input is 16ch.

Model: H6HRLN/H16HRLN/H24HRLN

Federal Communications Commission (FCC) Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Responsible Party:

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